Trefoil 2

T/18P Offshore Bass Basin
Well Completion Report
Basic Data



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origin

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WELL DATA CARD Trefoil 2

GENERAL DATA

Surface Location:	Latitude:	39°53'07.93"S
(GDA 94)	Longitude:	145°22'14.62"E
(UTM Zone 55)	Easting:	360 690.4m
	Northing:	5 583 676.6m
Elevation:	WD:	69.0 m
	RT:	26.0 m
Date spudded:	06/10/2009	08:00 hours
Date TD reached:	18/11/2009	03:00 hours
Date Rig release:	29/11/2009	01:00 hours

Status:	Plugged & Abandoned	
Total Depth:	Driller:	3235 mMD 3235 mMDRT /
	Logger:	3234.0m TVDRT / 3208.0m TVDSS
Plugs:	#1A-C: 2749 – 3235mMDRT #2: 2437 – 2570mMDRT #3: 94.5 – 203mMDRT	
Casing:	Size:	Shoe:
(a) Surface	30"	153 m MDRT
(b) Intermediate	13 3/8"	930 m MDRT
	9 5/8"	2520 m MDRT

LWD LOGS

Hole Size (inches)	Interval (mMDRT)	MWD services	LWD services
17.5"	155 – 935	PCG-PCDC	none
12.25"	935 – 2271	DDSr-DGR	DGR-EWR-P4-PCDC
12.25"	2271 – 2520	DDSr-DGR	DGR-EWR-P4-PCDC
8.5"	2520 – 2633	DDS	DGR-EWR-P4-CTN-ALD-BAT-ACAL
8.5"	2633 – 2983	DDS	DGR-EWR-P4-CTN-ALD-BAT-ACAL
8.5"	2983 – 3145	DDS	DGR-EWR-P4-CTN-ALD-BAT-ACAL
8.5"	3145 - 3235	DDS	DGR-EWR-P4-CTN-ALD-BAT-ACAL

WIRELINE LOGS

Log	Run	Interval (from / to) m	BHT / Time
SP-HRLA-PEX-HNGS-CMR+	1	3230.0 / 2520.0 m	122°C/after 19 hrs 51 mins
XPT-MDT	2	3208.0 / 2560.0 m	126°C/after 37 hrs 29 mins
FMI-DSI-GR	3	3230.0 / 2520.0 m	126°C/after 07 hrs 15 mins

PRESSURE TESTING AND FLUID SAMPLING

Suite#	Run#	Type	Interval (mMDRT)	Total Tests	Valid Tests	Supercharged	Tight Tests	Failed	Other	Pump outs	Samples Collected
1	2	XPT	2560.1 – 3208.3	65	36	17	12				
1	2	MDT	3181.2 – 2830.3	14	7		5		2	7	6

FULL HOLE CORES

No.	Interval (mRT)	Formation	Cut (m)	Rec.(m)
1	2983 – 3014.2	EVCM	30	31.2 (104%)
2	3145 - 3175	EVCM	30	29.25 (97.5%)

1. WELL SUMMARY SHEET

Well Name:	Trefoil 2		
Permit:	T/18P Offshore Bass Basin		
Well Path:	Vertical		
Top Hole Location:	Latitude:	39°53'07.93" South	
	Longitude:	145°22'14.62" East	
	Easting:	360 690.4 metres	
	Northing:	5 583 676.6 metres	
	(GDA 94; AMG Zone 55, Central Meridian 147° East)		
Seismic Location:	Inline 1194 and Crossline 1417 on the 2005 Shearwater 3D seismic		
Bottom Hole Location:	Easting:	360 721.7 metres	
	Northing:	5 583 655.8 metres	
Elevation:	26m (RT-sea level)		
Water Depth:	69m LAT		
Total Depth Driller:	3235m MDRT		
(TVD) Driller:	3234.0m TVDRT / 3208.0m TVDSS		
Rig on tow:	06:30hrs	21/09/2009	
Rig on Location:	12:00hrs	03/10/2009	
Spud:	08:00hrs	06/10/2009	
Reached TD:	03:00hrs	18/11/2009	
Rig Released:	01:00hrs	29/11/2009	
Total Rig Days:	58.17 days		
Well Status:	Plugged and abandoned		
Permit Interests:	Origin Energy Resources Ltd* (*OPERATOR)		39.0%
	AWE Petroleum Pty Ltd		35.0%
	CalEnergy Gas (Australia) Ltd		8.5%
	ARC (Bass Gas) Pty Ltd		12.5%
	Innamincka Petroleum Ltd		5.0%
Rig Name:	Kan Tan IV (Semi-submersible Rig)		
Drilling Contractor:	Maersk Contractors Services A/S		
Approx. Well Cost:	A$44,500,000.		

2. FINAL DRILLING REPORT

By Australian Drilling Associates Pty Ltd (ADA)

2.1 Executive Summary

The Maersk semi-submersible drilling rig *"Kan Tan IV"* came on contract to Origin Energy for the Trefoil 2 well at 06:30hrs on 21 September 2009 when the rig was under tow to the inclination test site in Port Phillip Bay. The rig arrived at the inclination test site at 12:30hrs on 21 September 2009 and the inclination testing phase began. Trefoil 2 recommenced at 03:00hrs on 2 October 2009 when the rig was under tow from the inclination test site to the Trefoil 2 location.

Trefoil 2 was spudded at 08:00hrs on 6 October 2009 in 69.0m of water with the rotary table being elevated 26m above sea level. The well was drilled to a TD of 3235mMDRT which was 14m deeper than the planned TD of 3221mMDRT. Trefoil 2 intersected all targets within the prescribed tolerance and all required formation evaluation data was captured. The well was plugged and abandoned below the mudline according to regulatory requirements. It should be noted that the 30in conductor protruding 0.5m above the mudline could not be recovered to surface. The Tasmanian Regulator (DIER) gave approval to allow the Kan Tan IV to move off location without there being any future liability to the Operator to remove the casing in the future. The well operations were completed at 01:00hrs on 29 November 2010 when the rig was under tight tow from Trefoil 2 to the Origin Energy operated Rockhopper-1 well location.

Total time spent on Trefoil 2 was 58.17 days compared with the total AFE time for the well of 43.11 days. The well duration was 15.06 days (34.9%) over the AFE. The final tracked cost for the Trefoil 2 well is estimated to be US$44.5 million against the AFE estimate of US$33.2 million which is US$11.3 million (34%) over AFE. Of the 58.17 days spent on Trefoil 2 a total of 18.3 days (31.5%) were recorded as non-productive time for the well and 1.6 days (2.7%) were recorded as unplanned activities. In regards to the non-productive time a total of 11.9 days were lost due to wellbore related issues, 4.4 days were lost due to rig equipment downtime, 1.2 days were lost due to third party equipment failure or delays and 0.8 days were lost due to waiting on weather and equipment.

The main highlights during Trefoil 2 were as follows:

- The shortened 30in conductor string when compared to the subsea offset wells proved to be successful with no well stability issues encountered and full cement returns observed at the mudline.
- The deep set 9.625in shoe proved to be successful as the Demons Bluff and upper EVCM formations were isolated allowing trouble free coring and logging operations.
- The coring performance was excellent with +/-100% core recovery achieved on the two 30m coring runs.
- All wireline logging objectives were achieved.
- The KCl/PHPA/ClaySeal Plus mud formulation proved to be successful.

The main lowlights during Trefoil 2 were as follows:

- One LTI occurred when a Derrickman hurt his back on 1 November 2009.
- One MTI occurred on 10 November 2009 resulting from a back strain.
- A total of 11.9 days were lost due to the 9.625in stuck-in-hole incident.
- A total of 4.4 days were lost due to rig equipment downtime.
- The inability to totally clear the seabed on completion of operations as a 0.5m section of 30in conductor string remains protruding above the mudline.

The following points should be noted in regards to the HSE performance on Trefoil 2:

- No hydrocarbon / chemical spills were recorded during the well.
- No incidents were recorded that breached the performance objective for the Origin T/18P Environment Plan.
- On 4 November 2009 a 'live' emergency response exercise (Exercise Reliance) was successfully conducted by the Origin, Maersk and ADA emergency response teams.
- A total of 2271 Stop cards (927 safe and 1394 unsafe observations) were submitted during the well.
- A total of 5159 proactive safety efforts were recorded during the well.

2.2 Well Summary and Overview

Well Name	Trefoil-2
Country	Australia
Designation	Appraisal Well
Field Name	Trefoil
License/Permit	T/18P
Rig Name/Type	Kan Tan IV (KTIV) / Semi-Submersible
Well Operator	Origin Energy Resources Ltd
Participants	AWE Petroleum Ltd Cal Energy Gas (Australia) Ltd ARC (Bass Gas) Pty Ltd Innamincka Petroleum Ltd
Rig on Contract Pre Inclination Test	21 September, 2009 @ 06:30hrs
Rig off Contract For Inclination Test	21 September, 2009 @ 12:30hrs
Rig on Contract Post Inclination Test	2 October, 2009 @ 03:00hrs
Rig on Location	3 October, 2009 @ 12:00hrs
Spud Date	6 October, 2009 @ 08:00hrs
TD Reached	18 November, 2009 @ 03:00hrs
Rig Off Location	29 November, 2009 @ 00:30hrs
Rig Off Contract	29 November, 2009 @ 01:00hrs
Total Days on Operations	58.17 days
Total Days AFE	43.11 days
Total Depth (LAT)	3208.0mTVDSS / 3234.0mTVDRT / 3235.0mMDRT
Well Type	Vertical
Maximum Deviation Angle	4.33°
Water Depth	69m
RT above MSL	26m
Rig Heading	316.79º True
Geocentric Datum	GDA94
Surface UTM	UTM Zone 55
Surface Latitude	39º 53’ 07.93” S
Surface Longitude	145º 22’ 14.62” E
Surface Easting	360 690.4m E
Surface Northing	5 583 676.6m N
Bottom Hole Location: Easting	360 721.7m E
Bottom Hole Location: Northing	5 583 655.8m N

2.3 Casing and Cementing Data

2.3.1 Casing Data

Type	Size (in)	Weight (ppf)	Grade	Thread	Depth (mMDRT)
Conductor	30	1.5” and 1” wall	X-56	D90/MT and D60/MT	153
30in x 20in tapered shoe joint	30 x 20	1” wall	X-56	D60/MT	
Surface Casing	13.375	68	K-55	BTC	930
Production Casing	9.625	47	L-80	Vam Top	2520

Table 1: Casing Data

Further casing details are located in Appendix 14.

2.3.2 Cementing Data

String (in) / Plug	Cmt Type	Cement Additives	Mix Water (gal/ sk)	Slurry Vol (bbls)	Slurry Density (ppg)	Cmt to / from (mMDRT)	Test Press (psi)
30x20	Class G	Calcium Chloride NF-6 Seawater + mica	5.2	260	15.8	95 – 155	n/a
13.375 Lead	Class G	Econolite Liquid HR-6L Seawater NF-6	17.88	436	11.5	95 – 810	2700
13.375 Tail	Class G	Halad-413L Freshwater NF-6	5.0	67	15.8	810 – 935	
9.625in casing NOT cemented.							
Plug #1A	Class G	SCR 100-L Freshwater NF-6	5.0	43.2	15.8	3085 - 3235	n/a
Plug #1B	Class G	SCR 100-L Freshwater NF-6	5.0	43.2	15.8	2935 - 3085	n/a
Plug #1C	Class G	SCR 100-L Freshwater NF-6	5.0	43.2	15.8	2749 – 2935 (Tagged)	n/a
Plug #2	Class G	SCR 100-L Freshwater NF-6	5.06	35	15.8	2337 – 2570 (Tagged)	2000
Plug #3	Class G	Calcium Chloride Freshwater NF-6	5.03	70	15.9	94.5 - 203	n/a

Table 2: Cementation Data

Further cementing details are located in Appendix 14.

2.4 Operations Summary

2.4.1 Rig Mobilisation and Rig up

The Kan Tan IV came on contract to Origin Energy for the Trefoil 2 well at 06:30hrs on 21 September 2009 when the rig was under tow to the inclination test site in Port Phillip Bay. The rig arrived at the inclination test site at 12:30hrs on 21 September 2009 and the inclination testing phase began. The rig was ballasted down and inclination testing operations commenced. A total of 10.60 days were spent at the inclination test site (details not included in this report).

Trefoil 2 recommenced at 03:00hrs on 2 October 2010 when the Kan Tan IV was under tow from the inclination test site to the Trefoil 2 location. The rig arrived at the Trefoil 2 location at 12:00hrs on 3 October 2009. The total distance travelled was 132.5 nautical miles at an average speed of 5.5 knots.

Anchor running operations commenced at 12:00hrs on 3 October 2009 and were completed at 23:30hrs on 3 October 2009 when all eight anchors had been run. While the rig was ballasting down to drilling draft, operations were suspended due to a leaking sounding pipe on the starboard #9 ballast tank. A total of 7.5hrs were lost repairing same. The Kan Tan IV was ballasted down to the drilling draft of 20m and the anchors were cross tensioned. The total time to run anchors, ballast down and cross tension was 29.5hrs.

Conclusions and Recommendations

(i) Overall the rig move and anchoring operations went very well in marginal weather.
(ii) The anchor running performance of the Far Fosna and Far Scimitar was very good considering this was the first time these boats had run Kan Tan IV anchors.
(iii) Because the on board chain and tension counters were out of operation the approximate coordinates of the Kan Tan IV's anchors were unable to be accurately calculated.
(iv) In the future consideration should be given to allowing the use of the top drive during anchor tensioning operations.

2.4.2 Drilling 36in Hole / Running and Cementing 30x20in Conductor

The 26/36in BHA was made up and RIH to the seabed. The distance from the rotary table (RT) to sea level (SL) was confirmed as being 26m and the distance from RT to the seabed was confirmed as being 95m (69m water depth). Trefoil 2 was spudded at 08:00hrs on 6 October 2009. The 36in hole was drilled to 155mMDRT in 4hrs with seawater and PHB sweeps and at section TD the hole was swept with 100bbl of PHB. Anderdrift surveys were taken at the mudline and during each stand drilled. The final survey at section TD gave an inclination reading of 0°. A wiper trip was then conducted with no drag being encountered and no fill tagged at TD. The hole was displaced with 370bbl (150% of open hole volume) of PHB and the BHA was POOH and racked back.

The 30x20in shoe joint was made up and flow was checked through the float valve before running the conductor string inside the PGB in the moonpool. The 30in running tool was then made up to the 30in housing (one stand of 5in drill pipe stinger below the running tool). The conductor string was landed and latched inside the PGB. The guidelines were installed and the PGB and conductor string were RIH on HWDP below sea level allowing the string to fill with water. The ball valve on the wellhead running tool was closed and the conductor string RIH to seabed. The ROV observed the conductor entering the 36in hole and the string was RIH placing the float shoe at 153m.

A twist was noticed in the guidelines and the conductor string was POOH 10m and the guidelines re-tensioned. The PGB was rotated and the twist removed. The conductor was rerun without problem to 153m. A total of 4hrs were lost due to this event. The ROV confirmed a PGB heading of 307° and a bullseye reading of 0.25° aft/starboard. The height of the 30in housing was ~3m above the mudline.

Cementing lines were rigged up and 30bbls of seawater were pumped with the cement unit before pressure testing the surface lines to 1000psi for 10mins. A 50bbl seawater spacer was pumped with mica being added to the last 20bbls pumped to assist with identifying cement returns at the mudline. The 30in conductor was then cemented with 260bbls of 15.8ppg class G cement and displaced with 72.4bbls of seawater. The ROV observed cement returns to seabed. After waiting on cement (WOC) for 5hrs the bullseye reading remained 0.25º aft/starboard.

Conclusions and Recommendations

(i) No problems were experienced drilling the 36in hole. The hole was stable when filled with gel mud. The 5 joint conductor string proved to be a successful design and is recommended for future wells drilled in this area.
(ii) The handling of 9.5in drill collars proved to be difficult and slow for the rig crew. On future wells it is recommended to use only 8.25in drill collars.
(iii) At one stage the ROV lost sight of the well. The flares on marker buoys needed to be larger.
(iv) The ROV had to come to surface to pick up the large blower due to poor visibility of the bullseye. On future wells a larger blower will be fitted to the ROV prior to spud.
(v) It would have been beneficial to have roller blocks on the rig as BHA components could have been made up off the critical path.
(vi) The addition of the mica in the seawater spacer was not beneficial as the ROV sonar was not capable of picking up same at the mudline during cementing operations.

2.4.3 Drilling 17.5in Hole / Running and Cementing 13.375in Casing

A Smith XR+VCPS mill tooth bit was made up to a BHA comprising DIR-GR MWD sensors. The BHA was RIH and the 30x20in shoe track was drilled out to the bottom of the rathole at 155m. The 30x20in was reamed with the bit and stabilisers before drilling ahead to section TD at 935mMDRT (780m section length) in a single bit run in 35hrs with an average drilling ROP including connections of 22.3m/hr. On POOH tight hole was encountered at 903mMDRT and the well bore was back reamed to 832mMDRT with a maximum overpull of 30klbs recorded. The BHA was POOH to the 30x20in shoe at 153mMDRT and then RIH to 582mMDRT where 30klbs down weight was taken. The BHA was washed and reamed to 935mMDRT and then POOH. The inclination at TD was 0.7°.

A two joint shoe track was made up and the float valves checked prior to running the remainder of the 13.375in casing. The Drilquip 18.75in (SS-10C) housing joint with a 20in extension swaged over to 13.375 in casing was made-up. The assembly was run complete with the Halliburton SSR plug launching system. The casing was RIH on the 5in HWDP landing string to 13m above the land out depth. The cement stand was made up and the casing string was RIH to land out. Confirmation of 18.75in wellhead latching into the housing joint was obtained via a 50klbs overpull. A bullseye reading of 0.25° aft/port was recorded via the ROV.

After pressure testing surface lines to 3000psi a 50bbls seawater spacer was pumped and mica added to the last 20bbls pumped to assist with observing cement returns at the seabed. A total of 436bbls of class G lead slurry at 11.5ppg was mixed and pumped followed by 67bbls of class G tail slurry at 15.8ppg. The cement slurries were displaced with 412bbls of seawater and cement returns were observed at the mudline via the ROV. The top plug was bumped with 250psi and the 13.375in casing string was pressure tested to 2700psi. On releasing the final circulating casing pressure the floats held with no backflow being observed.

Conclusions and Recommendations

(i) At section TD a massive amount of cuttings were observed at the mudline. Lines were rigged up in the moopool area to assist with washing the wellhead and PGB. On future wells with similar 17.5in depths it is recommended to have lines rigged up off the critical path to wash away any excess cuttings mounds.

(ii) The density reduction of the lead slurry from the typical 12.5ppg to 11.5ppg proved to be successful as cement returns were observed at the mudline during displacement operations. This was particularly important given the well integrity requirements in a riser disconnect scenario in the soft seabed Bass Basin region.
(iii) The Halliburton cement head does not have a swivel which makes it difficult to rig-up and makes it susceptible to clashes with service loops. An alternative cement head will be sourced for future wells.
(iv) Prior to the 13.375in cement job Halliburton cement personnel were unsure if an o-ring had been installed between the equalising sub and the 13.375in plugset. To ensure the o-ring was in place the 13.375in plug set and equalising swivel were recovered for inspection. Whilst doing this the bottom plug was released and remained in the casing. The plug set was then run back in hole and the cement job was successfully completed. No direct non productive time (NPT) was recorded on the daily reports although +/-1hr of invisible lost time was recorded on the performance reports. Halliburton were issued with non-conformance report (NCR) 002.

2.4.4 Running BOP's

Riser handling equipment was rigged up and the rig was skidded off well centre. A riser double was picked up and the BOP was moved under the RT. Operations at this point were suspended for an hour due to strong squalls affecting standby cover. Following the installation of the guidelines and pod lines a total of 6.5hrs were spent installing the work platform above the flex joint on the BOP. The riser was then nippled up to the BOP and the BOP was run through the splash zone. Operations were suspended for a total of 5hrs during BOP running operations due to strong winds (25 - 50 knots) and high seas (3 - 5m swells). The rig was skidded back over well centre and a further 2.5hrs were lost due to WOW. The BOP was landed and latched onto the wellhead and a 50klbs over-pull test was performed on the connector. The BOP the connector and the 20in x 13.375in casing were successfully pressure tested against the blind shear rams to 2000psi. The BOP had previously been pressure tested on the test stump. The total time spent running the BOP and marine riser was 61.5hrs.

Conclusions and Recommendations

(i) The BOP was difficult to land out on the wellhead due to the lack of a guide funnel at the base of same. On future wells a single (10ft) PGB post will be run to assist with guiding and landing the BOP.
(ii) The 6.5hrs spent installing the BOP work platform was recorded as down time as this activity was not completed during shipyard works.
(iii) Even though 8.5hrs were lost due to WOW during BOP running operations the crews did a good job given the difficult conditions and the inexperience of the hands involved.
(iv) The compensator air supply was insufficient while landing the BOP. On future BOP running operations a minimum of 1600psi will be required to land same.
(v) On future wells it is recommended that pig tails (plates) be used to connect the MRT lines to the slip joint load ring. This will effectively halve the number of connections that have to be made saving considerable time.
(vi) Some time was lost when connecting the 80t shackles to the slip joint load ring. The thickness of some shackles caused clearance issues. This has since been rectified.

2.4.5 Drilling 12.25in Hole / Running and Cementing 9.625in Casing

The 12.25in section on Trefoil 2 was designed to be drilled deeper than many of the offsets to ensure isolation of the Demons Bluff and upper EVCM formations during extended coring and logging operations in the subsequent 8.5in hole section. A Reed Hycalog RSX616M PDC bit was made up to a BHA comprising a mud motor (0.78° bend) and the following Halliburton MWD/LWD tools: RLL, EWR, DGR, HCIM and DIR. The mud motor was included in the BHA to increase ROP and ensure the wellbore remained with the target tolerance. The BHA was RIH and tagged cement at 917mMDRT. The 13.375in shoe track was drilled out to the bottom of the rathole at 935m and an additional 3m of new hole was drilled to 938mMDRT. The well was displaced to 9.1ppg KCl/PHPA/ClaySeal Plus mud and a leak off test (LOT) was conducted to 15.15ppg EMW. Refer to Appendix 15 for further details.

The 12.25in hole section was drilled from 938mMDRT to 942mMDRT and whilst making a connection with the RBS damage was sustained to the pin and box connections of two joints of drill pipe due to misalignment. A total of 2.5hrs were lost laying out the damaged joints and correcting the misalignment problem. Drilling resumed in rotary mode to 1423mMDRT where the hole angle had increased to 1.4°. The hole was slide drilled for a single to 1432mMDRT and rotary drilling recommenced to 1504mMDRT. A further single was slide drilled as the hole inclination remained at 1.4°. The 12.25in hole was rotary drilled to 1937mMDRT and then two singles slide drilled to 1958mMDRT. The hole inclination was reduced to 0.5°.

Rotary drilling resumed to 2130mMDRT at which point the saver sub backed out on top of a stand during a connection. Attempts were made to make up a new saver sub although this was not possible due to problems with the PH85 pipe handler. A total of 4hrs were lost repairing the pipe handler and installing the new saver sub.

The 12.25in hole section was rotary drilled from 2130m to 2246mMDRT at which point 2hrs of rig time were lost replacing the pop off valve on mud pump #2 and piston on mud pump #1. Drilling resumed to 2271mMDRT and a 300psi differential pressure loss was observed while adding premix to the mud system. The standpipe valve was closed and all 3 mud pumps were pressure tested with no leaks in the system observed. Attempts were made to re-establish drilling parameters without success – no differential pressure observed on bottom. Due to concerns with a washout in the string and/or an under gauge bit the decision was made to POOH with 12.25in BHA. Upon inspection at surface all drillpipe, BHA components and drill bit (1-1-BT-N-X-I-CT-PP) were within specification. Whilst this trip was not classed as non productive time this unplanned event added 43hrs to the overall well time (also made up the Halliburton cement head stand and 9.625in casing hanger assembly during this period).

The Reed Hycalog RSX616M PDC bit was rerun on a similar BHA configuration to that POOH at 2271mMDRT. Drilling resumed in rotary mode to section TD at 2520mMDRT. The wellbore inclination at this point was 1.1°. The BHA was POOH with a maximum overpull of 20klbs being recorded. The rerun PDC bit was graded as 1-1-CT-A-X-I-PN-TD.

In rotary mode the 12.25in hole section was drilled at an average ROP of 21m/hr including connections and hole conditioning. In slide mode the hole was drilled at 9m/hr. The section commenced with a mud weight of 9.0ppg and at section TD the weight was 9.3ppg. Other than the overpulls encountered on the BHA trips the hole remained in very good condition throughout the drilling phase.

A total of 2.5hrs were lost while making up and running the 9.625in shoetrack as incorrect inserts has been placed in the casing elevators. NCR 003 was issued to PCS regarding this matter. The casing string was RIH without incident to 2417mMDRT and the 500t elevators and fill-up tool were rigged down. The casing hanger

assembly was made up and the flush mounted slips were rigged down. The 9.625in casing was RIH on the 5in HWDP landing string to 2480mMDRT at which point the casing stood up (20-35klbs). The top drive was engaged and the casing was washed down to 2508mMDRT (7m above planned shoe depth of 2515mMDRT). A 70bbl Hi-Vis pill was pumped to clean the hole and whilst being circulated out of hole the casing string became stuck. The compensator was opened and the string worked in attempt to free the casing. Air pressure was getting low and it was decided to close the compensator. The slips were set and the compensator closed and locked. Whilst waiting for the air pressure to build up the rig heaved several times. The slips acting as a ratchet allowed tension to build up in the casing and landing string until it was sufficient to part the landing string. Appendix 20 contains a report which investigates this incident.

The landing string was POOH and the Drilquip multi-purpose tool (MPT) was RIH and the fish was tagged at 81.5mMDRT. It was determined that the Drilquip CHSART tool was stuck inside the LMRP with a 0.7m long HWDP stub extending above same. A total of 18 unsuccessful fishing runs over several days were made attempting to recover the fish. Given the lack of success it was decided to engage the fish with a 7.75in grapple, apply 35klbs overpull and cut the 9.625in casing with the shear rams. Following the shearing operation the CHSART came free with 40-70klbs over pull. The fish was POOH and a 12.25in mill assembly was RIH and tagged the top of the 9.625in casing at 102mMDRT. The casing was milled down to 106mMDRT and a casing spear was RIH but was unable to pull the casing free. This suggested that the casing has packed-off down hole indicating a successful cement job on same was unlikely.

A casing cutting BHA was made up, RIH and the 9.625in casing cut at 157mMDRT. Following the cutting operation the casing grapple was RIH and the cut casing recovered to surface. Following further milling operations on the 9.625in string a casing patch assembly was RIH and an attempt was made to engage and energise same. This proved to be unsuccessful and a spear assembly was RIH to pull the casing string into the patch. Following several overpull cycles the patch seals were successfully energised. The seal assembly and wear bushing were then RIH and an RTTS packer was set at 190mMDRT. The lower annular was closed and the casing patch was successfully tested to 4000psi. The RTTS was POOH and an 8.5in bit on a slick assembly was RIH. The shoetrack and 3m of new formation was drilled out to 2523mMDRT. An FIT was conducted to 11ppg indicating that the 9.625in casing string had packed off down hole. The FIT gave a kick tolerance of 77bbls in the subsequent 8.5in hole section. A total of 11.9 days were lost as a result of the 9.625in casing stuck-in-hole incident.

Conclusions and Recommendations

(i) The Reed Hycalog RSX616M PDC bit performed as expected drilling the entire 12.25in section.
(ii) Forward projections when drilling the Demons Bluff Formation showed that the wellbore would be intersecting the targets in the EVCM outside of the 50 radius target tolerance. Therefore the inclusion of the mud motor in the 12.25in BHA proved to be successful as it allowed the wellbore to be re-aligned as well as assisting with increasing the ROP.
(iii) More dolomite was encountered in the 12.25in section than was expected. This should be factored into time estimates (and bit selection) for future wells.
(iv) Drilling commenced with an on-bottom ROP average of 160m/hr from 938m to 1236m. This was cut back to 80m/hr due to the shakers over loading. The well was circulated while the shakers were cleaned. It is recommended that on future wells the ROP should be limited to a manageable level through the Angahook Formation.

(v) The drill string stalled several times and it was thought the mud motor was stalling. However after investigating the problem it was determined that the torque limiter on the top drive was set to 14kft-lbs and when this was increased to 22kft-lbs no further stalling was encountered.
(vi) The pop off valves on pumps 1 and 2 blew on different occasions while drilling the section due to the fact that they were set to 3500psi, the circulating rate was 1000gpm and the off bottom pressure was 2950 - 3000psi. On future wells consideration should be given to using 6in liners instead of 6.5in liners as this would give a better buffer between system pressure and the pop off setting.
(vii) The Detailed Drilling Program shall be more specific in the use of viscous pills during drilling and circulation. If it is required to spot a viscous pill on bottom prior to running casing this shall be specified in the Detailed Drilling Program and only spotted in the proposed rat hole below the casing. No viscous pills are to be pumped whilst circulating the casing.
(viii) The annular velocities during washing the casing down and circulation prior to cement should be no greater than used in the drilling phase and shall be specified in the Detailed Drilling Program.
(ix) The Drilling Superintendent and/or Senior Drilling Engineer shall review and approve casing running and cementing procedures written by the ADA Drilling Supervisor onboard the rig.

2.4.6 Drilling and Coring 8.5in Hole

A Smith MI616 PDC bit was made up to a BHA comprising the following Halliburton MWD/LWD tools: RLL, EWR, DGR, ALD, CTN and BAT-Sonic and DIR. The BHA was RIH and the 8.5in section drilled from 2523m to 2540mMDRT. At this depth Geoservices had a computer malfunction resulting in no data capture for the drilled interval. The bit was pulled back to 9.625in shoe and the problem was rectified. Drilling continued to 2629mMDRT at which point the depth reference on the MWD tools dropped out due to geolograph and MWD cables in the mast becoming tangled and parting. NCR 004 was issued to Geoservices over the computer malfunction and cable parting incidents.

Drilling continued from 2629m to 2633mMDRT and attempts were made to troubleshoot MWD problems arising from the parted cables. These proved to be unsuccessful and the BHA was POOH to rectify the MWD problems. The drill bit was graded 0-1-WT-G-X-I-NO-DTF at surface and a total of 32hrs were lost due to the computer malfunction, cable parting and MWD failure incidents.

The Smith MI616 PDC bit was rerun on a new MWD string picked up from the pipe deck. Drilling resumed from 2633mMDRT to core point #1 at 2983mMDRT. Surveys were taken every connection and an average ROP of 11.9m/hr was achieved which includes connection times. The BHA was POOH (bit grade 1-2-CT-S-X-I-WT-CP) and a 30m coring BHA was made up and RIH. Core #1 was cut from 2983mMDRT to 3013mMDRT and upon inspection at surface 31.2m of core had been cut and recovered (104%). The Smith MI616 PDC bit was rerun and drilling continued from 3013mMDRT to core point #2 at 3145mMDRT at an average ROP of 8.3m/hr including connection time. The BHA was POOH and a 30m coring BHA was made up and RIH. Core #2 was cut from 3145mMDRT to 3175mMDRT and upon inspection at surface 29.25m of core had been cut and recovered (97.5%).

The Smith MI616 PDC bit was RIH to 1908mMDRT at which point the draw works jumped out of gear while the driller was running blocks up the mast. The coupling on the A motor was found to be stripped. A total of 10.5hrs were lost whilst diagnosing and repairing same. The BHA was RIH to 3175mMDRT and the 8.5in section was drilled to TD at 3235mMDRT. This section was drilled at 8m/hr including connection time and the bit was graded as 1-2-CT-S-X-I-NO-TD. The inclination at

TD was 4.3° and the entire 8.5in section was drilled with mud weights varying from 9.4 – 9.5ppg.

Conclusions and Recommendations

(i) The Smith MI616 PDC bit performed very well through the highly variable EVCM Formation.
(ii) The coring performance was excellent with +/-100% core recovery achieved on the two 30m coring runs.
(iii) The KCl/PHPA/ClaySeal Plus mud formulation proved to be successful as the 8.5in hole section remained in very good condition throughout the drilling and coring operations.
(iv) Core handling operations on deck were difficult due to a lack of space, poor lighting and a shortage of personnel. On future coring operations a third Corpro hand will be mobilised to the rig and additional lighting will be rigged up.

2.4.7 Wireline Logging

Three wireline logging runs were made with the following tool configurations:

- Run #1: CMR+-PEX-HRLA-HNGS
- Run #2: MDT-XPT
- Run #3: SMI-DSI-GR-LEHQT

All runs were successfully made to TD and no wiper trips were required due to the very good condition of the wellbore.

Conclusions and Recommendations

(i) The KCl/PHPA/ClaySeal Plus mud formulation proved to be successful as the 8.5in hole section remained in very good condition throughout the logging operations.
(ii) The mud weight of 9.5ppg proved to be sufficient to maintain wellbore stability and allow MDT samples to be taken.

2.4.8 Well Abandonment

MWD/LWD and wireline logging data indicated that there were several minor zones of moveable hydrocarbon below 2828mMDRT. The data also showed that there were no freshwater zones above this depth. Based on this information a 2.875in cement stinger and mule shoe was made up to 5in drill pipe and RIH to well TD at 3235mMDRT. Cement plugs were set as per the following sequence:

- Cement plug #1A was pumped from 3235m to 3085mMDT (150m, 43.2bbls of 15.8ppg Class G cement) and the stinger was POOH to the top of the plug.
- Cement plug #1B was pumped from 3085m to 2935mMDRT (150m, 43.2bbls of 15.8ppg Class G cement) and the cement stinger was POOH to the top of the plug.
- Cement plug #1C was pumped from 2935m to the theoretical depth of 2785mMDRT (150m, 43.2bbls of 15.8ppg Class G cement) and the cement stinger was POOH ten stands above the top of cement.
- Waited on cement for 3.5hrs and laid out 5in drill pipe during this period.
- Tagged the top of cement plug #1C at 2749mMDRT with 5klbs (79m above moveable hydrocarbon).
- The cement stinger was POOH to 2620mMDRT and a 50m (12bbl) Hi-Vis pill was spotted.
- The cement stinger was POOH to 2570mMDRT and cement plug #2 (100m, 35bbls of 15.8ppg Class G cement) was set across the 9.625in shoe.

- The cement stinger was POOH to 2412mMDRT and whilst waiting on cement the drill pipe and drill collars were laid down.
- Tagged the top of cement plug #2 at 2437mMDRT with 5-10klbs (83m above 9.625in shoe) and pressure tested same to 2000psi against the pipe rams.

The 2.875in stinger and 5in drill pipe were POOH and laid down. During this operation 7hrs were lost due to waiting on weather as the cranes could not operate in wind speeds >30 knots. On resumption of operations the remaining drill pipe was laid down, the wear bushing was recovered and a bridge plug was set at 203mMDRT. The 9.625in casing cutting assembly was RIH and the casing cut at 145mMDRT. A spear assembly was RIH and engaged the 9.625in casing string. A 50klbs overpull was applied to release the hanger and 9.625in casing string. When the fish was POOH it was noticed that the casing had backed out one joint below the hanger while being cut. A casing spear was made up and the cut casing recovered to surface. A total of 1.5hrs were lost due to this fishing operation.

The BOP and riser were recovered to surface in a problem free operation and the Smith 30in/20in 2M Single-Trip-Casing-Cutting-Assembly was then made up and run to the wellhead. The assembly was landed out with 15klbs down weight and the 20in wellhead extension and 30in casing were cut at 99.4mMDRT (4.5m below the mudline). After 2.5hrs of cutting an unsuccessful attempt to recover the cut casing was made via a 200klbs overpull. Casing cutting recommenced and following another 7.5hrs of cutting an unsuccessful attempt to pull the casing free with a 300klb overpull was made. The casing cutting BHA was POOH and a grapple, fishing jar and accelerator BHA were RIH. The grapple engaged the wellhead and unsuccessful attempts were made to free the casing via jarring and overpull operations. The grapple was released and the BHA was POOH.

The 30in/20in 2M Single-Trip-Casing-Cutting-Assembly was rerun and the 20in wellhead extension and 30in casing were cut at 96.88mMDRT (1.98m below the mudline). During this operation the 18.75in HP housing and cut 20in extension came free. The fish was POOH and laid down. The 30in/20in 2M Single-Trip-Casing-Cutting-Assembly was rerun and the 30in casing cut at 97.88mMDRT and 18.4klbs tension was maintained on the PGB with the guide lines. The PGB running tool was then RIH and the PGB was recovered to surface.

Dispensation was sought and granted by the Dept of Infrastructure, Energy and Resources (DIER) to allow the Kan Tan IV to move-off location without recovering the 30in casing protruding 0.5m above the mudline. A 5in cement mule shoe was made up and RIH to 203mMDRT. The cement lines were rigged up and cement plug #3 was pumped from 203mMDRT to the top of the 30in casing at 94.5mMDRT. The ROV observed cement returns at the surface. A final abandonment schematic is located in section 6.0.

Conclusions and Recommendations

(i) On future wells consideration should be given to positively locking the 18.75in wellhead into the 30in housing.
(ii) 2.875in drill pipe was mobilised to the rig in the event that a top-up job was required on the 30in casing. The pipe was retained on the rig for plug and abandonment operations. However the 2.875in drill pipe cannot be racked back and has limited strength when tagging cement plugs. Consideration should be given to using 3.5in drill pipe (which Maersk have handling equipment for) or 3.5in tubing. Take note of tool joint clearance in open hole if sourcing 3.5in drill pipe.
(iii) On future casing cutting operations it is recommended that cutters should be eased in as this will assist with preventing connection back-off - as was the case with the 9.625in casing on Trefoil 2.

(iv) The soft nature of the Bass Basin seabed necessitated the pumping of 200% excess cement on 30in casing job well for integrity purposes. The large volume of cement at the mudline coupled with the deep cuts below the mudline (i.e. 4.5m and 1.98m) made recovery of the 30in casing and 20in wellhead extension very difficult. It is recommended on future operations that the Smith cutting tools be spaced out to cut casing at or just below the mudline – assuming this is approved by the Regulator.

(v) On future operations were the conductor stub (or any other mudline equipment) cannot be recovered to surface the Regulator will need to be notified of the location of same. A video will need to be provided of the stub showing cement at surface and any cuttings/cement mounds around the stub. The coordinates of the stub will also have to be sent to AMSA.

2.4.9 Rig Down and Move-off

Once all tubulars had been laid down from the mast, anchors #5 and #8 were recovered and the rig was ballasted down to transit draft. The remaining anchors were recovered and the rig was under tight tow to Rockhopper-1 at 01:00hrs on 29/11/09. The total time to recover the anchors and ballast down the rig was 27hrs.

(i) A total of 2hrs of critical path rig time was spent sea fastening equipment. On future wells where possible sea fastening operations should be conducted off the critical path or avoided all together – particularly for short rig moves.

2.5 Bit Selection

Well: Trefoil-2																									
Date In	Date Out	IADC	Bit#	Size (in)	Ser #	Mfr	Type	Jets	TFA	D.In (m)	D.Out (m)	Prog (m)	Hrs IADC	ROP (ft/hr)	SPP (psi)	Flow (gpm)	WOB (klb)	RPM	MW (ppg)	I	O1	D	L	B	G	O2	R
16 Nov 2009	17 Nov 2009	M323	5 RRx3	8.50	TX2104	SMITH	MI616	6 x 14	0.902	3175.0	3235.0	60	7.5	8	2520	714	12.30	123	9.28	1	2	CT	S	X	I	NO	TD
15 Nov 2009	16 Nov 2009	M 233	6 RRx1	8.50	083691	CORPRO	MCP572		0	3145.0	3175.0	30	4	7.5	203	205	11.00	70	9.28	1	1	NO	FC	X	I	NO	CP
13 Nov 2009	15 Nov 2009	M323	5 RRx2	8.50	TX2104	SMITH	MI616	6 x 14	0.902	3013.0	3145.0	132	16	8.25	2520	714	12.30	123	9.25	1	2	CT	S	X	I	WT	CP
12 Nov 2009	13 Nov 2009	M 233	6	8.50	083691	CORPRO	MCP572		0	2983.0	3013.0	30	4.5	6.67	620	210	10.00	70	9.25	1	1	NO	FC	X	I	NO	CP
09 Nov 2009	12 Nov 2009	M323	5 RRx1	8.50	TX2104	SMITH	MI616	6 x 14	0.902	2633.0	2983.0	350	29.5	11.86	2520	714	12.30	123	9.22	1	2	CT	S	X	I	WT	CP
08 Nov 2009	09 Nov 2009	M323	5	8.50	TX2104	SMITH	MI616	6 x 14	0.902	2523.0	2633.0	110	9.5	11.58	2500	712	6.60	100	9.20	0	1	WT	G1	X	I	NO	DTF
06 Nov 2009	07 Nov 2009	117	4	8.50	6076381	Baker Huhes C	8 1/2 GT-1	3 x 22	1.114	2520.0	2523.0	3	0.2	15	1617	729	3.30	72	9.19	1	1	WT	A	1	I	NO	BHA
20 Oct 2009	22 Oct 2009	M432	3 RRx1	12.25	222369	REED	RSX616M	8 x 13	1.037	2271.0	2520.0	249	20	12.45	2850	900	15.00	110	9.12	1	1	CT	A	X	I	PN	TD
15 Oct 2009	20 Oct 2009	M432	3	12.25	222369	REED	RSX616M	8 x 13	1.037	935.0	2271.0	1336	128.4	10.4	2800	1000	15.00	100	9.10	1	1	BT	N	X	I	CT	PP
07 Oct 2009	11 Oct 2009	115	2	17.50	PM2605	Smith Bits	XR+VCPS	1 x 13	1.243	155.0	935.0	780	40	19.5	2350	1200	9.00	150	9.00	2	2	NO	A	2	I	NO	TD
06 Oct 2009	06 Oct 2009	111	1	26.00	6077163	Hughes	CR-1	3 x 22	0	95.0	155.0	60	4	15	1440	240	7.00	70		1	1	NO	BLA	1	I	NO	TD

Table 3: Bit Selection

2.6 Health, Safety and Environment

PARAMETER	NUMBER	UNITS	COMMENTS
SAFETY			
Manhours	60,324		ADA / Client / Maersk / TPC between 6 Oct – 29 Nov 09
Stop cards generated	2271		From 6 Oct – 29 Nov 09
Safe Observation	927		From STOP Cards review between 6 Oct – 29 Nov 09
Unsafe Observation	1344		From STOP Cards review between 6 Oct – 29 Nov 09
Total MODU Proactive Safety Efforts	5159		Include Work Permits / JSA / Toolbox Meeting / Time Out For Safety / Area Authority Audits / Hazard Hunts / STOP Cards 6 Oct – 29 Nov 09
AUDIT			
Regulatory Audit	1		NOPSA Auditors attended the rig during the well operations
Internal EP Compliance Audit	8		8 internal EP audits were held during Trefoil 2 well drilling period.
MODU Mini HSE Audits	10		Outstanding efforts by the ADA HSE Advisor in conducting the following audits: • Incident & Trend Analysis-8th Oct Radiation & Explosives-17th Oct • Waste Management-29th Oct • Induction Process-31st Oct • Environmental Protection & Bulk Hoses-3rd Nov • Manriding-6th Nov • Working At Heights-11th Nov • Incident & Trend Analysis-14th Nov • DROPS-18th Nov • Manual Handling-21st Nov • Occupational Health-28th Nov All identified actions from Action Tracker have been reviewed and closed.
MODU Environmental Inspection	8 ADA inspections carried out by offshore ADA HSE Advisor		The inspections were held on the following dates; • 11 Oct • 18 Oct • 25 Oct • 01 Nov • 08 Nov • 15 Nov • 22 Nov • 29 Nov At the time of the completion all actions identified except for the drainage onboard has been closed. The drainage onboard is being closed out by the Rig at the time of the completion of the well.

PARAMETER	NUMBER	UNITS	COMMENTS
TRAINING			
ADA ERG Exercise	1		On November 4th 2009, a 'live' Emergency Response exercise, titled "Exercise Reliance", was conducted for ADA / Origin /Maersk. Objectives were met and open actions have been closed.
Environment Plan Training	Compliant		Communications on campaign's environmental obligations including Environmental Objectives were made by ADA HSE Advisor via MODU Induction.
MODU Emergency Drill	17		The following drills were held: • **4x fire drill** • **6 x abandon** • **2 x MOB** • **2 x First Aid** • **1 x ISPS** • **1 X SOPEP** • **1 X Emergency Ballast** Objectives were met and open actions have been closed.
REPORTABLE INCIDENT (NOPSA)			
Lost Time Injury (LTI)	1		1 LTI occurred during the Trefoil 2 operations involving a back injury on the 1st of Nov.
Alternate Duties Injury (ADI)	1		Nil
Medical Treatment Injury (MTI)	0		1 Medical treatment injury occurred 10th Nov resulting from a back strain.
NON REPORTABLE INCIDENT (NOPSA)			
First Aid Case (FAC)	2		• 01/11/2009 - Back strain • 28/11/2009 - Muscle strain
Near Miss (NM)	14		• 19/10/2009 - Dropped object • 21/10/2009 - Incorrect line up of dump valves • 23/10/2009 - Stuck casing • 25/10/2009 - Fishing related issue • 28/10/2009 - Foreign object on Heli deck • 04/11/2009 - Incorrectly secured load • 05/11/2009 - Container door opening whilst being lifted by crane. • 07/11/2009 - Dropped shackle pin • 08/11/2009 - Dropped spring • 10/11/2009 - Soft tissue strain back • 28/11/2009 - Foreign object on Heli deck
Property Damage	0		Nil
RECORDABLE INCIDENT (DIER)			
Spills – occurrence	0		No hydrocarbon / chemical spill occurrences
Spills – quantity	0		As above

PARAMETER	NUMBER	UNITS	COMMENTS
Sewerage Disposal			
Problems with sewerage plant resulted in discharge of untreated sewage to the marine environment	0		No concerns identified.
Waste			
Hazardous waste	30	Drums	All wastes products/materials were properly packed, stored and sent onshore to Oil Patch Containers (OPC) and disposed accordingly through an approved waste disposal company, an EPA approved permit holder to transport various wastes including waste from offshore.
Non-hazardous waste	68	skips	68 skips of solid waste and scrap metal sent ashore for disposal through Cleanaway.
Marine User Interaction			
Cetacean sightings	2		Whale sighting observed – Report was submitted to DEWHA.
Errant vessel interaction	0		No interactions recorded
Impacts from Fishing Operations	0		No impacts identified
Water Based Muds (WBM)			
Volume water based drilling fluid dispose into the ocean (m^3) *Note: This number is taken from the mud report. In a well where drilling occurs in the lost circulation zone, sweeps etc are lost down hole, not to the ocean. This column is for mud lost at the shale shakers or dumped.*	1162.4	m^3	No recordable incident arising from Trefoil 2 drilling activity that breaches the performance objective for the Origin T/18P Environment Plan.
Volume of drill cuttings using WBM disposed to the seabed (m^3) *Note: This data is basically the volume of rock excavated from the well. When drilling top hole, cuttings are lost down hole and should not be included.*	328.5	m^3	
Volume of drill cuttings using WBM injected into the annulus (m^3)	0	m^3	
Oil / Chemical spills discharged to the marine environment	0		No hydrocarbon / chemical spills recorded.

Table 4: Health, Safety and Environment

2.7 Well Highlight and Lowlights

2.7.1 Highlights

The main highlights during Trefoil 2 were as follows:

- The shortened 30in conductor string when compared to the offset subsea wells proved to be successful with no well stability issues encountered and full cement returns observed at surface.
- The lighter weight lead cement slurry used during the 13.375in cement job proved to be successful with full returns observed at the mudline.
- The use of a mud motor in the 12.25in section proved to be successful as this allowed the wellbore to be re-aligned when required and assisted with bit ROP.
- The deep set 9.625in shoe proved to be successful as the Demons Bluff and upper EVCM formations were isolated allowing trouble free coring and logging operations.
- The coring performance was excellent with +/-100% core recovery achieved on the two 30m coring runs.
- No wiper trips were required during the wireline logging program.
- All wireline logging objectives were achieved.
- The KCl/PHPA/ClaySeal Plus mud formulation proved to be successful.
- The 8.5in Smith MI616 PDC bit performed very well through the highly variable EVCM Formation.
- All hole sections were drilled in single bit runs as programmed.

2.7.2 Lowlights

The main lowlights during Trefoil 2 were as follows:

- One LTI occurred involving a back injury on the 1 November.
- One MTI occurred on 10 November due to back strain.
- A total of 11.9 days were lost due to the 9.625in stuck-in-hole incident.
- A total of 4.4 days were lost due to rig equipment downtime.
- 32hrs were lost due to an MWD/LWD failure in the 8.5in hole section.
- Five NCR's were issued during the well. Refer to section 4.6 for further details.
- The inability to totally clear the seabed on completion of operations as a 0.5m section of 30in conductor string remains protruding above the mudline.

2.8 Non-Conformance Report Summary

A total of 5 NCR's were issued during Trefoil 2. The total recorded lost time in the daily reports attributed to these NCR's was 27.5hrs. A further 3hrs was classed as invisible lost time (ILT) where the time lost was not recorded on the daily reports but there was indirect lost time due to these events. The total cost impact of the NCR events was US$762,500 and an overview of these events is summarised in Table 5. It should be noted that at the time of writing this report all actions in the NCR's raised during Trefoil 2 had been closed out.

NCR	Description	Recorded NPT	ILT	Cost Impact (US$)
001	The Fugro ROV unit onboard the KTIV was deployed to observe the drilling of the 36in hole section and running of the conductor string. As part of this operation the ROV was expected to observe and record the bullseye reading(s) on the permanent guide base (PGB) once the conductor string had been run to the desired depth. As cuttings returns had obscured the bullseye it was reasonably expected that the ROV could still observe and record the conductor inclination by jetting the debris off the bullseye. However the ROV crew indicated that the jetting tool had not been fitted to the unit for this critical operation.		2	$ 50,000
002	Prior to the 13.375in cement job on Trefoil 2 Halliburton cement personnel on the KTIV were unsure if an o-ring had been installed between the equalising sub and the 13.375in plugset. To ensure that the o-ring was in place the 13.375in plug set and equalising swivel were recovered for inspection. Whilst doing this the bottom plug was released and remained in the casing. The plug set was then run back in hole and the cement job was successfully completed.		1	$ 25,000
003	A total of 6 PCS personnel were mobilised to the KTIV to run the 9.625in casing on Trefoil 2. Personnel were on the rig several days before the casing run allowing sufficient time to inspect all equipment and prepare for the job. When the casing run commenced the PCS handling equipment malfunctioned. The malfunction was a result of incorrect inserts being placed in the elevators. The 11.75in inserts were replaced with the correct 9.625in inserts.	2.5		$ 62,500
004	Two incidents occurred at the start of the 8.5in hole section. Firstly there was a major Geoservices computer malfunction when drilling with the full LWD tool string commenced following the FIT at 2523m. This resulted in no data capture into the mudlogging database for the interval 2523-2543m. This is not an ideal situation and the better option would have been to make sure that drilling stopped until the problem was fixed. Time was lost when the primary support technician onshore could not be contacted to help with the problem. Secondly the Geoservices geolograph on the KTIV was attached to a new mounting point on the TDS and it was observed that the geolograph cable was making contact with the hoses leading to the TDS. As drilling continued in the 8.5in section the hook movement was noticed to be either non-existent, or at best erratic, on visual displays inside the Geoservices unit. With the geolograph operating incorrectly in terms of physical movement it was noted that the hook height trace was still not recording correct depth controlled data to the primary database. The Geoservices database was recording 15-16m ahead of the true depth as evidenced by Sperry depth data. A considerable amount of time was spent during a wiper trip at 2633m to change the database to correct depths and relabel sample bags to their correct depths.	1		$ 25,000

005	Two MWD/LWD tool problems occurred. Firstly the ALD (density) tool indicated malfunction when still inside the 9.625in casing shoe at 2520m. Secondly while drilling ahead in the 8.5in hole section a connection was made at 2629.9m after which the pumps where brought back on line and no pulses were seen from the MWD tool. At this point the pumps where cycled twice and still no pulses were seen. The tool was then reset by mode switching it - unsuccessful. Drilling continued for a few metres to 2633m with no realtime signal from the MWD tool. Since 'realtime' gamma data was considered to be a minimum requirement for the hole section in order to pick the first coring point, it was decided to POOH to investigate the pulser. On inspection of the tool string back at surface it is was found that there was a faulty far detector in the density tool. Analysis of the diagnostic data on surface indicated a Pulser Control Module (PCM) or adjoining connector fault. This caused a break in the electrical communication causing the pulser to cease pulsing.	24		$ 600,000
	Total	**27.5**	**3**	**$ 762,500**

Table 5: Non-Conformance Report Summary

2.9 Time Analysis

2.9.1 Breakdown by Well Phase

Table 6 summarises the planned versus actual time breakdown by operational phase for Trefoil 2. Figure 1 presents the same data in graphical format.

Operation Phase	Time (days)				
	Planned	**Actual**	**Programmed**	**Unprogrammed**	**NPT**
Mobilisation (P1)	4.55	2.90	2.58	0.00	0.31
36in Hole (P2)	0.62	1.94	1.90	0.00	0.04
30in Casing (P3)	1.30	1.54	1.38	0.00	0.17
17.5in Hole (P4)	2.08	2.83	2.77	0.00	0.06
13.375in Casing (P5)	1.21	1.50	1.50	0.00	0.00
Run BOP/Riser (P6)	2.95	2.56	1.85	0.00	0.71
12.25in Hole (P11)	5.78	7.35	5.42	1.56	0.38
9.625in Casing (P13)	1.71	14.96	1.77	0.00	13.19
8.5in Hole (P17)	10.44	12.21	9.10	0.04	3.13
Log 8.5in Hole (P17)	2.98	2.77	2.71	0.00	0.00
Abandon Well (P21)	5.15	6.40	6.04	0.00	0.35
Demobilisation (P1)	0.35	1.21	1.21	0.00	0.00
On location WOW Days	2.00				
Mob/Demob WOW Days	2.00				
Total	**43.11**	**58.17**	**38.23**	**1.60**	**18.33**

Table 6: Time analysis - Breakdown by Well Phase

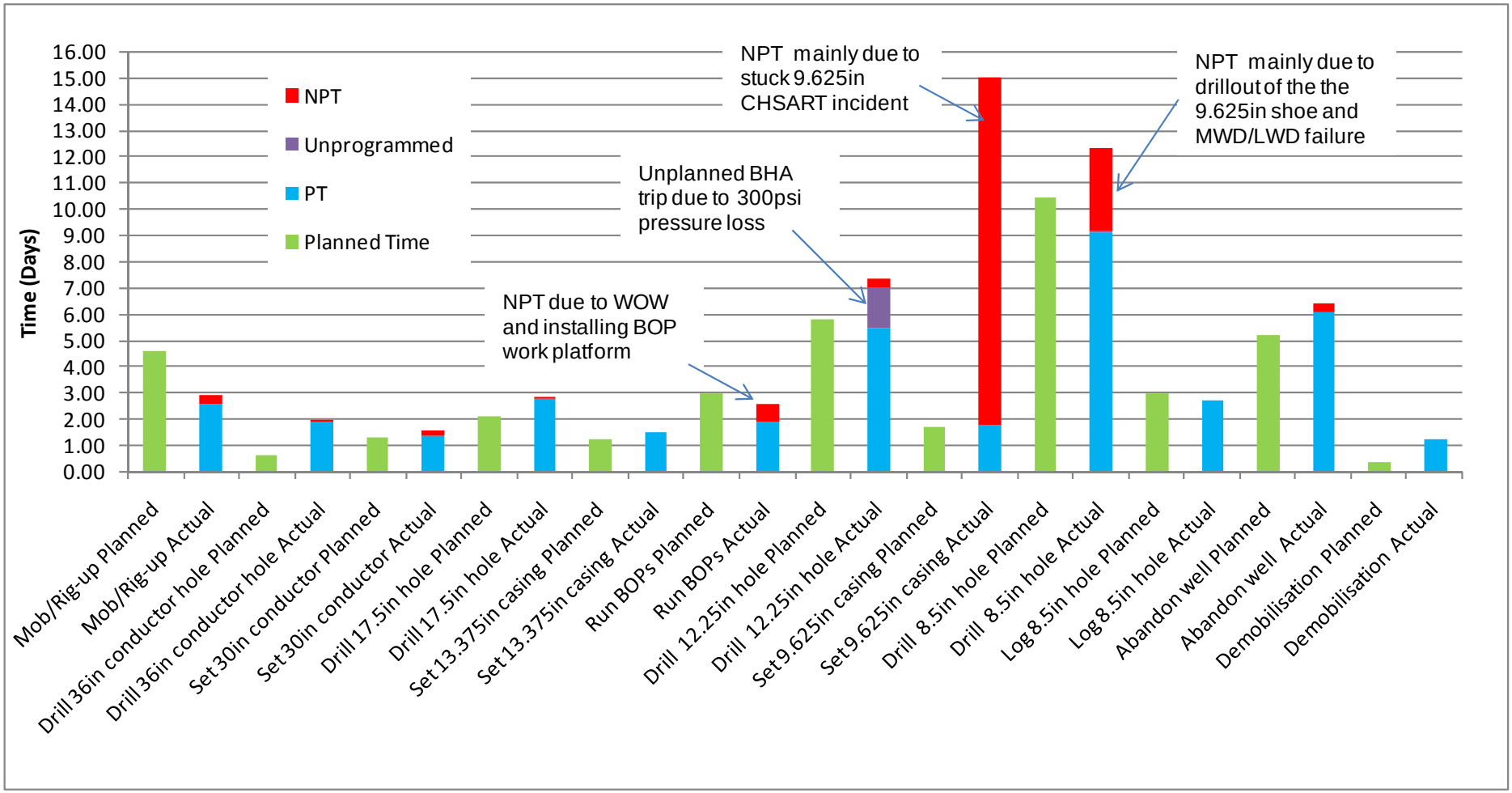


Figure 1: Well Phase vs. Time in days

2.9.2 Non-productive Time Analysis

Total time spent on Trefoil 2 was 58.17 days compared with the total pre-drill predicted time for the well of 43.11 days. The well duration was 15.06 days (34.9%) over the pre-drill prediction. Of the 58.17 days spent on Trefoil 2 a total of 18.3 days (31.5%) were recorded as non-productive time for the well and 1.6 days (2.7%) were recorded as unplanned activities. Figure 1 highlights the main NPT events on Trefoil 2 and Figure 2 summarises the NPT events by root cause as entered into the IDS system. The following points should be noted in regards to the NPT on Trefoil 2:

- A total of 11.9 days were lost due to the 9.625in stuck-in-hole incident. This event contributed to 65% of the total NPT on the well. If this event is removed from the overall well and NPT time the NPT percentage is reduced to 13.8%.
- A total of 4.4 days were lost due to rig related down time events. If this down time is removed from the overall well and NPT time the NPT percentage is reduced to 25.9%.
- If both the 9.625in stuck-in-hole and rig down time events are excluded from the overall well time the well NPT percentage is reduced to 3.5%.

Based on the points above it can be seen that the overall Trefoil 2 NPT figures are heavily skewed by a single NPT event and rig down time. The overall NPT performance outside of these two NPT periods was well within the 20% allowance in the pre-drill estimate.

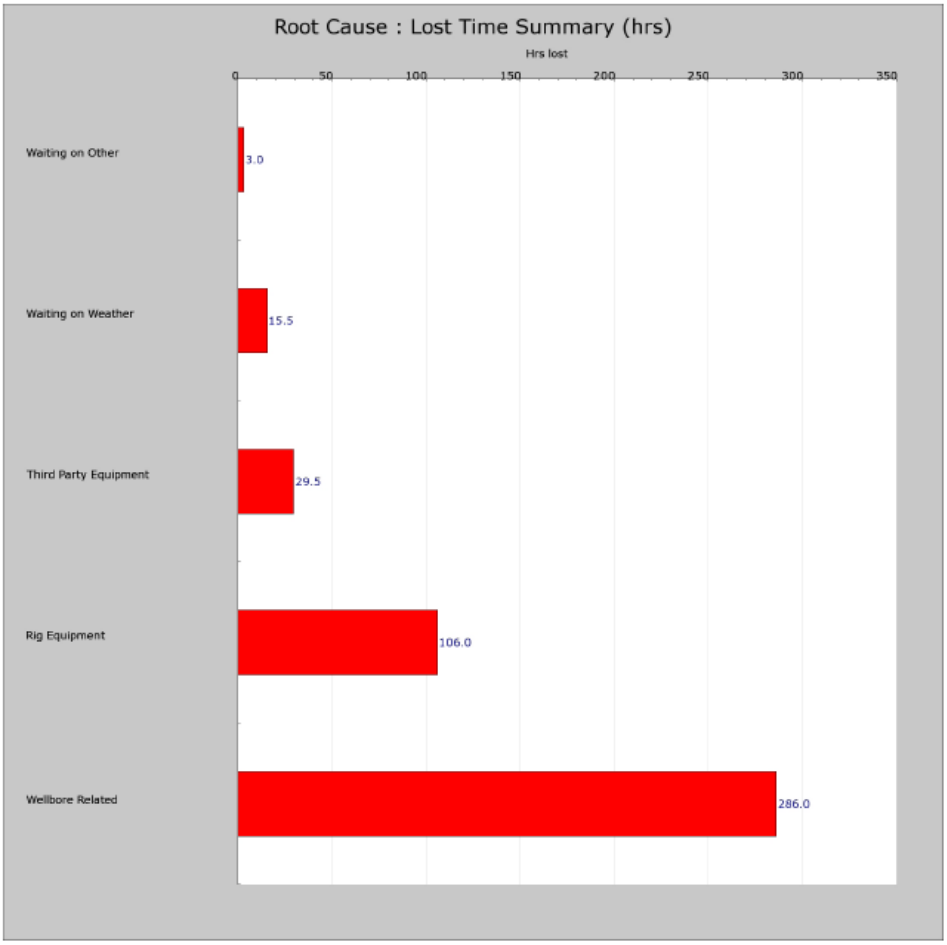


Figure 2: Lost Time Summary

A complete listing of all the NPT events on Trefoil 2 is located in Appendix 12.

2.9.3 *Time vs Depth Curve*

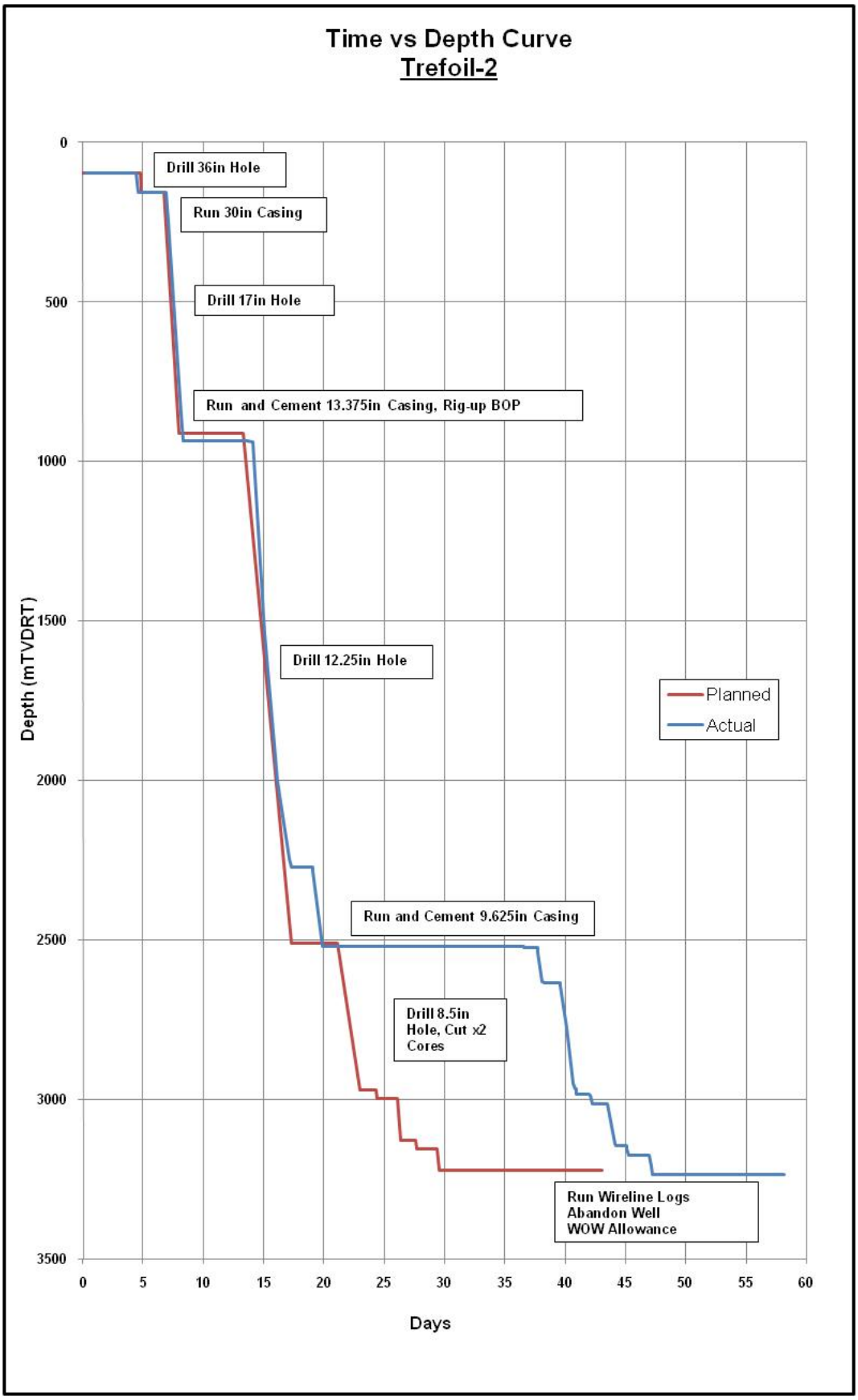


Figure 3: Time vs Depth Curve

2.10 Well Schematic

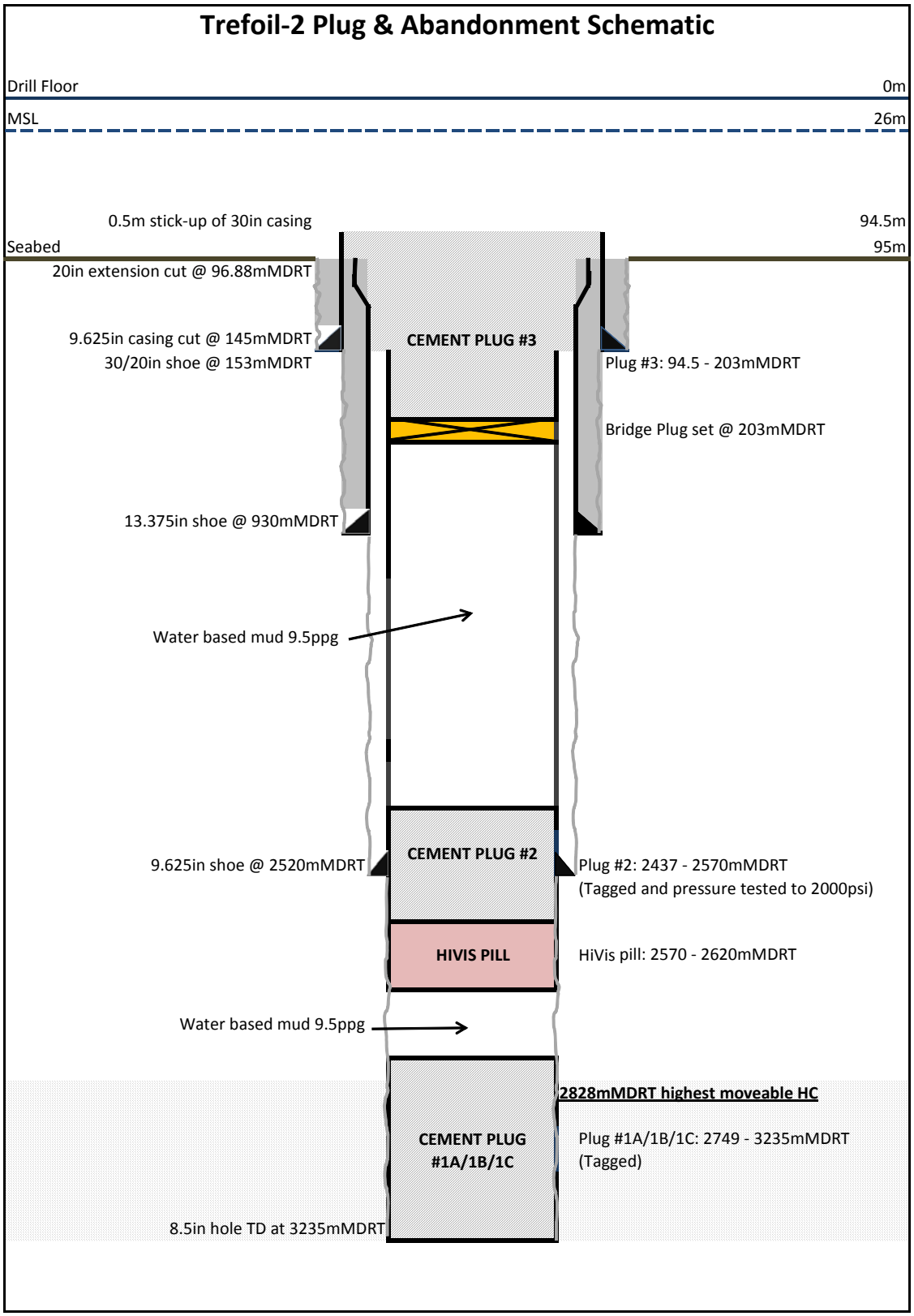


Figure 4: Well Schematic

2.11 Lessons Learnt Register

In excess of 100 lessons were captured during the Trefoil 2 well. The lessons learnt register below lists the most relevant technical and operational lessons captured during the Trefoil 2 well. At the time of preparing this end of well report 95% of the lessons and relevant actions captured during Trefoil 2 had been closed out.

LL #	Lesson Learned / Opportunity	Action Results
1	Spud Well. ROV lost visual with BHA and comms with markers. Marker buoy floatation needs to bigger for the flare. Estimated .45hr KILT. Thorough handover also required during critical operations.	This issue was best addressed at the pre job meeting by REACH Coach. REACH coach has added learning into check sheet for pre spud ops
3	Prior to cement job we had to check bulls eye as per program however the bull eyes was covered with debris. There was no blower fitted to ROV.	Covered in NCR.
4	Re headings - ROV gyro should only be viewed as a basic indicator for ROV gyro heading. ROV team have to use guidelines as heading markers and follow guidelines down to PGB to confirm its heading. If exact alignment is called for an OCTANS survey standard gyro can be bolted onto the ROV. Company man had requested a Octans gyro.	New gyro on the way to the rig.
6	Cement unit failure – did not affect the 30" job. The electrician identified the problem and there was no impact on cement job – could easily been different. A breaker has been replaced but not thought to be root cause. Unit needs further surge protection in built.	200hp electric motor being sourced. When the 200hp motor is installed Halliburton will be installing appropriate local electrical protection.
8	To facilitate BHA make up off critical path roller blocks are required onboard.	Roller blocks now onboard. Sperry notified onboard.
10	Before actually running casing the team need to consider length of snub line so that power tong and back up tong do not clash. .25hr KILT sorting this once running - one less thing to worry about at start of job.	Point added to Casing Pre Job Prompts. These will be reviewed with team prior to job offshore.
11	Lost time during casing rig up when a member of the drill crew attempted to run the ISIS hoses up to the TDS. A PCS hand should do this job as he knows where the hoses are meant to go. PCS hand eventually had to do the job.	Point added to Casing Pre Job Prompts. These will be reviewed with team prior to job offshore.
12	Rig up 500 ton elevators. Length of slings for pickups not correct.	Point added to Casing Pre Job Prompts. These will be reviewed with team prior to job offshore.

15	Reject on first joint being picked up as tugger line popped off roller in derrick and joint box damaged when it struck the v-door. If the catwalk had been sprayed with water before hand the joint would have slid easier and not career into v-door and tugger line would have been OK. This caused .5hr KILT changing rig up.	Point added to Casing Pre Job Prompts. These will be reviewed with team prior to job offshore.
16	The deck crew took 3 attempts to sling the wellhead level.	Point added to Casing Pre Job Prompts. These will be reviewed with team prior to job offshore.
17	Cement Head - As the head does not have a swivel we could not make up hoses using the mouse hole so the head is at chest height. When making up cement head in the derrick it clashed with service loops. Hoses made up in the derrick by man rider. Safety issue and performance opportunity as swivel fitted head at least .75hr quicker to rig up. 0.5hr KILT on 9.5/8" during RH-1.	Cement head with swivel capability has been sourced from Weatherford.
18	Halliburton cement unit left hand engine cut out during job. Did not affect the successful cement job. On investigation the fuel tank was found to be contaminated with a black deposit - the filter had been blocked with same black deposit.	Halliburton mechanic visited the rig and a full service was conducted.
20	The BOP was difficult to land out as there is no guide funnel on same.	1 x 10ft post will be sourced.
21	The 3x18/32" nozzles programmed in the 17.5in bit did not provide the correct hydraulics for the MWD tool. This was changed to 3x22/32" prior to RIH. No problems with the MWD encountered during the run.	Amended detailed drilling program.
22	Insufficient weight was available below the jars in the 12.25in BHA to meet bit/drilling requirements. This was modified prior to RIH to include x6 8.25in DC's below the jars and x2 above.	Amended detailed drilling program.
23	9.625in mud motors as programmed in the 12.25in section are rated to 120rpm at surface. Pumping at 1000gpm will give 230rpm at the bit.	Amended detailed drilling program.
24	The Detailed Drilling Program states to maintain circulation at >1000gpm in the 12.25in hole section. However MWD/LWD tools are typically set-up for maximum flow rates of <1000gpm as was the case on Trefoil 2.	Amended detailed drilling program.
27	Ander drift took some time to get working.	REACH coach has added learning into "General Drilling Check Sheet".

28	Compensator air supply was insufficient while landing the BOP. Ensure 1600psi available in future.	Point added to Casing Pre Job Prompts. These will be reviewed with team prior to job offshore.
29	Potential to look at pig tails (plates) to connect MRT lines to slip joint load ring. Effectively halves number of connections that have to be made.	Eight are on the rig and another two are needed but this is a positive step forward. Chase up with Maersk through the next hitch. Closed.
31	12.1/4" Bit Run - At 2271m observed loss of 300 psi differential pressure, whilst adding premix to mud system. Closed standpipe valve and pressure tested all 3 mud pumps. Attempted to re-establish drilling parameters, no differential pressure observed on bottom.	Report received from Halliburton on the incident. No apparent reason for the pressure drop. Review liner sizes on future wells.
32	2.5hrs NPT due to Casing elevators being dressed for 11.75" elevator inserts instead of 9.625" inserts.	Added to Prompts sheet and to be discussed at PPM and 3rd party meetings. NCR issued and closed out.
34	Drill 12.1/4" Hole - Had to increase KCl% after drilling out. It was felt this should be done prior to drilling out as it was too low.	Programs for future wells to increase KCl to 8%-10% in the 12 1/4" section and 6%-8% in the 8 1/2" section.
37	Drill 12.1/4" Hole - Lay down BHA. There does not appear to be steel hole covers when the bushings are removed at BHA time	One is on rig floor now.
38	Rig up to run 9.5/8" casing. Some initial issue with stabbing arm getting it to work properly (0.25hr KILT).	Add to casing pre job check sheet and bring up during PPM's and JSA's.
39	From 9.5/8" AAR - running casing seemed disjointed with the team unable to get into a routine.	New crews - this is a learning curve and as long as the job is done safely the efficiency will come later.
40	From 9.5/8 AAR - At rig down time the work could have been more "ordered". There could have been a better plan. Need to ensure harnesses are ready to use before master bushings are removed.	Add to check sheet and mention to have all gear ready and inspected prior to the job.
54	MWD tools failed had to POOH and investigate cause.	NCR issued. Failure report split into two (5a and 5b) and both have been closed out.
70	Core pro hands almost ran out of workable hours on the rig. They would have had to shut down the operation and went for a sleep if it took longer to process.	Three core hands will be mobilised on future coring operations.
74	On the Rockhopper abandonment especially if sidetracking the preference would be to use 3.1/2" cementing stinger	Sourced 3.1/2" drill pipe.
77	Tested wireline tools that were later decided not to be run in the logging program.	Difficult to plan for when it is not known what the prospect is like until TD.

78	Cable head on wireline run #1 failed. This caused an hour of KILT/NPT.	Fault with Q1 on measurement board. Board will be replaced when new one arrives. Crew can also check for fault by comparing head tension reading while pulling on the cable.
79	Wireline samples on run #3 took longer that originally planned. Wellsite Geologist said that due to being almost 600psi over balanced this causes the sample time to take longer.	On Trefoil 2 there were no well bore issues during logging indicating the mud weight was doing its job.
80	During the correlation run the driller moved the compensator. If there is a need to do this during any time of the operation the driller needs to contact the logging unit prior.	Point added to performance prompts. REACH coach will add this to the rig floor learnings sheet for STP.
84	It was noted that the supply of cement was more consistent when transferred at just over 40psi. Note for future cement jobs.	Add to performance prompt for cementing.
104	PGB too low at 0.5m due to poor visibility when wellhead set. This made abandonment operations difficult in regards to spacing out the cutting BHA just below the mudline.	On future wells the cutting BHA will have greater flexibility with spacing out to cut just below the mudline.
112	Maersk procedure is for sea fastening to remain in place until rig anchoring is completed, i.e. All anchors out and pretensioned. This is a precaution primarily if the rig moves suddenly when anchors are tensioned.	Pre plan lashing of equipment as each operation is completed.

Table 7: Lessons Learnt Register

2.12 Daily Activity Report

Please refer to Appendix 11 for the Daily Activity Report.

3. FORMATION SAMPLING & ANALYSIS

3.1 Cuttings

Cuttings were collected over the interval 153 – 3235mMDRT. The sampling intervals were as follows:

940 – 1760 mMDRT: 10 metre intervals
1760 – 2050 mMDRT: 5 metre intervals
2052 – 3235 mMDRT: 3 metre intervals

Cuttings were very poor during the cored interval and descriptions through this zone are generated from core chip descriptions (Appendix 3).

A detailed collection and distribution list for all ditch cutting samples collected from Trefoil 2 is included in the Geoservices End of Well Report (Appendix 6). Cuttings lithological descriptions are presented in Appendix 1. A complete set of Daily Geological Reports (which include cuttings descriptions summary) are included in Appendix 17.

3.2 Sidewall Cores

No sidewall cores were cut.

3.3 Conventional Cores

Two conventional cores were cut in Trefoil 2. A summary of the cored intervals is included in Table 8 below. Detailed core chip descriptions are in Appendix 3. Routine core analysis and core photographs are supplied in Appendix 4.

Core #	Interval (mMDRT)	Cut (m)	Rec (m)
1	2983 – 3014.2	30	31.2 (104%)
2	3145 - 3175	30	29.25 (97.5%)

Table 8: Summary of Conventional Cores cut in Trefoil 2

3.4 Palynology

Two samples were selected for post-drill palynological studies. This was undertaken to confirm the Top Cretaceous pick. These studies were undertaken by Morgan Palaeo Associates and the basic palynological data is presented in Appendix 9. A summary of the basic data is presented in Table 9. Yields and preservation were variable depending on the degree of downhole contamination. The complete palynology report is presented in the interpretive volume of the Trefoil 2 Well Completion Report in Appendix 4.

Depth (mRT)	Type	Yield			Preservation	
		kerogen	dinocysts	spore-pollen	dinocysts	spore-pollen
2984 – 2985	Core	high	trace	high	poor	poor
2993 – 2994	Core	high	trace	high	poor	fair

Table 9: Basic palynology data

3.5 Geochemistry

Four gas and condensate samples taken by the MDT tool at three different depths were selected for geochemical analysis. The geochemical analysis was undertaken by Geotech and Isotech. It involved Whole Oil and Saturate GC-MS, liquid chromatography and Compound Specific Isotope Analysis (CSIA). All geochemical analysis is presented in the interpretive volume of the Trefoil 2 Well Completion Report in Appendix 3.

Depth	Sample Type	Analysis
2830.3	Condensate	Whole oil – analysis of crude oil by GC-MS
2830.3	Condensate	Liquid Chromatography of saturated hydrocarbons
2830.3	Condensate	Analysis of saturated hydrocarbons by GC-MS
2830.3	Gas	CSIA
3155.1	Gas	CSIA
3171.2	Gas	CSIA

Table 10: Trefoil 2 Condensate and Gas Sample depths at which Geochemical Analysis was undertaken.

3.6 Petrology

Detailed petrological analysis was undertaken on ten samples between the depths of 2999.2-3174.1m. Analytical techniques used were thin-section analysis, qualitative fine-fraction X-ray diffraction analysis and scanning electron microscopy/energy dispersive spectroscopy. These studies were undertaken by Reservoir Solutions Pty Ltd and the petrology report is presented in the interpretive volume of the Trefoil 2 Well Completion Report in Appendix 5.

Sample #	Depth (mRT)	Sample Type	Petrologic Analysis				Core Analysis		
			MA	XRD	SEM	PM	Por. (%)	Perm. (mD)	GD (g/cm3)
54	2999.2	Core	X	-	-	X	16.8	23.0	2.66
58	3000.39	Core	X	X	X	X	19.3	1766	2.64
69	3003.7	Core	X	-	-	X	16.8	80.5	2.64
86	3008.86	Core	X	-	-	X	18.3	841	2.64
104	3014.2	Core	X	X	X	X	18.4	312	2.66
131	3152.95	Core	X	-	-	X	15.4	34.8	2.68
137	3154.74	Core	X	-	-	X	13.1	1.18	2.69
144	3156.83	Core	X	X	X	X	14.5	9.1	2.66
191	3170.94	Core	X	-	X	X	18.4	56.7	2.65
201	3174.06	Core	x	-	-	X	19.0	126	2.69

Table 11: Sample depths at which MA (Modal analysis), XRD (fine-fraction X-ray diffraction analysis), SEM (scanning electron microscopy), PM (photomicroscopy) and core analysis was undertaken.

3.7 Core Analysis

Routine Core Analysis (RCA) and Special Core Analysis (SCAL) was performed by Weatherford Laboratories Pty Ltd. The RCA report is presented in Appendix 4. Special Core Analysis (SCAL) report is included in the interpretive volume of the Trefoil 2 Well Completion report in Appendix 7.

4. FORMATION EVALUATION

4.1 Mudlogging

Mudlogging was provided by Geoservices Australasia Pty Ltd over the interval 95.0 – 3235mMDRT. The Mudlogger's End of Well Report can be found in Appendix 6.

4.2 Logging While Drilling

Logging while drilling (LWD) services were provided by Sperry-Sun Drilling Services. In the top 17 ½" hole section a conventional rotary assembly was used, comprising Pressure Case Gamma (PCG) and Pressure Case Direction (PCDC) for wellbore surveying. In the 12 ¼" hole section the LWD tools comprised of a Drilling String Dynamic (DDSr-DGR) for drilling optimisation, Dual Gamma Ray (DGR) and Electromagnetic Wave Resistivity (EWR-E4) for formation evaluation. Additionally a Pressure Case Directional (PCDC) was utilised for wellbore surveying. This section was drilled in two bit runs. In the 8 ½" hole in addition to the gamma and resistivity logs, compensated thermal neutron (CTN), Azimuthal Litho-Density (ALD) and Bi-modal Acoustic (BAT) for formation evaluation were also run. This section was drilled in four bit runs using a conventional rotary assembly. Sperry-Sun also provided a measurement while drilling (MWD) tool throughout the drilling of the well to collect directional data. A summary of each MWD and LWD run is shown in Table 12. Sperry-Sun provided an end-of well report detailing the LWD and MWD operations, which is presented in Appendix 7.

Hole Size (inches)	Interval (mMDRT)	MWD services	LWD services
17.5"	155 – 935	PCG-PCDC	none
12.25"	935 – 2271	DDSr-DGR	DGR-EWR-P4-PCDC
12.25"	2271 – 2520	DDSr-DGR	DGR-EWR-P4-PCDC
8.5"	2520 – 2633	DDS	DGR-EWR-P4-CTN-ALD-BAT-ACAL
8.5"	2633 – 2983	DDS	DGR-EWR-P4-CTN-ALD-BAT-ACAL
8.5"	2983 – 3145	DDS	DGR-EWR-P4-CTN-ALD-BAT-ACAL
8.5"	3145 - 3235	DDS	DGR-EWR-P4-CTN-ALD-BAT-ACAL

Table 12: Summary of LWD & MWD runs in Trefoil 2.

4.3 Wireline Logging

The following wireline logs, shown in Table 13, were run at Trefoil 2 by Schlumberger Oilfield Australia Pty Ltd. The Wireline Service Quality Report by Schlumberger is presented in Appendix 8.

Suite #	Run #	Log	Interval (mMDRT)
1	1	SP-CMR –HRLA-PEX-HNGS	2520.0 – 3230.0 m
1	2	MDT-GR	2560.0 – 3208.0 m
1	3	FMI-DSI-GR	2520.0 – 3230.0 m

Table 13: Wireline logs run in Trefoil 2.

Suite	Run	Bit Size	Fluid Type	Density (lbm/gal)	Viscosity (s)	Fluid Loss (cm^3)	pH	RM @ measured Temp (ohm.m@°C)	RMF @ measured Temp (ohm.m@°C)	RMC @ measured Temp (ohm.m@°C)
1	1-3	8 ½ "	KCl/ Polymer	9.5			9.0	0.099 @ 24	0.09 @ 24	0.122 @ 24

Table 14: Logging Parameters in Trefoil 2.

Suite #	Run #	Maximum Recorded Temperature (°C)	Bottom Hole Depth (mRT)	Time Circulation Stopped	Time Logger on bottom
1	1	122	3230	18/11/2009 04:30	19/11/2009 06:09
1	2	126	3208	18/11/2009 04:30	20/11/2009 02:30
1	3	126	3230	18/11/2009 04:30	21/11/2009 03:19

Table 15: Temperature data recorded during wireline logging in Trefoil 2.

4.4 Hydrocarbon Indications

Gas shows from cuttings are presented in Appendix 5 and fluorescence shows in cuttings and core chips are detailed in Appendices 1 and 3 respectively.

4.5 Velocity Survey

No velocity survey was undertaken.

5. FORMATION TESTING

5.1 MDT Formation Pressure Testing & Fluid Sampling

The Trefoil 2 MDT programme consisted of a single logging run with a tool assembly of XPT-MDT-GR. The MDT sampling pack contained 12 x 450cc sample chambers.

Schlumberger refer to this logging run as Suite 1 Run 2. The Pressure express tool (XPT) was configured with a large diameter probe to obtain formation pressures only and the MDT also with a large diameter probe for pump-outs and sampling only. Pressures or pre-tests were taken while running into hole and sampling was done while pulling out of hole in the single run.

In total 65 pre-tests were made, of which 36 were valid, 12 were tight and 17 were supercharged.

There were 14 attempted sampling stations with 7 pumps outs (fluid analysis only) of which 6 samples were taken from 3 sampling depths (dual samples per station). The seven pump-out depths were taken at 3181.2mMDRT, 3175mMDRT, 3171.2mMDRT, 3155.1mMDRT, 3149mMDRT, 2994.8mMDRT, 2830.3MDRT, with samples taken at 3171.2mMDRT, 3155.1mMDRT, and 2830.3mMDRT.

A summary of the MDT data are shown in Table 16 and more detail is included in Appendix 10.

Suite#	Run#	Type	Interval (mMDRT)	Total Tests	Valid Tests	Supercharged	Tight Tests	Failed	Other	Pump outs	Samples Collected
1	2	XPT	2560.1 – 3208.3	65	36	17	12				
1	2	MDT	3181.2 - 2830.3	14	7		5		2	7	6

Table 16: Summary of MDT pre-tests and samples taken in Trefoil 2.

The MDT samples were used by Petrolab (PVT laboratory in Adelaide) to measure molar composition and carry out experimental PVT analysis including Constant Mass Study (CMS) and Constant Volume Depletion (CVD) tests. The PVT is presented in Appendix 19.

5.2 Drill Stem Testing

No DST's were run in Trefoil 2.

APPENDIX 1: CUTTINGS DESCRIPTIONS

Depth (mMDRT)	% of Rock	Main Lithology	Modifier >20%	Lithological Descriptions
234.0	70	SANDSTONE		SANDSTONE: very light grey, clear, 30% very fine grained, 55% fine grained, 15% medium grained, frosted, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, 5% porosity, no hydrocarbon fluorescence.
938.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark grey, very soft to soft, sticky, amorphous to sub-blocky, 35% calcareous clay, 65% siliceous clay, traces bryozoa, traces fine grained pyrite aggregates.
940.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark gray, very soft to soft, amorphous to subblocky, 35% calcareous clay, 65% siliceous clay, trace of bryozoa, trace foraminifera, skeletal fragments, trace of pyrite.
950.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium gray - medium dark gray, very soft to firm, amorphous to sub-blocky, 30% calcareous clay, 70% siliceous clay, trace of bryozoa, trace of foraminifera, trace of skeletal fragments, trace of pyrite.
960.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark gray, very soft to firm, amorphous to subblocky, 30% calcareous clay, 70% siliceous clay, trace of bryozoa, trace of foraminifera, trace of skeletal fragments.
970.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark gray, very soft to firm, amorphous to subblocky, 30% calcareous clay, 70% siliceous clay, trace of bryozoa, trace of foraminifera, trace of skeletal fragments.
980.0	90	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark gray, very soft to firm, amorphous to subblocky, 30% calcareous clay, 70% siliceous clay, trace of bryozoa, trace of foraminifera, trace of skeletal fragments.
980.0	10	SILTSTONE	Calcareous	CALCAREOUS SILTSTONE: medium dark grey, soft to firm, angular to sub-blocky, 35% calcareous clay, 65% siliceous silt, trace bryozoa and shell fragments.
990.0	90	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark gray - dark gray, very soft to soft, amorphous to sub-blocky, 30% calcareous clay, 70% siliceous clay, trace bryozoans and skeletal fragments.
990.0	10	SILTSTONE	Calcareous	CALCAREOUS SILTSTONE: medium gray - medium dark gray, soft to friable, angular to sub-blocky, 30% calcareous clay, 70% siliceous clay, trace of skeletal fragments, lost foraminifera and bryozoans.
1000.0	90	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark gray - dark gray, very soft to soft, amorphous to sub-blocky, 30% calcareous clay, 70% siliceous clay, trace of bryozoa, trace of skeletal fragments.
1000.0	10	SILTSTONE	Calcareous	CALCAREOUS SILTSTONE: medium gray - medium dark gray, soft to friable, angular to sub-blocky, 35% calcareous clay, 65% siliceous silt.
1010.0	90	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark gray - dark gray, very soft to soft, amorphous to sub-blocky, 30% calcareous clay, 70% siliceous clay, trace of bryozoa, trace of skeletal fragments.

1010.0	10	SILTSTONE	Calcareous	CALCAREOUS SILTSTONE: medium gray - medium dark gray, soft to friable, angular to sub-blocky, 35% calcareous clay, 65% siliceous silt.
1020.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark grey, soft to firm, blocky to sub-blocky, 20% calcareous clay, 80% siliceous clay, traces micromicas, traces fossils fragments.
1030.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark grey, soft to firm, blocky to sub-blocky, 20% calcareous clay, 80% siliceous clay, traces micromicas, traces fossils fragments.
1040.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark grey, soft to firm, sub-blocky to blocky, 20% calcareous clay, 70% siliceous clay, 10% siliceous silt, trace of mica, 1% skeletal fragments.
1050.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark grey, soft to firm, sub-blocky to blocky, 20% calcareous clay, 80% siliceous clay, trace micromicas, trace fossil fragments.
1060.0	100	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium dark grey, soft to firm, sub-blocky to blocky, 20% calcareous clay, 80% siliceous clay, trace micromicas, trace fossil fragments, becoming less calcareous with depth.
1070.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, soft to firm, blocky to subblocky, 10% calcareous clay, 90% siliceous clay, traces micromicas, trace fossil fragments, trace foraminifera.
1080.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, soft to firm, blocky to subblocky, 10% calcareous clay, 90% siliceous clay, traces micromicas, trace fossil fragments, trace foraminifera.
1090.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, soft to firm, sub-blocky to blocky, 10% calcareous clay, 90% siliceous clay, trace micromica, traces coral and shell fragments, trace very fine grained pyrite as burrow infill.
1100.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, soft to firm, sub-blocky to blocky, 10% calcareous clay, 90% siliceous clay, trace micromica, traces coral and shell fragments, trace very fine grained pyrite as burrow infill.
1110.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, soft to firm, sub-blocky to blocky, 10% calcareous clay, 90% siliceous clay, trace micromica, traces coral and shell fragments, trace very fine grained pyrite as burrow infill.
1120.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, soft to firm, sub-blocky to blocky, 10% calcareous clay, 90% siliceous clay, trace micromica, traces coral and shell fragments, trace very fine grained pyrite as burrow infill.
1130.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, soft to firm, sub-blocky to blocky, 10% calcareous clay, 90% siliceous clay, trace micromicas, shell fragments, corals, pyrite as fine grained aggregates.
1140.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, trace dark greenish grey, soft to firm, sub-blocky to blocky, in part subfissile, 10% calcareous clay, 90% siliceous clay, trace micromicas, shell fragments, corals, pyrite as fine grained aggregates.

1150.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, trace dark greenish grey, soft to firm, sub-blocky to blocky, 5% calcareous clay, 95% siliceous clay, trace micromicas, shell fragments, corals, pyrite as fine grained aggregates, becoming less calcareous with depth.
1160.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, trace dark greenish grey, soft to firm, sub-blocky to blocky, 10% calcareous clay, 90% siliceous clay, trace micromicas, shell fragments, corals.
1170.0	100	CLAYSTONE		CLAYSTONE: medium dark grey, olive grey, soft to firm, sub-blocky to blocky, 5% calcareous clay, 95% siliceous clay, traces micromicas and shell fragments.
1180.0	20	SANDSTONE		SANDSTONE: light olive grey, medium grey, very fine grained, very soft to friable, well sorted, subangular to subrounded, spherical to subspherical, 10% poor calcareous cement, trace lithic fragments, good visual porosity, no hydrocarbon fluorescence.
1180.0	80	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, soft to firm, sub-blocky to blocky, trace grading to subfissile, 5% calcareous clay, 85% siliceous clay, 10% siliceous silt, trace pyrite as burrow replacement, trace shell fragments, trace micromicas.
1190.0	90	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft, sub-blocky, 5% calcareous clay, 95% siliceous silt, traces carbonaceous laminae, trace lithic fragments.
1190.0	10	SANDSTONE		SANDSTONE: light olive grey, medium grey, very fine grained, very soft to friable, well sorted, subangular to subrounded, spherical to subspherical, 10% poor calcareous cement, trace lithic fragments, good visual porosity, no hydrocarbon fluorescence.
1200.0	40	SANDSTONE		SANDSTONE: light olive grey, medium grey, very fine grained, very soft to friable, well sorted, subangular to subrounded, spherical to subspherical, 10% poor calcareous cement, trace lithic fragments, good visual porosity, no hydrocarbon fluorescence.
1200.0	60	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft, sub-blocky, 5% calcareous clay, 95% siliceous silt, traces carbonaceous laminae, trace lithic fragments.
1210.0	40	SANDSTONE		SANDSTONE: light olive grey, medium grey, very fine grained, very soft to friable, well sorted, subangular to subrounded, spherical to subspherical, 10% poor calcareous cement, trace lithic fragments, good visual porosity, no hydrocarbon fluorescence.
1210.0	60	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft, sub-blocky, 5% calcareous clay, 95% siliceous silt, traces carbonaceous laminae, trace lithic fragments.
1220.0	100	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, trace very fine grained pyrite as replacement, trace micromicas, trace lithic fragments, trace carbonaceous material.

1230.0	10	SANDSTONE		SANDSTONE: light olive grey, medium grey, very fine grained, very soft to friable, well sorted, subangular to subrounded, spherical to subspherical, 10% poor calcareous cement, traces lithic fragments, good visual porosity, no hydrocarbon fluorescence.
1230.0	90	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, trace very fine grained pyrite as replacement, trace micromicas, trace lithic fragments, trace carbonaceous material.
1240.0	10	CLAYSTONE		CLAYSTONE: olive grey, soft to firm, sub-blocky to blocky, 5% calcareous clay, 85% siliceous clay, 10% siliceous silt, trace micromicas.
1240.0	10	SANDSTONE		SANDSTONE: light olive grey, medium grey, very fine grained, very soft to friable, well sorted, subangular to subrounded, spherical to subspherical, 10% poor calcareous cement, trace lithic fragments, good visual porosity, no hydrocarbon fluorescence.
1240.0	80	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, trace very fine grained pyrite as replacement, trace micromicas, trace lithic fragments, trace carbonaceous material.
1250.0	70	CLAYSTONE		CLAYSTONE: olive grey, soft to firm, becoming sticky with depth, blocky to sub-blocky, 5% calcareous clay, 85% siliceous clay, 10% siliceous silt, trace micromica, 2% shell fragments.
1250.0	30	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, trace very fine grained pyrite as replacement, trace micromicas, trace lithic fragments, trace carbonaceous material.
1260.0	80	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, trace shell fragments, trace lithic fragments, trace foraminifera.
1260.0	20	CLAYSTONE		CLAYSTONE: olive grey, soft to firm, blocky to sub-blocky, 5% calcareous clay, 85% siliceous clay, 10% siliceous silt, trace micromica, 2% skeletal fragments.
1270.0	80	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, soft to firm, sub-blocky, 10% calcareous clay, 90% siliceous clay, trace foraminiferas, 2% micromicas, trace fine grained pyrite aggregates.
1270.0	20	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, trace shell fragments, trace lithic fragments, trace foraminifera.
1280.0	10	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, trace skeletal fragments, trace lithic fragments, trace foraminifera, trace pyrite.
1280.0	90	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, soft to firm, blocky to sub-blocky, 10% calcareous clay, 90% siliceous clay, trace micromica, trace skeletal fragments, trace foraminifera, trace pyrite, trace carbonaceous specks.

1290.0	40	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, 1% shell fragments, trace lithic fragments, trace foraminifera, trace pyrite, 1 piece red brown dolomitised limestone.
1290.0	60	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, soft to firm, blocky to sub-blocky, 10% calcareous clay, 90% siliceous clay, trace micromica, trace skeletal fragments, trace foraminifera, trace pyrite, trace coal/lignite.
1300.0	60	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, 1% skeletal fragments, trace lithic fragments, trace foraminifera, trace pyrite, increase in shell fragments and limestone chips.
1300.0	40	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, soft to firm, blocky to sub-blocky, 10% calcareous clay, 90% siliceous clay, trace mica, trace skeletal fragments, trace foraminifera, trace pyrite, trace carbonaceous material.
1310.0	80	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, soft to firm, blocky to sub-blocky, 10% calcareous clay, 90% siliceous clay, trace foraminifera, trace micromicas, trace fine grained pyrite aggregates.
1310.0	20	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, 1% shell fragments, trace red brown dolomitised limestone, trace lithic fragments, trace foraminifera, and fine grained pyrite aggregates.
1320.0	40	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, 1% skeletal fragments, trace lithic fragments, trace foraminifera, trace pyrite.
1320.0	60	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, trace greenish grey, soft to firm, blocky to sub-blocky, 10% calcareous clay, 90% siliceous clay, trace mica, trace skeletal fragments, trace foraminifera, trace pyrite.
1330.0	40	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, trace skeletal fragments, trace lithic fragments, trace foraminifera, trace pyrite, trace carbonaceous specks.
1330.0	60	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, trace greenish grey, soft to firm, blocky to sub-blocky, 10% calcareous clay, 90% siliceous clay, trace mica, trace skeletal fragments, trace foraminifera, trace pyrite.
1340.0	80	SILTSTONE		SILTSTONE: medium grey, medium light grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 85% siliceous silt, trace skeletal fragments, trace lithic fragments, trace foraminifera, trace pyrite, trace carbonaceous specks.
1340.0	20	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, trace greenish grey, soft to firm, blocky to sub-blocky, 10% calcareous clay, 90% siliceous clay, trace mica, trace skeletal fragments, trace foraminifera, trace pyrite.
1350.0	20	CLAYSTONE		CLAYSTONE: dark greenish grey, trace greenish grey, medium dark grey, soft to firm, sub-blocky to sub-fissile, 5% calcareous clay, 95% siliceous clay, in part subfissile, trace micromica.

1350.0	80	SILTSTONE		SILTSTONE: olive grey, medium dark grey, soft to firm, sub-blocky to blocky, 5% calcareous clay, 15% siliceous clay, 80% siliceous silt, traces lithic fragments, traces carbonaceous specks, trace very fine disseminated pyrite, trace glauconite grains.
1360.0	10	CLAYSTONE		CLAYSTONE: dark greenish grey, trace greenish grey, medium dark grey, soft to firm, sub-blocky to sub-fissile, 5% calcareous clay, 95% siliceous clay, trace mica.
1360.0	90	SILTSTONE		SILTSTONE: olive grey, medium dark grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, 80% siliceous silt, trace lithic fragments, trace coal/lignite, trace pyrite, trace glauconite.
1370.0	10	CLAYSTONE		CLAYSTONE: dark greenish grey, trace greenish grey, medium dark grey, soft to firm, sub-blocky to sub-fissile, 5% calcareous clay, 95% siliceous clay, trace mica.
1370.0	90	SILTSTONE		SILTSTONE: olive grey, medium dark grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, 80% siliceous silt, trace lithic fragments, trace coal/lignite, trace pyrite, trace glauconite.
1380.0	100	SILTSTONE		SILTSTONE: olive grey, medium dark grey, soft to firm, sub-blocky to blocky, 5% calcareous clay, 15% siliceous clay, 80% siliceous silt, traces altered lithic fragments, traces carbonaceous specks, trace very fine disseminated pyrite, trace glauconite grains, grading locally to argillaceous siltstone.
1390.0	100	SILTSTONE		SILTSTONE: olive grey, medium dark grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, 80% siliceous silt, trace lithic fragments, trace coal/lignite, trace pyrite, slight increase in glauconite grains.
1400.0	100	SILTSTONE		SILTSTONE: olive grey, medium dark grey, medium grey, soft to firm, sub-blocky to blocky, 5% calcareous clay, 15% siliceous clay, 80% siliceous silt, traces altered lithic fragments, traces carbonaceous specks, trace very fine disseminated pyrite, trace glauconite grains, grading locally to ARGILLACEOUS SILTSTONE.
1410.0	100	SILTSTONE		SILTSTONE: olive grey, medium dark grey, in part medium grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, 70% siliceous silt, in part with 10% very fine grained quartz grains, trace lithic fragments, trace coal/lignite, trace pyrite, trace glauconite.
1420.0	100	SILTSTONE		SILTSTONE: olive grey, medium dark grey, in part medium grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, 70% siliceous silt, 10% siliceous sand, trace lithic fragments, trace coal/lignite, trace pyrite, trace glauconite.
1430.0	100	SILTSTONE		SILTSTONE: medium grey to olive grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, 70% siliceous silt, 10% siliceous sand, trace lithic fragments, trace glauconite, trace pyrite, trace skeletal fragments, trace coal/lignite, trace micromica.
1440.0	100	SILTSTONE		SILTSTONE: olive grey, medium grey, medium dark grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 75% siliceous silt, 10% siliceous sand, trace carbonaceous specks, trace lithic fragments.

1450.0	100	SANDSTONE	Silty	SILTY SANDSTONE: olive grey, medium dark grey, very fine grained, soft to firm, well sorted, subrounded, subspherical to spherical quartz grains with 0 to 20% lithic component, sub blocky to sub fissile, 5% calcareous clay, 35% siliceous silt, 60% siliceous sand, 5% calcareous cement, trace carbonaceous specks, poor visual porosity, no hydrocarbon fluorescence.
1460.0	100	SILTSTONE		SILTSTONE: medium dark grey, olive grey, trace dark grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 75% siliceous silt, 10% siliceous sand, trace carbonaceous specks, trace lithic fragments, trace glauconite.
1470.0	100	SILTSTONE	Sandy	SANDY SILTSTONE: olive grey, medium dark grey, soft to friable, angular to sub-blocky, 5% calcareous clay, 10% siliceous clay, 60% siliceous silt, 25% siliceous sand, trace glauconite, lithic fragments.
1480.0	100	SILTSTONE	Sandy	SANDY SILTSTONE: olive grey, mediium dark grey, soft to friable, angular to sub-blocky, 5% calcareous clay, 10% siliceous clay, 60% siliceous silt, 25% siliceous sand, trace glauconite, trace lithic fragments, trace shell fragments, trace micro micas.
1490.0	100	SILTSTONE		SILTSTONE: olive grey, medium grey, trace dark grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 75% siliceous silt, 10% siliceous sand, trace carbonaceous specks, trace lithic fragments, trace glauconite.
1500.0	100	SILTSTONE		SILTSTONE: olive grey, medium dark grey, soft to firm, trace friable, angular to sub-blocky, 5% calcareous clay, 10% siliceous clay, 70% siliceous silt, 15% siliceous sand, trace carbonaceous specks, trace glauconite, trace lithic fragments, trace micro micas, trace calcite crystals.
1510.0	100	SILTSTONE		SILTSTONE: olive grey, medium dark grey, soft to friable, sub-blocky, 5% calcareous clay, 10% siliceous clay, 70% siliceous silt, 15% siliceous sand, trace glauconite, trace lithic fragments, trace coal/lignite, 0.2% mica.
1520.0	70	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, trace glauconite, lithic fragments, 5% calcareous clay, 15% clay, 10% very fine quartz grains, trace glauconite, trace lithic fragments, traces of very light grey highly degraded volcanics.
1520.0	30	SANDSTONE		SANDSTONE: medium dark grey, dark grey, very fine grained, firm to moderately hard, well sorted, subrounded, angular to sub blocky, subspherical to spherical quartz grains with 10-15% lithic components, 5% calcareous clay, 10% siliceous clay, 15% siliceous silt, 10% calcite cement, trace micro mica, trace shell fragments, trace lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
1530.0	80	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky to blocky, 5% calcareous clay, 20% siliceous clay, trace lithic fragments, trace glauconite, trace dolomite, grading locally to argillaceous siltstone.
1530.0	20	SANDSTONE		SANDSTONE: medium dark grey, dark grey, very fine grained, firm to moderately hard, well sorted, subrounded, angular to sub blocky, sub spherical to spherical quartz grains with 10 to 15% lithic components, 5% calcareous clay cement, 10% clay component, trace micro mica, trace shell fragments, trace carbonaceous specks, trace lithic fragments, poor visual porosity, no hydrocarbon fluorescence.

1540.0	100	SILTSTONE		SILTSTONE: olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, 10% very fine quartz grains, trace very fine disseminated pyrite, trace glauconite, trace micro micas, grading locally to argillaceous siltstone.
1550.0	100	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, 5% very fine quartz grains, trace glauconite, trace carbonaceous specks.
1560.0	100	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 5% very fine quartz grains, trace glauconite.
1570.0	90	SILTSTONE		SILTSTONE: olive grey, soft to firm, angular to sub-blocky, 5% calcareous clay, 15% siliceous clay, 5% very fine quartz sand, trace glauconite, trace lithic fragments, trace micro micas.
1570.0	10	SILTSTONE	Calcareous	CALCAREOUS SILTSTONE: medium bluish gray, medium grey, firm to moderately, sub-blocky to blocky, 15% siliceous clay, 5% calcareous clay, 20% calcareous sand sized grains made up of shell debris, trace skeletal fragments, trace micro micas.
1580.0	20	SANDSTONE		SANDSTONE: medium bluish grey, medium grey, very fine grained, moderately hard to hard, well sorted to very well sorted, subrounded, sub spherical quartz grains with 10% lithic components, slightly elongated, angular to sub blocky, 5% calcareous clay, 15% siliceous clay, 5% calcite cement, highly cemented, trace micro mica, no visual porosity, no hydrocarbon fluorescence.
1580.0	80	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, trace glauconite, trace lithic fragments, trace micro micas, trace pyrite, locally grades into an argillaceous siltstone.
1590.0	100	SILTSTONE		SILTSTONE: olive grey to medium grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, trace glauconite, trace lithic fragments, trace carbonaceous specks.
1600.0	100	SILTSTONE	Sandy	SANDY SILTSTONE: olive grey, medium dark grey, soft to firm, angular to sub-blocky, 5% calcareous clay, 10% siliceous clay, 20% very fine quartz sand, trace carbonaceous specks, trace glauconite, trace lithic fragments, trace micro micas, trace shell fragments.
1610.0	100	SILTSTONE		SILTSTONE: olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, trace carbonaceous specks, trace glauconite, trace lithic fragments, trace shell fragments.
1620.0	100	SILTSTONE		SILTSTONE: olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, 15% siliceous clay, trace coal/lignite, trace glauconite.
1630.0	100	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 5% siliceous sand, trace carbonaceous specks, trace glauconite, trace lithic fragments.
1640.0	100	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 5% siliceous sand, trace glauconite.
1650.0	100	SILTSTONE		SILTSTONE: olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 5% siliceous sand, trace glauconite, trace skeletal fragments, trace lithic fragments.

1660.0	100	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 5% siliceous sand, trace glauconite, trace skeletal fragments, trace lithic fragments.
1670.0	100	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 10% siliceous clay, 5% siliceous sand, trace glauconite, trace skeletal fragments, trace lithic fragments.
1680.0	90	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 20% siliceous clay, trace glauconite, trace coal/lignite, trace dolomite, locally grades to argillaceous siltstone.
1680.0	10	SANDSTONE	Silty	SANDSTONE: medium grey, very fine grained, firm to moderately hard, well sorted, angular to sub-blocky, sub-rounded, slightly spherical, 5% calcareous clay, 25% siliceous silt, 10% calcite cement, trace calcite crystals, trace skeletal fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
1690.0	100	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 20% siliceous clay, trace dolomite, trace glauconite, trace coal/lignite, locally grades to argillaceous siltstone.
1700.0	100	SILTSTONE		SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 10% clay, 5% very fine quartz sand, trace carbonaceous specks, trace fossil fragments, trace pyrite aggregates, in part as replacement, trace glauconite, lithic fragments and light brown crystalline dolomite fragments.
1710.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, subblocky, 5% calcareous clay, 25% siliceous clay, 5% very fine quartz sand, trace micromica, trace pyrite aggregates, trace lithic fragments, trace fossil fragments.
1720.0	60	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, 5% siliceous sand, trace mica, trace pyrite, trace skeletal fragments, trace lithic fragments.
1720.0	40	CLAYSTONE		CLAYSTONE: olive black, soft, sub-blocky to sub-fissile in part, 5% calcareous clay, trace micromicas, trace carbonaceous specks.
1730.0	10	CLAYSTONE		CLAYSTONE: olive black, soft, sub-fissile to sub-blocky, 5% calcareous clay, trace mica, trace coal/lignite.
1730.0	90	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, 5% siliceous sand, trace mica, trace pyrite, trace glauconite grains, 1% dolomite chips.
1740.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, 5% siliceous sand, trace mica, trace pyrite, trace glauconite, traces altered lithic fragments.
1750.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, 5% siliceous sand, trace mica, trace pyrite, trace glauconite, trace lithic fragments.
1760.0	95	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, 5% siliceous sand, trace mica, trace pyrite, trace glauconite, trace lithic fragments.
1760.0	5	DOLOMITE		DOLOMITE: pale yellowish brown, moderately hard to hard, splintery to subconchoidal fracture, crystalline.

1770.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% clay, trace micromicas, trace glauconite.
1775.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace glauconite.
1780.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace glauconite, trace altered lithic fragments.
1785.0	20	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, soft to very hard, splintery to subconchoidal fracture, crystalline to earthy in part, traces opaque calcite crystals.
1785.0	20	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, in part dark yellowish brown, olive black, soft to firm, subblocky, 5% calcareous clay, 25% siliceous clay, trace micromicas, trace glauconite, trace pyrite as burrow infill, trace carbonaceous specks.
1785.0	60	CLAYSTONE		CLAYSTONE: dusky brown, brownish grey, soft, sub-blocky to sticky, traces micromica, trace glauconite.
1790.0	10	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, soft to hard, splintery to conchoidal, trace calcite crystals, traces fossil fragments.
1790.0	60	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, in part dark yellowish brown, olive black, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace glauconite, trace pyrite, trace coal/lignite.
1790.0	30	CLAYSTONE		CLAYSTONE: dusky brown, brownish grey, soft, sticky to sub-blocky, trace mica, trace glauconite.
1795.0	5	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, soft to hard, splintery to conchoidal, trace calcite crystals, trace skeletal fragments.
1795.0	20	CLAYSTONE		CLAYSTONE: dusky brown, brownish grey, soft, sticky to sub-blocky, trace mica, trace glauconite.
1795.0	75	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, in part dark yellowish brown, olive black, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace glauconite, trace pyrite, trace coal/lignite.
1800.0	10	CLAYSTONE		CLAYSTONE: dusky brown, brownish grey, soft, sub-blocky to sticky, traces micromica.
1800.0	90	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, in part dark yellowish brown, olive black, soft to firm, sub-blocky, 25% siliceous clay, trace micromicas, trace lithic fragments.
1805.0	10	CLAYSTONE		CLAYSTONE: dusky brown, brownish grey, soft, sticky to sub-blocky, trace mica.
1805.0	90	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, in part dark yellowish brown, olive black, soft to firm, sub-blocky, 25% siliceous clay, trace mica, trace lithic fragments.
1810.0	10	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, friable to hard, splintery to subconchoidal fracture, crystalline to earthy in part.
1810.0	40	CLAYSTONE		CLAYSTONE: dusky brown, brownish grey, soft, sticky to sub-blocky, trace mica, trace glauconite.

1810.0	50	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, in part dark yellowish brown, olive black, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace glauconite, trace pyrite, trace coal/lignite.
1815.0	70	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, soft to very hard, splintery to subconchoidal fracture, crystalline to earthy in part, traces foraminifera, traces corals.
1815.0	30	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, in part dark yellowish brown, olive black, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, traces micromica, altered lithic fragments, pyrite aggregates.
1820.0	30	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace lithic fragments, 2% pyrite.
1820.0	60	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, friable to hard, splintery to subconchoidal fracture, crystalline to earthy in part, traces foraminifera, traces corals.
1820.0	10	CLAYSTONE		CLAYSTONE: medium bluish grey, soft, sub-blocky, 10% calcareous clay.
1830.0	80	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace lithic fragments, 2% pyrite.
1830.0	20	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, friable to hard, splintery to conchoidal, trace foraminifera, trace corals.
1835.0	30	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky, trace calcite veining.
1835.0	20	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, friable to hard, splintery to conchoidal, trace foraminifera, trace corals.
1835.0	50	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace lithic fragments, 2% pyrite.
1840.0	80	CLAYSTONE		CLAYSTONE: olive black, olive grey, firm, sub-blocky, trace glauconite.
1840.0	20	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace mica, trace lithic fragments, 2% pyrite.
1845.0	10	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace of mica, trace of lithic fragments.
1845.0	90	CLAYSTONE		CLAYSTONE: olive black, olive grey, firm, sub-blocky, trace of glauconite, trace micromicas.
1850.0	30	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, trace micromicas.
1850.0	70	CLAYSTONE		CLAYSTONE: olive black, olive grey, firm, sub-blocky, trace of glauconite, trace micromicas.
1855.0	10	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, 70% siliceous silt, trace of mica.
1855.0	90	CLAYSTONE		CLAYSTONE: olive black, olive grey, trace dark yellowish brown, soft to firm, subblocky to blocky, trace micromicas.

1860.0	40	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, subblocky, 5% calcareous clay, 25% siliceous clay, trace micromicas, trace lithic fragments.
1860.0	60	CLAYSTONE		CLAYSTONE: olive black, olive grey, trace dark yellowish brown, soft to firm, subblocky to blocky, trace micromicas.
1865.0	60	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, sub-blocky, 5% calcareous clay, 25% siliceous clay, 70% siliceous silt, trace of mica, trace of lithic fragments.
1865.0	35	CLAYSTONE		CLAYSTONE: olive black, olive grey, trace dark yellowish brown, soft to firm, sub-blocky to blocky, trace of mica, trace of glauconite.
1865.0	5	DOLOMITE		DOLOMITE: pale yellowish brown, firm to hard, splintery to conchoidal fracture in part, earthy.
1870.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, very fine grained, soft to firm, subblocky, 10% very fine quartz grains, 25% siliceous clay, traces micromicas, trace lithic fragments, trace glauconite grains, trace pyrite.
1875.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, very fine grained, soft to firm, sub-blocky, 25% siliceous clay, 65% siliceous silt, 10% siliceous sand, trace of mica, trace of lithic fragments, trace of glauconite, trace of pyrite.
1880.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, subblocky to blocky, 25% siliceous clay, traces micromicas, lithic fragments, glauconite grains, pyrite.
1885.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, sub-blocky to blocky, 25% siliceous clay, 75% siliceous silt, trace of mica, trace of lithic fragments, trace of glauconite, trace of pyrite.
1890.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, sub-blocky to blocky, 25% siliceous clay, trace of mica, trace of lithic fragments, trace of glauconite, trace of pyrite, trace of foraminifera.
1895.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, subblocky to blocky, 25% siliceous clay, traces micromicas, trace lithic fragments, trace glauconite grains, trace pyrite.
1900.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, sub-blocky to blocky, 25% siliceous clay, 75% siliceous silt, 100% very fine grained, trace of mica, trace of lithic fragments, trace of glauconite, trace of pyrite.
1905.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, sub-blocky to blocky, 25% siliceous clay, trace of mica, trace of lithic fragments, trace of glauconite, trace of pyrite, trace dolomite.
1910.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, sub-blocky to blocky, 30% siliceous clay, trace of mica, trace of lithic fragments, trace of glauconite, trace of pyrite, trace dolomite.

1915.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, sub-blocky to blocky, 30% siliceous clay, trace of mica, trace of lithic fragments, trace of glauconite, trace of pyrite, trace dolomite.
1920.0	95	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 25% siliceous clay, trace of mica, trace pyrite aggregates, trace of lithic fragments.
1920.0	5	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, firm to hard, splintery fracture, crystalline to microcrystaline in places.
1925.0	5	DOLOMITE		DOLOMITE: pale yellowish brown, dark yellowish brown, firm to hard, splintery, 100% calcareous clay.
1925.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 25% siliceous clay, 75% siliceous silt, trace of mica, trace of pyrite, trace of lithic fragments.
1925.0	25	CLAYSTONE		CLAYSTONE: medium grey, dark grey, very soft to soft, amorphous to subblocky, 10% silt sized fraction, trace micromicas, lithic fragments.
1930.0	90	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 10% very fine quartz sand, trace of pyrite aggregates, trace of mica, trace of skeletal fragments, trace dolomite.
1935.0	100	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, dark grey, very fine grained, soft to friable, sub-blocky, 25% very fine quartz sand grains, 5% calcareous clay, 10% siliceous clay, 60% siliceous silt, trace of lithic fragments, trace of skeletal fragments, trace of mica, trace of glauconite.
1940.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, subblocky, 20% clay, 10% very fine quartz sand, trace micromica, trace pyrite aggregates, trace foraminifera, trace dolomite.
1945.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 25% siliceous clay, 5% siliceous sand, trace of mica, trace of corals.
1950.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 25% siliceous clay, 70% siliceous silt, 5% siliceous sand, trace of mica, trace of corals.
1955.0	30	CLAYSTONE		CLAYSTONE: brownish black, olive black, very soft to soft, amorphous to subblocky, 10% silt sized fraction, trace micromicas, trace glauconite.
1955.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 75% siliceous silt, 5% very fine quartz sand, trace of mica, trace of lithic fragments.
1960.0	30	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium grey, medium dark grey, firm to moderately hard, angular to subblocky, 20% calcareous clay, 70% siliceous clay, 10% siliceous silt, trace micromicas, trace shell fragments, calcite veining.
1960.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 5% siliceous sand, trace of mica, trace of lithic fragments, trace of glauconite.

1965.0	10	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium grey, medium dark grey, firm to moderately hard, angular to sub-blocky, 20% calcareous clay, 70% siliceous clay, 10% siliceous silt, trace of mica, trace of skeletal fragments, trace of calcite crystals.
1965.0	90	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 75% siliceous silt, 5% siliceous sand, trace of mica, trace of lithic fragments, trace of glauconite.
1970.0	60	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium grey, medium bluish grey, firm to moderately hard, angular to subblocky, 20% calcareous clay, 15% siliceous silt, trace lithic fragments, trace shell fragments.
1970.0	40	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, subblocky, 20% clay, 5% very fine quartz sand, trace shell fragments, trace lithic fragments, trace glauconite.
1975.0	85	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 10% very fine quartz sand grains, trace of lithic fragments.
1975.0	15	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium grey, medium light grey, light bluish grey, very soft to moderately hard, amorphous to subblocky, 20% calcareous clay, 15% siliceous silt, trace lithic fragments, trace shell fragments.
1980.0	5	CLAYSTONE	Calcareous	CALCAREOUS CLAYSTONE: medium grey, medium light grey, 20% calcareous clay, 10% siliceous silt, firm to moderately hard, subblocky, trace lithic fragments, trace shell fragments.
1980.0	95	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 25% siliceous clay, 5% very fine quartz sand grains, trace of lithic fragments.
1990.0	15	SANDSTONE	Silty	SILTY SANDSTONE: brownish black, olive black, very fine grained, soft to friable, well to very well sorted, subrounded, subblocky, subspherical quartz grains, trace lithic fragments, 15% siliceous clay, 25% siliceous silt, 60% siliceous sand, 10% calcite cement, trace lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
1990.0	80	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, subblocky, trace shell fragments, trace lithic fragments, 20% siliceous clay, 75% siliceous silt, 5% very fine quartz sand.
1990.0	5	CLAYSTONE		CLAYSTONE: medium grey, medium dark grey, soft to moderately hard, subblocky, trace lithic fragments, trace skeletal fragments, trace micromicas, 10% calcareous clay, 10% siliceous silt.
1995.0	5	CLAYSTONE		CLAYSTONE: medium gray, dark grey, soft to moderately hard, sub-blocky, 10% calcareous clay, 80% siliceous clay, 10% siliceous silt, trace of skeletal fragments, trace of mica.
1995.0	95	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 75% siliceous silt, 5% siliceous sand, trace of lithic fragments, trace of skeletal fragments.
2000.0	95	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 10% very fine quartz sand, trace of lithic fragments, trace of skeletal fragments.

2000.0	5	CLAYSTONE		CLAYSTONE: medium gray, dark grey, soft to moderately hard, sub-blocky, 10% calcareous clay, 10% siliceous silt, trace of skeletal fragments, trace of mica, trace calcite veining.
2010.0	10	CLAYSTONE	Silty	SILTY CLAYSTONE: medium grey, medium dark grey, firm to moderately hard, subblocky, trace shell fragments, micromicas, calcite veining, 5% calcareous clay, 20% siliceous silt.
2010.0	90	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 10% very fine quartz sand, trace of lithic fragments, trace of skeletal fragments.
2015.0	25	CLAYSTONE	Sandy	SANDY CLAYSTONE: medium grey, medium dark grey, firm to moderately hard, subblocky, 5% calcareous clay, 5% calcareous sand, 10% siliceous silt, 20% very fine quartz sand, 60% siliceous clay, trace shell fragments, trace micromicas.
2015.0	75	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of skeletal fragments.
2020.0	20	CLAYSTONE		CLAYSTONE: medium grey, medium light grey, light bluish grey, very soft to moderately hard, amorphous to subblocky, 10% calcareous clay, trace glauconite, trace shell fragments.
2020.0	20	CLAYSTONE		CLAYSTONE: olive black, brownish black, very soft to soft, amorphous, 5% calcareous clay, 5% siliceous silt, trace of lithic fragments, trace of skeletal fragments.
2020.0	60	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, brownish black, soft to friable, sub-blocky, 5% calcareous clay, 20% siliceous clay, 5% very fine quartz sand, trace of lithic fragments, trace of corals.
2025.0	20	CLAYSTONE		CLAYSTONE: light bluish grey, medium light grey, very soft to soft, amorphous to sub-blocky, 10% calcareous clay, 90% siliceous clay, trace of glauconite, trace of skeletal fragments.
2025.0	20	CLAYSTONE		CLAYSTONE: olive black, brownish black, very soft to soft, amorphous, 5% calcareous clay, 90% siliceous clay, 5% siliceous silt, trace of lithic fragments, trace of skeletal fragments.
2025.0	60	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, brownish black, soft to friable, sub-blocky, 5% calcareous clay, 20% siliceous clay, 5% siliceous sand, trace of lithic fragments.
2030.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to friable, amorphous to subblocky, 35% clay, 5% calcareous clay, trace carbonaceous specks, trace lithic fragments.
2035.0	20	CLAYSTONE		CLAYSTONE: light bluish grey, medium light grey, soft to firm, amorphous to subblocky, calcite veining, 10% calcareous clay, 10% siliceous silt, trace shell fragments, trace micromicas.
2035.0	80	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, brownish black, soft to friable, amorphous to sub-blocky, 5% calcareous clay, 35% siliceous clay, trace of lithic fragments.
2040.0	20	CLAYSTONE		CLAYSTONE: light bluish grey, medium light grey, soft to firm, amorphous to sub-blocky, 10% calcareous clay, 80% siliceous clay, 10% siliceous silt, trace of skeletal fragments, trace of mica, trace of calcite crystals.

2040.0	80	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, brownish black, soft to friable, amorphous to sub-blocky, 40% siliceous clay, 60% siliceous silt, trace of lithic fragments, trace carbonaceous specks.
2045.0	60	CLAYSTONE		CLAYSTONE: light bluish grey, medium light grey, medium dark grey, moderately hard to hard, angular to subblocky, calcite veining, 10% calcareous clay, 15% siliceous silt, trace shell fragments, trace micromicas.
2045.0	40	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, subblocky, 20% siliceous clay, 10% very fine quartz sand, trace lithic fragments, trace dolomite.
2050.0	80	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, subblocky, 20% clay, 10% very fine quartz sand, trace lithic fragments.
2050.0	20	CLAYSTONE		CLAYSTONE: light bluish grey, medium light grey, moderately hard to hard, angular to sub-blocky, 10% calcareous clay, 75% siliceous clay, 15% siliceous silt, trace of calcite crystals, trace of mica, trace of skeletal fragments.
2055.0	20	SILTSTONE	Sandy	SANDY SILTSTONE: olive black, brownish black, soft to friable, sub-blocky, 10% siliceous clay, 30% very fine quartz sand, trace of lithic fragments.
2055.0	10	CLAYSTONE		CLAYSTONE: light bluish grey, medium light grey, moderately hard to hard, angular to sub-blocky, 10% calcareous clay, 75% siliceous clay, 15% siliceous silt, trace of calcite crystals, trace of mica, trace of skeletal fragments.
2055.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, brownish black, soft to firm, sub-blocky, 20% siliceous clay, 70% siliceous silt, 10% siliceous sand, trace of lithic fragments.
2058.0	30	SILTSTONE	Sandy	SANDY SILTSTONE: olive black, brownish black, soft to friable, sub-blocky, 10% siliceous clay, 30% siliceous sand, trace of lithic fragments, traces dolomite.
2058.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, brownish black , soft to firm, sub-blocky, 20% siliceous clay, 70% siliceous silt, 10% siliceous sand, trace of lithic fragments.
2061.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish grey, olive grey, soft to firm, subblocky, 30% siliceous clay, 10% very fine quartz sand grains, trace shell fragments, trace lithic fragments.
2061.0	100	SILTSTONE	Sandy	SANDY SILTSTONE: brownish grey, olive grey, soft to firm, subblocky, 15% siliceous clay, 20% very fine quartz sand, trace lithic fragments, trace shell fragments, .
2064.0	100	SILTSTONE	Sandy	SANDY SILTSTONE: brownish grey, olive grey, soft to firm, sub-blocky, 15% siliceous clay, 65% siliceous silt, 20% siliceous sand, trace of lithic fragments, trace of calcite crystals.
2067.0	30	SANDSTONE	Silty	SILTY SANDSTONE: olive grey, light olive grey, very fine grained, firm to moderately hard, well sorted, subrounded, subspherical quartz gains with 10% lithic component, 10% calcareous cement, 10% siliceous clay, 25% siliceous silt, trace shell fragments, trace micromicas, trace lithic fragments, poor to no visual porosity, no hydrocarbon fluorescence.
2067.0	70	SILTSTONE	Sandy	SANDY SILTSTONE: brownish grey, olive grey, soft to firm, sub-blocky, 15% siliceous clay, 20% siliceous sand, trace of lithic fragments.

2070.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, subblocky, 20% clay, 10% very fine quartz sand, trace degraded calcite crystals, trace micromicas, trace foraminifera.
2073.0	55	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, sub-blocky, 20% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of mica.
2073.0	10	CLAYSTONE		CLAYSTONE: light bluish grey, medium light grey, firm to moderately hard, sub-blocky, 5% calcareous clay, 15% siliceous silt, trace of mica, trace of skeletal fragments.
2073.0	35	CLAYSTONE		CLAYSTONE: brownish black, olive black, very soft to soft, amorphous to sub-blocky, 15% siliceous silt, trace of lithic fragments.
2076.0	10	CLAYSTONE		CLAYSTONE: light bluish grey, medium light grey, firm to moderately hard, sub-blocky, 5% calcareous clay, 80% siliceous clay, 15% siliceous silt, trace of mica, trace of skeletal fragments.
2076.0	35	CLAYSTONE		CLAYSTONE: brownish black, olive black, very soft to soft, amorphous to sub-blocky, 85% siliceous clay, 15% siliceous silt, trace of lithic fragments.
2076.0	55	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, very fine grained, soft to firm, sub-blocky, 20% siliceous clay, 70% siliceous silt, 10% siliceous sand, trace of lithic fragments, trace of mica.
2079.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, soft to firm, subblocky, 20% clay, 10% dispersed clear very fine quartz grains, trace lithic fragments, trace micromicas, trace branched corals.
2082.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, soft to firm, sub-blocky, 20% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of mica, trace of corals, trace of very fine disseminated pyrite.
2085.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, greyish black, soft to firm, sub-blocky, 20% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of mica, trace of corals, trace of very fine disseminated pyrite, trace of coal/lignite.
2088.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, greyish black, very fine grained, soft to firm, sub-blocky, 20% siliceous clay, 70% siliceous silt, 10% siliceous sand, trace of lithic fragments, trace of mica, trace of corals, trace of pyrite, trace of coal/lignite.
2091.0	100	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive black, greyish black, soft to firm, subblocky, 10% dispersed very fine grained clear subrounded quartz grains, 20% siliceous clay, 10% siliceous sand, traces lithic fragments, in part altered, traces micromicas, traces very fine disseminated and aggregated pyrite, traces carbonaceous specks and material.
2094.0	100	SILTSTONE		SILTSTONE: olive black, soft to firm, subblocky, 10% dispersed very fine grained clear subrounded quartz grains, 10% clay, traces lithic fragments, in part altered, trace micromicas, traces carbonaceous specks.
2097.0	90	SILTSTONE		SILTSTONE: olive black, greyish black, soft to firm, subblocky, 10% dispersed very fine grained clear subrounded quartz grains, 20% siliceous clay, traces lithic fragments, in part altered, traces micromicas, traces carbonaceous material.

2097.0	10	CLAYSTONE		CLAYSTONE: dark yellowish brown, greyish green, firm, subblocky, trace carbonaceous material, trace very fine pyrite.
2100.0	100	SILTSTONE		SILTSTONE: olive black, greyish black, very fine grained, 0.1% coarse grained, soft to firm, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace loose clear subrounded coarse quartz grains, trace of lithic fragments, trace of mica, trace of coal/lignite.
2103.0	30	CLAYSTONE		CLAYSTONE: dark yellowish brown, greyish olive green, firm, subblocky, trace carbonaceous material, trace very fine pyrite, trace calcite.
2103.0	70	SILTSTONE		SILTSTONE: olive black, greyish black, soft to firm, subblocky, 10% dispersed very fine grained clear subrounded quartz grains, 20% clay, traces lithic fragments, in part altered, traces micromicas, traces carbonaceous material.
2106.0	30	CLAYSTONE		CLAYSTONE: dark yellowish brown, greyish olive green, firm, sub-blocky, 1% alterered lithic fragments, trace of coal/lignite, trace of pyrite, trace of calcite crystals, in part finely bedded.
2106.0	70	SILTSTONE		SILTSTONE: olive black, greyish black, brownish grey, soft to firm, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of mica, trace of coal/lignite.
2109.0	30	SANDSTONE		SANDSTONE: mottled dusky yellow green and light grey, 90% very fine grained, 10% fine grained, very soft to firm, moderate to well sorted, subrounded to subangular, 10% calcareous clay, 10% siliceous clay, 10% glauconite as grains and clay, poor visual porosity, no hydrocarbon fluorescence.
2109.0	30	CLAYSTONE		CLAYSTONE: dark yellowish brown, greyish olive green, firm, sub-blocky, 1% lithic fragments, trace of coal/lignite, trace of pyrite, trace of calcite crystals.
2109.0	40	SILTSTONE		SILTSTONE: olive black, greyish black, brownish grey, very fine grained, soft to firm, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of mica, trace of coal/lignite.
2112.0	70	SANDSTONE		SANDSTONE: dark greenish grey, mottled dusky yellow green and light grey, 70% very fine grained, 30% fine grained, very soft to firm, moderate to well sorted, subrounded to subangular, slightly spherical, 10% glauconite as grains and clay, 15% clay, poor visual porosity, no hydrocarbon fluorescence.
2112.0	30	SILTSTONE		SILTSTONE: brownish grey, olive grey, soft, subblocky, 10% clay, 10% very fine clear quartz grains, trace glauconite grains.
2115.0	100	SANDSTONE		SANDSTONE: multicoloured olive grey, dark greenish grey, mottled dusky yellow green and light grey, quartzose, 70% very fine grained, 30% fine grained, very soft to firm, moderate to well sorted, subrounded to subangular, slightly spherical, 0 to 10% glauconite grains, 15% clay, poor visual porosity, no hydrocarbon fluorescence.
2118.0	60	SANDSTONE		SANDSTONE: multicoloured olive grey, dark greenish grey, mottled dusky yellow green and light grey, quartzose, 70% very fine grained, 30% fine grained, very soft to friable, moderate to well sorted, subrounded to subangular, slightly spherical, up to 10% glauconite grains, 15% clay, poor visual porosity, no hydrocarbon fluorescence.

2118.0	40	SILTSTONE		SILTSTONE: brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% very fine clear quartz grains, 10% siliceous clay, trace of glauconite.
2121.0	70	SILTSTONE		SILTSTONE: brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 80% siliceous silt, 10% siliceous sand, trace of glauconite.
2121.0	30	SANDSTONE		SANDSTONE: multicoloured olive grey, dark greenish grey, mottled dusky yellow green and light grey, 70% very fine grained, 30% fine grained, very soft to friable, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 15% siliceous clay, 10% glauconite, poor visual porosity, no hydrocarbon fluorescence.
2124.0	100	SILTSTONE		SILTSTONE: brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 80% siliceous silt, 10% siliceous sand, trace of glauconite.
2127.0	20	SANDSTONE		SANDSTONE: olive grey, quartzose, 90% very fine grained, 10% fine grained, very soft to friable, moderate to well sorted, subrounded to subangular, slightly spherical, 15% clay, poor inferred visual porosity, no hydrocarbon fluorescence.
2127.0	80	SILTSTONE		SILTSTONE: brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% very fine clear quartz grains.
2130.0	10	CLAYSTONE		CLAYSTONE: dark yellowish brown, greyish olive green, firm, subblocky.
2130.0	10	SANDSTONE		SANDSTONE: olive grey, 90% very fine grained, 10% fine grained, very soft to friable, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 15% siliceous clay, poor inferred visual porosity, no hydrocarbon fluorescence.
2130.0	80	SILTSTONE		SILTSTONE: brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% siliceous sand.
2133.0	10	CLAYSTONE		CLAYSTONE: greyish olive green, firm, subblocky, trace very fine pyrite.
2133.0	10	SANDSTONE		SANDSTONE: olive grey, mottled greenish yellow and light grey, quartzose, 90% very fine grained, 10% fine grained, very soft to friable, moderate to well sorted, subrounded to subangular, slightly spherical, 15% clay, poor inferred visual porosity, no hydrocarbon fluorescence.
2133.0	80	SILTSTONE		SILTSTONE: brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% siliceous sand.
2136.0	100	SILTSTONE		SILTSTONE: brownish grey, olive grey, very fine grained, soft, subblocky, 10% clay, 10% very fine clear quartz grains.
2139.0	100	SILTSTONE		SILTSTONE: brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% very fine clear quartz grains, trace of lithic fragments, trace of coal/lignite, trace of skeletal fragments.
2142.0	10	SANDSTONE		SANDSTONE: olive grey, quartzose, very fine grained, friable, moderate to well sorted, subrounded to subangular, trace glauconite grains, carbonaceous specks and lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
2142.0	90	SILTSTONE		SILTSTONE: brownish black brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of coal/lignite, trace of skeletal

				fragments.
2145.0	20	SANDSTONE		SANDSTONE: olive grey, quartzose, very fine grained, friable, moderate to well sorted, subrounded to subangular, slightly spherical, trace glauconite grains, carbonaceous specks and lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
2145.0	80	SILTSTONE		SILTSTONE: brownish black brownish grey, olive grey, very fine grained, 0.1% granular grained, soft, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace subrounded and subspherical quartz grain, trace of coal/lignite, trace of skeletal fragments.
2148.0	100	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% very fine clear quartz grains, trace of lithic fragments, trace of coal/lignite.
2151.0	20	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of coal/lignite, trace Fe staining.
2151.0	75	SANDSTONE		SANDSTONE: clear, opaque, polished, frosted, 20% medium, 40% coarse, 30% very coarse, 10% granular grains, loose quartz grains, very poor to poorly sorted, angular (shattered) to rounded, subelongate to spherical, trace white clay matrix adhering to grain surfaces, fair visual porosity inferred, no hydrocarbon fluorescence.
2151.0	5	DOLOMITE		DOLOMITE: brownish grey, moderately hard, conchoidal to splintery fracture, traces glauconite grains
2154.0	10	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 80% siliceous silt, 10% siliceous sand, trace of lithic fragments, trace of coal/lignite.
2154.0	90	SANDSTONE		SANDSTONE: clear, opaque, polished, frosted, 20% medium grained, 40% coarse grained, 30% very coarse grained, 10% granular grained, loose, very poor sorted to poor sorted, angular to rounded, slightly elongated to spherical, fair inferred visual porosity, no hydrocarbon fluorescence.
2157.0	20	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 80% siliceous silt, 10% siliceous sand, trace of lithic fragments, trace of coal/lignite.
2157.0	20	SANDSTONE		SANDSTONE: clear, opaque, polished, frosted, 20% medium grained, 40% coarse grained, 30% very coarse grained, 10% granular grained, loose, very poor sorted to poor sorted, angular to rounded, slightly elongated to spherical, 5% rock flour, fair inferred visual porosity, no hydrocarbon fluorescence.
2157.0	60	CLAYSTONE		CLAYSTONE: brownish black, mottled medium light grey, greyish olive green, soft to firm, blocky to subblocky, traces carbonaceous material, 0.5% coal, in part as partings and laminae, trace micromicas.
2160.0	80	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of coal/lignite, rock flour still evident.
2160.0	20	CLAYSTONE		CLAYSTONE: brownish black, mottled medium light grey, greyish olive green, soft to firm, sub-blocky to blocky, 0.5% coal, trace of mica.

2163.0	20	CLAYSTONE		CLAYSTONE: brownish black, mottled medium light grey, greyish olive green, soft to firm, sub-blocky to blocky, 0.5% coal, trace of mica.
2163.0	80	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace of lithic fragments, trace of coal/lignite, rock flour still evident.
2166.0	30	SILTSTONE		SILTSTONE: brownish black, olive black, very fine grained, soft to friable, sub-blocky, 10% siliceous clay, 10% very fine quartz sand grains, trace carbonaceous laminae, trace lithic fragments.
2166.0	70	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, trace of micromica.
2169.0	20	SILTSTONE		SILTSTONE: brownish black, olive black, very fine grained, soft to friable, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace fine carbonaceous laminations, trace of lithic fragments.
2169.0	80	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, trace of mica, trace finely disseminated pyrite.
2172.0	70	SILTSTONE		SILTSTONE: brownish black, olive black, very fine grained, soft to friable, massive to finely laminated, sub-blocky, 10% siliceous clay, 10% siliceous sand, trace of coal/lignite, trace of lithic fragments.
2172.0	30	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, trace of mica.
2175.0	30	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, trace of mica, trace calcite veining.
2175.0	70	SILTSTONE		SILTSTONE: brownish black, olive black, very fine grained, soft to friable, sub-blocky, 5% siliceous clay, 15% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of corals.
2178.0	20	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, soft to firm, sub-blocky, 5% calcareous clay, trace of mica, trace calcite veining.
2178.0	80	SILTSTONE		SILTSTONE: brownish black, olive black, soft to friable, sub-blocky, 5% siliceous clay, 15% very fine quartz sand, trace of coal/lignite, trace of lithic fragments.
2181.0	20	SANDSTONE	Silty	SILTY SANDSTONE: brownish black, olive grey, clear, polished quartz grains, very fine grained, soft to friable, well sorted, subrounded, subspherical, 30% siliceous silt, 10% clay, 10% calcareous cement, 5% rock flour, trace lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
2181.0	80	CLAYSTONE		CLAYSTONE: brownish black, brownish grey, olive grey, soft to firm, subblocky, 15% silt, trace carbonaceous specks, trace lithic fragments.
2184.0	20	SANDSTONE		SANDSTONE: clear, opaque, polished, 40% very fine, 30% fine, 10% medium, 5% coarse, 5% very coarse grained, loose quartz grains, poor to moderately sorted, subrounded, subelongate to subspherical, 10% calcite cement, 15% rock flour, poor visual porosity inferred, no hydrocarbon fluorescence.
2184.0	80	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, soft to firm, subblocky, 15% clay, 5% very fine quartz sand, trace carbonaceous specks, trace lithic fragments.

2187.0	50	SANDSTONE		SANDSTONE: clear, opaque, loose quartz grains, 90% fine grained, 10% medium grained, soft to friable, well sorted, subrounded, slightly subspherical, 10% calcite cement, trace of lithic fragments, 10% rock flour, poor visual porosity inferred, no hydrocarbon fluorescence.
2187.0	10	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, firm, subblocky, 5% calcareous clay, 5% siliceous silt, trace micromicas, calcite veining.
2187.0	40	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, soft to firm, subblocky, 5% very fine quartz sand, 15% siliceous clay, trace fine carbonaceous laminations, trace lithic fragments.
2190.0	10	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, firm, subblocky, 5% calcareous clay, 5% siliceous silt, trace micromicas, calcite veining.
2190.0	90	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, subblocky, 25% very fine clear quartz sand, trace fine carbonaceous laminations, trace lithic fragments.
2193.0	10	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, firm, sub-blocky, 5% calcareous clay, 5% siliceous silt, trace of calcite crystals, trace of mica.
2193.0	90	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, sub-blocky, 5% siliceous clay, 65% siliceous silt, 30% very fine grained clear quartz sand, trace of coal/lignite, trace of lithic fragments, trace of mica, 15% rock flour.
2196.0	90	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, sub-blocky, 10% siliceous clay, 65% siliceous silt, 25% siliceous sand, trace of coal/lignite, trace of lithic fragments.
2196.0	10	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, firm, sub-blocky, 5% calcareous clay, 5% siliceous silt, trace of calcite crystals, trace of mica.
2199.0	100	SILTSTONE		SILTSTONE: olive grey, dark yellowish brown, soft to friable, subblocky, 15% clay, 5% very fine quartz sand, trace carbonaceous laminae, trace lithic fragments, 5% rock flour.
2202.0	100	SILTSTONE		SILTSTONE: olive grey, dark yellowish brown, soft to friable, sub-blocky, 15% siliceous clay, 5% siliceous sand, trace of coal/lignite, trace of lithic fragments.
2205.0	10	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, firm, subblocky, 5% calcareous clay, 5% siliceous silt, trace micromicas, trace calcite veining.
2205.0	60	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to friable, subblocky, 20% very fine clear quartz sand, 5% clay, trace fine carbonaceous laminations, trace lithic fragments.
2205.0	30	SANDSTONE		SANDSTONE: clear, opaque, 20% very fine, 40% fine, 30% medium, 5% coarse, 5% very coarse grained, loose quartz grains, poorly sorted, subrounded to subangular (fractured), subspherical to subelongate, trace lithic fragments, 10% rock flour, poor visual porosity inferred, no hydrocarbon fluorescence.

2208.0	100	SILTSTONE		SILTSTONE: olive grey, dark yellowish brown, very fine grained, soft to friable, subblocky, shell fragments, 15% clay, 5% very fine quartz sand, 10% rock flour, trace carbonaceous laminae, trace lithic fragments.
2211.0	40	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, firm, subblocky, trace micromicas, trace shell fragments.
2211.0	60	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, subblocky, 15% clay, 5% very fine clear quartz sand, trace fine carbonaceous laminations, lithic fragments.
2214.0	70	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, firm, sub-blocky, trace of mica, trace of skeletal fragments.
2214.0	30	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, sub-blocky, 15% siliceous clay, 5% siliceous sand, trace of coal/lignite, trace of lithic fragments.
2217.0	20	SILTSTONE		SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, sub-blocky, 15% siliceous clay, 5% siliceous sand, trace of coal/lignite, trace of lithic fragments.
2217.0	80	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, soft to firm, sub-blocky, trace of glauconite.
2220.0	80	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, trace coarse clear quartz sand grains, soft to friable, subblocky, 20% clay, 20% very fine clear quartz sand, 5% rock flour, trace fine carbonaceous laminations, lithic fragments.
2220.0	20	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, soft to firm, sub-blocky, trace of glauconite.
2223.0	10	CLAYSTONE		CLAYSTONE: medium bluish grey, olive grey, medium grey, soft to firm, sub-blocky, trace of glauconite.
2223.0	90	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, trace coarse clear quartz sand grains, soft to friable, subblocky, 20% clay, 20% very fine clear quartz sand, 5% rock flour, trace fine carbonaceous laminations, lithic fragments.
2226.0	20	CLAYSTONE		CLAYSTONE: olive grey, medium grey, brownish black, soft to firm, subblocky, trace lithic fragments.
2226.0	80	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, sub-blocky, 30% very fine quartz sand, 10% siliceous clay, 20% rock flour.
2229.0	70	CLAYSTONE		CLAYSTONE: olive grey, medium grey, brownish black, soft to firm, sub-blocky, trace of coal/lignite, trace of lithic fragments.
2229.0	30	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, sub-blocky, 10% siliceous clay, 60% siliceous silt, 30% siliceous sand, 20% rock flour, trace of coal/lignite, trace of lithic fragments.
2232.0	60	SILTSTONE	Sandy	SANDY SILTSTONE: brownish black, brownish grey, olive grey, very fine grained, soft to firm, sub-blocky, 10% siliceous clay, 60% siliceous silt, 30% siliceous sand, 20% rock flour, trace of coal/lignite, trace of lithic fragments.

2232.0	40	CLAYSTONE		CLAYSTONE: olive grey, medium grey, brownish black, soft to firm, sub-blocky, trace of lithic fragments.
2235.0	80	SANDSTONE		SANDSTONE: very light grey, olive grey, very fine grained clear quartz grains, friable to moderately hard, well sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, 20% rock flour, very poor inferred visual porosity, no hydrocarbon fluorescence.
2235.0	20	CLAYSTONE	Silty	SILTY CLAYSTONE: olive grey, medium grey, brownish black, soft to firm, sub-blocky, 20% siliceous silt, trace of lithic fragments, trace of coal/lignite, trace of skeletal fragments.
2238.0	60	CLAYSTONE	Silty	SILTY CLAYSTONE: olive grey, medium grey, brownish black, soft to firm, sub-blocky, 20% siliceous silt, trace of lithic fragments, trace of coal/lignite, trace of skeletal fragments, trace of foraminifera.
2238.0	40	SANDSTONE		SANDSTONE: very light grey, olive grey, brownish black, clear, very fine grained, friable to moderately hard, well sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, very poor inferred visual porosity, no hydrocarbon fluorescence.
2241.0	80	SANDSTONE		SANDSTONE: very light grey, olive grey, brownish black, clear, very fine grained clear quartz grains, friable, well sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, 80% rock flour, very poor inferred visual porosity, no hyrocarbon fluorescence.
2241.0	20	CLAYSTONE		CLAYSTONE: olive grey, medium grey, firm moderately hard, subblocky, trace lithic fragments, angular carbonaceous fragments, micromicas, shell fragments, calcite veining, 20% silt content.
2244.0	30	CLAYSTONE		CLAYSTONE: olive grey, medium grey, firm to moderately hard, sub-blocky, trace of lithic fragments, trace of coal/lignite, trace of skeletal fragments, trace of mica, trace of calcite crystals.
2244.0	70	SANDSTONE		SANDSTONE: very light grey, olive grey, brownish black, clear, very fine grained, friable, well sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, trace of lithic fragments, very poor visual inferred porosity, no hydrocarbon fluorescence.
2247.0	20	CLAYSTONE		CLAYSTONE: olive grey, medium grey, firm to moderately hard, sub-blocky, trace of lithic fragments, trace micromicas, trace skeletal fragments or carbonaceous fragments.
2247.0	80	SANDSTONE		SANDSTONE: very light grey, olive grey, brownish black, clear, very fine grained, friable, well sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 90% rock flour, trace of lithic fragments, very poor inferred visual porosity, no hydrocarbon fluorescence.
2250.0	60	CLAYSTONE		Claystone: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite.
2250.0	40	SANDSTONE		SANDSTONE: very light grey, clear, very fine grained, friable, well sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 90% rock flour, trace of lithic fragments, very poor inferred visual porosity, no hydrocarbon fluorescence.

2253.0	40	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, trace dolomite, glauconite.
2253.0	60	SANDSTONE		SANDSTONE: very light grey, clear, very fine grained, friable, well sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 90% rock flour, trace of lithic fragments, very poor inferred visual porosity, no hydrocarbon fluorescence.
2256.0	60	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite, trace of skeletal fragments.
2256.0	40	SANDSTONE		SANDSTONE: very light grey, clear, very fine grained, friable, well sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 90% rock flour, trace of lithic fragments, very poor inferred visual porosity, no hydrocarbon fluorescence.
2259.0	40	SANDSTONE		SANDSTONE: very light grey, clear, very fine grained, friable, well sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, trace of lithic fragments, 90% rock flour, very poor inferred visual porosity, no hyrocarbon indications.
2259.0	60	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite, trace of skeletal fragments, trace dolomite.
2262.0	40	SANDSTONE		SANDSTONE: very light grey, clear, very fine grained, friable, well sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 90% rock flour, trace of lithic fragments, very poor inferred visual porosity, no hydrocarbon fluorescence.
2262.0	60	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite, trace of skeletal fragments, trace dolomite.
2265.0	10	COAL		COAL: black, firm, subblocky to blocky, trace finely disseminated pyrite.
2265.0	15	SANDSTONE		SANDSTONE: very light grey, olive grey, very fine grained clear quartz grains, friable, well sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, 80% rock flour, very poor inferred visual porosity, no hyrocarbon fluorescence.
2265.0	75	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite, trace of skeletal fragments, trace dolomite.
2268.0	5	COAL		COAL: black, firm, subblocky to blocky, trace finely disseminated pyrite.
2268.0	60	SANDSTONE		SANDSTONE: very light grey, olive grey, 40% very fine, 30% fine, 20% coarse, 10% very coarse clear quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, 80% rock flour, poor inferred visual porosity, no hyrocarbon fluorescence.
2268.0	35	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite.
2271.0	15	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite.

2271.0	85	SANDSTONE		SANDSTONE: very light grey, clear, 40% very fine grained, 30% fine grained, 20% coarse grained, 10% very coarse grained, frosted, friable, poor sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2274.0	15	DOLOMITE		DOLOMITE: pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery.
2274.0	20	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments and thin carbonaceous laminae.
2274.0	25	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, trace shell fragments, trace glauconite.
2274.0	40	SANDSTONE		SANDSTONE: very light grey, olive grey, 40% very fine, 30% fine, 20% coarse, 10% very coarse clear quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, 5% kaolinite matrix, 80% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.
2277.0	15	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite, trace of skeletal fragments.
2277.0	85	SANDSTONE		SANDSTONE: very light grey, olive grey, 40% coarse, 50% very coarse, 10% granular, clear quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, Kaolinite clay matrix, 5% rock flour, good inferred visual porosity, no hydrocarbon fluorescence.
2280.0	30	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of glauconite, trace of skeletal fragments.
2280.0	50	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 40% coarse grained, 50% very coarse grained, 10% granular grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
2280.0	5	DOLOMITE		DOLOMITE: pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery.
2280.0	15	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2283.0	5	COAL		COAL: black, brownish black, soft to friable, subblocky, trace finely disseminated pyrite.
2283.0	5	DOLOMITE		DOLOMITE: pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery.
2283.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments and thin carbonaceous laminae.
2283.0	15	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, trace shell fragments.

2283.0	65	SANDSTONE		SANDSTONE: very light grey, clear, 10% medium, 40% coarse, 50% very coarse, clear frosted quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, 5% kaolinite clay matrix, 30% rock flour, good inferred visual porosity, no hydrocarbon fluorescence.
2286.0	20	COAL		COAL: pale yellowish orange, dark yellowish orange, soft to friable, sub-blocky, trace of pyrite.
2286.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2286.0	10	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of skeletal fragments.
2286.0	60	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 10% medium grained, 40% coarse grained, 50% very coarse grained, friable, amorphous to angular, sub-rounded to sub-angular, poor sorted, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2289.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2289.0	5	COAL		COAL: black, brownish black , soft to friable, sub-blocky, trace of pyrite.
2289.0	85	SANDSTONE		SANDSTONE: very light grey, 65% clear, 25% frosted, 10% pale yellowish orange quartz grains, 50% very coarse grained, 40% coarse grained, 10% medium grained, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, 5% kaolinite clay matrix, 60% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.
2295.0	5	DOLOMITE		DOLOMITE: pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery.
2295.0	20	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, trace shell fragments.
2295.0	60	SANDSTONE		SANDSTONE: very light grey, clear, 10% very coarse grained, 20% coarse grained, 30% medium grained, 40% fine grained clear quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, frosted, amorphous to angular, 5% kaolinite clay matrix, 40% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.
2295.0	15	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, trace pyrite, thin carbonaceous laminae.
2298.0	50	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, no lithic fragments or shell fragments.
2298.0	50	SANDSTONE		SANDSTONE: very light grey, 10% coarse grained, 40% medium grained, 50% fine grained clear quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, frosted, amorphous to angular, trace lithic fragments, trace carbonaceous specks, 5% kaolinite clay matrix, 80% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.
2301.0	5	COAL		COAL: black, brownish black, soft to friable, subblocky.

2301.0	5	DOLOMITE		DOLOMITE: pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery.
2301.0	25	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, 5% calcareous clay, trace lithic fragments, trace coral fragments.
2301.0	65	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 40% fine grained, 30% medium grained, 20% coarse grained, 10% very coarse grained, friable, poor sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, poor inferred visual porosity, no hydrocarbon fluorescence.
2301.0	5	COAL		COAL: black, brownish, soft to friable, subblocky, trace finely disseminated pyrite.
2304.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to moderately hard, subblocky, trace lithic fragments, thin carbonaceous laminae.
2304.0	60	CLAYSTONE		CLAYSTONE: olive grey, medium grey, dark grey, soft to firm, subblocky, 5% calcareous clay, trace shell fragments.
2304.0	30	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 40% fine grained, 30% medium grained, 20% coarse grained, 10% very coarse grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, poor inferred visual porosity, no hydrocarbon fluorescence.
2307.0	100	SANDSTONE		SANDSTONE: very light grey, 10% coarse grained, 40% medium grained, 50% fine grained clear quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, carbonaceous specks, 5% kaolinite clay matrix, 80% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.
2310.0	30	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, trace micromicas.
2310.0	70	SANDSTONE		SANDSTONE: very light grey, clear, 20% coarse grained, 40% medium grained, 30% fine grained, 10% very fine grained clear quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, frosted, amorphous to angular, trace lithic fragments, 5% kaolinite clay matrix, 80% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.
2313.0	15	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of mica.
2313.0	85	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 10% very fine grained, 30% fine grained, 40% medium grained, 20% coarse grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2316.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous laminae.
2316.0	15	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of lithic fragments, trace of mica.

2316.0	75	SANDSTONE		SANDSTONE: very light grey, clear, 5% coarse grained, 15% medium grained, 50% fine grained, 30% very fine grained clear quartz grains, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, kaolinite clay matrix, 5% siliceous clay, 90% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.
2319.0	70	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 30% very fine grained, 50% fine grained, 15% medium grained, 5% coarse grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2319.0	30	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2322.0	30	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2322.0	5	DOLOMITE		DOLOMITE: pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery.
2322.0	10	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, trace micromicas.
2322.0	55	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 30% very fine grained, 50% fine grained, 15% medium grained, 5% coarse grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2325.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous laminae, trace shell fragments.
2325.0	30	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 30% very fine grained, 50% fine grained, 15% medium grained, 5% coarse grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2328.0	20	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, trace micromicas.
2328.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous laminae.
2328.0	10	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 30% very fine grained, 50% fine grained, 15% medium grained, 5% coarse grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2331.0	30	CLAYSTONE		CLAYSTONE: olive grey, medium grey, dark grey, soft to firm, subblocky, trace glauconite, trace dolomite.
2331.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, trace coarse clear quartz sand grains, soft to firm, subblocky, trace lithic fragments, thin carbonaceous laminae.

2334.0	30	CLAYSTONE		CLAYSTONE: olive grey, medium grey, dark grey, soft to firm, sub-blocky, trace of glauconite.
2334.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2337.0	30	SANDSTONE		SANDSTONE: very light grey, 30% very fine grained clear quartz grains, 55% fine grained, 15% medium grained, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, 5% kaolinite clay matrix, 90% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.
2337.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2340.0	55	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 30% very fine grained, 55% fine grained, 15% medium grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2340.0	45	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2343.0	5	DOLOMITE		DOLOMITE: pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery.
2343.0	95	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 30% very fine grained, 55% fine grained, 15% medium grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2346.0	5	COAL		COAL: black, brownish, soft to friable, subblocky, trace disseminated pyrite, calcite mineralisation.
2346.0	15	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous laminae.
2346.0	80	SANDSTONE		SANDSTONE: very light grey, clear, frosted, 30% very fine grained, 55% fine grained, 15% medium grained, friable, poorly sorted, amorphous to angular, sub-rounded to sub-angular, slightly spherical, 5% siliceous clay, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
2349.0	20	CLAYSTONE		CLAYSTONE: olive grey, medium grey, dark grey, soft to firm, subblocky, trace shell fragments.
2349.0	5	DOLOMITE		DOLOMITE: pale yellowish orange, dark yellowish orange, greenish grey, moderately hard to hard, conchoidal to splintery.
2349.0	5	COAL		COAL: black, brownish black, soft to friable, sub-blocky, trace of calcite crystals, trace of pyrite.
2349.0	55	SANDSTONE		SANDSTONE: very light grey, 30% very fine grained clear quartz grains, 15% medium, 55% fine grained, friable, poorly sorted, subrounded to subangular (shattered), subspherical, amorphous to angular, trace lithic fragments, 5% kaolinite clay matrix, 90% rock flour, poor inferred visual porosity, no hydrocarbon fluorescence.

2349.0	15	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous laminae.
2352.0	2	COAL		COAL: black, brownish black, soft, woody to bright, in part as laminae.
2352.0	18	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads, laminae and specks.
2352.0	10	CLAYSTONE		CLAYSTONE: olive grey, firm, subblocky.
2352.0	70	SANDSTONE		SANDSTONE: olive grey, very light grey, quartzose, fine grained, 10% very fine, 80% fine, 10% medium grained, friable, moderately sorted, subrounded to subangular, subspherical, 10% clay, 5% silica cement, trace lithic fragments, in part white clay matrix, poor siliceous cement, fair inferred visual porosity, no hydrocarbon fluorescence.
2355.0	2	COAL		COAL: black, brownish black , soft, sub-blocky.
2355.0	30	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2355.0	68	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% medium grained, friable, moderately sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, 5% silica cement, trace of lithic fragments, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2358.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2358.0	10	SANDSTONE		SANDSTONE: clear, opaque, 10% very fine grained, 80% fine grained, 10% medium grained, loose to friable, predominantly loose, moderately sorted, sub-rounded to sub-angular, slightly spherical, 5% silica cement, trace of lithic fragments, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2361.0	10	SANDSTONE		SANDSTONE: clear, opaque, 10% very fine grained, 80% fine grained, 10% medium grained, loose to friable, moderately sorted, sub-rounded to sub-angular to angular very coarse quartz grains, slightly spherical, 5% silica cement, trace brownish grey clay matrix adhering to grain surfaces, trace of lithic fragments, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2361.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2364.0	20	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, firm, sub-blocky to blocky.
2364.0	40	SANDSTONE		SANDSTONE: clear, opaque, light olive grey, very light grey, 10% very fine grained, 50% fine grained, 10% medium grained, 10% coarse grained, 20% very coarse grained, loose and friable, poor to very poor sorted, subangular to subrounded, subspherical, 15% white clay matrix, poor siliceous cement, traces lithic fragments, traces carbonaceous material, poor to fair visual porosity, no hydrocarbon fluorescence.
2364.0	40	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads, laminae and specks.

2367.0	50	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2367.0	10	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, firm, sub-blocky to blocky.
2367.0	40	SANDSTONE		SANDSTONE: clear, opaque, light olive grey, very light grey, 10% very fine grained, 50% fine grained, 10% medium grained, 10% coarse grained, 20% very coarse grained, predominantly loose quartz grains, loose to friable, poorly sorted to very poorly sorted, sub-rounded to sub-angular, slightly spherical, 15% siliceous clay, 5% silica cement, trace of lithic fragments, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2370.0	90	SANDSTONE		SANDSTONE: clear, opaque, trace yellow grains, 10% fine grained, 40% coarse grained, 50% very coarse grained, loose quartz grains, poorly sorted, subangular (in part shattered) to subrounded, subspherical to subelongate, white clay matrix washing out, inferred fair to good visual porosity, no hydrocarbon fluorescence.
2370.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2373.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2373.0	90	SANDSTONE		SANDSTONE: clear, opaque, trace yellow grains, 10% fine grained, 40% coarse grained, 50% very coarse grained, loose, poorly sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, traces rock flour, fair to good inferred visual porosity, no hydrocarbon fluorescence.
2376.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft, amorphous to sticky, 10% calcareous clay, 30% siliceous clay, traces coal and carbonaceous material.
2376.0	30	SANDSTONE		SANDSTONE: clear, opaque, trace yellow grains, 10% fine grained, 40% coarse grained, 50% very coarse grained, loose, poor sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, fair to good inferred visual porosity, no hydrocarbon fluorescence.
2379.0	30	SANDSTONE		SANDSTONE: clear, opaque, trace yellow grains, 10% fine grained, 40% coarse grained, 60% very coarse grained, loose, poorly sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, good inferred visual porosity, no hydrocarbon fluorescence.
2379.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft, amorphous to sticky, 10% calcareous clay, 30% siliceous clay, 60% siliceous silt, trace of coal, trace of coal/lignite.
2382.0	70	SANDSTONE		SANDSTONE: clear, opaque, light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% very coarse grained, loose and friable, poor to very poor sorted, subangular to subrounded, subspherical to subelongate, 15% white clay matrix, poor siliceous cement, traces lithic fragments, traces carbonaceous material, poor to fair visual porosity, no hydrocarbon fluorescence.

2382.0	30	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, soft, amorphous to sticky, 10% calcareous clay, 30% siliceous clay, 60% siliceous silt, trace of coal, trace of coal/lignite.
2385.0	60	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads, laminae and specks.
2385.0	40	SANDSTONE		SANDSTONE: clear, opaque, light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% very coarse grained, loose to friable, poorly to very poorly sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 15% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2388.0	10	SANDSTONE		SANDSTONE: clear, opaque, light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% very coarse grained, loose to friable, poorly sorted to very poorly sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 15% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2388.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2391.0	20	SANDSTONE		SANDSTONE: clear, opaque, light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% very coarse grained, loose to friable, poorly sorted to very poorly sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 15% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2391.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2394.0	10	SANDSTONE		SANDSTONE: clear, opaque, light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% very coarse grained, loose to friable, poorly sorted to very poorly sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 15% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2394.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2397.0	10	SANDSTONE		SANDSTONE: clear, opaque, light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% very coarse grained, loose to friable, poorly sorted to very poorly sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 15% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2397.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2400.0	100	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads and specks.
2403.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% medium grained, friable, moderately sorted, subangular to subrounded, subspherical, 10% siliceous clay, fair visual porosity, no hydrocarbon fluorescence.

2403.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky,trace of lithic fragments, trace of coal/lignite, becoming argillaceous with depth.
2406.0	100	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2409.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% medium grained, friable, moderately sorted, subangular to subrounded, subspherical, 10% siliceous clay, fair visual porosity, no hydrocarbon fluorescence.
2409.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads and specks.
2412.0	100	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2415.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% medium grained, friable, moderately sorted, subangular to subrounded, subspherical, 10% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2415.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads and specks.
2418.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% medium grained, friable, moderately sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2418.0	90	SILTSTONE		SILTSTONE: predominantly brownish grey, brownish black, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2424.0	20	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 30% siliceous clay, traces coal and carbonaceous material.
2424.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% medium grained, friable, moderately sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2424.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2430.0	15	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% medium grained, friable, moderately sorted, subangular to subrounded, subspherical, 10% siliceous clay, fair visual porosity, no hydrocarbon fluorescence.
2430.0	85	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads and specks.
2436.0	100	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.

2442.0	20	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine grained, 80% fine grained, 10% medium grained, friable, moderately sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2442.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads and specks.
2445.0	30	SANDSTONE		SANDSTONE: light olive grey, very light grey, clear, 10% very fine grained, 70% fine grained, 10% medium grained, 10% loose coarse quartz grains, friable to loose, moderately to poorly sorted, subangular (shattered in part)to subrounded, subspherical, 10% siliceous clay, trace pyrite aggegates, fair visual porosity, no hydrocarbon fluorescence.
2445.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2448.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, clear, 10% very fine grained, 70% fine grained, 10% medium grained, 10% coarse grained, friable to loose, moderately sorted to poor sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2448.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2451.0	100	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads and specks.
2454.0	20	SANDSTONE		SANDSTONE: light olive grey, very light grey, clear, 70% fine grained, 10% very fine, 10% medium, 10% loose coarse quartz grains, friable to loose, moderately to poorly sorted, subangular (shattered in part)to subrounded, subspherical to subelongate, poor to fair visual porosity, no hydrocarbon fluorescence.
2454.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2460.0	10	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, firm, subblocky to blocky, trace micromicas.
2460.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, clear, 10% very fine grained, 70% fine grained, 10% medium grained, 10% coarse grained, friable to loose, moderately sorted to poor sorted, predominantly poor siliceous cemented fine grained aggregates, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 0.2% silica cement, poor inferred visual porosity, no hydrocarbon fluorescence.
2460.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of lithic fragments, trace of coal/lignite.
2463.0	20	SANDSTONE		SANDSTONE: light olive grey, very light grey, 10% very fine, 70% fine, 10% medium, 10% loose coarse quartz grains, friable to loose, moderately to poorly sorted, subangular (shattered in part)to subrounded, subspherical to subelongate, 5% poor siliceous cement, fair visual porosity, no hydrocarbon fluorescence.

2463.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of lithic fragments, 0.5% coal/lignite, increase in carbonaceous material and laminae.
2466.0	60	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 30% siliceous clay, traces coal and carbonaceous material.
2466.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, clear, 10% very fine grained, 70% fine grained, 10% medium grained, 10% coarse grained, friable to loose, moderately sorted to poor sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 0.2% silica cement, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2466.0	30	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace lithic fragments, thin carbonaceous to coaly laminae and specks.
2469.0	10	SANDSTONE		SANDSTONE: light olive grey, very light grey, clear, 10% very fine grained, 70% fine grained, 10% medium grained, 10% coarse grained, friable to loose, moderately sorted to poor sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 0.2% silica cement, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2469.0	40	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2469.0	50	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 30% siliceous clay, trace of coal, trace of coal/lignite.
2472.0	10	SANDSTONE		SANDSTONE: clear, 30% coarse grained, 40% very coarse grained, 30% granular grained, loose quartz grains, moderately sorted, angular (shattered), subspherical to subelongate, inferred poor visual porosity (floaters?), no hydrocarbon fluorescence.
2472.0	50	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous to coaly laminae and specks.
2472.0	40	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 30% clay, traces coal and carbonaceous material.
2475.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 30% siliceous clay, trace of coal, trace of coal/lignite.
2475.0	30	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2478.0	10	SANDSTONE		SANDSTONE: clear, 30% coarse grained, 40% very coarse grained, 30% granular grained, loose quartz grains, moderately sorted, angular, slightly spherical to slightly elongated, poor inferred visual porosity, no hydrocarbon fluorescence.
2478.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2478.0	90	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 30% siliceous clay, 70% siliceous silt, trace of coal, trace of coal/lignite.

2484.0	10	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, firm, subblocky, trace micromicas.
2484.0	40	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous to coaly laminae and specks.
2484.0	50	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 40% siliceous clay, traces coal and carbonaceous material.
2487.0	40	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2487.0	60	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 40% siliceous clay, 60% siliceous silt, trace of coal, trace of coal/lignite.
2490.0	30	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2490.0	70	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 40% clay, 10% very fine quartz grains, traces coal and carbonaceous material.
2493.0	5	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, firm, subblocky to blocky, trace micromicas.
2493.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2493.0	25	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 40% siliceous clay, 50% siliceous silt, 10% siliceous sand, trace of coal, trace of coal/lignite.
2496.0	10	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 40% siliceous clay, 50% siliceous silt, 10% siliceous sand, trace of coal, trace of coal/lignite.
2496.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2499.0	80	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: medium light grey, olive grey, clear, opaque, 10% very fine, 40% fine, 20% medium, 10% coarse, 10% very coarse, 10% granular grained, friable to loose when coarser, poorly sorted, subangular to subrounded, subspherical to subelongate, 25% olive grey clay matrix, poor visual porosity, no hydrocarbon fluorescence.
2499.0	10	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 30% siliceous clay, trace of coal, trace of coal/lignite.
2499.0	10	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2502.0	15	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: olive grey, light grey, brownish grey, soft, amorphous to sticky, 30% siliceous clay, traces coal and carbonaceous material.
2502.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous to coaly laminae and specks.

2502.0	5	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: medium light grey, olive grey, clear, opaque, 10% very fine, 40% fine, 20% medium, 10% coarse, 10% very coarse, 10% granular grained, loose to friable, poorly sorted, sub-angular to sub-rounded, slightly spherical to slightly elongated, 25% siliceous clay, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2505.0	10	SANDSTONE		SANDSTONE: clear, very light grey, 10% very fine grained, 80% fine grained, 10% very coarse grained, loose quartz grains when coarse grained, coarse when loose, moderately to poorly sorted, angular (shattered) to subrounded, subspherical to subelongate, trace carbonaceous material, 10% white clay matrix, poor siliceous cement, inferred poor visual porosity, no hydrocarbon fluorescence.
2505.0	10	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, firm to moderately hard, subblocky to blocky, trace micromicas, trace foraminifera.
2505.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal.
2508.0	10	SANDSTONE		SANDSTONE: clear, very light grey, 10% very fine grained, 80% fine grained, 10% very coarse grained, loose to friable, moderately sorted to poorly sorted, angular to sub-rounded, slightly spherical to slightly elongated, 10% siliceous clay, trace of silica cement, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2508.0	10	CLAYSTONE		CLAYSTONE: olive grey, dark greenish grey, firm to moderately hard, sub-blocky to blocky, trace of mica, trace shell fragments.
2508.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, in part olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of coal, trace finely disseminated pyrite.
2511.0	10	SANDSTONE		SANDSTONE: bluish white, very light grey, clear, 10% very fine, 60% fine, 20% medium, 10% coarse clear quartz grains, coarse fraction occurs as loose grains, fine fraction occurs as friable poorly cemented aggregates, poorly sorted, subrounded to subangular (shattered), subspherical to subelongate, trace silica cement, 5% white clay matrix, poor inferred visual porosity, no hydrocarbon fluorescence.
2511.0	15	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, subblocky, trace micromicas, skeletal fragments.
2511.0	75	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace carbonaceous specks, thin coaly laminae, finely disseminated pyrite.
2514.0	10	SANDSTONE		SANDSTONE: bluish white, very light grey, clear, 10% very fine grained, 60% fine grained, 20% medium grained, 10% coarse grained, loose to friable, poorly sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 5% siliceous clay, trace of silica cement, poor inferred visual porosity, no hydrocarbon fluorescence.
2514.0	10	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of mica, trace of skeletal fragments.
2514.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of pyrite, trace of coal.

2517.0	10	CLAYSTONE		CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace of mica, trace of skeletal fragments.
2517.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, sub-blocky, trace of coal/lignite, trace of pyrite, trace of coal.
2520.0	10	SANDSTONE		SANDSTONE: bluish white, very light grey, clear, 10% very fine, 60% fine, 20% medium, 10% coarse clear quartz grains, coarse fraction occurs as loose grains, fine fraction occurs as friable poorly cemented aggregates, poorly sorted, subrounded to subangular (shattered), subspherical to subelongate, 5% white clay matrix, poor inferred visual porosity, no hydrocarbon fluorescence.
2520.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, subblocky, trace carbonaceous specks, thin coaly laminae, finely disseminated pyrite.
2523.0	30	SANDSTONE		SANDSTONE: bluish white, very light grey, clear quartz grains, 60% fine, 40% medium grained, fine fraction occurs as friable poorly calcareous cemented aggregates, poorly sorted, subrounded to subangular, subspherical to subelongate, 10% white clay matrix, poor inferred visual porosity, no hydrocarbon fluorescence.
2523.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, amorphous to sub-blocky, 5% medium grained dispersed quartz grains, trace carbonaceous specks. Contaminated with paint, rust, pipe scale.
2526.0	20	SANDSTONE		SANDSTONE: yellowish grey, very light grey, olive grey, clear quartz grains, 20% very fine, 50% fine, 30% medium grained, trace coarse grained, friable to firm, poor to moderate sorting, subangular to subrounded, subspherical to subelongate, 10% siliceous cement, 10% white clay matrix, trace lithic fragments, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence.
2526.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, blocky to subblocky, 5% coarse grained dispersed quartz grains, trace carbonaceous specks and thin laminae, trace lithic fragments, trace micromica and mica flakes.
2529.0	10	SANDSTONE		SANDSTONE: yellowish grey, very light grey, olive grey, 20% very fine grained, 50% fine grained, 30% medium grained, 0.1% coarse grained, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2529.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, coarse grained, soft to firm, blocky to sub-blocky, 5% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of mica.

2532.0	10	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, 20% very fine grained, 50% fine grained, 30% medium grained, 0.1% coarse grained, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2532.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, coarse grained, soft to firm, blocky to sub-blocky, 5% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of mica.
2535.0	30	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, clear quartz grains, 20% very fine, 50% fine, 30% medium grained, friabel to firm, poor to moderate sorting, subangular to subrounded, subspherical to subelongate, 10% siliceous cement, 10% white clay matrix, trace lithic fragments, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence.
2535.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive grey, soft to firm, blocky to subblocky, trace carbonaceous specks and thin laminae, trace lithic fragments, trace micromica and mica flakes.
2538.0	30	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine grained, 50% fine grained, 30% medium grained, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2538.0	70	SILTSTONE		SILTSTONE: predominantly brownish black, traces olive grey and brownish grey, soft to firm, blocky to subblocky, trace carbonaceous specks and thin laminae, trace lithic fragments, trace to 5% micromica and laminated mica flakes.
2541.0	10	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine grained, 50% fine grained, 30% medium grained, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2541.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
2544.0	10	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine grained, 50% fine grained, 30% medium grained, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2544.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of

				coal/lignite, trace of lithic fragments, trace of mica.
2547.0	5	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine grained, 50% fine grained, 30% medium grained, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2547.0	95	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to firm, blocky to sub-blocky, 3% coal/lignite, trace of lithic fragments, trace of mica, in part grading to CARBONACEOUS SILTSTONE.
2550.0	100	SILTSTONE		SILTSTONE: predominantly brownish black, traces olive grey and brownish grey, soft to firm, blocky to subblocky, 5% carbonaceous specks and laminae, trace lithic fragments, 5% micromica and laminated mica flakes.
2553.0	5	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, clear quartz grains, 20% very fine, 50% fine, 30% medium grained, friable to firm, poor to moderate sorting, subangular to subrounded, subspherical to subelongate, 10% siliceous cement, 10% white clay matrix, trace lithic fragments, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence.
2553.0	95	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to firm, blocky to sub-blocky, 5% coal/lignite, trace of lithic fragments, 5% mica.
2556.0	5	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine grained, 50% fine grained, 30% medium grained, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2556.0	95	SILTSTONE		SILTSTONE: predominantly brownish black, traces olive grey and brownish grey, soft to firm, blocky to subblocky, 5% loose very coarse quartz grains, trace carbonaceous specks and laminae, trace lithic fragments, trace micromica and laminated mica flakes.
2559.0	90	SILTSTONE		SILTSTONE: predominantly brownish black, traces olive grey and brownish grey, olive black, soft to firm, blocky to subblocky, trace carbonaceous specks and laminae, trace lithic fragments, trace micromica and laminated mica flakes.
2559.0	10	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, clear quartz grains, 20% very fine, 50% fine, 30% medium grained, friable to firm, poor to moderate sorting, subangular to subrounded, subspherical to subelongate, 10% siliceous cement, 10% white clay matrix, trace lithic fragments, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence.

2562.0	20	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine grained, 50% fine grained, 30% medium grained, becoming more disaggregated, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2562.0	75	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
2562.0	5	DOLOMITE		DOLOMITE: brownish grey, firm to moderately hard, subblocky with conchoidal fracture in part.
2565.0	5	DOLOMITE		DOLOMITE: brownish grey, firm to moderately hard, conchoidal to sub-blocky.
2565.0	10	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine, 50% fine, 30% medium grained, clear quartz grains, friable to firm, poor to moderate sorting, subangular to subrounded, subspherical to subelongate, 10% siliceous cement, 10% white clay matrix, trace lithic fragments, trace carbonaceous material, trace pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2565.0	85	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
2568.0	10	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine, 50% fine, 30% medium, trace loose clear very coarse quartz grains, friable to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, trace of glauconite, poor inferred visual porosity, no hydrocarbon fluorescence.
2568.0	90	SILTSTONE		SILTSTONE: predominantly brownish black, traces olive grey and brownish grey, olive black, soft to firm, blocky to subblocky, trace carbonaceous specks and laminae, trace lithic fragments, trace micromica and laminated mica flakes.
2571.0	10	SANDSTONE		SANDSTONE: very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine grained, 50% fine grained, 30% medium grained, 0.1% loose clear very coarse quartz grains, friable to firm, poor sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2571.0	90	SILTSTONE		SILTSTONE: predominantly brownish black, traces olive grey and brownish grey, olive black, soft to firm, blocky to subblocky, trace carbonaceous specks and laminae, trace lithic fragments, trace micromica.

2574.0	15	SANDSTONE		SANDSTONE: very light grey to light grey, olive grey, trace yellowish grey, trace light olive grey, 15% very fine grained, 50% fine grained, 35% medium grained, 0.1% very coarse grained, loose to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2574.0	85	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, predominantly brownish black, trace olive grey and brownish grey, soft to firm, blocky to subblocky, trace carbonaceous specks and laminae, trace lithic fragments.
2577.0	20	SANDSTONE		SANDSTONE: very light grey to light grey, olive grey, trace yellowish grey, trace light olive grey, 10% very fine grained, 40% fine grained, 49% medium grained, 1% very coarse grained, loose to moderately hard, poorly sorted to moderately sorted, sub-rounded to angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2577.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to moderately hard, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2580.0	30	SANDSTONE		SANDSTONE: very light grey to light grey, olive grey, trace yellowish grey, trace light olive grey, 10% very fine grained, 40% fine grained, 49% medium grained, 1% very coarse grained, loose to firm, poorly sorted to moderately sorted, sub-rounded to angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of lithic fragments, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
2580.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to moderately hard, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2583.0	30	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, olive grey, 10% very fine grained, 30% fine grained, 60% medium grained, 0.1% very coarse grained, increase in loose clear very coarse quartz grains, loose to firm, poorly sorted to moderately sorted, sub-rounded to angular, slightly spherical to slightly elongated, 10% siliceous clay, 10% silica cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of glauconite, trace nodular pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2583.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to moderately hard, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2586.0	60	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, olive grey, 5% very fine, 30% fine, 40% medium, 20% coarse, 5% very coarse grained, increase in loose clear very coarse quartz grains, loose to firm, poorly to moderately sorted, subrounded to angular, subspherical to subelongate, trace silica cement, trace pyrite cement, trace calcite cement, trace lithic fragments, trace carbonaceous material, trace glauconite, trace nodular pyrite, good inferred visual porosity, no hydrocarbon fluorescence.

2586.0	40	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to moderately hard, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2589.0	40	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2589.0	60	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, olive grey, 20% very fine, 50% fine, 30% medium grained, loose to firm, poorly to moderately sorted, subrounded to subangular, subspherical to subelongate, trace silica cement, trace lithic fragments, trace carbonaceous material, trace nodular pyrite, good inferred visual porosity, no hydrocarbon fluorescence.
2592.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to moderately hard, blocky to subblocky, trace carbonaceous material, trace lithic fragments.
2592.0	10	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, olive grey, 20% very fine, 50% fine, 30% medium grained, loose to firm, poorly to moderately sorted, subrounded to subangular, subspherical to subelongate, trace silica cement, trace lithic fragments, trace carbonaceous material, trace nodular pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2601.0	95	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to moderately hard, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2601.0	5	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, 20% very fine grained, 50% fine grained, 30% medium grained, 0.1% very coarse grained, loose to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, trace of silica cement, trace of calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2604.0	5	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque,20% very fine grained, 50% fine grained, 30% medium grained, 0.1% very coarse grained, loose to firm, poorly sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, trace of silica cement, trace of calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2604.0	95	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to moderately hard, blocky to sub-blocky, trace carbonaceous bands, trace of lithic fragments, traces of micromica.
2607.0	5	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, 20% very fine grained, 60% fine grained, 20% medium grained, 0.1% very coarse grained, loose to firm, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, trace of silica cement, trace of calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.

2607.0	95	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to moderately hard, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2610.0	15	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, increase in clear quartz grains, 20% very fine grained, 60% fine grained, 20% medium grained, 0.1% very coarse grained, loose to firm, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, trace of silica cement, trace of calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2610.0	85	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to moderately hard, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2613.0	5	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, 20% very fine grained, 60% fine grained, 20% medium grained, 0.1% very coarse grained, loose to firm, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, trace of silica cement, trace of calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2613.0	95	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to moderately hard, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2616.0	15	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, 20% very fine, 60% fine, 20% medium, 0.1% very coarse grained, loose to firm, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, trace of silica cement, trace of calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2616.0	85	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to moderately hard, blocky becoming slightly subfissile, trace of siliceous clay, trace of lithic fragments, trace of mica, increase in carbonaceous material, pieces of coal visible.
2619.0	25	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, 20% very fine, 60% fine, 15% medium, 5% coarse, traces of very coarse grained, loose to firm, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, 5% clay, trace silica cement, trace calcareous cement, trace pyrite cement, trace lithic fragments, trace carbonaceous material, trace coal, trace nodular pyrite, fair inferred visual porosity, no hydrocarbon fluorescence.
2619.0	75	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to subfissile, trace carbonaceous material, trace lithic fragments, trace coal, trace micromica.

2622.0	30	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, 20% very fine, 60% fine, 15% medium, 5% coarse, 0.1% very coarse grained, loose to firm, poor sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, 5% siliceous clay, trace of silica cement, trace of calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, trace of glauconite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2622.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to sub-fissile, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2625.0	15	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, 20% very fine grained, 60% fine grained, 15% medium grained, 5% coarse grained, 0.1% very coarse grained, loose to firm, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, 5% siliceous clay, trace of silica cement, trace of calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, trace of glauconite, poor inferred visual porosity, no hydrocarbon fluorescence.
2625.0	85	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to sub-fissile, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2628.0	10	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, 20% very fine, 60% fine, 20% medium grained, loose to firm, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of silica cement, trace of calcite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor inferred visual porosity, no hydrocarbon fluorescence.
2628.0	90	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to sub-fissile, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2631.0	60	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, trace yellowish grey, 5% very fine, 35% fine, 30% medium, 30% coarse grained, loose to firm, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, trace silica cement, trace calcite cement, trace lithic fragments, trace carbonaceous material, trace nodule pyrite, trace glauconite, poor inferred visual porosity, no hydrocarbon fluorescence.
2631.0	40	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to sub-fissile, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2633.0	40	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to sub-fissile, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.

2633.0	60	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, trace yellowish grey, 5% very fine grained, 35% fine grained, 30% medium grained, 30% coarse grained, loose to firm, poor sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of silica cement, trace of calcite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, trace of glauconite, poor inferred visual porosity, no hydrocarbon fluorescence.
2637.0	80	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, subblocky to blocky, in part subfissile, 10% clay, becoming more argillaceous with depth, trace carbonaceous material, trace lithic fragments, micromicas and mica flakes.
2637.0	20	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, trace yellowish grey, 5% very fine, 35% fine, 60% medium grained, friable to firm, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, trace silica cement, trace calcite cement, trace lithic fragments, trace carbonaceous material, trace nodule pyrite, trace glauconite, poor inferred visual porosity, no hydrocarbon fluorescence.
2640.0	30	SANDSTONE		SANDSTONE: very light grey to light grey, yellowish grey, 5% very fine grained, 35% fine grained, 60% medium grained, becoming disaggregated, friable to firm, poor sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, 5% siliceous clay, trace of silica cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, trace of glauconite, poor inferred visual porosity, no hydrocarbon fluorescence.
2640.0	70	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to sub-fissile, 10% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2643.0	80	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, subblocky to blocky to sub-fissile, traces carbonaceous material and very fine pyrite aggregates.
2643.0	20	CLAYSTONE		CLAYSTONE: olive black, firm, subblocky, trace micromicas, trace carbonaceous specks.
2646.0	20	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky, trace of mica, trace of coal/lignite.
2646.0	80	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, sub-blocky to sub-fissile, trace of coal/lignite, trace of pyrite, trace thin coal.
2649.0	10	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky, trace of mica, trace of coal/lignite.
2649.0	10	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, sub-blocky to sub-fissile, trace of coal/lignite, trace of pyrite, trace of coal.
2649.0	80	SANDSTONE		SANDSTONE: clear, opaque, very light grey, 20% fine, 60% medium, 20% coarse grained, loose quartz grains, poorly to moderately sorted, angular (shattered) to subangular to subrounded, subspherical to subrounded, trace poor silica cement, traces white and brown mica flakes, fair visual porosity inferred, no hydrocarbon fluorescence.
2652.0	10	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky, trace of mica, trace of coal/lignite.

2652.0	10	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, sub-blocky to sub-fissile, trace of coal/lignite, trace of pyrite, trace of coal.
2652.0	80	SANDSTONE		SANDSTONE: clear, opaque, light grey, 60% medium grained, 20% coarse grained, 20% fine grained, loose quartz grains, poorly to moderately sorted, angular to sub-rounded, slightly spherical to slightly elongated, trace of silica cement, trace clay matrix, trace of mica, trace of pyrite aggregates, fair inferred visual porosity, no hydrocarbon fluorescence.
2655.0	35	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to sub-fissile, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2655.0	60	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, trace yellowish grey, 40% fine, 60% medium grained, friable to loose, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, 10% clay matrix, trace silica cement, trace lithic fragments, trace carbonaceous material, trace nodule pyrite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2655.0	5	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky, trace of mica, trace of coal/lignite.
2658.0	60	SILTSTONE		SILTSTONE: brownish grey, brownish black, olive black, olive grey, soft to firm, blocky to sub-fissile, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2658.0	40	SANDSTONE		SANDSTONE: very light grey to light grey to clear to opaque, trace yellowish grey, 40% fine grained, 60% medium grained, predominantly friable, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, 10% siliceous clay, trace of silica cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2658.0	5	COAL		COAL: black, greyish black, soft, splintery.
2661.0	60	SANDSTONE		SANDSTONE: very light grey, clear to opaque when loose, quartzose, 20% very fine, 80% fine grained, loose to friable to firm, moderately sorted, subrounded to subangular, subspherical to spherical, predominantly with weak siliceous cement, 10% white clay matrix, traces lithic fragments and carbonaceous material, fair visual porosity, no hydrocarbon fluorescence.
2661.0	40	SILTSTONE		SILTSTONE: brownish black, olive black, soft to firm, blocky to subblocky, in part argillaceous, traces carbonaceous material, trace lithic fragments, trace micromicas.
2664.0	40	SILTSTONE		SILTSTONE: brownish black, olive black, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, traces brown mica flakes.
2664.0	60	SANDSTONE		SANDSTONE: very light grey, clear to opaque when loose, 20% very fine grained, 80% fine grained, loose to firm, moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, 5% siliceous clay, trace of silica cement, trace of lithic fragments, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2667.0	5	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky, trace of mica, trace of coal/lignite.

2667.0	75	SILTSTONE		SILTSTONE: brownish black, olive black, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, traces brown mica flakes.
2667.0	20	SANDSTONE		SANDSTONE: very light grey, clear to opaque when loose, 20% very fine grained, 80% fine grained, loose to firm, moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, 5% siliceous clay, trace of silica cement, trace of lithic fragments, trace of coal/lignite, trace of glauconite grains, good inferred visual porosity, no hydrocarbon fluorescence.
2670.0	20	SANDSTONE		SANDSTONE: very light grey, clear to white to opaque when loose, quartzose, 10% very fine, 50% fine, 20% medium, 20% very coarse, loose to friable, poorly sorted, angular (shattered) to subrounded, subspherical to subelongate, poor silceous cement when aggregates, traces lithic fragments, carbonaceous material and glauconite grains, 1% pyrite aggregates and cement, 5% clay matrix, fair visual porosity inferred, no hydrocarbon fluorescence. Note: 1% blackish red amber.
2670.0	80	SILTSTONE		SILTSTONE: brownish black, olive black, soft to firm, subblocky to blocky, grading to claystone in part, traces carbonaceous material, trace lithic fragments, trace micromicas.
2673.0	20	SANDSTONE		SANDSTONE: very light grey, clear to white to opaque when loose, 10% very fine grained, 50% fine grained, 20% medium grained, 20% very coarse grained, loose to firm, poorly sorted, angular to sub-rounded, slightly spherical to slightly elongated, 5% siliceous clay, trace of silica cement, trace of lithic fragments, trace of coal/lignite, trace of glauconite, 1% pyrite, good inferred visual porosity, no hydrocarbon fluorescence.
2673.0	80	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2676.0	10	SANDSTONE		SANDSTONE: very light grey, clear to white to opaque when loose, 10% very fine, 40% fine, 20% medium, 20% very coarse grained, loose to firm, poorly sorted, angular to sub-rounded, slightly spherical to slightly elongated, 5% siliceous clay, trace of silica cement, trace of lithic fragments, trace of coal/lignite, trace of glauconite, decrease in pyrite, good inferred visual porosity, no hydrocarbon fluorescence.
2676.0	90	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, becoming darker with depth, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2679.0	40	SANDSTONE		SANDSTONE: very light grey, clear to white to opaque when loose, 10% very fine, 50% fine, 40% medium grained, predominatly unconsolidated, loose to firm, poorly sorted, angular to sub-rounded, slightly spherical to slightly elongated, 5% siliceous clay, trace of silica cement, trace of lithic fragments, trace of coal/lignite, trace of glauconite, trace of pyrite, good inferred visual porosity, no hydrocarbon fluorescence.

2679.0	60	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2682.0	40	SANDSTONE		SANDSTONE: very light grey, clear and opaque, quartzose, 10% very fine, 50% fine, 40% medium grained, predominantly loose to friable, poorly to moderately sorted, subangular to subrounded, subspherical to subelongate, poor siliceous cement when aggregates, traces pyrite cement, 5% clay matrix, traces brown mica flakes, fair visual porosity inferred, no hydrocarbon fluorescence.
2682.0	60	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2685.0	60	SANDSTONE		SANDSTONE: very light grey, clear and opaque, 10% very fine, 50% fine, 40% medium grained, loose to firm, poorly to moderately sorted, sub-angular to sub-rounded, slightly spherical to slightly elongated, 5% siliceous clay, trace of silica cement, trace of pyrite cement, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2685.0	40	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, subblocky to blocky, grading to claystone in part, traces carbonaceous material, lithic fragments, trace micromicas.
2688.0	10	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2688.0	90	SANDSTONE	Calcareous	CALCAREOUS SANDSTONE: very light grey, light grey, 40% very fine, 60% fine grained, friable to moderately hard, moderately sorted, subangular to subrounded, subspherical, 25% calcareous cement, traces altered lithic fragments, traces carbonaceous material, fair visual porosity, no hydrocarbon fluorescence.
2691.0	5	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2691.0	95	SANDSTONE	Calcareous	CALCAREOUS SANDSTONE: very light grey, light grey, 40% very fine, 60% fine grained, friable to moderately hard, moderately sorted, sub-angular to sub-rounded, slightly spherical, 25% calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, 2% nodular pyrite, good inferred visual porosity, no hydrocarbon fluorescence.
2694.0	5	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2694.0	10	SANDSTONE	Calcareous	CALCAREOUS SANDSTONE: very light grey, light grey, 40% very fine, 60% fine grained, friable to moderately hard, moderately sorted, sub-angular to sub-rounded, slightly spherical, 25% calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, 1% nodular pyrite, good inferred visual porosity, no hydrocarbon fluorescence.

2694.0	85	CALCILUTITE		CALCILUTITE: light grey to medium light gray to medium gray, trace yellowish gray, very soft to firm, subblocky to blocky, grading to claystone in part, trace carbonaceous material.
2697.0	40	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2697.0	10	SANDSTONE	Calcareous	CALCAREOUS SANDSTONE: very light grey, light grey, 40% very fine grained, 60% fine grained, friable to moderately hard, moderately sorted, sub-angular to sub-rounded, slightly spherical, 25% calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, 1% pyrite, good inferred visual porosity, no hydrocarbon fluorescence.
2697.0	50	CALCILUTITE		CALCILUTITE: light gray to medium light gray to medium gray, trace yellowish gray, very soft to firm, blocky to sub-blocky, trace of coal/lignite.
2700.0	25	SANDSTONE	Calcareous	CALCAREOUS SANDSTONE: very light grey, light grey, 40% very fine, 60% fine grained, friable to moderately hard, moderately sorted to well sorted, sub-angular to sub-rounded, slightly spherical, 20% calcite cement, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, 1% pyrite, trace of glauconite, good inferred visual porosity, no hydrocarbon fluorescence.
2700.0	40	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2700.0	35	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace micromica.
2703.0	20	SANDSTONE		SANDSTONE: very light grey, light grey, 40% very fine grained, 60% fine grained, friable to moderately hard, moderately to well sorted, subrounded to rounded, subspherical, trace pyrite cement, trace lithic fragments, trace carbonaceous material, trace nodular pyrite, fair inferred visual porosity, no hydrocarbon fluorescence.
2703.0	40	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
2703.0	40	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2703.0	0.1	DOLOMITE		DOLOMITE: brownish grey to moderate brown to pale brown, soft to firm, subblocky to blocky.
2706.0	0.1	DOLOMITE		DOLOMITE: brownish grey to moderate brown to pale brown, soft to firm, blocky to sub-blocky.
2706.0	25	SANDSTONE		SANDSTONE: very light grey, light grey, 40% very fine grained, 60% fine grained, friable to moderately hard, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, traces grading to argillaceous sandstone, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2706.0	35	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of

				mica.
2706.0	40	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2709.0	2	DOLOMITE		DOLOMITE: brownish grey to moderate brown to pale brown, soft to firm, blocky to sub-blocky.
2709.0	25	SANDSTONE		SANDSTONE: very light grey, light grey, 40% very fine grained, 50% fine grained, 10% medium grained, friable to moderately hard, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, trace of glauconite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2709.0	33	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, subblocky to blocky, grading to claystone in part, traces carbonaceous material, lithic fragments, trace micromicas.
2709.0	40	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica, trace nodular pyrite.
2712.0	15	SANDSTONE		SANDSTONE: very light grey, light grey, 40% very fine grained, 50% fine grained, 10% medium grained, friable to moderately hard, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, trace of pyrite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2712.0	45	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
2712.0	40	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica, trace of pyrite.
2715.0	5	SANDSTONE		SANDSTONE: very light grey, light grey, 40% very fine grained, 60% fine grained, friable to moderately hard, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical, trace of pyrite cement, trace of lithic fragments, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
2715.0	55	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of pyrite.
2715.0	40	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2718.0	20	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2718.0	80	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace nodular pyrite, trace micromica.
2721.0	5	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2721.0	95	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of pyrite, trace of mica, trace of quartz grains.

2724.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, subblocky to blocky, 25% siliceous clay, trace carbonaceous material, trace lithic fragments.
2724.0	95	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of pyrite, trace of mica.
2727.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 25% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2727.0	95	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of pyrite, trace of mica.
2730.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 25% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2730.0	95	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of pyrite, trace of mica.
2733.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2733.0	95	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2736.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2736.0	95	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2739.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2739.0	95	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2742.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2742.0	90	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2742.0	5	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, trace silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2745.0	40	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments.

2745.0	5	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to moderately hard, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical to spherical, trace of silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2745.0	55	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2748.0	30	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to moderately hard, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical to spherical, trace of silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2748.0	40	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace nodular pyrite.
2748.0	30	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2754.0	10	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to moderately hard, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical to spherical, trace of silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2754.0	50	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey , soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2754.0	40	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of pyrite.
2757.0	5	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to moderately hard, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical to spherical, trace of silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2757.0	50	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of pyrite.
2757.0	45	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey to light olive grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace micromica.
2760.0	10	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, trace silica cement, trace micromica, good inferred visual porosity, no hydrocarboln fluorescence.
2760.0	50	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.

2760.0	40	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of pyrite.
2763.0	25	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to firm, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical to spherical, trace of silica cement, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2763.0	50	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2763.0	25	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of pyrite.
2766.0	15	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to firm, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical to spherical, trace of silica cement, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2766.0	25	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, 80% siliceous silt, trace of coal/lignite, trace of lithic fragments, trace of pyrite.
2766.0	60	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2769.0	10	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 10% very fine grained, 70% fine grained, 20% medium grained, loose to firm, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical to spherical, trace of silica cement, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2769.0	25	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of pyrite.
2769.0	65	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2772.0	1	SANDSTONE		SANDSTONE: white to very light grey to clear and opaque, trace yellowish grey, 20% very fine, 80% fine grained, loose to firm, moderately sorted to well sorted, rounded to sub-rounded, slightly spherical to spherical, trace of silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2772.0	15	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, 1% siliceous sand, trace of coal/lignite, trace of lithic fragments.
2772.0	85	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey to olive grey to light olive grey, very soft to firm, amorphous to subblocky, trace carbonaceous material, trace micromica.

2775.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2775.0	95	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, very soft to firm, subblocky to blocky, trace carbonaceous material, trace micromica.
2778.0	10	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 20% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica.
2778.0	90	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, very soft to firm, blocky to sub-blocky, 1% siliceous sand, trace of coal/lignite, trace of mica, traces of sandstone.
2781.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace micromica.
2784.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2787.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2790.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, 3% siliceous silt, trace of coal/lignite, trace of mica.
2793.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, 2% siliceous silt, trace of coal/lignite, trace of mica.
2796.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2799.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
2802.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2805.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, subblocky to blocky, trace carbonaceous material.
2808.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, blocky to sub-blocky, trace of coal/lignite.
2811.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, blocky to sub-blocky, trace of coal/lignite.
2814.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, blocky to sub-blocky, 1% siliceous silt, trace of coal/lignite.
2817.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, blocky to sub-blocky, 1% siliceous silt, trace of coal/lignite.

2820.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, blocky to sub-blocky, 1% siliceous silt, trace of coal/lignite.
2823.0	100	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, subblocky to blocky, 1% siliceous silt, increase in carbonaceous material.
2826.0	5	SILTSTONE	Argillaceous	ARGILLACEOUS SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, subblocky to blocky, 20% siliceous clay, trace carbonaceous material, trace lithic fragments.
2826.0	90	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2826.0	5	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 10% fine grained, 20% medium grained, 70% coarse grained, loose to moderately hard, moderately to well sorted, rounded to angular, subspherical to spherical, trace silica cement, fair inferred visual porosity, no hydrocarbon fluorescence.
2829.0	5	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, subblocky to blocky, 5% siliceous clay, trace carbonaceous material, trace lithic fragments, trace grading to ARGILLACEOUS SILTSTONE.
2829.0	30	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 10% fine grained, 30% medium grained, 50% coarse grained, 10% very coarse grained, loose to moderately hard, poorly to moderately sorted, rounded to angular, subspherical to spherical, trace silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2829.0	65	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2832.0	20	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2832.0	50	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 15% very fine grained, 20% fine grained, 30% medium grained, 30% coarse grained, 5% very coarse grained, loose to moderately hard, poorly to moderately sorted, rounded to angular, slightly spherical to spherical, trace of silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2832.0	30	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2835.0	30	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2835.0	20	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.

2835.0	50	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 15% very fine grained, 20% fine grained, 30% medium grained, 30% coarse grained, 5% very coarse grained, loose to moderately hard, poorly to moderately sorted, rounded to angular, slightly spherical to spherical, trace of silica cement, good inferred visual porosity, no hydrocarbon fluorescence.
2838.0	20	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2838.0	30	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2838.0	50	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 20% very fine grained, 20% fine grained, 30% medium grained, 30% coarse grained, loose to moderately hard, poorly to moderately sorted, rounded to angular, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2841.0	25	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2841.0	50	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, subblocky to blocky, trace calcareous material, trace lithic fragments.
2841.0	25	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 20% very fine grained, 20% fine grained, 30% medium grained, 30% coarse grained, loose to moderately hard, poorly to moderately sorted, rounded to angular, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2844.0	20	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2844.0	10	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 45% very fine grained, 50% fine grained, 5% coarse grained, loose to moderately hard, poorly to moderately sorted, rounded to angular, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2844.0	70	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2847.0	40	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 50% very fine grained, 50% fine grained, loose to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, trace silica cement, trace carbonaceous material, good inferred visual porosity, no hydrocarbon fluorescence.
2847.0	10	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.

2847.0	50	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2850.0	30	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2850.0	20	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 50% very fine grained, 45% fine grained, 5% medium grained, loose to firm, moderately sorted to well sorted, rounded to sub-angular, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2850.0	50	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2853.0	10	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 50% very fine grained, 45% fine grained, 5% medium grained, loose to firm, moderately sorted to well sorted, rounded to sub-angular, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2853.0	20	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2853.0	70	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2856.0	15	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 50% very fine grained, 45% fine grained, 5% medium grained, loose to firm, moderately sorted to well sorted, rounded to sub-angular, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2856.0	20	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2856.0	65	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, blocky to sub-blocky, trace of lithic fragments, increase in carbonaceous material.
2859.0	15	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 50% very fine grained, 45% fine grained, 5% medium grained, loose to firm, moderately sorted to well sorted, rounded to sub-angular, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2859.0	25	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2859.0	55	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, blocky to sub-blocky, trace of lithic fragments, increase in carbonaceous material.
2859.0	5	COAL		COAL: brownish black to black, olive grey, soft to firm, subblocky to blocky, dull to sub-vitreous.

2862.0	5	COAL		COAL: brownish black to black, olive grey, soft to firm, sub-blocky to sub-blocky.
2862.0	10	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 50% very fine grained, 45% fine grained, 5% medium grained, trace very coarse grains, loose to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, trace silica cement, trace carbonaceous material, fair inferred visual porosity, no hydrocarbon fluorescence.
2862.0	30	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, subblocky to blocky, trace carbonaceous material.
2862.0	55	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace lithic fragments.
2865.0	15	SANDSTONE		SANDSTONE: white to very light grey, clear to opaque, 50% very fine grained, 45% fine grained, 5% medium grained, 0.1% very coarse grained, loose to firm, moderately sorted to well sorted, rounded to sub-angular, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2865.0	45	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace nodular pyrite, less carbonaceous material.
2865.0	40	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2868.0	80	SANDSTONE		SANDSTONE: clear to opaque, white to very light grey, 60% very coarse grained, 20% medium grained, 20% coarse grained, loose quartz grains, poor to moderately sorted, angular (shattered) to subrounded, subspherical to subelongate, inferred fair visual porosity, no hydrocarbon fluorescence.
2868.0	10	SILTSTONE		SILTSTONE: brownish black, olive black, olive grey to brownish grey, light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments.
2868.0	10	CLAYSTONE		CLAYSTONE: medium grey to medium dark grey, olive grey to light olive grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of pyrite.
2871.0	95	SILTSTONE		SILTSTONE: olive grey, brownish black, soft to firm, subblocky to blocky, trace carbonaceous material as thin laminae, trace lithic fragments, trace micromicas, trace black, bright coal pieces.
2871.0	5	SANDSTONE		SANDSTONE: clear to opaque, white to very light grey, 20% medium grained, 20% coarse grained, 60% very coarse grained, loose, poorly to moderately sorted, angular to sub-rounded, slightly spherical to slightly elongated, fair to good inferred visual porosity, no hydrocarbon fluorescence.
2874.0	100	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, subblocky to blocky, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces.
2877.0	100	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, increase in carbonaceous specks in olive grey portion, trace of coal/lignite, trace of lithic fragments, trace of coal.

2880.0	10	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine grained, 60% fine grained, firm, moderately to well sorted, subrounded to subangular, subspherical, trace silica cement, trace carbonaceous material, fair inferred visual porosity, no hydrocarbon fluorescence.
2880.0	90	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of coal.
2883.0	20	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine grained, 60% fine grained, firm, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, trace of silica cement, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
2883.0	80	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of coal.
2886.0	20	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine grained, 60% fine grained, firm, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, trace of silica cement, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
2886.0	80	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of coal, becoming more argillaceous with depth.
2889.0	10	COAL		COAL: brownish black to black, soft to firm, argillaceous and dull to bright, conchoidal fracture in part, traces amber.
2889.0	10	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine grained, 60% fine grained, firm, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, trace of silica cement, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
2889.0	80	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of coal.
2892.0	100	SILTSTONE		SILTSTONE: olive grey, brownish black, soft to firm, subblocky to blocky, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces.
2895.0	10	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine, 60% fine grained, firm, moderately to well sorted, subrounded to subangular, subspherical, 10% siliceous clay, trace silica cement, trace carbonaceous material, trace dispersed coal pieces, fair inferred visual porosity, no hydrocarbon fluorescence.
2895.0	90	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, subblocky to blocky, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces.
2898.0	30	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine grained, 60% fine grained, firm, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, trace of silica cement, trace of coal/lignite, trace of coal, fair inferred visual porosity, no hydrocarbon fluorescence.

2898.0	70	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, 10% siliceous sand, becoming in part more arenaceous, trace of coal/lignite, trace of lithic fragments, trace of coal.
2901.0	60	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine grained, 60% fine grained, firm, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 15% siliceous clay, more argillaceous, trace of silica cement, trace of coal/lignite, trace of coal, fair inferred visual porosity, no hydrocarbon fluorescence.
2901.0	40	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, very fine grained, soft to firm, blocky to sub-blocky, 10% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of coal.
2904.0	10	CLAYSTONE		CLAYSTONE: olive grey, olive black, soft to firm, subblocky to blocky, traces carbonaceous material.
2904.0	10	COAL		COAL: brownish black to black, soft to firm, argillaceous and dull to bright, conchoidal fracture in part, traces amber.
2904.0	70	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, very fine grained, soft to firm, blocky to sub-blocky, 10% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of coal.
2904.0	10	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine, 60% fine grained, firm, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 15% siliceous clay, trace of silica cement, trace of coal/lignite, trace of coal, fair inferred visual porosity, no hydrocarbon fluorescence.
2907.0	20	CLAYSTONE		CLAYSTONE: olive grey, olive black, soft to firm, subblocky to blocky, increase in carbonaceous material.
2907.0	10	COAL		COAL: brownish black to black, soft to firm, sub-blocky.
2907.0	10	SANDSTONE		SANDSTONE: white to very light grey, 40% very fine grained, 60% fine grained, firm, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 15% siliceous clay, first trace of altered feldspathics as accessories, trace of silica cement, trace of coal/lignite, trace of coal, fair inferred visual porosity, no hydrocarbon fluorescence.
2907.0	60	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, very fine grained, soft to firm, blocky to sub-blocky, 10% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of coal.
2910.0	5	COAL		COAL: brownish black to black, soft to firm, sub-blocky.
2910.0	20	SANDSTONE		SANDSTONE: white to very light grey, in part multicoloured, light olive grey, 40% very fine grained, 60% fine grained, friable, moderatelye to well sorted, subangular to subrounded, subspherical, 5% clay matrix, traces carbonaceous material as thin laminae, trace black bright coal pieces, traces altered feldspars, fair visual porosity, no hydrocarbon fluorescence.
2910.0	20	CLAYSTONE		CLAYSTONE: olive grey, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2910.0	55	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, subblocky to blocky, 10% siliceous sand, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas,

				trace black, bright coal pieces.
2913.0	20	SANDSTONE		SANDSTONE: white to very light grey, in part multicoloured, light olive grey, 40% very fine grained, 60% fine grained, firm, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 15% siliceous clay, trace of coal/lignite, trace of coal, trace of feldspar, fair inferred visual porosity, no hydrocarbon fluorescence.
2913.0	20	CLAYSTONE		CLAYSTONE: olive grey, olive black, soft to firm, blocky to sub-blocky, trace of coal/lignite.
2913.0	60	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, very fine grained, soft to firm, blocky to sub-blocky, 10% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of coal.
2916.0	70	SANDSTONE		SANDSTONE: white to very light grey, clear and opaque when loose, in part multicoloured, light olive grey, 20% very fine, 30% fine, 30% coarse, 20% very coarse grained, loose to friable quartzose, poor to moderately sorted, subangular to subrounded, subspherical, 10% clay matrix, traces carbonaceous material as thin laminae, fair visual porosity, no hydrocarbon fluorescence.
2916.0	30	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, 10% siliceous sand, very fine grained, trace of coal/lignite, trace of lithic fragments, trace of coal.
2919.0	20	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, 10% siliceous sand, very fine grained, trace of coal/lignite, trace of lithic fragments, trace of coal.
2919.0	80	SANDSTONE		SANDSTONE: white to very light grey, in part multicoloured, light olive grey, 20% very fine grained, 50% fine grained, 30% coarse grained, 20% very coarse grained, grading slightly finer, clear and opaque when loose, loose to friable, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, sticky clay matrix washing out, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2922.0	10	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, blocky to sub-blocky, 10% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of coal.
2922.0	90	SANDSTONE		SANDSTONE: olive grey, mottled, 70% very fine grained, 30% fine grained, friable, moderately sorted, subspherical, lithofeldspathic, 10% clay matrix, 2% carbonaceous material, 1% altered feldspars, traces lithic fragments, fair visual porosity, no hydrocarbon fluorescence.
2925.0	80	SANDSTONE		SANDSTONE: white to very light grey, clear and opaque when loose, in part multicoloured, light olive grey, 30% fine, 20% very fine, 30% coarse, 20% very coarse grained, loose to friable quartzose, poor to moderately sorted, subangular to subrounded, subspherical, 10% clay matrix, traces carbonaceous material as thin laminae, fair visual porosity, no hydrocarbon fluorescence.
2925.0	20	SILTSTONE		SILTSTONE: olive grey, brownish black, soft to firm, subblocky to blocky, 10% siliceous sand, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces.

2928.0	70	SANDSTONE		SANDSTONE: olive grey, mottled, 70% very fine, 30% fine grained, friable, moderately sorted, subspherical, lithofeldspathic, 10% clay matrix, 2% carbonaceous material, 1% altered feldspars, traces lithic fragments, traces brown mica flakes, fair visual porosity, no hydrocarbon fluorescence.
2928.0	30	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, soft to firm, subblocky to blocky, 10% siliceous sand, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces.
2931.0	70	SILTSTONE		SILTSTONE: olive grey, brownish black, soft to firm, subblocky to blocky, 10% siliceous sand, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces.
2931.0	30	SANDSTONE		SANDSTONE: white to very light grey, clear and opaque when loose, in part multicoloured, light olive grey, 10% very fine, 50% fine, 30% coarse, 10% very coarse grains, loose to friable quartzose, poorly to moderately sorted, subangular to subrounded, subspherical, 5% clay matrix, traces carbonaceous material as thin laminae, fair visual porosity, no hydrocarbon fluorescence.
2934.0	40	SANDSTONE		SANDSTONE: white to very light grey, in part multicoloured, light olive grey, clear and opaque when loose, 10% very fine grained, 50% fine grained, 30% coarse grained, 10% very coarse grained, loose to friable, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2934.0	60	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, very fine grained, soft to firm, blocky to sub-blocky, 10% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of coal.
2937.0	10	SANDSTONE		SANDSTONE: white to very light grey, in part multicoloured, light olive grey, clear and opaque when loose, 10% very fine grained, 50% fine grained, 30% coarse grained, 10% very coarse grained, loose to friable, moderately sorted to well sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, trace of coal/lignite, good inferred visual porosity, no hydrocarbon fluorescence.
2937.0	90	SILTSTONE		SILTSTONE: olive grey, brownish black, olive black, very fine grained, soft to firm, blocky to sub-blocky, 10% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of coal.
2940.0	60	CLAYSTONE		CLAYSTONE: olive black, soft to firm, blocky to subblocky, trace dark mica flakes.
2940.0	40	SILTSTONE		SILTSTONE: olive black, soft to firm, blocky to subblocky, 10% siliceous clay, traces carbonaceous specks, traces lithic fragments.
2943.0	20	SANDSTONE		SANDSTONE: olive grey, mottled, 70% very fine grained, 30% fine grained, friable, moderately sorted, subspherical, lithofeldspathic, 10% clay matrix, 2% carbonaceous material, 1% altered feldspars, traces lithic fragments, traces brown mica flakes, fair visual porosity, no hydrocarbon fluorescence.
2943.0	60	SILTSTONE		SILTSTONE: olive black, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of lithic fragments.

2943.0	20	CLAYSTONE		CLAYSTONE: olive black, soft to firm, blocky to sub-blocky, trace of mica.
2946.0	30	SANDSTONE		SANDSTONE: olive grey, mottled, light grey, 70% very fine grained, 30% fine grained, friable, moderately sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, 2% coal/lignite, 1% feldspar, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2946.0	10	CLAYSTONE		CLAYSTONE: olive black, soft to firm, blocky to sub-blocky, trace of mica.
2946.0	60	SILTSTONE		SILTSTONE: olive black, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of lithic fragments.
2949.0	40	SANDSTONE		SANDSTONE: olive grey, mottled, light grey quartzose, 50% very fine grained, 30% fine grained, 20% medium grained, friable to moderately hard, moderately sorted, subspherical, trace dolomite cement, 10% clay matrix, trace carbonaceous material, trace altered feldspars in finer fraction, traces lithic fragments, 1% brown and clear mica flakes, in part seen as laminations, fair visual porosity, no hydrocarbon fluorescence.
2949.0	60	SILTSTONE		SILTSTONE: olive black, soft to firm, blocky to subblocky, 10% siliceous clay, traces carbonaceous specks, traces lithic fragments, 1% brown mica flakes.
2952.0	30	SANDSTONE		SANDSTONE: olive grey, mottled, light grey, 50% very fine grained, 30% fine grained, 20% medium grained, friable to moderately hard, moderately sorted, sub-rounded to sub-angular, slightly spherical, 10% siliceous clay, trace of dolomite cement, trace of coal/lignite, trace of feldspar, 1% mica, good inferred visual porosity, no hydrocarbon fluorescence.
2952.0	50	SILTSTONE		SILTSTONE: olive black, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of lithic fragments, 1% mica.
2952.0	20	CLAYSTONE		CLAYSTONE: brownish grey, olive grey, firm, subblocky, trace carbonaceous threads.
2955.0	10	CLAYSTONE		CLAYSTONE: brownish grey, olive black, firm, sub-blocky, trace of coal/lignite.
2955.0	80	SANDSTONE		SANDSTONE: olive grey, mottled, light grey, clear and opaque quartzose, 40% very fine, 30% fine, 30% medium grained, loose to friable to moderately hard, poor to moderately sorted, subspherical to subelongate, 10% clay matrix, trace dolomite cement, trace carbonaceous material, trace altered feldspars in finer fraction, traces lithic fragments, trace brown and clear mica flakes, fair visual porosity, no hydrocarbon fluorescence.
2955.0	10	SILTSTONE		SILTSTONE: olive black, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of lithic fragments, 1% mica.
2958.0	5	CLAYSTONE		CLAYSTONE: brownish grey, olive black, firm, sub-blocky, trace of coal/lignite.
2958.0	30	SILTSTONE		SILTSTONE: olive black, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of lithic fragments, 1% mica.

2958.0	60	SANDSTONE		SANDSTONE: olive grey, mottled, light grey, clear, opaque, 40% very fine grained, 30% fine grained, 30% medium grained, 0.1% very coarse grained, loose to moderately hard, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 10% siliceous clay, trace of dolomite cement, trace of coal/lignite, trace of feldspar, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2958.0	5	COAL		COAL: black, greyish black, soft, splintery.
2961.0	5	CLAYSTONE		CLAYSTONE: brownish grey, olive black, firm, sub-blocky, trace of coal/lignite.
2961.0	2	COAL		COAL: black, greyish black, soft, splintery.
2961.0	20	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, olive black, trace light grey, soft to firm, subblocky to blocky, 5% argillaceous material, trace carbonaceous specks, trace lithic fragments, 2% brown to clear mica flakes, 2% coal pieces.
2961.0	75	SANDSTONE		SANDSTONE: white to very light grey, olive grey, mottled, light grey, clear, opaque, 30% very fine, 40% fine, 30% medium, trace very coarse grains, loose to moderately hard, poorly to moderately sorted, subrounded to subangular, subspherocal to spherical, 5% clay matrix, trace dolomite cement, trace carbonaceous material, trace feldspars in finer fraction, trace mica, trace nodular pyrite, good inferred visual porosity, no hydrocarbon fluorescence.
2964.0	5	CLAYSTONE		CLAYSTONE: brownish grey, olive black, firm, sub-blocky, trace of coal/lignite.
2964.0	10	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, olive black, trace light grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments, 3% mica, increase in mica.
2964.0	85	SANDSTONE		SANDSTONE: white to very light grey, olive grey, mottled, light grey, clear, opaque, 30% very fine grained, 40% fine grained, 30% medium grained, 0.1% very coarse grained, loose to moderately hard, poor sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of dolomite cement, trace of coal/lignite, trace of feldspar, trace of mica, trace of pyrite, good to very good inferred visual porosity, no hydrocarbon fluorescence.
2967.0	5	CLAYSTONE		CLAYSTONE: brownish grey, olive black, firm, sub-blocky, trace of coal/lignite.
2967.0	55	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, olive black, trace light grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments, 2% mica.
2967.0	40	SANDSTONE		SANDSTONE: white to very light grey, olive grey, mottled, light grey, clear, opaque, 30% very fine grained, 40% fine grained, 30% medium grained, 0.1% very coarse grained, loose to moderately hard, poor sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of dolomite cement, trace of coal/lignite, trace of mica, trace of pyrite, good to very good inferred visual porosity, no hydrocarbon fluorescence.
2970.0	5	CLAYSTONE		CLAYSTONE: brownish grey, olive black, firm, sub-blocky, trace of coal/lignite.

2970.0	60	SANDSTONE		SANDSTONE: white to very light grey, olive grey, mottled, light grey, clear, opaque, trace yellowish grey, 5% very fine, 5% fine, 30% medium, 40% coarse, 20% very coarse, trace granular grains, loose to moderately hard, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, trace carbonaceous material, trace mica flakes, good inferred visual porosity, no hydrocarbon fluorescence.
2970.0	35	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, olive black, trace light grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments, 2% mica.
2973.0	10	CLAYSTONE		CLAYSTONE: brownish grey to brownish black, olive black, soft to firm, subblocky, trace carbonaceous streaks.
2973.0	50	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, olive black, trace light grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments, 1% mica.
2973.0	40	SANDSTONE		SANDSTONE: white to very light grey, olive grey, mottled, light grey, clear, opaque, trace yellowish grey, 5% very fine, 5% fine, 30% medium, 40% coarse, 20% very coarse, 0.1% granular grained, loose to moderately hard, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of coal/lignite, trace of mica, very good inferred visual porosity, no hydrocarbon fluorescence.
2976.0	5	CLAYSTONE		CLAYSTONE: brownish grey to brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.
2976.0	15	SANDSTONE		SANDSTONE: white to very light grey, olive grey, mottled, light grey, clear, opaque, trace yellowish grey, 5% very fine, 5% fine, 30% medium, 40% coarse, 20% very coarse, 0.1% granular grained, loose to moderately hard, poor sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of coal/lignite, trace of mica, very good inferred visual porosity, no hydrocarbon fluorescence.
2976.0	80	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, subblocky to blocky, 5% siliceous clay, trace carbonaceous material, trace lithic fragments, 1% brown to black and clear mica flakes.
2979.0	5	CLAYSTONE		CLAYSTONE: brownish grey to brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.
2979.0	20	SANDSTONE		SANDSTONE: white to very light grey, olive grey, mottled, light grey, clear, opaque, trace yellowish grey, 5% very fine grained, 5% fine grained, 30% medium grained, 40% coarse grained, 20% very coarse grained, 0.1% granular grained, loose to moderately hard, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of coal/lignite, trace of mica, very good inferred visual porosity, no hydrocarbon fluorescence.
2979.0	75	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments, 1% mica.

2982.0	5	CLAYSTONE		CLAYSTONE: brownish grey to brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.
2982.0	60	SANDSTONE		SANDSTONE: white to very light grey, olive grey, mottled, light grey, clear, opaque, trace yellowish grey, trace multicoloured, 5% very fine, 5% fine, 20% medium, 40% coarse, 30% very coarse, trace granular grains, loose to moderately hard, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, trace carbonaceous material, trace mica flakes, good inferred visual porosity, no hydrocarbon fluorescence.
2982.0	35	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, blocky to sub-blocky, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments, 1% mica.
2983.0				Top Core #1
2984.0	5	CLAYSTONE		CLAYSTONE: brownish grey to brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.
2984.0	90	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace lithic fragments, 1% mica flakes, traces of coal pieces.
2984.0	5	SANDSTONE		SANDSTONE: white to very light grey, mottled, light grey, clear, opaque, 5% very fine, 5% fine, 10% medium, 40% coarse, 40% very coarse grains, loose to moderately hard, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, trace carbonaceous material, trace micromica, fair inferred visual porosity, no hydrocarbon fluorescence.
2985.0	5	CLAYSTONE		CLAYSTONE: brownish grey to dark yellowish brown, brownish black, olive black, soft to firm, subblocky, trace carbonaceous material, very smooth surfaces.
2985.0	10	SANDSTONE		SANDSTONE: white to very light grey, mottled, light grey, clear, opaque, 5% very fine, 5% fine, 10% medium, 40% coarse, 40% very coarse grained, loose to moderately hard, sub-rounded to sub-angular, poorly to moderately sorted, slightly spherical to spherical, trace of coal/lignite, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2985.0	85	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica, decrease in mica flakes.
2986.0	10	CLAYSTONE		CLAYSTONE: brownish grey to dark yellowish brown, brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.
2986.0	15	SANDSTONE		SANDSTONE: white to very light grey, mottled, light grey, clear, opaque, 5% very fine, 5% fine, 10% medium, 40% coarse, 40% very coarse grained, loose to moderately hard, poor sorted to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of coal/lignite, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.

2986.0	75	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
2987.0	5	CLAYSTONE		CLAYSTONE: brownish grey to dark yellowish brown, brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.
2987.0	5	SANDSTONE		SANDSTONE: white to very light grey, mottled, light grey, clear, opaque, 5% very fine grained, 5% fine grained, 10% medium grained, 40% coarse grained, 40% very coarse grained, loose to moderately hard, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of coal/lignite, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2987.0	90	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
2988.0	5	CLAYSTONE		CLAYSTONE: brownish grey to dark yellowish brown, brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.
2988.0	5	SANDSTONE		SANDSTONE: white to very light grey, mottled, light grey, clear, opaque, 5% very fine grained, 5% fine grained, 10% medium grained, 40% coarse grained, 40% very coarse grained, loose to moderately hard, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of coal/lignite, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2988.0	90	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace lithic fragments, trace micromica.
2989.0	5	CLAYSTONE		CLAYSTONE: brownish grey to dark yellowish brown, brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.
2989.0	5	SANDSTONE		SANDSTONE: white to very light grey, mottled, light grey, clear, opaque, 5% very fine grained, 5% fine grained, 10% medium grained, 40% coarse grained, 40% very coarse grained, loose to moderately hard, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of coal/lignite, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2989.0	90	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
2990.0	5	CLAYSTONE		CLAYSTONE: brownish grey to dark yellowish brown, brownish black, olive black, soft to firm, sub-blocky, trace of coal/lignite.

2990.0	10	SANDSTONE		SANDSTONE: white to very light grey, mottled, light grey, clear, opaque, 5% very fine grained, 5% fine grained, 10% medium grained, 40% coarse grained, 40% very coarse grained, loose to moderately hard, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to spherical, trace of coal/lignite, trace of mica, good inferred visual porosity, no hydrocarbon fluorescence.
2990.0	85	SILTSTONE		SILTSTONE: medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of lithic fragments, trace of mica.
3013.0				Bottom Core #1
3015.0	85	SANDSTONE		SANDSTONE: loose quartz grains, clear, opaque,very light grey, 20% medium, 40% coarse, 40% very coarse grained, angular (shattered) to subangular to subrounded, moderately sorted, subelongate to subspherical, traces white clay matrix adhering to grain surfaces, fair to good visual porosity inferred, no hydrocarbon fluorescence.
3015.0	10	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile, 5% mica flakes, trace lithic fragments.
3015.0	5	CLAYSTONE		CLAYSTONE: olive grey, firm, subblocky to subfissile, in part with conchoidal fracture, trace carbonaceous material as threads and fragments.
3018.0	10	CLAYSTONE		CLAYSTONE: olive grey, in part greyish black, firm, sub-blocky to sub-fissile, trace of coal/lignite.
3018.0	5	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, 5% mica, trace of lithic fragments.
3018.0	85	SANDSTONE		SANDSTONE: clear, opaque,very light grey, very light grey to medium light grey clay matrix reconstituting as soft, sticky, amorphous blobs, 20% medium grained, 40% coarse grained, 40% very coarse grained, loose, moderately sorted, angular to sub-rounded, slightly elongated to slightly spherical, good to very good inferred visual porosity, no hydrocarbon fluorescence.
3021.0	5	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, 2% mica, trace of lithic fragments.
3021.0	10	CLAYSTONE		CLAYSTONE: olive grey, in part greyish black, firm, sub-blocky to sub-fissile, trace of coal/lignite.
3021.0	85	SANDSTONE		SANDSTONE: loose quartz grains, clear, opaque,very light grey, 80% coarse grained, 10% very coarse, 10% medium grained, loose, moderately sorted, angular (shattered) to subangular to subrounded, subelongate to subspherical, traces white clay matrix adhering to grain surfaces and in part reconstituting as soft, sticky, amorphous clay, fair to good visual porosity inferred, no hydrocarbon fluorescence.
3024.0	5	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile, 2% mica flakes, trace lithic fragments.
3024.0	20	CLAYSTONE		CLAYSTONE: olive grey, in part greyish black, firm, sub-blocky to sub-fissile, trace of coal/lignite.

3024.0	75	SANDSTONE		SANDSTONE: clear, opaque, very light grey, traces yellowish grey grains, 10% medium grained, 80% coarse grained, 10% very coarse grained, becoming poorer sorted with grain size from medium to coarse grained, loose, moderately sorted, angular to sub-rounded, slightly elongated to slightly spherical, good to very good porosity, no hydrocarbon fluorescence.
3027.0	10	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, 2% mica, trace of lithic fragments.
3027.0	10	CLAYSTONE		CLAYSTONE: olive grey, firm, subblocky to subfissile, in part with conchoidal fracture, trace carbonaceous material as threads and fragments.
3027.0	80	SANDSTONE		SANDSTONE: loose quartz grains, clear, opaque,very light grey, 80% medium grained, 10% coarse, 10% very coarse grained, loose, moderately to poorly sorted, subangular to subrounded, subelongate to subspherical, traces white clay matrix adhering to grain surfaces and in part reconstituting as soft, sticky, amorphous clay, fair to good visual porosity inferred, no hydrocarbon fluorescence.
3030.0	80	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile, 2% mica flakes, including larger muscovite type, trace lithic fragments, trace carbonaceous material.
3030.0	10	SANDSTONE		SANDSTONE: clear, opaque,very light grey, 80% medium grained, 10% coarse grained, 10% very coarse grained, loose, moderately sorted to poorly sorted, angular to sub-rounded, slightly elongated to slightly spherical, good to very good inferred visual porosity, no hydrocarbon fluorescence.
3030.0	10	CLAYSTONE		CLAYSTONE: olive grey, firm, sub-blocky to sub-fissile, trace of coal/lignite.
3033.0	10	CLAYSTONE		CLAYSTONE: olive grey, firm, sub-blocky to sub-fissile, trace of coal/lignite.
3033.0	90	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, 2% mica, trace of lithic fragments, trace of coal/lignite.
3036.0	10	SANDSTONE		SANDSTONE: very light grey, quartzose, fine grained, friable, well sorted, subangular to subrounded, subspherical, white clay matrix, weak siliceous cement, trace mica flakes, fair visual porosity, no hydrocarbon fluorescence.
3036.0	10	CLAYSTONE		CLAYSTONE: olive grey, firm, sub-blocky to sub-fissile, trace of coal/lignite.
3036.0	80	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, 2% mica, trace of lithic fragments, trace of coal/lignite.
3039.0	10	CLAYSTONE		CLAYSTONE: olive grey, firm, sub-blocky to sub-fissile, trace of coal/lignite.
3039.0	90	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, 2% mica, trace of lithic fragments, trace of coal/lignite.
3042.0	10	SANDSTONE		SANDSTONE: very light grey, fine grained, friable, well sorted, sub-angular to sub-rounded, slightly spherical, trace of silica cement, trace of mica, fair inferred visual porosity, no hydrocarbon fluorescence.
3042.0	10	CLAYSTONE		CLAYSTONE: olive grey, firm, sub-blocky to sub-fissile, trace of coal/lignite.
3042.0	80	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, 2% mica, trace of lithic fragments, increase in lithic fragments, trace of coal/lignite.

3045.0	30	SANDSTONE		SANDSTONE: very light grey, greyish black, quartzose, 40% very fine grained, 60% fine grained, friable to soft, well sorted, subangular to subrounded, subspherical, 10% white clay matrix, 10% silt, weak siliceous cement, trace mica flakes, trace feldspars, glauconite grains and carbonaceous specks, fair visual porosity, no hydrocarbon fluorescence.
3045.0	70	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, 2% mica, trace of lithic fragments, trace of coal/lignite.
3048.0	90	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile, trace mica flakes, trace lithic fragments, trace carbonaceous material.
3048.0	10	SANDSTONE		SANDSTONE: very light grey, greyish black, 40% very fine grained, 60% fine grained, friable to soft, well sorted, sub-angular to sub-rounded, slightly spherical, 10% siliceous clay, 10% siliceous silt, trace of silica cement, trace of mica, trace of feldspar, trace of glauconite, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
3051.0	10	CLAYSTONE		CLAYSTONE: olive black, firm, subblocky to subfissile, traces mica flakes.
3051.0	10	SANDSTONE		SANDSTONE: very light grey, greyish black, 40% very fine grained, 60% fine grained, friable to soft, well sorted, sub-angular to sub-rounded, slightly spherical, 10% siliceous clay, 10% siliceous silt, trace of silica cement, trace of mica, trace of feldspar, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
3051.0	80	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of lithic fragments, trace of coal/lignite.
3054.0	10	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky to sub-fissile, trace of mica.
3054.0	20	SANDSTONE		SANDSTONE: very light grey, greyish black, 40% very fine grained, 60% fine grained, friable to soft, well sorted, sub-angular to sub-rounded, slightly spherical, 10% siliceous clay, 10% siliceous silt, trace of silica cement, trace of mica, trace of feldspar, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
3054.0	70	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of lithic fragments, trace of coal/lignite.
3057.0	30	CLAYSTONE		CLAYSTONE: olive black, firm, subblocky to subfissile, traces mica flakes and micromicas.
3057.0	60	SANDSTONE		SANDSTONE: very light grey, greyish black, quartzose, 40% very fine grained, 60% fine grained, friable to soft, well sorted, subangular to subrounded, subspherical, 10% white clay matrix, weak siliceous cement, 10% siliceous clay, 10% siliceous silt, trace mica flakes, trace of feldspars, trace glauconite grains and carbonaceous specks, fair visual porosity, no hydrocarbon fluorescence.
3057.0	10	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile, trace mica flakes, trace lithic fragments, trace carbonaceous material.
3060.0	40	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile, trace mica flakes, trace lithic fragments, trace carbonaceous material.
3060.0	30	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky to sub-fissile, trace of mica.

3060.0	30	SANDSTONE		SANDSTONE: very light grey, greyish black, 40% very fine grained, 60% fine grained, friable to soft, well sorted, sub-angular to sub-rounded, slightly spherical, 10% siliceous clay, 10% siliceous silt, trace of silica cement, trace of mica, trace of feldspar, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
3063.0	40	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky to sub-fissile, trace of mica.
3063.0	60	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of lithic fragments, trace of coal/lignite.
3066.0	20	CLAYSTONE		CLAYSTONE: olive black, firm, sub-blocky to sub-fissile, trace of mica.
3066.0	60	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of lithic fragments, trace of coal/lignite.
3066.0	20	SANDSTONE		SANDSTONE: very light grey, greyish black, quartzose, 40% very fine grained, 60% fine grained, soft to friable, well sorted, subangular to subrounded, subspherical, 10% white clay matrix, 10% silt, weak siliceous cement, trace of feldspar, trace mica flakes and carbonaceous specks, fair visual porosity, no hydrocarbon fluorescence.
3069.0	70	SANDSTONE		SANDSTONE: very light grey, greyish black, when loose, clear and opaque, quartzose, 20% very fine, 60% fine grained aggregates, 20% coarse grained loose, soft to friable aggregates, overall poorly sorted, angular and shattered in loose fraction, subangular to subrounded, subspherical to subelongate, aggregates have 10% white clay matrix, 10% silt and weak siliceous cement with trace mica flakes and carbonaceous specks, loose fraction has white clay matrix adhering to grains, overall fair visual porosity, no hydrocarbon fluorescence.
3069.0	30	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of lithic fragments, trace of coal/lignite.
3072.0	10	SILTSTONE		SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile, trace mica flakes, trace lithic fragments, trace carbonaceous material.
3072.0	90	SANDSTONE		SANDSTONE: clear, opaque, trace yellowish white, red brown, 40% fine, 30% medium, 30% coarse grained, loose quartz grains, poorly sorted, subangular to subrounded, subspherical to subelongate, traces loose mica flakes, fair to good inferred porosity, no hydrocarbon fluorescence.
3075.0	50	CLAYSTONE		CLAYSTONE: brownish grey, firm, subblocky to blocky, trace micromicas.
3075.0	10	SILTSTONE		SILTSTONE: olive grey, soft to firm, subblocky to subfissile, trace mica flakes, trace lithic fragments, trace carbonaceous material.
3075.0	40	SANDSTONE		SANDSTONE: light olive grey, olive grey, medium grey, quartzose, 10% clay matrix, 30% very fine grained, 70% fine grained, friable, moderately to well sorted, subangular to subrounded, subspherical to subelongate, trace mica, trace carbonaceous material, in part coaly, fair visual porosity, no hydrocarbon fluorescence.

3078.0	40	SANDSTONE		SANDSTONE: light olive grey, olive grey, medium grey, 30% very fine grained, 70% fine grained, friable, moderately sorted to well sorted, sub-angular to sub-rounded, slightly spherical to slightly elongated, 10% siliceous clay, trace of mica, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
3078.0	60	CLAYSTONE		CLAYSTONE: brownish grey, firm, sub-blocky to blocky, trace of mica, traces carbonaceous material as fine laminae.
3081.0	80	SANDSTONE		SANDSTONE: light olive grey, olive grey, 30% very fine grained, 70% fine grained, medium grey, friable, moderately sorted to well sorted, sub-angular to sub-rounded, slightly spherical to slightly elongated, 10% siliceous clay, trace of mica, trace of coal/lignite, trace altered feldspars, fair inferred visual porosity, no hydrocarbon fluorescence.
3081.0	20	CLAYSTONE		CLAYSTONE: brownish grey, firm, sub-blocky to blocky, 15% siliceous silt, trace of mica, trace of coal/lignite.
3084.0	10	CLAYSTONE		CLAYSTONE: brownish grey, firm, sub-blocky to blocky, 15% siliceous silt, trace of mica, trace of coal/lignite.
3084.0	90	SANDSTONE		SANDSTONE: light olive grey, olive grey, medium grey, 30% very fine grained, 70% fine grained, friable, moderately to well sorted, disaggregated, sub-angular to sub-rounded, slightly spherical to slightly elongated, 10% siliceous clay, white clay matrix seen as soft, sticky claystone, grading to rock flour, trace of mica, trace of coal/lignite, trace of feldspar, fair inferred visual porosity, no hydrocarbon fluorescence.
3087.0	90	SANDSTONE		SANDSTONE: very light grey, quartzose, 90% fine, 10% medium grained, friable, moderately to well sorted, 15% white (kaolinitic) clay matrix, subangular to subrounded, subspherical, traces carbonaceous material, fair visual porosity, no hydrocarbon fluorescence.
3087.0	10	CLAYSTONE		CLAYSTONE: brownish grey, firm, subblocky to blocky, trace micromicas, trace carbonaceous material as fine laminae.
3090.0	20	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, subblocky to blocky, trace micromicas, trace carbonaceous material as fine laminae.
3090.0	75	SANDSTONE		SANDSTONE: white to very light grey, clear, trace greyish orange pink, 10% very fine, 10% fine, 30% medium, 50% coarse grains, soft to moderately hard, poorly sorted, subrounded to subangular, subspherical, 10% siliceous clay, trace carbonaceous material, trace nodular pyrite, good inferred visual porosity due to disaggregation, no hydrocarbon fluorescence.
3090.0	5	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey, soft to firm, subblocky to blocky, trace carbonaceous material.
3093.0	5	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey, soft to firm, blocky to sub-blocky, trace of coal/lignite, trace of mica.
3093.0	80	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.

3093.0	15	SANDSTONE		SANDSTONE: white to very light grey, clear, trace greyish orange pink, 10% very fine grained, 10% fine grained, 30% medium grained, 50% coarse grained, soft to moderately hard, poorly sorted, sub-angular to sub-rounded, slightly spherical, 10% siliceous clay, trace of coal/lignite, trace of pyrite, good inferred visual porosity, no hydrocarbon fluorescence.
3096.0	15	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3096.0	10	SANDSTONE		SANDSTONE: white to very light grey, clear, trace greyish orange pink, 70% fine, 25% medium, 5% coarse grains, soft to moderately hard, moderately to well sorted, rounded to subangular, subspherical, 10% siliceous clay, trace carbonaceous material, trace coal, fair inferred visual porosity, no hydrocarbon fluorescence.
3096.0	75	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3099.0	30	SANDSTONE		SANDSTONE: white to very light grey, clear, trace greyish orange pink, 80% fine grained, 20% medium grained, soft to moderately hard, moderately to well sorted, rounded to sub-angular, slightly spherical, 10% siliceous clay, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
3099.0	30	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3099.0	40	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3102.0	60	SANDSTONE		SANDSTONE: white to very light grey, clear, 20% very fine grained, 40% fine grained, 40% medium grains grained, soft to firm, moderately to well sorted, rounded to subrounded, subspherical to spherical, 10% siliceous clay, trace carbonaceous material, trace coal pieces, fair inferred visual porosity, no hydrocarbon fluorescence.
3102.0	35	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, common carbonaceous material, trace of mica.
3102.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3105.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3105.0	70	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3105.0	20	SANDSTONE		SANDSTONE: white to very light grey, clear, 30% very fine, 60% fine, 10% medium grains, soft to firm, moderately to well sorted, rounded to subrounded, subspherical to spherical, 10% siliceous clay, trace carbonaceous material, trace coal pieces, poor inferred visual porosity, no hydrocarbon fluorescence.
3108.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.

3108.0	25	SANDSTONE		SANDSTONE: white to very light grey, clear, trace light greenish grey, 30% very fine grained, 60% fine grained, 10% medium grained, 0.1% very coarse grained, soft to firm, moderately sorted, rounded to sub-rounded, slightly spherical to spherical, 10% siliceous clay, trace of coal/lignite, trace of lithic fragments, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3108.0	65	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3111.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3111.0	25	SANDSTONE		SANDSTONE: white to very light grey, clear, trace light greenish grey, 10% very fine, 55% fine, 30% medium, 5% coarse, trace very coarse grained, soft to moderately hard, moderately sorted, rounded to subrounded, subspherical to spherical, 10% siliceous clay, trace micromica, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
3111.0	65	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, soft to firm, subblocky to blocky, 15% siliceous clay, common carbonaceous laminae, trace micromica, grading to ARGILLACEOUS SILTSTONE in part.
3114.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3114.0	50	SANDSTONE		SANDSTONE: white to very light grey, clear, trace light greenish grey, 10% very fine grained, 60% fine grained, 25% medium grained, 5% coarse grained, 0.1% very coarse grained, soft to moderately hard, moderately sorted, rounded to sub-rounded, slightly spherical to spherical, 10% siliceous clay, 90% siliceous sand, trace of coal/lignite, trace of lithic fragments, fair to good inferred visual porosity, no hydrocarbon fluorescence.
3114.0	40	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite, trace of mica.
3117.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3117.0	25	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite, 1% mica, increase in micromica.
3117.0	70	SANDSTONE		SANDSTONE: white to very light grey, clear, yellowish grey, trace light greenish grey, 10% very fine, 20% fine, 30% medium, 10% coarse, 30% very coarse grains, soft to moderately hard, poorly sorted, rounded to subangular, subspherical to spherical, 10% siliceous clay, trace carbonaceous material, trace lithic fragments, good inferred visual porosity, no hydrocarbon fluorescence.
3120.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.

3120.0	25	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, 1% mica.
3120.0	70	SANDSTONE		SANDSTONE: white to very light grey, clear, yellowish grey, trace light greenish grey, 10% very fine grained, 20% fine grained, 30% medium grained, 10% coarse grained, 30% very coarse grained, soft to moderately hard, poor sorted, rounded to sub-angular, slightly spherical to spherical, 10% siliceous clay, trace of coal/lignite, trace of lithic fragments, good inferred visual porosity, no hydrocarbon fluorescence.
3123.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3123.0	35	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3123.0	60	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, clear, yellowish grey, trace light greenish grey, medium dark grey to brownish grey, 40% very fine, 30% fine, 15% medium, 10% coarse, 5% very coarse grains, soft to moderately hard, poorly sorted, rounded to angular, subspherical to subelongate, 20% siliceous clay, trace carbonaceous material, trace lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
3126.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3126.0	75	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, brownish grey, soft to firm, subblocky to blocky, 10% argillaceous material, trace carbonaceous material, trace micromica.
3126.0	15	SANDSTONE		SANDSTONE: white to very light grey, clear, yellowish grey, trace light greenish grey, 10% very fine, 20% fine, 40% medium, 20% coarse grains, soft to moderately hard, poorly sorted, subrounded to rounded, subspherical to spherical, trace carbonaceous material, trace lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence, grading to ARGILLACEOUS SANDSTONE in part.
3129.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3129.0	50	SANDSTONE		SANDSTONE: white to very light grey, clear, yellowish grey, trace light greenish grey, medium dark grey, 50% very fine, 40% fine, 10% medium grains, soft to firm, moderately sorted, subrounded to rounded, subspherical to spherical, 15% siliceous clay, trace calcareous cement, trace carbonaceous material, trace coal pieces, trace lithic fragments, trace micromica and mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence, grading to ARGILLACEOUS SANDSTONE in part.
3129.0	40	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, brownish grey, soft to firm, subblocky to blocky, 10% argillaceous material, trace carbonaceous material, trace micromica.

3132.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3132.0	40	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, brownish grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3132.0	50	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, clear, yellowish grey, trace light greenish grey, medium dark grey to brownish grey, 50% very fine, 40% fine, 5% medium, 5% coarse grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, trace carbonaceous material, trace lithic fragments, trace micromica, poor inferred visual porosity, no hydrocarbon fluorescence.
3135.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft to firm, sub-blocky to blocky, trace of mica, trace of coal/lignite.
3135.0	40	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, brownish grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3135.0	50	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, clear, yellowish grey, trace light greenish grey, medium dark grey to brownish grey, 50% very fine grained, 40% fine grained, 5% medium grained, 5% coarse grained, soft to firm, sub-rounded to rounded, moderately sorted to well sorted, slightly spherical to spherical, 25% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica, poor inferred visual porosity, no hydrocarbon fluorescence.
3138.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, subblocky to blocky, trace carbonaceous material.
3138.0	20	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, brownish grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3138.0	70	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, clear, yellowish grey, trace light greenish grey, medium dark grey to brownish grey, 50% very fine grained, 40% fine grained, 5% medium grained, 5% coarse grained, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 20% siliceous clay, 80% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of mica, poor inferred visual porosity, no hydrocarbon fluorescence.
3141.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, subblocky to blocky, trace carbonaceous material.
3141.0	20	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, brownish grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3141.0	70	SANDSTONE		SANDSTONE: white to very light grey, clear, yellowish grey, medium dark grey to brownish grey, 50% very fine, 35% fine, 10% medium, 5% coarse grains, soft to firm, moderately sorted, subspherical to spherical, 5% argillaceous material, trace carbonaceous material, trace lithic fragments, trace micromica, poor inferred visual porosity, no

				hydrocarbon fluorescence.
3144.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3144.0	20	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, brownish grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3144.0	70	SANDSTONE		SANDSTONE: white to very light grey, clear, yellowish grey, medium dark grey to brownish grey, trace greenish grey, 20% very fine, 40% fine, 30% medium, 10% coarse grains, soft to moderately hard, poorly to moderately sorted, subrounded to subangular, subspherical to subelongate, 5% siliceous clay, trace carbonaceous material, trace lithic fragments, trace micromica, fair inferred visual porosity, no hydrocarbon fluorescence.
3145.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3145.0	20	SILTSTONE		SILTSTONE: very light grey to light grey, medium light grey to medium dark grey, brownish grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite, trace of mica.
3145.0	70	SANDSTONE		SANDSTONE: white to very light grey, clear, yellowish grey, medium dark grey to brownish grey, trace greenish grey, 20% very fine grained, 40% fine grained, 30% medium grained, 10% coarse grained, soft to moderately hard, poorly to moderately sorted, sub-rounded to sub-angular, slightly spherical to slightly elongated, 5% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3146.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, subblocky to blocky, trace carbonaceous material.
3146.0	30	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material.
3146.0	60	SANDSTONE		SANDSTONE: white to very light grey, yellowish grey, medium dark grey to brownish grey, trace greenish grey, clear, 50% very fine, 30% fine, 10% medium, 10% coarse grains, disaggregated clear to white quartz grains in part, soft to moderately hard, moderately sorted, subrounded to subangular, subspherical to spherical, trace carbonaceous material with some laminae, trace coal pieces, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence, grading to ARGILLACEOUS SANDSTONE in part with 15% clay.
3148.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3148.0	20	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite.

3148.0	70	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 50% very fine, 30% fine, 20% medium grained, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 25% clay, trace carbonaceous material, trace coal pieces, trace lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
3149.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3149.0	30	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 10% siliceous clay, trace of coal/lignite.
3149.0	60	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 50% very fine grained, 30% fine grained, 20% medium grained, trace coarse loose quartz grains, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, trace of coal/lignite, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
3150.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3150.0	40	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3150.0	50	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 50% very fine grained, 30% fine grained, 15% medium grained, 5% coarse grained, increase in coarse loose quartz grains, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, trace of coal/lignite, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
3151.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3151.0	60	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3151.0	30	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 50% very fine grained, 30% fine grained, 15% medium grained, 5% coarse grained, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, 75% siliceous sand, trace of coal/lignite, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
3152.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.

3152.0	30	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 50% very fine grained, 30% fine grained, 15% medium grained, 5% coarse grained, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, 75% siliceous sand, trace of coal/lignite, trace of lithic fragments, poor inferred visual porosity, no hydrocarbon fluorescence.
3152.0	60	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3153.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3153.0	60	SANDSTONE		SANDSTONE: white to very light grey, medium dark grey, trace brownish grey, trace greenish grey, trace yellowish grey, clear, 20% very fine, 30% fine, 40% medium, 10% coarse grains, disaggregated clear quartz grains, soft to moderately hard, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, 10% clay, trace carbonaceous material in part as laminae, trace coal pieces, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
3153.0	30	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3154.0	30	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 50% very fine, 30% fine, 20% medium grained, some disaggregated clear quartz grains, soft to firm, moderately sorted, subrounded to rounded, subspherical to spherical, 25% clay, trace carbonaceous material, trace coal pieces, trace lithic fragments, trace mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence.
3154.0	10	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3154.0	60	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3155.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3155.0	45	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 45% very fine grained, 30% fine grained, 20% medium grained, 5% very coarse grained, soft to firm, moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, 75% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of mica, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3155.0	50	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3156.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.

3156.0	45	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 45% very fine grained, 30% fine grained, 20% medium grained, 5% very coarse grained, soft to firm, moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, 75% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of mica, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3156.0	50	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3157.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3157.0	45	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 40% very fine grained, 30% fine grained, 20% medium grained, 5% coarse grained, 5% very coarse grained, increase in disaggregated clear quartz grains, soft to firm, moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3157.0	50	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3158.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3158.0	50	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 40% very fine grained, 30% fine grained, 20% medium grained, 5% coarse grained, 5% very coarse grained, soft to firm, moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, 75% siliceous sand, trace of coal/lignite, trace of lithic fragments, trace of mica, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3158.0	45	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3159.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to blocky, trace of coal/lignite.
3159.0	45	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3159.0	50	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 40% very fine grained, 30% fine grained, 20% medium grained, 5% coarse grained, 5% very coarse grained, soft to firm, moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, trace of coal/lignite, trace of lithic fragments, trace of mica, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3160.0	5	CLAYSTONE		CLAYSTONE: light brownish grey brownish grey, medium grey to olive grey, soft, sub-blocky to

				blocky, trace of coal/lignite.
3160.0	35	SILTSTONE		SILTSTONE: light grey to medium light grey, medium dark grey to brownish grey, soft to firm, blocky to sub-blocky, 15% siliceous clay, trace of coal/lignite.
3160.0	60	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, medium dark grey to brownish grey, 40% very fine grained, 30% fine grained, 20% medium grained, 5% coarse grained, 5% very coarse grained, increase in disaggregated clear quartz grains, soft to firm, moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 25% siliceous clay, trace of coal/lignite, trace of lithic fragments, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3180.0	95	SANDSTONE		SANDSTONE: white to very light grey, clear, light grey, trace yellowish grey, trace pinkish grey, very disaggregated, 5% very fine, 60% coarse, 30% very coarse, 5% granular grains, firm to moderately hard, moderately sorted, subrounded to angular, subspherical to spherical, trace mica flakes, trace carbonaceous material, trace coal, good inferred visual porosity, no hydrocarbon fluorescence, traces of ARGILLACEOUS SANDSTONE.
3180.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, subblocky to blocky, trace carbonaceous material.
3183.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.
3183.0	15	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 5% very fine, 20% fine, 20% medium, 20% coarse, 30% very coarse, 5% granular grains, soft to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% siliceous clay, trace carbonaceous material, trace coal, fair inferred visual porosity, no hydrocarbon fluorescence, grading to ARGILLACEOUS SANDSTONE in part.
3183.0	80	SILTSTONE		SILTSTONE: medium grey to dark grey, olive black, soft to firm, subblocky to subfissile, trace micromica, trace carbonaceous material.
3186.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.
3186.0	25	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 10% very fine, 60% fine, 20% medium, 10% coarse grained, mix between disaggregated quartz grains and very fine argillaceous aggregates, soft to moderately hard, poorly to moderately sorted, subrounded to rounded, subspherical to spherical, 5% siliceous clay, trace carbonaceous material, trace coal, fair inferred visual porosity, no hydrocarbon fluorescence, grading to ARGILLACEOUS SANDSTONE in part.
3186.0	70	SILTSTONE		SILTSTONE: medium grey to dark grey, olive black, soft to firm, sub-blocky to sub-fissile, trace of mica, trace of coal/lignite.
3189.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.

3189.0	20	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 10% very fine grained, 60% fine grained, 20% medium grained, 10% coarse grained, soft to moderately hard, poorly to moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 5% siliceous clay, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3189.0	75	SILTSTONE		SILTSTONE: medium grey to dark grey, olive black, soft to firm, sub-blocky to sub-fissile, trace of mica, trace of coal/lignite.
3192.0	25	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 10% very fine grained, 60% fine grained, 20% medium grained, 10% coarse grained, soft to moderately hard, poor sorted to moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 5% siliceous clay, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3192.0	75	SILTSTONE		SILTSTONE: medium light grey to medium grey, dark grey to olive black, soft to firm, subblocky to subfissile, trace micromica, trace carbonaceous material.
3195.0	20	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 10% very fine grained, 60% fine grained, 20% medium grained, 10% coarse grained, soft to moderately hard, poorly sorted to moderately sorted, sub-rounded to rounded, slightly spherical to spherical, 5% siliceous clay, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3195.0	80	SILTSTONE		SILTSTONE: medium light grey to medium grey, dark grey to olive black, soft to firm, sub-blocky to sub-fissile, trace of siliceous clay, trace of mica, trace of coal/lignite, traces of light brownish grey to brownish grey claystone with carbonaceous laminae.
3198.0	30	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 10% very fine, 60% fine, 20% medium, 10% coarse grained, soft to moderately hard, poorly to moderately sorted, subrounded to rounded, subspherical to spherical, trace silica cement, trace carbonaceous material, trace coal, poor inferred visual porosity, no hydrocarbon fluorescence.
3198.0	70	SILTSTONE		SILTSTONE: medium light grey to medium grey, dark grey to olive black, soft to firm, sub-blocky to sub-fissile, trace of siliceous clay, trace of mica, trace of coal/lignite.
3201.0	20	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 10% very fine grained, 60% fine grained, 20% medium grained, 10% coarse grained, soft to moderately hard, poor sorted to moderately sorted, sub-rounded to rounded, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
3201.0	80	SILTSTONE		SILTSTONE: medium light grey to medium grey, dark grey to olive black, soft to firm, sub-blocky to sub-fissile, trace of coal/lignite.

3204.0	20	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 10% very fine grained, 60% fine grained, 20% medium grained, 10% coarse grained, increase in coarse clear disaggregated quartz grains, soft to moderately hard, poor sorted to moderately sorted, sub-rounded to rounded, slightly spherical to spherical, trace of silica cement, trace of coal/lignite, poor to fair inferred visual porosity, no hydrocarbon fluorescence.
3204.0	80	SILTSTONE		SILTSTONE: medium light grey to medium grey, dark grey to olive black, soft to firm, sub-blocky to sub-fissile, trace of coal/lignite.
3207.0	40	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, trace yellowish grey, 20% fine, 40% medium, 30% coarse, 10% very coarse grained, soft to moderately hard, moderately sorted, subrounded to angular, subspherical to spherical, trace carbonaceous material, good inferred visual porosity, no hydrocarbon fluorescence.
3207.0	60	SILTSTONE		SILTSTONE: medium light grey to medium grey, dark grey to olive black, soft to firm, sub-blocky to sub-fissile, trace of coal/lignite.
3210.0	20	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, trace yellowish grey, trace pinkish grey, 20% fine grained, 40% medium grained, 30% coarse grained, 10% very coarse grained, soft to moderately hard, moderately sorted, sub-rounded to angular, slightly spherical to spherical, trace of coal/lignite, fair inferred visual porosity, no hydrocarbon fluorescence.
3210.0	80	SILTSTONE		SILTSTONE: medium light grey to medium grey, dark grey to olive black, soft to firm, sub-blocky to sub-fissile, trace of coal/lignite.
3213.0	20	SANDSTONE		SANDSTONE: white to very light grey, light grey, clear, 30% very fine, 50% fine, 20% medium grained, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 1% silica cement, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence.
3213.0	75	SILTSTONE		SILTSTONE: medium light grey to medium grey, dark grey to olive black, soft to firm, sub-blocky to sub-fissile, trace of coal/lignite.
3213.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, subblocky to blocky, trace carbonaceous material.
3216.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.
3216.0	15	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, light grey to medium light grey, clear, 40% very fine, 40% fine, 20% medium grained, trace very coarse grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 20% clay, trace silica cement, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence.
3216.0	80	SILTSTONE		SILTSTONE: medium light grey to medium grey, olive grey, soft to firm, subblocky to blocky, trace carbonaceous material.
3219.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.

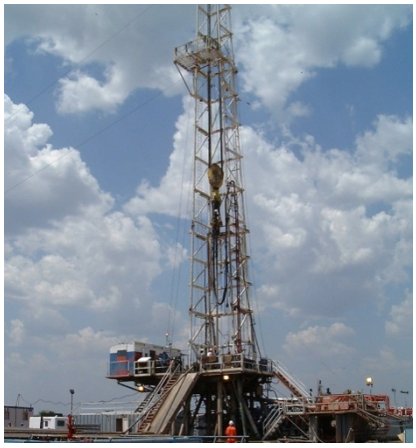
3219.0	20	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, light grey to medium light grey, clear, 40% very fine grained, 40% fine grained, 20% medium grained, 0.1% very coarse grained, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 20% siliceous clay, trace of silica cement, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
3219.0	75	SILTSTONE		SILTSTONE: medium light grey to medium grey, olive grey, soft to firm, sub-blocky to blocky, trace of coal/lignite.
3222.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.
3222.0	25	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, light grey to medium light grey, clear, 40% very fine grained, 40% fine grained, 15% medium grained, 5% coarse grained, 0.1% very coarse grained, increase in clear disaggregated quartz grains, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 20% siliceous clay, trace of silica cement, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
3222.0	70	SILTSTONE		SILTSTONE: medium light grey to medium grey, olive grey, soft to firm, sub-blocky to blocky, trace of coal/lignite.
3225.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.
3225.0	50	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, light grey to medium light grey, clear, 40% very fine grained, 40% fine grained, 20% medium grained, trace very coarse grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 15% clay, 1% silica cement, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence.
3225.0	45	SILTSTONE		SILTSTONE: medium light grey to medium grey, olive grey, soft to firm, sub-blocky to blocky, trace of coal/lignite.
3228.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.
3228.0	25	SILTSTONE		SILTSTONE: medium light grey to medium grey, olive grey, soft to firm, sub-blocky to blocky, trace of coal/lignite.
3228.0	70	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, light grey to medium light grey, clear, 40% very fine grained, 40% fine grained, 20% medium grained, trace very coarse grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 20% clay, trace silica cement, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence.
3231.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.
3231.0	55	SILTSTONE		SILTSTONE: medium light grey to medium grey, olive grey, soft to firm, sub-blocky to blocky, trace of coal/lignite.

3231.0	40	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, light grey to medium light grey, clear, 40% very fine grained, 40% fine grained, 20% medium grained, 0.1% very coarse grained, increase in coarse disaggregated white quartz grains, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 20% siliceous clay, 1% silica cement, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
3235.0	5	CLAYSTONE		CLAYSTONE: light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, blocky to sub-blocky, trace of coal/lignite.
3235.0	30	SANDSTONE	Argillaceous	ARGILLACEOUS SANDSTONE: white to very light grey, light grey to medium light grey, clear, 40% very fine grained, 40% fine grained, 20% medium grained, 0.1% very coarse grained, soft to firm, moderately sorted to well sorted, sub-rounded to rounded, slightly spherical to spherical, 20% siliceous clay, 1% silica cement, trace of coal/lignite, poor inferred visual porosity, no hydrocarbon fluorescence.
3235.0	65	SILTSTONE		SILTSTONE: medium light grey to medium grey, olive grey, brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material.

APPENDIX 2: CORING REPORT

CORING REPORT

WELL
Trefoil - 2



PREPARED FOR

Australian Drilling Associates Australia

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1. PERFORMANCE SUMMARY

Coring on ADA's Kan Tan 4 rig for the Trefoil-2 well was safely carried out according to a carefully designed core acquisition programme. In this report we evaluate the coring performance and specific experience gained during the operation in order to provide continued development and improvement for future projects.

Overall Performance

Core#	Core head SN	Core head Type	Core barrel Size, Length, Type			Inner Tube	Depth In (m)	Cut (m)	Recovery (m)	Recovery (%)	Hrs	ROP (m/hr)
1	083691	MCP 572	7" x 4"	30m	TSS	ALU	2983.0	31.2	31.2	100	4.2	7.5
2	083691	MCP 572	7" x 4"	30m	TSS	ALU	3145.0	30	29.25	98	3.4	8.9
Overall performance								**61.2**	**60.5**	**99**	**7.6**	**8.1**

On Trefoil-2 a total of 61.2m was cut in 2 runs, across the reservoir zone, with core 1 being cut at a depth of 2983m to 3014.2m and core 2 from 3145.0m to 3175.0m.

The core barrel length and coring intervals were optimised to maximize the coring performance. The core runs were made using 30m of core barrel with a conventional core catcher system.

All coring parameters were determined from previous experience in similar formations and depths in the area.

2. KEY OBSERVATIONS

2.1 CORE 1

Date: 05/11/09

Depth In (m)	Depth Out (m)	Cored (m)	Coring Hrs	ROP (m/hr)	Recovered (m)	Recovery (%)	Comment
2983	3014.2	30	4.2	7.5	31.2	100	

The Coring Program plan for core 1 was to run in hole with a 30m core barrel and core selected reservoir formation as directed by ADA. The formation that was cored was consolidated sand stone, and the target formation was acquired successfully. The ROP reflected this performance at a steady rate of 7.5m/hr during the coring operation.

After tagging bottom and calibrating the exact well depth, the diverter ball was dropped. Once the calibration was completed and all of the necessary parameters being taken, bottom was tagged and coring started with the following parameters:

- weight on bit 10 k/lbs
- 210GPM
- 70 RPM

The first metre of core was successfully taken after 4 minutes of penetration and the rest of the operation followed suit. Throughout the coring run the WOB and flow rate remained constant for the entire 30m. WOB ranged from 10k/lklbs and was only increased to 15k/lklbs after 28m. Flow rates remained constant at 210 and stand pipe pressure ranged throughout the coring run between 620 and 690psi and there were no abnormal changes.

Once at surface there was 100% of core in the barrel and the catcher was engaged.

2.2 CORE 2

Date: 15/11/09

Depth In (m)	Depth Out (m)	Cored (m)	Coring Hrs	ROP (m/hr)	Recovered (m)	Recovery (%)	Comment
3145	3175	30	3.4	8.9	29.25	98	

The Coring Program plan for core 2 was to continue running in hole with a 30m core barrel and core the selected reservoir formation as directed by ADA. The formation that was cored was consolidated sand stone, and the target formation was acquired successfully. The ROP reflected this performance at a steady rate of 8.9m/hr during the coring operation.

After tagging bottom and calibrating the exact well depth, the diverter ball was dropped. Once the calibration was completed and all of the necessary parameters being taken, bottom was tagged and coring started with the following parameters:

- weight on bit 10 k/lbs
- 210GPM
- 70 RPM

The first metre of core was successfully taken again after 4 minutes of penetration and the rest of the operation followed suit. Throughout the coring run the WOB and flow rate remained constant for the entire 30m. WOB ranged from 10k/lklbs and was only increased to 15k/lklbs after 28m. Flow rates remained constant at 210 and stand pipe pressure ranged throughout the coring run between 620 and 690psi and there were no abnormal changes.

Once at surface there was 100% of core in the barrel and the catcher was engaged.

Review of Core 2

The coring run itself went successfully and the amount of core recovered being 98% emphasises that the equipment was correctly selected and applied.

3. CORING LESSONS LEARNED & RECOMMENDATIONS FOR FUTURE JOBS

The Corehead design MCP 572 ideally was an ideal primary corehead for this formation type with its uneven blade structure, 13mm cutters and parabolic profile. The MCP572 preformed well with the results of 98-100% and no wear downhole while coring. It is recommended for future operations to use the MCP572 as the primary corehead.

3.1 CORE HEAD DESIGN

The core head design MCP 572's cutting structure provided good performance in terms of ROP in the sandstone at an average of 8.1m Per Hour. The corehead suffered no additional wear after 61.2m.

3.2 CORING EQUIPMENT & PARAMETERS

We would continue running conventional catcher coring system as it is continuing to provide us with excellent results and is our recommendation for future jobs. In terms of the standard Aluminium Liner we would like to recommend that no changes be made to this system due to the excellent recovery.

While soft pro was not utilised on this job it would be still recommended to have as a contingency if a more friable or less competent formation is encountered while coring.

3.3 CORE BARREL LENGTH

We advise to carry on utilizing the 30m coring assembly in this application.

4. CONCLUSION

Overall the coring operation was largely successful resulting in 99% core recovery of a fully utilised barrel. The corehead performed well and the wear suffered was minimal. Virtually all coring handling operations were carried out safely according to the detailed coring programme.

4.1 PRE-PLANNING

We would recommend for future wells that the same attention to detail is given to make sure any other operations have the same success.

4.2 CORING OPERATION AND SAFETY

The coring operation was safely completed.

All coring and handling operations were successfully carried out according to a programme designed to minimize opportunities for core damage.

Thorough equipment checks were performed by our Senior Engineer and Corpro's technician and all equipment required for the job was onboard at the start of the operation.

4.3 OVERALL PERFORMANCE

Ada's Trefoil-2 performance could be summarised as follows:

Cored (m)	Rec. (m)	Coring Hrs	Recovery (%)
61.2	60.5	7.6	99

Table 2: Overall Performance

4.4 CORE QUALITY

A total of 61.2 metres of core was cut across the reservoir zone, recovering 60.5m at 99%, using a 30m core barrel assembly. There were no visible signs of detrimental core damage. Even though there were no visible signs of damage we would like to get an opportunity to view pictures of the core when it arrives in Brisbane. This will help us affectively gauge the quality of the core recovered.

4.5 CORE PROCESSING

The core was laid down using lay down cradles, TSS lift subs and IT TSS Clamps holding the TSS in place. This operation was completed safely with Corpro's standard handling kit and well trained personnel on the Kan Tan 4.

4.6 CORE HEAD CONDITION AFTER 2 RUNS

Core 1

Core head Condition	At Run Start	**1**	**1**	**NO**	**A**	**X**	**I**	**PN**	**BHA**
	At Run End	**1**	**1**	**NO**	**A**	**X**	**I**	**PN**	**BHA**

Previous Footage	**0**	**m**	**Run Footage**	**60**	**M**	**Total Footage**	**61.2**	**m**

The corehead suffered no considerable wear to any of the cutters, ID/OD gauge profile, or throat area after 61.2m. It is therefore recommended to use the MCP 572 as the primary corehead for future runs. The pictures are attached below.

4.7 LESSONS LEARNED

There were no major lessons learned that could be improved for future operations. The job was successful and the experience of a qualified coring engineer meant that the operation was handled successfully right from the start to finish.

5. CORE REPORTS

Core 1

Coring Data

Job # 46850

Well information	
Operator	ADA/Origin
Contractor	Maersk
Rig	Kan Tan IV
Well #	Trefoil - 2
Country	Australia
Area	Offshore

Core #	1	
Date	5/11/2009	
Well angle	1	
Stat. temp.	85	° C
Drive	Top Drive	
Torq off b	4	Kft-lbf
OffBTM Press	540	psi

Core barrel		
Size	#N/A	
Length	30	m
Direct.Bar	Yes	
TSS		
IT Type	Alu	
Vented IT		

Tick on the main menu if TSS used or not on this run

Core head	
Type	MCP 572
Size	8 1/2 x 4
S/N	083691
	M 2-3-3
TFA (sq in)	1.310
% Worn	0

Mud properties		
Type	Water Base	
WT	9.40	ppg
PV	14	cP
YP	31	
GEL	10/12/14	
% sand	0.3	%
% Solid	3.4	%
Viscosity	52	cP

Corehead Condition									
	At Run Start	1	1	NO	A	X	I	PN	BHA
	At Run End	1	1	NO	A	X	I	PN	BHA
Previous Footage	m	Run Footage	31.2	m	Total Footage	31.2	m		

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BHA	
1	Corehead
2	Core Barrel
3	8 x 63/4 DC
4	1 x 6 3/4 Jar
5	3 x 6 3/4 Dc
6	15 x HWDP
7	
8	
9	
10	

Background Parameters									
String Weight	lb	Torque OffBottom				Bottom Pressure			
⇧	385	60	rpm	5	Kft-lbf	Flow Rate	210	gpm	
⌒	375	80	rpm	5	Kft-lbf	On Bottom	550	psi	
⇩	360	100	rpm	5	Kft-lbf	Off Bottom	540	psi	

Ball Valve Information		
Flow Rate	230	gpm
SPP Ref 1	580	psi
SPP Ref 2	730	psi
Pres. Incr.	150	psi
Time	15	Min

Overpull Connection	1	2	3	4	5	6	7
lb	0						

Starting Date : 5/11/2009

Timing

Pickup Barrel		
Start	10:15	
Stop	12:40	
Interval	2.42	hrs

Start in Hole		
Start	12:40	
Stop	21:00	
Interval	8.33	hrs

Coring		
Start	22:05	
Stop	2:15	
Interval	4.17	hrs

POOH		
Start	2:30	
Stop	15:00	
Interval	12.50	hrs

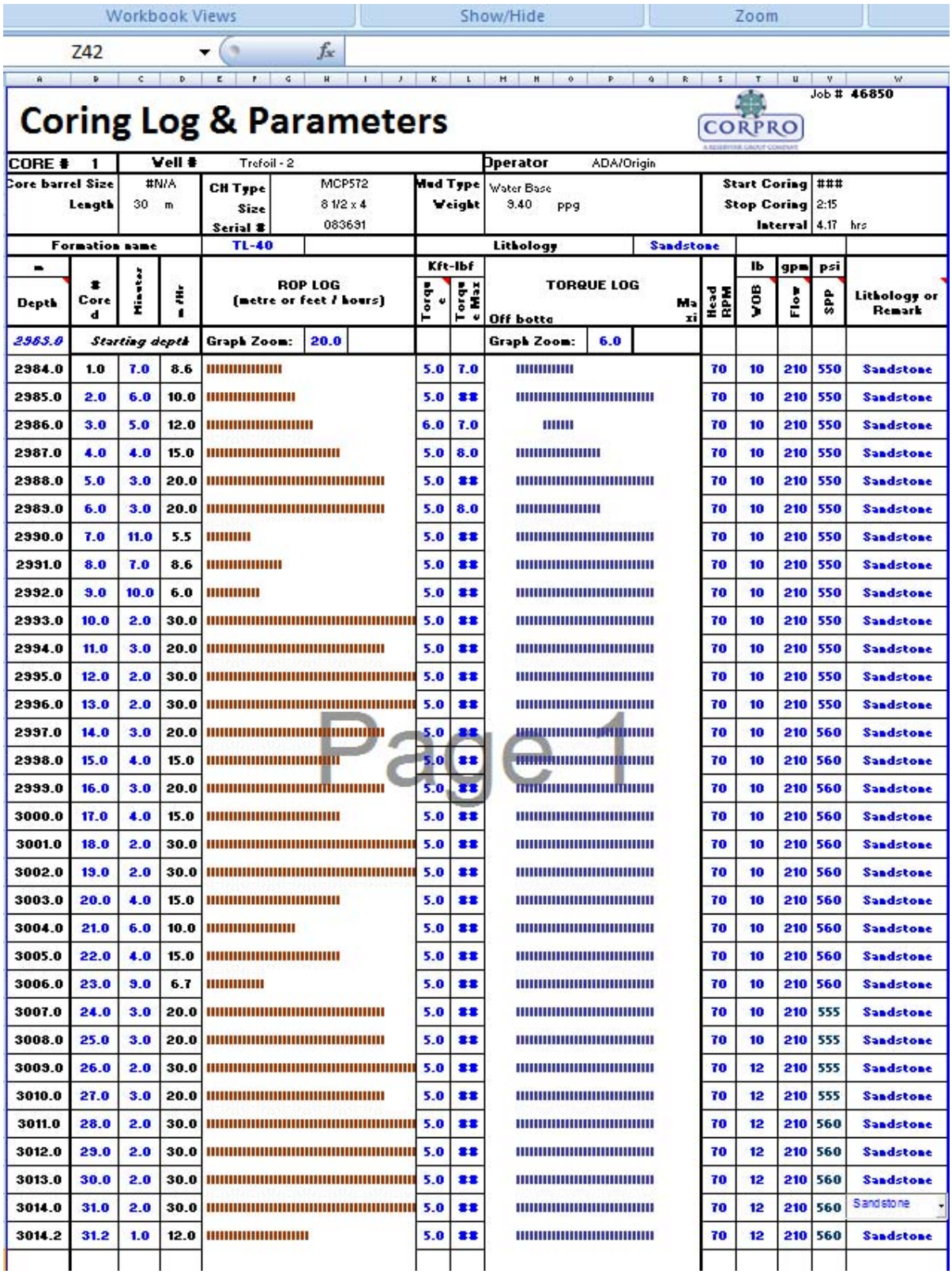
Core Rec./LD Brl		
Start	15:00	
Stop	17:30	
Interval	2.50	hrs

Data Type : Numbers o

Performance							
Depth In	Depth Out	Cored m	Rec. m	Rec. %	Eff. %	Hours hrs	ROP m/hrs
2983.0	3014.2	31.2	31.20	100%	104%	4.2	7.5

Customer	Cor
	Rudiger

Core 1 Coring Log & Parameters



Coring Log & Parameters

Job # 46850

CORE # 1	Well #	Trefoil - 2		Operator	ADA/Origin		
Core barrel Size	#N/A	CH Type	MCP572	Mud Type	Water Base	Start Coring	###
Length	30 m	Size	8 1/2 x 4	Weight	9.40 ppg	Stop Coring	2:15
		Serial #	083631			Interval	4.17 hrs
Formation name		TL-40		Lithology	Sandstone		

m					Kft-lbf					lb	gpm	psi	
Depth	# Cored	Minutes	m /Hr	ROP LOG (metre or feet / hours)	Torque	Torque Max	TORQUE LOG Off botto	Maxi	Head RPM	WOB	Flow	SPP	Lithology or Remark
2983.0	Starting depth			Graph Zoom: 20.0			Graph Zoom: 6.0						
2984.0	1.0	7.0	8.6		5.0	7.0			70	10	210	550	Sandstone
2985.0	2.0	6.0	10.0		5.0	##			70	10	210	550	Sandstone
2986.0	3.0	5.0	12.0		6.0	7.0			70	10	210	550	Sandstone
2987.0	4.0	4.0	15.0		5.0	8.0			70	10	210	550	Sandstone
2988.0	5.0	3.0	20.0		5.0	##			70	10	210	550	Sandstone
2989.0	6.0	3.0	20.0		5.0	8.0			70	10	210	550	Sandstone
2990.0	7.0	11.0	5.5		5.0	##			70	10	210	550	Sandstone
2991.0	8.0	7.0	8.6		5.0	##			70	10	210	550	Sandstone
2992.0	9.0	10.0	6.0		5.0	##			70	10	210	550	Sandstone
2993.0	10.0	2.0	30.0		5.0	##			70	10	210	550	Sandstone
2994.0	11.0	3.0	20.0		5.0	##			70	10	210	550	Sandstone
2995.0	12.0	2.0	30.0		5.0	##			70	10	210	550	Sandstone
2996.0	13.0	2.0	30.0		5.0	##			70	10	210	550	Sandstone
2997.0	14.0	3.0	20.0		5.0	##			70	10	210	560	Sandstone
2998.0	15.0	4.0	15.0		5.0	##			70	10	210	560	Sandstone
2999.0	16.0	3.0	20.0		5.0	##			70	10	210	560	Sandstone
3000.0	17.0	4.0	15.0		5.0	##			70	10	210	560	Sandstone
3001.0	18.0	2.0	30.0		5.0	##			70	10	210	560	Sandstone
3002.0	19.0	2.0	30.0		5.0	##			70	10	210	560	Sandstone
3003.0	20.0	4.0	15.0		5.0	##			70	10	210	560	Sandstone
3004.0	21.0	6.0	10.0		5.0	##			70	10	210	560	Sandstone
3005.0	22.0	4.0	15.0		5.0	##			70	10	210	560	Sandstone
3006.0	23.0	3.0	6.7		5.0	##			70	10	210	560	Sandstone
3007.0	24.0	3.0	20.0		5.0	##			70	10	210	555	Sandstone
3008.0	25.0	3.0	20.0		5.0	##			70	10	210	555	Sandstone
3009.0	26.0	2.0	30.0		5.0	##			70	12	210	555	Sandstone
3010.0	27.0	3.0	20.0		5.0	##			70	12	210	555	Sandstone
3011.0	28.0	2.0	30.0		5.0	##			70	12	210	560	Sandstone
3012.0	29.0	2.0	30.0		5.0	##			70	12	210	560	Sandstone
3013.0	30.0	2.0	30.0		5.0	##			70	12	210	560	Sandstone
3014.0	31.0	2.0	30.0		5.0	##			70	12	210	560	Sandstone
3014.2	31.2	1.0	12.0		5.0	##			70	12	210	560	Sandstone

Page 1

Core 2

Coring Data

Job # 46850

Well information	
Operator	ADA/Origin
Contractor	Maersk
Rig	Kan Tan IV
Well #	Trefoil - 2
Country	Australia
Area	Offshore

Core #	2	
Date	15/11/2009	
Well angle	1	
Stat. temp.	85	° C
Drive	Top Drive	
Torq off b	4	Kft-lbf
OffBTM Press	620	psi

Core barrel	
Size	7 1/8x4
Length	30 m
Direct.Bar	No
TSS	Yes
IT Type	Alu
Vented IT	Yes

Core head	
Type	MCP572
Size	8 1/2x4
S/N	083691
IADC	M 2-3-3
TFA (sq in)	1.310
% Worn	5

Mud properties		
Type	Water Base	
WT	9.50	ppg
PV	14	cP
YP	29	
GEL	10/12/14	
% sand	0.3	%
% Solid	3.4	%
Viscosity	52	cP

Corehead Condition									
At Run Start	1	1	NO	A	X	I	PN	BHA
At Run End	1	1	NO	A	X	I	PN	BHA

Previous Footage	31.2 m	Run Footage	30 m	Total Footage	61.2 m

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BHA	
1	Corehead
2	Core Barrel
3	8 x 63/4 DC
4	1 x 6 3/4 Jar
5	3 x 6 3/4 Dc
6	15 x HWDP
7	
8	
9	
10	

Background Parameters									
String Weight	lb	Torque OffBottom				Bottom Pressure			
⇧	400	60	rpm	4	Kft-lbf	Flow Rate	210	gpm	
⌒	400	80	rpm	5	Kft-lbf	On Bottom	620	psi	
⇩	375	100	rpm	5	Kft-lbf	Off Bottom	620	psi	

Overpull Connection	1	2	3	4	5	6	7
lb	0						

Ball Valve Information		
Flow Rate	210	gpm
SPP Ref 1	520	psi
SPP Ref 2	580	psi
Pres. Incr.	60	psi
Time	15	Min

Starting Date : 15/11/2009

Timing

Pickup Barrel		
Start	13:15	
Stop	14:15	
Interval	#NAME?	hrs

Start in Hole		
Start	14:15	
Stop	22:30	
Interval	######	hrs

Coring		
Start	23:17	
Stop	2:40	
Interval	#####	hrs

POOH		
Start	2:45	
Stop	17:15	
Interval	####	hrs

Core Rec./LD Brl		
Start	17:15	
Stop	20:15	
Interval	#NAME?	hrs

Performance								Customer	Corpro
Depth		Cored	Rec.	Rec.	Eff.	Hours	ROP		
In	Out	m	m	%	%	hrs	m/hrs		
3145.0	3175.0	30.0	29.25	98%	100%	3.4	8.9		Rudiger

Core 2 Coring Log & Parameters

Coring Log & Parameters

Job # 46850

| | | |

Coring Summary

Coring Summary

Operator	ADA/Origin
Contractor	Maersk
Rig	Kan Tan IV
Well	Trefoil - 2
Country	Australia
Area	Offshore

Hole size	8 1/2	
Casing dia	9 5/8"	
Shoe depth	2520	m
Well angle	1	
Mud type	Water Base	
Mud WT	9.4	ppg

Total Cut	61.2	m
Total Recovered	60.5	m
Overall % Recovered	99	
Total Hours	7.6	
Overall ROP	8.1	

Job # 46850

Service eng. names	
Schumacker,Rudig	Stephen,Ashly
Start Date / Finish Date	
8/11/2009	
18/11/2009	

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Core#	Corehead		Corebarrel				Core							
	SN	Type	Size	Lgth	TSS	IT type	Depth in	Cut lgth	Rec. lgth	%	Hrs	Rop	Lithology	Formation
1	083691	MCP572	7 1/8x4	30	NO	Alu	2983.0	31.2	31.2	100	4.2	7.5	Sandstone	TL-40
2	083691	MCP572	7 1/8x4	30	NO	Alu	3145.0	30	29.25	98	3.4	8.9		TF-70
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
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27														
28														
29														
30														

Page 1

Remarks:

Customer	Corpro
B.Houston	Schumacker,Rudiger

Page 2

6. CORE HEAD SPECIFICATION

- **MCP 572**

CORPRO

Technical Data Sheet

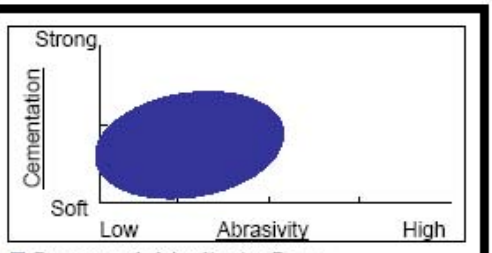
MCP 572

PART No CR007

Specifications

8 1/2" x 4" - MCP 572

Cutter Type		PDC	
Primary Cutter Size		1/2	in.
Cutters	1/2 in.	38	
	3/8 in.	2	
Body Type		Matrix	
Profile		Short Parabolic	
Number of Blades		7	
Throat Discharge Ports		7	
IADC Code		M233	
Gauge Length OD		2.6	in.
	ID	2/5	in.
TFA	Ports	1.07	sq. in.
	Inner Gauge	0.24	sq. in.
Junk Slot Area		5.3	sq. in.

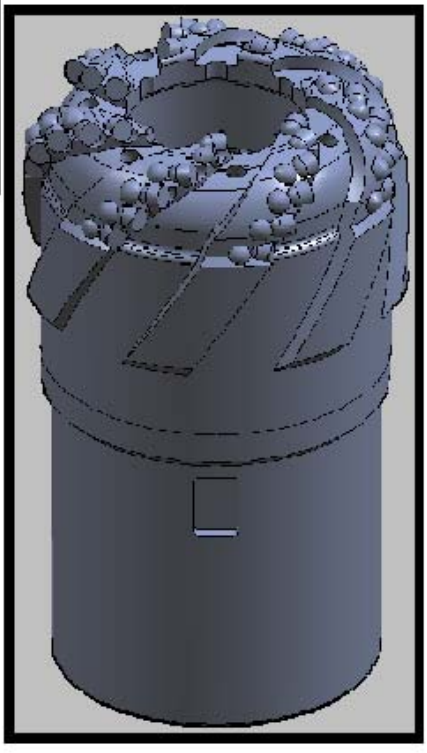


Recommended Application Range

		Operating Range		To Motor Speed
		Min	Max	
Flow Rate	*gpm*	90	350	
Rotation	*rpm*	60	250	> 250
WOB	*klbs*	5	35	

Recommended Operative Parameters





- **30 m Core Barrel Assembly**

Core Barrel Assembly 30 m Core

32.22 m
TOTAL LENGTH

Corebarrel Size 7 1/8x4

DATA	Hole Size	in	8 1/2"
	Core Size	in	#NAME?

Job # 46850

OUTER BARREL	OD x ID	in	7 1/4 x 5 5/8
	Stabiliser Diameter	in	15/32 x 5 5/
	Fishing Neck Length	in	11 1/2
	Outer Head Top Connection		
	Overpull	Klbf	860
	Make-up Torque	ft-lbf	25000
	Maximum Torque		
	Ball Size *(larger one used)*	in	1 1/4

COREHEAD	Type	MCP572	
	Size	in	8 1/2 x 4
	Serial Number	083691	
	IADC / TFA	M 2-3-3	1.31 in²
	Make-up Torque	ft-lbf	20000

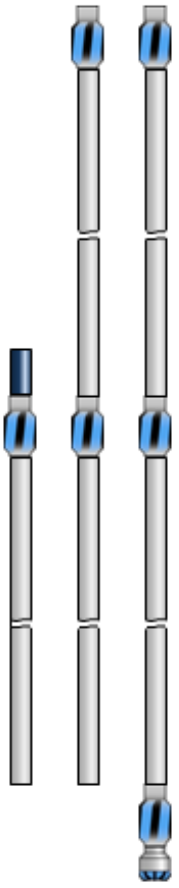
INNER BARRE			
	Inner Tube Type	Alu	
	OD x ID	in	5 x 4 1/2

RANGE	Weight On Bit Max	lb	
	Flow Rate Max	gpm	
	Rotary Speed Max	RPM	

Data	
Date :	15/11/2009
Operato	ADA/Origin
Country	Australia
Well :	Trefoil - 2
Rig :	Kan Tan IV
Core# :	2
Run# :	2

Additional _	
Circulating Sub	N
Orientated	
Jar Serial #	N

Recommendation



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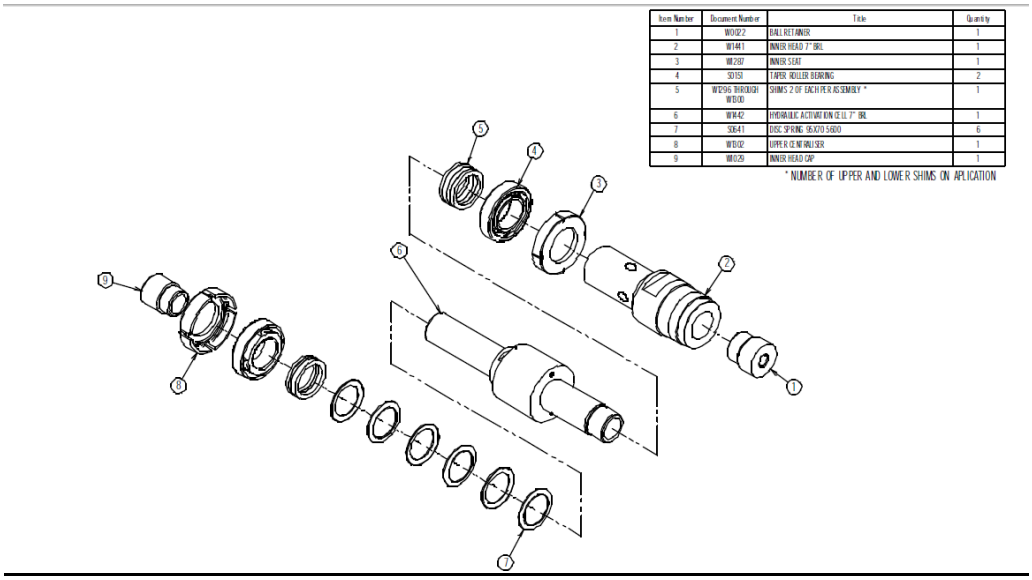
Coring Bottom Hole Assembly

#	Description	Length	S/N	#	Description	Length	S/N
1	Top Head	0.61 m	W#56027				
2	Stabiliser	0.76 m	W0137014				
3	Outer Barrel	5.33 m	SB06				
4	Stabiliser	0.76 m	W0137219				
5	Outer Barrel	5.33 m	723189				
6	Stabiliser	0.76 m	W0137258				
7	Outer Barrel	5.33 m	S#413				
8	Stabiliser	0.76 m	W0137312				
9	Outer Barrel	5.33 m	W0135194				
10	Stabiliser	0.76 m	W0137161				
11	Outer Barrel	5.33 m	W0135110				
12	Stabiliser	0.76 m	W0135268				
13	Corehead	0.37 m	083691				

Complete BHA

Description	Length
Core Barrel	### m

- **Soft Pro System Spacing**



Item Number	Document Number	Title	Quantity
1	W0122	BALL RETAINER	1
2	W141	INNER HEAD 7" BRL	1
3	W287	INNER SEAT	1
4	30153	TAPER ROLLER BEARING	2
5	W2916 THROUGH W1800	SHIMS 2 OF EACH PER ASSEMBLY *	1
6	W142	HYDRAULIC ACTIVATION CELL 7" BRL	1
7	30641	DISC SPRING 95X70 5600	6
8	W1612	UPPER CENTRALISER	1
9	W1029	INNER HEAD CAP	1

* NUMBER OF UPPER AND LOWER SHIMS ON APLICATION

APPENDIX 3: CONVENTIONAL CORE CHIP DESCRIPTIONS

Core #1: EVCM TL40 sand
Depth Interval Cored: 2983 – 3014.2 MDRT
Cut 30m recovered 31.2m (104%)

Depth mMDRT	Lithology Description
2983	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to very coarse grained, loose to moderately hard, poorly sorted, rounded to subangular, subspherical to spherical, common argillaceous cement, trace lithic fragments, common carbonaceous material, common mica flakes, good inferred visual porosity, no hydrocarbon fluorescence.
2984	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 7% mica flakes, quartzose bands throughout.
2985	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 20% mica flakes.
2986	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to fine grained, soft to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, common silica cement, some argillaceous cement, 3% mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
2987	SANDSTONE: white to very light grey, yellowish grey, clear, trace light greenish grey, very fine to fine grained, soft to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, common silica cement, some argillaceous cement, 5% mica flakes, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
2988	SANDSTONE: white to very light grey, yellowish grey, clear, trace pinkish grey, very fine to fine grained, soft to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, common silica cement, some argillaceous cement, 1% mica flakes, 2% green amber, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
2989	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 20% mica flakes.
2990	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to medium grained, trace granular quartz grains, firm to hard, moderately sorted, subrounded to angular, subspherical to spherical, 7-10% silica cement, 1% mica flakes, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
2991	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to medium grained, trace granular quartz grains, firm to hard, moderately sorted, subrounded to angular, subspherical to spherical, 5-10% calcareous cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
2992	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to very coarse grained, firm to hard, poorly sorted, subrounded to angular, subspherical to spherical, 7-10% silica cement, 1% mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
2993	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 15-25% mica flakes.
2994	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 5-10% mica flakes.
2995	CONGLOMERITIC SANDSTONE: very light grey to light grey, clear, fine to granular, firm to hard, poorly sorted, subrounded to angular, subspherical to spherical, 5-10% silica cement, trace lithic fragments, good inferred visual porosity, no hydrocarbon fluorescence.
2996	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 10% silica cement, trace mica flakes, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
2997	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, trace very coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 15% calcareous cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.

2998	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, trace very coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 15% calcareous cement, trace mica flakes, trace coal, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
2999	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, trace very coarse grains, firm to moderately hard, poorly to moderately sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
3000	CONGLOMERITIC SANDSTONE: very light grey to light grey, clear, fine to granular, firm to hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace lithic fragments, good inferred visual porosity, no hydrocarbon fluorescence.
3001	SANDSTONE: white to very light grey, yellowish grey, clear, fine to coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
3002	SANDSTONE: white to very light grey, yellowish grey, clear, fine to coarse grains, trace granular grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
3003	SANDSTONE: white to very light grey, yellowish grey, clear, fine to very coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
3004	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to medium grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, 2% mica flakes, trace coal, poor inferred visual porosity, no hydrocarbon fluorescence.
3005	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to medium grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, trace mica flakes, 1% green amber, poor inferred visual porosity, no hydrocarbon fluorescence.
3006	SANDSTONE: white to very light grey, yellowish grey, pinkish grey, clear, very fine to medium grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, trace mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence.
3007	SANDSTONE: white to very light grey, medium light grey to yellowish grey, clear, very fine to fine grained, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 15% silica cement, trace coal, 1% mica flakes, poor inferred porosity, no hydrocarbon fluorescence.
3008	SANDSTONE: white to very light grey, medium light grey to yellowish grey, clear, fine to granular grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred porosity, no hydrocarbon fluorescence.
3009	CONGLOMERITIC SANDSTONE: very light grey to light grey, clear, fine to granular, firm to hard, very poorly sorted, subrounded to angular, subspherical to spherical, 15% silica cement, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
3010	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, 1% mica flakes, good inferred porosity, no hydrocarbon fluorescence.
3011	SANDSTONE: white to very light grey, yellowish grey to light greenish grey, clear, fine to medium grained, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 5% silica cement, 1% mica flakes, 1% green amber, good inferred porosity, no hydrocarbon fluorescence.
3012	SANDSTONE: white to very light grey, yellowish grey to light greenish grey, clear, fine to very coarse grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica, fair inferred porosity, no hydrocarbon fluorescence.

3013	SANDSTONE: white to very light grey, yellowish grey to light greenish grey, clear, fine to very coarse grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 10% silica cement, trace mica, fair inferred porosity, no hydrocarbon fluorescence.

Core #2: EVCM TF60 - 80 sands
Depth Interval Cored: 3145 - 3175 MDRT
Cut 30m recovered 29.25m (97.5%)

Depth mMDRT	Lithology Description
3145	SANDSTONE: light grey, mottled, quartzose, fine grained, firm to moderately hard, subangular to subrounded, moderately well sorted, subspherical, traces carbonaceous material, mica flakes, 5% white clay matrix, moderate siliceous cement, fair visual porosity, no hydrocarbon fluorescence.
3146	SANDSTONE: white to light grey, trace yellowish grey grains, quartzose, moderately hard, fine to coarse grained, angular to subrounded, poorly sorted, subspherical, 5% white clay matrix, moderately well siliceous cemented, fair visual porosity, dull yellow overall fluorescence, very slow diffuse pale green cut, pale yellow white film residue.
3147	SANDSTONE: medium light grey, quartzose, very fine to coarse grained, hard, subangular to subrounded, moderately to poorly sorted, subspherical, 10% grey clay matrix, well siliceous cemented, 10% muscovite and biotite mica flakes, trace carbonaceous material, poor visual porosity, no hydrocarbon fluorescence.
3148	MICACEOUS SILTSTONE: medium dark grey, hard, massive, 40% muscovite and biotite mica flakes.
3149	SANDSTONE: white, quartzose, friable, very fine to coarse grained, poorly sorted, subspherical, 5% white clay matrix, trace black to dark grey lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
3150	SANDSTONE: white, trace yellowish grey grains, quartzose, friable to firm, fine to medium grained, subangular to subrounded, poorly sorted, subspherical, traces biotite mica flakes, traces carbonaceous material, fair visual porosity, no hydrocarbon fluorescence.
3151	CONGLOMERATIC SANDSTONE: light grey, quartzose, fine to very coarse grained, hard to moderately hard, angular to subrounded, very poorly sorted, subspherical to subelongate, 20% white clay matrix, moderate siliceous cement, 2% black, bright, coal fragments, fair visual porosity, no hydrocarbon fluorescence.
3152	SANDSTONE: white, quartzose, friable, very fine to coarse grained, poorly sorted, subspherical, 5% white clay matrix, trace black to dark grey lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
3153	SANDSTONE: white, quartzose, firm to hard, fine to coarse grained, subangular to subrounded, poorly sorted, subspherical, traces biotite and muscovite mica flakes, traces medium grey lithic fragments, fair visual porosity, no hydrocarbon fluorescence.
3154	SANDSTONE: white, quartzose, firm to hard, fine to coarse grained, subangular to subrounded, poorly sorted, subspherical, traces biotite mica flakes, traces medium grey lithic fragments, traces carbonaceous material, 15% white clay matrix, fair visual porosity, no hydrocarbon fluorescence.
3155	SANDSTONE: very light grey, trace yellowish grey grains, trace medium grey grains, quartzose, hard to moderately hard, fine to very coarse grained, rounded very coarse grains to sub angular to subrounded, poorly sorted, spherical to subspherical to subelongate, trace amber, trace carbonaceous material, trace biotite mica flakes, fair visual porosity, overall yellow green fluorescence, slow blooming to streaming blue white cut, blue yellow bright film residue.
3156	SANDSTONE: very light grey, quartzose, fine to very coarse grained, firm to moderately hard, angular to subrounded, poor to moderately sorted, subspherical, trace red brown lithic fragments, trace black, bright coal fragments, poor visual porosity, dull yellow overall fluorescence, very slow diffuse pale green cut, pale yellow white film residue.

3157	SANDSTONE: white to very light grey, moderately hard, fine to very coarse grained, subangular to subrounded, poor visual porosity, subspherical, 2% muscovite mica flakes, in part as books, trace biotite mica flakes, moderate siliceous cement, 5% white clay matrix, poor visual porosity, dull yellow overall fluorescence, very slow diffuse pale green cut, pale yellow white film residue.
3158	SANDSTONE: white, quartzose, fine to very coarse grained, firm, subangular to subrounded, poorly sorted, subspherical, 15% white clay matrix, poor siliceous cement, trace amber, poor visual porosity, dull yellow overall fluorescence, very slow diffuse pale green cut, pale yellow white film residue.
3159	SANDSTONE: very light grey, trace yellowish grey grains, quartzose, moderately hard, fine to coarse grained, subangular to subrounded, moderately sorted, trace carbonaceous material, trace mica flakes, trace grey lithic fragments, trace amber, moderate siliceous cement, fair visual porosity, dull yellow overall fluorescence, very slow diffuse dull yellow cut, no residue.
3160	SANDSTONE: white, quartzose, fine to very coarse grained, firm, subangular to subrounded, poorly sorted, subspherical, 15% white clay matrix, poor siliceous cement, trace amber, poor visual porosity, dull yellow overall fluorescence, very slow diffuse dull yellow cut, no residue.
3161	SANDSTONE: white, quartzose, hard, fine to medium grained, subangular to subrounded, poorly sorted, subspherical, traces biotite mica flakes, traces carbonaceous material, 10% white clay matrix, well siliceous cemented, fair visual porosity, no hydrocarbon fluorescence.
3162	SANDSTONE: white to medium light grey, quartzose, hard, fine grained, subangular to subrounded, well sorted, subspherical, 10% white clay matrix, well siliceous cemented, trace carbonaceous material, 3% mica flakes, poor visual porosity, dull yellow overall fluorescence, very slow diffuse dull pale green cut, pale yellow green thin ring to film residue.
3163	SILTSTONE: olive black, hard, massive, 5% biotite mica flakes.
3164	SANDSTONE: white to very light grey, quartzose, hard, very fine to fine grained, subangular to subrounded, moderately well sorted, 5% muscovite mica flakes, trace carbonaceous material, 10% white clay matrix, well siliceous cemented, poor visual porosity, dull yellow overall fluorescence, very slow diffuse green yellow cut, dull yellow film residue.
3165	SANDSTONE: white to very light grey, quartzose, moderately hard, fine to very coarse grained, subangular to subrounded, poorly sorted, subspherical to subelongate, 10% white clay matrix, moderately well siliceous cemented, poor visual porosity, pale yellow overall fluorescence, slow diffuse yellow green fluorescence, dull yellow film residue.
3166	SANDSTONE: white, trace yellowish grey grains, quartzose, moderately hard, medium to very coarse grained, angular to subrounded, poorly sorted, subspherical, 10% white clay matrix, moderately siliceous cemented, trace amber, trace grey lithic fragments, dull yellow fluorescence, slow diffuse yellow white cut, dull blue white film residue.
3167	SANDSTONE: white, trace yellowish grey grains, quartzose, moderately hard, medium to very coarse grained, angular to subrounded, poorly sorted, subspherical, 10% white clay matrix, moderately siliceous cemented, trace amber, trace grey lithic fragments, dull yellow green fluorescence, slow diffuse yellow white crush cut, dull yellow white thick ring residue.
3168	SANDSTONE: very light grey, quartzose, hard, fine to coarse grained, subangular to subrounded, moderately sorted, subspherical, 10% white clay matrix, well siliceous cemented, 2% muscovite mica flakes, traces lithic fragments, poor visual porosity, pale yellow green overall fluorescence, slow diffuse yellow green crush cut, yellow white ring residue.
3169	SANDSTONE: very light grey, quartzose, firm, fine to medium grained, subangular to subrounded, moderately sorted, subspherical, trace white clay matrix, moderate siliceous cement, fair visual porosity, very dull yellow fluorescence, slow blooming diffuse cut, very dull white yellow residue ring.
3170	SANDSTONE: white to very light grey, quartzose, friable, medium to very coarse grained, subangular to subrounded, moderately sorted, subspherical to spherical, 5% white clay matrix, poor siliceous cement, fair visual porosity, dull yellow fluorescence, no cut, no residue.

3171	SANDSTONE: white to very light grey, quartzose, loose quartz grains, disaggregated, medium to very coarse grained, subangular to subrounded, moderately sorted, subspherical to spherical, 5% white clay matrix, fair visual porosity inferred, no hydrocarbon fluorescence.
3172	SANDSTONE: white to very light grey, quartzose, loose quartz grains, disaggregated, medium to very coarse grained, subangular to subrounded, moderately sorted, subspherical to spherical, 5% white clay matrix, trace grey lithic fragments, fair visual porosity inferred, dull yellow fluorescence, no cut, dull white yellow residue ring.
3173	CONGLOMERATIC SANDSTONE: white, grey mottled, quartzose, friable, fine grained to granular, subangular to subrounded, very poorly sorted, subspherical, 10% white and medium grey clay matrix, poor siliceous cement, traces carbonaceous material, poor visual porosity, dull yellow fluorescence, no cut, blue white film residue.
3174.25	SANDSTONE: white, grey mottled, quartzose, friable, fine grained to granular, subangular to subrounded, very poorly sorted, subspherical, 10% white and medium grey clay matrix, poor siliceous cement, traces carbonaceous material, poor visual porosity, dull yellow fluorescence, no cut, blue white film residue.

APPENDIX 4: ROUTINE CORE ANALYSIS & PHOTOS

Weatherford®
LABORATORIES

ROUTINE CORE ANALYSIS FINAL REPORT

of

TREFOIL-2

for

ORIGIN ENERGY RESOURCES LIMITED

by

WEATHERFORD LABORATORIES (AUSTRALIA) PTY LTD

Weatherford
LABORATORIES

7th April, 2010

Origin Energy Resources Limited
135 Coronation Drive
MILTON QLD 4064

Attention: Deidre Brooks
Trinetta Herdy

FINAL REPORT: 0464-02

CLIENT REFERENCE: Purchase Order # 16023588

MATERIAL: 4" Whole Core

LOCALITY: Trefoil-2

WORK REQUIRED: Routine Core Analysis

Please direct technical inquiries regarding this work to the signatory below under whose supervision the work was carried out.



KEVIN H FLYNN
General Manager
SCAL Technical Director

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CHAPTER 1

INTRODUCTION

1. INTRODUCTION

The following final report presents the details of a routine core analysis study performed by Weatherford Laboratories Brisbane facility on behalf of Origin Energy Resources Limited.

The Trefoil-2 core was received at Weatherford Laboratories' Brisbane facility on 27th November 2009.

A routine core analysis study, including sample preparation was undertaken as per instructions received from Origin Energy Resources Limited.

The study included the following analyses:

- Core processing and sample preparation
- Continuous Spectral Core Gamma
- Ambient porosity, permeability & grain density
- Probe Permeability
- Core Photography

The following report details the methods and procedures utilised in these analyses. Results are presented in both tabular and graphical formats.

CHAPTER 2

STUDY AIMS

2. STUDY AIMS

The analyses were performed with the following aims:

1. To provide depth correlation through the provision of a continuous spectral core gamma log over the cored interval.

2. To provide permeability, helium injection porosity and density data.

3. To provide a permanent record of the core through provision of 5 metre format core photography.

4. To provide a detailed permeability profile across core

CHAPTER 3

SAMPLING

3. SAMPLING

3.1 Routine Core Analysis Samples

One hundred and ninety seven (197) 1½" diameter horizontal plug samples were cut at 30cm intervals throughout the sand sections of the core, using brine as the bit lubricant. Fifty six (56) vertical core samples were drilled at 1 metre intervals. All plugs were trimmed to right cylinders. All off-cuts were labelled and bagged for possible future analysis.

Due to sample friability it was deemed necessary to place selected samples into lead sleeve to preserve sample integrity. A set of stainless steel mesh screens were placed at each end of the sample and a 2mm told of lead sleeve used to hold them in place. Samples were then compressed in a Hassler cell at 300 psi to allow the lead to conform to the sample surface.

3.2 Core Slabbing

Upon completion of the sampling, the core was slabbed longitudinally into three sections (1/3: 1/3: 1/3) using brine as the blade cooling and lubricating medium. At the time of writing this report we are still pending instructions to perform the final core slabbing.

CHAPTER 4

SAMPLE PREPARATION

4. SAMPLE PREPARATION

4.1 Soxhlet Cleaning

The samples were initially dried under humid conditions at 60°C for two hours to remove the majority of the water, aiding the efficiency of the extraction process. All samples were cleaned in a modified soxhlet system to remove the pore fluids. The solvent used was a 3:1 chloroform methanol azeotropic mixture. Cleaning continued until tests for oil (fluorescence under UV light) and salt (silver nitrate precipitation) showed negative.

4.2 Humidity Drying

After extraction, the samples were dried to constant weight in a humidity oven at 60°C and 40% relative humidity. Once dry, they were stored in an airtight container and allowed to cool to room temperature.

CHAPTER 5

TEST PROCEDURES

5. TEST PROCEDURES

5.1 Continuous Core Gamma

The core was laid out according to depth markings and analysed using gamma-ray spectrometry to measure potassium (K), gamma-equivalent uranium (eU) and gamma-equivalent thorium (eTh). The terms eU and eTh stand for 'gamma-equivalent' U and Th respectively and indicate that measurements are made of the gamma-ray emitting daughters of these two isotopes. The gamma-ray energy spectrum of each sample is measured with a 100 x 100 NaI (T1) detector housed in a lead shield. Measurements were made with the core on a conventional conveyor belt at much lower speeds than total gamma to ensure full detection of the spectrum.

5.2 Porosity

The clean and dry plugs were sealed in a matrix cup and a known volume of helium at 100 psi reference pressure was introduced to the cup. From the resultant pressure, the unknown volume, i.e. the grain volume, was calculated using Boyles Law.

The bulk volume of each plug was determined by Archimedes' Principle. The difference between the grain volume and the bulk volume is the pore volume. The porosity is calculated as the volume percentage of pore space with respect to the bulk volume.

$$P_1 V_1 = P_2 V_2$$

$$\Rightarrow \quad P_1 Vr = P_2 (Vr + Vc - Vg)$$

$$Vp = Vb - Vg$$

$$\text{Ambient Porosity \%} = \frac{Vp}{Vb} \times 100\%$$

where

P_1	=	*initial pressure (psig)*
P_2	=	*final pressure (psig)*
Vr	=	*reference cell volume (cm^3)*
Vc	=	*matrix cup volume (cm^3)*
Vg	=	*grain volume (cm^3)*
Vp	=	*pore volume (cm^3)*
Vb	=	*bulk volume (cm^3)*

5.3 Permeability to Air

The plugs were placed in a Hassler cell at a confining pressure of 300 psig. This pressure was used to prevent bypassing of air around the sample when the measurement is made.

During the measurement, a known air pressure is applied to the upstream face of the sample, creating a flow of air through the sample. Permeability for each sample was then calculated using Darcy's Law, through knowledge of the upstream pressure and flow rate during the test, the viscosity of air and the plug dimensions.

$$Ka = \frac{2000.BP.\mu.q.L}{(P_1^2 - P_2^2).A}$$

where

Ka	=	*air permeability (milliDarcy's)*
BP	=	*barometric pressure (atmospheres)*
μ	=	*gas viscosity (cP)*
q	=	*flow rate (cm^3/s) at barometric pressure*
L	=	*sample length (cm)*
P_1	=	*upstream pressure (atmospheres)*
P_2	=	*downstream pressure (atmospheres)*
A	=	*sample cross sectional area (cm^2)*

5.4 Apparent Grain Density

The apparent grain density is calculated by dividing the weight of the plug by the grain volume determined from the helium injection porosity measurement.

$$\rho = \frac{Wt}{Vg}$$

where

ρ	=	*grain density (g/cm^3)*
Wt	=	*weight of sample (g)*
Vg	=	*grain volume (cm^3)*

5.5 Probe Permeability

A permeability profile was obtained across the core using a steady state probe permeameter. Probe permeability measurements were taken at 10cm intervals along the slabbed core face.

A probe was pneumatically applied to the surface of the core at 100 psig. An ‘O’ ring on the tip of the probe was used to achieve a seal against the rock. Air was then forced to flow at a constant pressure through the probe tip into the core and back into the atmosphere.

The flow rate was measured by a series of precision flow meters which were selected to cover a wide range of flow rates. The measured flow rate (at a fixed injection pressure) was converted to permeability by comparison against measurements on core plugs with known permeabilities.

5.6 Core Photography

The core photography was carried out on the 2/3 slab of core. Photographs were taken in 5 metre format with a Nikon D100 6.1 megapixel digital SLR camera under white and ultra violet light. The photographs have been digitally edited and printed.

CHAPTER 6

SAMPLE DISTRIBUTION AND STORAGE

6. SAMPLE DISTRIBUTION AND STORAGE

Set A slabbed core is currently pending instructions to send to:

Mineral Resources Tasmania,
30 Gordons Hill Road,
ROSNY PARK, TAS, 7018

Set B slabbed core is currently pending instructions to send to:

Geoscience Australia
Data Repository,
Cnr Jerrabomberra Ave & Hindmarsh Drive,
Symonston
Canberra, ACT, 2801

Set C slabbed core is stored at Weatherford Laboratories Brisbane facility.

Selected core plugs are currently undergoing a special core analysis study. All results will be reported in a separate final report.

APPENDIX I

AMBIENT TEST RESULTS

CORE ANALYSIS FINAL REPORT

Client	: Origin Energy Resources Limited	**Date**	: 19/02/2010
Well	: Trefoil-2	**File**	: 0464-02
Field	: Trefoil	**Location**	:
Core Int	: 2983.00 to 3014.20 m	**Analysts**	: CM, KW, TF, AS
Core Int	: 3145.00 to 3174.25 m		

Sample Number	Depth *(m)*	Dir	Porosity Helium *(percent)*	Grain Density *(g/cm^3)*	Permeability to Air *(mD)*	Remarks
1V	2983.05	V	5.0	2.70	0.01	Core#1
1	2983.30	H	7.3	2.71	0.06	Lam
2	2983.60	H	3.4	2.71	0.22	Lam
3	2983.90	H	0.7	2.64		Frac
2V	2984.03	V	0.4	2.66	< 0.01	
4	2984.16	H	0.6	2.64		Frac
5	2984.50	H	0.5	2.66		Frac
6	2984.80	H	0.9	2.78	0.18	Lam
3V	2985.03	V	1.8	2.98	0.01	
7	2985.11	H	5.8	2.65	0.07	Lam
8	2985.40	H	19.3	2.63	5.3	
9	2985.69	H	14.5	2.67	0.32	Lam
10	2985.98	H	11.1	2.70	0.16	Lam
4V	2986.03	V	10.7	2.69	0.10	
11	2986.29	H	7.5	2.69	0.06	Lam
12	2986.60	H	21.6	2.65	42.3	
13	2986.88	H	20.1	2.63	26.2	
5V	2987.03	V	16.7	2.72	0.73	
14	2987.21	H	15.7	2.72	1.25	Lam
15	2987.51	H	11.0	2.63	0.29	Lam
16	2987.81	H	3.2	2.67	0.07	Lam
6V	2988.03	V	21.5	2.71	34.9	
17	2988.10	H	21.9	2.65		Frac
18	2988.40	H	19.9	2.66	26.7	
19	2988.73	H	14.3	2.72	0.79	Lam
20	2988.98	H	5.5	2.64	0.04	Lam
7V	2989.03	V	3.0	2.77	0.01	
21	2989.30	H	9.9	2.64	7.9	Cgl, Irr
22	2989.60	H	16.8	2.63	521	Irr, crsg
23	2989.90	H	14.4	2.63	134	Irr, crsg
8V	2990.04	V	14.3	2.72	3.95	

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Remarks
24	2990.21	H	12.6	2.66	13.2	crsg
25	2990.49	H	17.9	2.66	147	
26	2990.80	H	18.0	2.69	281	
9V	2991.05	V	14.8	2.73	24.8	
27	2991.10	H	16.3	2.69	132	
28	2991.40	H	18.0	2.68	116	
29	2991.71	H	18.9	2.67	201	
30	2991.96	H	15.9	2.64	15.2	Lam
10V	2992.05	V	15.6	2.64	4.09	Lam
31	2992.30	H	13.1	2.72	2.30	Lam
32	2992.60	H	1.8	2.62		Lam, Frac
33	2992.75	H	7.6	2.67	0.33	Lam
11V	2993.03	V	2.9	3.02	0.02	Dual Lith, Lam
34	2993.22	H	2.4	2.74		Lam, Frac, Irr
35	2993.51	H	4.7	2.76	0.02	Lam
36	2993.81	H	0.9	2.64		Lam, Frac
12V	2994.04	V				Failed
37	2994.09	H	0.9	2.66		Frac
38	2994.41	H				Failed
39	2994.69	H	14.8	2.63	37.1	crsg, Irr
13V	2995.07	V				Failed
41	2995.29	H	16.5	2.65	223	crsg, Irr
42	2995.58	H	13.2	2.67	62.1	Lam, crsg, Irr
43	2995.88	H	15.9	2.70	118	
14V	2996.04	V	14.3	2.69	4.16	
44	2996.18	H	15.3	2.63	89.3	
45	2996.49	H	14.4	2.65	45.9	
46	2996.79	H	16.3	2.64	153	
15V	2997.03	V	18.8	2.65	251	
47	2997.10	H	18.7	2.65	413	
48	2997.40	H	17.6	2.66	232	
49	2997.71	H	18.0	2.66	167	
50	2997.98	H	17.9	2.67	183	
16V	2998.03	V	17.3	2.66	20.3	
51	2998.30	H	10.1	2.80	0.68	Dual Lith
52	2998.65	H	17.4	2.63	57.1	Carb?
53	2998.89	H	18.4	2.62	91.1	
17V	2999.05	V	17.6	2.62	15.0	Carb Lam
54	2999.20	H	16.8	2.66	23.0	

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Remarks
55	2999.50	H	14.7	2.64	2.33	Lam
56	2999.80	H	8.5	2.66	0.11	Lam
18V	3000.03	V				Failed
57	3000.09	H	16.9	2.65	250	crsg
58	3000.39	H	19.3	2.64	1766	crsg
59	3000.69	H	18.6	2.64	812	crsg
60	3000.97	H	17.7	2.67	624	
19V	3001.05	V	14.1	2.65	5.9	
61	3001.26	H	15.4	2.63	125	
62	3001.75	H	16.7	2.63	177	crsg
63	3001.89	H	14.1	2.63	64.7	crsg, Irr
20V	3002.05	V	16.3	2.63	77.0	
64	3002.22	H	14.2	2.65	75.5	
65	3002.52	H	14.0	2.63	41.7	crsg
66	3002.71	H	11.0	2.63	7.5	cgl
21V	3003.04	V	18.1	2.63	142	
67	3003.10	H	18.0	2.67	777	crsg
68	3003.40	H	19.0	2.64	2461	crsg
69	3003.70	H	16.8	2.64	80.5	
70	3003.95	H	8.6	2.69	0.11	
22V	3004.03	V	9.7	2.67	0.16	Lam
71	3004.27	H	13.7	2.67	1.56	
72	3004.58	H	15.9	2.66	12.2	
73	3004.88	H	17.9	2.66	27.4	
23V	3005.03	V	16.5	2.64	4.10	Lam
74	3005.20	H	17.7	2.66	24.4	
75	3005.50	H	17.1	2.67	8.5	
76	3005.80	H	11.4	2.72	0.33	Lam
24V	3006.04	V	9.3	2.67	0.07	Lam
77	3006.10	H	11.9	2.69	0.33	
78	3006.40	H	13.1	2.71	0.31	Lam
79	3006.70	H	7.2	2.69	0.03	Lam
80	3006.97	H	6.6	2.68	0.02	Lam
25V	3007.04	V	4.8	2.68	0.01	Lam
81	3007.30	H	10.1	2.73	0.06	Lam
40	3007.53	H	3.0	2.65	0.02	Lam
82	3007.62	H				Failed
83	3007.90	H	15.0	2.69	1.37	Lam
26V	3008.04	V				Failed
84	3008.22	H	17.9	2.70	12.2	

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Remarks
85	3008.68	H	19.4	2.62	843	S.L.
86	3008.82	H	18.3	2.64	841	S.L.
27V	3009.04	V	13.7	2.63	22.7	cgl
87	3009.10	H	15.5	2.66	214	crsg
88	3009.40	H	14.8	2.65	42.0	crsg
89	3009.70	H	15.3	2.64	100	crsg
90	3009.95	H	18.8	2.66	52.7	
28V	3010.05	V	18.6	2.66	26.7	
91	3010.30	H	18.8	2.64	677	
92	3010.60	H	15.1	2.66	77.0	
93	3010.90	H	15.8	2.65	114	Carb?
29V	3011.04	V	16.5	2.65	51.0	dual lith
94	3011.20	H	12.8	2.64	22.3	
95	3011.50	H	17.0	2.67	1254	
96	3011.80	H	17.1	2.67	1255	crsg
30V	3012.03	V	15.0	2.66	11.0	
97	3012.10	H	13.1	2.64	42.4	
98	3012.40	H	10.0	2.63	6.0	cgl
99	3012.70	H	14.0	2.64	55.1	crsg, Irr
100	3012.97	H	11.4	2.64	10.9	crsg
31V	3013.04	V	10.8	2.64	2.51	
101	3013.29	H	9.2	2.63	6.1	cgl
102	3013.55	H	18.4	2.65	681	
103	3013.89	H	17.7	2.66	708	
32V	3014.11	V	18.2	2.66	255	
104	3014.17	H	18.4	2.66	312	
						Core#2
33V	3145.04	V	13.3	2.62	8.3	
105	3145.15	H	16.2	2.63	140	
106	3145.45	H	15.5	2.66	50.6	Cgl
107	3145.75	H	16.7	2.65	106	Crsg
34V	3146.03	V	17.2	2.66	85.8	
108	3146.08	H	15.7	2.65	57.9	Cgl
109	3146.37	H	16.4	2.64	62.8	
110	3146.67	H	13.0	2.65	4.51	
111	3146.95	H	2.1	2.66	0.02	
35V	3147.03	V	11.2	2.66	0.08	Lam
112	3147.25	H	12.1	2.68	0.21	
113	3147.55	H	6.2	2.74	0.04	Lam
114	3147.85	H	2.1	2.67	1.73	

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Remarks
36V	3148.04	V	1.5	2.68	< 0.01	Lam
115	3148.18	H	8.9	2.74	0.11	
116	3148.48	H	17.8	2.66	74.4	
117	3148.77	H	19.2	2.66	48.2	
37V	3149.03	V	15.9	2.65	2.84	Lam
118	3149.09	H	14.4	2.66	3.74	Lam
119	3149.39	H	11.0	2.66	1.05	Lam
120	3149.75	H	15.6	2.63		Frac
121	3149.97	H	15.0	2.65	6.7	
38V	3150.04	V	15.4	2.66	3.97	Lam
122	3150.21	H				Failed
123	3150.43	H	13.7	2.65	5.4	Lam
124	3150.89	H	15.3	2.63		Frac
39V	3151.03	V	12.0	2.64	0.99	Lam
125	3151.17	H	9.1	2.66	0.37	Lam
126	3151.45	H	18.7	2.62	747	
127	3151.74	H	17.6	2.62	432	
40V	3152.02	V	16.4	2.64	48.3	
128	3152.08	H	15.0	2.63	72.0	
129	3152.35	H	7.5	2.68	0.95	Lam
130	3152.65	H	19.0	2.70	119	Dual Lith
131	3152.95	H	15.4	2.68	34.8	Cgl, Lam
41V	3153.03	V	16.9	2.65	14.8	
132	3153.25	H	13.5	2.66	7.7	Cgl, Dual Lith
133	3153.56	H	11.9	2.67	0.59	Lam
134	3153.86	H	16.9	2.64	33.9	
42V	3154.02	V	16.9	2.67	7.0	
135	3154.11	H	17.2	2.68	25.6	
136	3154.44	H	15.2	2.68	3.27	
137	3154.74	H	13.1	2.69	1.18	
43V	3155.03	V	10.4	2.69	0.20	Lam
138	3155.08	H	10.6	2.67	0.84	
139	3155.43	H	14.9	2.64	25.2	
140	3155.65	H	12.6	2.63	9.3	
141	3155.97	H	14.1	2.66	38.8	Cgl
44V	3156.03	V	13.9	2.66	6.8	cgl
142	3156.24	H	15.1	2.65	16.7	
143	3156.54	H	13.3	2.64	3.91	Lam
144	3156.83	H	14.5	2.66	9.1	

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Remarks
45V	3157.04	V	12.1	2.67	0.84	Lam
145	3157.15	H	14.2	2.66	7.4	
146	3157.45	H	11.7	2.64	1.83	
147	3157.74	H	10.9	2.65	5.5	
46V	3158.03	V	13.0	2.64	5.0	
148	3158.08	H	13.9	2.64	17.0	
149	3158.38	H	9.1	2.65	0.39	Dual Lith
150	3158.68	H	11.8	2.65	6.5	Cgl
151	3158.96	H	17.1	2.63	40.6	
47V	3159.03	V	15.6	2.71	11.2	cgl, S.P.
152	3159.26	H	5.3	2.64	0.52	Carb Lam
153	3159.56	H	14.1	2.68	18.0	
154	3159.92	H	15.1	2.64	22.3	
48V	3160.04	V	12.7	2.65	1.24	
155	3160.18	H	13.9	2.65	11.1	
156	3160.48	H	13.2	2.67	3.50	
157	3160.78	H	14.5	2.65	7.8	
49V	3161.04	V	13.0	2.69	0.29	Lam
158	3161.15	H	16.4	2.67	4.89	
159	3161.51	H	12.7	2.68	0.25	Lam
160	3161.69	H	13.9	2.69	0.26	Lam
161	3161.96	H	10.7	2.70	0.07	Lam
50V	3162.03	V	9.3	2.69	0.02	Lam
162	3162.28	H	11.4	2.72	0.07	Lam
163	3162.54	H	3.6	2.69	0.03	Lam
164	3162.79	H	4.2	2.73	0.02	Lam
51V	3163.05	V				Failed
165	3163.13	H	1.7	2.77		Frac
166	3163.24	H	8.3	2.72	3.43	Lam, cgl
167	3163.68	H	16.4	2.70	48.4	cgl
52V	3164.05	V	10.7	2.69	0.07	Lam
168	3164.09	H	9.6	2.70	0.11	Lam
169	3164.35	H	2.7	2.66	0.14	Lam, Frac?
170	3164.64	H	10.9	2.65	1.71	
171	3164.95	H	15.1	2.67	19.4	
53V	3165.04	V	13.2	2.67	1.89	
172	3165.25	H	10.1	2.65	0.58	Lam
173	3165.55	H	14.8	2.65	19.0	
174	3165.87	H	11.1	2.64	2.67	
54V	3166.04	V	17.5	2.64	68.0	

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Remarks
175	3166.17	H	17.3	2.64	343	
176	3166.47	H	13.8	2.64	12.1	
177	3166.78	H	16.6	2.75	83.9	
55V	3167.03	V	17.4	2.66	25.0	
178	3167.08	H	16.5	2.66	21.6	
179	3167.30	H	16.6	2.66	30.3	
180	3167.65	H	14.6	2.66	4.12	
181	3167.97	H	7.9	2.73	0.20	
56V	3168.04	V	11.5	2.68	0.42	
182	3168.22	H	6.2	2.64	0.06	Lam
183	3168.57	H	2.6	2.69	0.02	Lam
184	3168.77	H	3.9	2.64	0.05	Lam
57V	3169.05	V	14.5	2.65	10.8	S.L., S.P.
185	3169.20	H	10.6	2.64	25.1	S.L.
186	3169.55	H	18.7	2.63	135	S.L.
187	3169.77	H	19.7	2.65	164	S.L.
58V	3170.03	V	20.8	2.65	192	S.L., S.P.
188	3170.08	H	19.8	2.65	257	S.L.
189	3170.33	H	18.9	2.64	149	S.L.
190	3170.64	H	17.6	2.66	56.2	S.L.
191	3170.94	H	18.4	2.65	56.7	S.L.
59V	3171.02	V	17.1	2.64	96.3	S.L., S.P.
192	3171.26	H	17.4	2.63	44.0	S.L.
193	3171.58	H	14.4	2.63	60.0	S.L.
194	3171.91	H	17.0	2.65	187	S.L.
60V	3172.02	V	16.2	2.65	83.7	S.L., S.P.
195	3172.12	H	16.4	2.65	66.2	S.L.
196	3172.52	H				Failed
197	3172.69	H	17.0	2.64	53.2	S.L.
61V	3173.03	V	16.2	2.63	39.9	S.L.
198	3173.10	H	14.9	2.63	24.3	S.L.
199	3173.46	H	13.7	2.64	54.8	S.L.
200	3173.73	H	14.7	2.64	46.5	S.L.
62V	3174.02	V				Failed
201	3174.06	H	19.0	2.69	126	S.L.

APPENDIX II

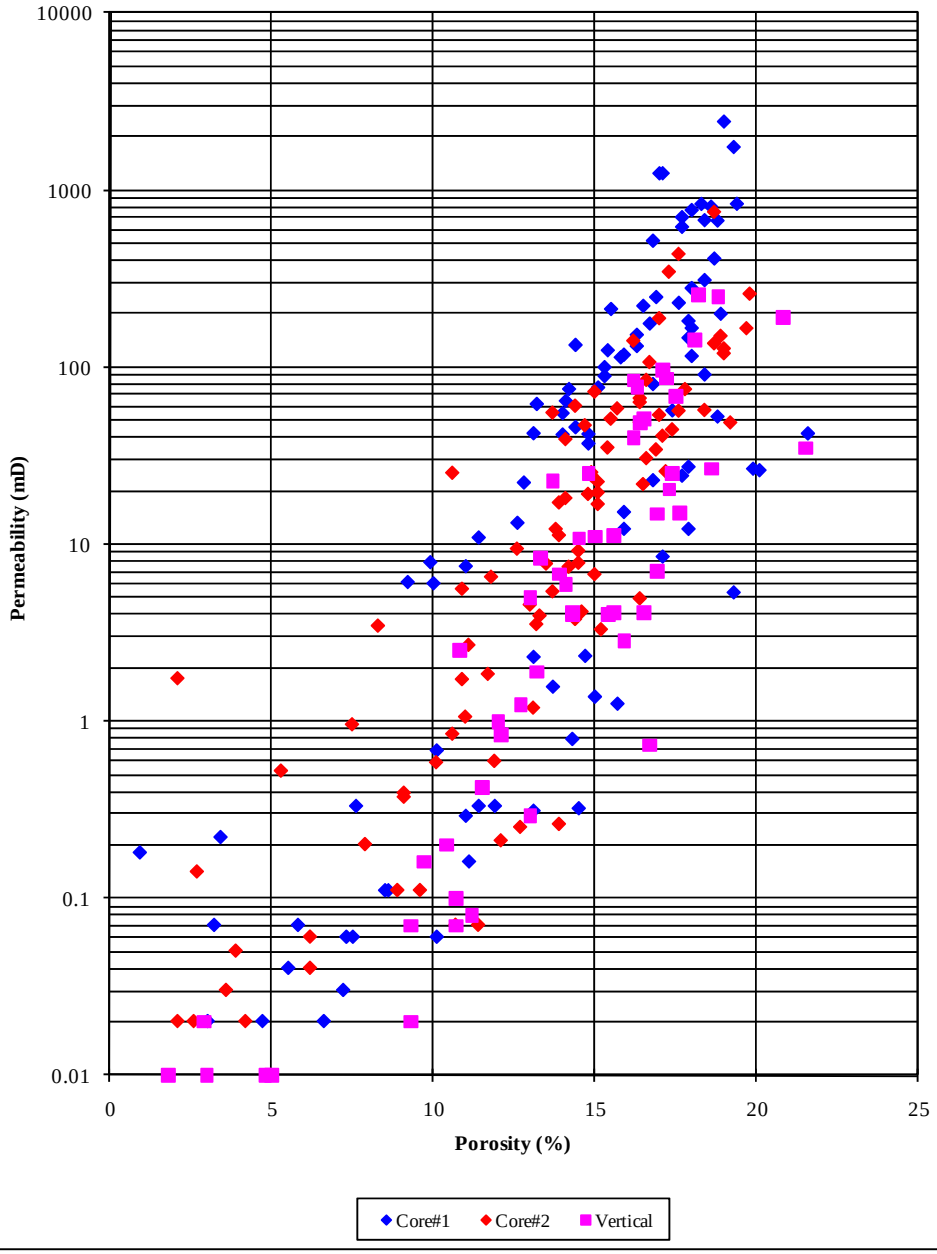
POROSITY vs PERMEABILITY

POROSITY vs PERMEABILITY
Ambient

Client: **Origin Energy Resources Limited**

Well: **Trefoil-2**

Depth: **2983.00 to 3014.20 m**
3145.00 to 3174.25 m



APPENDIX III

SPECTRAL CORE GAMMA

CORE PLOT

Weatherford LABORATORIES

Client: Origin Energy Resources Limited
Well: Trefoil-2
File No.: 0464-02
Core Int: 2983.00 to 3014.20 m

Core Gamma
API Units

SGR
CGR

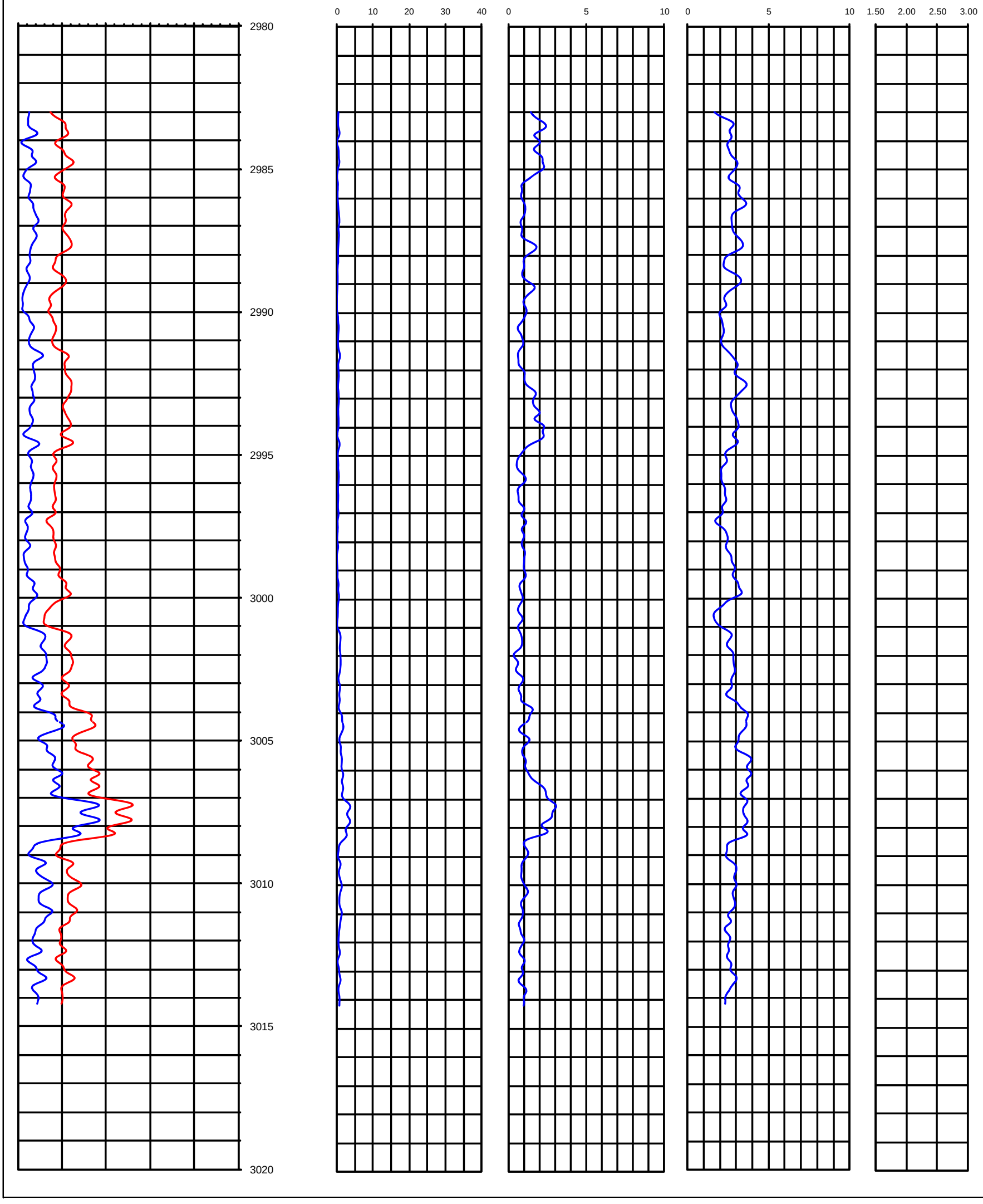
Depth (m)

Thorium
ppm

Uranium
ppm

Potassium
Percent

Density
g/cc
Bulk



Weatherford Laboratories (Australia)
ABN: 81 008 273 005

CORE PLOT

Client: Origin Energy Resources Limited
Well: Trefoil-2
File No.: 0464-02
Core Int: 3145.00 to 3174.25 m

Core Gamma
API Units

SGR
CGR

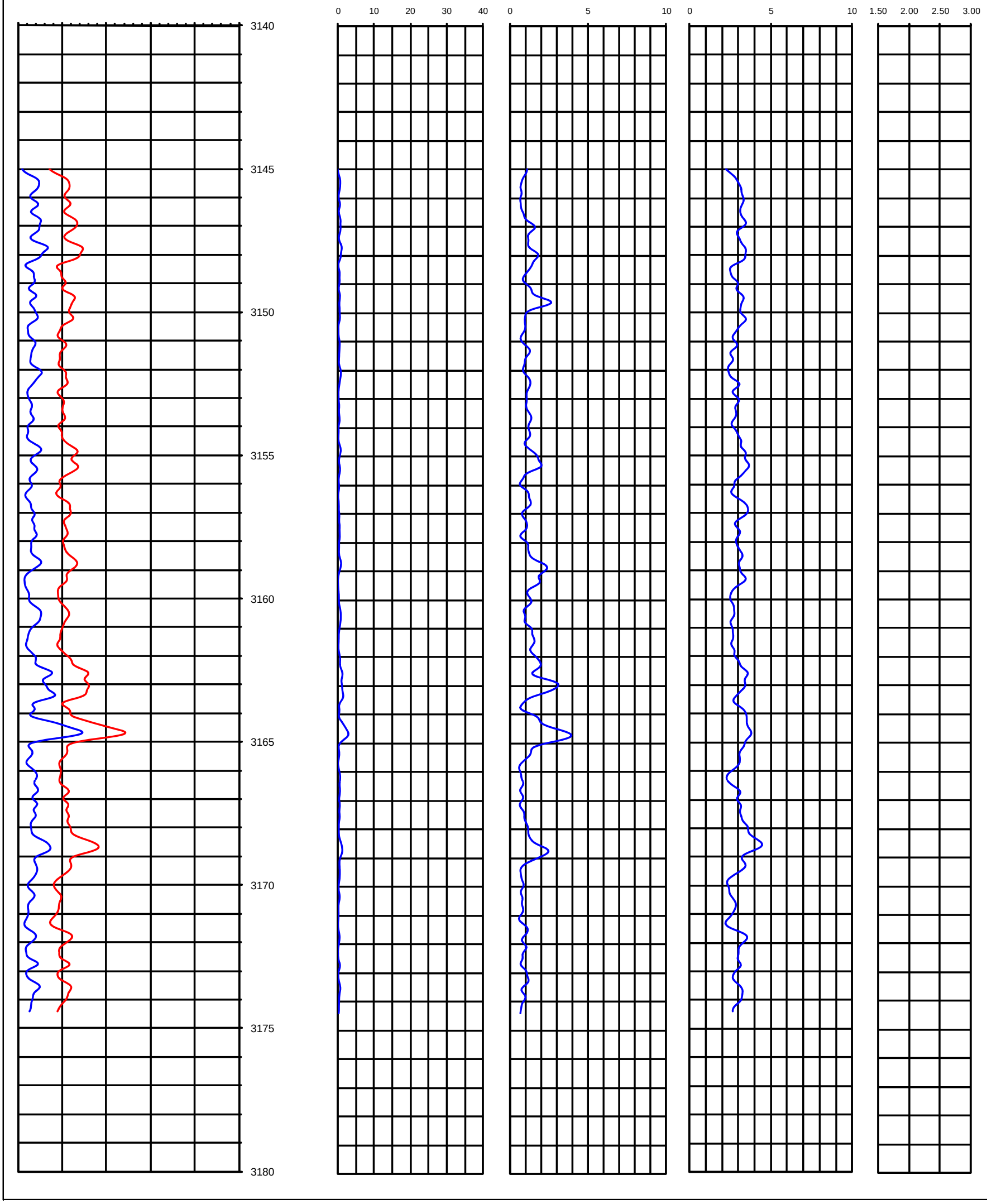
Depth (m)

Thorium
ppm

Uranium
ppm

Potassium
Percent

Density
g/cc
Bulk



Weatherford Laboratories (Australia)
ABN: 81 008 273 005

APPENDIX IV

CORE LOG PLOTS

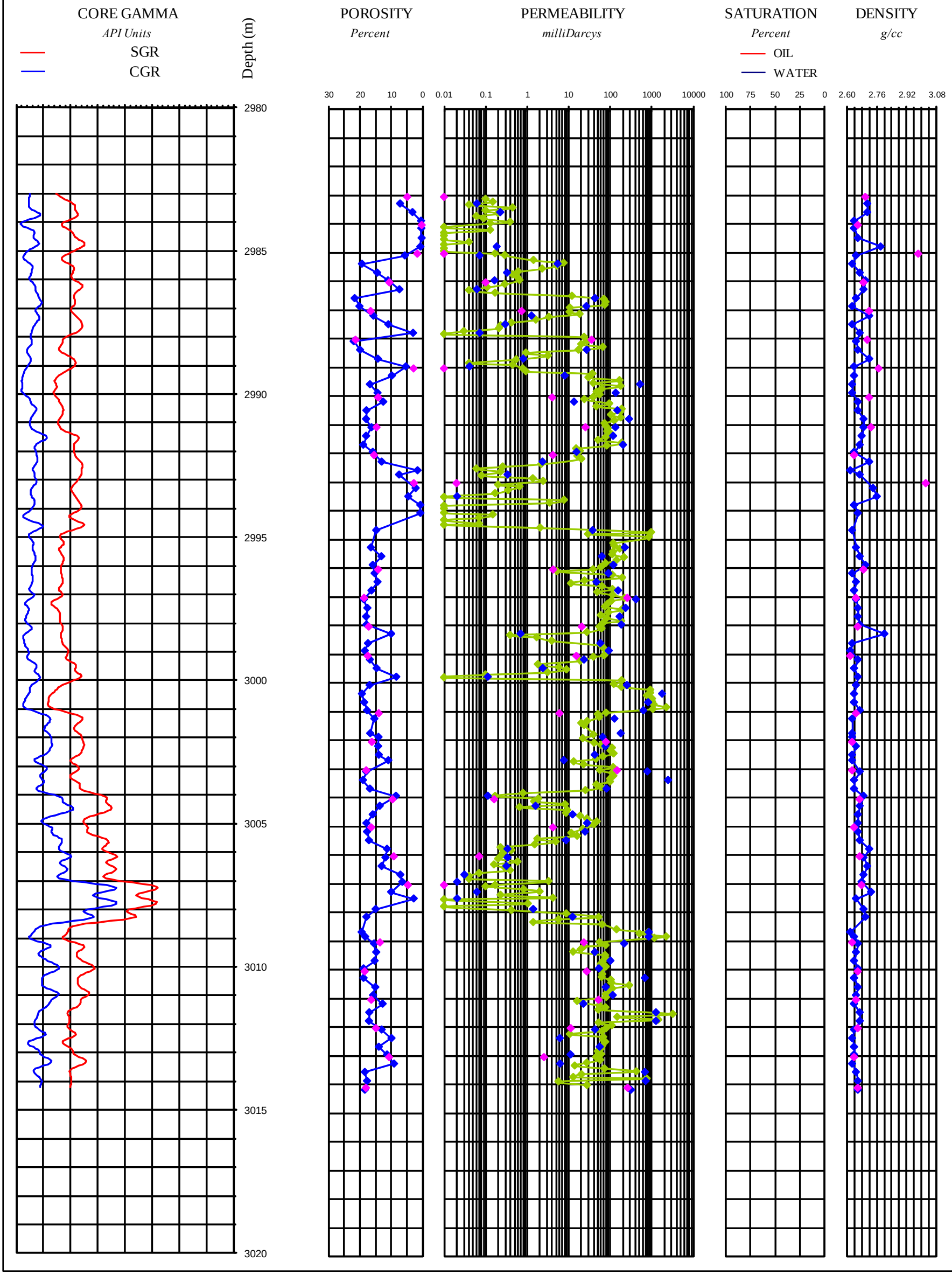
CORE PLOT

Weatherford LABORATORIES

Client: Origin Energy Resources Limited
Well: Trefoil-2
File No.: 0464-02

Core Int: 2983.00 to 3014.20 m

Horizontal
Probe Perm
Vertical



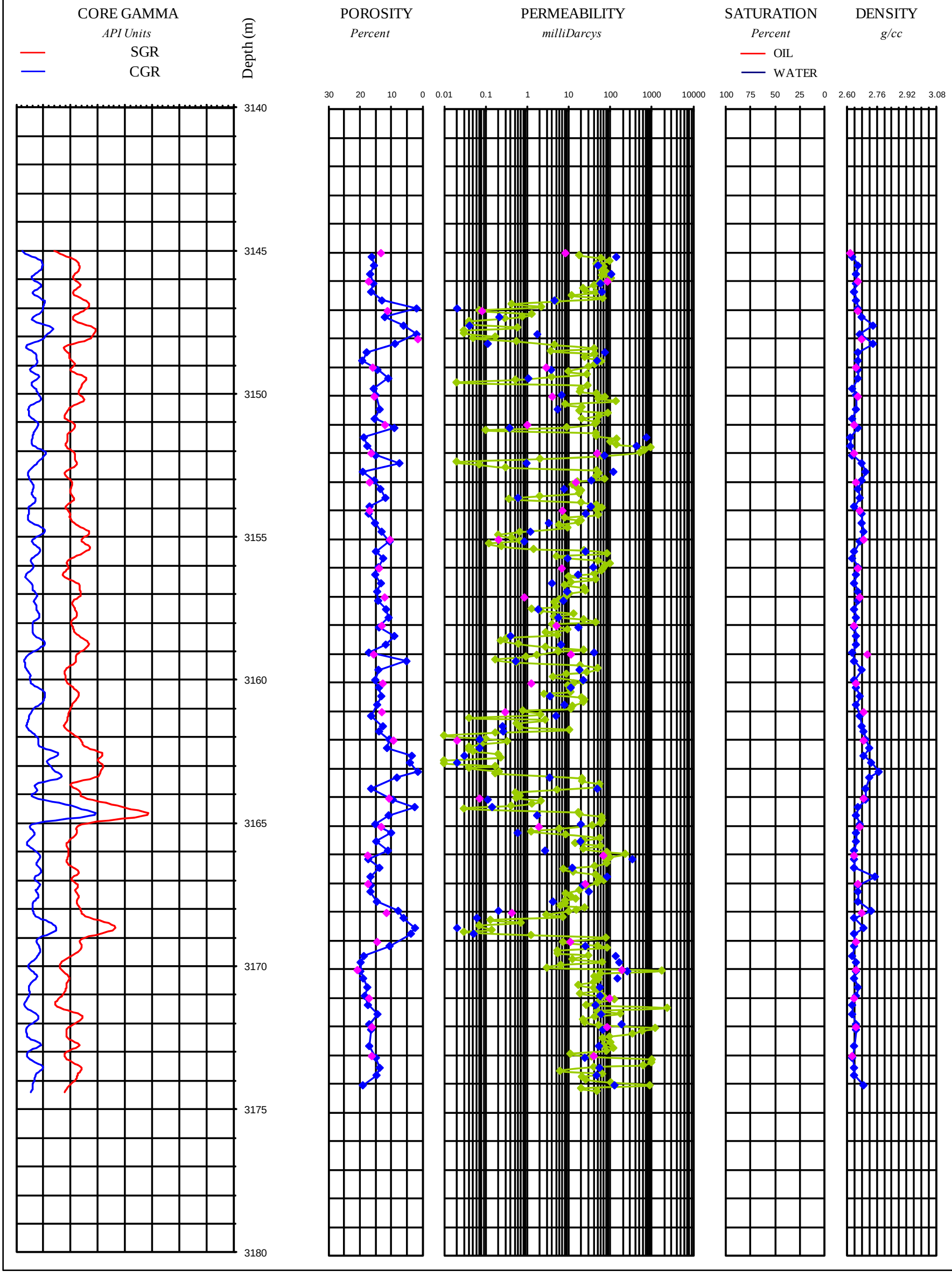
CORE PLOT

Weatherford LABORATORIES

Client: Origin Energy Resources Limited
Well: Trefoil-2
File No.: 0464-02

Core Int: 3145.00 to 3174.25 m

Horizontal
Probe Perm
Vertical



APPENDIX V

PROBE PERMEABILITY DATA

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
2983.14	0.10		2986.52	12.1	
2983.24	0.15		2986.63	70.7	
2983.34	0.04		2986.73	78.0	
2983.44	0.45		2986.83	74.2	
2983.54	0.10		2986.93	10.7	
2983.64	0.20		2987.08	10.6	
2983.74	0.06		2987.15	18.4	Frac?
2983.82	0.09	Frac?	2987.25	3.35	
2983.94	0.39	Frac?	2987.35	1.63	
2983.99	0.13		2987.45	0.42	
2984.12	0.01		2987.55	0.23	
2984.22	0.13		2987.65	0.21	
2984.32	0.01		2987.75	0.03	
2984.42	0.01		2987.85	0.01	
2984.55	0.01		2987.95	23.7	
2984.64	0.04		2988.10	27.5	Frac
2984.73	0.01		2988.20	20.2	
2984.86	0.01		2988.30	66.4	Frac?
2984.96	0.01		2988.40	17.3	Frac?
2985.04	0.17		2988.50	0.94	
2985.10	0.29		2988.60	3.20	
2985.27	1.43		2988.73	0.55	
2985.37	7.6		2988.86	0.04	
2985.47	5.2		2988.92	0.45	
2985.57	2.31		2989.05	0.79	
2985.67	0.61		2989.15	0.94	
2985.77	0.45		2989.23	37.7	crsg
2985.87	0.59		2989.36	30.1	crsg
2985.97	0.66		2989.46	169	crsg
2986.11	0.29		2989.56	39.4	crsg
2986.22	0.11		2989.66	180	crsg, Irregular Surface
2986.32	0.04		2989.76	63.0	crsg
2986.41	0.17		2989.86	47.3	crsg

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
2989.96	56.0	crsg	2993.40	0.17	
2990.05	39.0		2993.53	0.01	
2990.12	24.0	crsg	2993.63	7.8	
2990.27	95.5		2993.73	3.49	Lams
2990.37	46.7		2993.83	0.01	
2990.46	190		2993.93	0.01	
2990.56	177		2994.08	0.01	
2990.66	105		2994.14	0.15	Fracs
2990.76	181		2994.25	0.07	Fracs
2990.86	126		2994.33	0.01	
2990.96	73.3		2994.46	0.07	Fracs
2991.05	78.5		2994.50	0.01	
2991.14	87.8		2994.60	2.07	
2991.24	85.4		2994.76	973	crsg, Irregular Surface
2991.34	107		2994.82	29.3	crsg
2991.44	78.2		2994.92	857	crsg
2991.54	51.0		2994.98		crsg
2991.64	190		2995.14	119	crsg
2991.74	83.1		2995.23	126	crsg
2991.84	15.2		2995.33	171	crsg
2991.92	18.9		2995.43	118	crsg
2992.10	16.3		2995.53	113	crsg
2992.20	20.3		2995.63	216	crsg
2992.38	2.21	Frac	2995.73	143	crsg
2992.47	0.26		2995.84	77.6	crsg
2992.54	0.06		2995.97	60.4	crsg
2992.65	0.23		2996.05	39.0	
2992.78	0.08		2996.12	5.3	
2992.88	1.38		2996.24	112	
2992.97	2.44	Frac	2996.34	196	
2993.10	0.20		2996.44	24.2	
2993.16	0.66		2996.54	11.4	
2993.29	0.35	Lams	2996.64	63.6	

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
2996.74	114		3000.05	122	crsg
2996.84	49.2		3000.15	187	
2996.94	115		3000.25	928	crsg
2997.05	222		3000.35	924	
2997.15	107		3000.45	768	
2997.25	87.2		3000.56	1024	
2997.35	74.7		3000.66	1026	
2997.45	191		3000.76	1121	
2997.55	91.4		3000.86	2257	
2997.65	59.3		3000.92	1068	
2997.75	82.6		3001.05	79.6	
2997.85	186		3001.10	50.7	
2997.92	67.5		3001.20	55.0	
2998.05	55.5		3001.34	28.1	
2998.11	62.3		3001.41	20.2	
2998.24	27.6		3001.48	23.7	
2998.34	0.39		3001.60		Rubble
2998.42	1.70		3001.70		Rubble
2998.54	3.92		3001.81	39.7	
2998.62			3001.94	22.0	
2998.70	60.3		3002.10	41.2	
2998.80	69.7		3002.17	60.2	
2998.92	86.2		3002.27	111	
2999.05	71.9		3002.37	103	
2999.10	39.6		3002.47	121	
2999.24	19.2		3002.57	66.8	
2999.36	1.82		3002.66	45.6	
2999.46	5.8		3002.75	13.3	Congl
2999.54	8.9	Frac?	3002.85	23.0	Congl
2999.64	3.12		3002.95	118	
2999.72	0.10		3003.05	56.6	
2999.82	0.01		3003.15	112	
2999.92	189	crsg	3003.25	120	

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
3003.35	99.7		3006.74	0.04	
3003.45	99.6		3006.84	0.04	
3003.55	46.6		3006.92	3.30	
3003.65	61.1		3007.05	0.17	
3003.75	25.4		3007.10	0.10	
3003.85	0.80		3007.20	0.83	
3003.95	0.17		3007.28	2.01	
3004.04	1.87		3007.40	0.23	
3004.14	1.48		3007.50	4.19	intbd
3004.24	8.2		3007.56	0.01	
3004.34	0.66		3007.70	1.05	
3004.44	9.3		3007.80	0.01	
3004.54	8.7		3007.93	0.42	
3004.64	18.9		3008.05	8.8	
3004.74	27.5		3008.17	52.9	
3004.84	47.8		3008.25	5.7	
3004.94	40.7		3008.35	1.41	
3005.10	22.0		3008.43	64.1	
3005.24	11.6		3008.60	143	
3005.34	16.1		3008.70	825	
3005.44	1.77		3008.75	511	
3005.54	4.92		3008.85	2238	
3005.64	1.52		3008.90	1168	
3005.74	0.23		3009.05	55.9	
3005.84	0.42		3009.15	78.5	
3005.94	0.26		3009.20	23.5	crsg
3006.05	0.23		3009.30	19.5	
3006.14	0.20		3009.38	12.9	
3006.24	0.59		3009.50	75.5	
3006.34	0.16		3009.60	78.7	
3006.44	0.29		3009.69	68.6	
3006.54	0.39		3009.80	59.7	
3006.64	0.07		3009.90	78.7	

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
3009.95	67.5		3013.45	72.6	crsg
3010.16	64.9		3013.55	427	
3010.26	62.6		3013.65	20.4	
3010.36	104		3013.75	13.0	
3010.46	107		3013.80	759	
3010.55	288		3013.90	5.7	
3010.66	113		3014.03	27.8	
3010.76	96.7				
3010.86	78.9		3145.10	17.6	
3010.96	80.5		3145.20	58.9	crsg
3011.10	16.1		3145.30	94.5	crsg
3011.25	54.8		3145.40	45.9	
3011.32	77.4		3145.50	68.1	
3011.40	52.0		3145.60	61.7	
3011.55	3229	crsg	3145.70	80.5	
3011.65	148		3145.80	62.2	
3011.75	1443		3145.90	103	
3011.85	53.0		3146.03	55.5	
3011.95	110		3146.15	40.0	
3012.05	79.6		3146.25	21.9	
3012.15	63.6		3146.33	24.8	
3012.25	10.7		3146.40	43.6	
3012.35	68.2		3146.50	11.6	
3012.45	68.1		3146.60	64.7	
3012.52	76.3		3146.70	5.2	
3012.65	65.3		3146.80	0.42	
3012.75	61.1		3146.90	2.17	
3012.85	50.7		3147.02	0.07	
3012.95	60.7		3147.15	1.28	
3013.05	45.9		3147.24	0.76	
3013.15	57.9		3147.30	0.29	
3013.25	27.3		3147.40	0.04	
3013.35	14.1		3147.50	0.04	

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
3147.62	0.58		3150.90	46.7	
3147.72	0.03		3150.98	42.7	
3147.82	0.03		3151.10	8.9	
3147.94	0.17		3151.20	0.10	
3147.99	0.05		3151.30	44.1	crsg
3148.10	0.55		3151.40	45.3	
3148.22	4.51		3151.50	140	crsg
3148.35	40.4	crsg	3151.60	98.1	
3148.44	3.66		3151.70	138	
3148.54	41.3		3151.80	921	
3148.65	24.0		3151.90	647	
3148.73	45.6		3151.98	512	
3148.80	59.5		3152.10	60.5	
3148.90	41.6		3152.20	2.02	
3148.98	29.5		3152.30	0.02	
3149.15	9.7		3152.40	0.07	
3149.25	27.0		3152.50	0.30	
3149.34	3.84		3152.60	46.1	
3149.44	0.52		3152.70	52.1	
3149.54	0.02		3152.80	45.3	
3149.64	28.1		3152.90	72.1	
3149.76	19.1	crsg	3152.99	16.0	
3149.86	18.3		3153.10	12.2	
3149.92	45.7		3153.20	15.4	crsg
3150.04	73.0		3153.30	19.6	
3150.10	50.7		3153.40	17.5	
3150.19	134		3153.50	1.99	
3150.29	8.2		3153.60	0.36	
3150.40	20.3		3153.72	19.5	
3150.52	17.9		3153.80	45.7	
3150.60	86.2		3153.90	61.8	
3150.70	52.7		3153.98	46.8	
3150.80	20.3		3154.15	50.6	

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
3154.25	7.9		3157.50	2.11	
3154.35	19.3		3157.60	13.0	
3154.41	16.8		3157.70	4.33	
3154.50	5.8		3157.80	22.7	
3154.60	9.3		3157.90	44.0	
3154.75	0.66		3157.97	3.95	
3154.85	0.20		3158.15	9.3	
3154.95	0.42		3158.25	2.76	
3155.05	0.66		3158.34	5.3	
3155.15	0.12		3158.44	0.32	
3155.25	0.24		3158.54	0.23	
3155.35	1.42		3158.65	0.61	
3155.39	23.1		3158.76	2.72	
3155.50	82.4		3158.86	22.7	
3155.60	5.0		3158.92	5.6	
3155.75	50.0		3159.04	1.69	
3155.85	96.7		3159.10	0.93	
3155.95	71.4		3159.20	0.17	
3156.03	65.5		3159.30	0.55	
3156.10	60.5		3159.40	18.5	
3156.20	40.8		3159.50	49.1	
3156.30	9.8		3159.64	26.7	
3156.40	43.9		3159.70	8.7	
3156.50	11.2		3159.80	4.11	
3156.60	7.9		3159.96	21.4	
3156.70	23.1		3160.03	13.1	
3156.80	25.0		3160.10	9.4	
3156.90	10.2		3160.23	10.5	
3157.03	8.2		3160.33	10.9	
3157.10	5.9		3160.40	2.52	
3157.20	4.43		3160.52	20.1	
3157.35	4.89		3160.60	23.5	
3157.43	1.27		3160.68	22.3	

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
3160.82	12.2		3164.13	2.12	
3160.92	11.1		3164.23	1.29	
3160.98	0.78		3164.30	0.41	
3161.12	2.07		3164.40	0.03	
3161.24	0.04		3164.53	16.9	
3161.30	2.70		3164.59	18.2	
3161.43	0.55		3164.68	61.0	
3161.56	0.66		3164.80	63.1	
3161.65	10.2		3164.90	57.9	
3161.75	0.17		3164.98	36.2	
3161.85	0.01		3165.10	5.9	
3161.96	0.10		3165.20	1.24	
3162.05	0.33		3165.30	8.3	
3162.15	0.08		3165.42	55.6	
3162.24	0.04		3165.50	23.2	
3162.34	0.04		3165.60	14.1	
3162.40	0.05		3165.70	57.3	
3162.50	0.20		3165.80	22.3	
3162.62	0.23		3165.91	81.5	
3162.72	0.01		3165.98	226	
3162.82	0.01		3166.10	97.2	
3162.92	0.17		3166.20	79.9	
3162.98	0.04		3166.30	80.9	
3163.11	0.21		3166.40	41.6	
3163.17	0.17		3166.50	7.3	
3163.34	20.6		3166.60	12.7	
3163.44	20.8		3166.70	43.5	
3163.54	54.0		3166.80	51.6	
3163.64	52.0		3166.90	69.3	
3163.74	5.2		3166.98	47.6	
3163.84	0.52		3167.12	26.0	
3163.95	0.66		3167.24	17.9	
3164.03	0.54		3167.36	8.3	

PROBE PERMEABILITY

Client Origin Energy Resources Limited
Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
3167.46	11.3		3170.65	39.6	
3167.54	14.6		3170.75	53.0	
3167.60	8.1		3170.85	18.4	
3167.70	8.1		3170.95	67.7	
3167.78	6.3		3171.05	123	
3167.85	23.8		3171.15	51.0	
3167.93	15.1		3171.25	25.9	
3167.98	9.8		3171.35	2290	
3168.10	2.86		3171.45	48.0	
3168.18	7.1		3171.55	172	
3168.28	0.13		3171.65	41.7	
3168.38	0.70		3171.75	21.8	
3168.48	0.07		3171.85	23.9	
3168.63	0.14		3171.95	51.6	
3168.70	0.03		3172.05	1180	
3168.81	1.23		3172.15	578	
3168.90	77.3		3172.25	337	
3169.05	7.2		3172.35	94.2	
3169.18	48.9		3172.40	63.9	
3169.25	82.4		3172.55	99.5	
3169.35	5.3		3172.65	67.2	
3169.45	5.4		3172.75	117	
3169.52	29.3		3172.85	79.8	
3169.65	12.1		3172.95	10.8	
3169.75	63.1		3173.05	34.8	
3169.85	6.4		3173.15	982	
3169.95	2.95		3173.25	955	
3170.05	1703		3173.35	608	
3170.15	57.4		3173.41	39.5	
3170.25	40.9		3173.55	6.1	
3170.35	51.4		3173.65	63.3	
3170.45	39.5		3173.75	20.5	
3170.55	16.8		3173.85	25.3	

Weatherford Laboratories (Australia)
ABN: 81 008 273 005

PROBE PERMEABILITY

Well Trefoil-2

Depth *(metres)*	Probe Permeability *(mD)*	Comments	Depth *(metres)*	Probe Permeability *(mD)*	Comments
3173.95	101				
3174.05	875				
3174.15	19.6				
3174.25	46.9				

N.B. 0.04mD is the limit of detection

APPENDIX VI

CORE PHOTOGRAPHY

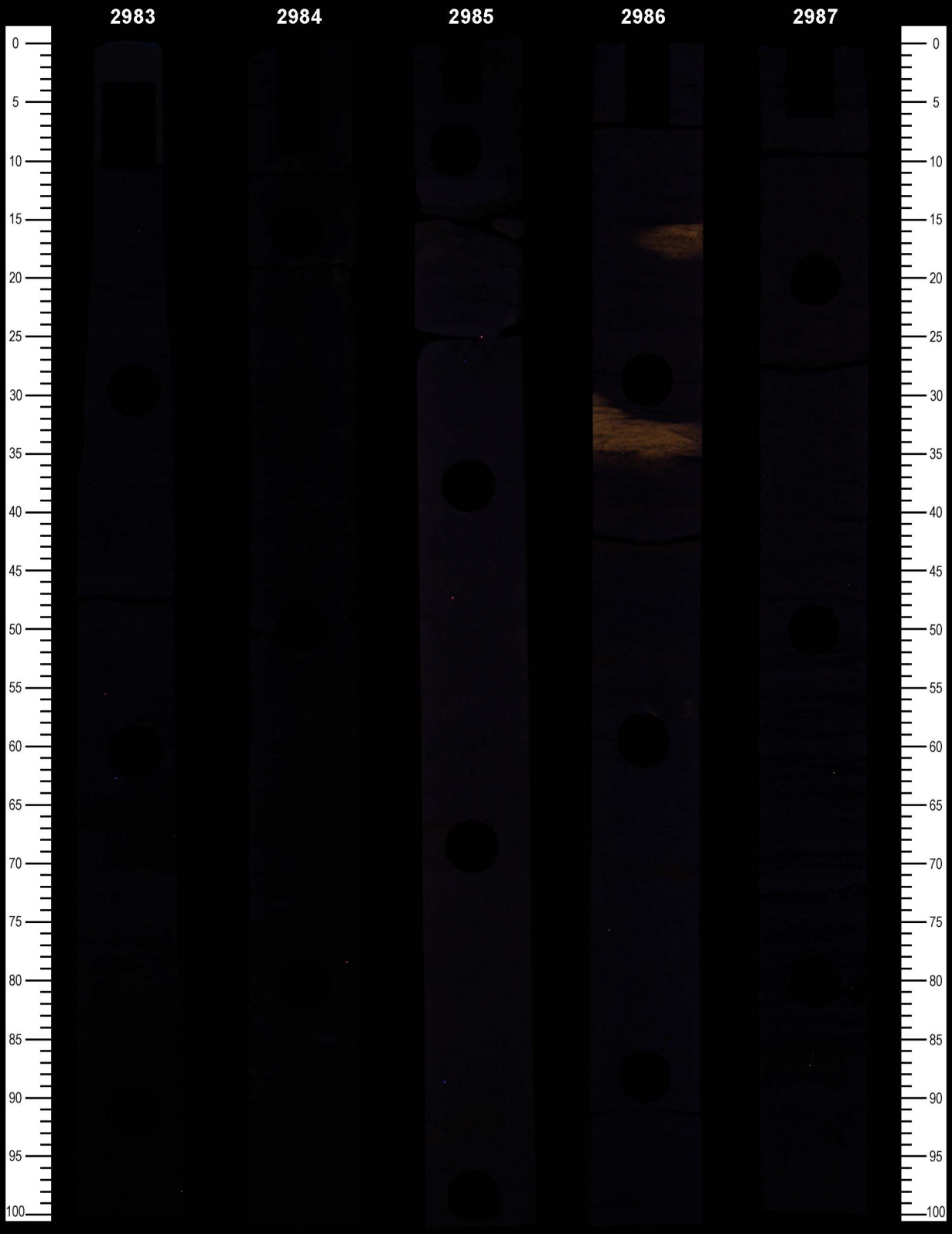
TREFOIL-2


2983
2984
2985
2986
2987
1V Ka 0.01 Ø 5.0
1 Ka 0.06 Ø 7.3
2 Ka 0.22 Ø 3.4
3 Frac Ø 0.7
2V Ka <0.01 Ø 0.4
4 Frac Ø 0.6
5 Frac Ø 0.5
6 Ka 0.18 Ø 0.9
3V Ka 0.01 Ø 1.8
7 Ka 0.07 Ø 5.8
8 Ka 5.3 Ø 19.3
9 Ka 0.32 Ø 14.5
10 Ka 0.16 Ø 11.1
4V Ka 0.10 Ø 10.7
11 Ka 0.06 Ø 7.5
12 Ka 42.3 Ø 21.6
13 Ka 26.2 Ø 20.1
5V Ka 0.73 Ø 16.7
14 Ka 1.25 Ø 15.7
15 Ka 0.29 Ø 11.0
16 Ka 0.07 Ø 3.2
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
KODAK Color Control Patches
KODAK Gray Scale
Blue
Cyan
Green
Yellow
Red
Magenta
White
3/Color
Black

Origin energy

TREFOIL-2
Ultra Violet

Weatherford® LABORATORIES



TREFOIL-2


2988
2989
2990
2991
2992
6V
Ka 34.9
Ø 21.5
17
Frac
Ø 21.9
18
Ka 26.7
Ø 19.9
19
Ka 0.79
Ø 14.3
20
Ka 0.04
Ø 5.5
7V
Ka 0.01
Ø 3.0
21
Ka 7.9
Ø 9.9
22
Ka 521
Ø 16.8
23
Ka 134
Ø 14.4
8V
Ka 3.95
Ø 14.3
24
Ka 13.2
Ø 12.6
25
Ka 147
Ø 17.9
26
Ka 281
Ø 18.0
9V
Ka 24.8
Ø 14.8
27
Ka 132
Ø 16.3
28
Ka 116
Ø 18.0
29
Ka 201
Ø 18.9
30
Ka 15.2
Ø 15.9
10V
Ka 4.09
Ø 15.6
31
Ka 2.30
Ø 13.1
32
Frac
Ø 1.8
33
Ka 0.33
Ø 7.6
Failed
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

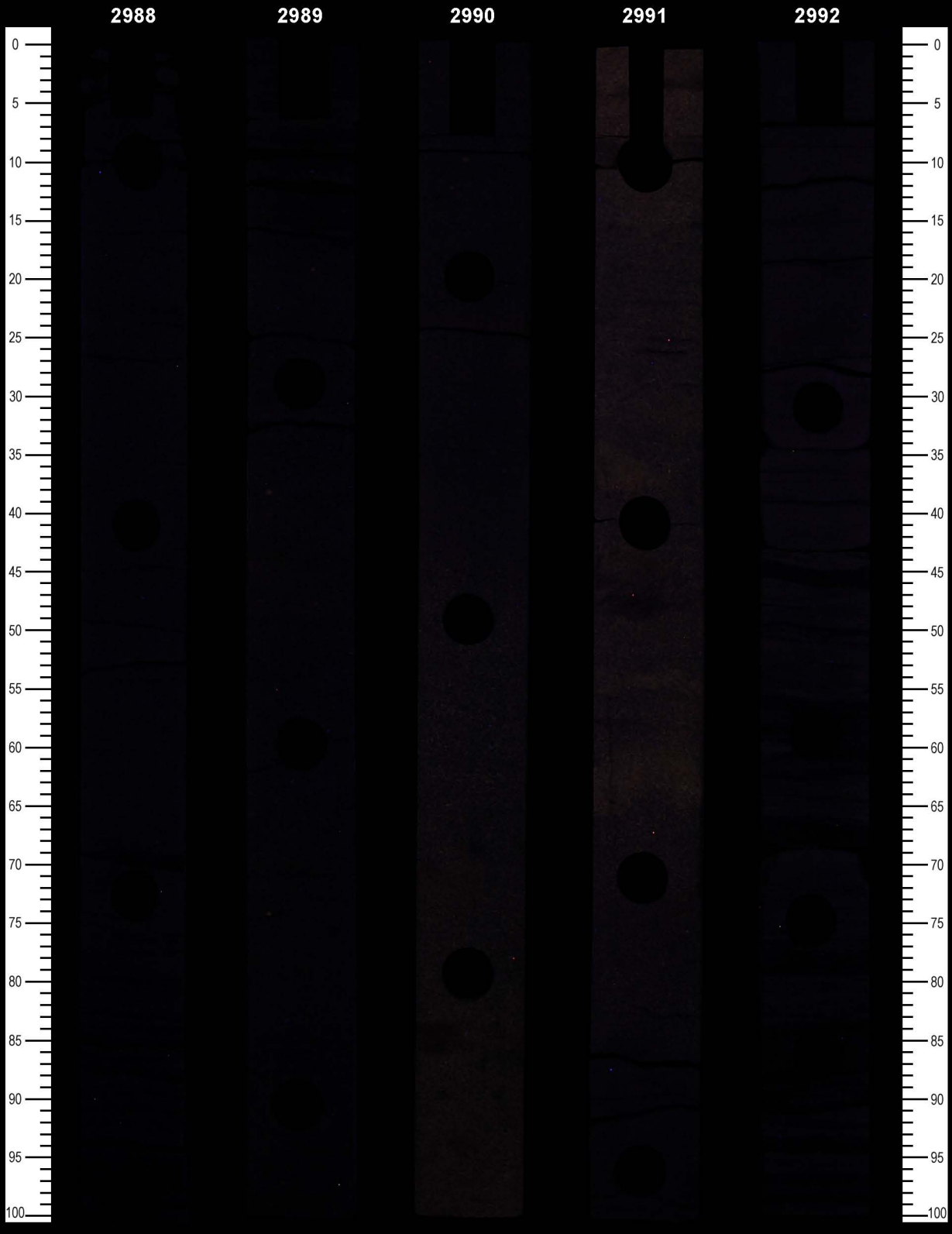

KODAK Color Control Patches
KODAK Gray Scale
Blue
Cyan
Green
Yellow
Red
Magenta
White
3/Color
Black

Origin energy

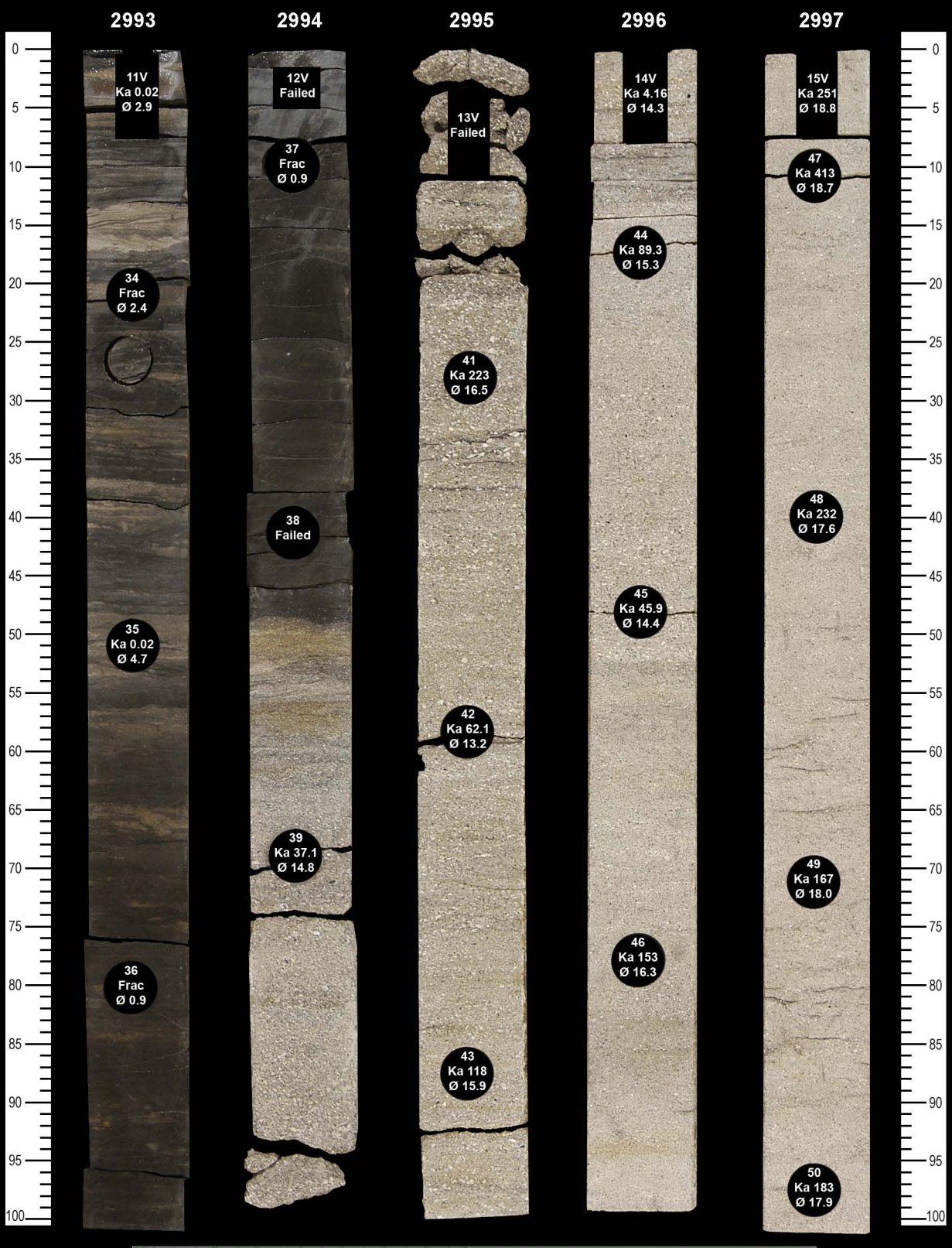
TREFOIL-2

Ultra Violet

Weatherford® LABORATORIES



TREFOIL-2

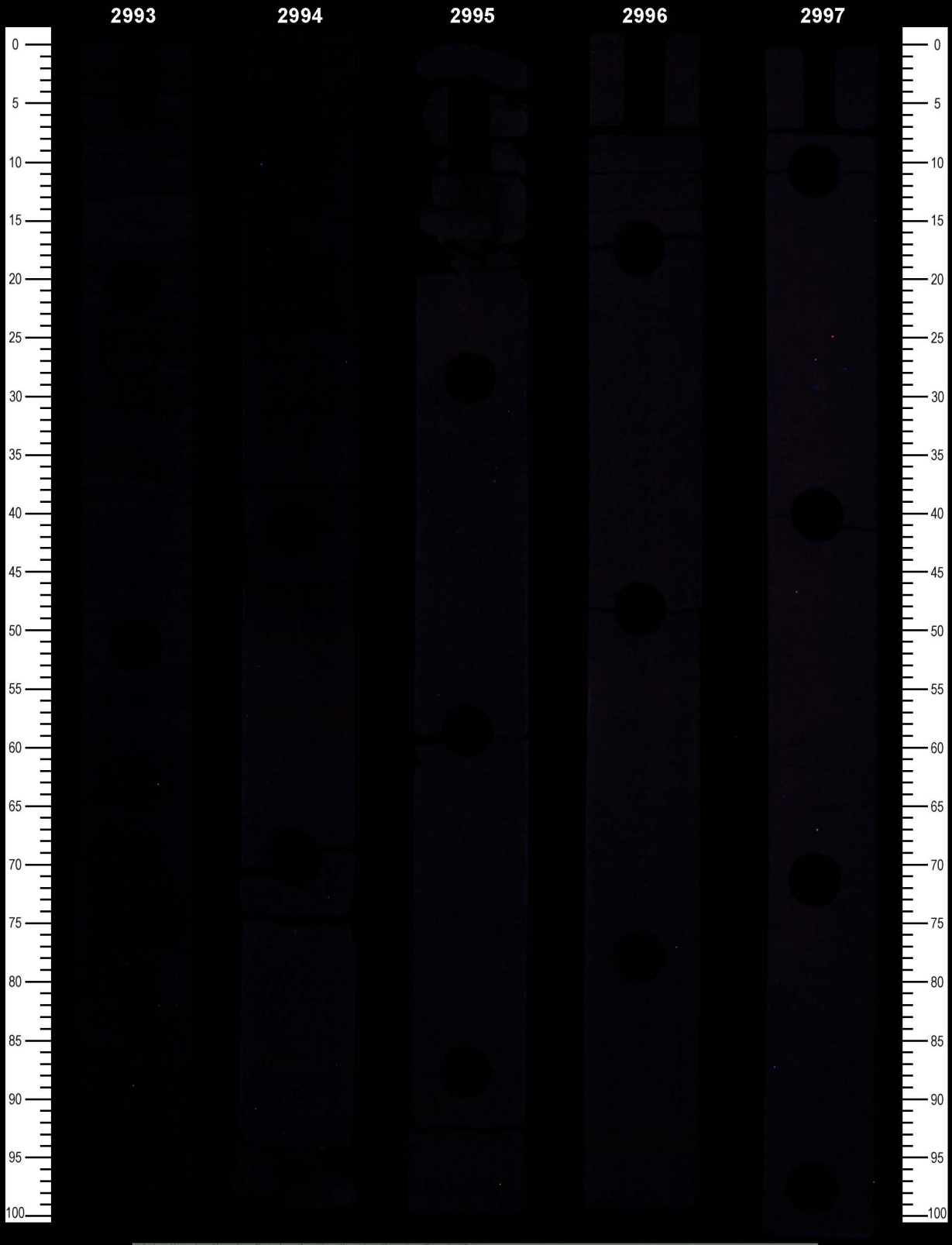

2993
2994
2995
2996
2997
11V
Ka 0.02
Ø 2.9
34
Frac
Ø 2.4
35
Ka 0.02
Ø 4.7
36
Frac
Ø 0.9
12V
Failed
37
Frac
Ø 0.9
38
Failed
39
Ka 37.1
Ø 14.8
13V
Failed
41
Ka 223
Ø 16.5
42
Ka 62.1
Ø 13.2
43
Ka 118
Ø 15.9
14V
Ka 4.16
Ø 14.3
44
Ka 89.3
Ø 15.3
45
Ka 45.9
Ø 14.4
46
Ka 153
Ø 16.3
15V
Ka 251
Ø 18.8
47
Ka 413
Ø 18.7
48
Ka 232
Ø 17.6
49
Ka 167
Ø 18.0
50
Ka 183
Ø 17.9
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
KODAK Color Control Patches
KODAK Gray Scale
Blue
Cyan
Green
Yellow
Red
Magenta
White
3/Color
Black

Origin energy

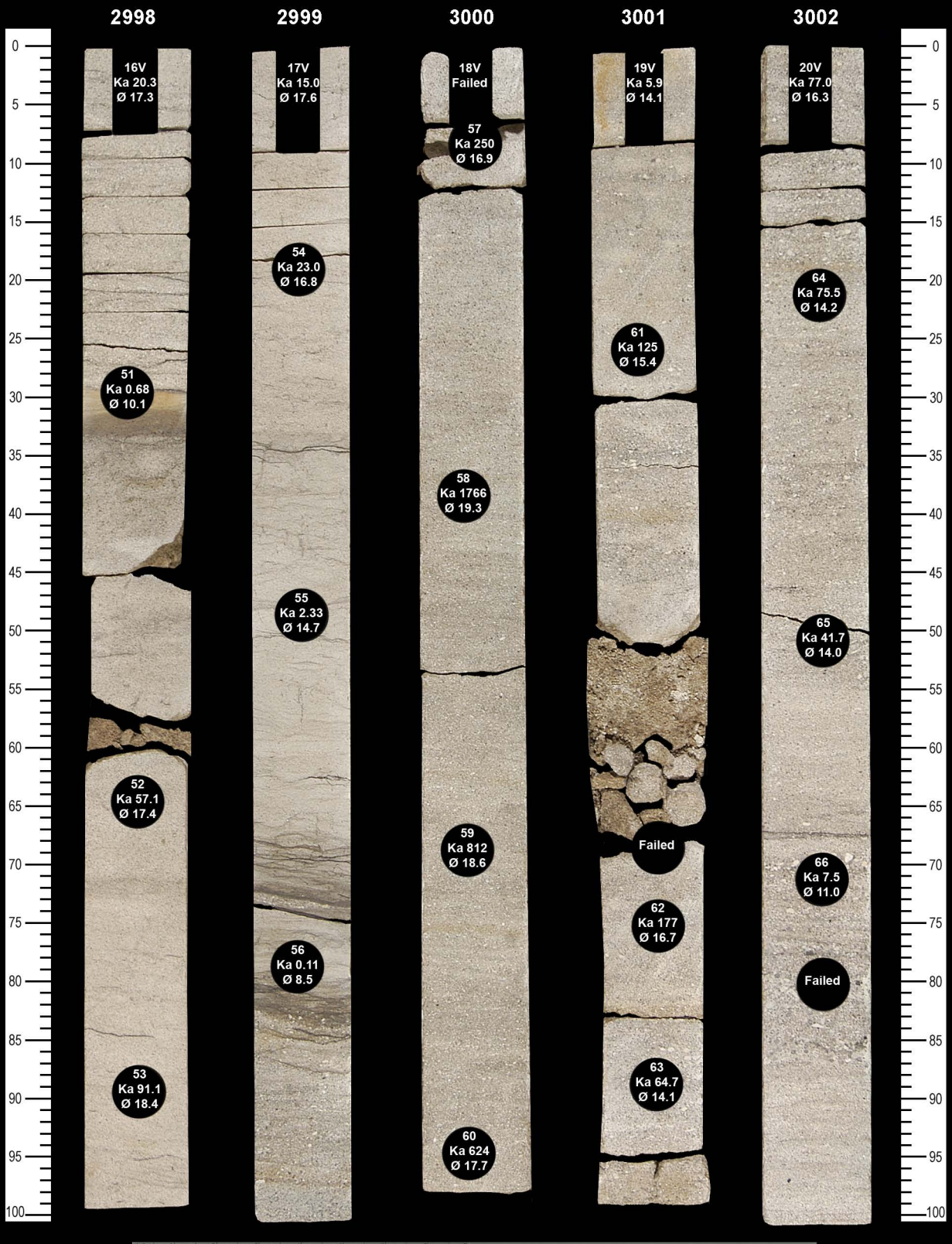
TREFOIL-2

Ultra Violet

Weatherford® LABORATORIES



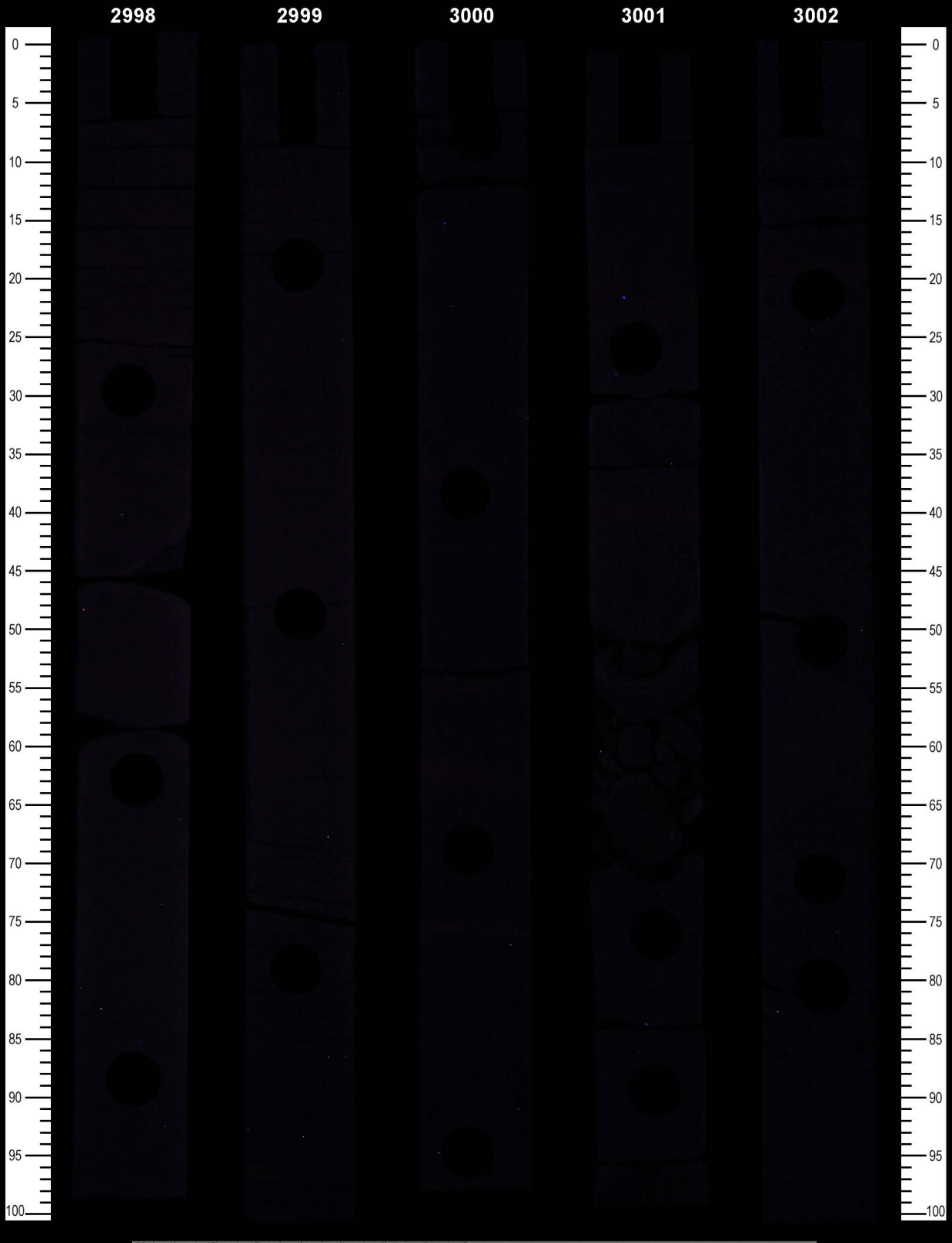
TREFOIL-2


2998
2999
3000
3001
3002
16V
Ka 20.3
Ø 17.3
17V
Ka 15.0
Ø 17.6
18V
Failed
19V
Ka 5.9
Ø 14.1
20V
Ka 77.0
Ø 16.3
57
Ka 250
Ø 16.9
54
Ka 23.0
Ø 16.8
64
Ka 75.5
Ø 14.2
61
Ka 125
Ø 15.4
51
Ka 0.68
Ø 10.1
58
Ka 1766
Ø 19.3
55
Ka 2.33
Ø 14.7
65
Ka 41.7
Ø 14.0
52
Ka 57.1
Ø 17.4
59
Ka 812
Ø 18.6
Failed
66
Ka 7.5
Ø 11.0
62
Ka 177
Ø 16.7
56
Ka 0.11
Ø 8.5
Failed
53
Ka 91.1
Ø 18.4
63
Ka 64.7
Ø 14.1
60
Ka 624
Ø 17.7
KODAK Color Control Patches
KODAK Gray Scale

Origin energy

TREFOIL-2
Ultra Violet

Weatherford® LABORATORIES



TREFOIL-2

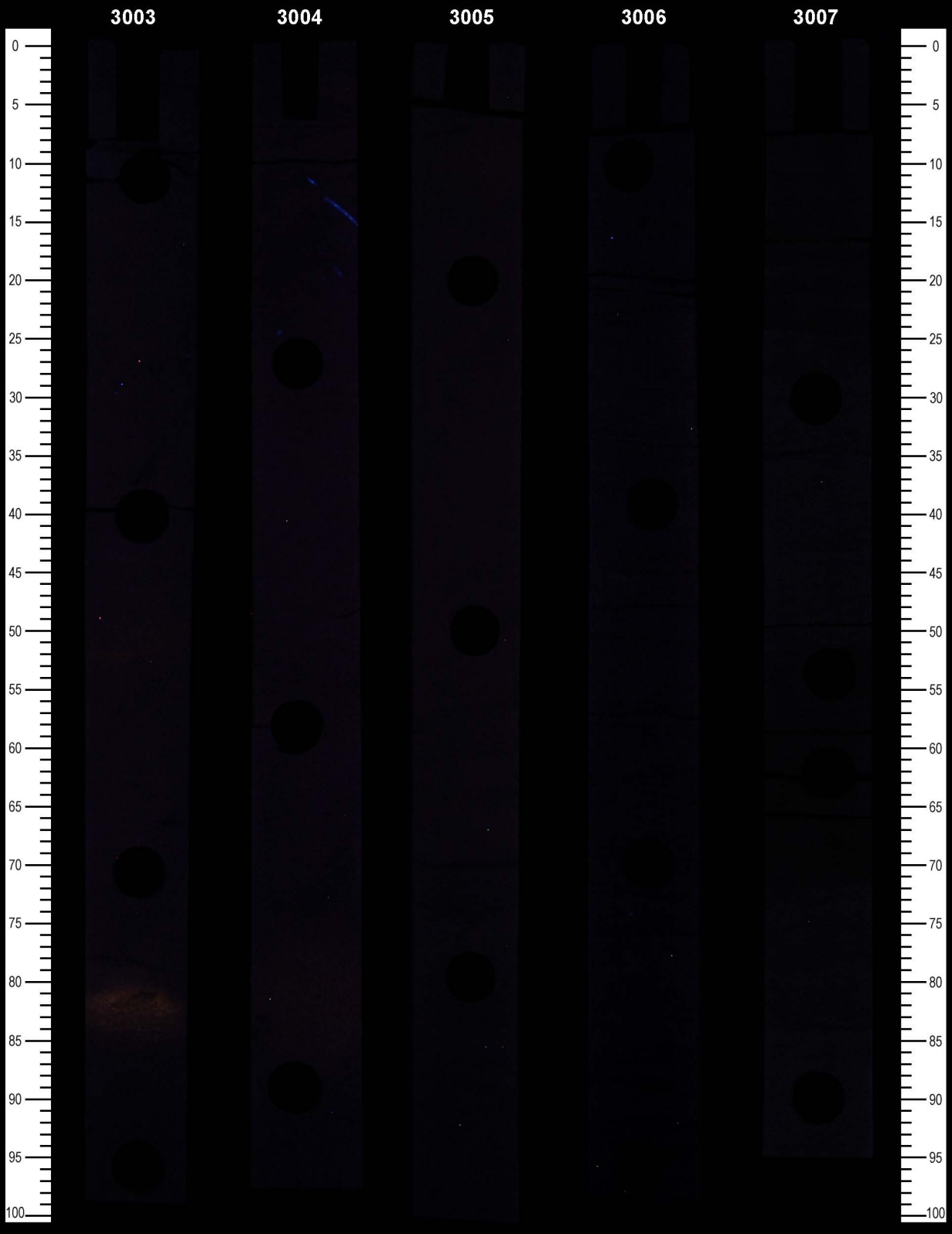

3003
3004
3005
3006
3007
21V
Ka 142
Ø 18.1
22V
Ka 0.16
Ø 9.7
23V
Ka 4.10
Ø 16.5
24V
Ka 0.07
Ø 9.3
25V
Ka 0.01
Ø 4.8
67
Ka 777
Ø 18.0
77
Ka 0.33
Ø 11.9
74
Ka 24.4
Ø 17.7
71
Ka 1.56
Ø 13.7
81
Ka 0.06
Ø 10.1
68
Ka 2461
Ø 19.0
78
Ka 0.31
Ø 13.1
75
Ka 8.5
Ø 17.1
40
Ka 0.02
Ø 3.0
72
Ka 12.2
Ø 15.9
82
Failed
69
Ka 80.5
Ø 16.8
79
Ka 0.03
Ø 7.2
76
Ka 0.33
Ø 11.4
73
Ka 27.4
Ø 17.9
83
Ka 1.37
Ø 15.0
70
Ka 0.11
Ø 8.6
80
Ka 0.02
Ø 6.6
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100


KODAK Color Control Patches
KODAK Gray Scale
Blue
Cyan
Green
Yellow
Red
Magenta
White
3/Color
Black

Origin energy

TREFOIL-2
Ultra Violet

Weatherford® LABORATORIES



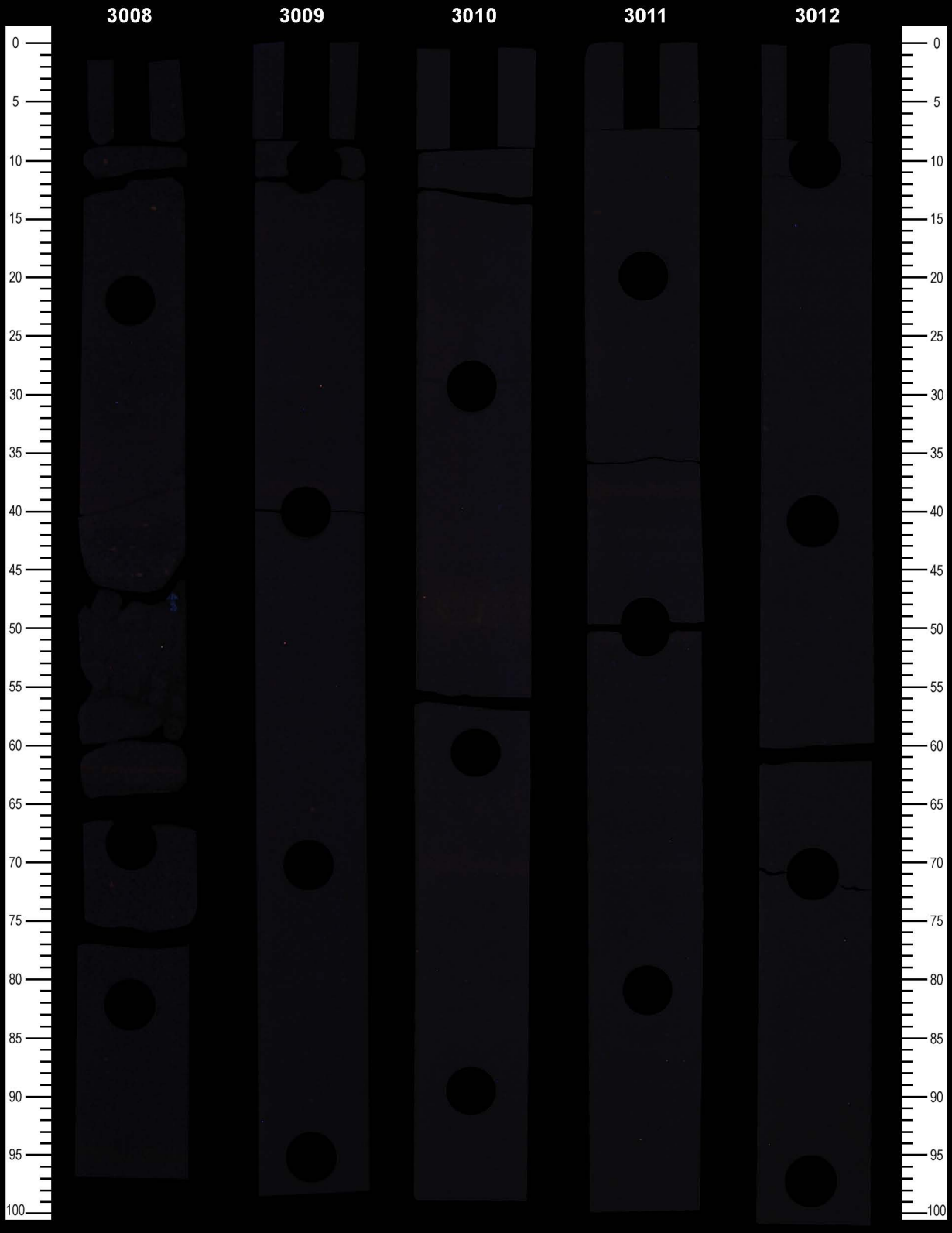
TREFOIL-2


3008
26V
Failed
84
Ka 12.2
Ø 17.9
85
Ka 843
Ø 19.4
86
Ka 841
Ø 18.3
3009
27V
Ka 22.7
Ø 13.7
87
Ka 214
Ø 15.5
88
Ka 42.0
Ø 14.8
89
Ka 100
Ø 15.3
90
Ka 52.7
Ø 18.8
3010
28V
Ka 26.7
Ø 18.6
91
Ka 677
Ø 18.8
92
Ka 77.0
Ø 15.1
93
Ka 114
Ø 15.8
3011
29V
Ka 51.0
Ø 16.5
94
Ka 22.3
Ø 12.8
95
Ka 1254
Ø 17.0
96
Ka 1255
Ø 17.1
3012
30V
Ka 11.0
Ø 15.0
97
Ka 42.4
Ø 13.1
98
Ka 6.0
Ø 10.0
99
Ka 55.1
Ø 14.0
100
Ka 10.9
Ø 11.4
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
KODAK Color Control Patches
Kodak
Blue
Cyan
Green
Yellow
Red
Magenta
White
3/Color
Black
KODAK Gray Scale
Kodak

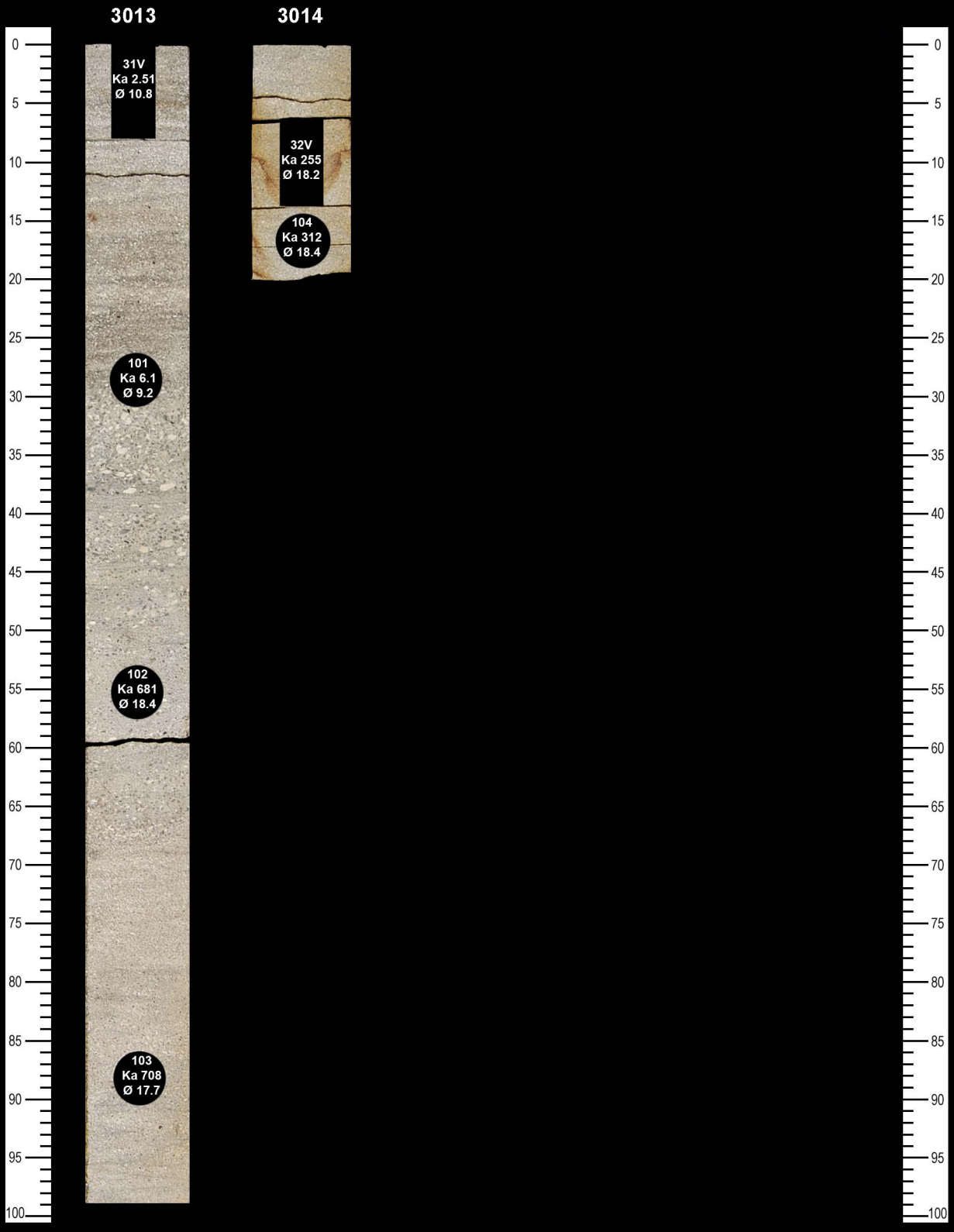
Origin energy

TREFOIL-2
Ultra Violet

Weatherford® LABORATORIES



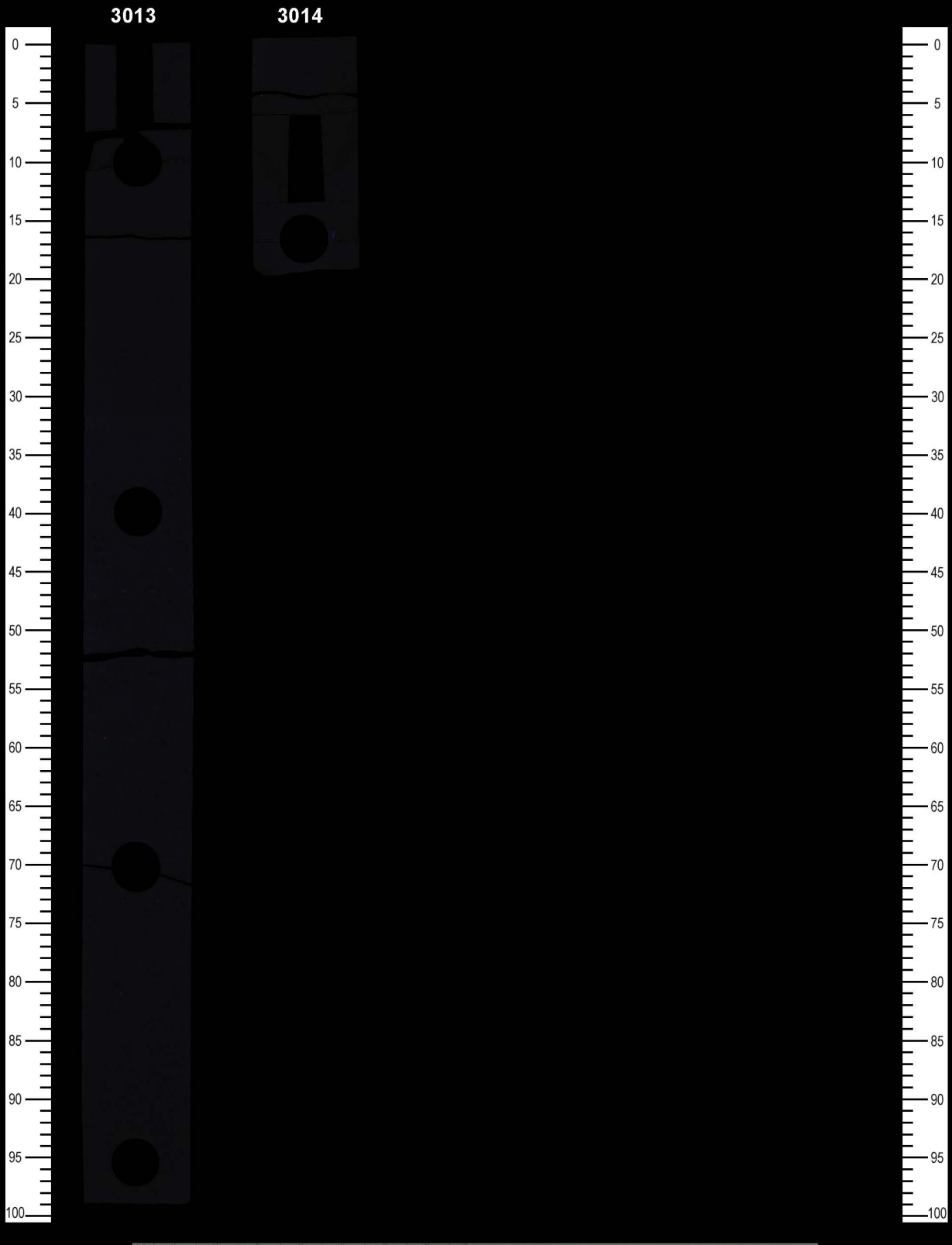
TREFOIL-2


3013
3014
31V
Ka 2.51
Ø 10.8
32V
Ka 255
Ø 18.2
104
Ka 312
Ø 18.4
101
Ka 6.1
Ø 9.2
102
Ka 681
Ø 18.4
103
Ka 708
Ø 17.7
KODAK Color Control Patches
KODAK Gray Scale

Origin energy

TREFOIL-2
Ultra Violet

Weatherford® LABORATORIES



TREFOIL-2

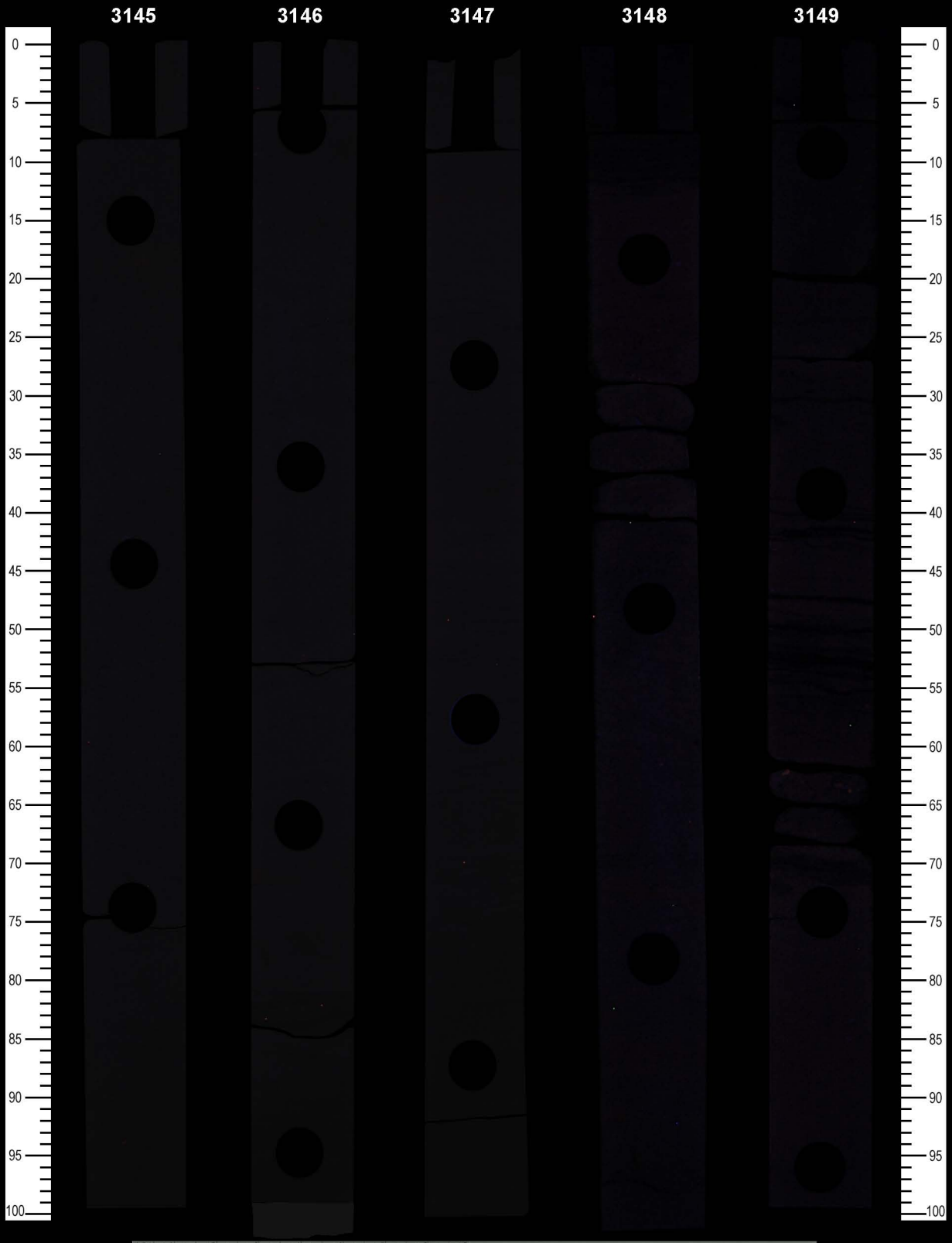

3145
3146
3147
3148
3149
33V
Ka 8.3
Ø 13.3
105
Ka 140
Ø 16.2
106
Ka 50.6
Ø 15.5
107
Ka 106
Ø 16.7
34V
Ka 85.8
Ø 17.2
108
Ka 57.9
Ø 15.7
109
Ka 62.8
Ø 16.4
110
Ka 4.51
Ø 13.0
111
Ka 0.02
Ø 2.1
35V
Ka 0.08
Ø 11.2
112
Ka 0.21
Ø 12.1
113
Ka 0.04
Ø 6.2
114
Ka 1.73
Ø 2.1
36V
Ka <0.01
Ø 1.5
115
Ka 0.11
Ø 8.9
116
Ka 74.4
Ø 17.8
117
Ka 48.2
Ø 19.2
37V
Ka 2.84
Ø 15.9
118
Ka 3.74
Ø 14.4
119
Ka 1.05
Ø 11.0
120
Frac
Ø 15.6
121
Ka 6.7
Ø 15.0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
KODAK Color Control Patches
KODAK Gray Scale
Kodak

Origin energy

TREFOIL-2

Ultra Violet

Weatherford® LABORATORIES



TREFOIL-2



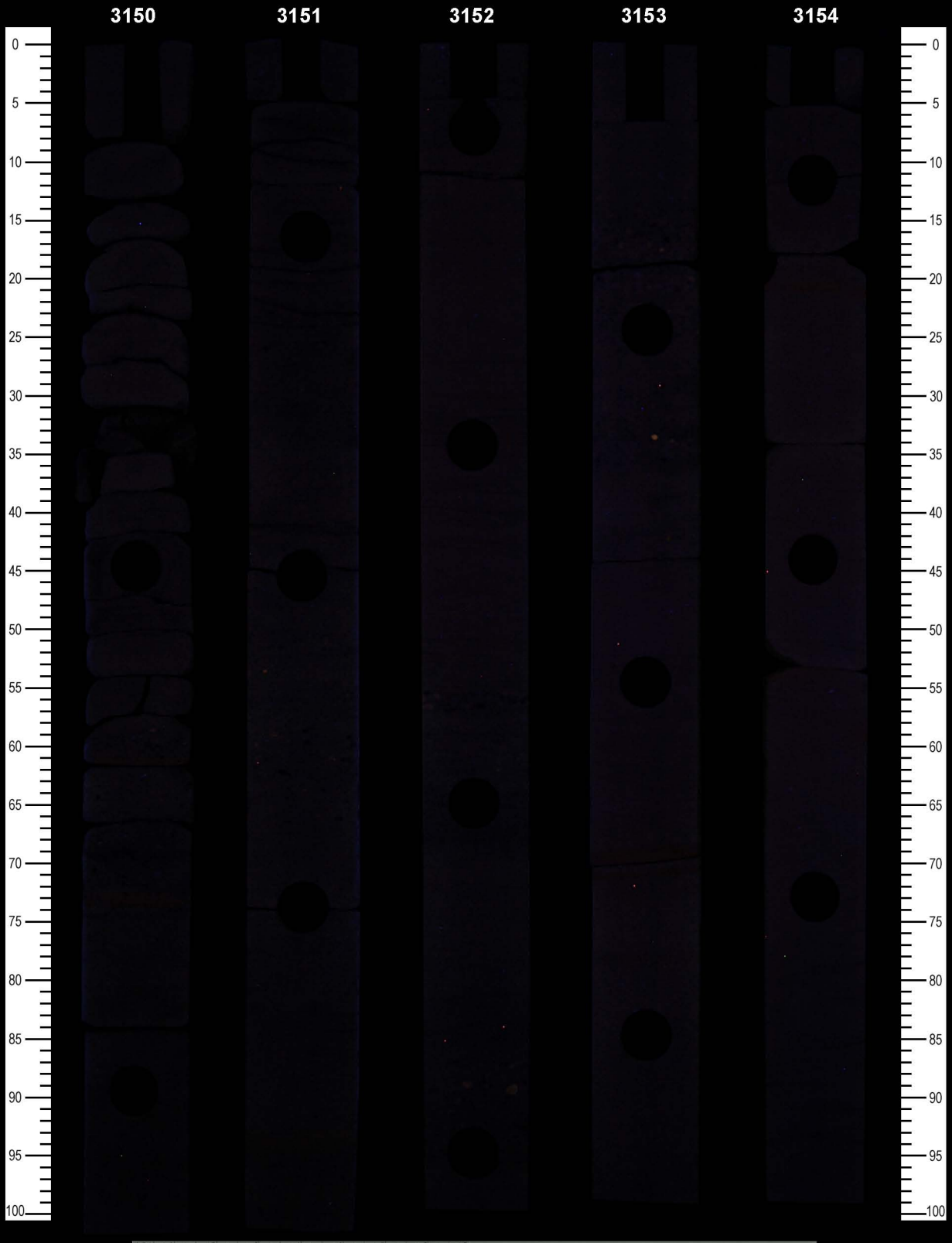
KODAK Color Control Patches

KODAK Gray Scale

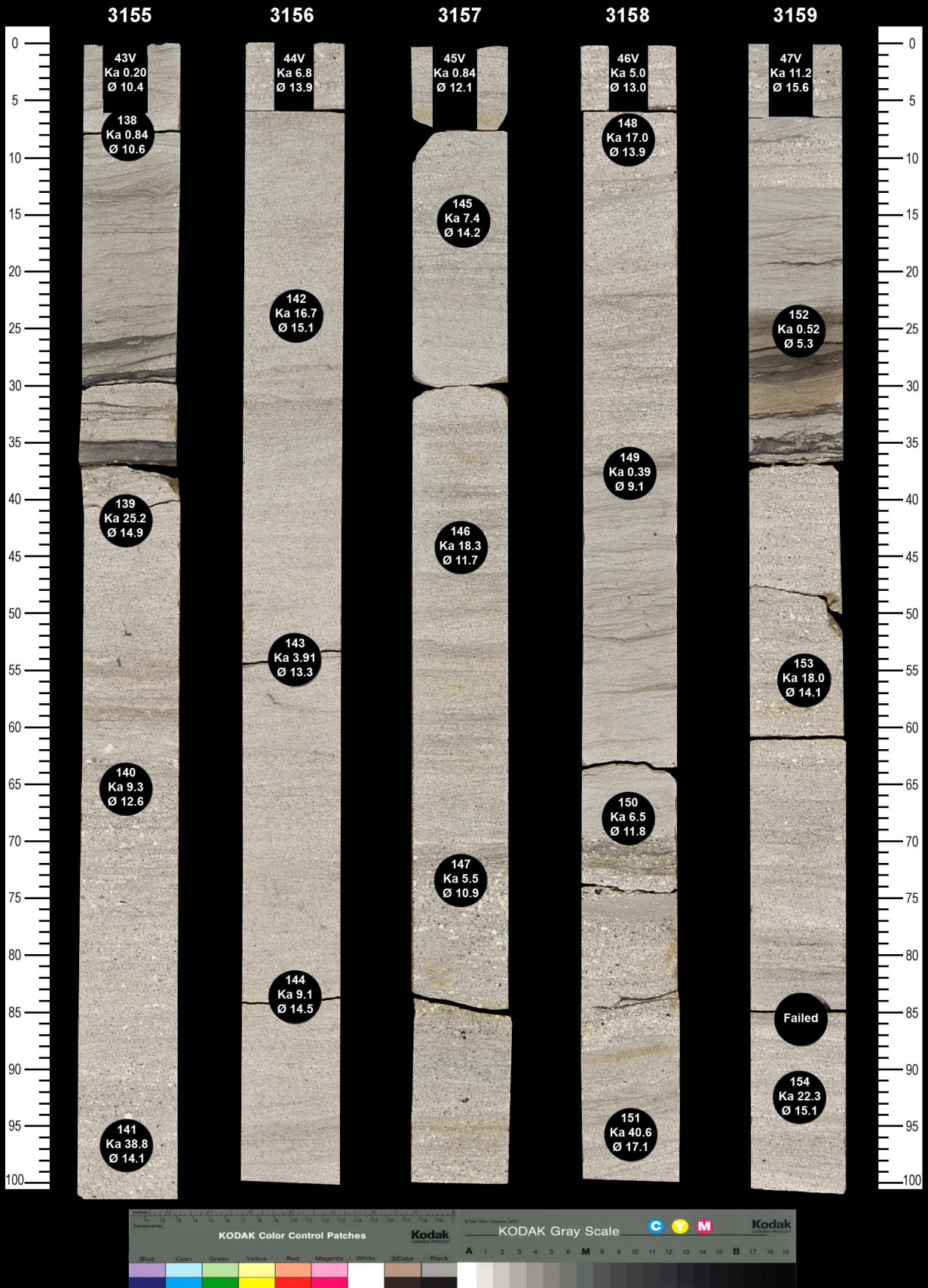
Origin energy

TREFOIL-2
Ultra Violet

Weatherford® LABORATORIES



TREFOIL-2

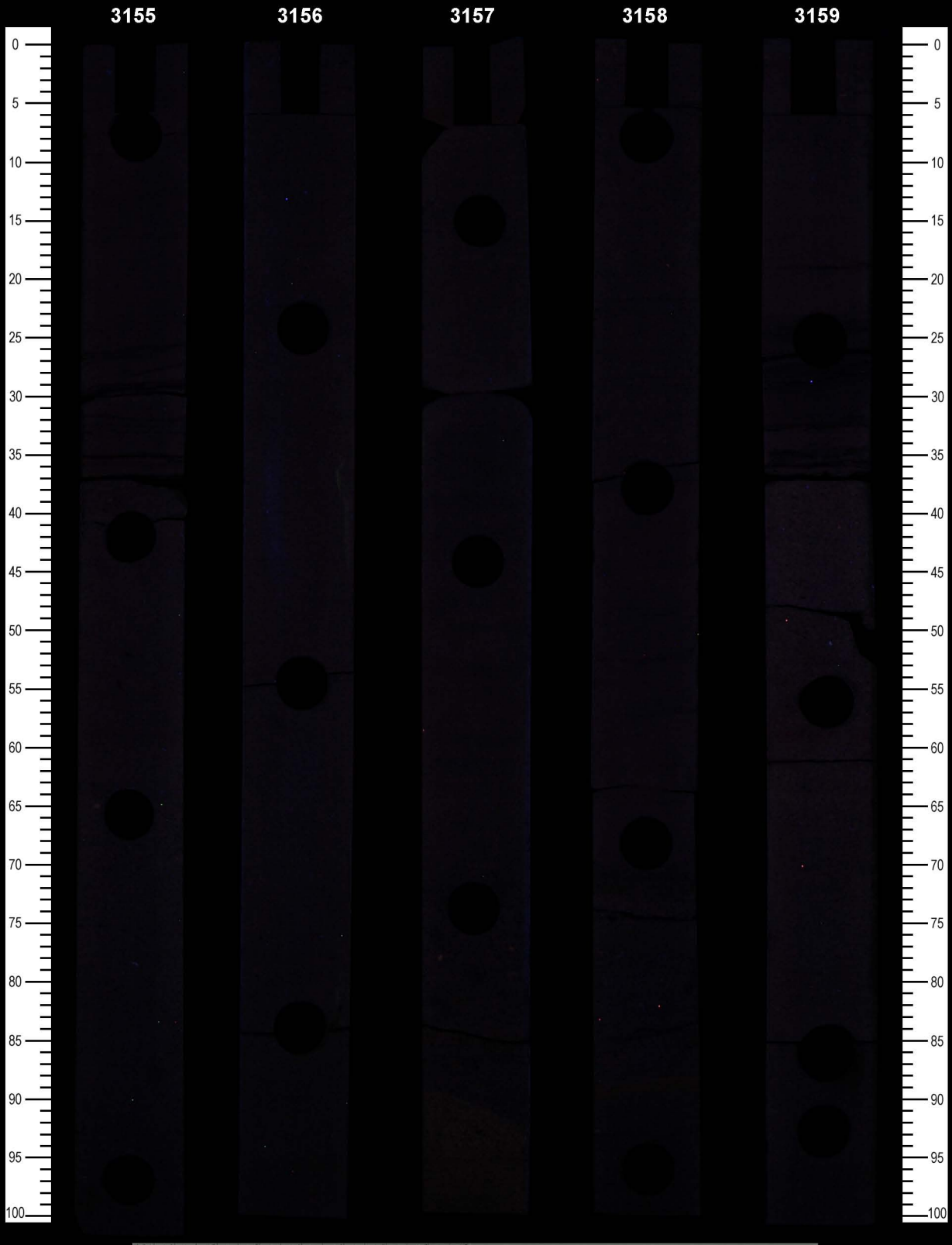

3155
3156
3157
3158
3159
43V
Ka 0.20
Ø 10.4
138
Ka 0.84
Ø 10.6
139
Ka 25.2
Ø 14.9
140
Ka 9.3
Ø 12.6
141
Ka 38.8
Ø 14.1
44V
Ka 6.8
Ø 13.9
142
Ka 16.7
Ø 15.1
143
Ka 3.91
Ø 13.3
144
Ka 9.1
Ø 14.5
45V
Ka 0.84
Ø 12.1
145
Ka 7.4
Ø 14.2
146
Ka 18.3
Ø 11.7
147
Ka 5.5
Ø 10.9
46V
Ka 5.0
Ø 13.0
148
Ka 17.0
Ø 13.9
149
Ka 0.39
Ø 9.1
150
Ka 6.5
Ø 11.8
151
Ka 40.6
Ø 17.1
47V
Ka 11.2
Ø 15.6
152
Ka 0.52
Ø 5.3
153
Ka 18.0
Ø 14.1
Failed
154
Ka 22.3
Ø 15.1
KODAK Color Control Patches
KODAK Gray Scale
Blue
Cyan
Green
Yellow
Red
Magenta
White
3/Color
Black

Origin energy

TREFOIL-2

Ultra Violet

Weatherford® LABORATORIES



TREFOIL-2

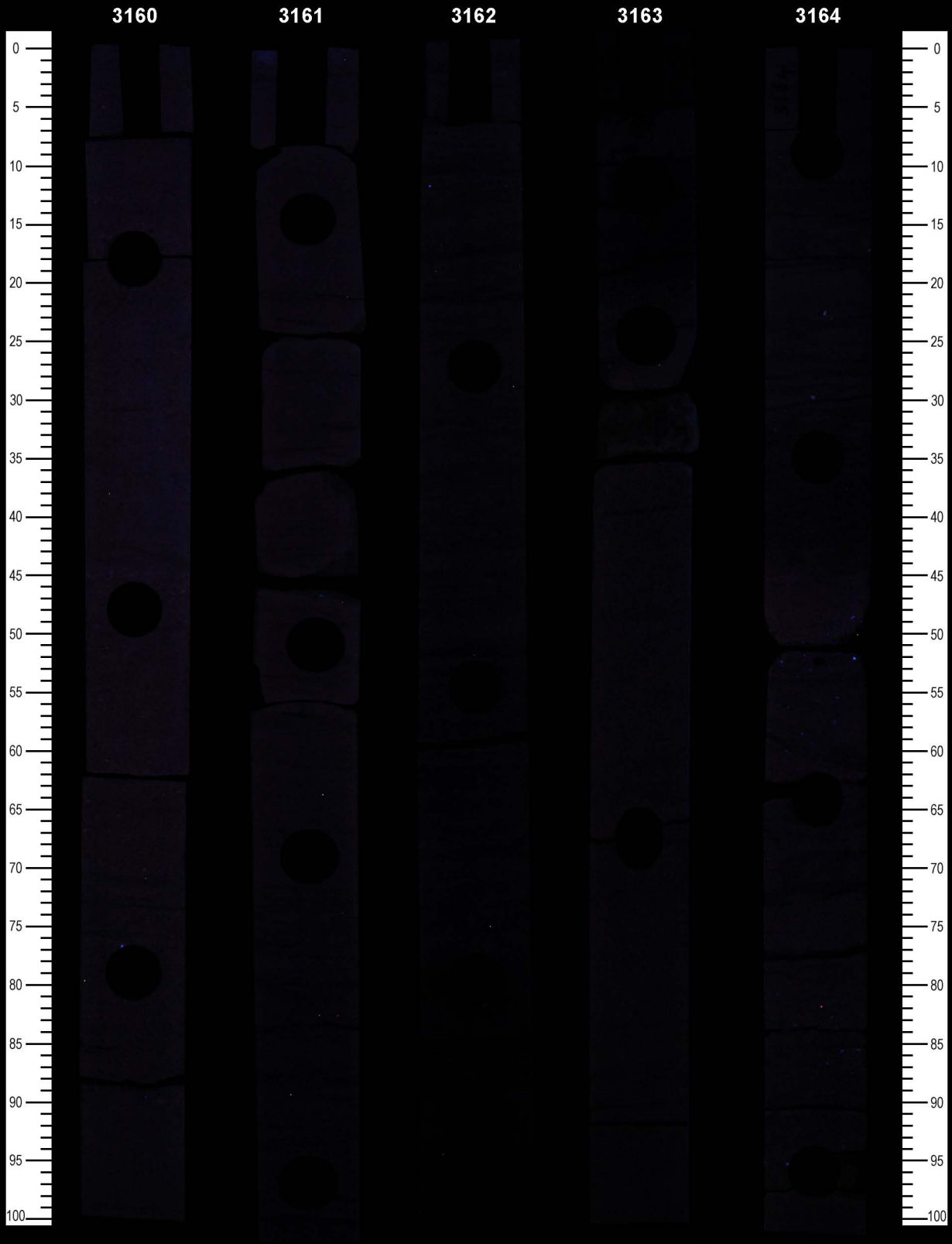

3160
3161
3162
3163
3164
48V
Ka 1.24
Ø 12.7
49V
Ka 0.29
Ø 13.0
50V
Ka 0.02
Ø 9.3
51V
Failed
52V
Ka 0.07
Ø 10.7
155
Ka 11.1
Ø 13.9
158
Ka 4.89
Ø 16.4
165
Frac
Ø 1.7
168
Ka 0.11
Ø 9.6
166
Ka 3.43
Ø 8.3
162
Ka 0.07
Ø 11.4
169
Ka 0.14
Ø 2.7
156
Ka 3.50
Ø 13.2
159
Ka 0.25
Ø 12.7
163
Ka 0.03
Ø 3.6
170
Ka 1.71
Ø 10.9
167
Ka 48.4
Ø 16.4
160
Ka 0.26
Ø 13.9
157
Ka 7.8
Ø 14.5
164
Ka 0.02
Ø 4.2
Failed
161
Ka 0.07
Ø 10.7
171
Ka 19.4
Ø 15.1
KODAK Color Control Patches
KODAK Gray Scale

Origin energy

TREFOIL-2

Ultra Violet

Weatherford® LABORATORIES



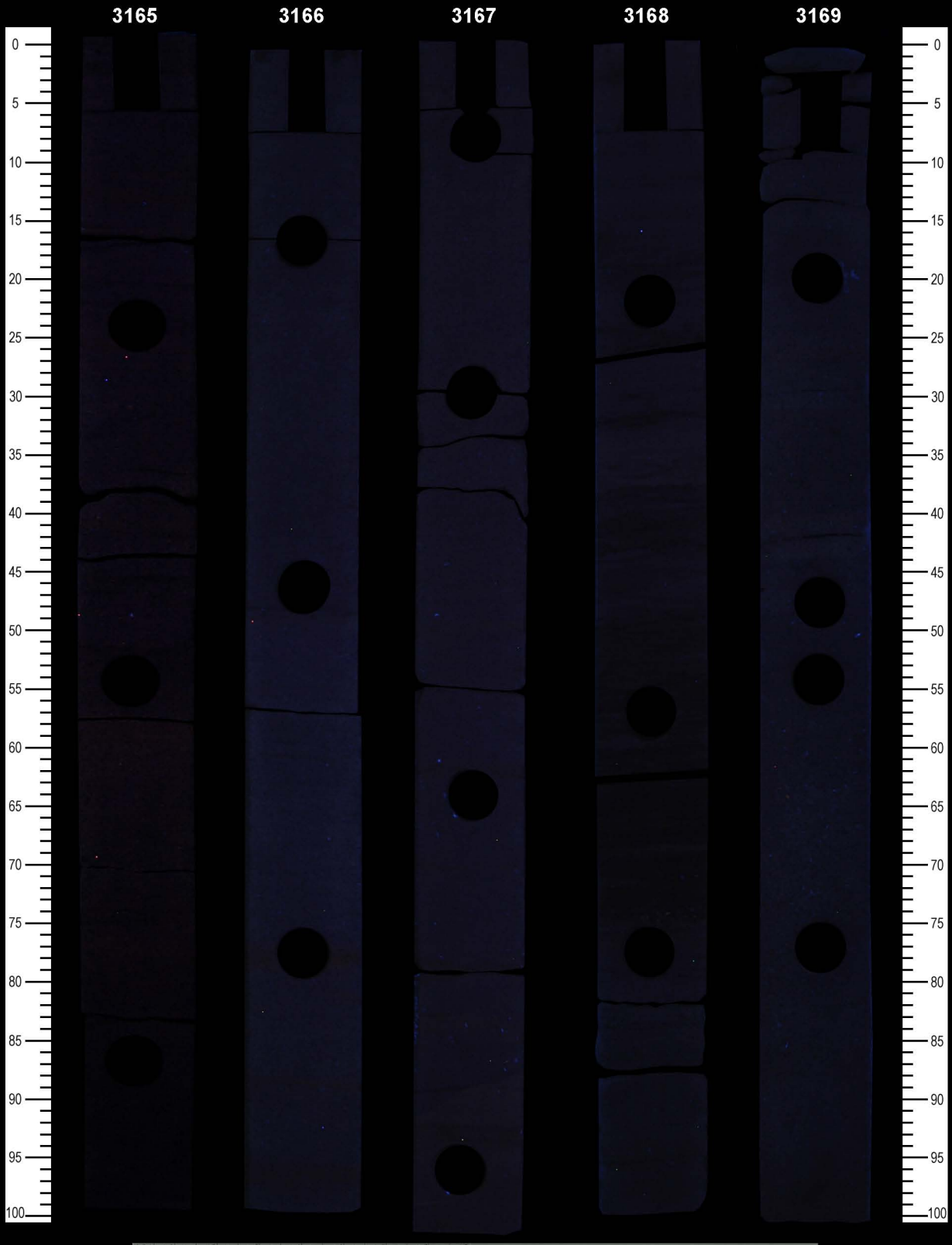
TREFOIL-2


3165
3166
3167
3168
3169
53V
Ka 1.89
Ø 13.2
172
Ka 0.58
Ø 10.1
173
Ka 19.0
Ø 14.8
174
Ka 2.67
Ø 11.1
54V
Ka 68.0
Ø 17.5
175
Ka 343
Ø 17.3
176
Ka 12.1
Ø 13.8
177
Ka 83.9
Ø 16.6
55V
Ka 25.0
Ø 17.4
178
Ka 21.6
Ø 16.5
179
Ka 30.3
Ø 16.6
180
Ka 4.12
Ø 14.6
181
Ka 0.20
Ø 7.9
56V
Ka 0.42
Ø 11.5
182
Ka 0.06
Ø 6.2
183
Ka 0.02
Ø 2.6
184
Ka 0.05
Ø 3.9
57V
Ka 10.8
Ø 14.5
185
Ka 25.1
Ø 10.6
Failed
186
Ka 135
Ø 18.7
187
Ka 164
Ø 19.7
KODAK Color Control Patches
KODAK Gray Scale

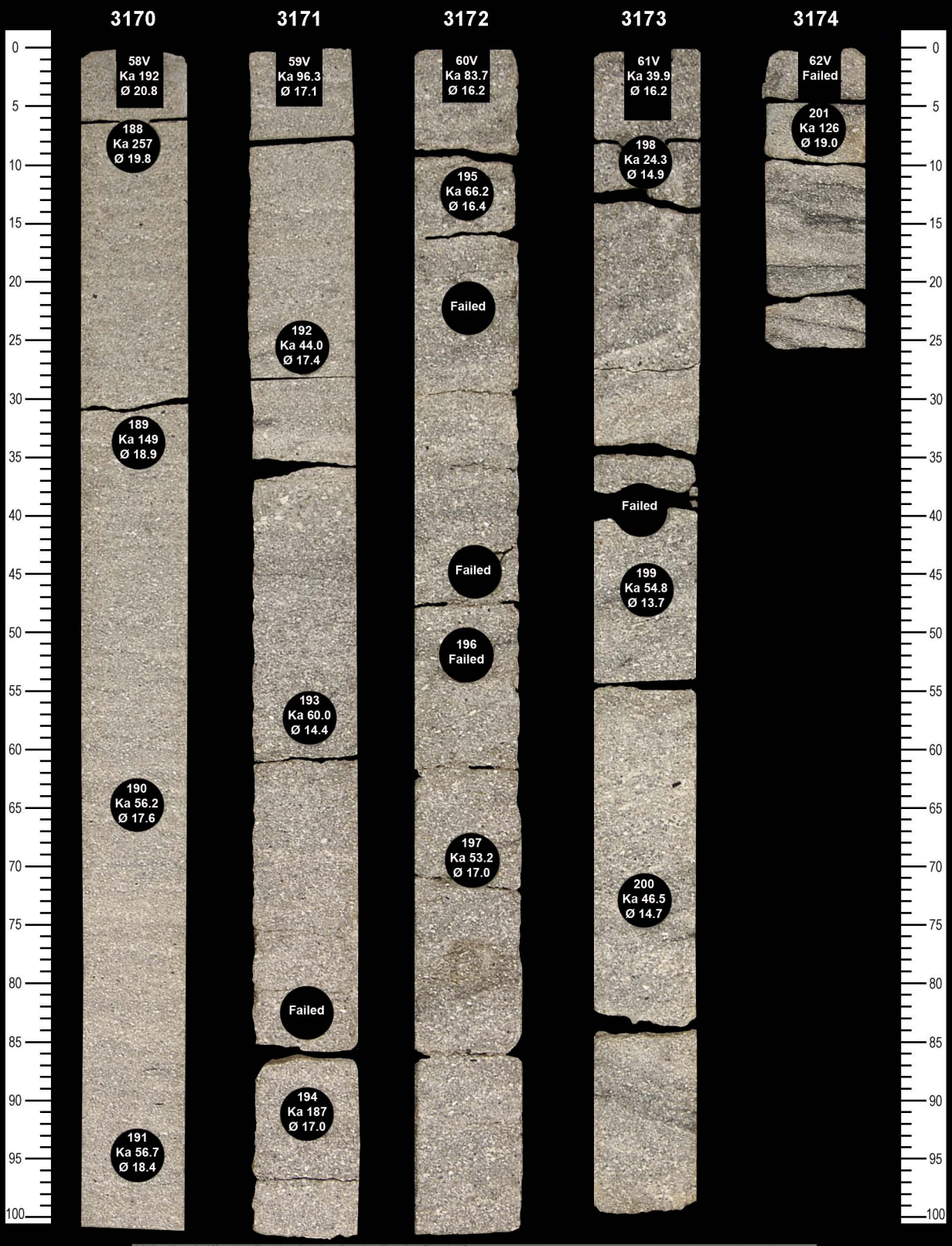
Origin energy

TREFOIL-2
Ultra Violet

Weatherford® LABORATORIES



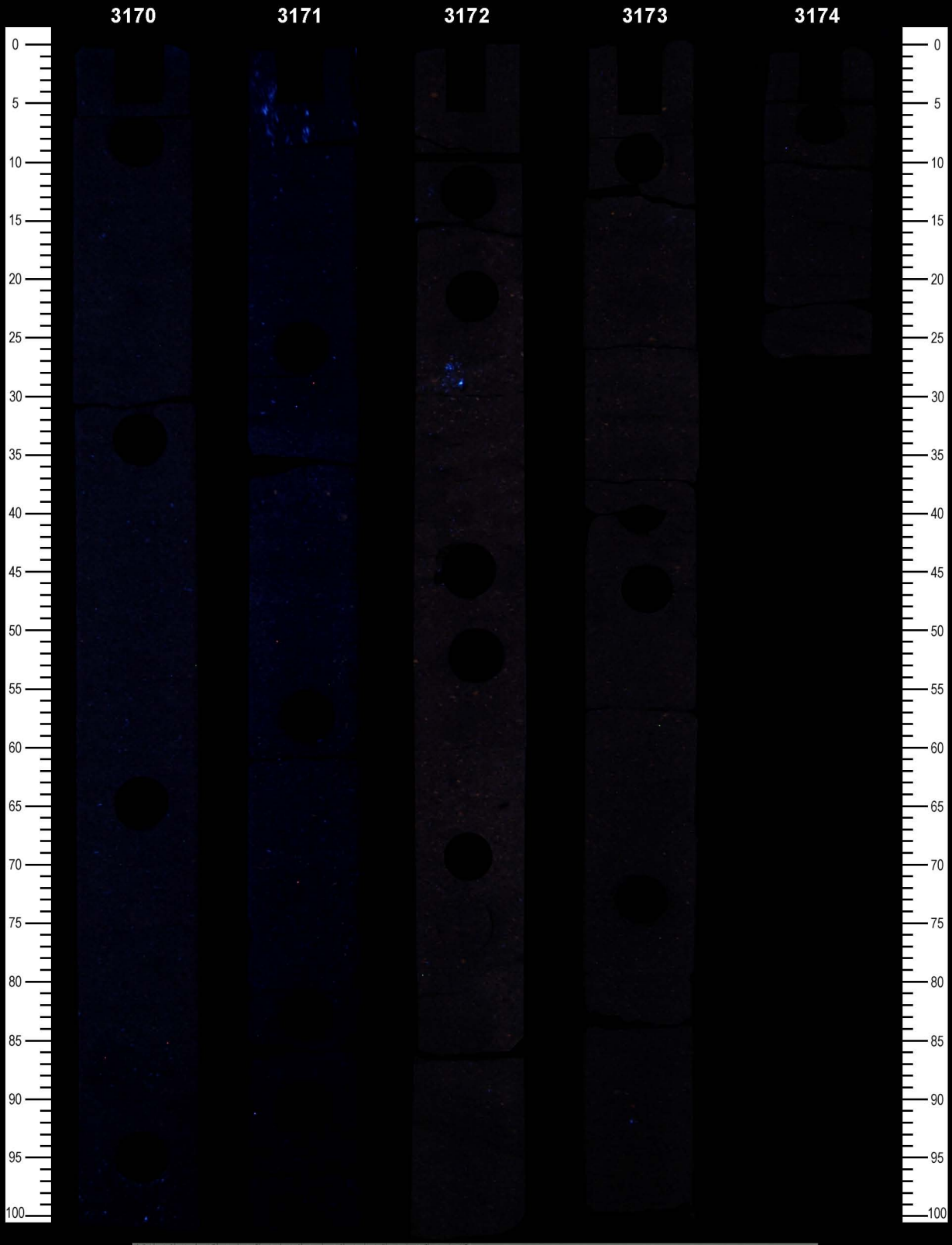
TREFOIL-2


3170
3171
3172
3173
3174
58V
Ka 192
Ø 20.8
188
Ka 257
Ø 19.8
189
Ka 149
Ø 18.9
190
Ka 56.2
Ø 17.6
191
Ka 56.7
Ø 18.4
59V
Ka 96.3
Ø 17.1
192
Ka 44.0
Ø 17.4
193
Ka 60.0
Ø 14.4
Failed
194
Ka 187
Ø 17.0
60V
Ka 83.7
Ø 16.2
195
Ka 66.2
Ø 16.4
Failed
Failed
196
Failed
197
Ka 53.2
Ø 17.0
61V
Ka 39.9
Ø 16.2
198
Ka 24.3
Ø 14.9
Failed
199
Ka 54.8
Ø 13.7
200
Ka 46.5
Ø 14.7
62V
Failed
201
Ka 126
Ø 19.0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
KODAK Color Control Patches
KODAK Gray Scale
Blue
Cyan
Green
Yellow
Red
Magenta
White
3/Color
Black

Origin energy

TREFOIL-2
Ultra Violet

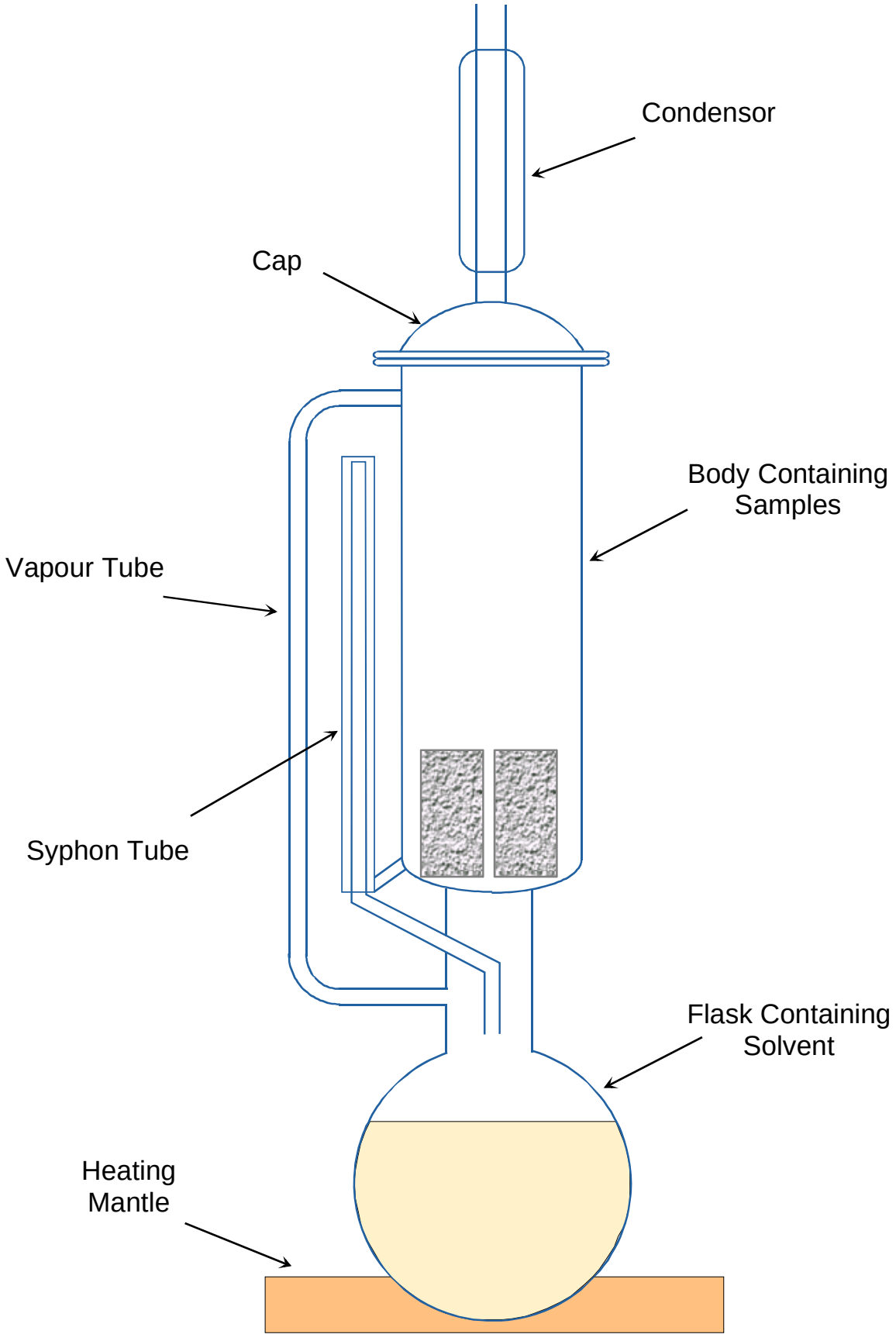
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APPENDIX VII

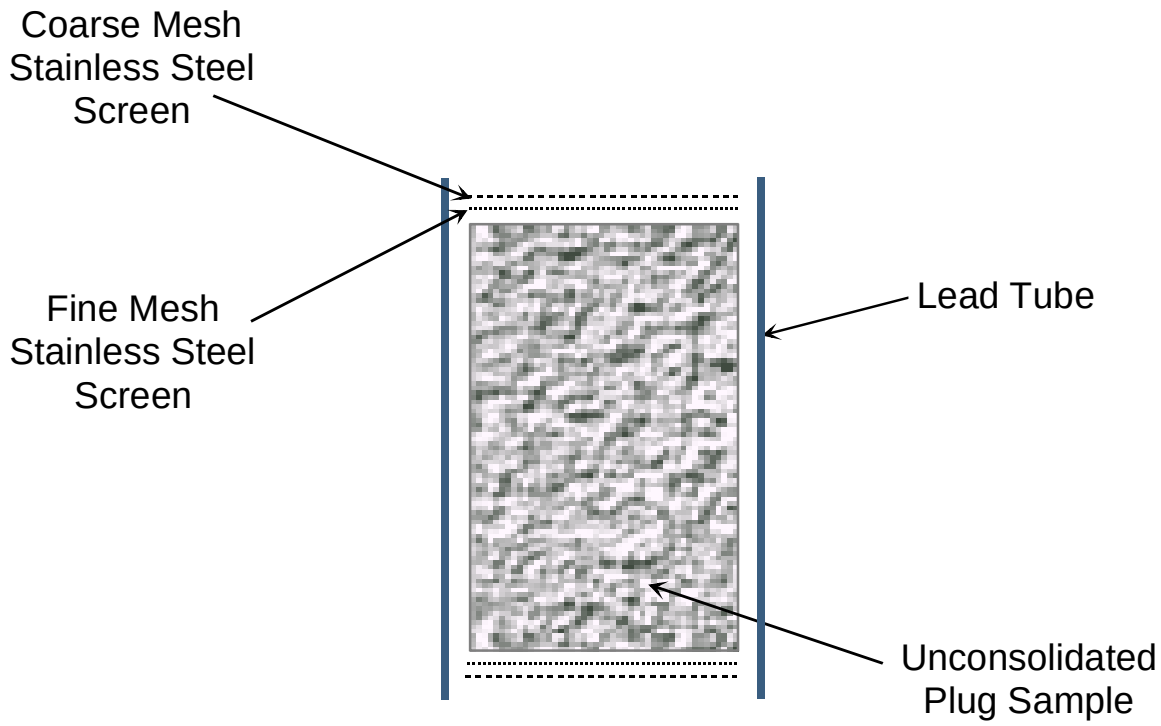
EQUIPMENT SCHEMATICS

SOXHLET CLEANING APPARATUS

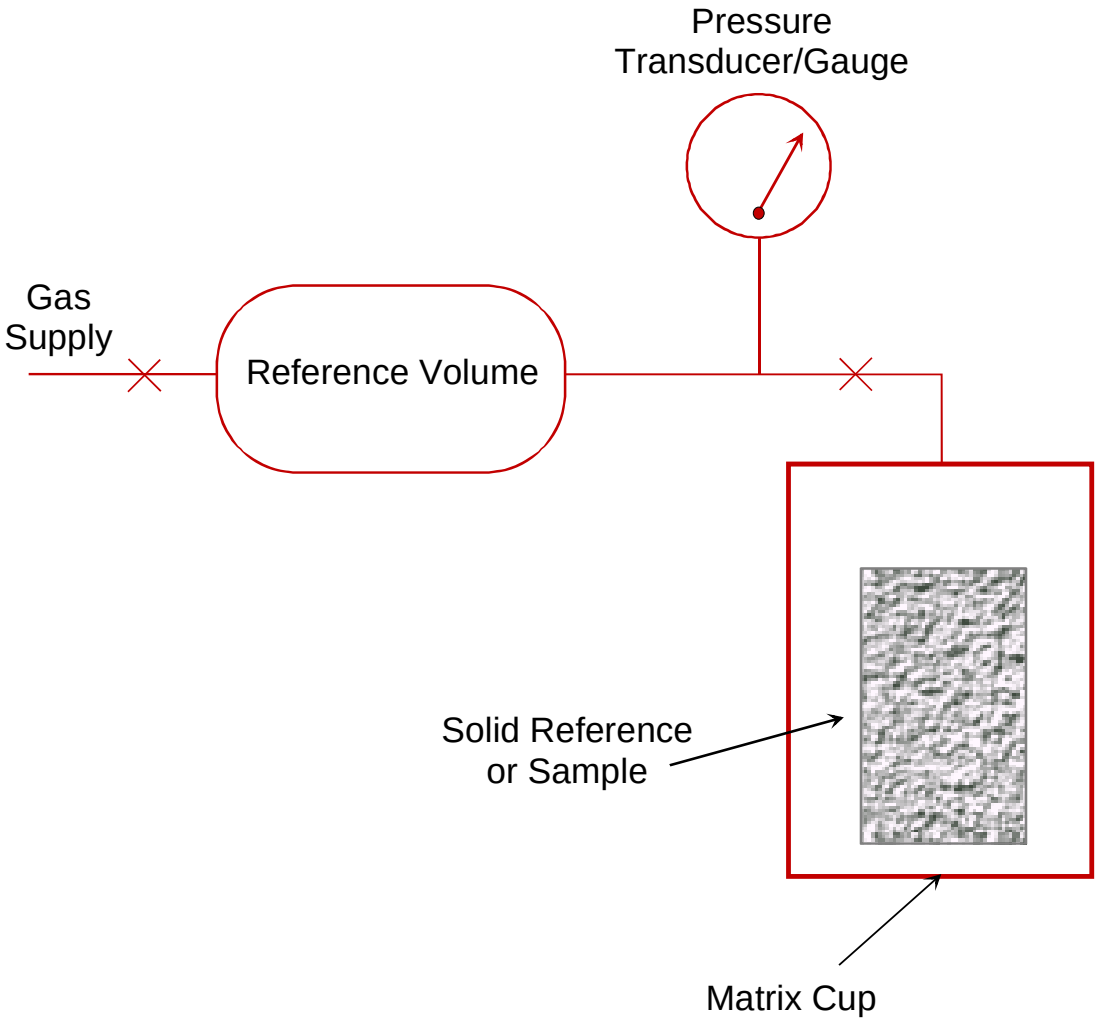


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ABN: 81 008 273 005

LEAD SLEEVE SCHEMATIC (Exploded View)

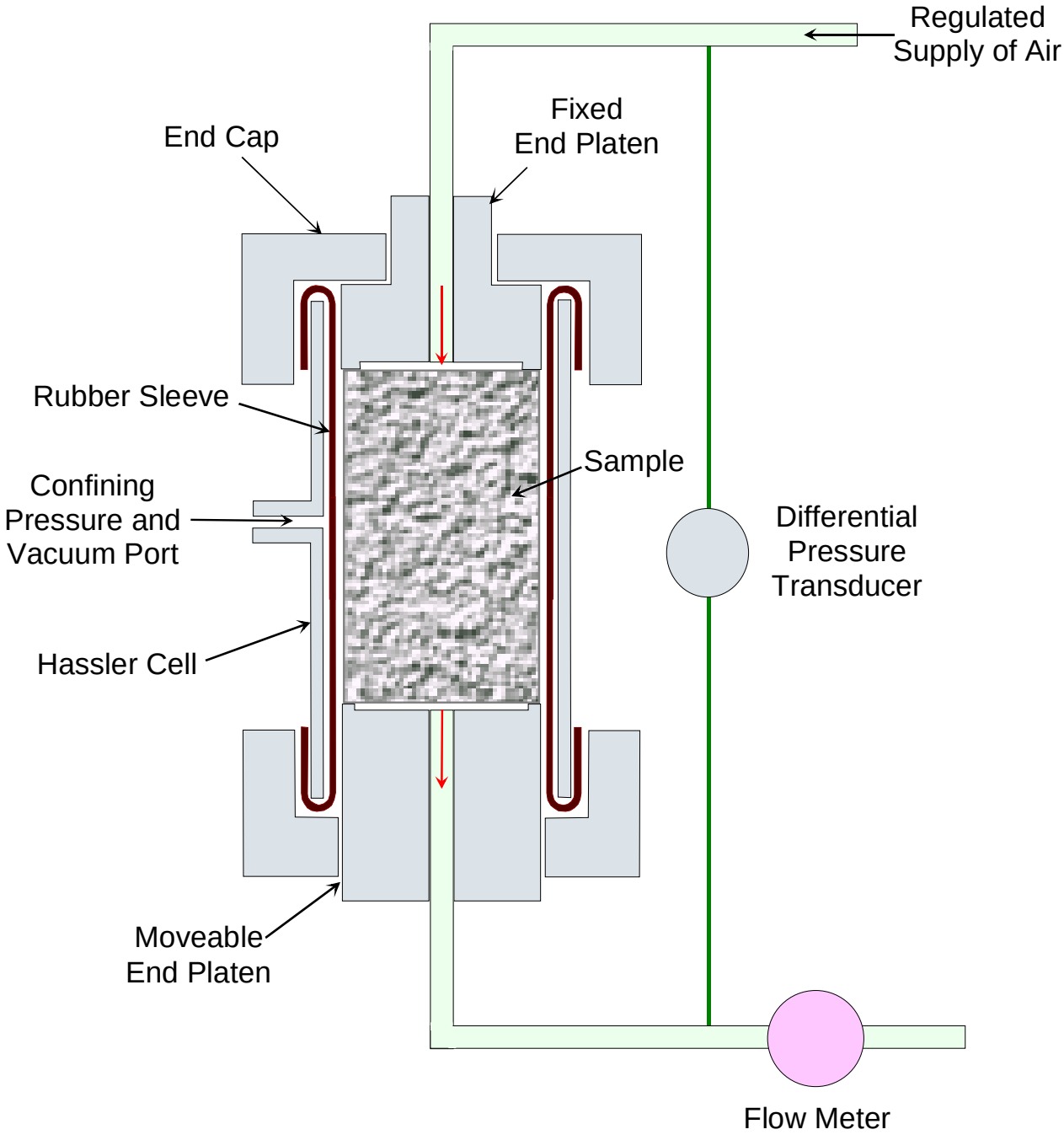


POROSIMETER SCHEMATIC



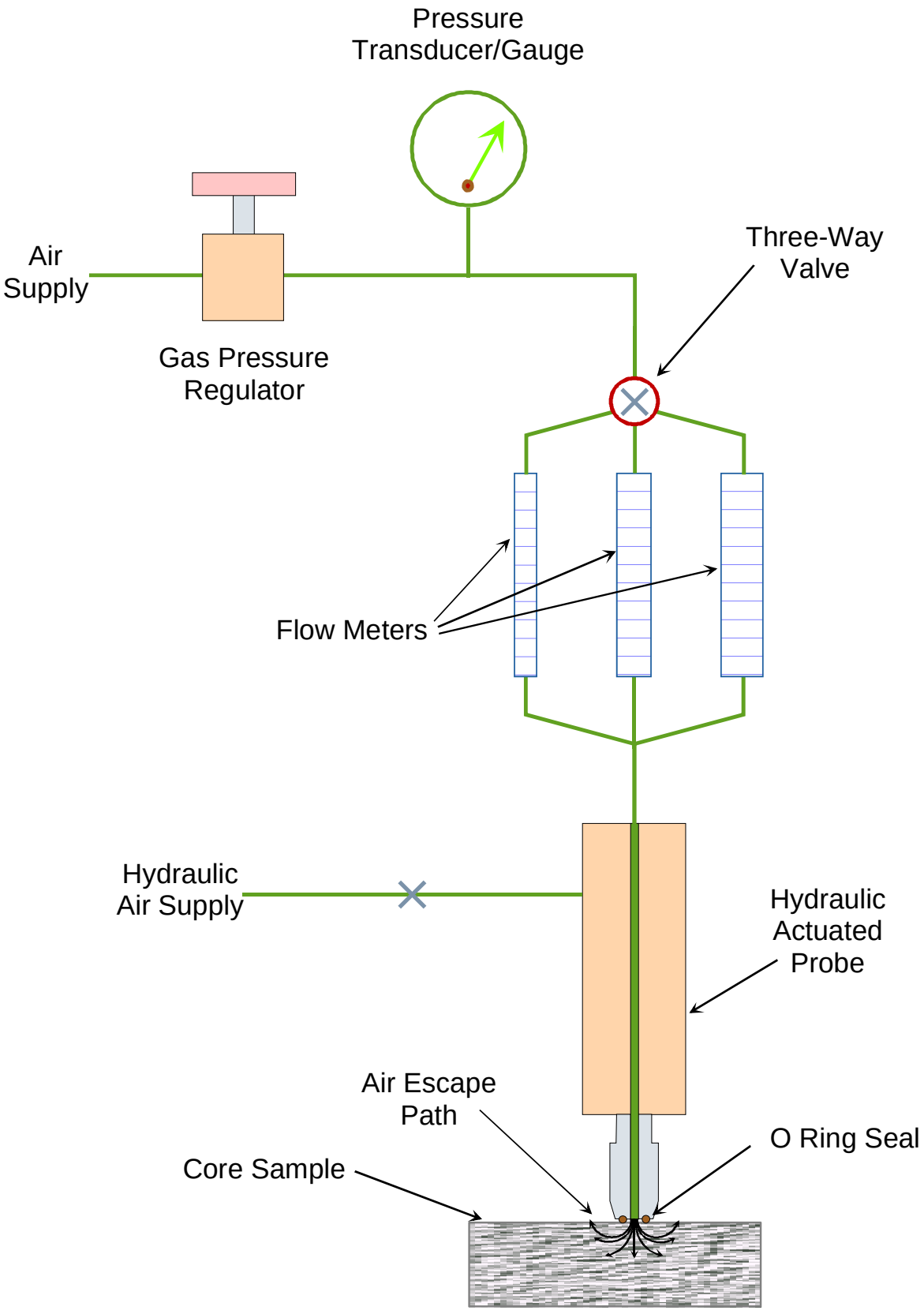
P1.V1 (reference) = P2.V2 (sample)

GAS PERMEAMETER SCHEMATIC (Hassler)



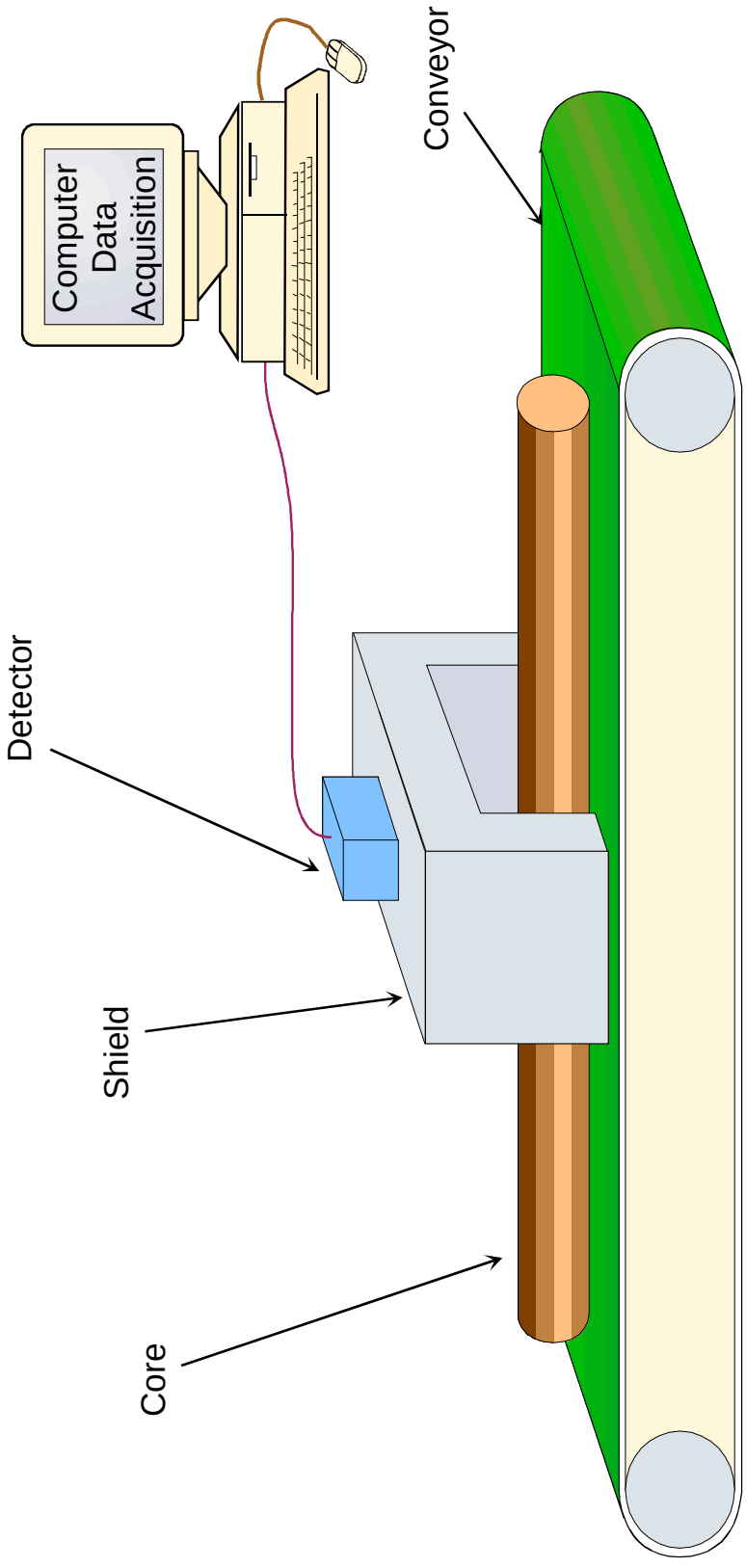
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PROBE PERMEAMETER SCHEMATIC



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CONTINUOUS CORE GAMMA SCHEMATIC



APPENDIX 5: CUTTINGS GAS SUMMARY

Sourced from Daily Geological Reports

Depth Interval (mMDRT)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)
935.00 - 938.00	Drilled	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
938.00 - 1062.00	Drilled	0.1500	0.1400	0.0000	0.0000	0.0000	0.0000	0.0000
1062.00 - 1162.00	Drilled	0.2300	0.1900	0.0000	0.0000	0.0000	0.0000	0.0000
1162.00 - 1331.00	Drilled	0.3300	0.3200	0.0000	0.0000	0.0000	0.0000	0.0000
1331.00 - 1540.00	Drilled	0.3600	0.3400	0.0000	0.0000	0.0000	0.0000	0.0000
1483.00 -	Peak	0.6700	0.6500	0.0000	0.0000	0.0000	0.0000	0.0000
1540.00 - 1569.00	Drilled	0.4170	0.3953	0.0021	0.0012	0.0006	0.0003	0.0006
1569.00 - 1697.00	Drilled	0.5170	0.4978	0.0027	0.0016	0.0007	0.0004	0.0008
1697.00 - 1850.00	Drilled	0.4530	0.4188	0.004	0.0018	0.0007	0.0002	0.0006
1780.00 -	Peak	0.7600	0.6924	0.0057	0.0028	0.001	0.0004	0.0005
1850.00 - 1955.00	Drilled	0.5200	0.4474	0.0052	0.0026	0.0013	0.0003	0.0005
1865.00 -	Peak	0.8800	0.7478	0.0088	0.0041	0.0018	0.0004	0.0005
1955.00 - 1980.00	Drilled	0.4900	0.4295	0.0074	0.0033	0.0019	0.0004	0.0006
1977.00 -	Peak	0.7000	0.6368	0.0114	0.0050	0.0026	0.0005	0.0008
1980.00 - 2004.00	Drilled	0.6400	0.5645	0.0104	0.0046	0.0025	0.0005	0.0008
2004.00 - 2105.00	Drilled	0.5360	0.4642	0.0107	0.0060	0.0009	0.0013	0.0004
2069.00 -	Peak	0.5750	0.4895	0.0125	0.0072	0.004	0.001	0.0014
2093.00 -	Peak	0.4170	0.3456	0.0094	0.0065	0.0039	0.0016	0.0016
2105.00 - 2105.00	Drilled	0.1690	0.1124	0.0023	0.0020	0.0014	0.0008	0.0011
2150.00 - 2200.00	Drilled	0.1560	0.1104	0.0027	0.0020	0.0013	0.0008	0.0008
2200.00 - 2244.00	Drilled	0.0900	0.0406	0.0014	0.0014	0.0014	0.0007	0.0008
2244.00 - 2271.00	Drilled	0.0740	0.0352	0.0011	0.0009	0.0009	0.0004	0.0007
2271.00 -	Trip	2.2060	2.0647	0.0753	0.0128	0.0047	0.0001	0.0012
2271.00 - 2284.00	Drilled	0.1290	0.1026	0.0016	0.0011	0.0008	0.0003	0.0006
2284.00 - 2373.00	Drilled	0.0990	0.0664	0.0027	0.0013	0.0004	0.0002	0.0001
2350.00 -	Peak	0.2110	0.1442	0.0063	0.0034	0.0014	0.0007	0.0006
2373.00 - 2520.00	Drilled	0.1470	0.0826	0.0049	0.0028	0.0017	0.0006	0.0010
2431.00 -	Peak	0.2130	0.1381	0.0083	0.0038	0.0024	0.0009	0.0016
2516.00 -	Peak	0.2140	0.1336	0.0079	0.0046	0.0024	0.0010	0.0011
2520.00 -	Trip	0.0660	0.019	0.0012	0.0007	0.0005	0.0001	0.0006
2523.00 - 2543.00	Other	Computer malfunction prevented accurate gas determination						
2543.00 - 2633.00	Drilled	0.1060	0.0640	0.0044	0.0025	0.0019	0.0006	0.0009

2556.00 -	Peak	0.2060	0.1489	0.0101	0.0045	0.0025	0.0007	0.0010
2615.00 -	Peak	0.4140	0.3107	0.0161	0.008	0.0037	0.0018	0.0017
2629.00 - 2633.00	Drilled	0.1190	0.0421	0.0026	0.0015	0.002	0.0007	0.0014
2633.00 -	Trip	0.2040	0.0428	0.0401	0.0396	0.0375	0.0135	0.0114
2633.00 - 2774.00	Drilled	0.3180	0.1534	0.0200	0.0130	0.0037	0.0021	0.0016
2774.00 - 2827.50	Drilled	0.2900	0.1121	0.0189	0.0154	0.0041	0.0030	0.0018
2827.50 - 2914.00	Drilled	0.3700	0.1714	0.0246	0.0171	0.0041	0.0025	0.0018
2830.00 -	Peak	2.2760	1.2091	0.1739	0.1596	0.0442	0.0427	0.028
2914.00 - 2983.00	Drilled	0.1780	0.0963	0.0091	0.0065	0.0038	0.0026	0.0027
2983.00 - 2988.00	Drilled (Standard gas trap data only)	0.0740	0.0108	0.0010	0.0000	0.0000	0.0000	0.0000
2988.00 - 2993.50	Drilled	0.3010	0.1630	0.0072	0.0022	0.0009	0.0006	0.0007
3013.00 - 3068.00	Drilled	0.2190	0.0906	0.0065	0.0029	0.0012	0.0007	0.0012
3013.00 -	Trip	0.4220	0.3512	0.1730	0.0058	0.0015	0.0011	0.0009
3053.00 -	Peak	0.3670	0.178	0.0089	0.0034	0.0014	0.0008	0.0007
3068.00 - 3145.00	Drilled	0.3880	0.1836	0.0105	0.0048	0.0021	0.0012	0.0011
3077.00 -	Peak	0.7810	0.4182	0.0214	0.0095	0.0031	0.0017	0.0012
3133.00 -	Peak	1.0910	0.5154	0.0362	0.0161	0.0079	0.0047	0.0041
3145.00 -	Trip	1.9910	1.1022	0.0672	0.0170	0.0035	0.0028	0.0015
3145.00 - 3153.00	Drilled	1.6330	0.9221	0.059	0.0149	0.0032	0.0026	0.0017
3150.00 -	Peak	2.7460	1.5692	0.0941	0.0223	0.0045	0.0038	0.0023
3151.00 -	Peak	2.6990	1.5272	0.0892	0.0213	0.0044	0.0037	0.0022
3153.00 - 3161.00	Drilled	1.6720	1.0322	0.0580	0.0133	0.0029	0.0023	0.0009
3175.00 -	Trip	0.9630	0.5436	0.0204	0.0102	0.0024	0.0019	0.0012
3175.00 - 3180.00	Drilled	0.1780	0.1081	0.0041	0.0013	0.0008	0.0006	0.0007
3180.00 - 3208.00	Drilled	0.3930	0.2647	0.0179	0.0067	0.0021	0.0015	0.0013
3208.00 - 3235.00	Drilled	0.2490	0.1281	0.0097	0.0048	0.002	0.0013	0.0011

APPENDIX 6: MUDLOGGERS REPORT

Trefoil-2

FINAL WELL REPORT

Prepared by

Geoservices Australasia Pty Ltd

Geoservices Australasia Pty Ltd
14 Desmond Avenue
Marleston, S.A. 5033
Tel: 08-8297 5010
Fax: 08-8297 5125

Origin Energy
2nd Floor, South Tower,
John Oxley Centre
Brisbane, QLD 4064
Att: Trinetta Herdy

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F.	Cutting Sample Manifest	

1.0 WELL DATA SUMMARY

Operator	: Origin Energy Resources Ltd
Well name	: Trefoil – 2
Basin	: Bass
Permit	: T / 18P
Operator	: Origin Energy Resources Ltd
Surface location	: Latitude: 39° 53' 07.93" S
	: Longitude: 145° 22' 14.62" E
Bottom Hole Location	: 20.75 m South of Surface Location
	: 31.33 m East of Surface Location
Total depth	: 3235.0 mMDRT
Rotary Table Elevation.	: 26 m above MSL
Sea-water depth	: 69 m
Rig Arrived	: 12:15 hr 03 October, 2009
Spud Well	: 08:00 hr 6 October, 2009
Bit Reached TD	: 03:00 hr 18 November, 2009
Total Time on Well	: 58.17 days (58 days 4 hours)
Budgeted Time On Well	: 41.04 days
Well Status	: Plugged and Abandoned
Permit Interests	: Origin Energy Petroleum Pty Ltd 39.0%
	AWE Petroleum Pty Ltd 30.0%
	Cal Energy Gas (Australia) Ltd 18.5%
	ARC (Bass Gas) Pty Ltd 12.5%
Rig name	: Kan Tan IV (semi-sub)
Drilling Contractor	: Maersk

Drilling Phases

Diameter (inch)	From (m)	To (mMDRT)	Mud Type
914(36")	95.0	155.0	Seawater / Bentonite sweeps
445(17½")	155.0	935.0	Seawater / Bentonite sweeps
31(12¼")	935.0	2520.0	KCl / Polymer
216(8½")	2520.0	3235.0	KCl / Polymer

Cased Hole

Casing Diameter (inch)	Casing Type	Shoe Depth (mMDRT)
762(30")	Conductor	153.0
340(13⅜")	Surface	930.0
244(9⅝")	Intermediate	2520.0

2.0 GENERAL INFORMATION

The proposed Trefoil-2 appraisal well is located in T/18P in the Bass Basin. The location is approximately 2.6km south of the suspended Trefoil-1 well, and the nearest population bases are Melbourne (231km NNW), and Port Latta (108km south). Offset wells include Aroo-1 (12.5km to the northeast), White Ibis and Bass-3 (13km and 14km to the southwest respectively). The Trefoil Field was discovered in November 2004, when Trefoil-1 intersected gas bearing zones, within the EVCM Palaeocene and Cretaceous. Wireline logs and mudlog data indicated the potential for up to 21 gas bearing zones. Trefoil-2 has been located in a down slip position to prove up the size of the Trefoil structure, and to address the following uncertainties.

Structural/ depth mapping uncertainty.
Reservoir quality, depositional environment and reservoir continuity.
Gas-water contact depths and gas zones.
Sw and water gradients.
Permeability uncertainties.
Potential compartmentalisation.
Gas composition and liquid yield, and
Transition zone heights.

The Trefoil-2 well was drilled vertically to a firm total depth (TD) of 3235.0 mMDRT to ensure the primary targets. Coring was performed through the reservoir section and evaluation data was obtained via MWD/LWD tools as well as wireline logs at TD. On completion of the wireline logging operations, Trefoil-2 was abandoned in accordance with regulatory requirements.

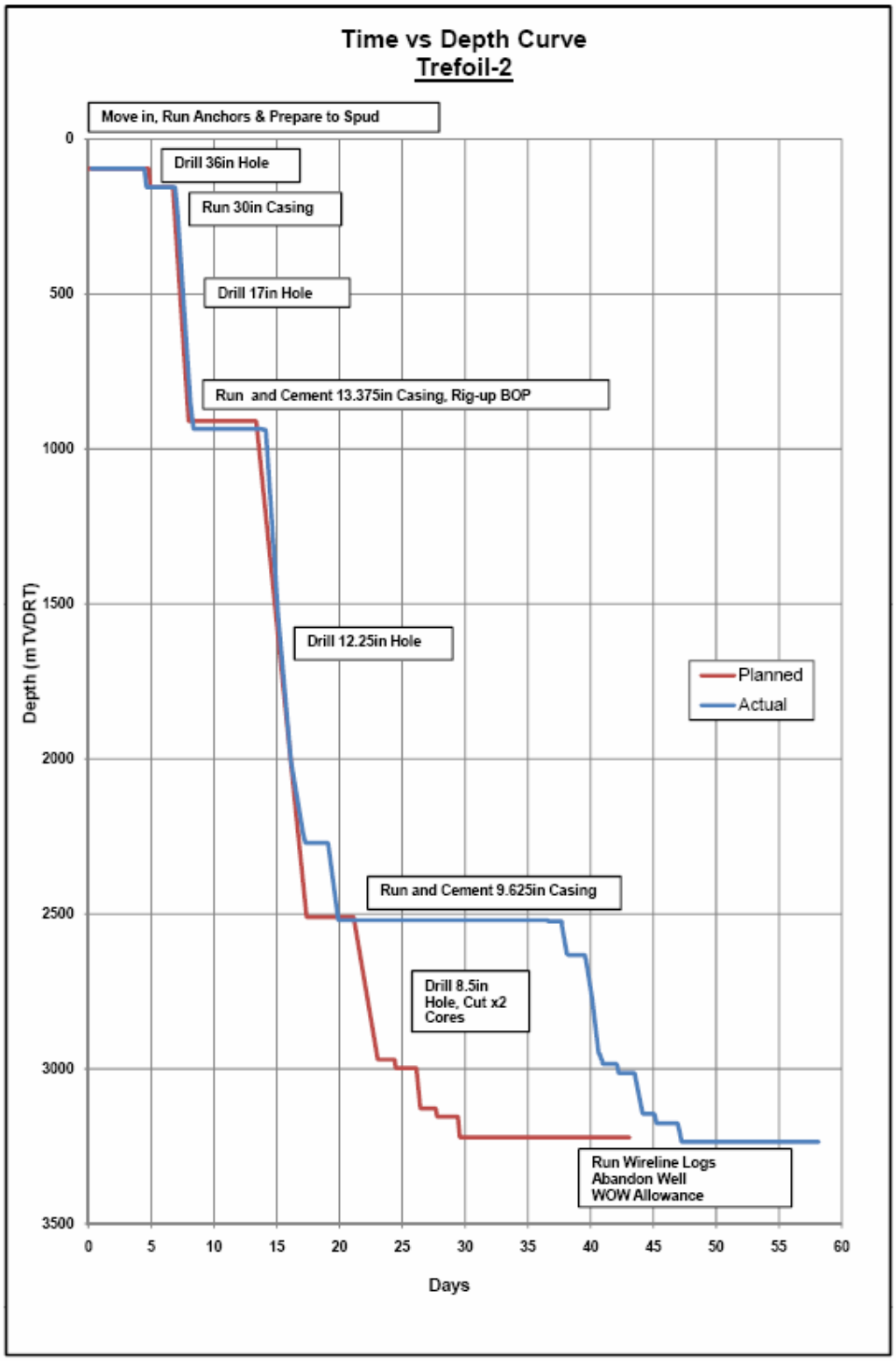
2.1 Geoservices Personnel

ALS Engineers	: Noel Elliot : Gopesh Gopi : Leigh Sack : Brendan Barwick : Lawrence Hannon
Mudloggers	: Klaudyna Brzozowska : Andrew Lowndes : Paul Currie : Pippa Duncan
Sample Catchers	: Eugene Miro : Peter O Shaughnessy : Leigh Dower : Kepa O'Rilley

2.2 Contractor Information

Drilling	: Maersk Drilling Property
Rig name	: Kan Tan 4
Rig type	: Semi-submersible
Mud logging	: Geoservices Australasia
Mud engineering	: Halliburton -Baroid
MWD	: Halliburton- Sperry Sun
Wireline logging	: Schlumberger Wireline
Cementing	: Halliburton Cementing
Well head completion	: Dril-Quip
ROV	: Fugro
Casing	: Premium Casing Services
Helicopters	: Bristows

2.3 Days vs. Depth Progress Chart



Revision	Date	Issued by	Approved by	Remarks
1	November 2009	Geoservices Unit 174	Operations Assistant	1

2.4 Sample Collection Summary

Sample Type	Number of sets	Quantity per set	Sampling interval	From (m)	To (m)
Unwashed	1	500 grams	10 metres 5 metres 3 metres	940 1760 2050	1760 2050 3235
Washed and Dried	1	300 grams	10 metres 5 metres 3 metres	940 1760 2050	1760 2050 3235
Samplex Trays	2		10 metres 5 metres 3 metres	940 1760 2050	1760 2050 3235

Cuttings Distribution

Company	Unwashed and Dried Samples
Origin Australia	1

Company	Washed and Dried Samples
Origin Australia	1
Mineral Resources Tasmania	1
Geoscience Australia	1

Company	Set of Samplex Trays
Origin Australia	2

3.0 GEOLOGICAL INFORMATION

3.1 Lithological Summary

All returns to the seabed prior to 935.0 mMDRT. Drilled 12¼" hole with a Riser from 935.0 mMDRT. Drilled 8½" hole from 2520.0 mMDRT

INTERVAL: 95.0 to 390.0 mMDRT
ROP (Range): 11 to 85 m/h
Av. ROP: 48 m/h

No samples recovered returns at to sea through ported conductor

INTERVAL: 390.0 to 795.0 mMDRT
ROP (Range): 7 to 285 m/h
Av. ROP: 84 m/h

No samples recovered returns at to sea through ported conductor. Below 630.0 mMDRT a notable increase in average ROP is observed after increasing the WOB.

INTERVAL: 795.0 to 938.0 mMDRT
ROP (Range): 8 to 127 m/h
Av. ROP: 27 m/h

No samples recovered returns to sea through ported conductor. Below 812.0 mMDRT a notable decrease in average ROP is observed after decreasing the RPM.

INTERVAL: 939.0 to 1190.0 mMDRT
ROP (Range): 20 to 40 m/h
Av. ROP: 80 m/h

CLAYSTONE: medium-occasionally light grey, soft-occasionally firm, amorphous-sub-blocky, calcareous grains: 10% clay, accessories: micromicaceous trace amount, calcareous 10-30%.
Show Details: No Hydrocarbon Shows

INTERVAL: 1162.0 to 1240.0 mMDRT
ROP (Range): 8 to 250 m/h
Av. ROP: 100 m/h

SILTSTONE: medium grey, medium to light grey, soft, sub-blocky, trace carbonaceous lamina, trace lithic fragments, trace calcareous clay.
SANDSTONE: light olive grey, medium grey, very soft to friable, very fine grains, sub-angular to sub-rounded, well sorted, spherical to sub-spherical, trace lithic fragments,10% poor calcareous cement, good visual porosity, no fluorescence.
Show Details: No Hydrocarbon Shows

INTERVAL: 1240.0 to 1331.0 mMDRT
ROP (Range): 6 to 170 m/h
Av. ROP: 66 m/h

CLAYSTONE: olive grey, dark greenish grey, soft to firm, sub-blocky, trace foraminifera, 2 % micro micaceous, trace fine green pyrite aggregates, 10% calcareous clay.
SILTSTONE: medium grey, medium - light grey, soft to firm, sub-blocky, 1% shell fragments, trace reddish brown, dolomitic limestone, trace lithic fragments, foraminifera, fine green pyrite aggregates, 5% calcareous clay,10% clay.
Show Details: No Hydrocarbon Shows

INTERVAL: 1331.0 to 1440.0 mMDRT
ROP (Range): 8 to 112 m/h
Av. ROP: 58 m/h

SILTSTONE: olive grey, medium to dark grey, medium grey, soft firm, sub-blocky to blocky in part with 10 % very fine greenish quartz grains, trace altered lithic fragments, trace carbonaceous specks, trace very fine disseminated pyrite, trace glauconitic grains, 5% calcareous clay,15% clay, grading to argillaceous siltstone.
CLAYSTONE: olive grey, dark greenish grey, soft to firm, sub-blocky, trace foraminifera, 2% micromicaceous, trace fine green pyrite aggregates,10% calcareous clay.
Show Details: No Hydrocarbon Shows

INTERVAL: 1440.0 to 1480.0 mMDRT
ROP (Range): 15 to 115 m/h
Av. ROP: 69 m/h

SILTY SANDSTONE: olive grey, medium dark grey, very fine grains, sub-rounded, well sorted, sub-spherical to spherical quartz grains with 0 to 20% lithic component, soft to firm, sub-blocky to sub-fissile, trace carbonaceous specks, 5% calcareous cement, poor visual porosity, no fluorescence.
SILTSTONE: olive grey, medium grey, trace dark grey, soft to firm, sub-blocky, trace carbonaceous specks, lithic fragments, glauconitic, 5% calcareous clay,10% very fine quartz sand.
Show Details: No Hydrocarbon Shows

INTERVAL: 1480.0 to 1569.0 mMDRT
ROP (Range): 7 to 170 m/h
Av. ROP: 66 m/h

SILTSTONE: olive grey, medium dark grey, soft to firm, trace friable, angular to sub-blocky, trace carbonaceous specks, calcite crystals, glauconitic, lithic fragments, 5% calcareous clay, 10% clay, 15% very fine quartz sand.
SANDSTONE: medium dark grey, dark grey, very fine green, sub-rounded, well sorted, sub-spherical to spherical quartz grains with 10-15% lithic fragments, 5% calcareous clay cement, 10% clay , poor visual porosity, no fluorescence.
Show Details: No Hydrocarbon Shows

INTERVAL: 1569.0 to 1700.0mMDRT
ROP (Range): 8 to 121 m/h
Av. ROP: 55 m/h

SILTSTONE: olive grey, soft to firm, sub-blocky, trace carbonaceous specks, glauconitic, trace lithic fragments, trace shell fragments, 5% calcareous clay, 10% clay, 5% very fine quartz sand.
SANDY SILTSTONE: olive grey, medium dark grey, soft to firm, angular to sub-blocky, trace carbonaceous specks, glauconitic, lithic fragments, micromicaceous, shell fragments, 5% calcareous clay,10% clay, 20% very fine quartz sand.
Show Details: No Hydrocarbon Shows

INTERVAL: 1700.0 to 1800.0 mMDRT
ROP (Range): 15 to 115 m/h
Av. ROP: 69 m/h

ARGILLACEOUS SILTSTONE: olive grey, soft to firm, sub-blocky, trace micromicaceous, trace pyrite aggregates, trace lithic fragments, trace fossil fragments, trace glauconitic, trace dolomite, 5% calcareous clay, 25% very fine quartz sand.
CLAYSTONE: olive black, dusky brown, brownish grey, soft to firm, sub-blocky, trace micromicaceous, trace carbonaceous specks, 5% calcareous clay.
DOLOMITE: pale yellowish brown, dark yellowish brown, soft to very hard, sub-conchoidal fracture, crystalline to earthy in part, trace opaque calcareous crystal.
Show Details: No Hydrocarbon Shows

INTERVAL: 1800.0 to 1850.0 mMDRT
ROP (Range): 12 to 62 m/h
Av. ROP: 40 m/h

CLAYSTONE: olive black, olive grey, trace dark yellowish brown, soft to firm, sub-blocky, trace micromicaceous.
ARGILLACEOUS SILTSTONE: olive grey, yellowish brown in part, tr soft to firm, sub-blocky, trace micromicaceous, trace pyrite aggregates, trace lithic fragments, trace fossil fragments, trace glauconitic, trace dolomite, 5% calcareous clay, 25% very fine quartz sand.
DOLOMITE: pale yellowish brown, firm to hard, splintery to conchoidal fracture in part, earthy.
Show Details: No Hydrocarbon Shows

INTERVAL: 1850.0 to 1990.0 mMDRT
ROP (Range): 4 to 85 m/h
Av. ROP: 31 m/h

ARGILLACEOUS SILTSTONE: brownish black, soft to firm, sub-blocky, trace micromicaceous, trace pyrite aggregates, trace lithic fragments, trace fossil fragments, trace glauconitic, trace dolomite, 5-30% clay, 5% very fine quartz grains.
CLAYSTONE: medium grey, dark grey, brownish black, olive black, very soft to soft, amorphous to sub-blocky, trace micromicaceous. Trace glauconitic.
DOLOMITE: pale yellowish brown, dark yellowish brown, firm to hard, splintery to conchoidal fracture in part, crystalline to micro-crystalline.
Show Details: No Hydrocarbon Shows

INTERVAL: 1990.0 to 2105.0 mMDRT
ROP (Range): 12 to 73 m/h
Av. ROP: 31 m/h

ARGILLACEOUS SILTSTONE: brownish black, olive black, soft to firm, amorphous to sub-blocky, trace micromicaceous, trace carbonaceous, trace lithic fragments, 35% clay, 5% calcareous clay.
CLAYSTONE: medium grey, medium to dark grey, moderately to hard, angular to sub-blocky, trace shell fragments, micromicaceous. 10% calcareous clay, 15% silt.
SANDY SILTSTONE: brownish black, olive black, soft to friable, sub-blocky, trace lithic fragments, 10% clay, 30% very fine quartz sand.
Show Details: No Hydrocarbon Shows

INTERVAL: 2105.0 to 2190.0 mMDRT
ROP (Range): 7 to 77 m/h
Av. ROP: 22 m/h

SILTSTONE: olive black, soft to firm, sub-blocky, trace lithic fragments, altered in part, trace micromicaceous, trace carbonaceous specks, 10% clay, 10% very fine clear quartz grains.
SANDSTONE: dark greenish grey, olive grey, dusky yellowish green, light grey, very fine to 30% fine grains, soft to firm, sub-rounded to sub-angular, moderately well sorted, 0-10% glauconitic grains, 15% clay, poor visual porosity, no fluorescence.
CLAYSTONE: medium blue grey, olive grey, medium grey, soft to firm, sub-blocky, trace micromicaceous. 10% calcareous clay.
Show Details: No Hydrocarbon Shows

INTERVAL: 2190.0 to 2233.0 mMDRT
ROP (Range): 6 to 77 m/h
Av. ROP: 28 m/h

SILTSTONE: olive grey, dark yellowish brown, soft to friable, sub-blocky, lithic fragments, trace carbonaceous laminas, 15% clay, 10% very fine clear quartz grains.
SANDY SILTSTONE: brownish black, brownish grey, olive grey, soft to friable, sub-blocky, trace fine carbonaceous laminas, lithic fragments, coarse clear quartz grains, 20% very fine clear quartz, 10% rock flour.
SILTY CLAYSTONE: olive grey, medium grey, brownish black, soft to firm, sub-blocky, trace lithic grains, carbonaceous fragments, shell fragments, 20% silt contents.
Show Details: No Hydrocarbon Shows

INTERVAL: 2233.0 to 2308.0 mMDRT
ROP (Range): 5 to 96 m/h
Av. ROP: 21 m/h

SANDSTONE: very light grey, olive grey, 40% coarse, 50% very coarse,10% granules, clear quartz grains, sub-round to sub-angular, poorly sorted, sub-spherical, friable, angular, trace lithics fragments, kaolinite clay matrix, 80% rock flour, no fluorescence.
CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace lithics fragments, dolomitic, glauconitic.
COAL: black, firm, sub-blocky to blocky, trace finely disseminated pyrite.
DOLOMITE: pale yellowish orange, moderately hard to hard, conchoidal to splintery.
Show Details: No Hydrocarbon Shows

INTERVAL: 2308.0 to 2372.0 mMDRT
ROP (Range): 5 to 82 m/h
Av. ROP: 26 m/h

SILTSTONE: brown grey, brownish black, olive grey, soft to firm, sub-blocky, trace lithic fragments, thin carbonaceous laminas.
SANDSTONE: very light grey, 30% very fine, 50% fine 15% medium, 5% coarse grains clear quartz grains, sub-round to sub-angular, poorly sorted, sub-spherical, friable, angular, trace lithic fragments, kaolinite clay matrix, 90% rock flour, poor inferred visual porosity, no fluorescence.
CLAYSTONE: olive grey, medium grey, soft to firm, sub-blocky, trace lithic fragments, micromicaceous.
Show Details: No Hydrocarbon Shows

INTERVAL: 2372.0 to 2701.0 mMDRT
ROP (Range): 6 to 80 m/h
Av. ROP: 19 m/h

SILTSTONE: brown grey, brown black, olive grey, soft to firm, sub-blocky, trace lithic fragments. thin carbonaceous threads and specks
SANDSTONE: light olive grey, very light grey, fine green, friable, sub-angular to sub-round, moderately sorted, sub-spherical, friable visual porosity, no fluorescence.
ARGILLACEOUS SILTSTONE: olive grey, light grey, brown grey, soft, amorphous, trace coal and carbonaceous matter, 30% clay.
Show Details: No Hydrocarbon Shows

INTERVAL: 2701.0 to 2983.0mMDRT
ROP (Range): 1 to 101 m/h
Av. ROP: 17 m/h

SANDSTONE: very light grey, clear and opaque, predominantly loose to friable, quartzose, fine grained, 10% very fine grained, 40% medium, sub-angular to sub-rounded, sub-spherical to sub-elongate, poor siliceous cement when aggregates, traces pyrite cement, 5% clay matrix, traces brown mica flakes, fair visual porosity inferred, no hydrocarbon indications.
SILTSTONE: olive grey, brownish black, soft to firm, sub-blocky to blocky, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces.
CLAYSTONE: olive grey, olive black, soft to firm, sub-blocky to blocky, increase in carbonaceous material.
COAL: brownish black to black, soft to firm, argillaceous and dull to bright, conchoidal fracture in part, traces amber.
Show Details: No Hydrocarbon Shows

INTERVAL: 2983.0 to 3013.0 mMDRT
ROP (Range): 1 to 32 m/h
Av. ROP: 7 m/h
Core (1) : 2983m – 3013m
Cut 30m recovered 31.2m

2983.0 mMDRT SANDSTONE: white to very light grey, yellowish grey, clear, very fine to very coarse grained, loose to moderately hard, poorly sorted, rounded to subangular, subspherical to spherical, common argillaceous cement, trace lithic fragments, common carbonaceous material, common mica flakes, good inferred visual porosity, no hydrocarbon fluorescence.
2988.0 mMDRT SANDSTONE: white to very light grey, yellowish grey, clear, trace pinkish grey, very fine to fine grained, soft to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, common silica cement, some argillaceous cement, 1% mica flakes, 2% green amber, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
2993.0 mMDRT SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 15-25% mica flakes.
2988.0 mMDRT SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, trace very coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 15% calcareous cement, trace mica flakes, trace coal, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
3003.0 mMDRT SANDSTONE: white to very light grey, yellowish grey, clear, fine to very coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
3008.0 mMDRT SANDSTONE: white to very light grey, medium light grey to yellowish grey, clear, fine to granular grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred porosity, no hydrocarbon fluorescence.
3013.0 mMDRT SANDSTONE: white to very light grey, yellowish grey to light greenish grey, clear, fine to very coarse grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 10% silica cement, trace mica, fair inferred porosity, no hydrocarbon fluorescence.
Show Details: No Hydrocarbon Shows

INTERVAL: 3013.0 to 3068.0 mMDRT
ROP (Range): 4 to 45 m/h
Av. ROP: 10 m/h

SANDSTONE: very light grey, clear and opaque, predominantly loose to friable, quartzose, fine grained, 10% very fine grained, 40% medium, sub-angular to sub-rounded, sub-spherical to sub-elongate, poor siliceous cement when aggregates, traces pyrite cement, 5% clay matrix, traces brown mica flakes, fair visual porosity inferred, no hydrocarbon indications.
SILTSTONE: olive grey, brownish black, soft to firm, sub-blocky to blocky, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces.
CLAYSTONE: olive grey, olive black, soft to firm, sub-blocky to blocky, increase in carbonaceous material.
Show Details: No Hydrocarbon Shows

INTERVAL: 3068.0 to 3145.0 mMDRT
ROP (Range): 2 to 31 m/h
Av. ROP: 13 m/h

SANDSTONE: loose quartz grains, clear, opaque,very light grey, coarse grained, 10% very coarse, 10% medium grained, angular (shattered) to subangular to subrounded, moderately sorted, subelongate to subspherical, traces white clay matrix adhering to grain surfaces and in part reconstituting as soft, sticky, amorphous clay, fair to good visual porosity inferred, no hydrocarbon fluorescence.
SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile in part, 2% mica flakes, including larger muscovitic type, trace lithic fragments, trace carbonaceous material.
CLAYSTONE: olive black, soft to firm, blocky to subblocky, trace dark mica flakes.
Show Details: No Hydrocarbon Shows

INTERVAL: 3145.0 to 3175.0 mMDRT
ROP (Range): 3 to 29 m/h
Av. ROP: 9 m/h
Core (2) : 3145m – 3175m
Cut 30m recovered 29.3m

3145.0 mMDRT SANDSTONE: light grey, mottled, quartzose, fine grained, firm to moderately hard, subangular to subrounded, moderately wellsorted, subspherical, traces carbonaceous material, mica flakes, 5% white clay matrix, moderate siliceous cement, fair visualporosity, no hydrocarbon fluorescence.
3150.0 mMDRT SANDSTONE: white, trace yellowish grey grains, quartzose, friable to firm, fine to medium grained, subangular to subrounded, poorly sorted, subspherical, traces biotitic mica flakes, traces carbonaceous material, fair visual porosity, no hydrocarbon fluorescence.
3155.0 mMDRT SANDSTONE: very light grey, trace yellowish grey grains, trace medium grey grains, quartzose, hard to moderately hard, fine to very coarse grained, rounded very coarse grains to sub angular to subrounded, poorly sorted, spherical to subspherical to subelongate, trace amber, trace carbonaceous material, trace biotitic mica flakes, fair visual porosity, overall yellow green fluorescence, slow blooming to streaming blue white cut, blue yellow bright film residue.
3160.0 mMDRT SANDSTONE: white, quartzose, fine to very coarse grained, firm, subangular to subrounded, poorly sorted, subspherical, 15% white clay matrix, poor siliceous cement, trace amber, poor visual porosity, dull yellow overall fluorescence, very slow diffuse dull yellow cut, no residue.
3165.0 mMDRT SANDSTONE: white to very light grey, quartzose, moderately hard, fine to very coarse grained, subangular to subrounded, poorly sorted, subspherical to subelongate, 10% white clay matrix, moderately well siliceous cemented, poor visual porosity, pale yellow overall fluorescence, slow diffuse yellow green fluorescence, dull yellow film residue.
3170.0 mMDRT SANDSTONE: white to very light grey, quartzose, friable, medium to very coarse grained, subangular to subrounded, moderately sorted, subspherical to spherical, 5% white clay matrix, poor siliceous cement, fair visual porosity, dull yellow overall fluorescence, no cut, no residue.
3175.0 mMDRT SANDSTONE: white, grey mottled, quartzose, friable, fine grained to granular, subangular to subrounded, very poorly sorted, subspherical, 10% white and medium grey clay matrix, poor siliceous cement, traces carbonaceous material, poor visual porosity, dull yellow fluorescence, no cut, blue white film residue.
Show Details: Fluorescence was present. See descriptions above.

INTERVAL: 3175.0 to 3235.0 mMDRT
ROP (Range): 2 to 30 m/h
Av. ROP: 10 m/h

SANDSTONE: loose quartz grains, clear, opaque,very light grey, coarse grained, 10% very coarse, 10% medium grained, angular (shattered) to subangular to subrounded, moderately sorted, subelongate to subspherical, traces white clay matrix adhering to grain surfaces and in part reconstituting as soft, sticky, amorphous clay, fair to good visual porosity inferred, no hydrocarbon fluorescence.
SILTSTONE: olive black, olive grey, soft to firm, subblocky to subfissile in part, 2% mica flakes, including larger muscovitic type, trace lithic fragments, trace carbonaceous material.
CLAYSTONE: olive black, soft to firm, blocky to subblocky, trace dark mica flakes.
Show Details: No Hydrocarbon Shows

3.2 Gas Ratio Interpretation – Introduction Lithological Summary

Gas composition and total gas in mud at the possum belly were measured using the Geoservices Reserval™ that utilises a GZG degasser to extract gas from mud. The Reserval™ also measures the Gas-In values from active pits utilising a GZG degasser installed in the active pit. The Gas-Out/Gas-In was monitored at an 80:20 ratio in the chromatograph cycle. The GFF (coupled with a GZ11degasser) was used as a backup gas detection system. Both use the FID technique of measuring ions released when hydrocarbons are burnt in a pure hydrogen flame.

Gas is extracted from the mud at the shale shakers by a degasser that is essentially an agitator inside a chamber through which the mud continually passes. The gas is then drawn back to the unit through tubing to the gas analysis equipment. Independent sensors in the unit also measure H_2S and CO_2.

The composition of the gas in mud from the formation is significant in determining the geochemical origin and value of a show. There are several methods that can be used to determine whether the hydrocarbon gas in mud comes from a potential gas or oil zone. Amongst these methods are the Triangle Diagram (also known as the gas composition diagram), Pixler Diagram (also known as the gas ratios method), and the gas Wetness/Balance/Character plots.

3.3 Explanation of Gas Composition Diagrams

The Triangle or Gas Composition Diagram is used to graphically represent the hydrocarbon distribution in the gas and to determine whether it corresponds to a gas or oil reservoir. The triangular diagram is obtained by tracing lines on three scales at 120° to each other, corresponding respectively to the ratios of ethane, propane and normal butane to the total gas. The scales are arranged in such a way that if the apex of the triangle is upward, the diagram represents the analysis of gas from a gas zone, while if the apex points downwards, the diagram represents the analysis of gas from an oil zone. A large triangle diagram represents dry gas or low GOR oil, while small triangles represent wet gases or high GOR oils. The centre of the triangle should fall inside the area delineated by the dotted line, which encircles compositions that are regarded as 'normal'. If the triangle area is outside this area the gas indicates that the reservoir is not exploitable and that the heavier hydrocarbon composition is

'abnormal' i.e. hydrocarbons that are chemically altered or gases with special compositions which are not associated with oil.

The Gas Ratio Analysis Diagram is a plot of the ratio of C1 to the other gas elements. The magnitude of the methane to ethane ratio determines if the reservoir contains gas or oil or if it is non-productive. The following conclusions are possible:

Ratio C1/C2:	< 2	non-productive zone
	2 – 15	oil present
	15 – 65	gas present
	> 65	non-productive zone

The slope of the line of the ratio plot of C1/C2, C1/C3, C1/C4 and C1/C5 indicates whether the reservoir will produce hydrocarbons or hydrocarbons and water. Positive line slopes indicate production; negative line slopes indicate water-bearing formations. When using the Gas Ratio Diagram, the following points should be borne in mind:

1. Productive dry gas zones may show only C1, but abnormally high shows of C1 are usually indicative of saltwater zones.
2. If the ratio C1/C2 is low in the oil section and the ratio C1/C4 is high in the gas section, the zone is probably non-productive.
3. If any ratio (C1/C5 except in an oil based mud) is lower than the preceding ratio then the zone is probably non-productive.
4. The ratios may not be definitive for zones of low permeability.
5. Steep gas ratio plots may be indicative of tight zones.

3.4 Explanation of Wetness/Balance/Character Curves

Another method for evaluating gas zones plots against depth three ratios: hydrocarbon Wetness (W_h), hydrocarbon Balance (B_h) and hydrocarbon Character (C_h), where:

$$W_h = \frac{(C2 + C3 + C4 + C5)}{(C1+C2+C3+C4+C5)} \times 100\ (\%)$$

$$B_h = \frac{(C1 + C2)}{(C3 + C4 + C5)}$$

$$C_h = \frac{(C4 + C5)}{C3}$$

Wetness (W_h) is the primary zone indicator and provides a measure of the relative proportion of heavier gases in the overall gas show as follows:

$W_h < 0.5$	Light non-associated gas with low productivity potential or only geo-pressured methane.
$0.5 < W_h < 17.5$	Potentially productive gas with gas density increasing with W_h.
$17.5 < W_h < 40.0$	Potentially productive oil with gravity decreasing as W_h increases.
$W_h > 40.0$	Heavy or residual oil with low productivity potential.

As reservoir hydrocarbons become denser in the transition from gas to oil, Balance (B_h) and Wetness (W_h) values move closer together and eventually intersect. The zone guidelines for B_h combine with those for W_h to improve reliability of show evaluation as follows:

$W_h < 0.5$ And $B_h > 100$	Very light, dry gas that is almost certainly non-productive.
$0.5 < W_h < 17.5$ and $W_h < B_h < 100$	Productive gas with gas increasing in wetness and density as the two curves converge.
$0.5 < W_h < 17.5$ And $B_h < W_h$	Productive gas condensate or a high gravity gas/oil ratio.
$17.5 < W_h < 40$ and $B_h < W_h$	Productive oil with oil gravity decreasing – density increasing as the curves diverge.
$17.5 < W_h < 40$ And $B_h > W_h$	Non-productive residual oil.

Character (C_h) values serve to resolve ambiguities between oil or gas indications by defining the following:

$0.5 < W_h < 17.5$ And $B_h < W_h$ and $C_h < 0.5$	Productive wet gas or condensate.
$0.5 < W_h < 17.5$ And $B_h < W_h$ and $C_h > 0.5$	Productive high gravity and/or high GOR oil.

It is important to note that in the conclusion to each of the interpretive tools, the terms ‘productive’ and ‘non-productive’ are used in a geochemical sense. Ultimate production of a zone is dependent upon reservoir thickness and extent as well as other physical and economic factors that are not taken into account when analysing gas compositions. The methods discussed here are intended to assist the interpretive skills of the geologist or log analyst.

3.5 Gas Composition Discussion

Gas monitoring while drilling Trefoil-2 commenced using the Geoservices Reserval™ and GFF gas systems from 932.0 mMDRT. Background gas was first observed from a depth of 932.0 mMDRT, where it was present in low concentrations of around 0.01. Present solely as methane (C1), it remained at this low concentration until around 960.0 mMDRT where the gas
concentrations began to increase. Background gas increased to around 0.4% to end of the 12¼" hole with peaks reaching as high as 0.89%. A trip gas peak of 2.2% was observed at 2271.0 mMDRT after a bit trip. During the 8½” section background gas between 0.1% to 0.4% was observed. A peak of 2.27% occurred at 2830.0 mMDRT.Gas from Core # 1 was only logged after the trip and as a result there were poor returns. During Core #2 a peak of 2.8% was observed at 3150.0 mMDRT, but gas from 3161 mMDRT was not logged until after the trip.

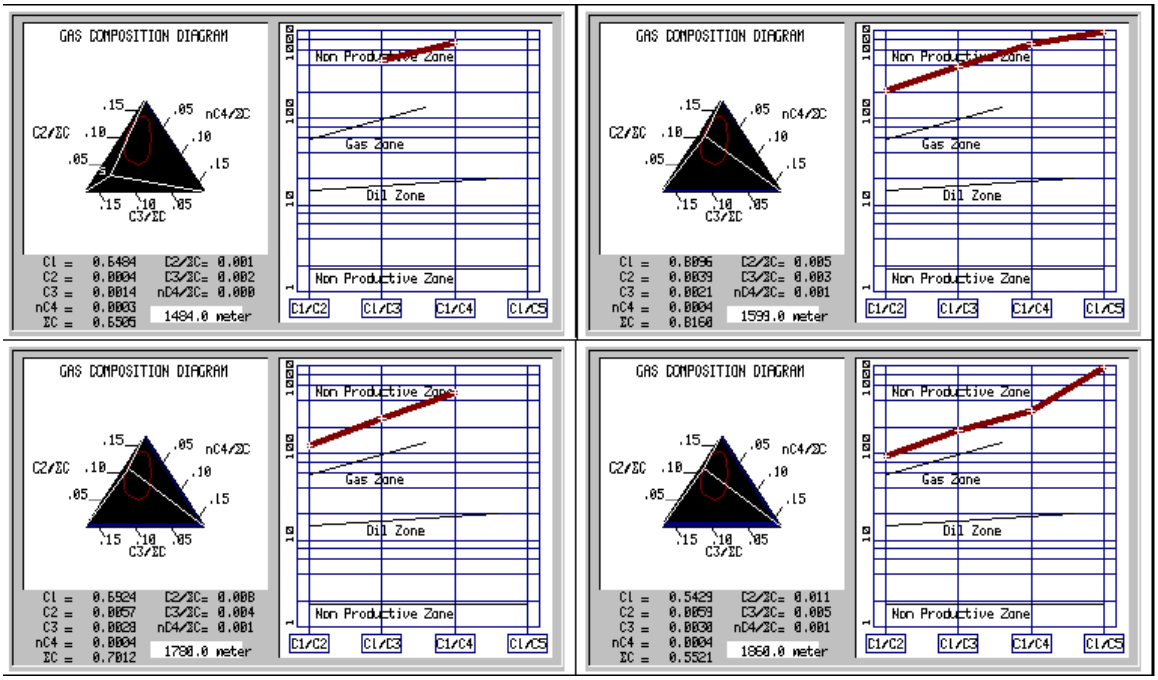
Gas Peaks listed below are from the Reserval gas equipment. A GFF backup gas system was run as well and plotted the same trends. The Reserval gas is more analytical of gas readings and picks up more background gases and has a constant mud flow. The Backup GZ11 degasser has a higher mud flow through it and liberates more gas from the mud to the chamber and during gas zones. The calibrations of both gas equipment were checked during the well and were very accurate.
No CO_2 or H_2S gas was recorded in Trefoil-2

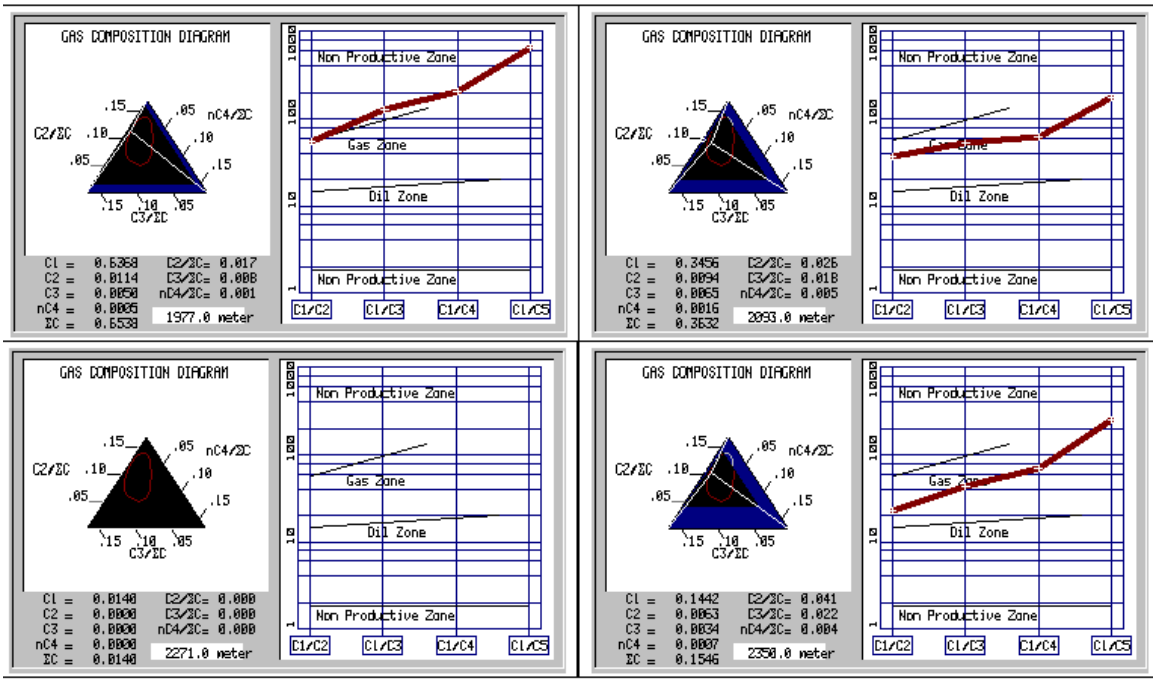
3.6 Gas Peaks (From Reserval™ Gas Detection System)

The following gas peaks were recorded while drilling Trefoil-2

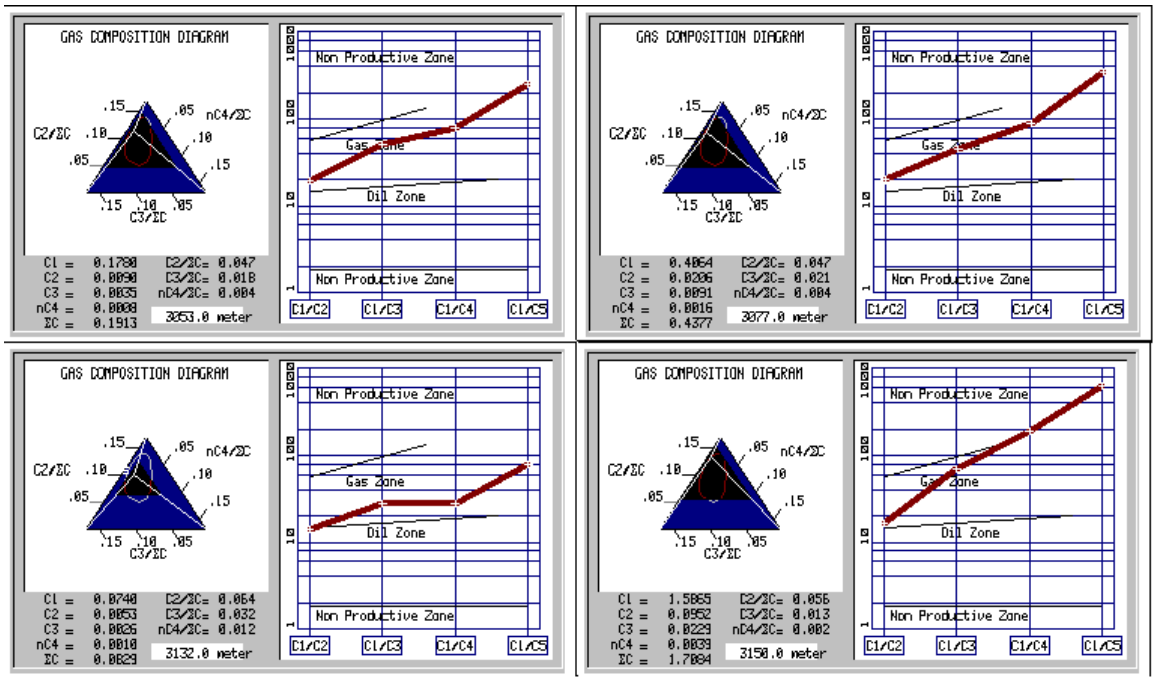
DEPTH METRES	TOTAL GAS PEAK / TRIP %	C1 %	C2 %	C3 %	IC4 %	NC4 %	IC5 %	NC5 %
1022.0	0.1984	0.2419	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1120.0	0.2098	0.2329	0.0000	0.0002	0.0001	0.0000	0.0001	0.0000
1195.5	0.6012	0.6107	0.000	0.0007	0.0002	0.0001	0.0002	0.0001
1266.0	0.6328	0.6271	0.0021	0.0011	0.0004	0.0002	0.0002	0.0000
1366.5	0.6785	0.6127	0.0023	0.0014	0.0005	0.0003	0.0003	0.0000
1439.0	0.5149	0.4820	0.0217	0.0013	0.0005	0.0002	0.0003	0.0001
1484.0	0.6738	0.6484	0.0004	0.0014	0.0006	0.0003	0.0004	0.0001
1601.5	0.8657	0.8351	0.0048	0.0022	0.0008	0.0005	0.0008	0.0001
1711.0	0.5780	0.5424	0.0036	0.0019	0.0007	0.0003	0.0005	0.0002
1780.0	0.7602	0.6924	0.0057	0.0028	0.0010	0.0004	0.0005	0.0001
1865.0	0.8825	0.7478	0.0088	0.0041	0.0018	0.0004	0.0005	0.0002
1915.5	0.6696	0.6035	0.0081	0.0036	0.0018	0.0005	0.0006	0.0002
1977.0	0.7021	0.6368	0.0114	0.0050	0.0026	0.0005	0.0008	0.0001
2060.5	0.8938	0.7663	0.0184	0.0102	0.0058	0.0013	0.0019	0.0004
2094.5	0.5249	0.4445	0.0115	0.0075	0.0044	0.0018	0.0018	0.0004
2162.0	0.2109	0.1620	0.0042	0.0032	0.0019	0.0009	0.0007	0.0001
2286.0	0.1865	0.1541	0.0054	0.0030	0.0014	0.0000	0.0000	0.0000
2331.0	0.1348	0.1026	0.0044	0.0020	0.0000	0.0000	0.0000	0.0000
2350.0	0.3338	0.2467	0.0114	0.0063	0.0023	0.0011	0.0006	0.0001
2431.5	0.2156	0.1367	0.0081	0.0047	0.0024	0.0010	0.0010	0.0001
2556.0	0.1618	0.1113	0.0082	0.0039	0.0024	0.0006	0.0009	0.0001
2615.0	0.4021	0.3107	0.0161	0.0080	0.0037	0.0018	0.0014	0.0003
2830.0	2.2761	1.2091	0.1739	0.1596	0.0442	0.0427	0.0161	0.0119
2857.0	2.1890	1.6649	0.1626	0.1626	0.6841	0.0167	0.0154	0.0046
2889.0	1.4059	0.9603	0.0846	0.0467	0.0127	0.0147	0.0110	0.0041
2906.0	0.8779	0.5391	0.0400	0.0174	0.0045	0.0034	0.0106	0.0014
2958.0	0.2633	0.1544	0.0095	0.0047	0.0031	0.0019	0.0015	0.0007
3053.0	0.3777	0.1780	0.0090	0.0035	0.0014	0.0008	0.0004	0.0003
3077.0	0.7722	0.4064	0.0206	0.0091	0.0029	0.0016	0.0007	0.0004
3132.0	1.0910	0.5684	0.0385	0.0166	0.0081	0.0048	0.0029	0.0014
3150.0	2.8086	1.6258	0.0965	0.0224	0.0045	0.0039	0.0015	0.0009
3200.0	0.5774	0.3879	0.0256	0.0100	0.0028	0.0020	0.0009	0.0005

3.7 Gas Ratio Diagram





Revision	Date	Issued by	Approved by	Remarks
1	November 2009	Geoservices Unit 174	Operations Assistant	



4.0 PRESSURE ANALYSIS

4.1 Pressure Summary

Formation pressures were monitored throughout this well by recording a range of indicators. These indicators vary from direct observations of background gas and cuttings to drilling characteristics such as torque and tight hole, as well as quantitative methods like the D'exponent.

D'exponent: This is a normalized rate of penetration that takes into account mud weight, bit wear and hydraulics. It can be reliably used in shales and clean claystones; and as an indicator in siltstones, silty shales and calcareous claystones. A normal trend line is established through normally pressured shale points, representing a normal compaction trend, and any leftward deviation of subsequent shale points from this trend, representing relative under-compaction, indicates overpressure (plotted relative to depth) or increased porosity due to changes in the lithology.

The D'exponent calculation was not ideally suited for the detection of overpressure in this particular instance due to the fact that PDC bits were used. However Geoservices used both qualitative and quantitative techniques to monitor for abnormal pressure. The D-exponent plus close monitoring of gas levels, pit volumes, hole conditions and mud weights ensured that the well was drilled safely. Continuous consultation with well site Geologist and MWD/LWD operators ensured that Geoservices data was cross-referenced for accuracy and reliability.

Overpressure: The trend line was set for the Trefoil-2 well from 95.0 mMDRT to 2520.0 mMDRT in the 311mm (12¼") hole section, which drilled through formation dominantly consisted of a suitable Silt stone ,Claystone & Sandy Siltstone. The slope of the trend line is
a coeff = 0.0001426
b coeff = -0.2046304
The trend through this well follows a gradual increasing trend from 1700.0 mMDRT to TD o the well at 3235.0 mMDRT. The D'exponent trend seen was one of general compaction with occasional leftward shifts, due to formation changes. A slight leftward shift was noted in places with increasing amounts of Sand and Silt in the formations drilled. No overpressure was encountered in the Trefoil-2 well.

Formation pressure evaluation using D'exponent was done using the Eaton method. The Eaton method states the relationship between the formation pressure and the Dcs/Dcn ratio depending on changes in the overburden gradient.

$P = S - (S-Pn) * (Dcs/Dcn)^{1.2}$

Where: P : formation pressure gradient
S : overburden gradient
Pn: normal pressure gradient
Dcs: observed d'exponent
Dcn: normalised d'exponent

D'exponent:

Coefficients used for this well, results plotted in Geoservices Pressure Log.

Poisson : a = 0.26600 b = -2.66700
source : Santa Barbara (Soft)

Overburden : a = 0.01304 b = -0.17314 c = 1.43350
source : Santa Barbara (Soft)

The Trefoil-2 well was drilled with water based mud.

Gas: No abnormality in gas ratios was observed.

Flow-line Temperature: There were no indications of abnormal pressures from temperature measurements of Trefoil-2.

Cuttings: There were no cuttings observed at the shakers that may have indicated an abnormally pressured zone in this well.

5.0 DRILLING INFORMATION

5.1 Bit Records

BIT	Size	Type	Jets	In (m)	Out	Hour	Condition
1	26/36	Hughes CR-1	N/A	95	155	4.0	0-0-NO- -I-NO-TD.
2	17½	Smith XR+VCPS	1 x 13/32, 3x22/32	155	935	33.3	2-2-NO-A-2-I-NO-TD
3	12¼	Reed RSR616M-A21	8 x 13/32	935	2271	39.2	1-1-BT-N-X-I-CT-PP
3 RR	12¼	Reed RSR616M-A21	8 x 13/32	2271	2520	13.4	1-1-CT-A-X-I-PN-TD
4	8½	BHC GT 1	8 x 13/32	2520	2523	0.5	1-1-WT-A-1-I- -BHA
5	8½	STC M1616VPBX	6 x14	2520	2633	5.5	0-1-WT-G-X-I-NO-DTF
5RR 1	8½	STC M1616VPBX	6 x14	2633	2983	22.1	1-2-CT-S-X-I-WT-CP
6	8½	Corepro MCP572 Coring bit	M 2-3-3	2983	3113	4.2	1-1-NO-FC-X-I-NO-BHA
5RR 2	8½	STC M1616VPBX	6 x 14	3113	3145	11.6	1-2-CT-S-X-I-WT-CP
6RR 1	8½	Corepro MCP572 Coring bit	M 2-3-3	3145	3175	3.8	1-1-NO-FC-X-I-NO-BHA
5RR 3	8½	STC M1616VPBX	6 x 14	3175	3235	6.1	1-2-CT-S-X-I-NO-TD

5.2 Mud Records

The 914 (36”) section was drilled to 155.0 mMDRT with seawater and bentonite sweeps with returns to the seabed. The 445 (17½") section from 155.0 to 935.0 mMDRT was also drilled with seawater and bentonite sweeps with returns on seabed.

The BOP and riser were installed. Displaced the well to mud, and closed in the system. The 311(12¼") section was drilled with KCL/Polymer mud from 935.0 to 2520.0 mMDRT with mud weight 9.1 ppg.

After the 3m of new formation of 216 (8½") hole were drilled to 2523.0 mMDRT, pumped 25bbls of Hi Vis pill and circulated the hole clean. Performed the FIT to 740psi, with a mud weight of 9.4ppg, giving an equivalent mud weight of 11.0ppg. The section was drilled with KCL/Polymer mud from 2520.0 to TD of 3235.0 mMDRT with mud weight of 9.2ppg.

5.3 Drilling Phase Summary

5.3.2 *914* mm *(36")* Hole *Section*

Date	: 6th October 2009
Measured depth	: 95.0 mMDRT to 155.0 mMDRT
Vertical depth	: 95.0 mMDRT to 155.0 mMDRT
Number of bits used	: 1
Mud type	: Seawater with bentonite sweeps

Trefoil-2 was spudded at 08:00hrs, on the 6th of October, 2009. A Hughes CR1 Tri-cone 26" Bit was used in conjunction with a 36" hole opener to drill the 914 (36") Phase. The seabed was tagged at 95.0 mMDRT and the 36" Phase was drilled to a depth of 155.0 mMDRT, in 4.0 on bottom hours, with no problems. The hole was displaced to 9.0ppg mud, and the conductor pipe was run, and cemented.

5.3.3 *445* mm *(17½")* Hole Section

Dates	: 8th October to 10th October 2009
Measured depth	: 155.0 mMDRT to 935.0 mMDRT
Vertical depth	: 155.0 mMDRT to 934.9 mMDRT
Number of bits used	: 1
Mud type	: Seawater with bentonite sweeps

A Smith17½", XR+VCPS, was made up to the BHA, run in the hole, and the conductor cement drilled out. The 17½" phase was drilled to a depth of 935.0 mMDRT, with no hole problems encountered. The phase was drilled in 33.3 on bottom hours, giving an average ROP of 23.4m/hr. A wiper trip was done, encountering tight hole from 903.0 mMDRT to 832.0 mMDRT, where the string was back reamed, and then pulled to the conductor on the elevators. When running back to bottom, the string was washed and reamed from 582.0 mMDRT to 639.0 mMDRT. The drillstring was then pulled out of the hole. The 340 (13⅜") casing was run, and cemented, to a shoe depth of 930.0 mMDRT.

5.3.4 *311* mm *(12¼")* Hole Section

Dates	: 15th October to 21st October 2009
Measured depth	: 935.0 mMDRT to 2520.0 mMDRT
Vertical depth	: 934.9 mMDRT to 2519.7 mMDRT
Number of bits used	: 1 RR
Mud type	: KCL/Polymer

A Reed RSR616M-A21, 31(12¼") bit, in conjunction with the 9⅝" Sperry Drill lobe 6/7-5.0, with ported float installed, was run in the hole to drill out the shoe track, casing shoe and 12¼" rat hole to 938.0 mMDRT. A successful Formation Integrity test of 1025psi (1515 ppg equivalent mud weight) with 9.1 ppg mud was performed at 930.0 mMDRT, prior to drilling ahead. Drilling continued from 938.0 mMDRT to 2271.0 mMDRT. The drill string was

pulled out of the hole for a bit change due to slow rate of penetration & high torque. Bit #3 drilled 1336.0 m, in 39.2 hours, giving an average rate of penetration of 34.1 m/hr. The same Reed RSR616M-A21 bit was run again and it took an additional 13.40 hours to reach total depth for the 31(12¼") section at 2520.0 mMDRT. A wiper trip was run. The $9^5/_8$" casing was run to 2508m where it became stuck. Remedial work was carried out before drilling the 8½"phase. The 244 (9⅝") casing was run, and cemented, to a shoe depth of 2050.0 mMDRT.

5.3.5 *216* mm *(8½")* Hole Section

Dates	: 7th November to 18th November 2009
Measured depth	: 2520.0 mMDRT to 3235.0 mMDRT
Vertical depth	: 2519.7 mMDRT to 3233.9 mMDRT
Number of bits used	: 2, 5 RR
Mud type	: KCL/Polymer

Bit #4, a Smith MI616VBPX, 216(8½") PDC bit was made up to BHA #38, and run in the hole to 2402.0 mMDRT. The drillstring was washed and reamed from 2402.0 mMDRT to 2494.0 mMDRT. The float collar was tagged, SCR's and CLF, taken. The shoe track, and were drilled to a shoe depth of 2520.0 mMDRT, and 3m of new formation was drilled to 2523mRT. A 25bbl Hi Vis pill was pumped, and the hole was circulated clean. A successful leak off test was performed at 2520mMDRT, with 9.4ppg mud, achieving 740psi, giving a mud weight equivalent of 11.0ppg. After pumping a slug, the drillstring was pulled out of the hole to surface, and the drilling BHA #39, was made up. Bit #5 was made up to BHA #39, and included Halliburton MWD tools, consisting of gamma ray, resistivity, and survey tools. The drillstring was run in the hole to the 9 5/8" casing shoe, where the shoe track and shoe were reamed before drilling ahead. The 8½" hole was drilled from 2323.0 mMDRT to 2633.0 mMDRT, at which depth; the drillstring was pulled out of the hole to surface, due to failure of the MWD tools. Bit #5 drilled 106.0m, in 5.5hrs, giving an average ROP of 19.2 m/hr. The MWD tools were replaced, and Bit #5RR1, and BHA #39, was run in the hole to 89 mMDRT. A successful shallow test was performed on the MWD tools. the drillstring was run in the hole to 2633.0 mMDRT. Drilling of the 216(8½") hole re-commenced, a Trip Gas of 0.2041% was recorded. At a depth of 2644.0 mMDRT, a 40bbl loss was monitored, and drilling continued to a depth of 2983.0 mMDRT, where the first core point was picked. At core point, the hole was circulated clean, and the drillstring was pulled out of the hole to change to the coring BHA. Bit #5RR1, drilled 349.5m, in 22.1 on bottom hours, giving an average ROP of 7.5m/hr. The core bit, Bit #6 drilled a total of 30 m in 4.2 on bottom hours. The drillstring was pulled out of hole and changed to Bit #5RR2. 8½" Hole was drilled from 3113.0 mMDRT to the second coring point at 3145.0 mMDRT. This took a total of 11.6 on bottom hours. The hole was circulated clean and the drill string was pulled to surface to the coring BHA. Bit #6RR1 drilled a total of 30m in 3.8 on bottom hours. The core BHA was pulled to surface and Bit #5RR3 drilled from 3175.0 mMDRT to the total depth of 3235.0 mMDRT in 6.1 on bottom hours. The hole was circulated clean and the BHA was pulled out of hole to run wireline tools.

Run # 1, SP-CMR+-HRLA-PEX-HNGS
Run # 2, MDT-GR
Run # 3, FMI-DSI-GR
Trefoil - 2 was plugged and abandoned, as per the drilling program.

Revision	Date	Issued by	Approved by	Remarks
1	November 2009	Geoservices Unit 174	Operations Assistant	

6.0 ENCLOSURES

A.	ASCII Data Disc	
B.	Formation Evaluation Log (Masterlog Measured Depth)	1:500
C.	Drilling Data Log	1:500
D.	Pressure Evaluation Log	1:500
E.	Gas Evaluation Log	1:500
F.	Cuttings Sample Manifest	

FORMATION EVALUATION LOG

WELL : TREFOIL-2

FROM (m): 0 | TO (m): 3270 | SCALE: 1/ 500

Country :	: AUSTRALIA
Region	: TASMANIA
Field	: TREFOIL
Permit	: T/18P
Well Type	: APPRAISAL
Rig Name	: KAN TAN 4

POSITION

Latitude	: 39 53' 07.93" S
Longitude	: 145 22' 14.62" E
X (m)	: 360690.389
Y (m)	: 5583676.588
RT-Sealevel (m MSL)	: 26
RT-Seabed (m)	: 95

CASING SHOE SIZE / DEPTH

762mm (30") at (m MDRT)	: 153.00
340mm (13 3/8") at (m MDRT)	: 930.00
245mm (9 5/8") at (m MDRT)	: 2520.00

Spud Date	: 06-10-2009
Total Depth Date	: 18-11-2009
Total Depth (m MDRT)	: 3235.0
Total Depth (m TVSS)	: 3234.0
Status	: P & A

ABBREVIATIONS

MW MUD WEIGHT
FV FUNNEL VISCOSITY
PV PLASTIC VISCOSITY
YP YIELD POINT
FC FILTER CAKE
SOL SOLIDS
CR CIRCULATE RETURNS
SD SAND - %
S SALINITY - PPM
RM MUD RESISTIVITY
RMF MUD FILTRATE
C CARBIDE TEST
LAT LOGGED AFTER TRIP
DS DEVIATION SURVEY
NB NEW BIT
RR RERUN BIT
CB CORE BIT
WOB WEIGHT ON BIT
RPM REVS PER MINUTE
FLC FLOW CHECK
WL FILTRATE
PR POOR RETURNS
NR NO RETURNS
BG BACKGROUND GAS
TG TRIP GAS
STG SHORT TRIP GAS
CG CONNECTION GAS
SG SWAB GAS
SVG SURVEY GAS

LITHOLOGY LEGEND

Dolomite
Calcirudite
Calcarenite
Calcisiltite
Calcilutite
Sandy Claystone
Silty Claystone
Calcareous Claystone
Argil Calcilutite
Claystone
Silstone
Sandstone
Coal
Intrusive Volcanics
Volcaniclastics
Tuff
Cement
Argil Siltstone
Sandy Siltstone
Calcareous Siltstone
Argil Sandstone
Calcareous Sandstone
Dolomitic Sandstone
Silty Sandstone
Calcareous
Dolomitic
Fossils
Foraminiferae
Carbonaceous
Chert
Pyrite
Glauconite
Mica

ENGINEERING

Test
FIT or LOT
Mud loss
Mud gain
Deviation survey
Core
Shoe
Calcimetry

MWD Gamma Ray (api) 0 100 200
WOB (Klbs) 0 50 100
ROP Backup (m/h) 400 300 200
ROP (m/h) 200 100 0
CORES
DEPTH mMDRT
CUTTINGS LITHOLOGY %
INTERPRETED LITHOLOGY
TOTAL GAS & RESISTIVITY
Resistivity (Deep) Ohm.m .2 2 20 200
Resistivity (Shallow) Ohm.m .2 2 20 200
Total Gas (%) .01 .1 1 10
CHROMATOGRAPH %
C1
C2
C3
iC4
nC4
iC5
nC5
.001 .01 .1 1 10
DIRECT FLUOR.
POOR FAIR GOOD
CALC (%) 0 100
DOLO (%) 100 0
LITHOLOGICAL DESCRIPTIONS AND REMARKS

0 10 20 30 40 50 60 70 80 90 100 110

06-10-2009

BIT # 1: 914mm (36")
HUGHES CR-1
JETS: N/A
IN:95m OUT:155m
RUN:60m HRS:4.00
COND: 0-0-NO--0-I-NO-TD

SPUD TREFOIL-2 @ 08:00
914mm (36") SECTION
ON THE 6TH OCT 2009

SEABED @ 95m

DRILL WITH SEA WATER
AND GEL SWEEPS

RETURNS TO SEABED

762mm(30") CONDUCTOR
@ 155m

WOB: 1-9 klbs
RPM: 45-99
GPM: 465-1204
SPP: 302-1704 psi

08-10-2009

BIT # 2: 445mm (17.5")
SMITH MILL TOOTH XR+VCPS
JETS: 1x13, 3x22
IN:155m OUT:935m
RUN:780m HRS:33.3
COND: I-01-D-L-BG-02-R

SURVEY @ 204.92m
Incl: 0.58° AZI: 282.17°
TVD: 204.92m

DRILL WITH SEA WATER
AND GEL SWEEPS

09-10-2009

WOB: 2-9 klbs
RPM: 25-98
GPM: 1053-1238
SPP: 1036-2423 psi

SURVEY @ 289.50m
Incl: 0.55° AZI: 277.88°
TVD: 289.49m

330
340
350
360
370
380
390
400
410
420
430
440
450
460
470
480
490
500
510
520
530

RETURNS TO SEA BED

DRILL WITH SEA WATER
AND GEL SWEEPS

WOB: 3-9 klbs
RPM: 78-96
GPM: 1086-1167
SPP: 1976-2328 psi

SURVEY @ 376.49m
Incl: 0.32° AZI: 238.01
TVD: 238.01m

392m-416m DATA MISSING
DUE TO SYSTEM DOWN

SURVEY @ 435.08m
Incl: 0.35° AZI: 238.01°
TVD: 435.07m

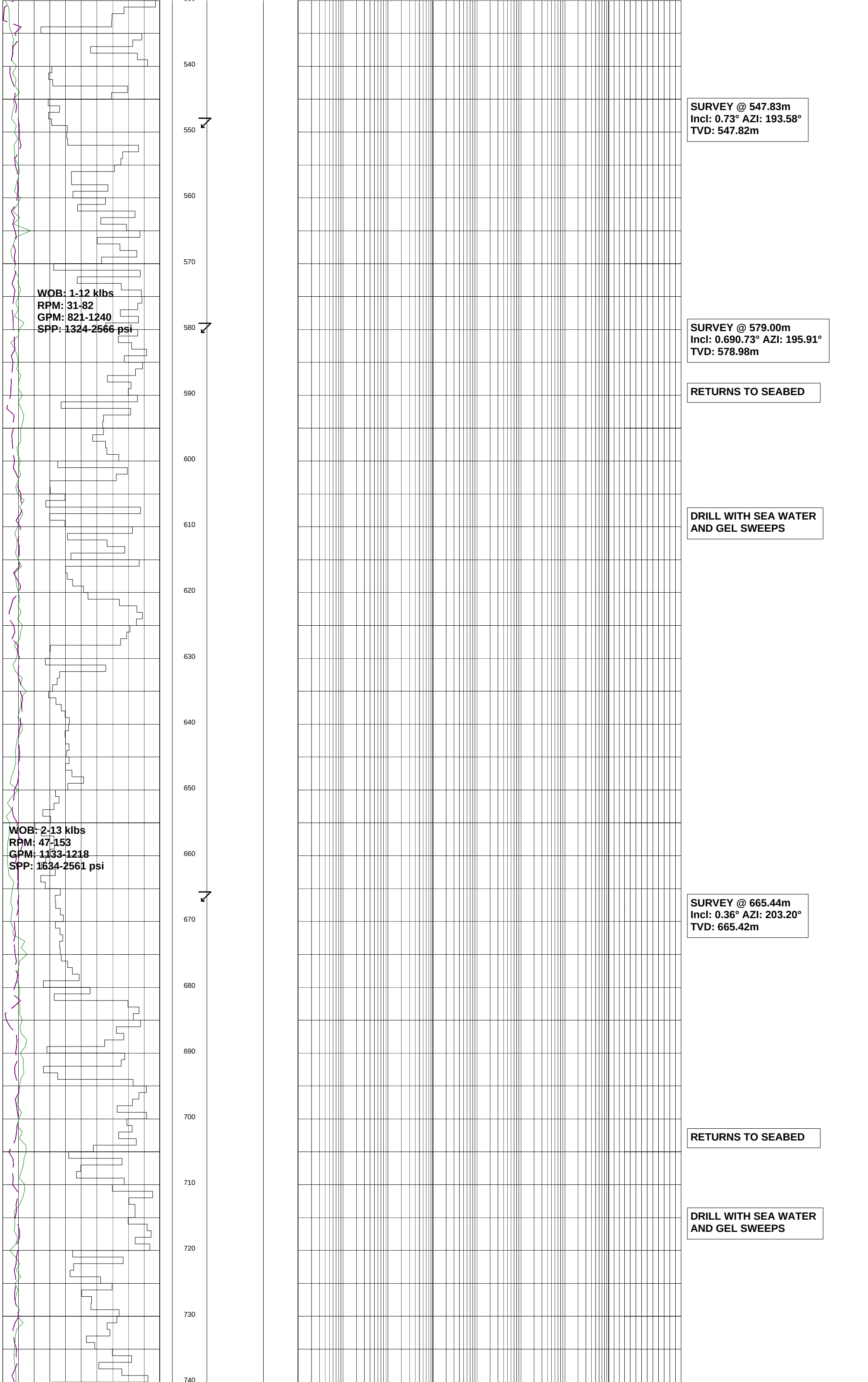
432m-447m DATA MISSING
DUE TO SYSTEM DOWN.

RETURNS TO SEABED

WOB: 2-14 klbs
RPM: 63-93
GPM: 1150-1933
SPP: 1356-2465 psi

DRILL WITH SEA WATER
AND GEL SWEEPS

SURVEY @ 521.95m
Incl: 0.72° AZI: 199.02°
TVD: 521.94m


540
550
560
570
580
590
600
610
620
630
640
650
660
670
680
690
700
710
720
730
740
WOB: 1-12 klbs
RPM: 31-82
GPM: 821-1240
SPP: 1324-2566 psi
WOB: 2-13 klbs
RPM: 47-153
GPM: 1133-1218
SPP: 1634-2561 psi
SURVEY @ 547.83m
Incl: 0.73° AZI: 193.58°
TVD: 547.82m
SURVEY @ 579.00m
Incl: 0.690.73° AZI: 195.91°
TVD: 578.98m
RETURNS TO SEABED
DRILL WITH SEA WATER AND GEL SWEEPS
SURVEY @ 665.44m
Incl: 0.36° AZI: 203.20°
TVD: 665.42m
RETURNS TO SEABED
DRILL WITH SEA WATER AND GEL SWEEPS

WOB: 3-12 klbs
RPM: 76-156
GPM: 911-1211
SPP: 1845-2669 psi

750
760
770
780
790
800
810
820
830
840

SURVEY @ 782.28m
Incl: 0.67° AZI: 192.10°
TVD: 782.25m

RETURNS TO SEABED

SURVEY @ 812.12m
Incl: 0.66° AZI: 196.82°
TVD: 812.09m

10-10-2009

WOB: 6-17 klbs
RPM: 94-142
GPM: 1005-1178
SPP: 2037-2725 psi

850
860
870
880
890
900
910
920
930
940
950

SURVEY @ 868.19m
Incl: 0.30° AZI: 224.95°
TVD: 868.16m

DRILL WITH SEA WATER
AND GEL SWEEPS

SURVEY @ 896.77m
Incl: 1.03° AZI: 195.99°
TVD: 896.74m

MW: 9.1 FV: 44
PV/YP: 11/15
FC: 1/2
SOL: 2.1% SAND: 0.10%
CI: 39,000 mg/l

RETURNS TO SEABED

SURVEY @ 925.97m
Incl: 0.71° AZI: 183.94°
TVD: 925.93m

15-10-2009

0.5m DATABASE STARTED @ 938m

340mm (13.375") CASING SHOE
SET @ 930m MDRT

445mm (17.5") SECTION TD
@ 935m MDRT @ 06:00hrs ON
10th OCTOBER 2009

BIT # 3: 311mm (12.25")
REED PDC RSX616M
JETS: 8x13
IN:935m OUT:2271m
RUN:1336m HRS:39.20
COND: 1-1-BT-N-X-I-CT-PP

DRILL AHEAD 311mm(12.25")
HOLE SECTION

FROM 935m MDRT
@ 16:00HRS on 15th OCT 2009

CONDUCT LOT @ 930m
15.15ppg EMW.

960

970

CLAYSTONE:med gry,v sft-sft, rr frm,amor-sbblky,tr bryz & shell frags,tr pyr,35% calc cly.

980

SURVEY @ 952.44m
Incl: 0.80° AZI: 188.49°
TVD: 952.40m

WOB: 6-15 klbs
RPM: 119-259
GPM: 916-1120
SPP: 1788-2712 psi

990

SILTSTONE:med dk gry,frm-hd,amor-sbblky,tr byrz & forams, tr shell frags,30% calc cly.

1000

SURVEY @ 981.35m
Incl: 0.74° AZI: 192.99°
TVD: 981.31m

1010

SURVEY @ 1010.2m
Incl: 0.83° AZI: 198.72°
TVD: 1010.16m

1020

CLAYSTONE:med-occ lt gry,sft-occ frm,amor-sbblky,mnr micmic, tr bryz,tr forams,tr shell frags,30% calc..

1030

1040

CLAYSTONE:med-occ lt gry,sft-occ frm,amor-sbblky,mnr micmic, tr bryz,tr forams,tr shell frags,30% calc.

1050

1060

1070

SURVEY @ 1067.21m
Incl: 0.87° AZI: 190.96°
TVD: 1067.16m

1080

CALCAREOUS CLAYSTONE:med-dk gry,sft-frm,blky-sbblky,tr micmic,foss frags,forams,10% calc cly.

WOB: 6-12 klbs
RPM: 160-324
GPM: 916-985
SPP: 1801-2309 psi

1090

SURVEY @ 1095.87m
Incl: 0.84° AZI: 194.49°
TVD: 1095.82m

1100

1110

1120

1130

CLAYSTONE:med-dk gry,sft-frm, sbblky-blky,tr micmic,shell frags, coral,tr vf pyr aggs,10% calc cly.

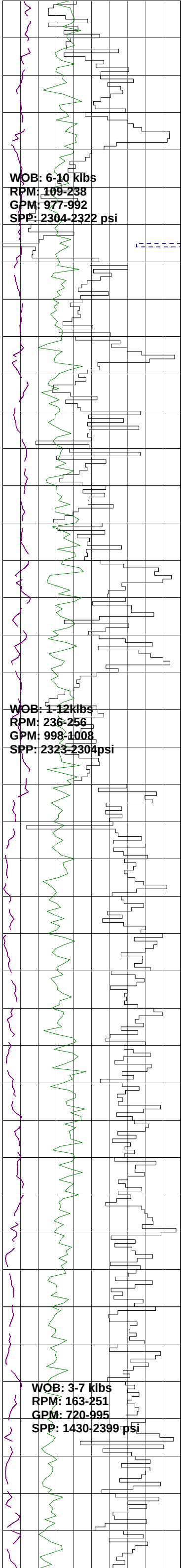
MW: 9.0 FV: 52
PV/YP: 12/20
FC: 1/2
SOL: 1.5% SAND: 0.25%
CL: 42,000 mg/l

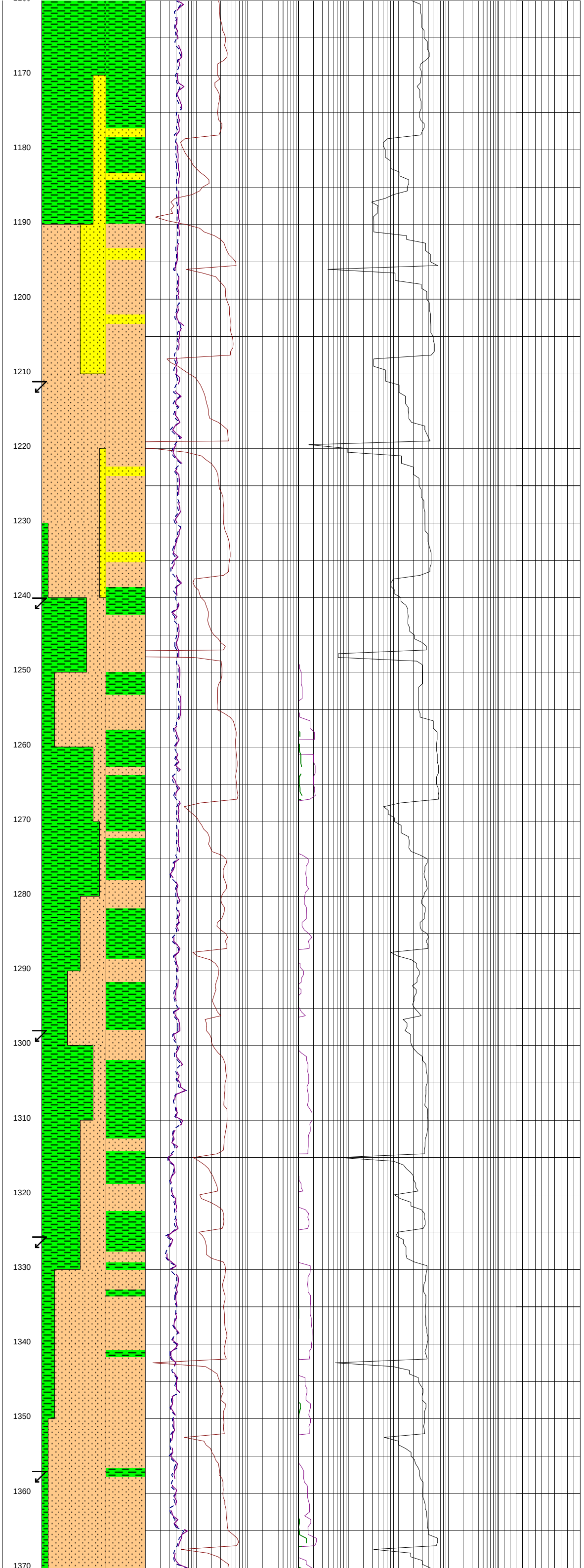
1140

1150

SURVEY @ 1153.51m
Incl: 1.11° AZI: 191.81°
TVD: 1153.45m

1160





CLAYSTONE:med-dk gry,olv gry, sft-frm,sbblky-blky,tr micmic,shell frags,5% calc cly.

CLAYSTONE:olv gry,dk grn/gry, sft-frm,sbblky-blky,tr grd to sbfiss, tr vf pyr as repl,tr shell frags, tr micmic,5% calc cly.

SURVEY @ 1152.36m
Incl: 1.27° AZI: 187.06°
TVD: 1182.29m

SANDSTONE:lt olv gry,med gry,v sft-fri,vf grs,sbang-sbrnd,wl srt, sph,sbsph,tr lithic frags,10% pr calc cmt,gd vis por,no fluor.

SURVEY @ 1211.30m
Incl: 0.97° AZI: 182.631°
TVD: 1211.23m

SILTSTONE:med gry,med-lt gry,sft, sbblky,tr carb lam,tr lithic frags,tr calc cly.

SANDSTONE:lt olv gry,med gry,vf, wl srt,sbang-sbrnd,s-ss,10% pr calc cmt,tr lithic frags,sft-fri aggs,gd vis por,no fluor.

SURVEY @ 1240.32m
Incl: 1.00° AZI: 184.76°
TVD: 1240.24m

CLAYSTONE:olv gry,sft-frm, sbblky-blky,tr shell frags, lithic frags,forams,5% calc cly, 10% cly.

SURVEY @ 1298.71m
Incl: 1.13° AZI: 178.12°
TVD: 1298.62m

SILTSTONE:med gry,med-lt gry,sft-frm,sbblky,tr shell frags,lithic frags, forams,5%calc cly,10% cly.

CLAYSTONE:olv gry,dk grn/gry,sft-frm,sbblky,tr forams,2% micmic,tr f grs pyr aggs,10% calc cly.

SILTSTONE:med gry,med-lt gry,sft-frm,sbblky,1% shell frags,tr rd/brn, dol lmst,tr lithic frags,forams,f grs pyr aggs,5% calc cly,10% cly.

SURVEY @ 1327.95m
Incl: 1.27° AZI: 184.82°
TVD: 1327.86m

SILTSTONE:olv gry,med-dk gry, sft-frm,sbblky-blky,tr carb alt lithic frags,tr spks,tr vf dissem pyr,tr glauc grs,5% cly,15% calc cly,grd to loc ARGILLACEOUS SILTSTONE.

SURVEY @ 1357.12m
Incl: 1.31° AZI: 184.97°
TVD: 1357.02m

SILTSTONE:olv gry,med-dk gry,sft-

MW: 9.0 FV: 55
PV/YP: 13/21
FC: 1/2
SOL: 1.8% SAND: 0.25%
CL: 42,000 mg/l

SLIDING: 1422m-1433m

MW: 9.0 FV: 56
PV/YP: 13/22
FC: 1/2
SOL: 1.7% SAND: 0.25%
CL: 40,000 mg/l

WOB: 1-3 klbs
RPM: 131-244
GPM: 994-1005
SPP: 2379-2440 psi

SLIDING: 1503m-1515m

17-10-2009

WOB: 1-6 klbs
RPM: 234-251
GPM: 998-1005
SPP: 2581-2734 psi

1380
1390
1400
1410
1420
1430
1440
1450
1460
1470
1480
1490
1500
1510
1520
1530
1540
1550
1560
1570
1580

1483m: 0.64% TG PEAK

frm,sbblky-blky,tr lithic frags,tr carb spks,tr vf dissem pyr,tr glauc grs,5% calc cly.

SURVEY @ 1385.95m
Incl: 1.43° AZI: 187.08°
TVD: 1385.84m

SILTSTONE:olv gry,med-dk gry,med gry,sft-frm,sbblky-blky, tr alt lithic frags,tr carb spks, tr vf dissem pyr,tr glauc grs, 5% calc cly,15% cly,grd to ARGILLACEOUS SILTSTONE.

SURVEY @ 1414.80m
Incl: 1.33° AZI: 186.15°
TVD: 1414.68m

SILTSTONE:olv gry,med-dk gry, med gry,sft-frm,sbblky-blky,10% vf grs,qrtz grs,tr alt lithic frags, tr carb spks,tr vf dissem pyr,tr glauc grs,5% calc cly,15% cly,grd to ARGILLACEOUS SILTSTONE.

SILTY SANDSTONE:olv gry,med-dk gry,vf grs,wl srt,sbrnd,sbsph-sph, qtz grs w/ 0-20% lith comp,sft-frm, tr carb spks,5% calc cmt,pr vis por,no fluor.

CARBIDE LAG CHECK @ 1438m
THEOR. STKS: 5872
ACTUAL STKS: 6090
OPEN HOLE O.G: 4.2%

SURVEY @ 1443.26m
Incl: 1.42° AZI: 189.23°
TVD: 1443.14m

SILTY SANDSTONE:olv gry,med dk gry,vf grs,sbrnd,wl srt, sbsph-sph,w/- 0 to 20% liths, sft-frm,tr carb spks,5% calc cmt,pr vis por,no fluor.

SURVEY @ 1471.76m
Incl: 1.41° AZI: 188.77°
TVD: 1471.63m

SILTSTONE:olv gry,med gry, tr dk gry,sft-frm,sbblky,tr carb spks,lithic frags,glauc,5% calc cly,10% vf qtz snd.

SURVEY @ 1500.56m
Incl: 1.44° AZI: 186.77°
TVD: 1500.42m

SILTSTONE:olv gry,med dk gry, tr carb spks,calcite cly,glauc,lithic frags,5% calc cly,10% cly,15% vf qtz snd,sft-frm,tr fri,ang-sbblky,

SANDSTONE:med dk gry,dk gry, vf grs,sbrnd,wl srt,sbsph-sph, 10-15% lithic frags,5% calc cly cmt,10% cly,por vis por, no fluor.

SURVEY @ 1529.74m
Incl: 1.02° AZI: 177.87°
TVD: 1529.59m

SILTSTONE:olv gry,sft-frm, sbblky,tr glauc,lithic frags, 5% calc cly,15%cly,10% vf qrtz grs,tr vlt gry,hly degraded volcanics.

SURVEY @ 1559m
Incl: 1.11° AZI: 183.32°
TVD: 1558.85m

SANDSTONE:med blu gry,vf grs, sbrnd,wl srt-v wl srt,sph qtz grs w/- 10% lithic comp,mod hd-hd,ang-sbblky,tr micmic,hly cmt, 10% calc cmt,10% cly,no vis por,no fluor.

1590
1600
1610
1620
1630
1640
1650
1660
1670
1680
1690
1700
1710
1720
1730
1740
1750
1760
1770
1780
1790

1599m: 0.88% TG PEAK

WOB: 4-10 klbs
RPM: 241-257
GPM: 982-1016
SPP: 2400-2624 psi

MW: 9.0 FV: 51
PV/YP: 12/22
FC: 1/2
SOL: 2.2% SAND: 0.25%
CL: 38,000 mg/l

WOB: 4-17klbs
RPM: 194-254
GPM: 979-1006
SPP: 2355-2740psi

1780m GAS PEAK 0.78

SURVEY @ 1588.15m
Incl: 1.05° AZI: 181.86°
TVD: 1587.99m

SANDY SILTSTONE:olv gry,med dk gry,sft-frm,ang-sbang grs, tr carb spks,glauc,lithic frags, micmic,shell frags,5% calc cly, 10% cly,20% vf qtz snd.

SILTSTONE:olv gry,med gry,sft-frm,sbblky,tr carb spks,glauc,lithic frags,shell frags,5% calc clay,15% clay.

SURVEY @ 1617.27m
Incl: 1.14° AZI: 175.03°
TVD: 1617.11m

SILTSTONE:olv gry,sft-frm,sbblky, tr carb spks,glauc,lithic frags,5% calc cly,10% cly,5% vf qtz sand.

SURVEY @ 1646.32m
Incl: 1.17° AZI: 184.16°
TVD: 1646.15m

SILTSTONE:olv gry,sft-frm,sbblky, tr carb spks,glauc,tr lithic frags,tr shell frags,5% calc cly,10% cly,5% vf qtz snd.

SURVEY @ 1675.15m
Incl: 1.31° AZI: 182.99°
TVD: 1672.97m

SILTY SANDSTONE:med blu/gry, med gry,vf grs,wl-v wl srt,sbrnd, sbsph qtz grs,10% lithic comp, mod hd-hd aggs,tr micmic,tr xln calc,tr shellfrags,10% calc cmt, 25% slt,no vispor,no fluor.

SURVEY @ 1703.61m
Incl: 1.02° AZI: 183.90°
TVD: 1703.43m

CLAYSTONE:olv/blk,sft-frm,sbblky, tr micmic,tr carb spks,5% calc cly.

SURVEY @ 1731.98m
Incl: 1.12° AZI: 176.27°
TVD: 1731.79m

ARGILLACEOUS SILTSTONE:olv-gry,tr micmic,tr pyr aggs,tr lithic frags,tr foss frags,tr glauc,tr dol, 5% calc cly,25% vf qtz sand, sft-frm,sbblky.

X X

SURVEY @ 1760.71m
Incl: 1.20° AZI: 179.48°
TVD: 1760.52m

ARGILLACEOUS SILTSTONE:olv-gry,tr micmic,tr glauc,5% calc cly, 25% cly,sft-frm,sbblky.

DOLOMITE:pl yel brn,dk yel brn,sft-v hd,spiral-sbconch frac,xln-ea i/p,tr opq xln cal.

ARGILLACEOUS SILTSTONE:olv gry,tr micmic,tr pyr aggs,tr lithic frags,tr foss frags,5% calc clay,5%

vf qtz snd,sft-frm,sbblky.

SURVEY @ 1790.08m
Incl: 1.13° AZI: 181.99°
TVD: 1789.88m

CLAYSTONE:dsky brn,brn gry,tr micmic & glauc,sft,sbblky-stky.

SURVEY @ 1819.45m
Incl: 1.17° AZI: 182.73°
TVD: 1819.24m

ARGILLACEOUS SILTSTONE:olv gry,yel brn i/p,olv blk,tr micmic,25% cly,sft-frm,sbblky.

DOLOMITE:pl yel brn,dk yel brn,sft-v hd,splin-sbconch frac,xln-ea i/p.

CARBIDE LAG CHECK @ 1843m
THEOR. STKS: 7680
ACTUAL STKS: 8502
OPEN HOLE O.G: 4.2

SURVEY @ 1848.52m
Incl: 1.17° AZI: 190.32°
TVD: 1848.31m

CLAYSTONE:olv blk,olv gry, tr dk yel brn,micmic,sft-frm,sbblky-blky.

DOLOMITE:pl yel brn,frm-hd,splin-conch frac i/p,ea.

ARGILLACEOUS SILTSTONE:brn blk,tr micmic,lithic frags,glauc grs, pyr,5% vf qtz grs,25% clys fri-frm, sbblky.

SURVEY @ 1877.80m
Incl: 1.13° AZI: 190.92°
TVD: 1877.58m

ARGILLACEOUS SILTSTONE:brn blk olv blk,tr micmic,lithic frags,grs, tr glauc pyr,25% clys,fri-frm, sbblky-blky.

ARGILLACEOUS SILTSTONE:brn blk,olv blk,tr micmic,lithic frags, glauc grs,pyr,tr Dolomite,30% cly, sft-frm,sbblky-blky,.

DOLOMITE:pl yel brn,dk yel brn, frm-hd,splin frac,xln-microxln i/p.

CLAYSTONE:med gry,dk gry,tr micmic,lithic frags,10% slt sz frac, v sft-sft,amor-sbblky.

SURVEY @ 1934.67m
Incl: 1.08° AZI: 194.42°
TVD: 1934.44m

ARGILLACEOUS SILTSTONE:brn blk,tr micmic,dol,20% cly,10% vf qtz snd grs,sft-frm,sbblky,.

CLAYSTONE:brn blk,olv blk,tr micmic,tr glauc,10% slt sz,v sft-sft,amor-sbblky.

SURVEY @ 1963.22m
Incl 0.48° AZI:64.50°
TVD:1962.99m

ARGILLACEOUS SILTSTONE:brn blk,olv blk,tr shell frags, liths 20% cly,glauc,5% vf qtz snd,sft-frm, sbblky.

SILTY SANDSTONE:brn blk,olv blk,vf grs,wl-v wl srt,sbrnd,sbsph qtz grs,sft-fri,tr lithic frags, 15% cly,25% slt.

SURVEY @ 1992.33m
Incl 0.56° AZI:59.70°
TVD:1992.69m

MW: 9.1 FV: 52
PV/YP: 13/28
FC: 1/2
SOL: 2.4% SAND: 0.25%
CL: 38,000 mg/l

WOB: 6-27klbs
RPM: 168-253
GPM: 972-1000
SPP: 2546-2786psi

1865m: 0.88% TG PEAK

WOB: 2-19 klbs
RPM: 125-244
GPM: 988-1004
SPP: 2232-2690 psi

MW: 9.0 FV: 54
PV/YP: 16/29
FC: 1/2
SOL: 2.8% SAND: 0.30%
CL: 39,000 mg/l

1977m GAS PEAK 0.70%TG

1800 1810 1820 1830 1840 1850 1860 1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000

18-10-2009

WOB: 3-12 klbs
RPM: 239-242
GPM: 980-997
SPP: 2776-2826 psi

MW:9.2 FV:51
PV/YP : 17/27
FC : 1/2
SOL:3.3 SAND:0.25
CL: 39,000 mg/l

WOB: 5-21 klbs
RPM: 155-326
GPM: 669-1046
SPP: 1378-3008 psi

2010
2020
2030
2040
2050
2060
2070
2080
2090
2100
2110
2120
2130
2140
2150
2160
2170
2180
2190
2200
2210

2060m: 0.89% TG PEAK

2093m: 0.37% TG PEAK

X

X

CALCAREOUS CLAYSTONE:med gry,med lt gry,tr calcite vein, lithic frag,shell frags,10% slt, frm-mod hd,sbblky.

SURVEY @ 2021.46m
Incl 0.59° AZI:61.98°
TVD:2021.23m

ARGILLACEOUS SILTSTONE:brn blk,olv blk,tr carb spks, lithic frags,35% cly,5% calc cly, sft-fri,amor-sbblky.

CLAYSTONE:med gry,med dk gry, tr shell frag,micmic, calcite vein,10% calc clay, 15% slt,mod hd-hd,ang-sbblky,.

SURVEY @ 2050.74m
Incl 0.68° AZI:78.76°
TVD:2050.5m

SANDY SILTSTONE:brn blk,olv blk, tr lithic frags,10% cly,30% vf qtz snd, sft-fri,sbblky.

SILTY SANDSTONE:olv gry,lt olv gry,sbrnd,wl srt,ss qtz grs w/- 10% lith comp,frm-mod hd,tr shell micmic,lithic frags,10% calc frags,cmt,pr-nil vis por, no fluor.

CLAYSTONE:brn blk,olv blk,v sft-sft,sbblky,tr lithic frags,15% slt.

SURVEY @ 2080.19m
Incl 0.61° AZI:81.26°
TVD:2079.95m

SILTSTONE:olv blk,tr lithic frags, alt i/p,tr micmic,tr carb spks, 10% dissem vf clr sbrnd qtz grs, 10% cly sft-frm, sbblky.

SURVEY @ 2102.2m
Incl 0.68° AZI:80.27°
TVD:2101.96m

SANDSTONE:dk grn gry,mott, dsky yel grn,lt gry,vf grs,30% f grs,mod wl srt,sbrnd-sbang,v sft-frm,10% glauc grs & cly,15% cly,pr vis por,no fluor.

CLAYSTONE:dk yel brn,gry grs,tr carb mat,tr vf pyr,tr cal,frm,sbblky.

SANDSTONE:mult col,olv gry,dk grn gry,mott,dsky yel grn,lt gry,qtz, vf grs,30% f grs,sbrnd-sbang,mod-wl srt,0-10% glauc grs,15% cly,v sft-frm,pr vis por,no fluor.

SILTSTONE:brn gry,olv gry,10% cly,10% vf clr qtz grs,sbblky.

SURVEY @ 2138.04m
Incl 0.69° AZI:75.36°
TVD:2137.80m

DOLOMITE:brn gry,mod hd,conch-splin frac,tr glauc grs.

SANDSTONE:clr,opq,pol,frstd, lse qtz grs,20% med,40% crs,30% v crs,10% gran,ang-rnd,v pr-pr srt, sbelg-sph,tr wh cly mtx adh to srf,fr vis por inf,no fluor.

SILTSTONE:brn blk,olv blk,sft-fri, tr carb lam,lithic frags,10% cly,10% vf qtz snd grs.

CLAYSTONE:med blu gry,olv gry, med gry,tr micmic,5% calc cly,sft-frm,sbblky.

SILTY SANDSTONE:brn blk,olv gry,sbrnd,wl srt,sbsph,vf,clr, pol qtz grs,sft-fri,tr lithic frags,10% calc cmt,5% rck flr, pr vis por,no fluor.

SURVEY @ 2195.19m
Incl 0.63° AZI:82.85°
TVD:2194.94m

CLAYSTONE:med blu gry,olv gry, med gry,tr micmic,calcite vein,frm, sbblky.

SILTSTONE:olv gry,dk yel brn,tr carb lam,lithic frags,shell frags,15% cly,

vf qtz snd,10% rck flr,sft-fri,sbblky.

SANDY SILTSTONE:brn blk,brn gry,olv gry,tr f carb lams,lithic frags, crs clr qtz grs,20% vf clr qtz,5% rck flr,sft-fri,sbblky.

SILTY CLAYSTONE:olv gry,med gry,brn blk,tr lithic frags,carb frags, shell frags,20% slt,sft-frm,sbblky.

SANDSTONE:v lt gry,olv gry,vf clr qtz grs,sbrnd-sbang(shtd) wl srt,sbsph,fri,tr lithic frags, 80% rckflr,no fluor.

CLAYSTONE:olv-gry,med gry,sft-frm,sbblky,tr liths frags,dol,glauc.

SANDSTONE:v lt gry,olv gry,vf clr qtz grs,sbrnd-sbang(shtd) wl srt,ss,fri,tr lithic frags,90% rck flr,no fluor.

SURVEY @ 2253.19m
Incl 0.62° AZI:89.29°
TVD:2252.94m

TRIP: 2.20% TG PEAK

COAL:blk,frm,sbblky-blky,tr f dissem pyr.

DOLOMITE:pl yel org,mod hd-hd,conch-splnt.

SANDSTONE:v lt gry,olv gry,40% crs,50% v crs,10% gran,clr qtz grs, sbrnd-sbang(shttd)pr srt,ss,fri,ang, tr lithic frags,kaol cly mtx,80% rck flr,no fluor.

SURVEY @ 2281.35m
Incl 0.84° AZI:88.95°
TVD:2281.10m

COAL:blk,brn.sft-fri,sbblky, tr f dissem pyr.

SANDSTONE:v lt gry,40% f,30% med,20% crs,10% v crs clr qtz grns, pr srt,sbrnd-sbang,sbsph,fri,ang, kaol cly mtx,40% rck flr,pr inf por, no fluor.

SURVEY @ 2310.29m
Incl 0.91° AZI:90.74°
TVD:2310.04m

SILTSTONE:brn gry,brn blk,olv gry,sft-frm,sbblky,tr lithic frags, thn carb lam.

SANDSTONE:v lt gry,30% vf,50% f,5% med,5% crs grs,clr qtz grs, sbrnd-sbang(shttd),pr srt,sbsph, fri,ang,tr lithic frags,kaol cly mtx,90% rck flr,pr inf vis por,no fluor.

CLAYSTONE:olv gry,med gry, tr lithic frags,micmic,sft-frm, sbblky.

SURVEY @ 2339.67m
Incl 0.80° AZI:84.68°
TVD:2339.41m

2350m: 0.33% TG PEAK

COAL:blk,brn blk,sft,wdy-brit,i/p as lam.

SANDSTONE:olv gry,v lt gry qtz,10% vf,10% med,sbrnd-sbang, mod srt,sbsph,fri,tr lithic frags,i/p wh cly mtx,pr sil cmt,fr vis por,no fluor.

ARGILLACEOUS SILTSTONE: olv gry,tr coal & carb mat,10% calc cly,30% cly,sft,amor-stky.

SANDSTONE:clr,opq,lt olv gry, v lt gry,lse & fri,pred f grs,10% vf, 10% vf,10% v crs grs,pr-v pr srt, sbang-sbrnd,sbsph-sbelg,15% wh cly mtx,pr sil cmt,tr lithic frags, tr carbmat,pr-fr vis por,no fluor.

SILTSTONE:brn gry,brn blk,olv gry,sft-frm,sbblky,tr lithic frags thn carb thrds & spks.

SURVEY @ 2398.22m
Incl 0.81° AZI:98.78°
TVD:2397.96m

SANDSTONE:lt olv gry,v lt gry, f grs,mod srt,sbang-sbrnd,sbsph, fri,fr vis por,no fluor.

ARGILLACEOUS SILTSTONE:olv gry,lt gry,brn gry,tr coal & carb mat, 30% cly,sft,amor.

AUX GAS DATA USED FROM 2271-2348m DUE TO FAULTY RESERVAL GAS TRAP

WOB: 7-18 klbs
RPM: 234-241
GPM: 981-998
SPP: 2445-2785 psi

19-10-2009

20-10-2009

BIT# 3 RR: 311mm(12.25")
REED PDC RSX616M
JETS:8x3
IN:2271m OUT:2520m
RUN:249m HRS:13.44
COND:1-1-CT-A-X-I-PN-TD

MW:9.5 FV:56
PV/YP : 16/31
FC : 1/2
SOL:3.4 SAND:0.25
CL: 44,000 mg/l

WOB: 1-22 klbs
RPM: 158-243
GPM: 855-1002
SPP: 2355-3121 psi

MW:9.5 FV:52
PV/YP : 13/28
FC : 1/2

2220
2230
2240
2250
2260
2270
2280
2290
2300
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
2410
2420

SOL:3.8 SAND:0.30
CL: 45,000 mg/l

WOB: 5-19 klbs
RPM: 181-244
GPM: 857-982
SPP: 2546-3090 psi

MW:9.3 FV:53
PV/YP : 14/28
FC : 1/2
SOL:2.4 SAND:0.15
CL: 43,500 mg/l

21-10-2009

08-11-2009

BIT # 4: 216mm (8.5")
BHC GT-1
JETS:8X13
IN:2520m OUT:2523m
RUN:3m HRS:5.5
COND: 1-1-WT-A-1-I--BHA

WOB: 1-10klbs
RPM: 70-72
GPM: 714-729
SPP: 1523-1617psi

MW:9.35 FV:47
PV/YP : 12/30
FC : 1/2
SOL:3.2 SAND:0.25
CL: 43,000 mg/l

BIT # 5: 216mm (8.5")
SMITH PDC MI616VBPX
JETS:6X14
IN:2523m OUT:2633m
RUN:110m HRS:5.5
COND:0-1-WT-G-X-I-NO-DTF

2430
2440
2450
2460
2470
2480
2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600
2610
2620
2630

2431m: 0.23 % TG PEAK

2516m: 0.21% TG PEAK

TRIP GAS: 0.06% TG PEAK

ROP DATA FROM 2523-2543 mMDRT
FROM SPERRY DATABASE

DATA LOSS FROM 2523-2543 mMDRT
DUE TO GEOSERVICES COMPUTER
SOFTWARE MALFUNCTION

LOW MUD LEVEL IN
SHAKER BOX ACCOUNTS
FOR ANOMALOUS LOW
GAS DATA BETWEEN
2601-2613 mMDRT

SURVEY @ 2426.57m
Incl 1.08° AZI:93.16°
TVD:2426.30m

SANDSTONE:lt olv gry,v lt gry,
f grs,sbang-sbrnd,mod srt,sbsph,
fri,fr vis por,no fluor.

CARBIDE LAG CHECK @ 2449m
THEOR. STKS: 9730
ACT. STKS: 10505
OPEN HOLE O.G : 7.5 %
(13.15" equiv)

SURVEY @ 2454.95m
Incl 0.96° AZI:91.77°
TVD:2454.68m

SANDSTONE:lt olv gry,v lt gry,
fri-lse,f grs,10% vf,10% med,10%
lse crs qtz grs,mod-pr srt,
sbang (shttd i/p)-sbrnd,sbsph-sbelg,
5% pr sil cmt,fr vis por,no
fluor.

ARGILLACEOUS SILTSTONE:olv
gry,lt gry,brn gry,tr coal & carb
mat,30% cly,sft,amor-stky.

SURVEY @ 2484.55m
Incl 1.06° AZI:89.94°
TVD:2484.27m

CLAYSTONE:olv gry,dk grnsh gry,
tr micmic,frm,sbblky.

SILTSTONE:brn gry,brn blk,
olv gry,tr lithic frags,thn
carb-coaly lam & spks,
sft-frm,sbblky.

ARGILLACEOUS SANDSTONE:
med lt gry,olv gry,clr,opq,f grs,10%
vf,20% med,10% crs,10% v crs,10%
gran,fri-lse w/- crs,sbang-sbrnd,pr
srt,sbsph-sbelg,pr vis por,no fluor.

311mm (12.25") SECTION TD
@ 2520mMDRT @ 19:00hrs on
21-OCT 09

DRILL AHEAD 216mm (8.5")
HOLE SECTION FROM
2520mMDRT @ 11:45 hrs,
7 Nov. 2009

CONDUCT FIT @ 2523mMDRT
EMW: 11.0 ppg

SURVEY @ 2524.75m
Incl 1.00° AZI:97.22°
TVD:2524.47m

SANDSTONE:yelsh gry,v lt gry,
olv gry,20% vf,50% f,30% med
grs,tr crs grs,clr qtz grs,pr-
mod srt,sbang-sbrnd,sbsph-sbelg,
10% sil cmt,10% wh cly mtx,tr
lithic frags,tr carb mat,pr inf
vis por,no fluor.

SURVEY @ 2557.55m
Incl 1.13° AZI:91.00°
TVD:2557.30m

DOLOMITE:brnsh gry,frm-mod hd,
sbblky w/- conch frac i/p.

SILTSTONE:pred brnsh blk,tr
olv gry & brnsh gry,sft-frm,blky-
sbblky,tr carb spks & lam,tr
micmic & lam mica flks.

SANDSTONE:v lt gry,olv gry,
tr yelsh gry,tr lt olv gry,20%
vf,50% f,30% med grs,clr qtz
grs,lse-frm,pr-mod srt,sbrnd-
ang,sbsph-sbelg,10% wh cly mat,
tr lithic frags,tr carb mat,tr
pyr,pr inf vis por,no fluor.

SURVEY @ 2588.22m
Incl 1.30° AZI:90.35°
TVD:2587.90m

SANDSTONE:v lt gry-lt gry-
clr-opq,olv gry,5% vf,30% f,
40% med,20% crs,5% v crs grs,
lse-frm,pr-mod srt,sbrnd-ang,
sbsph-sbelg,tr sil cmt,tr pyr
cmt,tr calcite cmt,incr in lse,
clr v crs qtz grs,tr lithic
frags,tr carb mat,tr glauc,tr nod
pyr,gd inf por,no fluor.

SILTSTONE:brnsh gry,brnsh blk,
olv blk,olv gry,sft-frm,blky-
sbfiss,tr carb mat,tr lithic frags,
tr coal,micr.

CARBIDE LAG CHECK @ 2630m
THEOR STKS:4148
ACTUAL STKS:4299

BIT # 5RR: 216mm (8.5")
SMITH M1616VPBX
JETS:6x14
IN:2633m OUT:2983m
RUN:349m HRS:22.17
COND:1-2-CT-S-X-I-WT-CP

WOB: 1-16klbs
RPM: 46-156
GPM: 684-712
SPP: 2328-2554psi

MW: 9.4 FV: 68
PV/YP: 11/26
FC: 1/2
SOL: 3.3% SAND: 0.25%
CL: 41,500 mg/l

MW: 9.4 FV: 46
PV/YP: 10/28
FC: 1/2
SOL: 3.5% SAND: 0.25%
CL: 40,000 mg/l

WOB: 5-15klbs
RPM: 115-120
GPM: 699-704
SPP: 2400-2550psi

2640
2650
2660
2670
2680
2690
2700
2710
2720
2730
2740
2750
2760
2770
2780
2790
2800
2810
2820
2830
2840

INGAUGE HOLE.

SANDSTONE:v lt gry-lt gry-clr-opq,tr yelsh gry,5% vf,35% f,30% med,30% crs grs,lse-frm,por-mod srt,sbrnd-sbang,sbsph-sph,tr sil cmt,tr calcite cmt,tr lithic frags, tr carb mat,tr nod pyr,tr glauc, pr inf vis por,no fluor.

POOH @ 2633 mMDRT DUE TO LWD 'PULSER' FAILURE. P/U COMPLETE LWD TOOL STRING

SURVEY @ 2646.63m
Incl 1.43° AZI:86.39°
TVD:2646.32m

CLAYSTONE:olv blk,frm,sbblky,tr micmic,tr carb spks.

SURVEY @ 2674.00m
Incl 1.43° AZI:86.39°
TVD:2673.70m

SANDSTONE:v lt gry,clr & opq, pred lse-fri,qtz,f grs,10% vf grs,40% med,sbang-sbrnd,sbsph-sbelg,pr sil cmt when aggs,tr pyr cmt,5% cl mtx,tr brn mica flks,fr vis por infr,no fluor.

CALCILUTITE:lt gry-med lt gry, tr yelsh gry,v sft-frm,sbblky-blky, grd to CLYST i/p,tr carb mat.

SURVEY @ 2702.98m
Incl 1.62° AZI:88.34°
TVD:2702.65m

ARGILLACEOUS SILTSTONE: brnsh blk,olv blk,olv gry,sft-frm,sbblky-blky,tr carb mat,tr lithic frags.

CLAYSTONE:med gry-med dk gry, sft-frm,sbblky-blky,tr carb mat, tr micmic.

SURVEY @ 2732.91m
Incl 1.69° AZI:88.47°
TVD:2732.57m

SANDSTONE:wh-v lt gry,clr-opq, tr yelsh gry,10% vf,70% f, 20% med,lse-mod hd,mod wl-wl srt,sbrnd-rnd,sbsph-sph,tr sil cmt,gd inf vis por,no fluor.

CLAYSTONE:med gry-med dk gry, olv gry-lt olv gry,sft-frm,sbblky-blky,tr carb mat,tr micmic.

SURVEY @ 2762.56m
Incl 1.85° AZI:89.89°
TVD:2762.20m

ARGILLACEOUS SILTSTONE: brnsh blk,olv blk,olv gry-brnsh gry,sft-frm,sbblky-blky,tr carb mat,tr lithic frags,tr pyr.

CLAYSTONE:med gry-med dk gry, olv gry-lt olv gry,v sft-frm, sbblky-blky,tr carb mat,tr micmic.

SURVEY @ 2791.49m
Incl 1.82° AZI:85.29°
TVD:2791.12m

CLAYSTONE:med gry-med dk gry, olv gry-lt olv gry,sft-frm,sbblky-blky,tr carb mat,tr micmic

CLAYSTONE:med gry-med dk gry, olv gry-lt olv gry,sft-mod hd, sbblky-blky,tr carb mat.

ARGILLACEOUS SILTSTONE: brnsh blk,olv blk,olv gry-brnsh gry,sft-frm,sbblky-blky,tr carb mat,tr lith frags,

SURVEY @ 2819.89m
Incl 1.94° AZI:85.21°
TVD:2819.50m

SANDSTONE:wh-v lt gry,clr-opq, 10% f,30% med,50% crs,10% v crs, lse-mod hd,pr-mod wl srt,rnd-ang,

2829m: 2.27% TG PEAK

LOW GAS READINGS FROM 2832-2840
DUE TO EXCESS CUTTINGS IN THE
HEADER BOX CAUSING RESTRICTED FLOW

MW: 9.4 FV: 46
PV/YP: 10/25
FC: 1/2
SOL: 3.3% SAND: 0.25%
CL: 41,000 mg/l

WOB: 10-15
RPM: 120-130
GPM: 700-715
SPP 2550-2620

WOB: 10-15klbs
RPM: 120-130
GPM: 715-730
SPP: 2800-2850psi

MW: 9.35 FV: 52
PV/YP: 13/32
FC: 1/2
SOL: 3.3% SAND: 0.30%
CL: 41,000 mg/l

BIT # 6: 216mm (8.5")
COREPRO MCP572
JETS:M 2-3-3
IN:2983m OUT:3013m
RUN:30m HRS:4.17
COND:1-1-NO-FC-X-I-NO-BHA
13-11-2009

MW: 9.4 FV: 46
PV/YP: 14/30
FC: 1/2
SOL: 3.4% SAND: 0.25%
CL: 40,000 mg/l

WOB: 7-15klbs
RPM: 65-72
GPM: 200-215
SPP: 550-620psi

14-11-2009

BIT # 5RR2: 216mm (8.5")
SMITH
JETS:6x14
IN:3013m OUT:3145m
RUN:132m HRS:11.62
COND:1-2-CT-S-X-I-WT-CP

2850
2860
2870
2880
2890
2900
2910
2920
2930
2940
2950
2960
2970
2980
2990
3000
3010
3020
3030
3040
3050

2858m: 2.18% TG PEAK

2889m: 1.40% TG PEAK

2906m: 0.87% TG PEAK

2958m: 0.26% TG PEAK

NO GAS READINGS DUE TO NO FLOW IN HEADER BOX

GAS LOGGED AFTER TRIP

AUX. GAS TRAP
DATA USED FROM
3013-3019m DUE TO
BLOCKED RESERVAL
GAS TRAP

sbsph-sph,tr sil cmt,gd inf vis por,no fluor.

SURVEY @ 2847.72m
Incl 2.06° AZI:83.71°
TVD:2847.31m

SILTSTONE:brnsh blk,olv blk, olv gry-brnsh gry,sft-frm,sbblky-blky,tr carb mat,tr lithic frags,tr grd to ARG SLTST.

COAL:brn blk-blk,olv gry, sft-frm,sbblky-blky,dull-sbvit.

CLAYSTONE:med gry-med dkgry,olv gry-lt olv gry, sft-mod hd,sbblky-blky, com carb mat.

SURVEY @ 2876.19m
Incl 2.24° AZI:81.90°
TVD:2875.76m

SANDSTONE:wh-v lt gry,40% v f,60% f,frm,mod-wl srt,sbrnd-sbang,sbsph,tr sil cmt,tr carb mat,fr inf vis por,no fluor.

COAL:brn blk-blk,olv gry, sft-frm,sbblky-blky,dull-sbvit.

SURVEY @ 2905.64m
Incl 2.46° AZI:85.79°
TVD:2905.19m

SANDSTONE,wh-v lt gry,40% vf,60% f,frm,sbrnd-sbang,mod-wl srt,sbsph,tr sil cmt,tr carb mat,tr disp coal pieces, fr infr vis por,no fluor.

CLAYSTONE:olv gry,olv blk, sft-frm,sbblky-blky,increase in carb mat.

SILTSTONE:olv gry,brn blk, sft-frm,sbblky-blky,tr carb mat as thn lam spks,tr lithic frags,tr micmic,tr blk,bright coal pieces.

SANDSTONE:olv gry,mott,fri, lithofelds,vf grs,30% f grs, mod srt,sbsph,10% cly mtx, 2% carb mat,1% alt felds,tr lithic frags,fr vis por,no fluor.

CLAYSTONE:olv blk,sft-frm, blky-sbblky,tr dk mica flks.

SURVEY @ 2935.67m
Incl 2.58° AZI:82.74°
TVD:2935.19m

COAL:blk,grysh blk,sft,sp.

CLAYSTONE:brnsh gry-brnsh blk, olv blk,sft-frm,sbblky,tr carb strks.

SURVEY @ 2963.22m
Incl 2.93° AZI:85.15°
TVD:2962.71m

SANDSTONE:wh-v lt gry,olv gry, mott,lt gry,clr,opq,tr yelsh,gry, 5% vf,5% f,20 med,40% crs,30% v crs,tr gran grs,lse-mod hd,pr-mod srt,sbrnd-sbang,sbsph-sph,tr carb mat,tr micmic flks,gd inf vis por,no fluor.

CORE RUN # 1
2983 - 3013 mMDRT
CUT 30m, REC 31.2m
104%

SANDSTONE:wh-v lt gry,yelsh gry,clr,vf-v crs grs,frm-hd,pr srt,sbrnd-ang,sbsph-sph,7-10% sil cmt,1% mic flks,fr inf vis por, tr-1% amber,no fluor.

SILTSTONE:med gry-med dk gry, dk gry,mod hd-hd,blky-sbfiss, 15-25% mic flks.

SURVEY @ 2992.32m
Incl 2.88° AZI:83.61°
TVD:2991.77m

SURVEY @ 3021.53m
Incl 3.01° AZI:83.20°
TVD:3020.94m

SANDSTONE:lse qrtz grns,clr, opq,v lt gry,crs grs,10% v crs, 10% med grs,ang(shtd)-sbang to sbrnd,mod srt,sbelg-sbsph,tr wh cly mtx,adhr to grn surfaces & i/p recon as sft,stcky,amorph cly,fr-gd vis por inf,no fluor.

SILTSTONE:olv blk,olv gry,sft-frm,sbblky-sbfiss i/p,2% mica flks,incl lrg muscosvitic typ, tr lith frags,tr carb mat.

WOB:12-19klbs
RPM:76-87
GPM:714-730
SPP:2700-2900psi

15-11-2009

BIT # 6RR1: 216mm (8.5")
COREPRO
JETS:M 2-3-3
IN:3145m OUT:3175m
RUN:30m HRS:3.47
COND:1-1-NO-FC-X-I-NO-BHA

16-11-2009

WOB: 8-15
RPM: 66-67
GPM: 203-205
SPP: 670-700

BIT # 5RR3: 216mm (8.5")
SMITH
JETS:6x14
IN:3175m OUT:3235m
RUN:60m HRS:6.11
COND:1-2-CT-S-X-I-NO-TD

17-11-2009

18-11-2009

3053m: 0.37% TG PEAK

3077m: 0.78% TG PEAK

3132m:1.09% TG PEAK

3150m 2.80% TG PEAK

BOTTOMS UP NOT CIRCULATED OUT
@ 3175m AT END OF CUTTING CORE.
GAS NOT CIRCULATED OUT WHILE RIH
DUE TO MECH PROBLEMS WITH DRAWWORKS

TRIP: 0.96% TG PEAK

3200m: 0.58% TG PEAK

SURVEY @ 3051.62m
Incl 3.07° AZI:82.21°
TVD:3050.99m

SANDSTONE:v lt gry,grysh blk, clr & opq,qtzose,20% v f-60% f gr aggs,20% crs gr lse,sft-fri aggs,ang & shatt lse frac,sbang-sbrnd,pr srt,sbsph-sbelg,aggs w/ 10% cly mtx,10% slt & wk sil cmt, tr mic flks,tr carb spks, lse frac w/ wh cly mtx to grs,fr vis por,no fluor.

SURVEY @ 3080.66m
Incl 3.23° AZI:81.34°
TVD:3079.99m

CLAYSTONE:brnsh gry,frm, sbblky-blky,tr micmic,tr carb mat,f lam.

SURVEY @ 3101.98m
Incl 3.47° AZI:82.50°
TVD:3101.27m

SILTSTONE:v lt gry-lt gry,med lt gry-med dk gry,sft-frm,sbblky-blky,com carb lam,tr micmic,grd to ARG SLTST i/p.

SANSTONE:wh-v lt gry,clr,tr lt grnsh gry,10% v f,55% f,30% med,5% crs grs,sft-mod hd, mod srt,rnd-sbrnd,sbsph-sph,tr micmic,tr lith frag,fr inf vis por,no fluor.

SURVEY @ 3130.21m
Incl 3.75° AZI:81.59°
TVD:3129.44m

ARGILLACEOUS SANDSTONE: wh-v lt gry,clr,yelsh gry,tr lt grnsh gry,med dk gry-brnsh gry, 50% v f,40% f,50% med,5% crs grs,20% cly,sft-frm,mod-wl srt, sbrnd-rnd,sbsph-sph,tr carb mat, tr lith frag,tr micmic,pr inf vis por,no fluor.

CORE RUN # 2
3145 - 3175 mMDRT
CUT 30m, REC 29.25m
97.5%

SANDSTONE:@3147m med lt gry, qtzse,vf-crs grs,hd,sbang-sbrnd, mod-pr srt,sbsph,10% gry cly mtx,wl sil cmt,10% muscovitic & biotitic mic flks,tr carb mat, pr vis por,no fluor.

SANDSTONE:@3155m v lt gry,tr yelsh gry grs,qtzse,hd-mod hd, f-v crs grs,rnd v crs grs-sbang-sbrnd,pr srt,sph-sbsph-sbelb,tr amber,tr carb mat,tr biotitic mic flks,fr vis por,ov yel grn fluor,slw bloo-strmg blu wh cut, blu yel bri flm res.

SURVEY @ 3167.65m
Incl 3.79° AZI:84.07°
TVD:3166.80m

CLAYSTONE:lt brnsh gry-brnsh gry,mod yelsh gry-grysh brn,sft-frm,sbblky-blky,tr carb mat.

SURVEY @ 3194.79m
Incl 3.87° AZI:83.32°
TVD:3193.88m

SILTSTONE:med lt gry-med gry, dk gry-olv blk,sft-frm,sbblky-sbfiss,tr micmic,tr carb mat.

SANDSTONE:wh-v lt gry,lt gry, clr,tr yelsh gry,tr pnksh gry, 20% f,40% med,30% crs,10% v crs, sft-mod hd,mod srt,sbrnd-ang, sbsph-sph,tr carb mat,gd inf vis por.no fluor.

SURVEY @ 3235.00m
Incl 4.33° AZI:83.41°
TVD:3233.99m

SURVEY @ 3223.60m
Incl 4.33° AZI:83.41°
TVD:3222.62m

TD TREFOIL-2 @ 03:00
216mm (8.5") SECTION
ON THE 18TH NOV 2009

WIRELINE LOGS
RUN #1: SP-CMR+-HRLA -PEX-HNGS
RUN #2: MDT-GR
RUN #3: FMI-DSI-GR

3270

RESERVAL GAS RATIO LOG

WELL : TREFOIL-2

FROM (m): 0 TO (m): 3270 SCALE: 1/ 500

		POSITION		CASING SHOE SIZE / DEPTH			
Country	: AUSTRALIA	Latitude	: 39 53' 07.93" S	762mm (30") at (m MDRT)	: 153.00	Spud Date	: 06-10-2009
Region	: TASMANIA	Longitude	: 145 22' 14.62" E	340mm (13 3/8") at (m MDRT)	: 930.00	Total Depth Date	: 18-11-2009
Field	: TREFOIL	X (m)	: 360690.389	245mm (9 5/8") at (m MDRT)	: 2520.00	Total Depth (m MDRT)	: 3235.0
Permit	: T/18P	Y (m)	: 5583676.588			Total Depth (m TVSS)	: 3234.0
Well Type	: APPRAISAL	RT-Sealevel (m MSL)	: 26			Status	: P & A
Rig Name	: KAN TAN 4	RT-Seabed (m)	: 95				

GAS RATIOS FORMULAE

GAS WETNESS RATIO (Wh)

GWR = (C2 + C3 + C4 + C5)/ (C1 + C2 + C3 + C4 + C5)*100

LIGHT TO HEAVY RATIO (Bh)

LHR = (C1 + C2)/(C3 + C4 + C5)

OIL CHARACTER QUALIFIER (Ch)

OCQ = (C4 + C5)/(C3)

Dolomite
Calcirudite
Calcarenite
Calcisiltite
Calcilutite
Sandy Claystone
Silty Claystone
Calcareous Claystone
Argil Calcilutite
Claystone
Silstone
Sandstone
Coal
Intrusive Volcanics
Volcaniclastics
Tuff
Cement
Argil Siltstone
Sandy Siltstone
Calcareous Siltstone
Argil Sandstone
Calcareous Sandstone
Dolomitic Sandstone
Silty Sandstone
Calcareous
Dolomitic
Fossils
Foraminiferae
Carbonaceous
Chert
Pyrite
Glauconite
Mica

GEOSERVICES CREW

ALS ENGINEERS

N. Elliott

G. Gopi

B. Barwick

MUDLOGGERS

P. Currie

K.Brzozowska

P.Duncan

A.Lowndes

DEPTH mMDRT

ROP (m/hr) 200 20 2 .2

(TVD) 0 10 20 30 40 50 60 70 80 90 97.01 100 110

CUTTINGS (%)

CHROMATOLOG (%)

C1 C2 C3

iC4 nC4 iC5 nC5

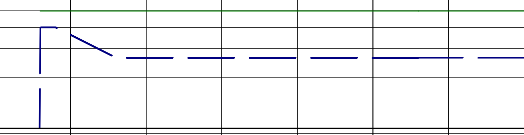
TOTAL GAS (%) .001 .01 .1 1 10 100

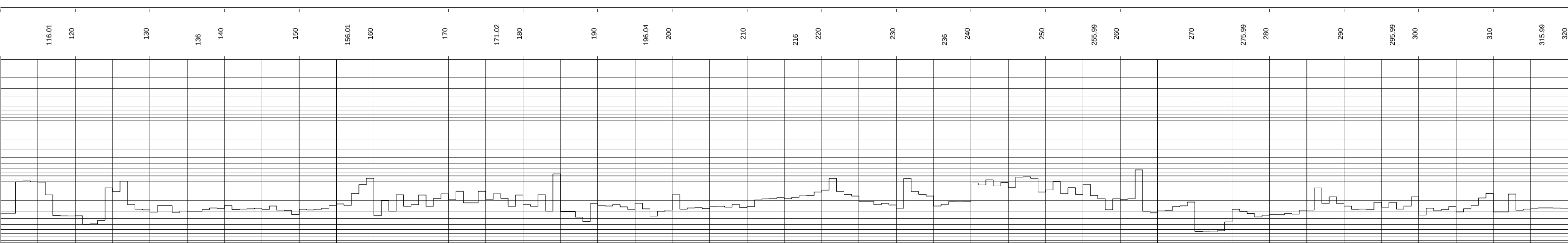
OIL CHARACTER QUALIFIER .1 1 10

GAS WETNESS RATIO

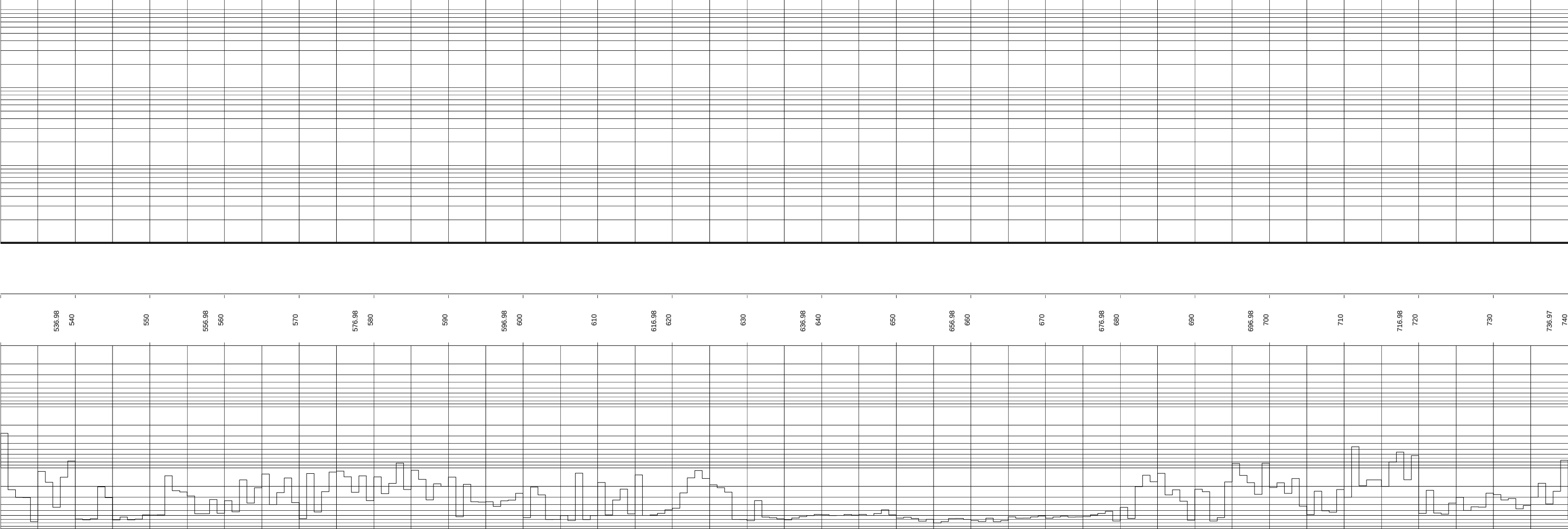
LIGHT TO HEAVY RATIO

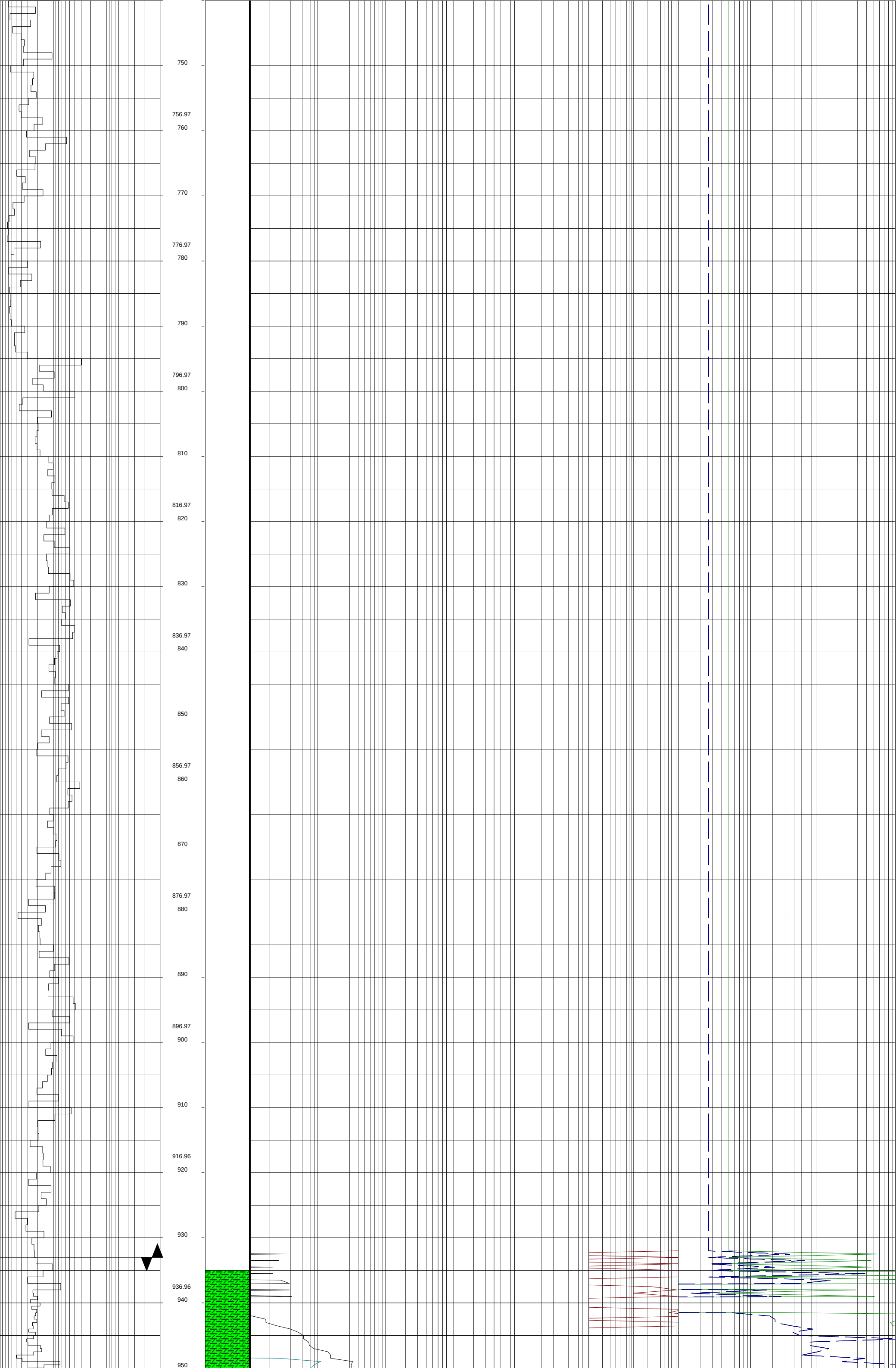
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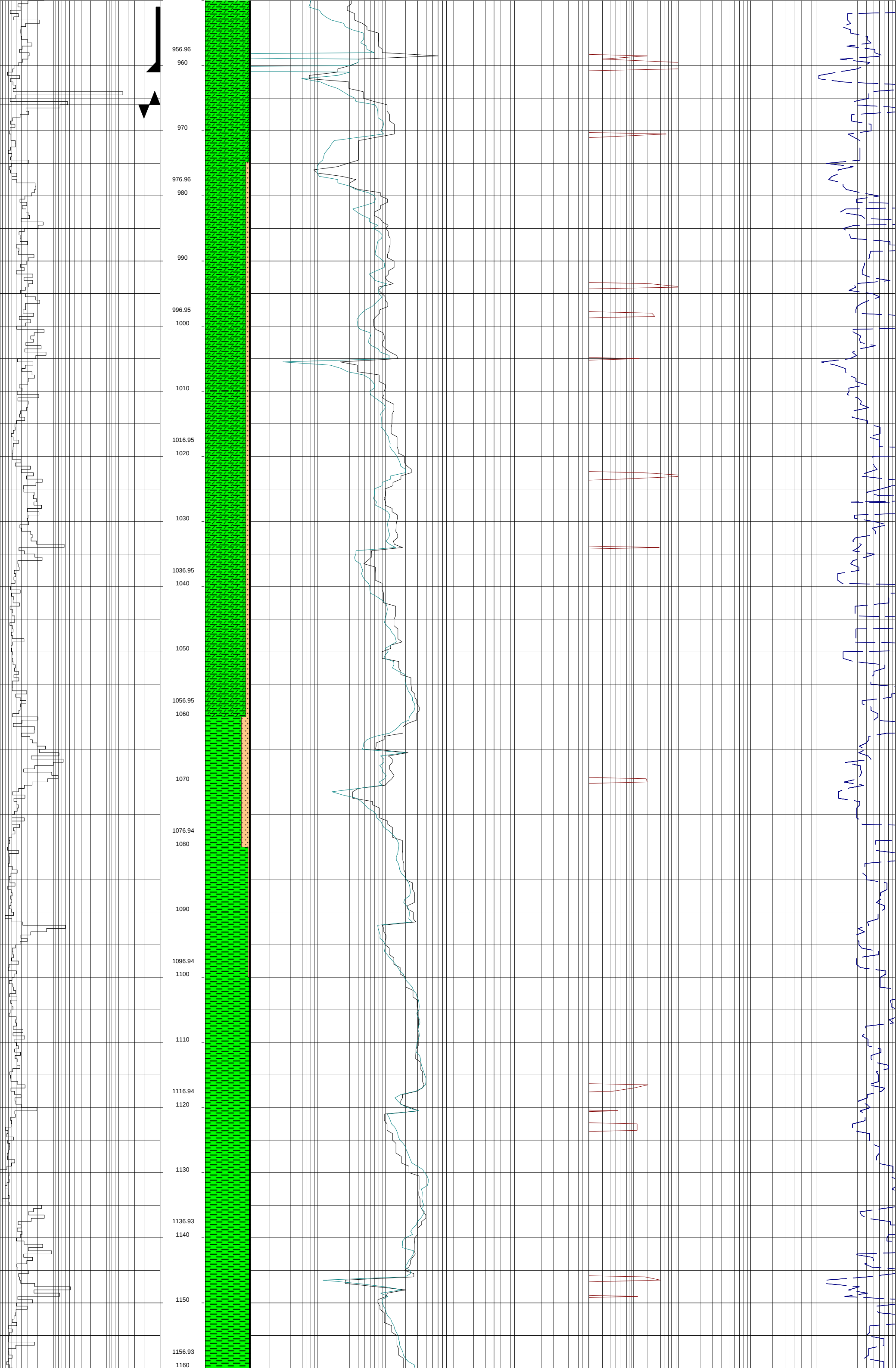


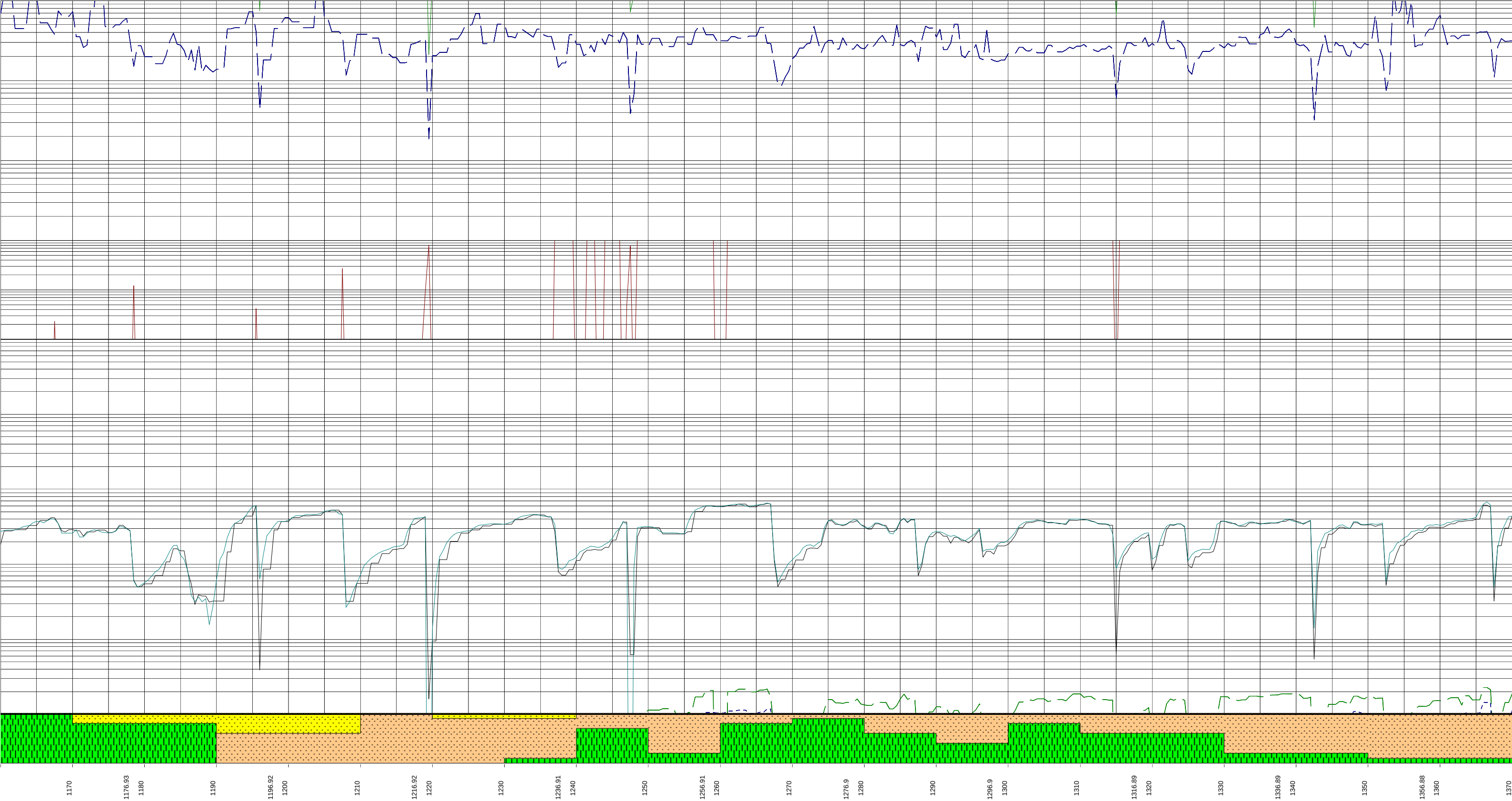

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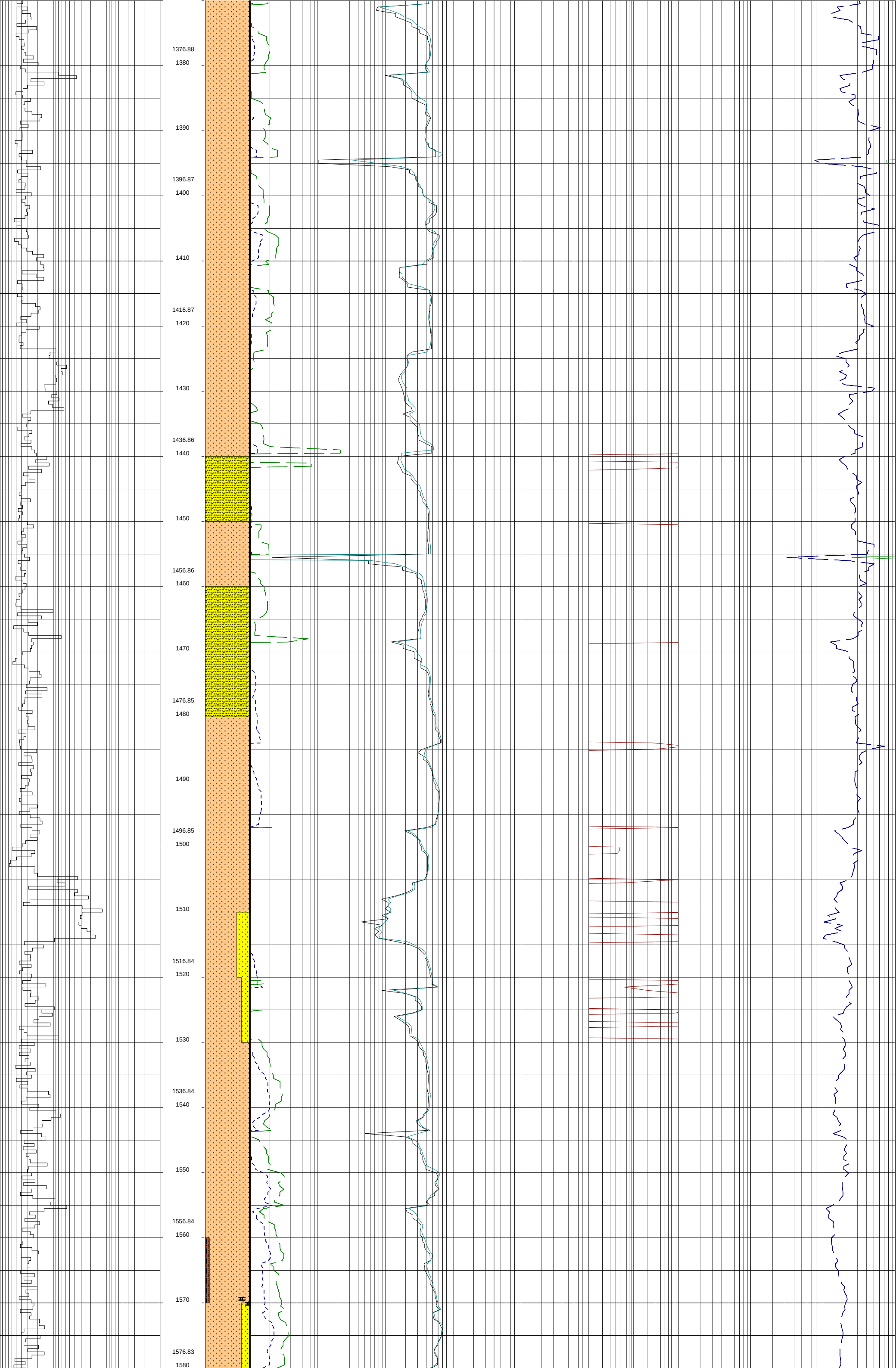

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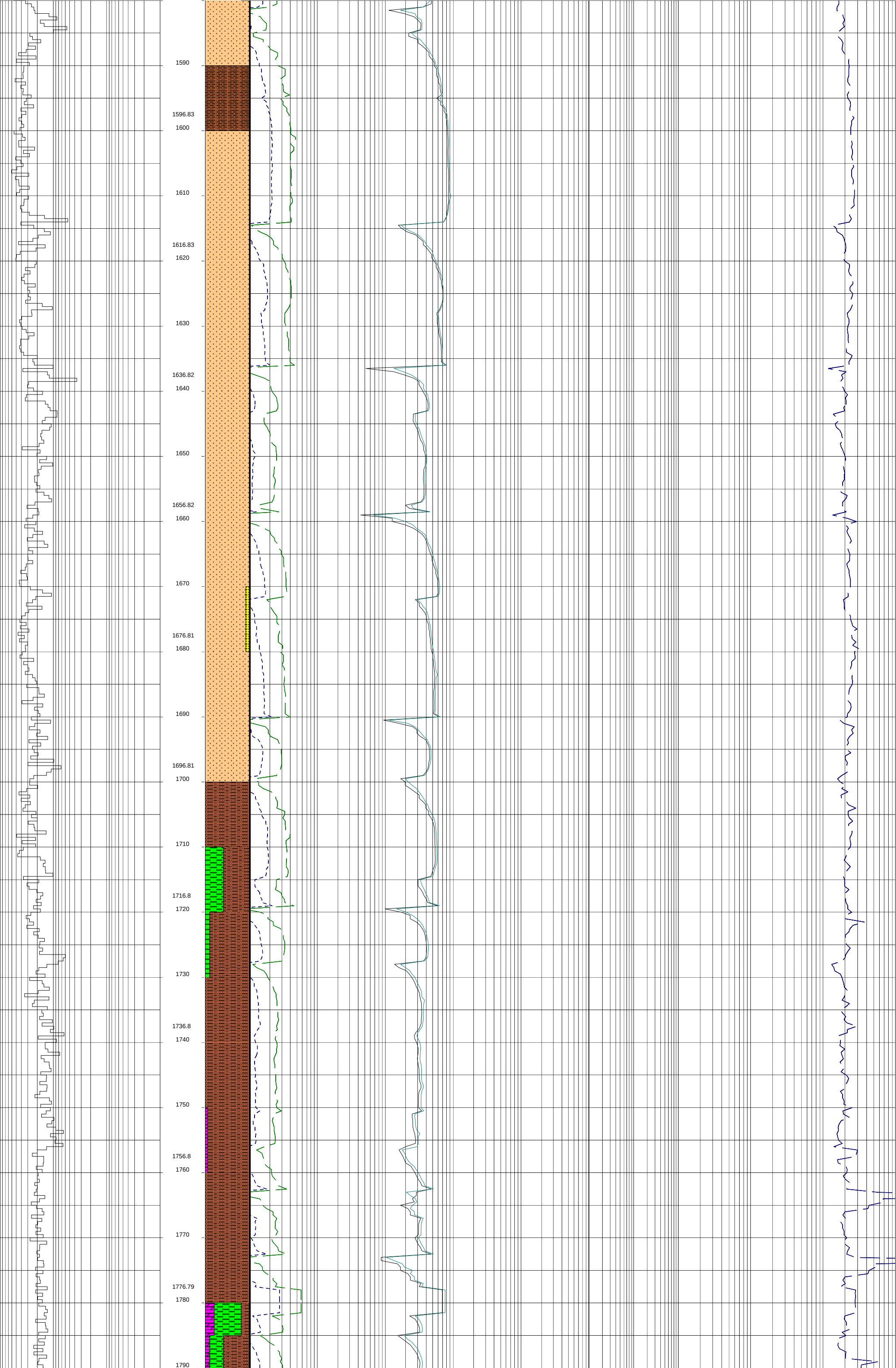

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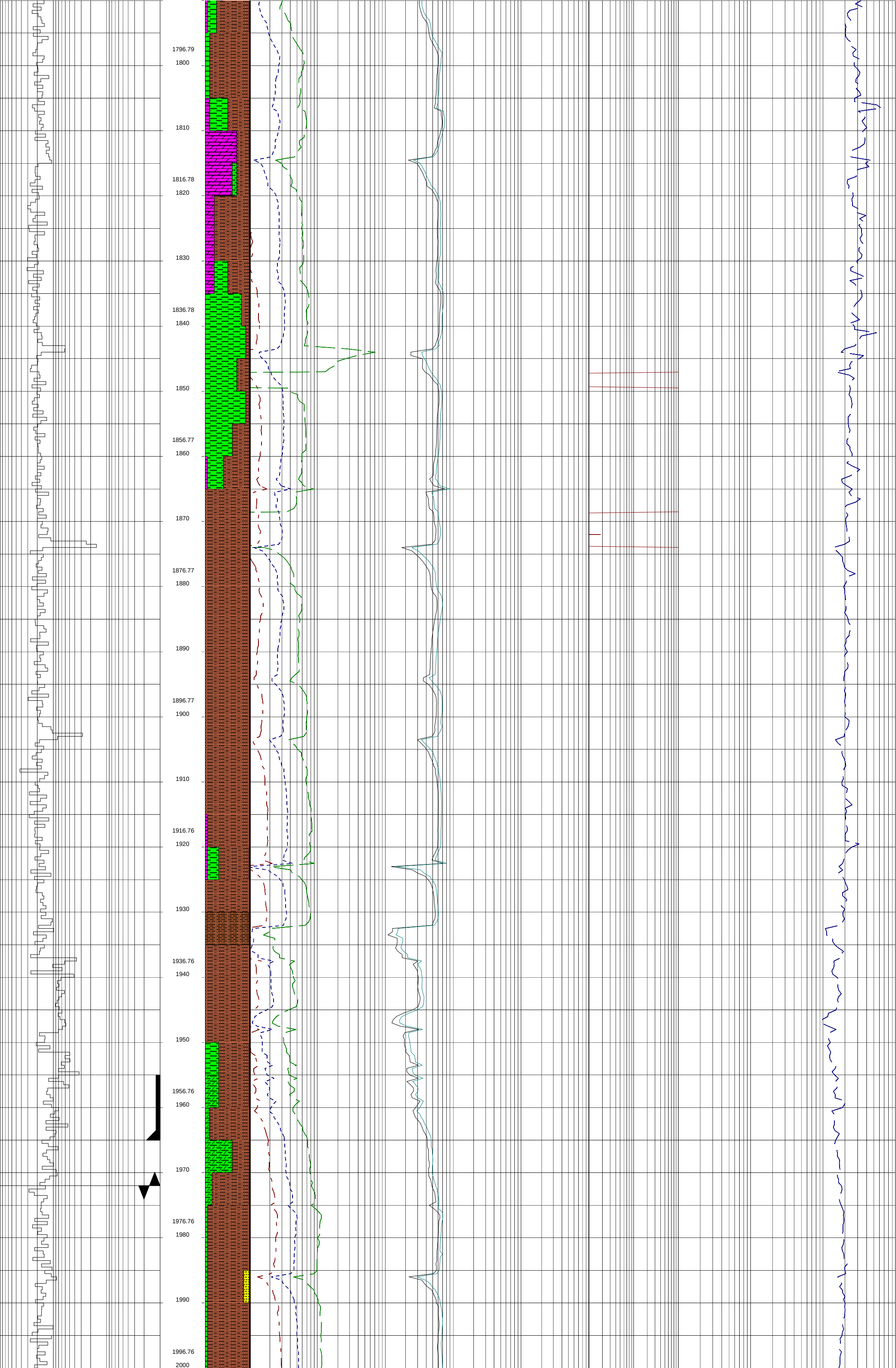

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940
950

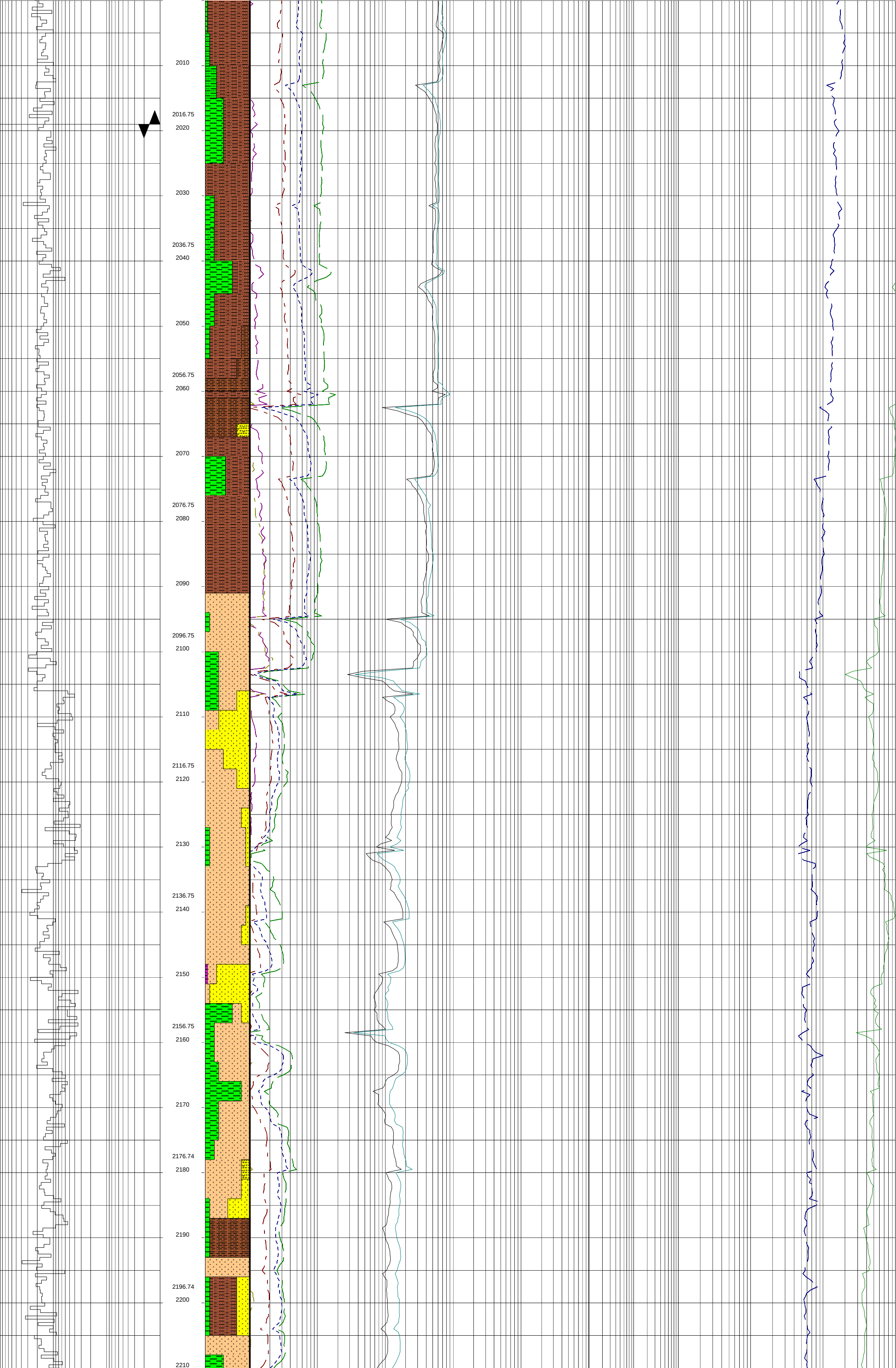

956.96
960
970
976.96
980
990
996.95
1000
1010
1016.95
1020
1030
1036.95
1040
1050
1056.95
1060
1070
1076.94
1080
1090
1096.94
1100
1110
1116.94
1120
1130
1136.93
1140
1150
1156.93
1160


1170
1176.93
1180
1190
1196.92
1200
1210
1216.92
1220
1230
1236.91
1240
1250
1256.91
1260
1270
1276.9
1280
1290
1296.9
1300
1310
1316.89
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1330
1336.89
1340
1350
1356.88
1360
1370


1376.88
1380
1390
1396.87
1400
1410
1416.87
1420
1430
1436.86
1440
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1456.86
1460
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1476.85
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1496.85
1500
1510
1516.84
1520
1530
1536.84
1540
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1556.84
1560
1570
1576.83
1580


1590
1596.83
1600
1610
1616.83
1620
1630
1636.82
1640
1650
1656.82
1660
1670
1676.81
1680
1690
1696.81
1700
1710
1716.8
1720
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1736.8
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1756.8
1760
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1776.79
1780
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1796.79
1800
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1816.78
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1836.78
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1856.77
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1876.77
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1890
1896.77
1900
1910
1916.76
1920
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1936.76
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1956.76
1960
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1976.76
1980
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1996.76
2000


2010
2016.75
2020
2030
2036.75
2040
2050
2056.75
2060
2070
2076.75
2080
2090
2096.75
2100
2110
2116.75
2120
2130
2136.75
2140
2150
2156.75
2160
2170
2176.74
2180
2190
2196.74
2200
2210

2216.74
2220
2230
2236.74
2240
2250
2256.74
2260
2270
2276.74
2280
2290
2296.74
2300
2310
2316.73
2320
2330
2336.73
2340
2350
2356.73
2360
2370
2376.73
2380
2390
2396.73
2400
2410
2416.72
2420

2271m: 2.20% TG PEAK

GFF DATA USED FROM 2271-2348m
DUE TO FAULTY GZG

2350m: 0.33% TG PEAK

2430

2431m: 0.23% TG PEAK

2436.72

2440

2450

2456.72

2460

2470

2476.71

2480

2490

2496.71

2500

2510

2516.71

2516m: 0.21% TG PEAK

TRIP: 0.06% TG PEAK

2520

COMMENCE DRILLING 216mm (8.5")
HOLE @ 11:45 hrs, 7 Nov. 2009

CONDUCT FIT @ 2520mMDRT
EMW: 11.0 ppg

2530

ROP DATA FROM 2523-2543 mMDRT
FROM SPERRY DATABASE

DATA LOSS FROM 2523-2543 mMDRT
DUE TO GEOSERVICES COMPUTER
SOFTWARE MALFUNCTION

2536.7

2540

2550

2555m: 0.26% TG PEAK

2556.7

2560

2570

2576.7

2580

2590

2596.69

2600

LOW MUD LEVEL IN SHAKER BOX

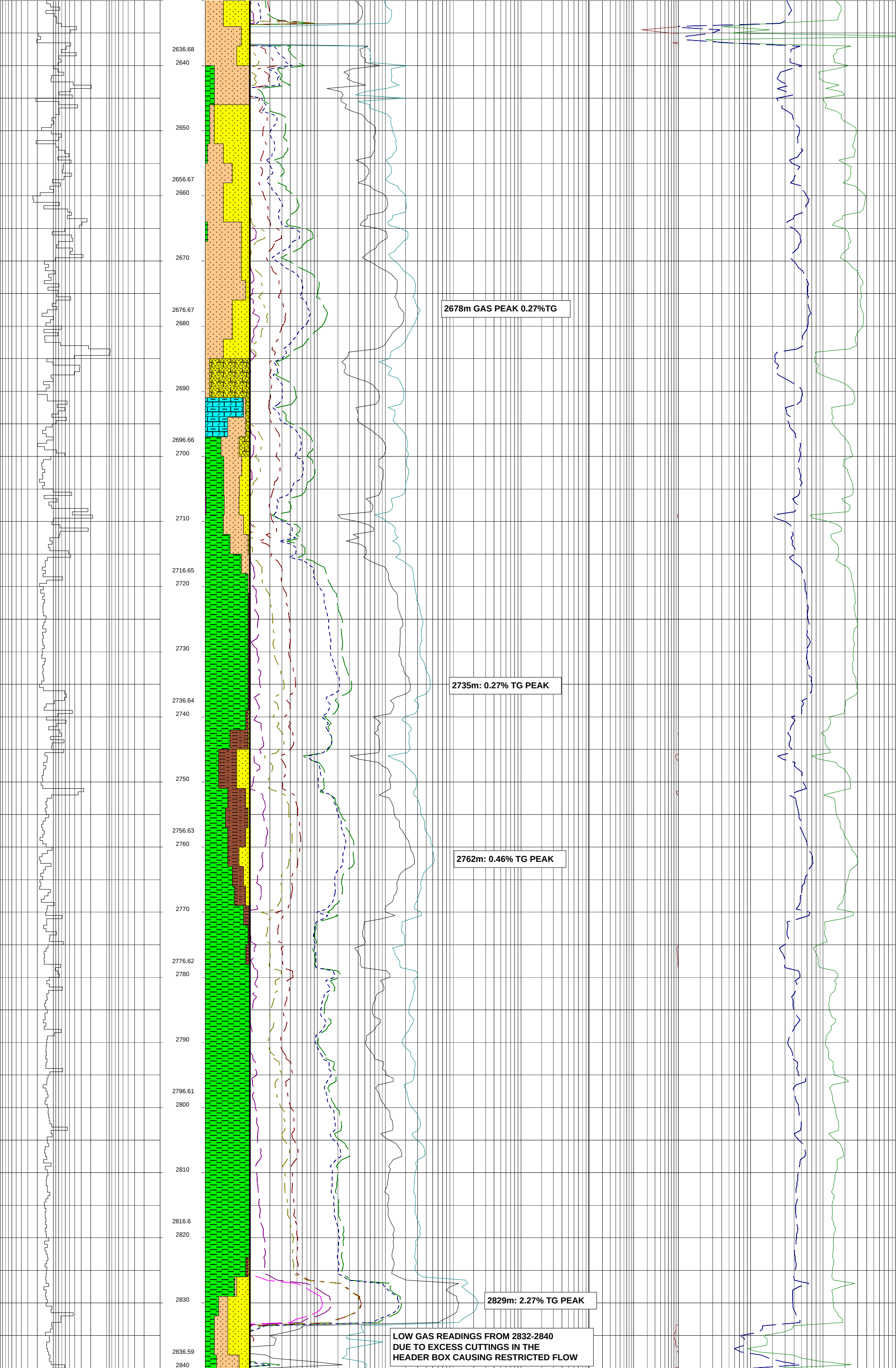
2610

2615m: 0.40% TG PEAK

2616.68

2620

2630


2636.68
2640
2650
2656.67
2660
2670
2676.67
2680
2690
2696.66
2700
2710
2716.65
2720
2730
2736.64
2740
2750
2756.63
2760
2770
2776.62
2780
2790
2796.61
2800
2810
2816.6
2820
2830
2836.59
2840
2678m GAS PEAK 0.27%TG
2735m: 0.27% TG PEAK
2762m: 0.46% TG PEAK
2829m: 2.27% TG PEAK
LOW GAS READINGS FROM 2832-2840
DUE TO EXCESS CUTTINGS IN THE
HEADER BOX CAUSING RESTRICTED FLOW

2850
2856.58
2860
2870
2876.56
2880
2890
2896.55
2900
2910
2916.53
2920
2930
2936.51
2940
2950
2956.48
2960
2970
2976.46
2980
2990
2996.43
3000
3010
3016.41
3020
3030
3036.38
3040
3050

2858m: 2.18% TG PEAK

2889m: 1.40% TG PEAK

2906m: 0.87% TG PEAK

2944m: 0.26% TG PEAK

2958m: 0.26% TG PEAK

NO GAS READINGS DUE TO NO FLOW IN HEADER BOX

AUX. GAS TRAP DATA USED FROM 3013-3019m DUE TO BLOCKED RESERVAL GAS TRAP

3053m: 0.37% TG PEAK

3077m: 0.82% TG PEAK

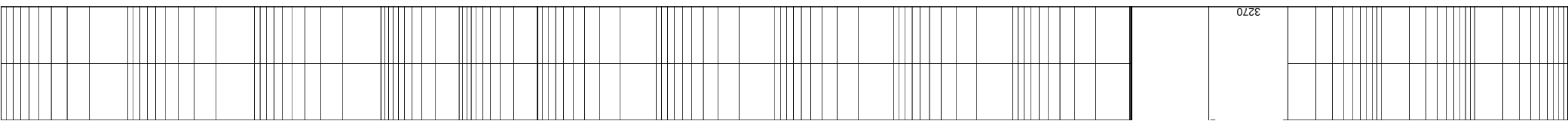
3132m: 1.09% TG PEAK

3150m: 2.80% TG PEAK

BOTTOMS UP NOT CIRCULATED OUT
@ 3175m AT END OF CUTTING CORE.
GAS NOT CIRCULATED OUT WHILE RIH
DUE TO MECH PROBLEMS WITH DRAWWORKS

TRIP: 0.96% TG PEAK

3056.35
3060
3070
3076.32
3080
3090
3096.28
3100
3110
3116.25
3120
3130
3136.21
3140
3150
3156.16
3160
3170
3176.12
3180
3190
3196.07
3200
3210
3216.02
3220
3230
3240
3250
3260


3270

DRILLING DATA LOG

WELL : TREFOIL-2

FROM (m): 0 | TO (m): 3270 | SCALE: 1/ 500

		POSITION		CASING SHOE SIZE / DEPTH			
Country	: AUSTRALIA	Latitude	: 39 53' 07.93" S	762mm (30") at (m MDRT)	: 153.00	Spud Date	: 06-10-2009
Region	: TASMANIA	Longitude	: 145 22' 14.62" E	340mm (13 3/8") at (m MDRT)	: 930.00	Total Depth Date	: 18-11-2009
Field	: TREFOIL	X (m)	: 360690.389	245mm (9 5/8") at (m MDRT)	: 2520.00	Total Depth (m MDRT)	: 3235.0
Permit	: T/18P	Y (m)	: 5583676.588			Total Depth (m TVSS)	: 3234.0
Well Type	: APPRAISAL	RT-Sealevel (m MSL)	: 26			Status	: P & A
Rig Name	: KAN TAN 4	RT-Seabed (m)	: 95				

ABBREVIATIONS

MW MUD WEIGHT
FV FUNNEL VISCOSITY
PV PLASTIC VISCOSITY
YP YIELD POINT
FC FILTER CAKE
SOL SOLIDS
CR CIRCULATE RETURNS
SD SAND - %
S SALINITY - PPM
RM MUD RESISTIVITY
RMF MUD FILTRATE
C CARBIDE TEST
LAT LOGGED AFTER TRIP
DS DEVIATION SURVEY

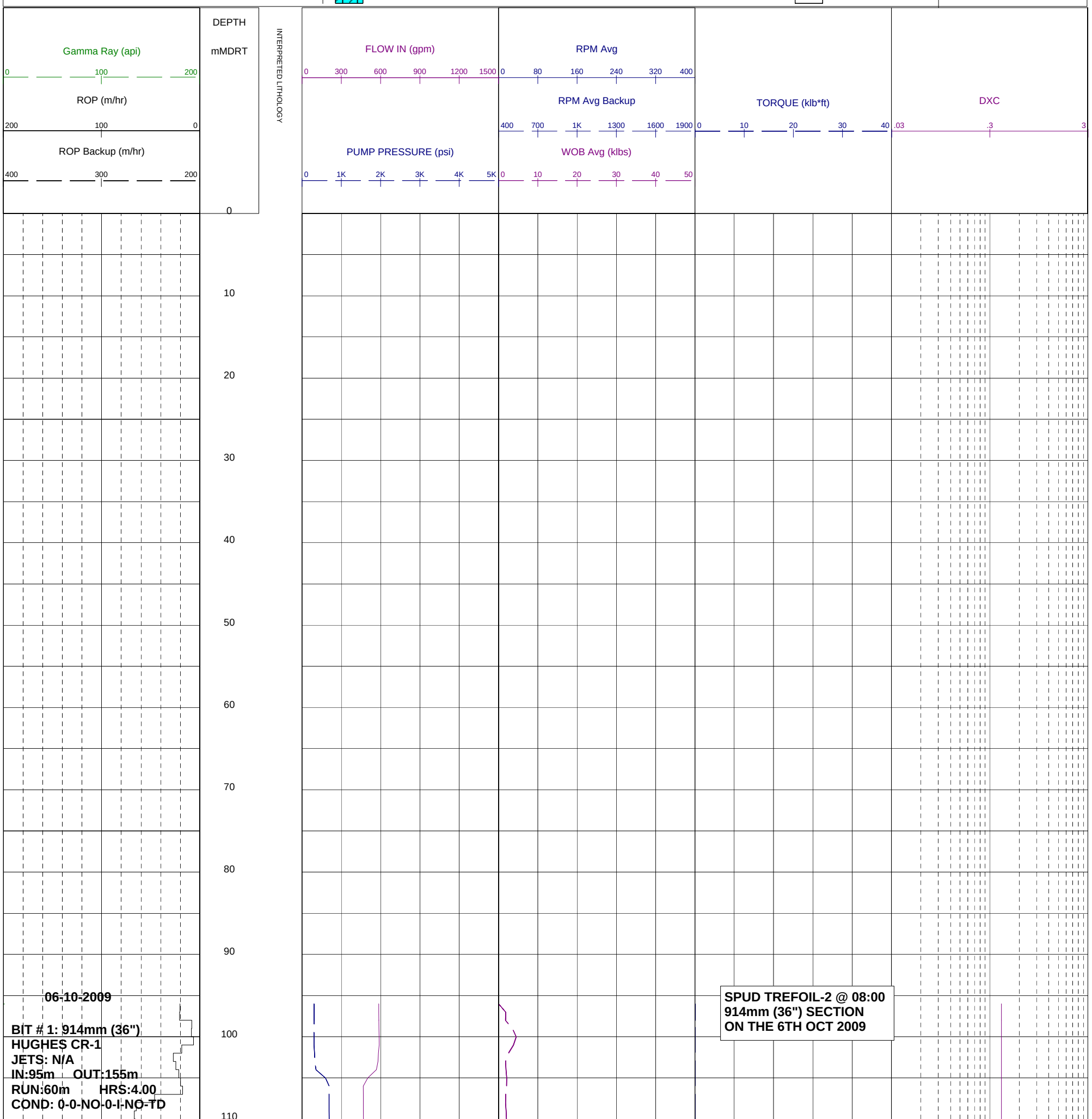
NB NEW BIT
RR RERUN BIT
CB CORE BIT
WOB WEIGHT ON BIT
RPM REVS PER MINUTE
FLC FLOW CHECK
WL FILTRATE
PR POOR RETURNS
NR NO RETURNS
BG BACKGROUND GAS
TG TRIP GAS
STG SHORT TRIP GAS
CG CONNECTION GAS
SG SWAB GAS
SVG SURVEY GAS

LITHOLOGY LEGEND

Dolomite
Calcirudite
Calcarenite
Calcisiltite
Calcilutite
Sandy Claystone
Silty Claystone
Calcareous Claystone
Argil Calcilutite
Claystone
Silstone
Sandstone
Coal
Intrusive Volcanics
Volcaniclastics
Tuff
Cement
Argil Siltstone
Sandy Siltstone
Calcareous Siltstone
Argil Sandstone
Calcareous Sandstone
Dolomitic Sandstone
Silty Sandstone
Calcareous
Dolomitic
Fossils
Foraminiferae
Carbonaceous
Chert
Pyrite
Glauconite
Mica

ENGINEERING

Test
FIT or LOT
Mud loss
Mud gain
Deviation survey
Core
Shoe
Calcimetry



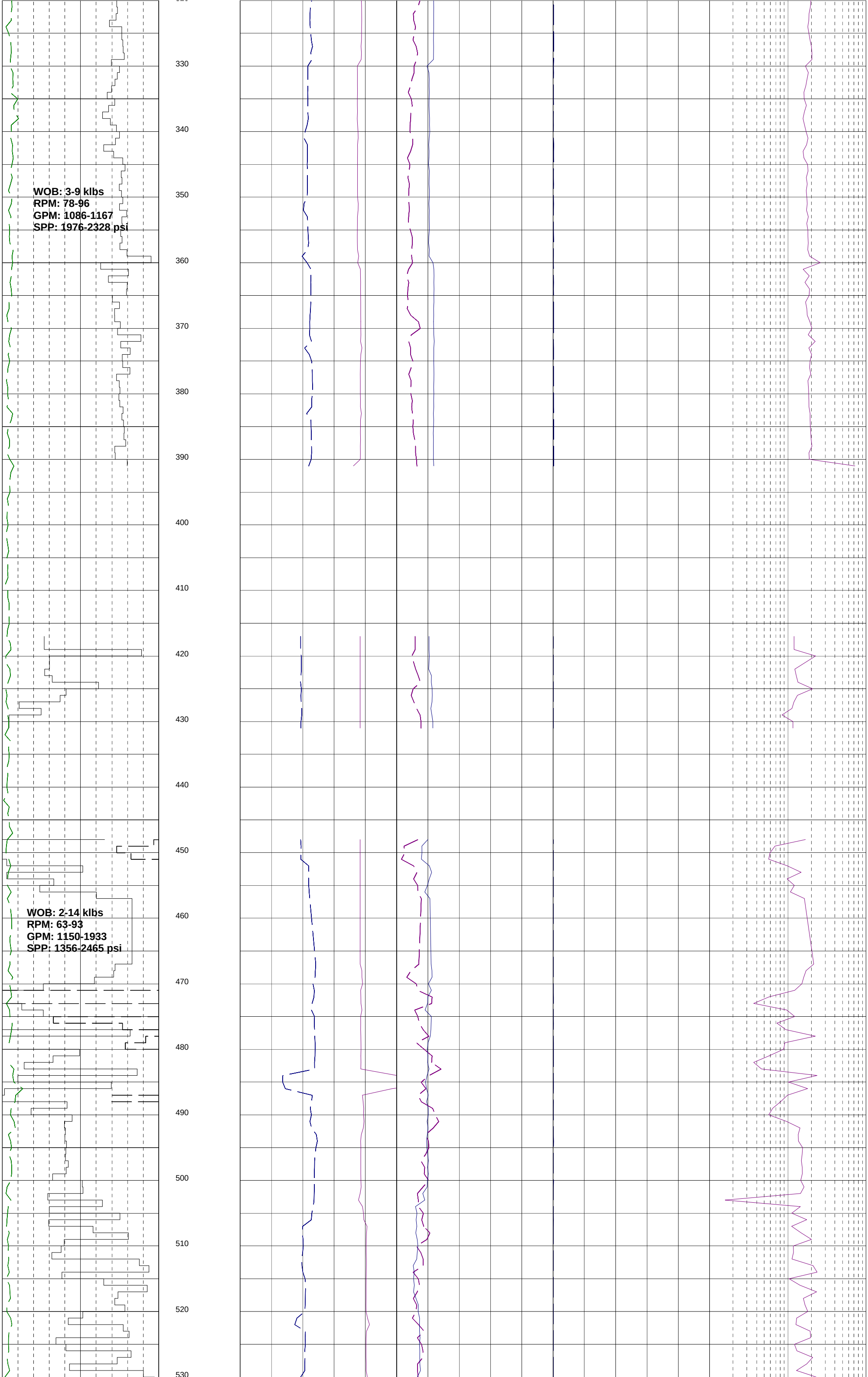
WOB: 1-9
RPM: 45-99
GPM: 465-1204
SPP: 302-1704

08-10-2009

BIT # 2: 445mm (17.5")
SMITH MILL TOOTH XR+VCPS
JETS: 1x13, 3x22
IN:155m OUT:935m
RUN:780m HRS:33.3
COND: I-01-D-L-BG-02-R

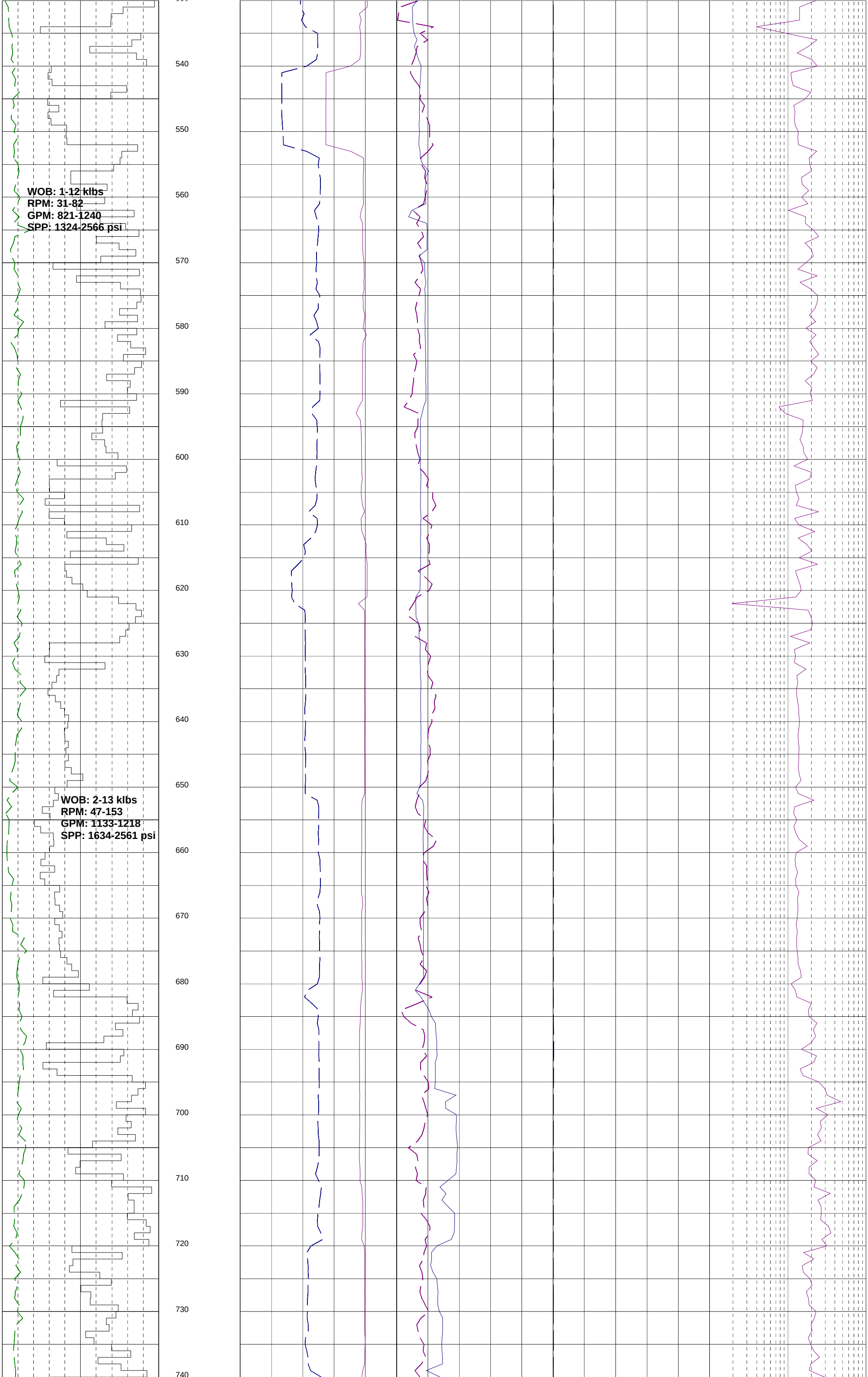
WOB: 2-9 klbs
RPM: 25-98
GPM: 1053-1238
SPP: 1036-2423 psi

120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
310
320


330
340
350
360
370
380
390
400
410
420
430
440
450
460
470
480
490
500
510
520
530
WOB: 3-9 klbs
RPM: 78-96
GPM: 1086-1167
SPP: 1976-2328 psi
WOB: 2-14 klbs
RPM: 63-93
GPM: 1150-1933
SPP: 1356-2465 psi

WOB: 1-12 klbs
RPM: 31-82
GPM: 821-1240
SPP: 1324-2566 psi

WOB: 2-13 klbs
RPM: 47-153
GPM: 1133-1218
SPP: 1634-2561 psi



WOB: 3-12 klbs
RPM: 76-156
GPM: 911-1211
SPP: 1845-2669 psi

WOB: 6-17 klbs
RPM: 94-142
GPM: 1005-1178
SPP: 2037-2725 psi

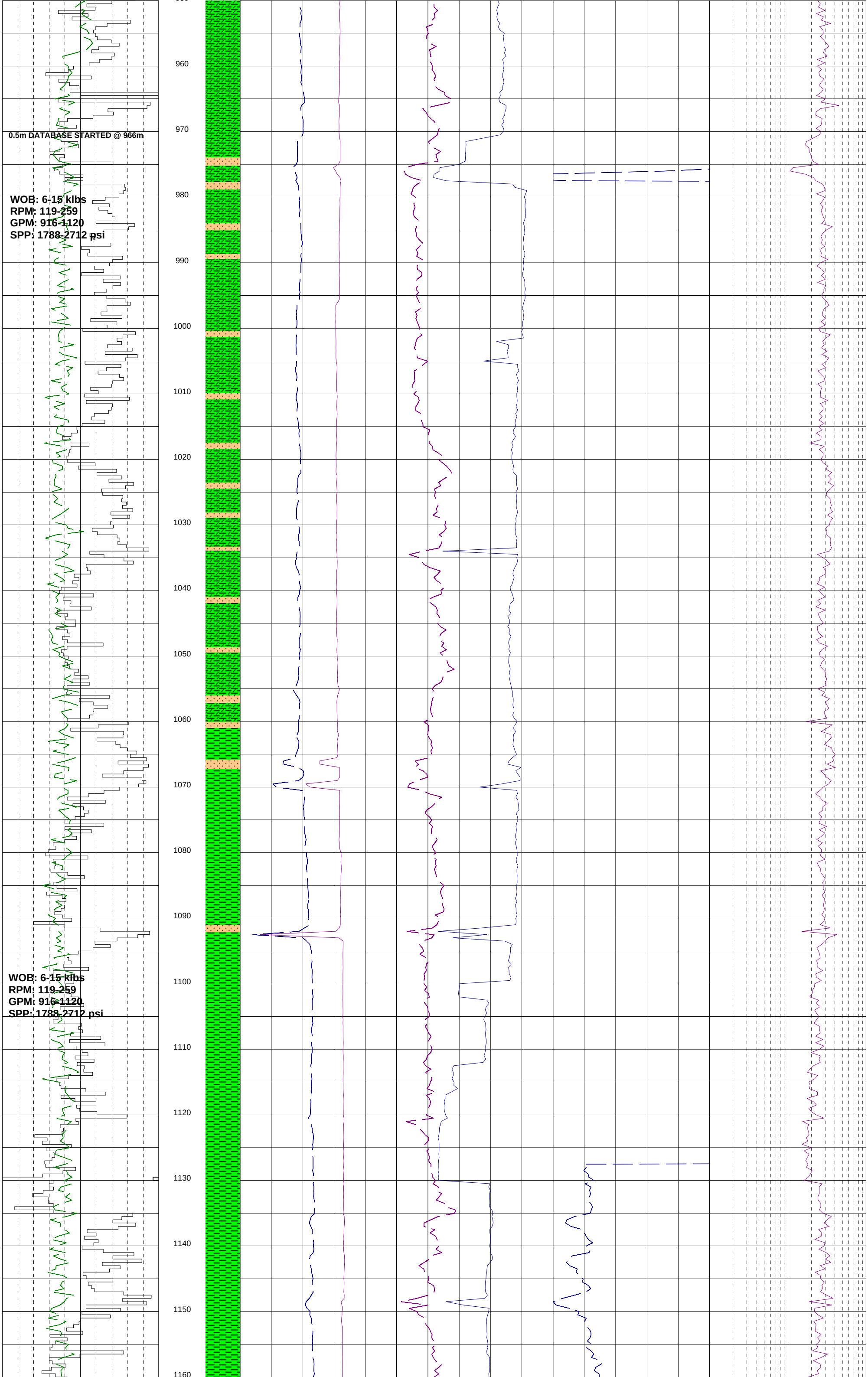
BIT # 3: 311mm (12.25")
REED PDC RSX616M
JETS: 8x13
IN:935m OUT:2271m
RUN:1336m HRS:39.20
COND: 1-1-BT-N-X-I-CT-PP

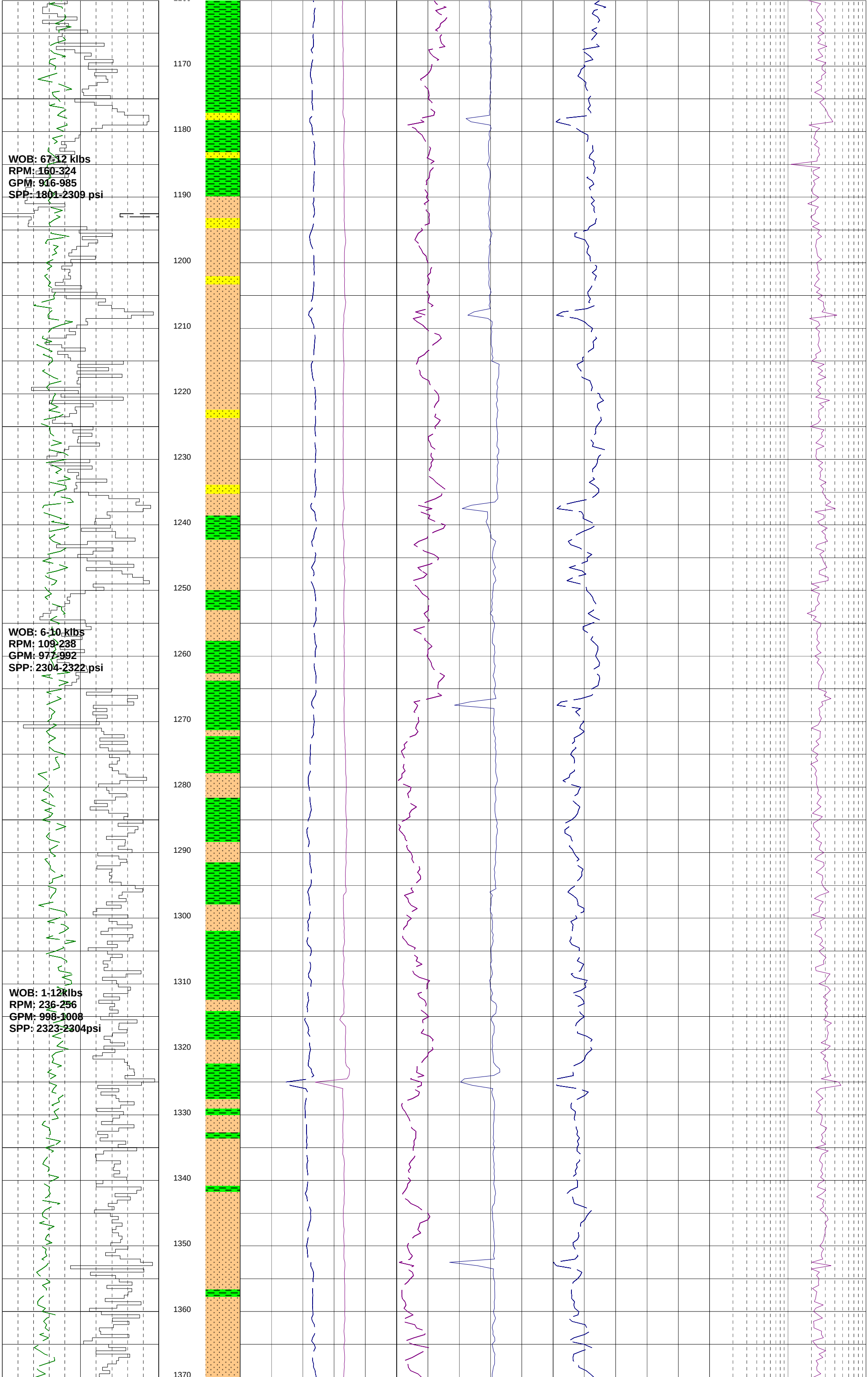
445mm (17.5") SECTION TD
@ 935m MDRT @ 06:00hrs ON
10th OCTOBER 2009

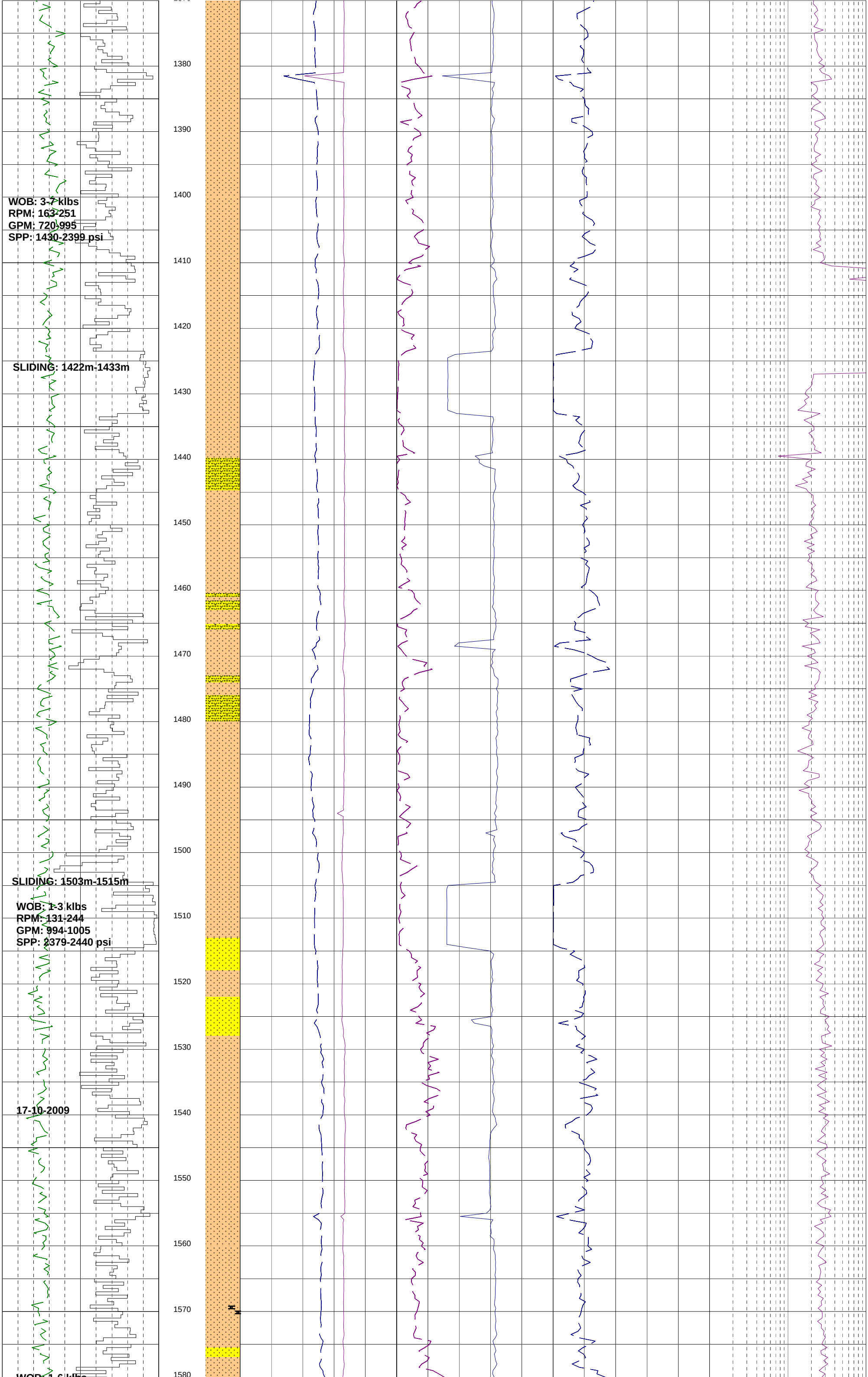
340mm (13.375") CASING SHOE
SET @ 930m MDRT

CONDUCT LOT @ 930m
15.15ppg EMW.

DRILL AHEAD 311mm (12.25")
HOLE SECTION FROM 935m MDRT
@ 16:00 HRS ON 15th OCT 2009


0.5m DATABASE STARTED @ 966m
WOB: 6-15 klbs
RPM: 119-259
GPM: 916-1120
SPP: 1788-2712 psi
960
970
980
990
1000
1010
1020
1030
1040
1050
1060
1070
1080
1090
1100
1110
1120
1130
1140
1150
1160
WOB: 6-15 klbs
RPM: 119-259
GPM: 916-1120
SPP: 1788-2712 psi


WOB: 67-12 klbs
RPM: 160-324
GPM: 916-985
SPP: 1801-2309 psi
WOB: 6-10 klbs
RPM: 109-238
GPM: 977-992
SPP: 2304-2322 psi
WOB: 1-12klbs
RPM: 236-256
GPM: 998-1008
SPP: 2323-2304psi
1170
1180
1190
1200
1210
1220
1230
1240
1250
1260
1270
1280
1290
1300
1310
1320
1330
1340
1350
1360
1370


1380
1390
1400
1410
1420
1430
1440
1450
1460
1470
1480
1490
1500
1510
1520
1530
1540
1550
1560
1570
1580
WOB: 3-7 klbs
RPM: 163-251
GPM: 720-995
SPP: 1430-2399 psi
SLIDING: 1422m-1433m
SLIDING: 1503m-1515m
WOB: 1-3 klbs
RPM: 131-244
GPM: 994-1005
SPP: 2379-2440 psi
17-10-2009

WOB: 1-6 klbs
RPM: 234-251
GPM: 998-1005
SPP: 2581-2734 psi

1590

1600

1610

1620

1630

1640

1650

WOB: 4-17 klbs
RPM: 190-254
GPM: 979-1006
SPP: 2355-2740 psi

1660

1670

1680

1690

1700

1710

1720

1730

1740

WOB: 4-17 klbs
RPM: 190-254
GPM: 979-1006
SPP: 2355-2740 psi

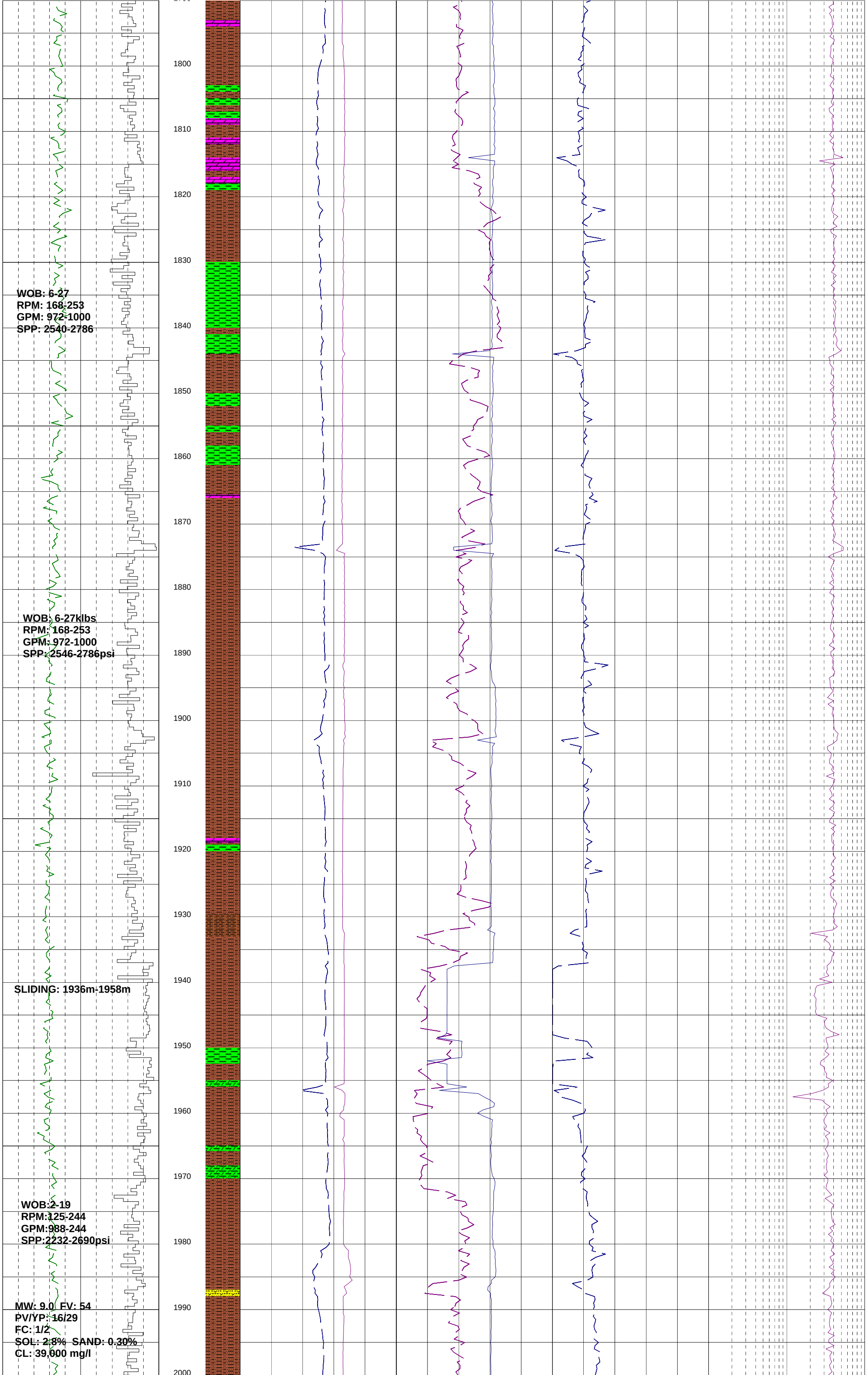
1750

1760

1770

1780

1790


1800
1810
1820
1830
1840
1850
1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
WOB: 6-27
RPM: 168-253
GPM: 972-1000
SPP: 2540-2786
WOB: 6-27klbs
RPM: 168-253
GPM: 972-1000
SPP: 2546-2786psi
SLIDING: 1936m-1958m
WOB:2-19
RPM:125-244
GPM:988-244
SPP:2232-2690psi
MW: 9.0 FV: 54
PV/YP: 16/29
FC: 1/2
SOL: 2.8% SAND: 0.30%
CL: 39,000 mg/l

WOB: 3-12 klbs
RPM: 239-242
GPM: 980-997
SPP: 2776-2826 psi

2010
2020
2030
2040
2050
2060
2070
2080
2090
2100
2110
2120
2130
2140
2150
2160
2170
2180
2190
2200
2210

WOB: 7-8klbs
RPM: 234-241
GPM: 981-998
SPP: 2445-2785 psi

BIT# 3RR: 311mm (12.25")
REED PDC RSX616M
JETS: 8X3
IN:2271m OUT:2520m
RUN:249m HRS:13.44
COND: 1-1-CT-A-X-I-PN-TD

WOB: 1-22 klbs
RPM: 158-243
GPM: 855-1002
SPP: 2355-3121 psi

2220
2230
2240
2250
2260
2270
2280
2290
2300
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
2410
2420

2430
2440
2450
2460
2470
2480
2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600
2610
2620
2630

WOB: 5-19klbs
RPM: 181-244
GPM: 857-982
SPP: 2546-3090psi

08-11-2009

BIT # 4: 216mm (8.5")
BHC GT-1
JETS: 8X13
IN:2520m OUT:2523m
RUN:3m HRS:5.5
COND:1-1-WT-A-1-I-BHA
WOB: 1-10klbs
RPM: 70-72
GPM: 714-729
SPP: 1523-1617psi

MW:9.35 FV:47
PV/YP : 12/30
FC : 1/2
SOL:3.2 SAND:0.25
CL: 43,000 mg/l

BIT # 5: 216mm (8.5")
SMITH PDC M1616VBPX
JETS: 6x14
IN:2523m OUT:2633m
RUN:110m HRS:5.5
COND:0-1-WT-G-X-I-NO-DTF

WOB: 2-3klbs
RPM: 19-112
GPM: 704-735
SPP: 2448-2571psi

09-11-2009

CONDUCT FIT @ 2520mMDRT
EMW: 11.0 ppg

ROP DATA FROM 2523-2543 mMDRT
FROM SPERRY DATABASE

DATA LOSS FROM 2523-2543 mMDRT
DUE TO GEOSERVICES COMPUTER
SOFTWARE MALFUNCTION

311mm (12.25") SECTION TD
@ 2520m MDRT @ 19:00hrs ON
21th OCTOBER 2009

DRILLED AHEAD 216mm (8.5")
HOLE SECTION FROM 2520mMDRT
@ 11:45 hrs, 7 Nov. 2009

CARBIDE LAG CHECK @ 2630m

10-11-2009
BIT # 5RR1: 216mm (8.5")
SMITH PDC M1616VBPX
JETS: 6x14
IN:2633m OUT:2983m
RUN:349m HRS:22.17
COND:1-2-CT-S-X-I-WT-CP
WOB: 1-16klbs
RPM: 46-156
GPM: 684-712
SPP: 2328-2554psi
MW: 9.4 FV: 68
PV/YP: 11/26
FC: 1/2
SOL: 3.3% SAND: 0.25%
CL: 41,500 mg/l

MW: 9.4 FV: 46
PV/YP: 10/28
FC: 1/2
SOL: 3.5% SAND: 0.25%
CL: 40,000 mg/l

WOB: 5-15klbs
RPM: 115-120
GPM: 699-704
SPP: 2400-2554psi

11-11-2009

MW: 9.4 FV: 46
PV/YP: 10/25

THEOR STKS:4148
ACTUAL STKS:4299
INGAUGE HOLE.

POOH @ 2633 mMDRT DUE TO LWD 'PULSER' FAILURE. P/U COMPLETE LWD TOOL STRING

2640
2650
2660
2670
2680
2690
2700
2710
2720
2730
2740
2750
2760
2770
2780
2790
2800
2810
2820
2830
2840

FC: 1/2
SOL: 3.3% SAND: 0.25%
CL: 41,000 mg/l

2850

2860

2870

2880

2890

2900

2910

2920

2930

WOB: 10-15
RPM: 120-130
GPM: 715-730
SPP: 2800-2850

2940

2950

MW: 9.4 FV: 52
PV/YP: 13/32
FC: 1/2
SOL: 3.3% SAND: 0.30%
CL: 41,000 mg/l

2960

2970

2980

13-11-2009

WOB: 5-15
RPM: 65-72
GPM: 210-217
SPP: 550-630

2990

MW: 9.4 FV: 46
PV/YP: 14/30
FC: 1/2
SOL: 3.4% SAND: 0.25%
CL: 40,000 mg/l

3000

BIT # 6: 216mm (8.5")
COREPRO MCP572
JETS:M 2-3-3
IN:2983m OUT:3013m
RUN:30m HRS:4.17
COND:1-1-NO-FC-X-I-NO-BHA

3010

14-11-2009

3020

BIT # 5RR2: 216mm (8.5")
SMITH
JETS:6x14
IN:3013m OUT:3145m
RUN:132m HRS:11.62
COND:1-2-CT-S-X-I-WT-CP

3030

3040

WOB:12-19klbs

3050

RPM:76-87
GPM:714-730
SPP:2700-2900psi

3060
3070
3080
3090
3100
3110
3120
3130
3140
3150

15-11-09

16-11-09

WOB: 8-15
RPM: 66-67
GPM: 203-205
SPP: 670-700
BIT # 6RR1: 216mm (8.5")
COREPRO
JETS:M 2-3-3
IN:3145m OUT:3175m
RUN:30m HRS:3.47
COND:1-1-NO-FC-X-I-NO-BHA

3160
3170

17-11-09

BIT # 5RR3: 216mm (8.5")
SMITH
JETS:6x14
IN:3175m OUT:3235m
RUN:60m HRS:6.11
COND:1-2-CT-S-X-1-NO-TD

3180
3190
3200

18-11-2009

3210
3220
3230
3240
3250
3260

3270

PRESSURE EVALUATION LOG

WELL : TREFOIL-2

FROM (m): 0 | TO (m): 3270 | SCALE: 1/ 500

		POSITION		CASING SHOE SIZE / DEPTH			
Country	: AUSTRALIA	Latitude	: 39 53' 07.93" S	762mm (30") at (m MDRT)	: 153.00	Spud Date	: 06-10-2009
Region	: TASMANIA	Longitude	: 145 22' 14.62" E	340mm (13 3/8") at (m MDRT)	: 930.00	Total Depth Date	: 18-11-2009
Field	: TREFOIL	X (m)	: 360690.389	245mm (9 5/8") at (m MDRT)	: 2520.00	Total Depth (m MDRT)	: 3235.0
Permit	: T/18P	Y (m)	: 5583676.588			Total Depth (m TVSS)	: 3234.0
Well Type	: APPRAISAL	RT-Sealevel (m MSL)	: 26			Status	: P & A
Rig Name	: KAN TAN 4	RT-Seabed (m)	: 95				

ABBREVIATIONS

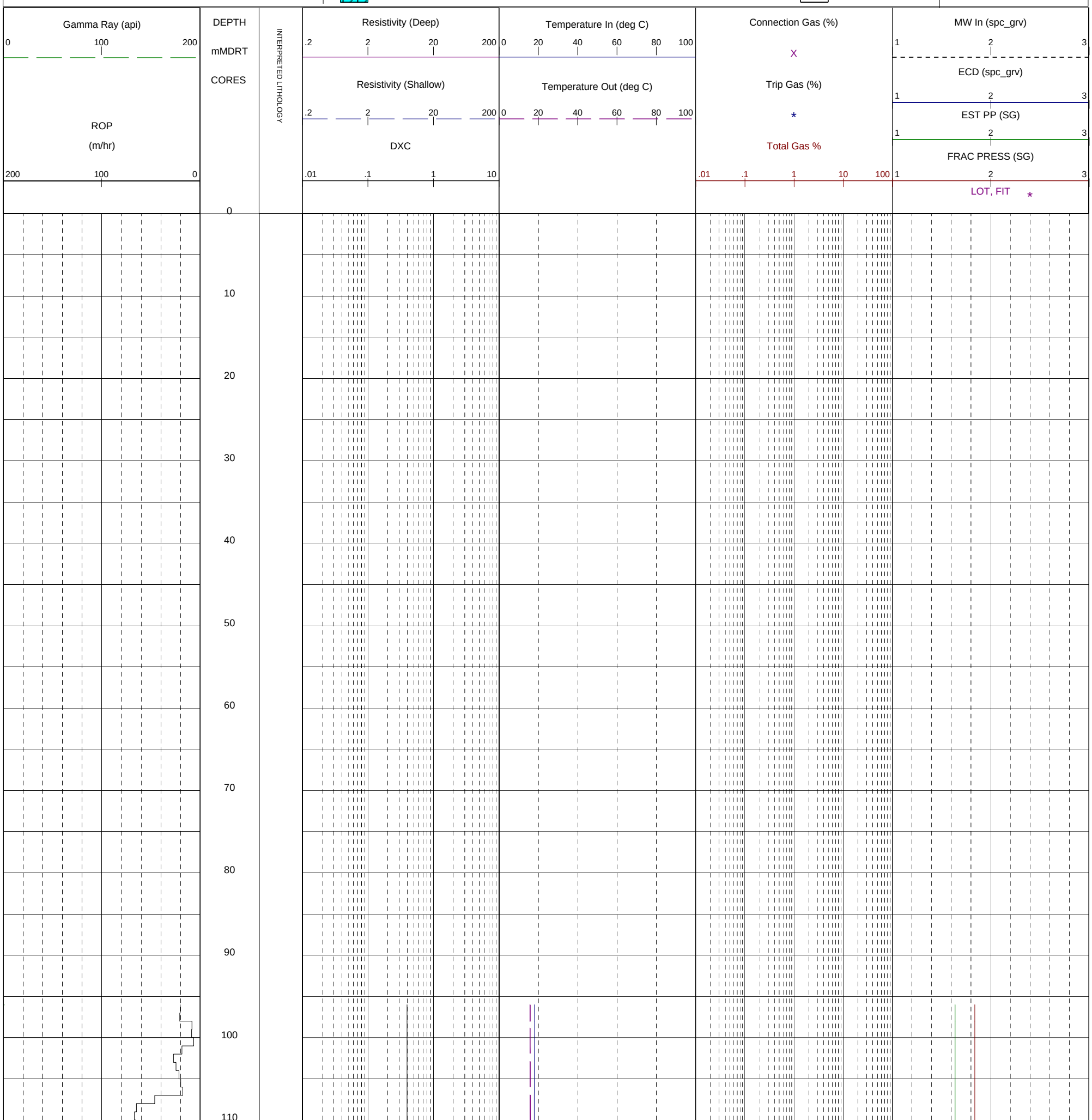
MW MUD WEIGHT
FV FUNNEL VISCOSITY
PV PLASTIC VISCOSITY
YP YIELD POINT
FC FILTER CAKE
SOL SOLIDS
CR CIRCULATE RETURNS
SD SAND - %
S SALINITY - PPM
RM MUD RESISTIVITY
RMF MUD FILTRATE
C CARBIDE TEST
LAT LOGGED AFTER TRIP
DS DEVIATION SURVEY
NB NEW BIT
RR RERUN BIT
CB CORE BIT
WOB WEIGHT ON BIT
RPM REVS PER MINUTE
FLC FLOW CHECK
WL FILTRATE
PR POOR RETURNS
NR NO RETURNS
BG BACKGROUND GAS
TG TRIP GAS
STG SHORT TRIP GAS
CG CONNECTION GAS
SG SWAB GAS
SVG SURVEY GAS

LITHOLOGY LEGEND

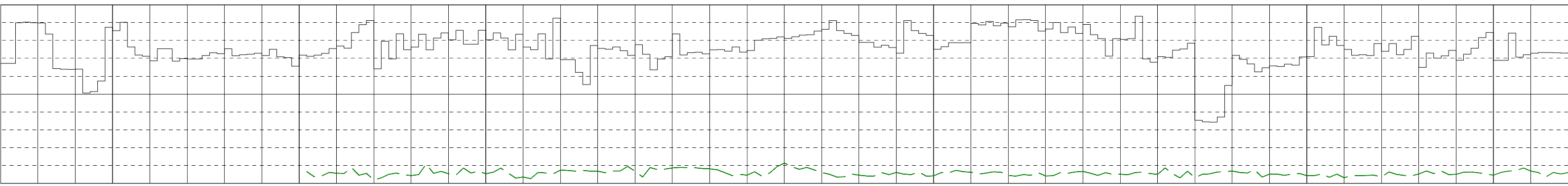
Dolomite
Calcirudite
Calcarenite
Calcisiltite
Calcilutite
Sandy Claystone
Silty Claystone
Calcareous Claystone
Argil Calcilutite
Claystone
Silstone
Sandstone
Coal
Intrusive Volcanics
Volcaniclastics
Tuff
Cement
Argil Siltstone
Sandy Siltstone
Calcareous Siltstone
Argil Sandstone
Calcareous Sandstone
Dolomitic Sandstone
Silty Sandstone
Calcareous
Dolomitic
Fossils
Foraminiferae
Carbonaceous
Chert
Pyrite
Glauconite
Mica

ENGINEERING

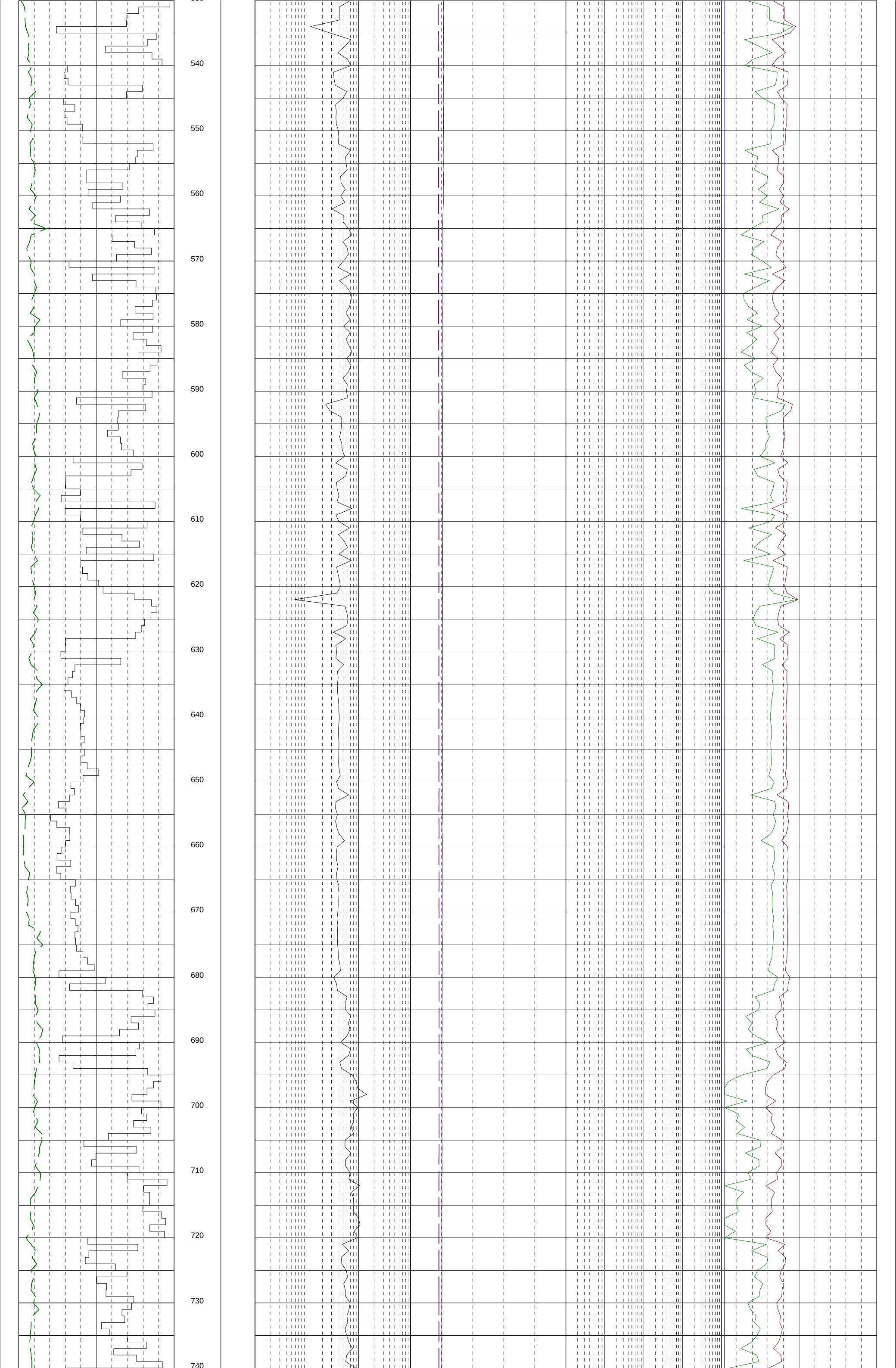
Test
FIT or LOT
Mud loss
Mud gain
Deviation survey
Core
Shoe
Calcimetry

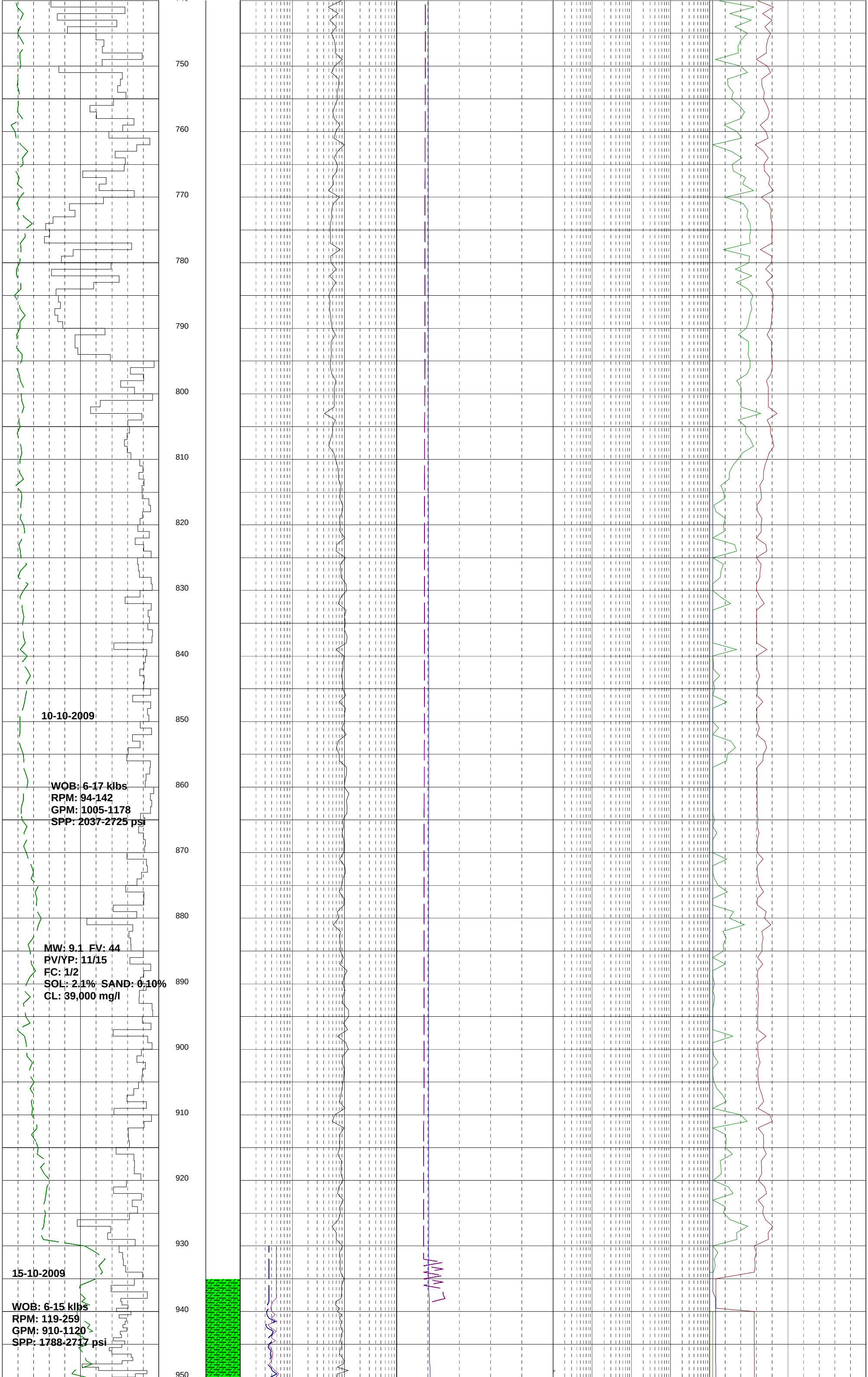





120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
310
320

330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530

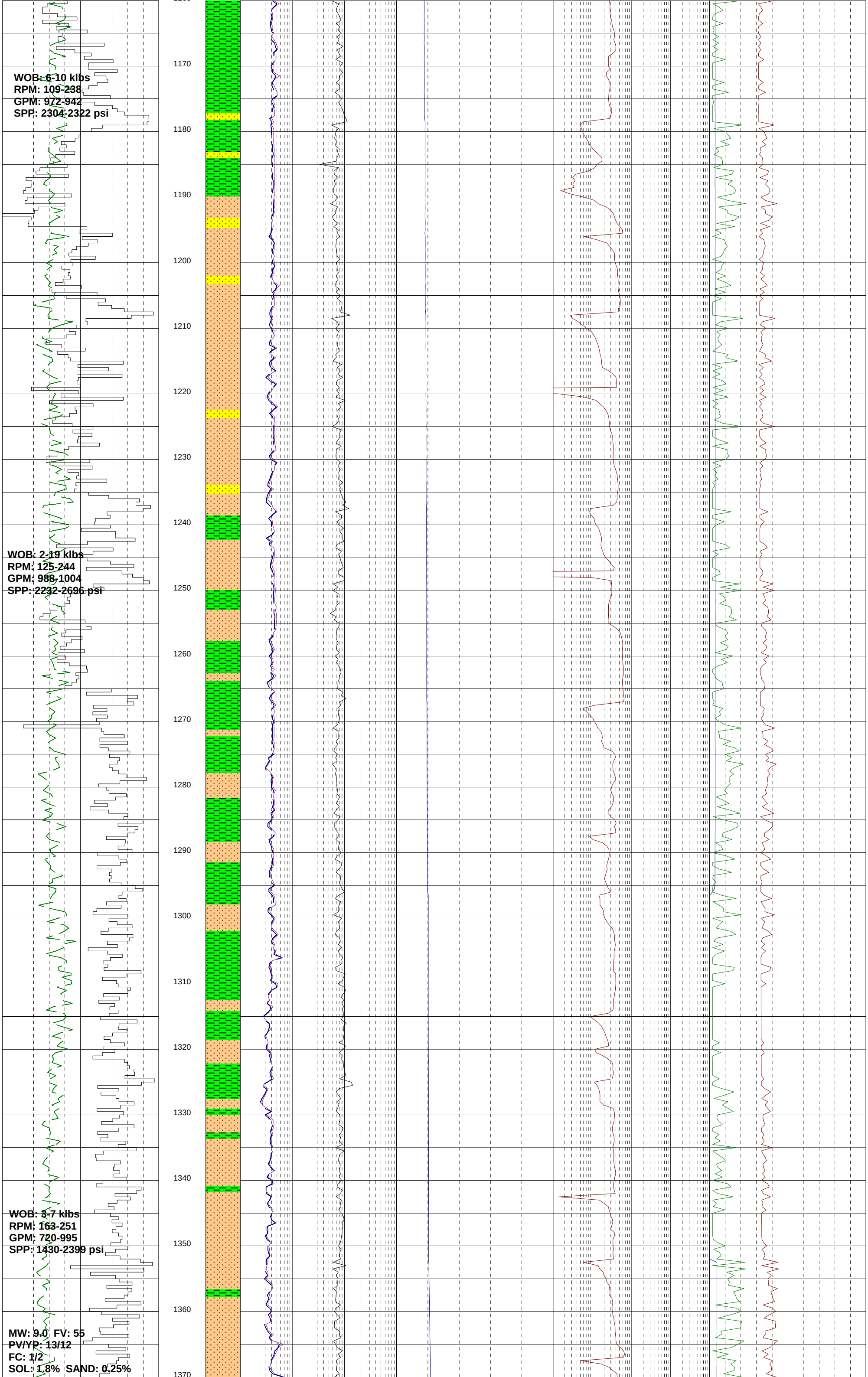

540
550
560
570
580
590
600
610
620
630
640
650
660
670
680
690
700
710
720
730
740


750
760
770
780
790
800
810
820
830
840
850
860
870
880
890
900
910
920
930
940
950
10-10-2009
WOB: 6-17 klbs
RPM: 94-142
GPM: 1005-1178
SPP: 2037-2725 psi
MW: 9.1 FV: 44
PV/YP: 11/15
FC: 1/2
SOL: 2.1% SAND: 0.10%
CL: 39,000 mg/l
15-10-2009
WOB: 6-15 klbs
RPM: 119-259
GPM: 910-1120
SPP: 1788-2717 psi

960
970
980
990
1000
1010
1020
1030
1040
1050
1060
1070
1080
1090
1100
1110
1120
1130
1140
1150
1160

WOB: 6-12 klbs
RPM: 160-324
GPM: 910-985
SPP: 1801-2309 psi

MW: 9.0 FV: 52
PV/YP: 12/20
FC: 1/2
SOL: 1.5% SAND: 0.25%
CL: 42,000 mg/l


WOB: 6-10 klbs
RPM: 109-238
GPM: 972-942
SPP: 2304-2322 psi
1170
1180
1190
1200
1210
1220
1230
1240
WOB: 2-19 klbs
RPM: 125-244
GPM: 988-1004
SPP: 2232-2696 psi
1250
1260
1270
1280
1290
1300
1310
1320
1330
1340
WOB: 8-7 klbs
RPM: 163-251
GPM: 720-995
SPP: 1430-2399 psi
1350
1360
MW: 9.0 FV: 55
PV/YP: 13/12
FC: 1/2
SOL: 1.8% SAND: 0.25%
1370

CL: 42,000 mg/l

1380

1390

1400

1410

1420

MW: 9.0 FV: 56
PV/YP: 13/22
FC: 1/2
SOL: 1.7% SAND: 0.25%
CL: 40,000 mg/l

1430

1440

1450

WOB: 1-3 klbs
RPM: 131-244
GPM: 994-1005
SPP: 2374-2490 psi

1460

1470

1480

1483m GAS PEAK 0.64%

1490

1500

1510

1520

17-10-2009

1530

1540

1550

1560

WOB: 1-6 klbs
RPM: 234-251
GPM: 998-1003
SPP: 2581-2734 psi

1570

1580

1590
1600
1610
1620
1630
1640
1650
1660
1670
1680
1690
1700
1710
1720
1730
1740
1750
1760
1770
1780
1790

1599m GAS PEAK 0.88%

WOB: 4-10 klbs
RPM: 241-257
GPM: 982-1018
SPP: 2400-2664 psi

MW: 9.0 FV: 51
PV/YP: 12/22
FC: 1/2
SOL: 2.2% SAND: 0.25%
CL: 38,000 mg/l

WOB: 4-17 klbs
RPM: 194-251
GPM: 978-1006
SPP: 2355-2740 psi

1780m GAS PEAK 0.76%

1800
1810
1820
1830
1840
1850
1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000

MW: 9.1 FV: 52
PV/YP: 13/28
FC: 1/2
SOL: 2.4% SAND: 0.25%
CL: 38,000 mg/l

WOB: 6-27 klbs
RPM: 168-253
GPM: 972-1000
SPP: 2546-2786 psi

1865m GAS PEAK 0.88%

WOB: 2-19 klbs
RPM: 125-244
GPM: 988-1004
SPP: 2232-2696 psi

MW: 9.0 FV: 54
PV/YP: 16/29
FC: 1/2
SOL: 2.8% SAND: 0.30%
CL: 39,000 mg/l

1977m GAS PEAK 0.70%

18-10-2009

2010
2020
2030
2040

WOB: 3-12 klbs
RPM: 233-242
GPM: 980-997
SPP: 2776-2826 psi

2050
2060

2060m GAS PEAK 0.89%

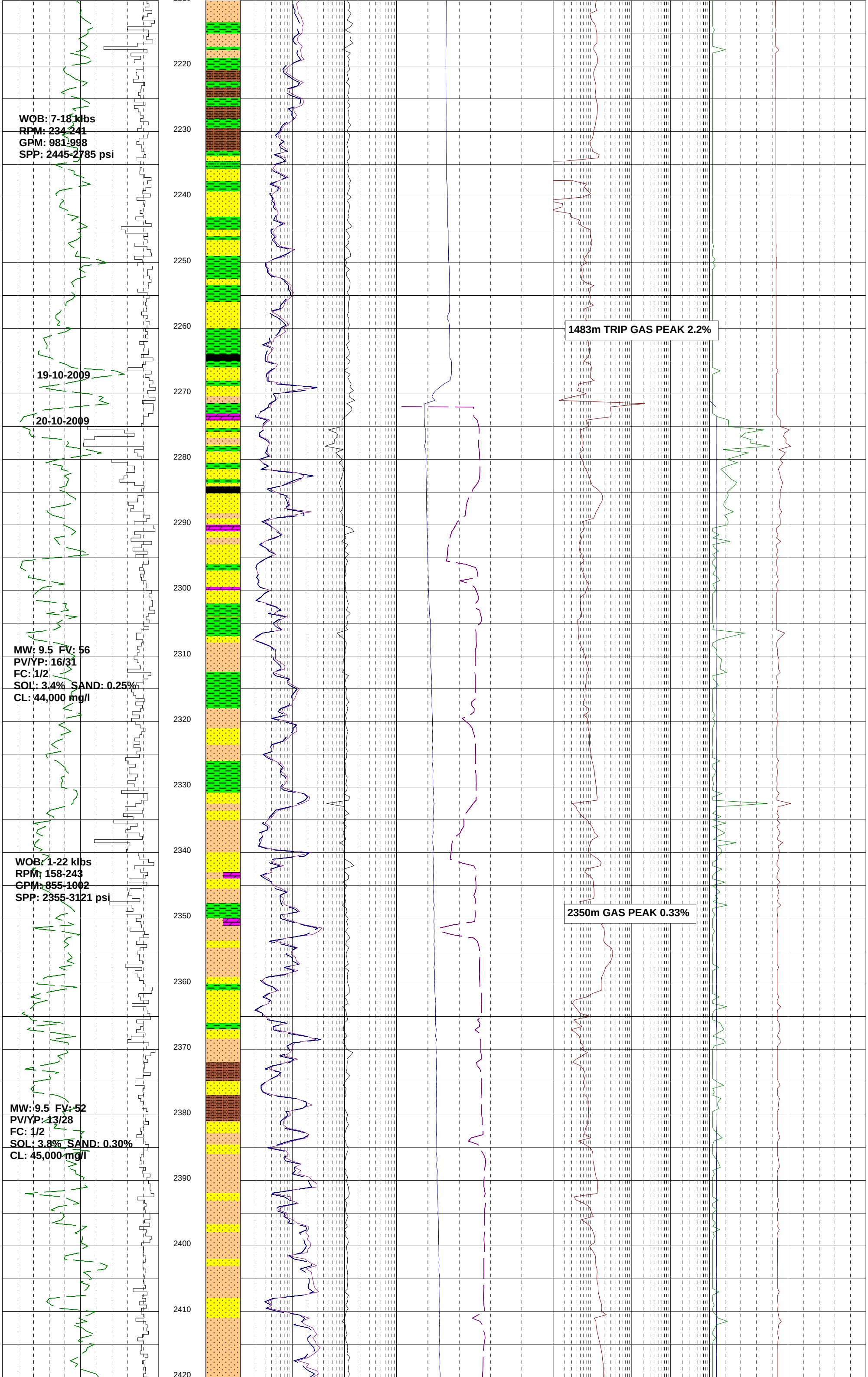
2070
2080
2090
2100
2110
2120

MW: 9.2 FV: 51
PV/YP: 17/27
FC: 1/2
SOL: 3.3% SAND: 0.25%
CL: 39,000 mg/l

2130
2140
2150
2160

WOB: 5-21 klbs
RPM: 155-326
GPM: 665-1046
SPP: 1378-3008 psi

2170
2180
2190
2200
2210


WOB: 7-18 klbs
RPM: 234-241
GPM: 981-998
SPP: 2445-2785 psi
19-10-2009
20-10-2009
MW: 9.5 FV: 56
PV/YP: 16/31
FC: 1/2
SOL: 3.4% SAND: 0.25%
CL: 44,000 mg/l
1483m TRIP GAS PEAK 2.2%
WOB: 1-22 klbs
RPM: 158-243
GPM: 855-1002
SPP: 2355-3121 psi
2350m GAS PEAK 0.33%
MW: 9.5 FV: 52
PV/YP: 13/28
FC: 1/2
SOL: 3.8% SAND: 0.30%
CL: 45,000 mg/l
2220
2230
2240
2250
2260
2270
2280
2290
2300
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
2410
2420

WOB: 5-19 klbs
RPM: 181-244
GPM: 857 - 982
SPP: 2546-3090 psi

MW: 9.3 FV: 53
PV/YP: 14/28
FC: 1/2
SOL: 2.4% SAND: 0.15%
CL: 43,500 mg/l

08-11-2009

WOB: 1-16 klbs
RPM: 70-72
GPM: 714-729
SPP: 1523-1617 psi

2430
2440
2450
2460
2470
2480
2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600
2610
2620
2630

2431m GAS PEAK 0.23%

CONDUCT FIT @ 2520mMDRT
EMW: 11.0 ppg

COMMENCE DRILLING 216mm (8.5")
HOLE @ 11:45 hrs, 7 Nov. 2009

ROP DATA FROM 2523-2543 mMDRT
FROM SPERRY DATABASE

DATA LOSS FROM 2523-2543 mMDRT
DUE TO GEOSERVICES COMPUTER
SOFTWARE MALFUNCTION

WOB: 1-16 klbs
RPM: 46-156
GPM: 684-712
SPP: 2328-2554 psi

MW: 9.4 FV: 68
PV/YP: 11/26
FC: 1/2
SOL: 3.3% SAND: 0.25%
CL: 41,500 mg/l

2640
2650
2660
2670
2680
2690
2700
2710
2720

WOB: 5-15 klbs
RPM: 115-120
GPM: 690-708
SPP: 2400-2554 psi

2730

MW: 9.4 FV: 46
PV/YP: 10/28
FC: 1/2
SOL: 3.5% SAND: 0.25%
CL: 40,000 mg/l

2740
2750
2760
2770
2780
2790
2800
2810
2820
2830

MW: 9.4 FV: 46
PV/YP: 10/25

2840

FC: 1/2
SOL: 3.3% SAND: 0.25%
CL: 41,000 mg/l

2850
2860
2870
2880
2890
2900
2910
2920
2930

WOB: 10-15
RPM: 120-130
GPM: 715-730
SPP: 2800-2850

2940
2950

MW: 9.4 FV: 52
PV/YP: 13/32
FC: 1/2
SOL: 3.3% SAND: 0.30%
CL: 41,000 mg/l

2960
2970
2980

NO GAS READINGS DUE TO NO FLOW IN HEADER BOX

13-11-2009

MW: 9.4 FV: 46
PV/YP: 14/30
FC: 1/2
SOL: 3.4% SAND: 0.25%
CL: 40,000 mg/l

2990
3000

WOB: 5-15
RPM: 65-72
GPM: 210-217
SPP: 550-630

3010

14-11-2009

3020
3030
3040
3050

3060
3070
3080
3090
3100
3110
3120
3130
3140
3150
3160
3170
3180
3190
3200
3210
3220
3230
3240
3250
3260

15-11-2009

16-11-09

WOB: 8-15
RPM: 66-67
GPM: 203-205
SPP: 670-700

17-11-09

18-11-2009

| | | |

APPENDIX 7: LWD AND DIRECTIONAL DRILLING REPORT

HALLIBURTON

Sperry Drilling

LWD End of Well Report

For

Origin Energy Resources Ltd

Trefoil-2

Rig:	**Kan Tan IV**
Field:	**Trefoil**
Country:	**Australia**
Job No:	**AU-FE-0006714148**
Date:	**03-OCT-09**

Table of Contents

1. General Information
2. Operational Overview
3. Summary of MWD Runs
4. Bitrun Summary
5. Directional Survey Data
6. Service Interrupt Report

General Information

Company:	Origin Energy Resources Ltd
Rig:	Kan Tan IV
Well:	Trefoil-2
Field:	Trefoil
Lease Name:	T/18P
State:	Tasmania
County:	
Country:	Australia
API Number:	
Sperry Job Number:	AU-FE-0006714148
Job start date:	03-Oct-09
Job end date:	05-Oct-09
North reference:	Grid
Declination:	12.497 deg
Dip angle:	-70.484 deg
Total magnetic field:	61022 nT
Date of magnetic data:	06 October, 2009
Wellhead coordinates N:	39 deg. 53 min 7.93 sec South
Wellhead coordinates E:	145 deg. 22 min 14.62 sec East
Vertical section direction:	0.00 deg
Unit Number:	SSH-40
MWD Engineers:	J. Lau, A. Nijhof, M. Dillon, T. Oborne, M. Ward
Company Representatives:	J. McGarrity, B. Houston
Company Geologist:	D. Archer, L. Hansen

Operational Overview

Sperry Drilling was contracted by Origin Energy Resources Ltd to provide Logging While Drilling (LWD) services for the drilling of Trefoil-2. The well was drilled in permit T/18P by the Maersk MODU Kan Tan IV.

17 1/2" (445mm) Hole Section:

This section was drilled in one bit run using a conventional rotary assembly.
A Pressure Case Gamma (PCG) was utilised for formation evaluation. Additionally a Pressure Case Directional (PCDC) was run for wellbore surveying.
The section was drilled from 155.0 mMDRT to section TD at 935.0 mMDRT. Pulled out of hole to run 340mm casing.

12 1/4" (311mm) Hole Section:

This section was drilled in two bit runs using a SperryDrill Motor assembly. LWD tools comprised of the following :
Drilling String Dynamics (DDSr-DGR) for drilling optimisation, Dual Gamma Ray (DGR) and Electromagnetic Wave Resistivity (EWR-P4) for formation evaluation. Additionally a Pressure Case Directional (PCDC) was utilised for wellbore surveying.
The first run was drilled from 935.0 to 2271.0 mMDRT.
The second run was drilled from 2271.0 mMDRT to section TD at 2520.0 mMDRT. Pulled out of hole to run 244mm casing.

8 1/2" (216mm) Hole Section:

This section was drilled in four bit runs using a conventional rotary assembly. LWD tools comprised of the following :
Drilling String Dynamics (DDS) for drilling optimisation, Dual Gamma Ray (DGR), Electromagnetic Wave Resistivity (EWR-P4), Compensated Thermal Neutron (CTN), Azimuthal Litho-Density (ALD) and Bi-Modal Acoustic (BAT) for formation evaluation. Acoustic Caliper (ACAL) was run in recorded mode to determine hole size. Additionally a Pressure Case Directional (PCDC) was utilised for wellbore surveying.
The first run was drilled from 2520.0 to 2633.0 mMDRT and pulled out of hole for LWD failure.
The second run was drilled from 2633.0 mMDRT to the first coring point at 2983.0 mMDRT.
The third run logged the core section from 2983.0 to 3013.0 mMDRT and continued drilling to the second coring point at 3145.0 mMDRT.
The fourth run logged the core section from 3145.0 to 3175.0 mMDRT and continued drilling to well TD at 3235.0 mMDRT.

Summary of MWD runs

Run No.	Bit No.	Hole Size (mm)	MWD Service	Start Depth (m)	End Depth (m)	Drill/Wipe Distance (m)	Run Start Date Time	Run End Date Time	BRT Hrs.	Oper. Hrs.	Circ. Hrs.	Max Temp. (degC)	Serv. Int.	Trip for MWD	Failure Type
100	2	445.00	D/GWD	155.000	935.000	780.000	08-Oct-09 09:00	11-Oct-09 01:30	64.50	64.500	34.850	21.10	No	No	
200	3	311.00	P4M	935.000	2271.000	1336.000	15-Oct-09 05:02	20-Oct-09 02:09	117.11	117.110	71.570	65.30	No	No	
300	4	311.00	P4M	2271.000	2520.000	249.000	20-Oct-09 11:03	22-Oct-09 09:34	46.51	46.510	23.730	86.70	No	No	
400	6	216.00	P4M	2519.000	2633.000	114.000	08-Nov-09 01:55	09-Nov-09 12:21	34.44	34.440	15.820	96.00	Yes	Yes	ALD,PCM
500	7	216.00	P4M	2633.000	2983.000	350.000	09-Nov-09 22:43	12-Nov-09 08:34	57.84	57.840	33.710	101.00	No	No	
600	9	216.00	P4M	2983.000	3145.000	162.000	13-Nov-09 18:59	15-Nov-09 12:03	41.08	41.080	18.190	109.30	No	No	
700	11	216.00	P4M	3145.000	3235.000	90.000	16-Nov-09 21:11	18-Nov-09 14:30	41.30	41.300	11.480	112.90	No	No	

Bitrun Summary

RUN TIME DATA

MWD Run	: 100	**Run Start**	: 08-Oct-09 09:00	**BRT Hrs**	: 64.50 hr	**Circ. Hrs**	: 34.85 hr
Rig Bit No	: 2	**Run End**	: 11-Oct-09 01:30	**Hole Size**	: 445.00 mm	**Oper. Hrs**	: 64.50 hr

DRILLING DATA

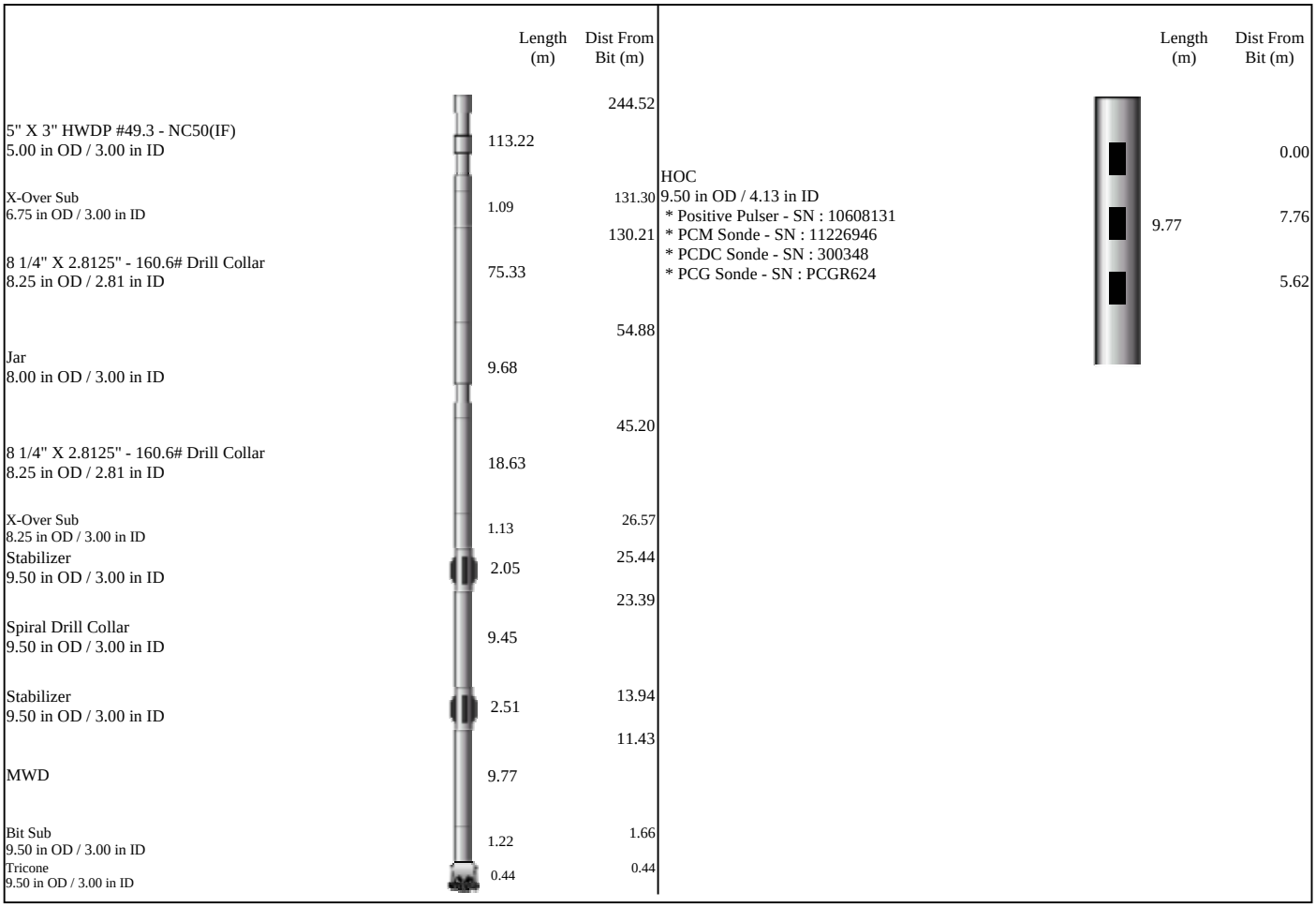
Start Depth	: 155.00 m	**Footage**	: 780.00 m	**Avg RPM**	: 90 rpm	**Avg ROP**	: 30.34 m/hr
End Depth	: 935.00 m	**Avg Flow Rate**	: 1157.00 gpm	**Avg WOB**	: 8.0 klb	**Avg SPP**	: 2185 psig
Drilling Hours	: 25.710 hr						

MUD DATA

Mud Type	: Sea Water						
Weight	: 8.76 ppg	**Viscosity**	: 0.00 spqt	**PV**	: 0 cP	**YP**	: 0.00 lhf2
Chlorides	: 0.00 ppm	**Max Temp.**	: 21.10 degC	**% Solids**	: 0.00 %	**% Sand**	: 0.00 %
pH	: 0.00 pH	**Fluid Loss**	: 0 mptm	**% Oil**	: 0.00 %	**O:W**	: 0:100

MWD PERFORMANCE

Tool OD	: 9.50 in	**Type**	: D/GWD	**Min. Inc.**	: 0.00 deg	**Min. Inc. Depth**	: 95.000 m
Final Az.	: 183.94 deg	**Max Op. Press.**	: 1398 psig	**Max Inc.**	: 1.03 deg	**Max Inc. Depth**	: 896.770 m
	MWD Real-time %	: 99 %		**MWD Recorded %**	: 100 %		



COMMENTS

Drill 445mm hole from 155.0 mMDRT to section TD at 935.0 mMDRT. POOH to run 340mm casing. All recorded data recovered on surface.

Bitrun Summary

RUN TIME DATA

MWD Run	: 200	**Run Start**	: 15-Oct-09 05:02	**BRT Hrs**	: 117.11 hr	**Circ. Hrs**	: 71.57 hr
Rig Bit No	: 3	**Run End**	: 20-Oct-09 02:09	**Hole Size**	: 311.00 mm	**Oper. Hrs**	: 117.11 hr

DRILLING DATA

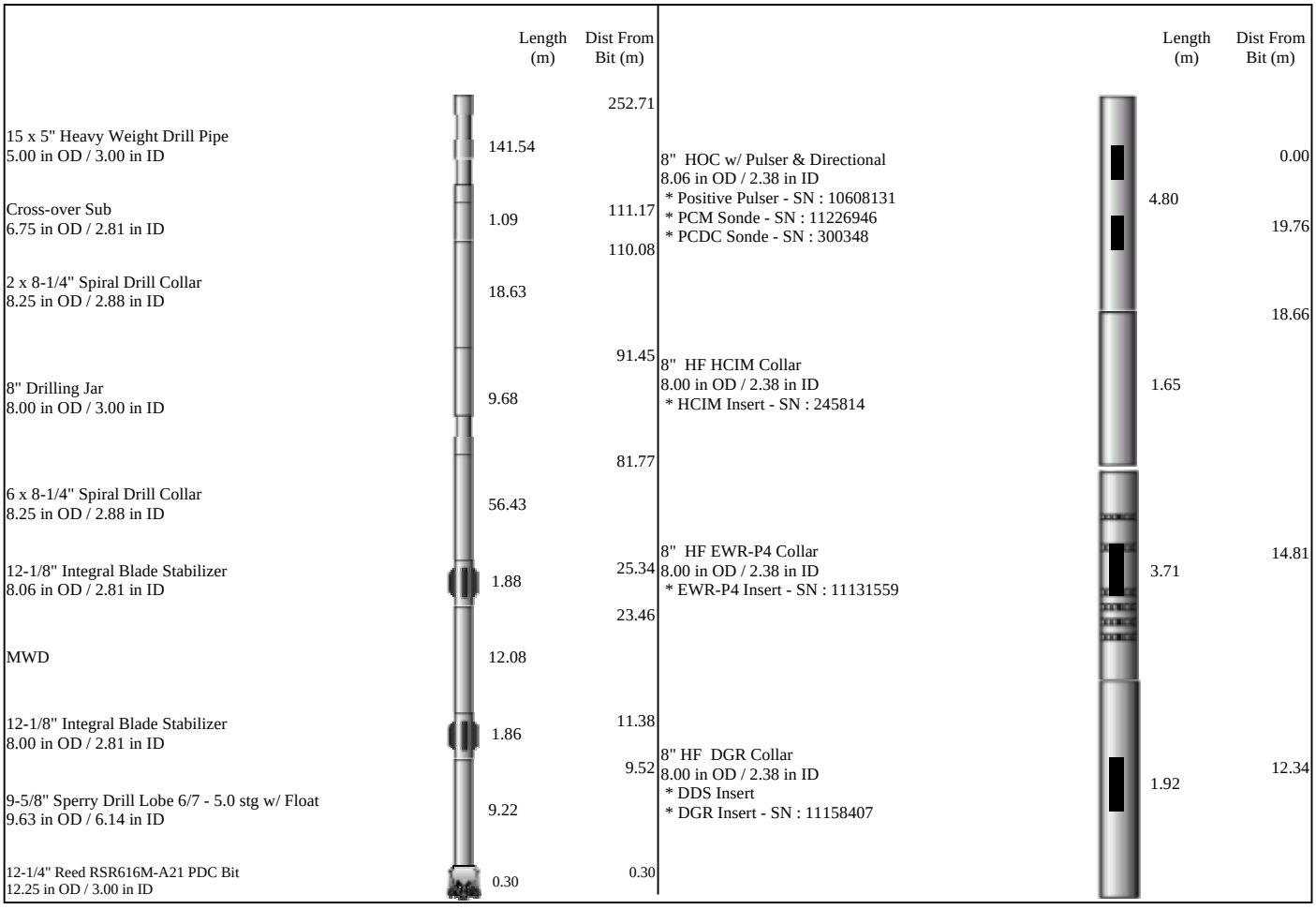
Start Depth	: 935.00 m	**Footage**	: 1336.00 m	**Avg RPM**	: 107 rpm	**Avg ROP**	: 34.08 m/hr
End Depth	: 2271.00 m	**Avg Flow Rate**	: 1000.00 gpm	**Avg WOB**	: 11.3 klb	**Avg SPP**	: 2485 psig
Drilling Hours	: 39.200 hr						

MUD DATA

Mud Type	: KCL/Polymer						
Weight	: 9.10 ppg	**Viscosity**	: 50.00 spqt	**PV**	: 15 cP	**YP**	: 27.00 lhf2
Chlorides	: 38000.00 ppm	**Max Temp.**	: 65.30 degC	**% Solids**	: 2.90 %	**% Sand**	: 0.25 %
pH	: 9.00 pH	**Fluid Loss**	: 4 mptm	**% Oil**	: 0.00 %	**O:W**	: 0:100

MWD PERFORMANCE

Tool OD	: 8.00 in	**Type**	: P4M	**Min. Inc.**	: 0.48 deg	**Min. Inc. Depth**	: 1963.220 m
Final Az.	: 82.85 deg	**Max Op. Press.**	: 3527 psig	**Max Inc.**	: 1.44 deg	**Max Inc. Depth**	: 1500.560 m
	MWD Real-time % : 100 %			**MWD Recorded %**	: 100 %		



COMMENTS

Drill 311mm hole from 935.0 to 2271.0 mMDRT. POOH due to pressure drop. All recorded data recovered on surface.

Bitrun Summary

RUN TIME DATA

MWD Run	: 300	**Run Start**	: 20-Oct-09 11:03	**BRT Hrs**	: 46.51 hr	**Circ. Hrs**	: 23.73 hr
Rig Bit No	: 4	**Run End**	: 22-Oct-09 09:34	**Hole Size**	: 311.00 mm	**Oper. Hrs**	: 46.51 hr

DRILLING DATA

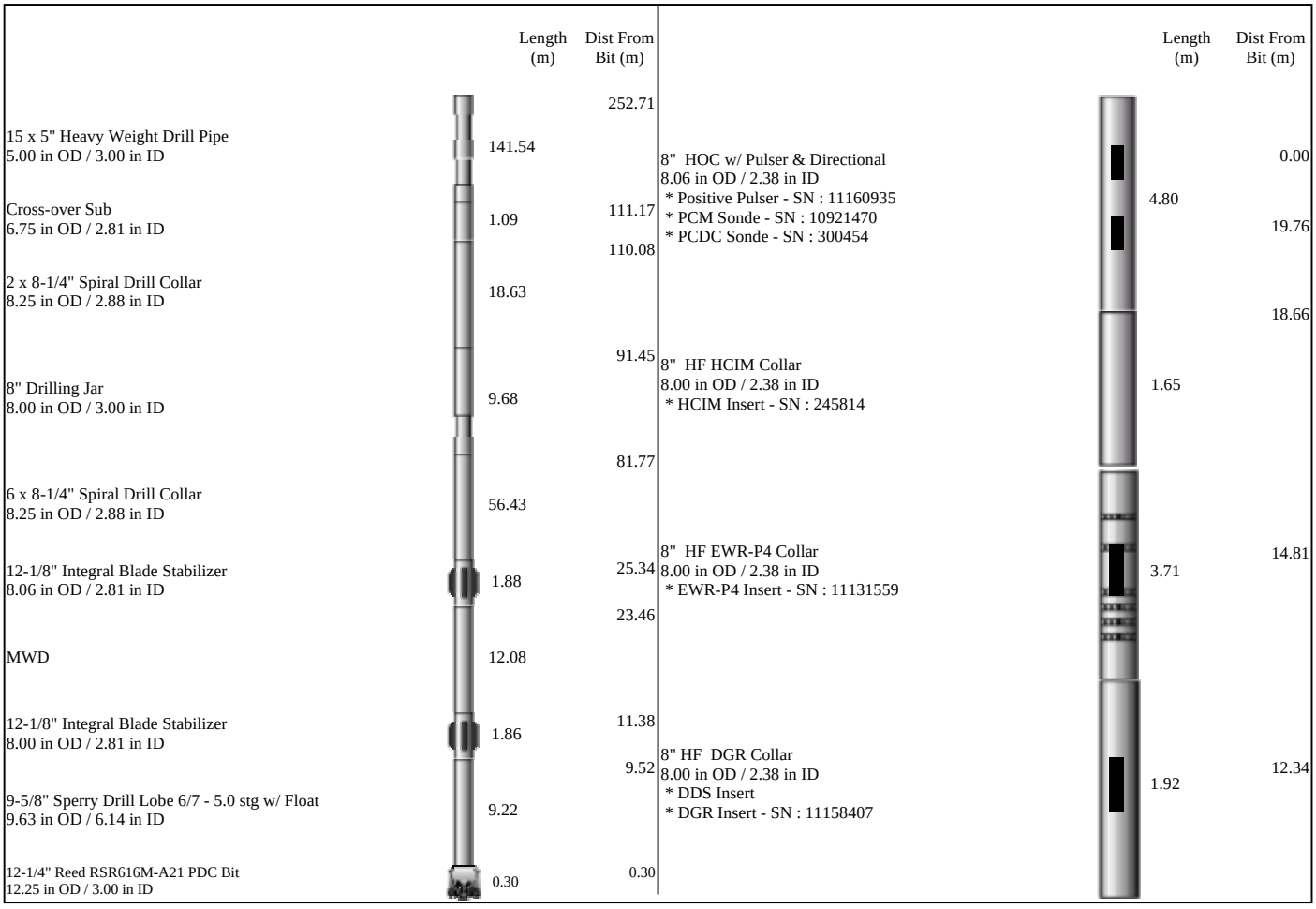
Start Depth	: 2271.00 m	**Footage**	: 249.00 m	**Avg RPM**	: 108 rpm	**Avg ROP**	: 18.12 m/hr
End Depth	: 2520.00 m	**Avg Flow Rate**	: 949.00 gpm	**Avg WOB**	: 12.1 klb	**Avg SPP**	: 2879 psig
Drilling Hours	: 13.690 hr						

MUD DATA

Mud Type	: KCL/Polymer						
Weight	: 9.40 ppg	**Viscosity**	: 56.00 spqt	**PV**	: 16 cP	**YP**	: 32.00 lhf2
Chlorides	: 44000.00 ppm	**Max Temp.**	: 86.70 degC	**% Solids**	: 4.00 %	**% Sand**	: 0.25 %
pH	: 9.00 pH	**Fluid Loss**	: 4 mptm	**% Oil**	: 0.00 %	**O:W**	: 0:100

MWD PERFORMANCE

Tool OD	: 8.00 in	**Type**	: P4M	**Min. Inc.**	: 0.84 deg	**Min. Inc. Depth**	: 2281.350 m
Final Az.	: 89.94 deg	**Max Op. Press.**	: 4061 psig	**Max Inc.**	: 1.08 deg	**Max Inc. Depth**	: 2426.570 m
	MWD Real-time %	: 97 %		**MWD Recorded %**	: 100 %		



COMMENTS

Drill 311mm hole from 2271.0 mMDRT to section TD at 2520.0 mMDRT. POOH to run 244mm casing All recorded data recovered on surface.

Bitrun Summary

RUN TIME DATA

MWD Run	: 400	**Run Start**	: 08-Nov-09 01:55	**BRT Hrs**	: 34.44 hr	**Circ. Hrs**	: 15.82 hr
Rig Bit No	: 6	**Run End**	: 09-Nov-09 12:21	**Hole Size**	: 216.00 mm	**Oper. Hrs**	: 34.44 hr

DRILLING DATA

Start Depth	: 2519.00 m	**Footage**	: 114.00 m	**Avg RPM**	: 110 rpm	**Avg ROP**	: 17.55 m/hr
End Depth	: 2633.00 m	**Avg Flow Rate**	: 725.00 gpm	**Avg WOB**	: 6.7 klb	**Avg SPP**	: 2516 psig
Drilling Hours	: 6.440 hr						

MUD DATA

Mud Type	: Polymer						
Weight	: 9.30 ppg	**Viscosity**	: 48.00 spqt	**PV**	: 12 cP	**YP**	: 27.00 lhf2
Chlorides	: 42500.00 ppm	**Max Temp.**	: 96.00 degC	**% Solids**	: 3.20 %	**% Sand**	: 0.25 %
pH	: 9.00 pH	**Fluid Loss**	: 4 mptm	**% Oil**	: 0.00 %	**O:W**	: 0:100

MWD PERFORMANCE

Tool OD	: 6.75 in	**Type**	: P4M	**Min. Inc.**	: 1.00 deg	**Min. Inc. Depth**	: 2524.750 m
Final Az.	: 90.35 deg	**Max Op. Press.**	: 4223 psig	**Max Inc.**	: 1.30 deg	**Max Inc. Depth**	: 2588.200 m
	MWD Real-time % : 100 %			**MWD Recorded %**	: 100 %		



	Length (m)	Dist From Bit (m)
		287.57
15 x 5" HWDP 6.63 in OD / 3.00 in ID	141.13	
		146.44
3 x 6 4/3" Drill Collar 6.75 in OD / 2.88 in ID	28.21	
		118.23
Jar 6.75 in OD / 2.75 in ID	9.91	
		108.32
8 x 6 3/4" Drill Collar 6.75 in OD / 2.88 in ID	74.97	
		33.35
Stabilizer 6.50 in OD / 2.81 in ID	1.70	
		31.65
MWD	29.87	
		1.78
Stabilizer w/ ported float 6.63 in OD / 3.24 in ID	1.50	
Mi616VBPX PDC 8.00 in OD / 2.25 in ID	0.28	0.28



	Length (m)	Dist From Bit (m)
6 3/4" ACAL 6.75 in OD / 1.92 in ID SN : PA90223655B-6 * ACAL Insert - SN : 138159	1.83	30.20
6 3/4" HOC 6.75 in OD / 1.92 in ID SN : 203846 * Positive Pulser - SN : 11160907 * PCM Sonde - SN : 159	3.05	0.00
6 3/4" BAT 6.75 in OD / 1.92 in ID SN : PA90227156O-6 * BAT Insert - SN : 11378930	6.72	23.36
6 3/4" Nuke Collar 6.75 in OD / 1.92 in ID SN : PA90219755N2L2-6 * CTN Insert - SN : 161970 * ALD Insert - SN : 96441	8.45	18.83 14.84
6 3/4" PM Sub 6.75 in OD / 1.92 in ID SN : 203846 * PCDC Sonde - SN : 351	2.79	10.02
6 3/4" RLL 6.75 in OD / 1.92 in ID SN : PA90222557H1RGV2-6 * HCIM Insert - SN : 222936 * EWR-P4 Insert - SN : 175801 * DGR Insert - SN : 218750 * DDSr-DGR - SN : 218750	7.03	5.16 2.81 0.00

COMMENTS

Drill 216 mm hole from 2520.0 to 2633.0 mMDRT. POOH for PCM failure. ALD failed during run. All remaining recorded data recovered on surface.

Bitrun Summary

RUN TIME DATA

MWD Run	: 500	**Run Start**	: 09-Nov-09 22:43	**BRT Hrs**	: 57.84 hr	**Circ. Hrs**	: 33.71 hr
Rig Bit No	: 7	**Run End**	: 12-Nov-09 08:34	**Hole Size**	: 216.00 mm	**Oper. Hrs**	: 57.84 hr

DRILLING DATA

Start Depth	: 2633.00 m	**Footage**	: 350.00 m	**Avg RPM**	: 121 rpm	**Avg ROP**	: 15.40 m/hr
End Depth	: 2983.00 m	**Avg Flow Rate**	: 702.00 gpm	**Avg WOB**	: 13.2 klb	**Avg SPP**	: 2564 psig
Drilling Hours	: 22.730 hr						

MUD DATA

Mud Type	: Polymer						
Weight	: 9.30 ppg	**Viscosity**	: 46.00 spqt	**PV**	: 14 cP	**YP**	: 25.00 lhf2
Chlorides	: 40000.00 ppm	**Max Temp.**	: 101.00 degC	**% Solids**	: 3.30 %	**% Sand**	: 0.25 %
pH	: 9.00 pH	**Fluid Loss**	: 4 mptm	**% Oil**	: 0.00 %	**O:W**	: 0:100

MWD PERFORMANCE

Tool OD	: 6.75 in	**Type**	: P4M	**Min. Inc.**	: 1.43 deg	**Min. Inc. Depth**	: 2646.630 m
Final Az.	: 85.15 deg	**Max Op. Press.**	: 4784 psig	**Max Inc.**	: 2.93 deg	**Max Inc. Depth**	: 2963.220 m
	MWD Real-time % : 100 %			**MWD Recorded %**	: 100 %		



	Length (m)	Dist From Bit (m)
		288.37
15 x 5" HWDP 6.63 in OD / 3.00 in ID	141.13	
		147.24
3 x 6 4/3" Drill Collar 6.75 in OD / 2.88 in ID	28.21	
		119.03
Jar 6.75 in OD / 2.75 in ID	9.91	
		109.12
8 x 6 3/4" Drill Collar 6.75 in OD / 2.88 in ID	74.97	
		34.15
Stabilizer 6.50 in OD / 2.81 in ID	1.70	
		32.45
MWD	30.67	
		1.78
Stabilizer w/ ported float 6.63 in OD / 3.24 in ID	1.50	
Mi616VBPX PDC 8.00 in OD / 2.25 in ID	0.28	0.28



	Length (m)	Dist From Bit (m)
6 3/4" ACAL 6.75 in OD / 1.92 in ID SN : PA902223063B-6 * ACAL Insert - SN : 123087	1.81	31.02
6 3/4" HOC 6.75 in OD / 1.92 in ID SN : 302842 * Positive Pulser - SN : 10796450 * PCM Sonde - SN : 557	3.03	0.00
6 3/4" BAT 6.75 in OD / 1.92 in ID SN : PA90227155O-6 * BAT Insert - SN : 11378929	6.76	24.20
6 3/4" Nuke Collar 6.75 in OD / 1.92 in ID SN : PA90222683N2L2-6 * CTN Insert - SN : 231177 * ALD Insert - SN : 10507525	9.20	19.64 15.59
6 3/4" PM Sub 6.75 in OD / 1.92 in ID SN : 1025744 * PCDC Sonde - SN : 348	2.81	10.07
6 3/4" RLL 6.75 in OD / 1.92 in ID SN : PA90222505H1RG-6 * HCIM Insert - SN : 232754 * EWR-P4 Insert - SN : 270277 * DGR Insert - SN : 176027 * DDSr-DGR - SN : 176027	7.07	5.17 2.83 0.00

COMMENTS

Drill 216 mm hole from 2633.0 mMDRT to coring point at 2983.0 mMDRT. All recorded data recovered on surface.

Bitrun Summary

RUN TIME DATA

MWD Run	: 600	**Run Start**	: 13-Nov-09 18:59	**BRT Hrs**	: 41.08 hr	**Circ. Hrs**	: 18.19 hr
Rig Bit No	: 9	**Run End**	: 15-Nov-09 12:03	**Hole Size**	: 216.00 mm	**Oper. Hrs**	: 41.08 hr

DRILLING DATA

Start Depth	: 2983.00 m	**Footage**	: 162.00 m	**Avg RPM**	: 82 rpm	**Avg ROP**	: 12.82 m/hr
End Depth	: 3145.00 m	**Avg Flow Rate**	: 725.00 gpm	**Avg WOB**	: 16.5 klb	**Avg SPP**	: 2888 psig
Drilling Hours	: 12.640 hr						

MUD DATA

Mud Type	: Polymer						
Weight	: 9.40 ppg	**Viscosity**	: 50.00 spqt	**PV**	: 12 cP	**YP**	: 29.00 lhf2
Chlorides	: 40000.00 ppm	**Max Temp.**	: 109.30 degC	**% Solids**	: 3.50 %	**% Sand**	: 0.25 %
pH	: 9.00 pH	**Fluid Loss**	: 5 mptm	**% Oil**	: 0.00 %	**O:W**	: 0:100

MWD PERFORMANCE

Tool OD	: 6.75 in	**Type**	: P4M	**Min. Inc.**	: 2.88 deg	**Min. Inc. Depth**	: 2992.320 m
Final Az.	: 81.59 deg	**Max Op. Press.**	: 5073 psig	**Max Inc.**	: 3.75 deg	**Max Inc. Depth**	: 3130.210 m
	MWD Real-time %	: 100 %		**MWD Recorded %**	: 100 %		



	Length (m)	Dist From Bit (m)
		288.37
15 x 5" HWDP 6.63 in OD / 3.00 in ID	141.13	
		147.24
3 x 6 4/3" Drill Collar 6.75 in OD / 2.88 in ID	28.21	
		119.03
Jar 6.75 in OD / 2.75 in ID	9.91	
		109.12
8 x 6 3/4" Drill Collar 6.75 in OD / 2.88 in ID	74.97	
		34.15
Stabilizer 6.50 in OD / 2.81 in ID	1.70	
		32.45
MWD	30.67	
		1.78
Stabilizer w/ ported float 6.63 in OD / 3.24 in ID	1.50	
Mi616VBPX PDC 8.00 in OD / 2.25 in ID	0.28	0.28



	Length (m)	Dist From Bit (m)
6 3/4" ACAL 6.75 in OD / 1.92 in ID SN : PA902223063B-6 * ACAL Insert - SN : 123087	1.81	31.02
6 3/4" HOC 6.75 in OD / 1.92 in ID SN : 302842 * Positive Pulser - SN : 10796450 * PCM Sonde - SN : 557	3.03	0.00
6 3/4" BAT 6.75 in OD / 1.92 in ID SN : PA90227155O-6 * BAT Insert - SN : 11378929	6.76	24.20
6 3/4" Nuke Collar 6.75 in OD / 1.92 in ID SN : PA90222683N2L2-6 * CTN Insert - SN : 231177 * ALD Insert - SN : 10507525	9.20	19.64 15.59
6 3/4" PM Sub 6.75 in OD / 1.92 in ID SN : 1025744 * PCDC Sonde - SN : 348	2.81	10.07
6 3/4" RLL 6.75 in OD / 1.92 in ID SN : PA90222505H1RG-6 * HCIM Insert - SN : 232754 * EWR-P4 Insert - SN : 270277 * DGR Insert - SN : 176027 * DDSr-DGR - SN : 176027	7.07	5.17 2.83 0.00

COMMENTS

Wipe 216 mm coring interval from 2983.0 to 3013.0 mMDRT. Drill 216 mm hole from 3013.0 mMDRT to coring point at 3145.0 mMDRT. All recorded data recovered on surface.

Bitrun Summary

RUN TIME DATA

MWD Run	: 700	**Run Start**	: 16-Nov-09 21:11	**BRT Hrs**	: 41.30 hr	**Circ. Hrs**	: 11.48 hr
Rig Bit No	: 11	**Run End**	: 18-Nov-09 14:30	**Hole Size**	: 216.00 mm	**Oper. Hrs**	: 41.30 hr

DRILLING DATA

Start Depth	: 3145.00 m	**Footage**	: 90.00 m	**Avg RPM**	: 91 rpm	**Avg ROP**	: 0.00 m/hr
End Depth	: 3235.00 m	**Avg Flow Rate**	: 681.00 gpm	**Avg WOB**	: 13.8 klb	**Avg SPP**	: 2771 psig
Drilling Hours	: 7.450 hr						

MUD DATA

Mud Type	: Polymer						
Weight	: 9.40 ppg	**Viscosity**	: 56.00 spqt	**PV**	: 14 cP	**YP**	: 29.00 lhf2
Chlorides	: 38000.00 ppm	**Max Temp.**	: 112.90 degC	**% Solids**	: 3.60 %	**% Sand**	: 0.25 %
pH	: 9.00 pH	**Fluid Loss**	: 5 mptm	**% Oil**	: 0.00 %	**O:W**	: 0:100

MWD PERFORMANCE

Tool OD	: 6.75 in	**Type**	: P4M	**Min. Inc.**	: 3.79 deg	**Min. Inc. Depth**	: 3167.650 m
Final Az.	: 83.41 deg	**Max Op. Press.**	: 5188 psig	**Max Inc.**	: 4.33 deg	**Max Inc. Depth**	: 3223.600 m
	MWD Real-time %	: 100 %		**MWD Recorded %**	: 100 %		



	Length (m)	Dist From Bit (m)
		288.37
15 x 5" HWDP 6.63 in OD / 3.00 in ID	141.13	
		147.24
3 x 6 4/3" Drill Collar 6.75 in OD / 2.88 in ID	28.21	
		119.03
Jar 6.75 in OD / 2.75 in ID	9.91	
		109.12
8 x 6 3/4" Drill Collar 6.75 in OD / 2.88 in ID	74.97	
		34.15
Stabilizer 6.50 in OD / 2.81 in ID	1.70	
		32.45
MWD	30.67	
		1.78
Stabilizer w/ ported float 6.63 in OD / 3.24 in ID	1.50	
Mi616VBPX PDC 8.00 in OD / 2.25 in ID	0.28	0.28



	Length (m)	Dist From Bit (m)
6 3/4" ACAL 6.75 in OD / 1.92 in ID SN : PA902223063B-6 * ACAL Insert - SN : 123087	1.81	31.02
6 3/4" HOC 6.75 in OD / 1.92 in ID SN : 302842 * Positive Pulser - SN : 10796450 * PCM Sonde - SN : 557	3.03	0.00
6 3/4" BAT 6.75 in OD / 1.92 in ID SN : PA90227155O-6 * BAT Insert - SN : 11378929	6.76	24.20
6 3/4" Nuke Collar 6.75 in OD / 1.92 in ID SN : PA90222683N2L2-6 * CTN Insert - SN : 231177 * ALD Insert - SN : 10507525	9.20	19.64 15.59
6 3/4" PM Sub 6.75 in OD / 1.92 in ID SN : 1025744 * PCDC Sonde - SN : 348	2.81	10.07
6 3/4" RLL 6.75 in OD / 1.92 in ID SN : PA90222505H1RG-6 * HCIM Insert - SN : 232754 * EWR-P4 Insert - SN : 270277 * DGR Insert - SN : 176027 * DDSr-DGR - SN : 176027	7.07	5.17 2.83 0.00

COMMENTS

Wipe 216 mm coring interval from 3145.0 to 3175.0 mMDRT. Drill 216 mm hole from 3175.0 mMDRT to well TD at 3235.0 mMDRT. All recorded data recovered on surface.

Directional Survey Data

UTM Zone 55S, GDA 1994
All depths are taken from driller's pipe tally unless otherwise noted
RT-MSL = 26.0m
Final Survey Projected to TD.

Tie-in

0.000	0.00	0.00	0.000	0.000 N	0.000 E		***

Measured Depth (m)	Inclination (deg)	Direction (deg)	Vertical Depth (m)	Latitude (m)	Departure (m)	Vertical Section (m)	Dogleg (°/30m)
95.000	0.00	0.00	95.000	0.000 N	0.000 E	0.000	0.00
204.920	0.58	282.17	204.920	0.120 N	0.540 W	-0.520	0.16
289.500	0.55	277.88	289.490	0.260 N	1.360 W	-1.280	0.02
376.490	0.32	238.01	376.480	0.190 N	1.980 W	-1.760	0.13
435.080	0.35	232.40	435.070	0.000 N	2.260 W	-1.890	0.02
521.950	0.72	199.02	521.940	0.680 S	2.650 W	-1.830	0.16
547.830	0.73	193.58	547.810	1.000 S	2.740 W	-1.740	0.08
579.000	0.69	195.91	578.980	1.370 S	2.840 W	-1.610	0.05
665.440	0.36	203.20	665.420	2.120 S	3.090 W	-1.410	0.12
782.280	0.67	192.10	782.250	3.120 S	3.380 W	-1.090	0.08
812.120	0.66	196.82	812.090	3.460 S	3.470 W	-0.980	0.06
868.190	0.30	224.95	868.160	3.870 S	3.660 W	-0.920	0.22
896.770	1.03	195.99	896.740	4.170 S	3.790 W	-0.850	0.82
925.970	0.71	183.94	925.930	4.610 S	3.870 W	-0.680	0.38
952.440	0.80	188.49	952.400	4.950 S	3.910 W	-0.530	0.12
981.350	0.74	192.99	981.310	5.330 S	3.980 W	-0.370	0.09
1010.200	0.83	198.72	1010.160	5.710 S	4.090 W	-0.260	0.12
1067.210	0.87	190.96	1067.160	6.530 S	4.310 W	0.020	0.06
1095.870	0.84	194.49	1095.820	6.950 S	4.400 W	0.170	0.06
1153.510	1.11	191.81	1153.450	7.900 S	4.620 W	0.510	0.14
1182.360	1.27	187.06	1182.290	8.490 S	4.720 W	0.760	0.20
1211.300	0.97	182.63	1211.230	9.060 S	4.770 W	1.030	0.32
1240.320	1.00	184.76	1240.240	9.550 S	4.800 W	1.270	0.05
1269.440	0.96	179.68	1269.360	10.050 S	4.820 W	1.530	0.10
1298.710	1.13	178.12	1298.620	10.580 S	4.810 W	1.840	0.18
1327.950	1.27	184.82	1327.860	11.200 S	4.830 W	2.160	0.20
1357.120	1.31	184.97	1357.020	11.850 S	4.880 W	2.470	0.04
1385.950	1.43	187.08	1385.840	12.530 S	4.950 W	2.790	0.14
1414.800	1.33	186.15	1414.680	13.220 S	5.030 W	3.110	0.11
1443.260	1.42	189.23	1443.140	13.900 S	5.130 W	3.400	0.12
1471.760	1.41	188.55	1471.630	14.600 S	5.240 W	3.700	0.02
1500.560	1.44	186.77	1500.420	15.310 S	5.330 W	4.010	0.06
1529.740	1.02	177.87	1529.590	15.930 S	5.360 W	4.320	0.47
1559.000	1.11	183.32	1558.850	16.470 S	5.370 W	4.620	0.14
1588.150	1.05	181.86	1587.990	17.020 S	5.400 W	4.900	0.07
1617.270	1.14	175.03	1617.110	17.580 S	5.380 W	5.220	0.16
1646.320	1.17	184.16	1646.150	18.160 S	5.380 W	5.550	0.19
1675.150	1.31	182.99	1674.970	18.780 S	5.410 W	5.860	0.15
1703.610	1.02	183.90	1703.430	19.360 S	5.450 W	6.150	0.31
1731.980	1.12	176.27	1731.790	19.890 S	5.450 W	6.440	0.18
1760.710	1.20	179.48	1760.520	20.470 S	5.430 W	6.780	0.11

Directional Survey Data

Measured Depth (m)	Inclination (deg)	Direction (deg)	Vertical Depth (m)	Latitude (m)	Departure (m)	Vertical Section (m)	Dogleg (°/30m)
1790.080	1.13	181.99	1789.880	21.070 S	5.430 W	7.100	0.09
1819.450	1.17	182.73	1819.240	21.660 S	5.460 W	7.410	0.04
1848.520	1.17	190.32	1848.310	22.250 S	5.530 W	7.680	0.16
1877.800	1.13	190.92	1877.580	22.820 S	5.630 W	7.910	0.04
1906.650	1.23	192.98	1906.430	23.400 S	5.760 W	8.120	0.11
1934.670	1.08	194.42	1934.440	23.950 S	5.890 W	8.320	0.16
1963.220	0.48	64.50	1962.990	24.160 S	5.850 W	8.470	1.51
1992.330	0.56	59.70	1992.100	24.040 S	5.620 W	8.590	0.09
2021.460	0.59	61.98	2021.230	23.900 S	5.360 W	8.730	0.04
2050.740	0.64	78.76	2050.500	23.790 S	5.070 W	8.910	0.19
2080.190	0.61	81.26	2079.950	23.740 S	4.750 W	9.150	0.04
2102.200	0.68	80.27	2101.960	23.700 S	4.510 W	9.330	0.10
2138.040	0.69	75.36	2137.800	23.610 S	4.090 W	9.630	0.05
2195.190	0.63	82.85	2194.940	23.480 S	3.440 W	10.090	0.06
2253.190	0.62	89.29	2252.940	23.440 S	2.810 W	10.600	0.04
2281.350	0.84	88.95	2281.100	23.430 S	2.460 W	10.890	0.23
2310.290	0.91	90.74	2310.040	23.430 S	2.010 W	11.260	0.08
2339.670	0.80	84.68	2339.410	23.410 S	1.580 W	11.620	0.15
2398.220	0.81	98.78	2397.960	23.440 S	0.760 W	12.310	0.10
2426.570	1.08	93.16	2426.300	23.480 S	0.300 W	12.720	0.30
2454.950	0.96	91.77	2454.680	23.510 S	0.210 E	13.160	0.13
2484.550	1.06	89.94	2484.270	23.510 S	0.730 E	13.590	0.11
2524.750	1.00	97.22	2524.470	23.560 S	1.450 E	14.220	0.11
2557.550	1.13	91.00	2557.260	23.600 S	2.060 E	14.750	0.16
2588.200	1.30	90.35	2587.900	23.610 S	2.710 E	15.290	0.17
2646.630	1.43	86.39	2646.320	23.560 S	4.100 E	16.430	0.08
2674.000	1.51	91.33	2673.680	23.550 S	4.800 E	17.010	0.16
2702.980	1.62	88.34	2702.650	23.550 S	5.590 E	17.670	0.14
2732.910	1.69	88.47	2732.570	23.520 S	6.450 E	18.370	0.07
2762.560	1.85	89.89	2762.200	23.510 S	7.370 E	19.130	0.17
2791.490	1.82	85.29	2791.120	23.470 S	8.300 E	19.880	0.16
2819.890	1.94	85.21	2819.500	23.400 S	9.220 E	20.610	0.13
2847.720	2.06	83.71	2847.310	23.300 S	10.190 E	21.360	0.14
2876.190	2.24	81.90	2875.760	23.170 S	11.250 E	22.170	0.20
2905.640	2.46	85.79	2905.190	23.040 S	12.450 E	23.100	0.28
2935.670	2.58	82.74	2935.190	22.910 S	13.760 E	24.120	0.18
2963.220	2.93	85.15	2962.710	22.770 S	15.080 E	25.150	0.40
2992.320	2.88	83.61	2991.770	22.630 S	16.550 E	26.290	0.10
3021.530	3.01	83.20	3020.940	22.450 S	18.040 E	27.440	0.14
3051.620	3.07	82.21	3050.990	22.250 S	19.620 E	28.640	0.08
3080.660	3.23	81.34	3079.990	22.020 S	21.200 E	29.840	0.17
3101.980	3.47	82.50	3101.270	21.850 S	22.430 E	30.770	0.35
3130.210	3.75	81.59	3129.440	21.600 S	24.190 E	32.100	0.30
3167.650	3.79	84.07	3166.800	21.290 S	26.640 E	33.960	0.13
3194.790	3.87	83.32	3193.880	21.090 S	28.440 E	35.360	0.10
3223.600	4.33	83.41	3222.620	20.860 S	30.480 E	36.930	0.48
3235.000	4.33	83.41	3233.990	20.760 S	31.340 E	37.590	0.00

Directional Survey Data

CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 0.00 DEGREES(GRID)
A TOTAL CORRECTION OF 11.45 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD
HORIZONTAL DISPLACEMENT(CLOSURE) AT 3235.00 METRES
IS 37.59 METRES ALONG 123.52 DEGREES (GRID)

Final Survey Projected to TD

Service Interrupt Report

MWD Run Number	: 400	**Time/Date of Failure**	: 08-Nov-09 12:10
Rig Bit Number	: 5	**Depth at time of Failure**	: 2510.000 m
MWD Run start time/date	: 08-Nov-09 01:55	**Lost Rig Hours**	: hr
MWD Run end time/date	: 09-Nov-09 12:21		

RIG ACTIVITY

Drilling 8 1/2" hole. Coming out of the 9 5/8" casing shoe.

DESCRIPTION OF FAILURE

Density (DLC) pulses up TOOL FAILURE or either a constant value of 1.200 g/cc (137 counts).
Delta Rho (RLC) pulses up TOOL FAILURE or either a constant value of -0.250 g/cc (0 counts).
Photoelectric Effect (PLC) pulses up TOOL FAILURE or either a variable value.

ACTION TAKEN

The pumps were cycled and a mode switch was performed.

OPERATION IMPACT

It was decided to drill ahead.

REASON FOR FAILURE

Once on surface it was determined the far detector had failed.

Service Interrupt Report

MWD Run Number	: 400	**Time/Date of Failure**	: 08-Nov-09 01:40
Rig Bit Number	: 5	**Depth at time of Failure**	: 0.000 m
MWD Run start time/date	: 08-Nov-09 01:55	**Lost Rig Hours**	: hr
MWD Run end time/date	: 09-Nov-09 12:21		

RIG ACTIVITY

Drilling 8 1/2" hole.

DESCRIPTION OF FAILURE

Tool stopped pulsing.

ACTION TAKEN

The pumps were cycled and a mode switch was performed. Confirmed functioning of the pressure transducers.

OPERATION IMPACT

Pulled out of hole and change out BHA.

REASON FOR FAILURE

Once on surface it was determined from the parameter report that communication between the FE tools and the PCM had been lost at the time of the failure.
Upon plugging in to the tool initially the PCM could not be polled. However, on second attempt communication was established and the PCM successfully passed the post run confidence test. The cause of the loss of communication down hole is unknown.

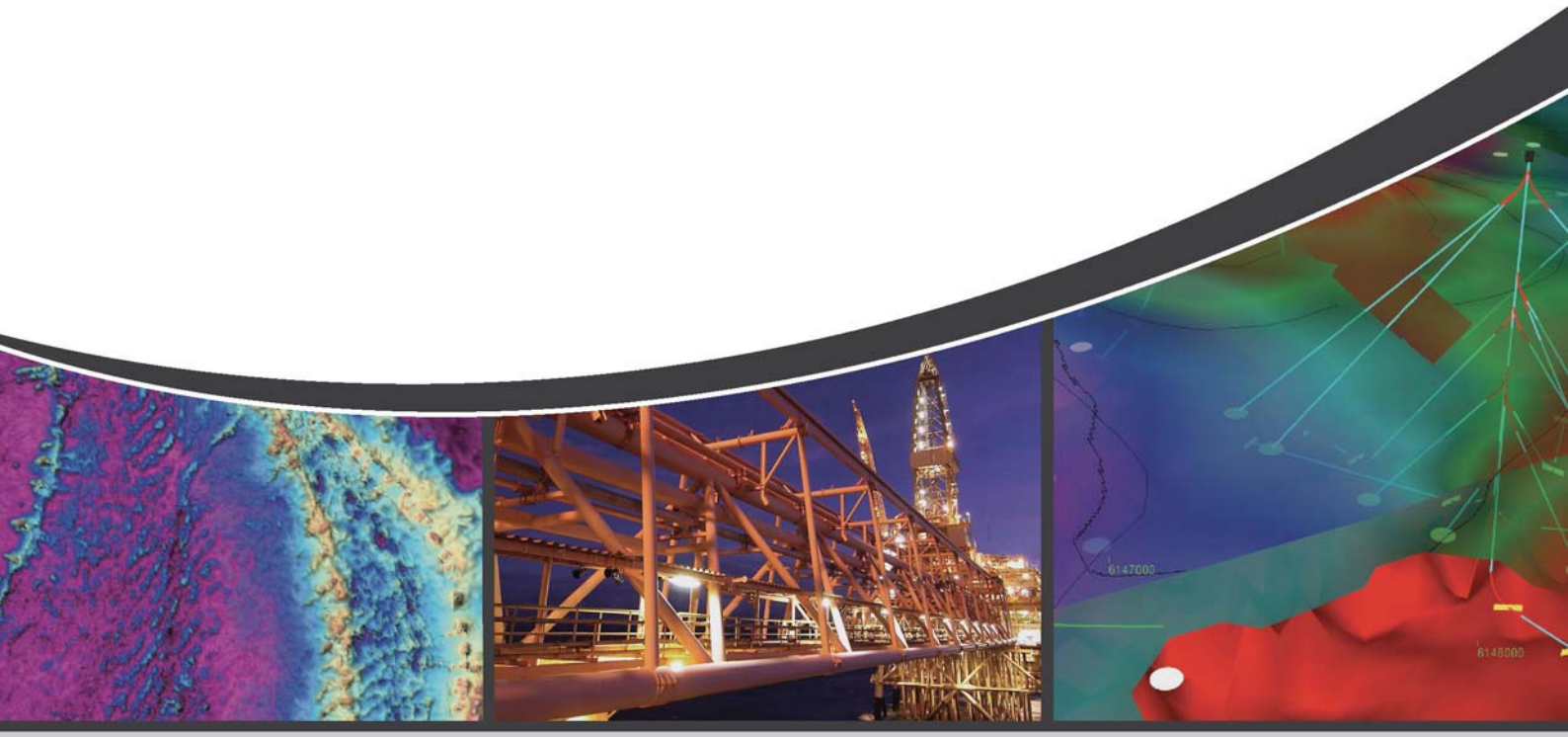
Sperry Drilling - HALLIBURTON

Directional Drilling
End of Well Report

Origin energy

Australian Drilling Associates Pty Ltd ADA

Well: Trefoil-2
Rig: Kan Tan IV
Location: Bass Basin, Australia



Contents

Section 1:	Well Data
Section 2:	Drilling Parameters
Section 3:	Definitive Survey Data
Section 4:	Actual Vs Proposed A4 Plot
Section 5:	Drilling Survey
Section 6:	BHA Data

SECTION 1

Well Report

Customer : Origin Energy Services

Well : Trefoil-2

Job Objectives:

Vertical appraisal well to evaluate the Intra-EVCM sands (top TL10 to base TF110) in Trefoil - 2 location for the presence of commercial quantities of hydrocarbons.

Summary of Results:

The top hole sections 36" , 17-1/2" and 8-1/2" were drilled with no DD present on board.

36" hole section
****
The top 36" hole section was drilled to 155m, and a combination 30" x 20" casing was successfully run and cemented.

17-1/2" hole section
****
17-1/2" hole section was drilled to 935m with averaged ROP of 70m/hr. The hole remained vertical with inclination at TD showing 0.71° on an azimuth of 183.94°. The 13 3/8" casing was run and cemented according to program.

12 -1/4" hole section
****
The 12-1/4" section was successfully drilled to TD in two runs which was called at 2520m MD. All directional drilling requirements were fulfilled. Forward projections show the target sand will be penetrated well inside the drilling target tolerance at 26.68m from vertical. The average ROP for the run was 21m/hr. The hole was circulated clean and BHA POOH to run 9 5/8" casing

8-1/2" hole section
****
The 8-1/2" section contained two core sections and was drilled with 4 drilling runs and two coring runs
There was an MWD failure during the drilling to the first core point and a trip was required to change out the MWD but all subequent driillng and coreing runs went without any major incedent

Discussion:

BHA #	Bit #	Motor Run #	Hole Size (in)	MD In (m)	MD Out (m)	TVD In (m)	TVD Out (m)	Inc In (deg)	Inc Out (deg)	Azi In (deg)	Azi Out (deg)	Drlg hrs	Circ hrs
3	3	1	12.250	935	2271	935	2271	0.7	0.8	186	89	65	13
4	3rr1	2	12.250	2271	2520	2271	2520	0.8	1.0	89	96	19	8
5	4		8.500	2520	2523	2520	2523	1.0	1.0	96	97	3	3
6	5		8.500	2523	2633	2523	2633	1.0	1.4	97	87	11	7
7	5rr1		8.500	2633	2983	2633	2982	1.4	2.9	87	84	34	4
8	6		8.500	2983	3013	2982	3012	2.9	3.0	84	83	5	1
9	5rr2		8.500	3013	3145	3012	3144	3.0	3.8	83	83	16	6
10	6rr1		8.500	3145	3175	3144	3174	3.8	3.8	83	84	5	1
11	5rr3		8.500	3175	3235	3174	3234	3.8	4.3	84	83	12	4

Table 1 - BHA Summary

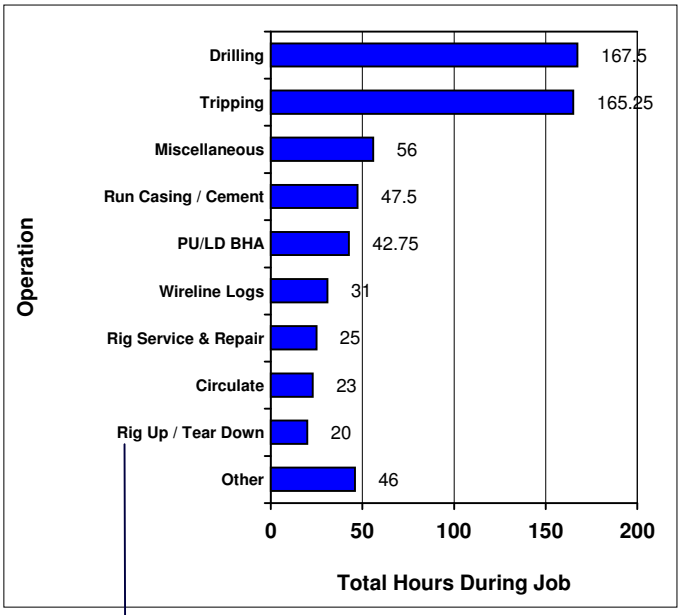
Motor Run #	Manufacturer	Type	Lobe	OD (in)	Gauge (in)	Bend (deg)	Adj	DLS (Ori) (°/100')	ROP (Ori) (m/hr)	ROP (Rot) (m/hr)
1	SSDS	SperryDrill	6/7	9.625	12.125	0.78	Y	2.03	4	21
2	SSDS	SperryDrill	6/7	9.625	12.125	0.78	Y	2.03	0	13

Table 2 - Motor Run Summary

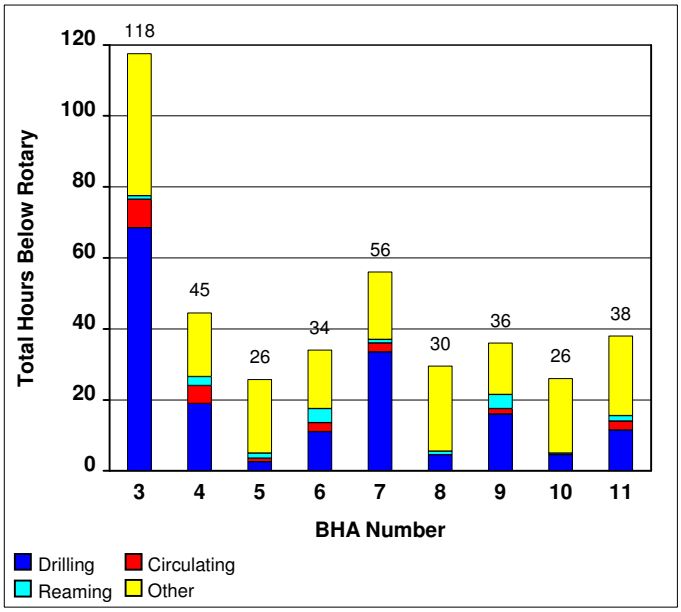
Bit #	Manufacturer	Style	OD (in)	Gge Len (in)	Nozzles (/32's)	TFA (in²)	Dull Grades I O D L B G O R	Ftge (m)	Drlg hrs	ROP (m/hr)
3	Reed Hycalog	RSR616M-A 2	12.250	4.000	8x13	1.037	1-1-BT-N -X-I-CT-PP	1336	65.00	21
3rr1	Reed Hycalog	RSR616M-A 2	12.250	4.000	8x13	1.037	1-1-CT-A -X-I-PN-TD	249	19.00	13
4	Hughes	GT-1	8.500	4.000	3x22	1.114	1-1-WT-A -1-I-NO-BHA	3	2.50	1
5	Smith	Mi616VBPX	8.500	0.000	6x14	0.902	1-1-WT-A -X-I-NO-DTF	110	11.00	10
5rr1	Smith	Mi616VBPX	8.500	0.000	6x14	0.902	1-2-CT-S -X-I-WT-CP	350	33.50	10
6	Corpro	MCP572	8.500	0.000	1x28	0.601	1-1-NO-FC-X-I-NO-BHA	30	4.50	7
5rr2	Smith	Mi616VBPX	8.500	0.000	6x14	0.902	1-2-CT-S -X-I-NO-CP	132	16.00	8
6rr1	Corpro	MCP572	8.500	0.000	1x28	0.601	1-1-NO-A -X-I-NO-BHA	30	4.50	7
5rr3	Smith	Mi616VBPX	8.500	0.000	6x14	0.902		60	11.50	5

Table 3 - Bit Run Summary

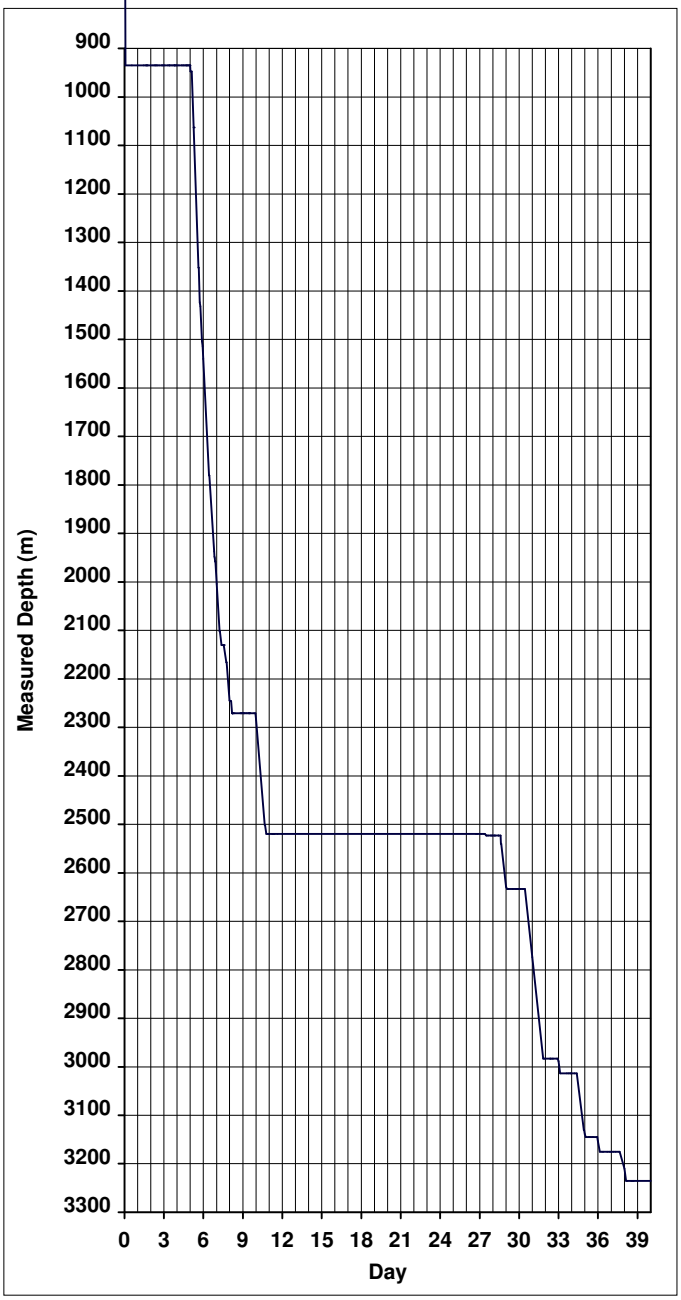
Hours by Operation Summary



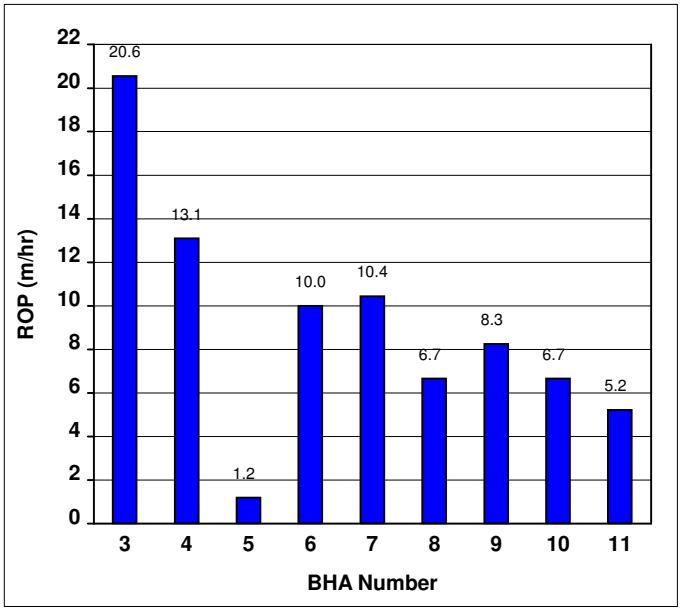
Hours per BHA Breakdown



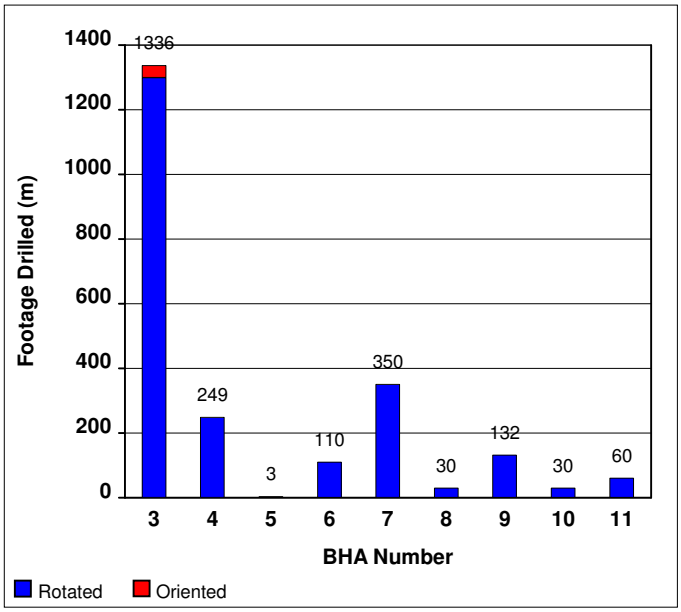
Days vs. Depth



Average Rate of Penetration per BHA



Footage per BHA



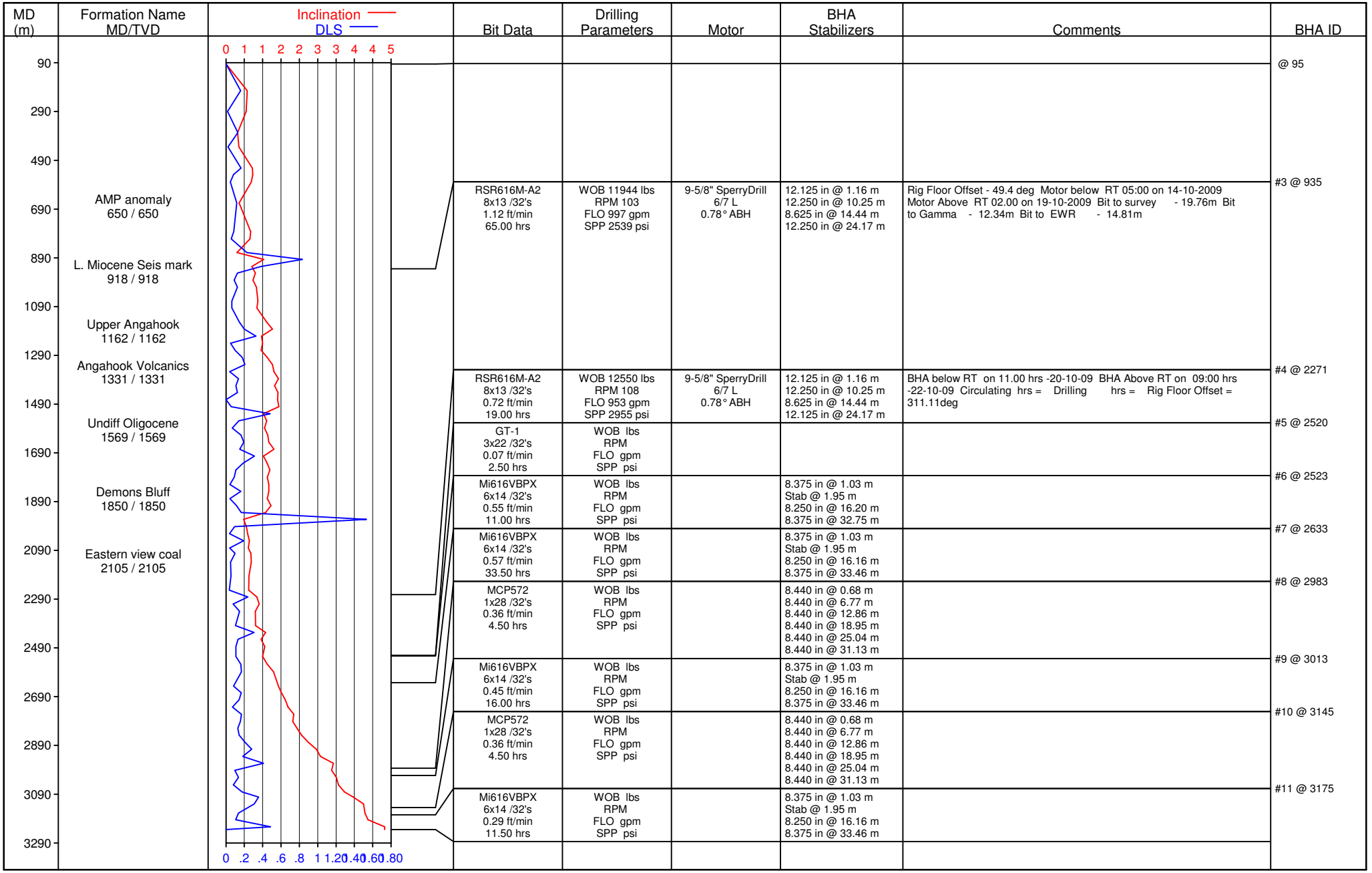
SECTION 2

Drilling Parameters

Sperry-Sun Drilling Services

Origin Energy Services
Trefoil-2
Kan Tan IV

Australia
Bass Basin
AU-DD-0006714148



SECTION 3

Definitive Survey Report

Origin Energy Resources LTD

Trefoil
Trefoil-2
Trefoil-2 - Trefoil-2

Trefoil-2

Design: Trefoil-2 Definitive Survey

Sperry Drilling Services

Combo Report

09 December, 2009

Well Coordinates: 5,583,676.59 N, 360,690.39 E (39° 53' 07.93" S, 145° 22' 14.62" E)
Water Depth: 69.00 m

Local Coordinate Origin:	Centered on Well Trefoil-2 - Slot Trefoil-2
Viewing Datum:	Rotary Table @ 26.00m (Above MSL)
TVDs to System:	N
North Reference:	Grid
Unit System:	Modified SI

Version: 2003.21 Build: 43

HALLIBURTON

Design Report for Trefoil-2 - Trefoil-2 Definitive Survey

Measured Depth (m)	Inclination (°)	Azimuth (°)	TVD below System (m)	Vertical Depth (m)	Local Coordinates Northing (m)	Local Coordinates Easting (m)	Map Coordinates Northing (m)	Map Coordinates Easting (m)	Dogleg Rate (°/30m)	Vertical Section (m)	Comments
0.00	0.00	0.00	-26.00	0.00	0.00 N	0.00 E	5,583,676.59	360,690.39	0.000	0.00	
95.00	0.00	0.00	69.00	95.00	0.00 N	0.00 E	5,583,676.59	360,690.39	0.000	0.00	
204.92	0.58	282.17	178.92	204.92	0.12 N	0.54 W	5,583,676.71	360,689.85	0.158	-0.52	
289.50	0.55	277.88	263.49	289.49	0.26 N	1.36 W	5,583,676.85	360,689.02	0.018	-1.28	
376.49	0.32	238.01	350.48	376.48	0.19 N	1.98 W	5,583,676.78	360,688.40	0.127	-1.76	
435.08	0.35	232.40	409.07	435.07	0.00 S	2.26 W	5,583,676.58	360,688.12	0.023	-1.89	
521.95	0.72	199.02	495.94	521.94	0.68 S	2.65 W	5,583,675.91	360,687.74	0.162	-1.83	
547.83	0.73	193.58	521.81	547.81	1.00 S	2.74 W	5,583,675.59	360,687.64	0.081	-1.74	
579.00	0.69	195.91	552.98	578.98	1.37 S	2.84 W	5,583,675.22	360,687.55	0.047	-1.61	
665.44	0.36	203.20	639.42	665.42	2.12 S	3.09 W	5,583,674.47	360,687.30	0.117	-1.41	
782.28	0.67	192.10	756.25	782.25	3.12 S	3.38 W	5,583,673.46	360,687.01	0.083	-1.09	
812.12	0.66	196.82	786.09	812.09	3.46 S	3.47 W	5,583,673.13	360,686.92	0.056	-0.98	
868.19	0.30	224.95	842.16	868.16	3.87 S	3.66 W	5,583,672.71	360,686.73	0.225	-0.92	
896.77	1.03	195.99	870.74	896.74	4.17 S	3.79 W	5,583,672.42	360,686.60	0.820	-0.85	
925.97	0.71	183.94	899.93	925.93	4.61 S	3.87 W	5,583,671.98	360,686.52	0.377	-0.68	
952.44	0.80	188.49	926.40	952.40	4.95 S	3.91 W	5,583,671.64	360,686.48	0.122	-0.53	
981.35	0.74	192.99	955.31	981.31	5.33 S	3.98 W	5,583,671.25	360,686.41	0.088	-0.37	
1,010.20	0.83	198.72	984.16	1,010.16	5.71 S	4.09 W	5,583,670.87	360,686.30	0.124	-0.26	
1,067.21	0.87	190.96	1,041.16	1,067.16	6.53 S	4.31 W	5,583,670.06	360,686.08	0.064	0.02	
1,095.87	0.84	194.49	1,069.82	1,095.82	6.95 S	4.40 W	5,583,669.64	360,685.99	0.063	0.17	
1,153.51	1.11	191.81	1,127.45	1,153.45	7.90 S	4.62 W	5,583,668.69	360,685.77	0.142	0.51	
1,182.36	1.27	187.06	1,156.29	1,182.29	8.49 S	4.72 W	5,583,668.10	360,685.67	0.195	0.76	
1,211.30	0.97	182.63	1,185.23	1,211.23	9.06 S	4.77 W	5,583,667.53	360,685.62	0.323	1.03	
1,240.32	1.00	184.76	1,214.24	1,240.24	9.55 S	4.80 W	5,583,667.03	360,685.59	0.049	1.27	
1,269.44	0.96	179.68	1,243.36	1,269.36	10.05 S	4.82 W	5,583,666.54	360,685.57	0.098	1.53	
1,298.71	1.13	178.12	1,272.62	1,298.62	10.58 S	4.81 W	5,583,666.00	360,685.58	0.177	1.84	
1,327.95	1.27	184.82	1,301.86	1,327.86	11.20 S	4.83 W	5,583,665.39	360,685.56	0.203	2.16	
1,357.12	1.31	184.97	1,331.02	1,357.02	11.85 S	4.88 W	5,583,664.74	360,685.51	0.041	2.47	
1,385.95	1.43	187.08	1,359.84	1,385.84	12.53 S	4.95 W	5,583,664.05	360,685.43	0.135	2.79	
1,414.80	1.33	186.15	1,388.68	1,414.68	13.22 S	5.03 W	5,583,663.36	360,685.35	0.107	3.11	
1,443.26	1.42	189.23	1,417.14	1,443.14	13.90 S	5.13 W	5,583,662.69	360,685.26	0.123	3.40	
1,471.76	1.41	188.55	1,445.63	1,471.63	14.60 S	5.24 W	5,583,661.99	360,685.15	0.021	3.70	
1,500.56	1.44	186.77	1,474.42	1,500.42	15.31 S	5.33 W	5,583,661.28	360,685.06	0.056	4.01	
1,529.74	1.02	177.87	1,503.59	1,529.59	15.93 S	5.36 W	5,583,660.66	360,685.02	0.473	4.32	
1,559.00	1.11	183.32	1,532.85	1,558.85	16.47 S	5.37 W	5,583,660.11	360,685.02	0.139	4.62	
1,588.15	1.05	181.86	1,561.99	1,587.99	17.02 S	5.40 W	5,583,659.57	360,684.99	0.068	4.90	
1,617.27	1.14	175.03	1,591.11	1,617.11	17.58 S	5.38 W	5,583,659.01	360,685.01	0.163	5.22	
1,646.32	1.17	184.16	1,620.15	1,646.15	18.16 S	5.38 W	5,583,658.43	360,685.01	0.192	5.55	
1,675.15	1.31	182.99	1,648.97	1,674.97	18.78 S	5.41 W	5,583,657.80	360,684.97	0.148	5.86	

Design Report for Trefoil-2 - Trefoil-2 Definitive Survey

Measured Depth (m)	Inclination (°)	Azimuth (°)	TVD below System (m)	Vertical Depth (m)	Local Coordinates Northing (m)	Local Coordinates Easting (m)	Map Coordinates Northing (m)	Map Coordinates Easting (m)	Dogleg Rate (°/30m)	Vertical Section (m)	Comments
1,703.61	1.02	183.90	1,677.43	1,703.43	19.36 S	5.45 W	5,583,657.23	360,684.94	0.306	6.15	
1,731.98	1.12	176.27	1,705.79	1,731.79	19.89 S	5.45 W	5,583,656.70	360,684.94	0.184	6.44	
1,760.71	1.20	179.48	1,734.52	1,760.52	20.47 S	5.43 W	5,583,656.12	360,684.96	0.108	6.78	
1,790.08	1.13	181.99	1,763.88	1,789.88	21.07 S	5.43 W	5,583,655.52	360,684.95	0.088	7.10	
1,819.45	1.17	182.73	1,793.24	1,819.24	21.66 S	5.46 W	5,583,654.93	360,684.93	0.044	7.41	
1,848.52	1.17	190.32	1,822.31	1,848.31	22.25 S	5.53 W	5,583,654.34	360,684.86	0.160	7.68	
1,877.80	1.13	190.92	1,851.58	1,877.58	22.82 S	5.63 W	5,583,653.77	360,684.75	0.043	7.91	
1,906.65	1.23	192.98	1,880.43	1,906.43	23.40 S	5.76 W	5,583,653.18	360,684.63	0.113	8.12	
1,934.67	1.08	194.42	1,908.44	1,934.44	23.95 S	5.89 W	5,583,652.64	360,684.50	0.164	8.32	
1,963.22	0.48	64.50	1,936.99	1,962.99	24.16 S	5.85 W	5,583,652.43	360,684.54	1.509	8.47	
1,992.33	0.56	59.70	1,966.10	1,992.10	24.04 S	5.62 W	5,583,652.55	360,684.77	0.094	8.59	
2,021.46	0.59	61.98	1,995.23	2,021.23	23.90 S	5.36 W	5,583,652.69	360,685.03	0.039	8.73	
2,050.74	0.64	78.76	2,024.50	2,050.50	23.79 S	5.07 W	5,583,652.80	360,685.32	0.191	8.91	
2,080.19	0.61	81.26	2,053.95	2,079.95	23.74 S	4.75 W	5,583,652.85	360,685.64	0.041	9.15	
2,102.20	0.68	80.27	2,075.96	2,101.96	23.70 S	4.51 W	5,583,652.89	360,685.88	0.097	9.33	
2,138.04	0.69	75.36	2,111.80	2,137.80	23.61 S	4.09 W	5,583,652.98	360,686.30	0.050	9.63	
2,195.19	0.63	82.85	2,168.94	2,194.94	23.48 S	3.44 W	5,583,653.11	360,686.94	0.055	10.09	
2,253.19	0.62	89.29	2,226.94	2,252.94	23.44 S	2.81 W	5,583,653.15	360,687.57	0.037	10.60	
2,281.35	0.84	88.95	2,255.10	2,281.10	23.43 S	2.46 W	5,583,653.16	360,687.93	0.234	10.89	
2,310.29	0.91	90.74	2,284.04	2,310.04	23.43 S	2.01 W	5,583,653.16	360,688.38	0.078	11.26	
2,339.67	0.80	84.68	2,313.41	2,339.41	23.41 S	1.58 W	5,583,653.17	360,688.81	0.145	11.62	
2,398.22	0.81	98.78	2,371.96	2,397.96	23.44 S	0.76 W	5,583,653.15	360,689.63	0.101	12.31	
2,426.57	1.08	93.16	2,400.30	2,426.30	23.48 S	0.30 W	5,583,653.10	360,690.09	0.302	12.72	
2,454.95	0.96	91.77	2,428.68	2,454.68	23.51 S	0.21 E	5,583,653.08	360,690.60	0.130	13.16	
2,484.55	1.06	89.94	2,458.27	2,484.27	23.51 S	0.73 E	5,583,653.07	360,691.12	0.106	13.59	
2,524.75	1.00	97.22	2,498.47	2,524.47	23.56 S	1.45 E	5,583,653.03	360,691.84	0.107	14.22	
2,557.55	1.13	91.00	2,531.26	2,557.26	23.60 S	2.06 E	5,583,652.99	360,692.45	0.159	14.75	
2,588.20	1.30	90.35	2,561.90	2,587.90	23.61 S	2.71 E	5,583,652.98	360,693.10	0.167	15.29	
2,646.63	1.43	86.39	2,620.32	2,646.32	23.56 S	4.10 E	5,583,653.02	360,694.49	0.082	16.43	
2,674.00	1.51	91.33	2,647.68	2,673.68	23.55 S	4.80 E	5,583,653.04	360,695.19	0.164	17.01	
2,702.98	1.62	88.34	2,676.65	2,702.65	23.55 S	5.59 E	5,583,653.04	360,695.98	0.142	17.67	
2,732.91	1.69	88.47	2,706.57	2,732.57	23.52 S	6.45 E	5,583,653.06	360,696.84	0.070	18.37	
2,762.56	1.85	89.89	2,736.20	2,762.20	23.51 S	7.37 E	5,583,653.08	360,697.76	0.168	19.13	
2,791.49	1.82	85.29	2,765.12	2,791.12	23.47 S	8.30 E	5,583,653.11	360,698.68	0.156	19.88	
2,819.89	1.94	85.21	2,793.50	2,819.50	23.40 S	9.22 E	5,583,653.19	360,699.61	0.127	20.61	
2,847.72	2.06	83.71	2,821.31	2,847.31	23.30 S	10.19 E	5,583,653.29	360,700.58	0.141	21.36	
2,876.19	2.24	81.90	2,849.76	2,875.76	23.17 S	11.25 E	5,583,653.42	360,701.64	0.203	22.17	
2,905.64	2.46	85.79	2,879.19	2,905.19	23.04 S	12.45 E	5,583,653.55	360,702.84	0.277	23.10	
2,935.67	2.58	82.74	2,909.19	2,935.19	22.91 S	13.76 E	5,583,653.68	360,704.15	0.180	24.12	

Design Report for Trefoil-2 - Trefoil-2 Definitive Survey

Measured Depth (m)	Inclination (°)	Azimuth (°)	TVD below System (m)	Vertical Depth (m)	Local Coordinates Northing (m)	Local Coordinates Easting (m)	Map Coordinates Northing (m)	Map Coordinates Easting (m)	Dogleg Rate (°/30m)	Vertical Section (m)	Comments
2,963.22	2.93	85.15	2,936.71	2,962.71	22.77 S	15.08 E	5,583,653.82	360,705.47	0.401	25.15	
2,992.32	2.88	83.61	2,965.77	2,991.77	22.63 S	16.55 E	5,583,653.96	360,706.94	0.096	26.29	
3,021.53	3.01	83.20	2,994.94	3,020.94	22.45 S	18.04 E	5,583,654.14	360,708.43	0.135	27.44	
3,051.62	3.07	82.21	3,024.99	3,050.99	22.25 S	19.62 E	5,583,654.34	360,710.01	0.079	28.64	
3,080.66	3.23	81.34	3,053.99	3,079.99	22.02 S	21.20 E	5,583,654.57	360,711.59	0.173	29.84	
3,101.98	3.47	82.50	3,075.27	3,101.27	21.85 S	22.43 E	5,583,654.74	360,712.82	0.351	30.77	
3,130.21	3.75	81.59	3,103.44	3,129.44	21.60 S	24.19 E	5,583,654.99	360,714.58	0.304	32.10	
3,167.65	3.79	84.07	3,140.80	3,166.80	21.29 S	26.64 E	5,583,655.29	360,717.02	0.135	33.96	
3,194.79	3.87	83.32	3,167.88	3,193.88	21.09 S	28.44 E	5,583,655.49	360,718.83	0.104	35.36	
3,223.60	4.33	83.41	3,196.62	3,222.62	20.86 S	30.48 E	5,583,655.73	360,720.87	0.479	36.93	
3,235.00	4.33	83.41	3,207.99	3,233.99	20.76 S	31.34 E	5,583,655.83	360,721.73	0.000	37.59	Projected to TD

Design Annotations

Measured Depth (m)	Vertical Depth (m)	Local Coordinates +N/-S (m)	Local Coordinates +E/-W (m)	Comment
3,235.00	3,233.99	-20.76	31.34	Projected to TD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (m)	Origin +E/-W (m)	Start TVD (m)
User	No Target (Freehand)	123.52	Slot	0.00	0.00	0.00

Survey tool program

From (m)	To (m)	Survey/Plan	Survey Tool
95.00	925.97	Trefoil-2 - 17 1/2" MWD Survey	MWD+SAG+SC
952.44	2,484.55	Trefoil-2 - 12 1/4" MWD Survey	MWD+SAG+SC
2,524.75	3,235.00	Trefoil-2 - 8 1/2" MWD Survey	MWD+SAG+SC

Design Report for Trefoil-2 - Trefoil-2 Definitive Survey

Casing Details

Measured Depth (m)	Vertical Depth (m)	Name	Casing Diameter (in)	Hole Diameter (in)
153.00	153.00	30" Conductor	30.000	36.000
930.00	929.96	13 3/8" Casing	13.375	17.500
2,520.00	2,519.72	9 5/8" Casing	9.625	12.250

North Reference Sheet for Trefoil-2 - Trefoil-2 - Trefoil-2

All data is in Meters unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to Rotary Table @ 26.00m (Above MSL). Northing and Easting are relative to Trefoil-2 - Slot Trefoil-2

Coordinate System is Universal Transverse Mercator, Zone 55S (144 E to 150 E) using datum GDA94, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 147° 0' 0.0000 E°, Longitude Origin:0° 0' 0.0000 E°, Latitude Origin:0° 0' 0.0000 N°

False Easting: 500,000.00m, False Northing: 10,000,000.00m, Scale Reduction: 0.99983896

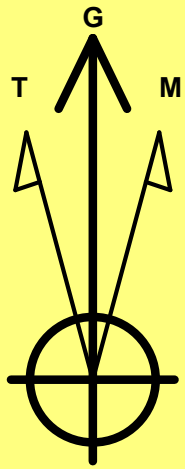
Grid Coordinates of Well: 5,583,676.59 m N, 360,690.39 m E

Geographical Coordinates of Well: 39° 53' 07.93" S, 145° 22' 14.62" E

Grid Convergence at Surface is: 1.04°

Based upon Minimum Curvature type calculations, at a Measured Depth of 3,235.00m
the Bottom Hole Displacement is 37.59m in the Direction of 123.52° (Grid).

Magnetic Convergence at surface is: -11.45° (16 October 2009, , BGGM2009)



Magnetic Model:	BGGM2009
Date:	16-Oct-09
Declination:	12.50°
Inclination/Dip:	-70.48°
Field Strength:	61021

Grid North is 1.04° East of True North (Grid Convergence)
Magnetic North is 12.50° East of True North (Magnetic Declination)
Magnetic North is 11.45° East of Grid North (Magnetic Convergence)

To convert a True Direction to a Grid Direction, Subtract 1.04°
To convert a Magnetic Direction to a True Direction, Add 12.50° East
To convert a Magnetic Direction to a Grid Direction, Add 11.45°

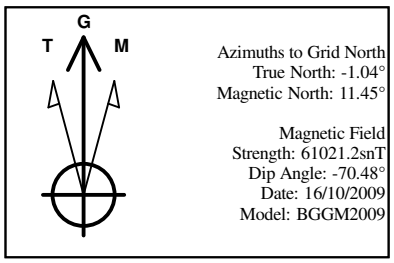
SECTION 4

A4 Plot

Sperry Drilling

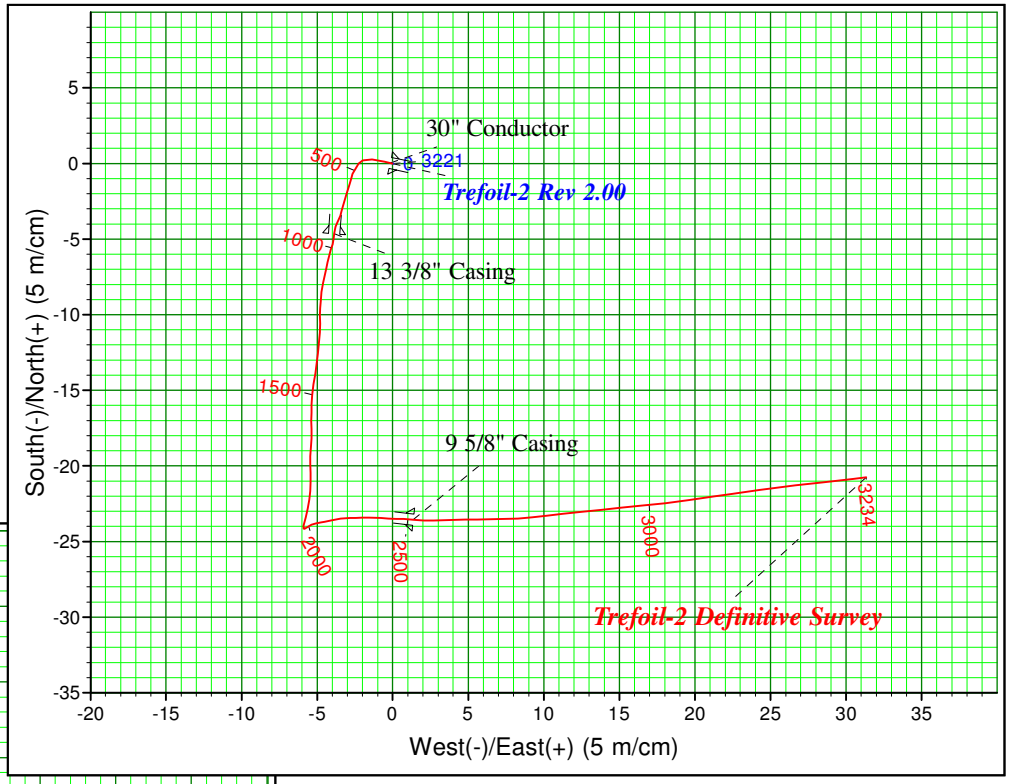
Project: Trefoil
Site: Trefoil-2
Well: Trefoil-2
Wellbore: Trefoil-2
Design: Trefoil-2 Actual V's Proposed

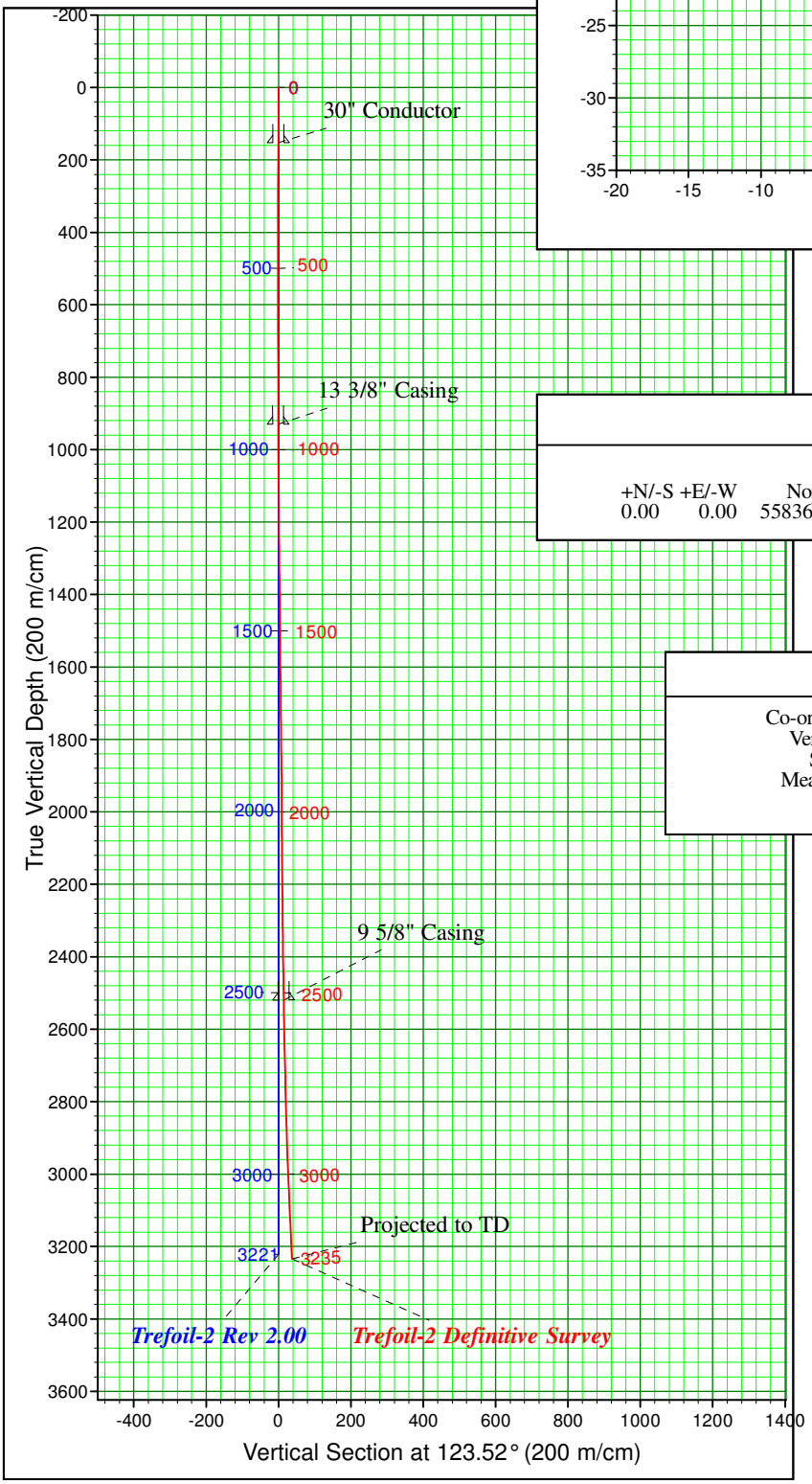
Origin energy



Azimuths to Grid North
True North: -1.04°
Magnetic North: 11.45°

Magnetic Field
Strength: 61021.2snT
Dip Angle: -70.48°
Date: 16/10/2009
Model: BGGM2009





WELL DETAILS: Trefoil-2

Water Depth: 69.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	5583676.59	360690.39	39° 53' 7.9334 S	145° 22' 14.6152 E	Trefoil-2

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Trefoil-2 - Slot Trefoil-2, Grid North
Vertical (TVD) Reference: Rotary Table @ 26.00m (Above MSL)
Section (VS) Reference: Slot - Trefoil-2(0.00N, 0.00E)
Measured Depth Reference: Rotary Table @ 26.00m (Above MSL)
Calculation Method: Minimum Curvature

CASING DETAILS

TVD	MD	Name	Size
153.00	153.00	30" Conductor	30.000
929.96	930.00	13 3/8" Casing	13.375
2519.72	2520.00	9 5/8" Casing	9.625

PROJECT DETAILS: Trefoil

Geodetic System: Universal Transverse Mercator
Datum: GDA94
Ellipsoid: GRS 1980
Zone: Zone 55S (144 E to 150 E)

System Datum: Mean Sea Level

SECTION 5

Drilling Surveys

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Origin Energy Services
Well : Trefoil-2
Rig : Kan Tan IV

Field : Australia
Slot : Bass Basin
Job # : AU-DD-0006714148

North Ref : Grid **Declination :** ° **VS Dir :** 0.00° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS									
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates N/S (m)	Coordinates E/W (m)	DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00										Tieon
95.00	0.00	0.00	95.0	0.0	0.0	0.0	0.00	0.00	0.00										
204.92	0.58	282.17	204.9	-0.5	0.1	-0.5	0.16	0.16	0.00										
289.50	0.55	277.88	289.5	-1.3	0.3	-1.4	0.02	-0.01	0.00										
376.49	0.32	238.01	376.5	-1.8	0.2	-2.0	0.13	-0.08	0.00										
435.08	0.35	232.40	435.1	-1.9	0.0	-2.3	0.02	0.02	0.00										
521.95	0.72	199.02	521.9	-1.8	-0.7	-2.7	0.16	0.13	0.00										
547.83	0.73	193.58	547.8	-1.7	-1.0	-2.7	0.08	0.01	0.00										
579.00	0.69	195.91	579.0	-1.6	-1.4	-2.8	0.05	-0.04	0.00										
665.44	0.36	203.20	665.4	-1.4	-2.1	-3.1	0.12	-0.12	0.00										
782.28	0.67	192.10	782.3	-1.1	-3.1	-3.4	0.08	0.08	0.00										
812.12	0.66	196.82	812.1	-1.0	-3.5	-3.5	0.06	-0.01	0.00										
868.19	0.30	224.95	868.2	-0.9	-3.9	-3.7	0.23	-0.20	0.00										
896.77	1.03	195.99	896.7	-0.9	-4.2	-3.8	0.83	0.78	0.00										
925.97	0.71	183.94	925.9	-0.7	-4.6	-3.9	0.38	-0.33	0.00										
952.44	0.80	188.49	952.4	-0.5	-5.0	-3.9	0.12	0.10	0.00	10000	80	1000	1850				55	3	
981.35	0.74	192.99	981.3	-0.4	-5.3	-4.0	0.09	-0.06	0.00	8000	100	956	1825				50	3	
1010.20	0.83	198.72	1010.2	-0.3	-5.7	-4.1	0.13	0.10	0.00	8000	100	956	1895				70	3	
1067.21	0.87	190.96	1067.2	0.0	-6.5	-4.3	0.07	0.02	0.00	5000	100	956	1860				80	3	
1095.87	0.84	194.49	1095.8	0.2	-6.9	-4.4	0.06	-0.03	0.00	6000	100	1000	2240				120	3	
1153.51	1.11	191.81	1153.4	0.5	-7.9	-4.6	0.14	0.14	0.00	7000	100	1000	2345				145	3	
1182.36	1.27	187.06	1182.3	0.8	-8.5	-4.7	0.20	0.17	-5.02	8000	100	1000	2375				150	3	
1211.30	0.97	182.63	1211.2	1.0	-9.1	-4.8	0.33	-0.32	0.00	10000	100	1000	2358				120	3	
1240.32	1.00	184.76	1240.2	1.3	-9.6	-4.8	0.05	0.03	0.00	8000	100	1000	2450				95	3	
1269.44	0.96	179.68	1269.4	1.5	-10.1	-4.8	0.10	-0.04	0.00	2000	100	1000	2280				55	3	
1298.71	1.13	178.12	1298.6	1.8	-10.6	-4.8	0.18	0.18	0.00	5000	110	1000	2230				50	3	
1327.95	1.27	184.82	1327.9	2.2	-11.2	-4.8	0.21	0.15	6.98	2000	110	1000	2201				55	3	
1357.12	1.31	184.97	1357.0	2.5	-11.8	-4.9	0.04	0.04	0.16	2000	110	1000	2320				80	3	
1385.95	1.43	187.08	1385.8	2.8	-12.5	-5.0	0.14	0.13	2.23	8000	100	1000	2520				80	3	
1414.80	1.33	186.15	1414.7	3.1	-13.2	-5.0	0.11	-0.11	-0.98	4000	100	1000	2450				70	3	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Origin Energy Services
Well : Trefoil-2
Rig : Kan Tan IV

Field : Australia
Slot : Bass Basin
Job # : AU-DD-0006714148

North Ref : Grid **Declination :** ° **VS Dir :** 0.00° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS									
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates N/S (m)	Coordinates E/W (m)	DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
1443.26	1.42	189.23	1443.1	3.4	-13.9	-5.1	0.12	0.10	3.30	3000	100	1000	2471	1419	1428	20R	80	3	
1471.76	1.41	188.55	1471.6	3.7	-14.6	-5.2	0.00	-0.01	-0.73	8000	110	1000	2422				70	3	
1500.56	1.44	186.77	1500.4	4.0	-15.3	-5.3	0.06	0.03	-1.88	5000	100	1000	2490				75	3	
1529.74	1.02	177.87	1529.6	4.3	-15.9	-5.4	0.48	-0.44	-9.30	6000	100	1000	2690	1504	1514	40R	60	3	
1559.00	1.11	183.32	1558.8	4.6	-16.5	-5.4	0.14	0.09	5.68	10000	100	1000	2690				65	3	
1588.15	1.05	181.86	1588.0	4.9	-17.0	-5.4	0.07	-0.06	-1.53	10000	100	1000	2600				55	3	
1617.27	1.14	175.03	1617.1	5.2	-17.6	-5.4	0.17	0.09	-7.15	10000	100	1000	2600				55	3	
1646.32	1.17	184.16	1646.1	5.5	-18.2	-5.4	0.20	0.03	9.58	10000	110	1000	2600				50	3	
1675.15	1.31	182.99	1675.0	5.9	-18.8	-5.4	0.15	0.15	-1.24	10000	110	1000	2620				45	3	
1703.61	1.02	183.90	1703.4	6.1	-19.4	-5.4	0.31	-0.31	0.97	10000	110	1000	2750				35	3	
1731.98	1.12	176.27	1731.8	6.4	-19.9	-5.4	0.19	0.11	-8.20	14000	110	1000	2740				30	3	
1760.71	1.20	179.48	1760.5	6.8	-20.5	-5.4	0.11	0.08	3.41	25000	110	1000	2790				35	3	
1790.08	1.13	181.99	1789.9	7.1	-21.1	-5.4	0.09	-0.07	2.60	22000	110	1000	2660				35	3	
1819.45	1.17	182.73	1819.2	7.4	-21.7	-5.5	0.04	0.04	0.77	28000	110	1000	2575				43	3	
1848.52	1.17	190.32	1848.3	7.7	-22.2	-5.5	0.16	0.00	7.96	25000	110	1000	2670				35	3	
1877.80	1.13	190.92	1877.6	7.9	-22.8	-5.6	0.04	-0.04	0.62	25000	110	1000	2743				38	3	
1906.65	1.23	192.98	1906.4	8.1	-23.4	-5.8	0.11	0.11	2.18	25000	110	1000	2690				35	3	
1934.67	1.08	194.42	1934.4	8.3	-24.0	-5.9	0.17	-0.16	1.57	25000	110	1000	2890				35	3	
1963.22	0.48	64.50	1963.0	8.5	-24.2	-5.9	1.53	-0.64	0.00	25000	110	1000	2875	1937	1948	15R	35	3	
														1951	1958	15R		3	
1992.33	0.56	59.70	1992.1	8.6	-24.0	-5.6	0.10	0.08	0.00	25000	100	1000	2580				30	3	
2021.46	0.59	61.98	2021.2	8.7	-23.9	-5.4	0.04	0.03	0.00	20000	100	1000	2905				25	3	
2050.74	0.64	78.76	2050.5	8.9	-23.8	-5.1	0.19	0.05	0.00	25000	100	1000	2870				25	3	
2080.19	0.61	81.26	2080.0	9.1	-23.7	-4.8	0.04	-0.03	0.00	23000	100	1000	2780				32	3	
2102.20	0.68	80.27	2102.0	9.3	-23.7	-4.5	0.10	0.10	0.00	23000	100	1000	2780				32	3	
2138.04	0.69	75.36	2137.8	9.6	-23.6	-4.1	0.05	0.01	0.00	10000	110	1000	3060				45	3	
2195.19	0.63	82.85	2194.9	10.1	-23.5	-3.4	0.06	-0.03	0.00	15000	100	1000	3120				30	3	
2253.19	0.62	89.29	2252.9	10.6	-23.4	-2.8	0.04	-0.01	0.00	10000	100	1000	3150				12	3	
2281.35	0.84	88.95	2281.1	10.9	-23.4	-2.5	0.24	0.24	0.00	20000	110	950	2910				15	4	
2310.29	0.91	90.74	2310.0	11.3	-23.4	-2.0	0.08	0.07	0.00	12000	100	975	2885				18	4	
2339.67	0.80	84.68	2339.4	11.6	-23.4	-1.6	0.15	-0.11	0.00	20000	110	950	2825				30	4	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Origin Energy Services
Well : Trefoil-2
Rig : Kan Tan IV

Field : Australia
Slot : Bass Basin
Job # : AU-DD-0006714148

North Ref : Grid **Declination :** ° **VS Dir :** 0.00° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS									
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates N/S (m)	Coordinates E/W (m)	DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
2398.22	0.81	98.78	2398.0	12.3	-23.4	-0.8	0.10	0.01	0.00	10000	100	950	2903				18	4	
2426.57	1.08	93.16	2426.3	12.7	-23.5	-0.3	0.31	0.29	0.00	10000	110	950	3050				20	4	
2454.95	0.96	91.77	2454.7	13.2	-23.5	0.2	0.13	-0.13	0.00	10000	110	950	3045				20	4	
2484.55	1.06	89.94	2484.3	13.6	-23.5	0.7	0.11	0.10	0.00	10000	110	950	3050				25	4	
2524.75	1.00	97.22	2524.5	14.2	-23.6	1.5	0.11	-0.05	0.00									6	
2557.55	1.13	91.00	2557.3	14.7	-23.6	2.1	0.16	0.12	0.00									6	
2588.20	1.30	90.35	2587.9	15.3	-23.6	2.7	0.17	0.17	-0.65									6	
2646.63	1.43	86.39	2646.3	16.4	-23.6	4.1	0.08	0.07	-2.07									7	
2674.00	1.51	91.33	2673.7	17.0	-23.6	4.8	0.17	0.09	5.50									7	
2702.98	1.62	88.34	2702.6	17.7	-23.5	5.6	0.14	0.12	-3.14									7	
2732.91	1.69	88.47	2732.6	18.4	-23.5	6.5	0.07	0.07	0.13									7	
2762.56	1.85	89.89	2762.2	19.1	-23.5	7.4	0.17	0.16	1.46									7	
2791.49	1.82	85.29	2791.1	19.9	-23.5	8.3	0.16	-0.03	-4.85									7	
2819.89	1.94	85.21	2819.5	20.6	-23.4	9.2	0.13	0.13	-0.09									7	
2847.72	2.06	83.71	2847.3	21.4	-23.3	10.2	0.14	0.13	-1.64									7	
2876.19	2.24	81.90	2875.8	22.2	-23.2	11.2	0.21	0.19	-1.94									7	
2905.64	2.46	85.79	2905.2	23.1	-23.0	12.4	0.28	0.23	4.03									7	
2935.67	2.58	82.74	2935.2	24.1	-22.9	13.8	0.18	0.12	-3.10									7	
2963.22	2.93	85.15	2962.7	25.1	-22.8	15.1	0.41	0.39	2.67									7	
2992.32	2.88	83.61	2991.8	26.3	-22.6	16.5	0.10	-0.05	-1.61									8	
3021.53	3.01	83.20	3020.9	27.4	-22.5	18.0	0.14	0.14	-0.43									9	
3051.62	3.07	82.21	3051.0	28.6	-22.3	19.6	0.08	0.06	-1.00									9	
3080.66	3.23	81.34	3080.0	29.8	-22.0	21.2	0.18	0.17	-0.91									9	
3101.98	3.47	82.50	3101.3	30.8	-21.8	22.4	0.36	0.34	1.66									9	
3130.21	3.75	81.59	3129.4	32.1	-21.6	24.2	0.31	0.30	-0.98									9	
3167.65	3.79	84.07	3166.8	34.0	-21.3	26.6	0.14	0.03	2.02									10	
3194.79	3.87	83.32	3193.9	35.4	-21.1	28.4	0.11	0.09	-0.84									11	
3223.60	4.33	83.41	3222.6	36.9	-20.9	30.5	0.49	0.49	0.10									11	
3235.00	4.33	83.41	3234.0	37.6	-20.8	31.3	0.00	0.00	0.00									11	

SECTION 6

BHA Data

sperry-sun
DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 3**

BHA# 3 : **Date In** 15/10/200 **MD In (m) :** 935 **TVD In (m) :** 935 **Date Out** 20/10/2009 **MD Out (m):** 2271 **TVD Out (m):** 2271

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
3	12.250	Reed Hycalog	RSR616M-A2	222369	8x13	1.037	1-1-BT-N -X-I-CT-PP

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
1	9.625	SSDS	SperryDrill	963448	0.78°		117	77.50

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Reed RSR616M - A21 12-1/4" PDC	222369	12.250	3.000	12.250	377.57	P 6-5/8" Reg	0.30	
2	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg w/Float	963448	9.625	6.135	12.125	147.21	B 6-5/8" Reg	9.22	1.16
3	12-1/4" Integral Blade Stabilizer	701049	8.000	3.000	12.250	147.22	B 6-5/8" Reg	1.86	10.25
4	8" RLL w/ EWR + DGR + HCIM	PA90218962	8.000	2.375	8.625	156.21	B 6-5/8" Reg	7.28	
5	8" Non Mag HOC w\Tm + Dir	246906	8.063	2.375		158.92	B 6-5/8" Reg	4.80	
6	12-1/4" Integral Blade Stabilizer	231191	8.063	3.000	12.250	149.92	B 6-5/8" Reg	1.88	24.17
7	6x 8-1/4" Spiral Drill collars	Rig	8.250	2.875		160.05	B 6-5/8" Reg	56.43	
8	8" Drilling Jar	17621339	8.000	3.000		147.22	B 6-5/8" Reg	9.68	
9	2x 8-1/4" Spiral Drill collar	Rig	8.250	2.875		160.05	B 6-5/8" Reg	18.63	
10	X-over Sub 6-5/8" <> 4-1/2"IF	Rig 1792	6.750	2.813		100.77	B 4-1/2" IF	1.09	
11	15 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	141.54	
								252.71	

Parameter	Min	Max	Ave
WOB (lbs) :	2000	28000	11944
RPM (rpm) :	80	110	103
Flow (gpm) :	956	1000	997
SPP (psi) :	1810	3150	2539

Activity	Hrs
Drilling :	65.00
Reaming :	1.00
Circ-Other :	11.50
Total :	77.50

BHA Weight	(lb)
in Air (Total) :	80225
in Mud (Total) :	68976
in Air (Bel Jars) :	42513
in Mud (Bel Jars) :	36552

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2018

PERFORMANCE

	In	Out
Inclination (deg)	0.74	0.76
Azimuth (deg)	185.62	89.05

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	37.00	4			2.03
Rotated :	1299.00	21			
Total :	1336.00	21	0.00	0.00	0.03

COMMENTS

Rig Floor Offset - 49.4 deg
Motor below RT 05:00 on 14-10-2009
Motor Above RT 02.00 on 19-10-2009
Bit to survey - 19.76m
Bit to Gamma - 12.34m
Bit to EWR - 14.81m

OBJECTIVES:

The 12-1/4" section will be drilled to 2510mTVDRT or +/-418m below the top of the Eastern View Group. A deep set 9.5/8" shoe will assist with obtaining all the wire line logging data required in the subsequent 8-1/2" hole section.

RESULTS:

The six bladed Reed RSR616M PDC bit with 9-5/8" Sperry Motor and MWD/LWD tools were made up and downloaded without problems. A shallow test was performed on the first stand of HWDP at 140m, the test was conducted with 800GPM which gave 1050psi. Top of cement was tagged at 917m MD, and cement and shoe track was drilled relatively quickly with sea water to 930m. The hole was displaced to 9.1ppg KCl/Polymer mud, while the rat hole was cleaned to 935m. The assembly was worked twice through the shoe prior to drilling 3m of new formation to 938m for a FIT. While drilling the shoe track with salt water, the pump pressure was averaging 2230psi. This dropped off significantly at the start of displacing to mud averaging 1500 to 1600psi, on investigation it was discovered the mud was aerated and had to be conditioned before performing FIT.
Drilling Commenced with a significant ROP which averaged at around 160 m/hr from 938m to 1236m this was cut back to 80m/hr due to the shakers over loading, the well was circulated while the shakers were cleaned and drilling resumed once again ROP through the Upper Angahook and Angahook Volcanic Equivalent formations 1236m to 1563m was averaging 80m/hr with the following parameters 2-10kwob, 1000gpm, 100rpm. Torque 3-10-k ft-lb. Once entering the Undiff Oligocene formation at 1569m MDRT it dropped off to 30m/hr with intermittent spikes of 50m/hr seen, this trend continued through the Demons Bluff formation 1850m MDRT as well. The WOB was increased to 25K ft-lb's in an attempt to increase ROP with some success. Forward projections showed that the well path would be intersecting the targets just at the 50m radius, as a result two short slides were attempted with little success very poor tool face control at 1419m and again at 1504m. Continue drilling in rotary to 1937m where an 18m low side oriented slide was utilised to keep the inclination from building and turn the azimuth. This showed favourable results and the well path was lined up well within target 50 m radius.
The Motor performed excellent in upper section of well bore with no problems differential pressure from 100-250PSI. At 2105m the Motor stalled out twice once on bottom and again when tagging bottom. At 2132m while making a connection the saver sub on the top drive was backed out .One stand was racked back, and side entry sub made up to the string to circulate well while repairing top drive pipe handler. The string was rotated slowly in the slips. Drilling continued with little progress drill string stalled several times and it was thought the Motor was stalling but going back to bottom on one occasion the string stalled off bottom after investigating it was determined that the torque limiter on the top drive was set to 14K ft lbs, this was increased to 22K ft lbs drilling resumed with no stalling occurring. Some stick slip was experienced and measures were taken to minimize the level acceptable for tools to work without failure and satisfy the customer with a reasonable ROP.
At 2269m a pressure spike was seen along with increase in torque to 20K after which a 300-350psi pressure drop was observed. Pop off valves on pumps 1 and 2 blew on different occasions while trying to continue drilling ahead due to the fact that they were set to 3500psi and flowing at 1000gpm off bottom psi was 2950 to 3000psi. Had the mud pumps had 6" liners instead of 6-1/2" there would have been better buffer between system pressure and the pop off setting. All through this run the pump pressure has been fluctuating. Due to the pressure loss it was decided to POOH to investigate and for bit change. The hole was circulated clean, and the BHA was pooh from 2271m several tight spots were encountered and the hole was back reamed to the shoe at surface the motor was checked and tested 700gpm, 550psi ok observe bypass flow and bit spinning bearing play out - 5mm. The bit looked in good condition and was graded 1-1-BT-N-X-I-CT-PP. A decision was made to re run the same bit.

BRT hours:	117hrs
Circulating hours:	71.58hrs
On bottom Drilling Hours:	39.2hrs
Drilled from 935m to 2271m	1336m
Average ROP:	21m/hr

RECOMMENDATIONS:

The float and plugs may be more effectively drilled with a milled tooth bit, as opposed to a quite flat faced, heavy set PDC Bit. Deck rollers could be utilised to facilitate making up BHA offline thus saving rig time while picking up BHA. The use of 6" liners would have given more room between operating pressure and pop off settings, this would be particularly helpful when running a down hole motor

sperry-sun DRILLING SERVICES

BHA Schematic

Origin Energy Services

Trefoil-2

BHA ID #: 3

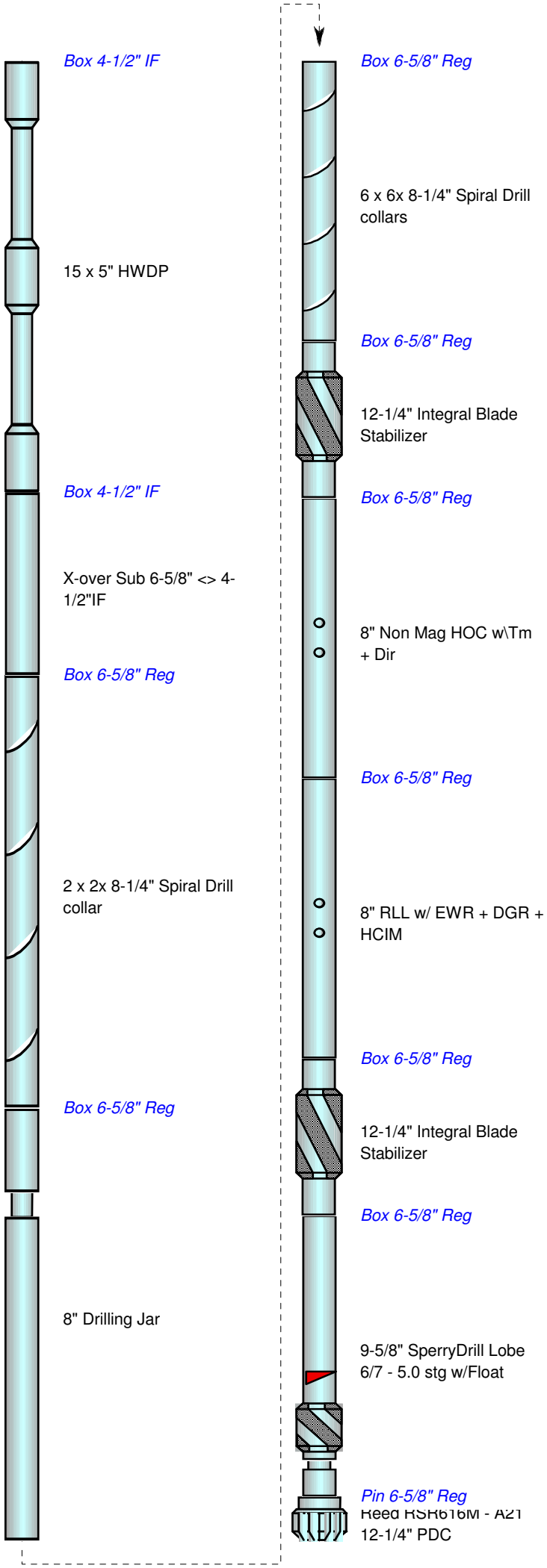
12-1/4" Performance Motor Assy

BHA Configuration

O.D.	Length	Description
12.25"	0.3m	Reed RSR616M - A21 12-1/4" PDC
9.625" w/Float	9.22m	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg
8"	1.86m	12-1/4" Integral Blade Stabilizer
8"	7.28m	8" RLL w/ EWR + DGR + HCIM
8.063"	4.8m	8" Non Mag HOC w\Tm + Dir
8.063"	1.88m	12-1/4" Integral Blade Stabilizer
8.25"	56.43m	6 x 6x 8-1/4" Spiral Drill collars
8"	9.68m	8" Drilling Jar
8.25"	18.63m	2 x 2x 8-1/4" Spiral Drill collar
6.75"	1.09m	X-over Sub 6-5/8" <> 4-1/2"IF
5"	141.54m	15 x 5" HWDP

BHA Discussion

Rig Floor Offset - 49.4 deg
Motor below RT 05:00 on 14-10-2009
Motor Above RT 02.00 on 19-10-2009
Bit to survey - 19.76m
Bit to Gamma - 12.34m
Bit to EWR - 14.81m



sperry-sun
DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 4**

BHA# 4 : **Date In** 20/10/200 **MD In (m) :** 2271 **TVD In (m) :** 2271 **Date Out** 22/10/2009 **MD Out (m):** 2520 **TVD Out (m):** 2520

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
3rr1	12.250	Reed Hycalog	RSR616M-A2	222369	8x13	1.037	1-1-CT-A -X-I-PN-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
2	9.625	SSDS	SperryDrill	963448	0.78°		112	104.00

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Reed RSR616M - A21 12-1/4" PDC	222369	12.250	3.000	12.250	377.57	P 6-5/8" Reg	0.30	
2	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg w/Float	963448	9.625	6.135	12.125	147.21	B 6-5/8" Reg	9.22	1.16
3	12-1/4" Integral Blade Stabilizer	701049	8.000	3.000	12.250	147.22	B 6-5/8" Reg	1.86	10.25
4	8" RLL w/ EWR + DGR + HCIM	PA90218962	8.000	2.375	8.625	156.21	B 6-5/8" Reg	7.28	
5	8" Non Mag HOC w\Tm + Dir	246907	8.063	2.375		158.92	B 6-5/8" Reg	4.80	
6	12-1/4" Integral Blade Stabilizer	231191	8.063	3.000	12.125	149.92	B 6-5/8" Reg	1.88	24.17
7	6x 8-1/4" Spiral Drill collars	Rig	8.250	2.875		160.05	B 6-5/8" Reg	56.43	
8	8" Drilling Jar	17621339	8.000	3.000		147.22	B 6-5/8" Reg	9.68	
9	2x 8-1/4" Spiral Drill collar	Rig	8.250	2.875		160.05	B 6-5/8" Reg	18.63	
10	X-over Sub 6-5/8" <> 4-1/2"IF	Rig 1792	6.750	2.813		100.77	B 4-1/2" IF	1.09	
11	15 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	141.54	
								252.71	

Parameter	Min	Max	Ave
WOB (lbs) :	5000	20000	12550
RPM (rpm) :	100	120	108
Flow (gpm) :	950	975	953
SPP (psi) :	2825	3050	2955

Activity	Hrs
Drilling :	19.00
Reaming :	2.50
Circ-Other :	5.00
Total :	26.50

BHA Weight	(lb)
in Air (Total) :	80225
in Mud (Total) :	68853
in Air (Bel Jars) :	42513
in Mud (Bel Jars) :	36487

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2267

PERFORMANCE

	In	Out
Inclination (deg)	0.76	1.01
Azimuth (deg)	89.05	96.32

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			2.03
Rotated :	249.00	13			
Total :	249.00	13	0.03	0.00	0.03

COMMENTS

BHA below RT on 11.00 hrs -20-10-09
BHA Above RT on 09:00 hrs -22-10-09
Circulating hrs =
Drilling hrs =
Rig Floor Offset = 311.11deg

OBJECTIVES:

To continue drilling 12-1/4" hole section to TD at 2510mTVDRT or +/-418m below the top of the Eastern View Group.

RESULTS:

This BHA was picked up with a new HOC, the motor was scribed to MWD then shallow tested on the first stand of HWDP. The BHA was run in and fill was tagged at 2165m with 20K WOB. Wash down to bottom at 2271m. Drilling commenced with reduced parameters of 900gpm, 100rpm and 2-5klbs WOB was used for the first 2-3m before bringing WOB up to 20K, 950gpm and 100rpm. High stick slip and torsional vibration was experienced with those drilling parameters. To mitigate above mentioned vibration rpm was increased to 110 and then to 120 This did not cure the vibration. The stick-slip and torsional vibrations were minimized only when picked up off bottom or when drilling with WOB less then 10klbs, but then ROP decreased below 25m/hr after consultation with client this was deemed an acceptable ROP from client point of view. Drilled to section TD at 2520m, the hole was circulated clean and a short wiper trip was made to 2271m and back to TD. The BHA was POOH to run 9 5/8" casing

RECOMMENDATIONS:

None

sperry-sun DRILLING SERVICES

BHA Schematic

Origin Energy Services

Trefoil-2

BHA ID #: 4

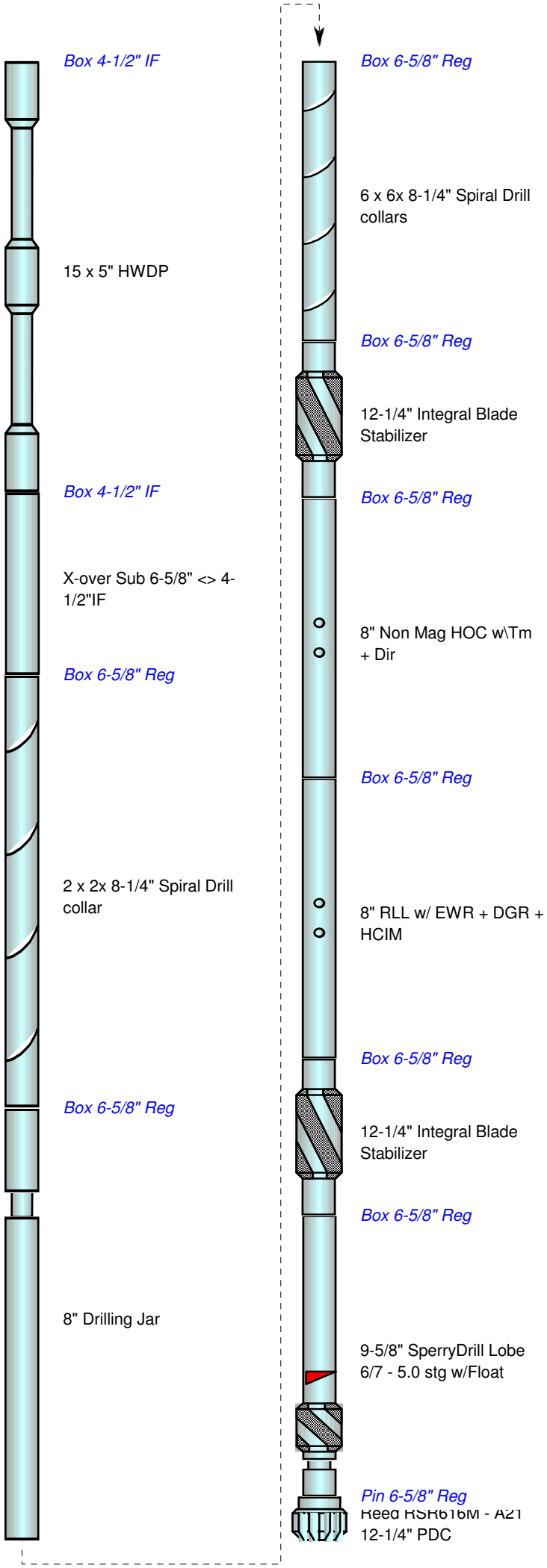
12-1/4" Performance Motor Assy

BHA Configuration

O.D.	Length	Description
12.25"	0.3m	Reed RSR616M - A21 12-1/4" PDC
9.625" w/Float	9.22m	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg
8"	1.86m	12-1/4" Integral Blade Stabilizer
8"	7.28m	8" RLL w/ EWR + DGR + HCIM
8.063"	4.8m	8" Non Mag HOC w\Tm + Dir
8.063"	1.88m	12-1/4" Integral Blade Stabilizer
8.25"	56.43m	6 x 6x 8-1/4" Spiral Drill collars
8"	9.68m	8" Drilling Jar
8.25"	18.63m	2 x 2x 8-1/4" Spiral Drill collar
6.75"	1.09m	X-over Sub 6-5/8" <> 4-1/2"IF
5"	141.54m	15 x 5" HWDP

BHA Discussion

BHA below RT on 11.00 hrs -20-10-09
BHA Above RT on 09:00 hrs -22-10-09
Circulating hrs =
Drilling hrs =
Rig Floor Offset = 311.11deg



sperry-sun
DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 5**

BHA# 5 : **Date In** 6/11/2009 **MD In (m) :** 2520 **TVD In (m) :** 2520 **Date Out** 8/11/2009 **MD Out (m):** 2523 **TVD Out (m):** 2523

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
4	8.500	Hughes	GT-1	6076381	3x22	1.114	1-1-WT-A -1-I-NO-BHA

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Hughes - GT1	6076381	8.500	3.000	8.500	169.30	B 4-1/2" Reg	0.25	
2	Bit Sub	87	6.900	2.375		112.34	B 4-1/2" IF	1.19	
3	8 x 6-3/4" Spiral Drill collar	Rig	6.750	2.813		101.00	B 4-1/2" IF	75.20	
4	6-1/2" Drilling Jar	17602018	6.500	2.813		91.91	B 4-1/2" IF	9.91	
5	3x 6-1/2" Spiral Drill collar	Rig	6.750	2.813		101.00	B 6-5/8" Reg	28.21	
6	15x 15 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	141.13	
								255.89	

Parameter	Min	Max	Ave
WOB (lbs) :			
RPM (rpm) :			
Flow (gpm) :			
SPP (psi) :			

Activity	Hrs
Drilling :	2.50
Reaming :	1.50
Circ-Other :	1.00
Total :	5.00

BHA Weight	(lb)
in Air (Total) :	60659
in Mud (Total) :	52061
in Air (Bel Jars) :	25496
in Mud (Bel Jars) :	21882

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2267

PERFORMANCE

	In	Out
Inclination (deg)	1.01	1.00
Azimuth (deg)	96.32	96.89

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			
Rotated :	3.00	0			
Total :	3.00	1	-0.04	5.79	0.00

COMMENTS

OBJECTIVES:

Drill out the shoe track and 3m of formation before conducting an FIT then POOH for an FEWD assembly

RESULTS:

Assembly achieved required results without problems

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DRILLING SERVICES

BHA Schematic

Origin Energy Services

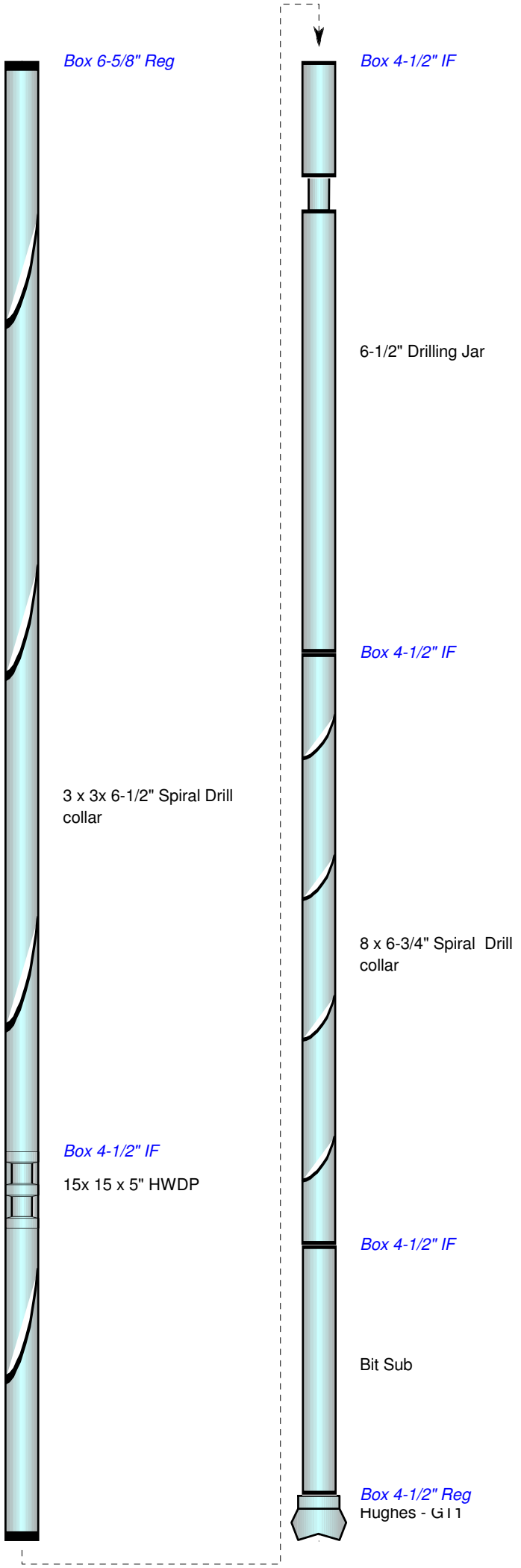
Trefoil-2

BHA ID #: 5

8-1/2" Drillout Assembly

BHA Configuration

O.D.	Length	Description
8.5"	0.25m	Hughes - GT1
6.9"	1.19m	Bit Sub
6.75"	75.2m	8 x 6-3/4" Spiral Drill collar
6.5"	9.91m	6-1/2" Drilling Jar
6.75"	28.21m	3 x 3x 6-1/2" Spiral Drill collar
5"	141.13m	15x 15 x 5" HWDP



Sperry-Sun DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 6**

BHA# 6 : **Date In** 8/11/2009 **MD In (m) :** 2523 **TVD In (m) :** 2523 **Date Out** 9/11/2009 **MD Out (m):** 2633 **TVD Out (m):** 2633

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
5	8.500	Smith	Mi616VBPX	TX2104	6x14	0.902	1-1-WT-A -X-I-NO-DTF

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Smith Mi616VBPX PDC	TX2104	8.500	2.500	8.500	176.66	P 4-1/2" Reg	0.28	
2	8-3/8" NB IB Stab w/Float	700172	6.750	2.813	8.375	100.77	B 4-1/2" IF	1.50	1.03
3	6-3/4" RLL w/DGR + EWR	90222557	6.750	1.920		112.09	B 4-1/2" IF	7.13	
4	6-3/4" PM/DM w/Dir	194443	6.750	1.920		112.09	B 4-1/2" IF	2.79	
5	6-3/4" ALD + CTN	90219755	6.750	1.920	8.250	112.09	B 4-1/2" IF	8.45	
6	6-3/4" BAT-Sonic	90227156	6.750	1.920		112.09	B 4-1/2" IF	6.72	
7	6-3/4" HOC w/TM	203846	6.750	1.920		112.09	B 4-1/2" IF	3.05	
8	6-3/4" ACAL	90223655	6.750	1.920		112.09	B 4-1/2" IF	1.83	
9	8-3/8" Integral Blade Stabilizer	700802	6.750	2.813	8.375	100.77	B 4-1/2" IF	1.70	32.75
10	8x 6-3/4" Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	74.97	
11	6-3/4" Drilling Jar	17602018	6.750	2.750		101.71	B 4-1/2" IF	9.91	
12	3x 6-3/4"Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	29.91	
13	15x 15 x 5" HWDP		5.000	3.000		42.83	B 4-1/2" IF	141.13	
								289.37	

Parameter	Min	Max	Ave
WOB (lbs) :			
RPM (rpm) :			
Flow (gpm) :			
SPP (psi) :			

Activity	Hrs
Drilling :	11.00
Reaming :	4.00
Circ-Other :	2.50
Total :	17.50

BHA Weight	(lb)
in Air (Total) :	70069
in Mud (Total) :	60137
in Air (Bel Jars) :	37039
in Mud (Bel Jars) :	31789

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2344

PERFORMANCE

	In	Out
Inclination (deg)	1.00	1.40
Azimuth (deg)	96.89	87.25

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			
Rotated :	110.00	0			
Total :	110.00	10	0.11	-2.67	0.12

COMMENTS

OBJECTIVES:

To drill vertically and log to the first core point at approximatly 2971m

RESULTS:

Drilled from 2553m to 2633m at which point the MWD pulser failed to start after a connection, the assebly was pulled to change out MWD

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DRILLING SERVICES

BHA Schematic

Origin Energy Services

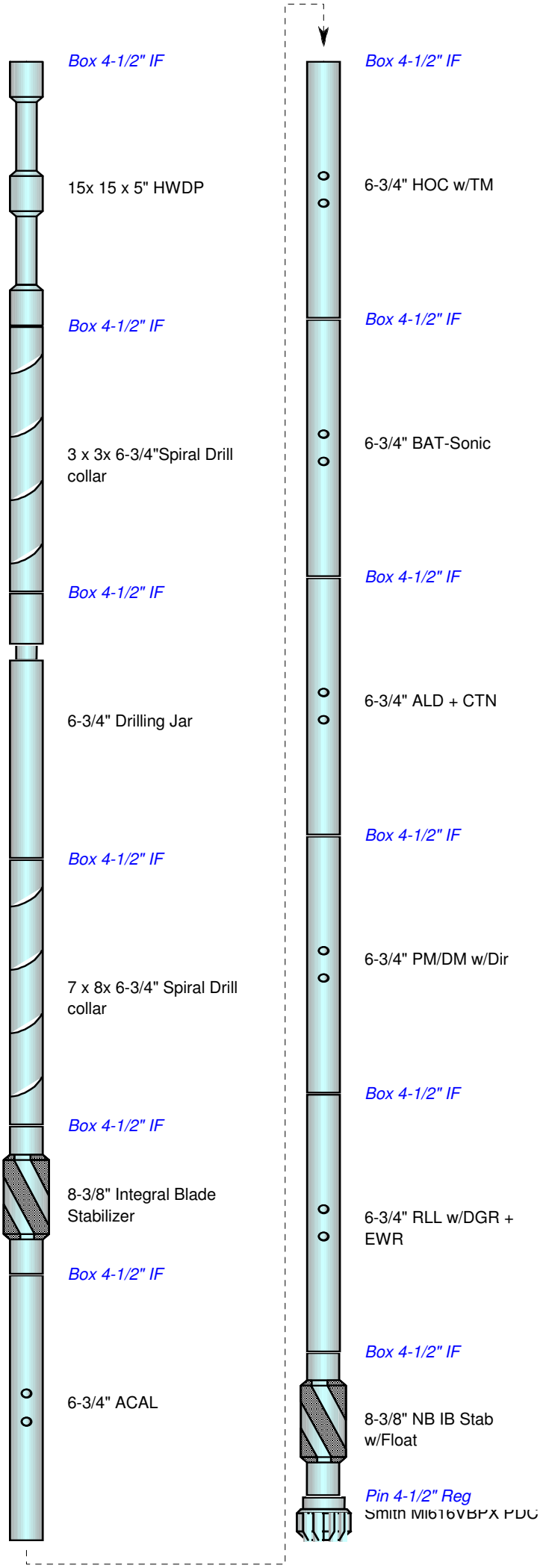
Trefoil-2

BHA ID #: 6

8.5" Rotary FEWD Assembly

BHA Configuration

O.D.	Length	Description
8.5"	0.28m	Smith Mi616VBPX PDC
6.75"	1.5m	8-3/8" NB IB Stab w/Float
6.75"	7.13m	6-3/4" RLL w/DGR + EWR
6.75"	2.79m	6-3/4" PM/DM w/Dir
6.75"	8.45m	6-3/4" ALD + CTN
6.75"	6.72m	6-3/4" BAT-Sonic
6.75"	3.05m	6-3/4" HOC w/TM
6.75"	1.83m	6-3/4" ACAL
6.75"	1.7m	8-3/8" Integral Blade Stabilizer
6.75"	74.97m	7 x 8x 6-3/4" Spiral Drill collar
6.75"	9.91m	6-3/4" Drilling Jar
6.75"	29.91m	3 x 3x 6-3/4"Spiral Drill collar
5"	141.13m	15x 15 x 5" HWDP



Sperry-Sun DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 7**

BHA# 7 : **Date In** 9/11/2009 **MD In (m) :** 2633 **TVD In (m) :** 2633 **Date Out** 12/11/2009 **MD Out (m):** 2983 **TVD Out (m):** 2982

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
5rr1	8.500	Smith	Mi616VBPX	TX2104	6x14	0.902	1-2-CT-S -X-I-WT-CP

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Smith Mi616VBPX PDC	TX2104	8.500	2.500	8.500	176.66	P 4-1/2" Reg	0.28	
2	8-3/8" NB IB Stab w/Float	700172	6.750	2.813	8.375	100.77	B 4-1/2" IF	1.50	1.03
3	6-3/4" RLL w/DGR + EWR	90222505	6.750	1.920		112.09	B 4-1/2" IF	7.07	
4	6-3/4" PM/DM w/Dir	1025744	6.750	1.920		112.09	B 4-1/2" IF	2.81	
5	6-3/4" ALD + CTN	9022683	6.750	1.920	8.250	112.09	B 4-1/2" IF	9.20	
6	6-3/4" BAT-Sonic	90227155	6.750	1.920		112.09	B 4-1/2" IF	6.76	
7	6-3/4" HOC w/TM	302842	6.750	1.920		112.09	B 4-1/2" IF	3.03	
8	6-3/4" ACAL	90223063	6.750	1.920		112.09	B 4-1/2" IF	1.81	
9	8-3/8" Integral Blade Stabilizer	700802	6.750	2.813	8.375	100.77	B 4-1/2" IF	1.70	33.46
10	8x 6-3/4" Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	74.97	
11	6-3/4" Drilling Jar	17602018	6.750	2.750		101.71	B 4-1/2" IF	9.91	
12	3x 6-3/4"Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	28.21	
13	15 x 5" HWDP		5.000	3.000		42.83	B 4-1/2" IF	141.13	
								288.38	

Parameter	Min	Max	Ave
WOB (lbs) :			
RPM (rpm) :			
Flow (gpm) :			
SPP (psi) :			

Activity	Hrs
Drilling :	33.50
Reaming :	1.00
Circ-Other :	2.50
Total :	37.00

BHA Weight	(lb)
in Air (Total) :	69768
in Mud (Total) :	59772
in Air (Bel Jars) :	37301
in Mud (Bel Jars) :	31956

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2695

PERFORMANCE

	In	Out
Inclination (deg)	1.40	2.90
Azimuth (deg)	87.25	84.11

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			
Rotated :	350.00	0			
Total :	350.00	10	0.13	-0.27	0.13

COMMENTS

OBJECTIVES:

To complete drilling and logging to the first core point

RESULTS:

Completed drilling to the first core point at 2983m without any problems

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DRILLING SERVICES

BHA Schematic

Origin Energy Services

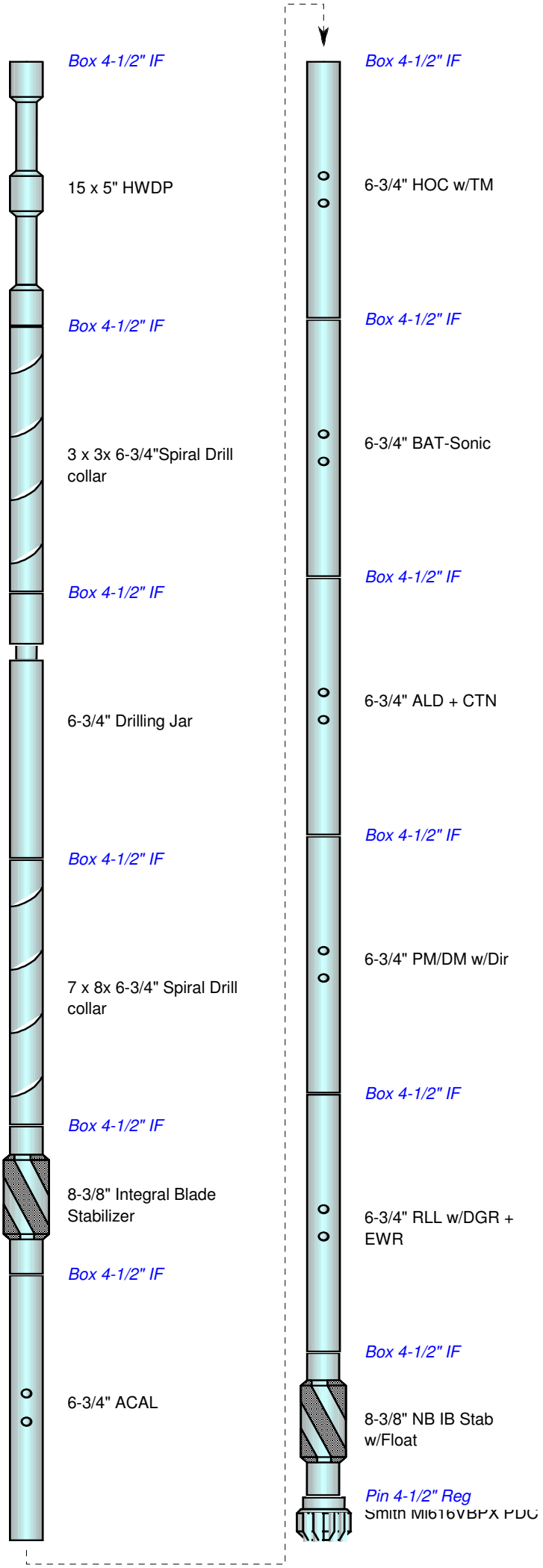
Trefoil-2

BHA ID #: 7

8-1/2" Rotary FEWD CP1 BHA

BHA Configuration

O.D.	Length	Description
8.5"	0.28m	Smith Mi616VBPX PDC
6.75"	1.5m	8-3/8" NB IB Stab w/Float
6.75"	7.07m	6-3/4" RLL w/DGR + EWR
6.75"	2.81m	6-3/4" PM/DM w/Dir
6.75"	9.2m	6-3/4" ALD + CTN
6.75"	6.76m	6-3/4" BAT-Sonic
6.75"	3.03m	6-3/4" HOC w/TM
6.75"	1.81m	6-3/4" ACAL
6.75"	1.7m	8-3/8" Integral Blade Stabilizer
6.75"	74.97m	7 x 8x 6-3/4" Spiral Drill collar
6.75"	9.91m	6-3/4" Drilling Jar
6.75"	28.21m	3 x 3x 6-3/4"Spiral Drill collar
5"	141.13m	15 x 5" HWDP



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DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 8**

BHA# 8 : **Date In** 12/11/200 **MD In (m) :** 2983 **TVD In (m) :** 2982 **Date Out** 13/11/2009 **MD Out (m):** 3013 **TVD Out (m):** 3012

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
6	8.500	Corpro	MCP572	083691	1x28	0.601	1-1-NO-FC-X-I-NO-BHA

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	PDC Coring	083691	8.500	2.500	8.500	176.66	P 4" Mod	0.28	
2	8-7/16" Coring Stabilizer	WO137319	7.130	5.630	8.440	51.23	B 4" Mod	0.76	0.68
3	CoreBarrel	WO135110	7.130	5.630		51.23	B 4" Mod	5.33	
4	8-7/16" Coring Stabilizer	WO137237	7.130	5.630	8.440	51.23	B 4" Mod	0.76	6.77
5	CoreBarrel	WO135194	7.130	5.630		51.23	B 4" Mod	5.33	
6	8-7/16" Coring Stabilizer	WO137312	7.130	5.630	8.440	51.23	B 4" Mod	0.76	12.86
7	CoreBarrel	S8414	7.130	5.630		51.23	B 4" Mod	5.33	
8	8-7/16" Coring Stabilizer	WO137258	7.130	5.630	8.440	51.23	B 4" Mod	0.76	18.95
9	CoreBarrel	723189	7.130	5.630		51.23	B 4" Mod	5.33	
10	8-7/16" Coring Stabilizer	WO137219	7.130	5.630	8.440	51.23	B 4" Mod	0.76	25.04
11	CoreBarrel	SBO6	7.130	5.630		51.23	B 4" Mod	5.33	
12	8-7/16" Integral Blade Stabilizer	WO137014	7.130	5.630	8.440	51.23	B 4" Mod	0.76	31.13
13	Top Head	W1856027	7.130	5.630		51.23	B 4-1/2" IF	0.61	
14	8x 6-3/4" Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	74.97	
15	6-3/4" Drilling Jar	17602018	6.750	2.750		101.71	B 4-1/2" IF	9.91	
16	3x 6-3/4"Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	28.21	
17	15 x 5" HWDP		5.000	3.000		42.83	B 4-1/2" IF	141.13	
								286.32	

Parameter	Min	Max	Ave
WOB (lbs) :			
RPM (rpm) :			
Flow (gpm) :			
SPP (psi) :			

Activity	Hrs
Drilling :	4.50
Reaming :	1.00
Circ-Other :	0.00
Total :	5.50

BHA Weight	(lb)
in Air (Total) :	62776
in Mud (Total) :	53782
in Air (Bel Jars) :	30309
in Mud (Bel Jars) :	25966

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2727

PERFORMANCE

	In	Out
Inclination (deg)	2.90	2.97
Azimuth (deg)	84.11	83.32

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			
Rotated :	30.00	0			
Total :	30.00	7	0.08	-0.81	0.09

COMMENTS

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DRILLING SERVICES

BHA Schematic

Origin Energy Services

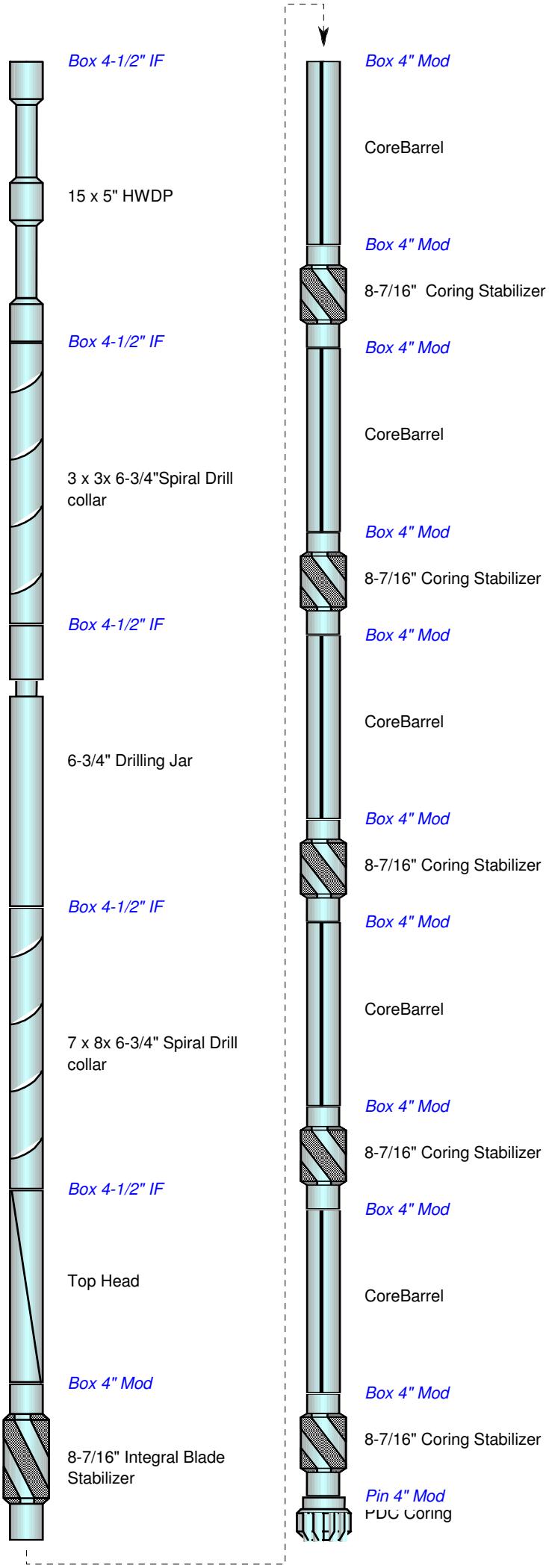
Trefoil-2

BHA ID #: 8

8-1/2" Coring Assembly - 1

BHA Configuration

O.D.	Length	Description
8.5"	0.28m	PDC Coring
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Integral Blade Stabilizer
7.13"	0.61m	Top Head
6.75"	74.97m	7 x 8x 6-3/4" Spiral Drill collar
6.75"	9.91m	6-3/4" Drilling Jar
6.75"	28.21m	3 x 3x 6-3/4"Spiral Drill collar
5"	141.13m	15 x 5" HWDP



Sperry-Sun DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 9**

BHA# 9 : **Date In** 13/11/200 **MD In (m) :** 3013 **TVD In (m) :** 3012 **Date Out** 15/11/2009 **MD Out (m):** 3145 **TVD Out (m):** 3144

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
5rr2	8.500	Smith	Mi616VBPX	TX2104	6x14	0.902	1-2-CT-S -X-I-NO-CP

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Smith Mi616VBPX PDC	TX2104	8.500	2.500	8.500	176.66	P 4-1/2" Reg	0.28	
2	8-3/8" NB IB Stab w/Float	700172	6.750	2.813	8.375	100.77	B 4-1/2" IF	1.50	1.03
3	6-3/4" RLL w/DGR + EWR	90222505	6.750	1.920		112.09	B 4-1/2" IF	7.07	
4	6-3/4" PM/DM w/Dir	1025744	6.750	1.920		112.09	B 4-1/2" IF	2.81	
5	6-3/4" ALD + CTN	9022683	6.750	1.920	8.250	112.09	B 4-1/2" IF	9.20	
6	6-3/4" BAT-Sonic	90227155	6.750	1.920		112.09	B 4-1/2" IF	6.76	
7	6-3/4" HOC w/TM	302842	6.750	1.920		112.09	B 4-1/2" IF	3.03	
8	6-3/4" ACAL	90223063	6.750	1.920		112.09	B 4-1/2" IF	1.81	
9	8-3/8" Integral Blade Stabilizer	700802	6.750	2.813	8.375	100.77	B 4-1/2" IF	1.70	33.46
10	8x 6-3/4" Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	74.97	
11	6-3/4" Drilling Jar	17602018	6.750	2.750		101.71	B 4-1/2" IF	9.91	
12	3x 6-3/4"Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	28.21	
13	15 x 5" HWDP		5.000	3.000		42.83	B 4-1/2" IF	141.13	
								288.38	

Parameter	Min	Max	Ave
WOB (lbs) :			
RPM (rpm) :			
Flow (gpm) :			
SPP (psi) :			

Activity	Hrs
Drilling :	16.00
Reaming :	4.00
Circ-Other :	1.50
Total :	21.50

BHA Weight	(lb)
in Air (Total) :	69768
in Mud (Total) :	59666
in Air (Bel Jars) :	37301
in Mud (Bel Jars) :	31899

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2857

PERFORMANCE

	In	Out
Inclination (deg)	2.97	3.76
Azimuth (deg)	83.32	82.58

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			
Rotated :	132.00	0			
Total :	132.00	8	0.18	-0.17	0.18

COMMENTS

OBJECTIVES:

To log the cored interval and drill to core point 2 at about 3128m

RESULTS:

Logged and drilled to core point 2 at 3145m with out any problems

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DRILLING SERVICES

BHA Schematic

Origin Energy Services

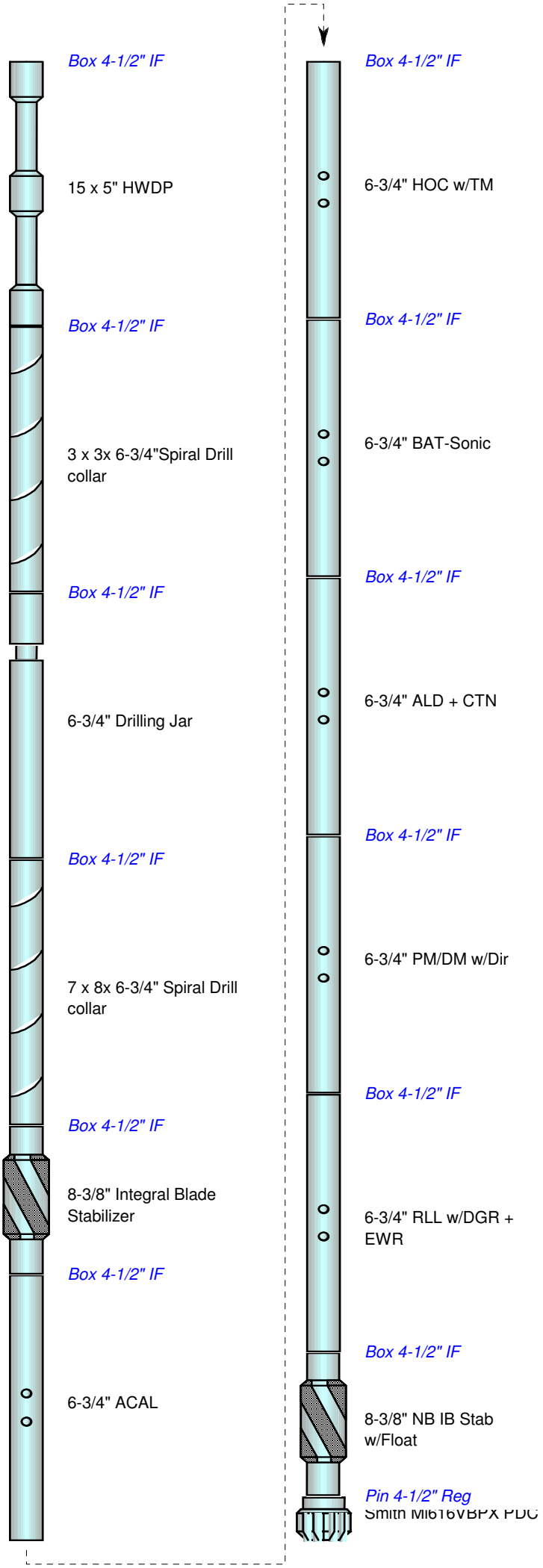
Trefoil-2

BHA ID #: 9

8-1/2" Rotary FEWD CP2 BHA

BHA Configuration

O.D.	Length	Description
8.5"	0.28m	Smith Mi616VBPX PDC
6.75"	1.5m	8-3/8" NB IB Stab w/Float
6.75"	7.07m	6-3/4" RLL w/DGR + EWR
6.75"	2.81m	6-3/4" PM/DM w/Dir
6.75"	9.2m	6-3/4" ALD + CTN
6.75"	6.76m	6-3/4" BAT-Sonic
6.75"	3.03m	6-3/4" HOC w/TM
6.75"	1.81m	6-3/4" ACAL
6.75"	1.7m	8-3/8" Integral Blade Stabilizer
6.75"	74.97m	7 x 8x 6-3/4" Spiral Drill collar
6.75"	9.91m	6-3/4" Drilling Jar
6.75"	28.21m	3 x 3x 6-3/4"Spiral Drill collar
5"	141.13m	15 x 5" HWDP



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DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 10**

BHA# 10 : **Date In** 15/11/200 **MD In (m) :** 3145 **TVD In (m) :** 3144 **Date Out** 16/11/2009 **MD Out (m):** 3175 **TVD Out (m):** 3174

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
6rr1	8.500	Corpro	MCP572	083691	1x28	0.601	1-1-NO-A -X-I-NO-BHA

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	PDC Coring	083691	8.500	2.500	8.500	176.66	P 4" Mod	0.28	
2	8-7/16" Coring Stabilizer	WO137319	7.130	5.630	8.440	51.23	B 4" Mod	0.76	0.68
3	CoreBarrel	WO135110	7.130	5.630		51.23	B 4" Mod	5.33	
4	8-7/16" Coring Stabilizer	WO137237	7.130	5.630	8.440	51.23	B 4" Mod	0.76	6.77
5	CoreBarrel	WO135194	7.130	5.630		51.23	B 4" Mod	5.33	
6	8-7/16" Coring Stabilizer	WO137312	7.130	5.630	8.440	51.23	B 4" Mod	0.76	12.86
7	CoreBarrel	S8414	7.130	5.630		51.23	B 4" Mod	5.33	
8	8-7/16" Coring Stabilizer	WO137258	7.130	5.630	8.440	51.23	B 4" Mod	0.76	18.95
9	CoreBarrel	723189	7.130	5.630		51.23	B 4" Mod	5.33	
10	8-7/16" Coring Stabilizer	WO137219	7.130	5.630	8.440	51.23	B 4" Mod	0.76	25.04
11	CoreBarrel	SBO6	7.130	5.630		51.23	B 4" Mod	5.33	
12	8-7/16" Integral Blade Stabilizer	WO137014	7.130	5.630	8.440	51.23	B 4" Mod	0.76	31.13
13	Top Head	W1856027	7.130	5.630		51.23	B 4-1/2" IF	0.61	
14	8x 6-3/4" Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	74.97	
15	6-3/4" Drilling Jar	17602018	6.750	2.750		101.71	B 4-1/2" IF	9.91	
16	3x 6-3/4"Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	28.21	
17	15 x 5" HWDP		5.000	3.000		42.83	B 4-1/2" IF	141.13	
								286.32	

Parameter	Min	Max	Ave
WOB (lbs) :			
RPM (rpm) :			
Flow (gpm) :			
SPP (psi) :			

Activity	Hrs
Drilling :	4.50
Reaming :	0.50
Circ-Other :	0.00
Total :	5.00

BHA Weight	(lb)
in Air (Total) :	62776
in Mud (Total) :	53782
in Air (Bel Jars) :	30309
in Mud (Bel Jars) :	25966

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2889

PERFORMANCE

	In	Out
Inclination (deg)	3.76	3.81
Azimuth (deg)	82.58	83.86

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			
Rotated :	30.00	0			
Total :	30.00	7	0.05	1.31	0.10

COMMENTS

sperry-sun
DRILLING SERVICES

BHA Schematic

Origin Energy Services

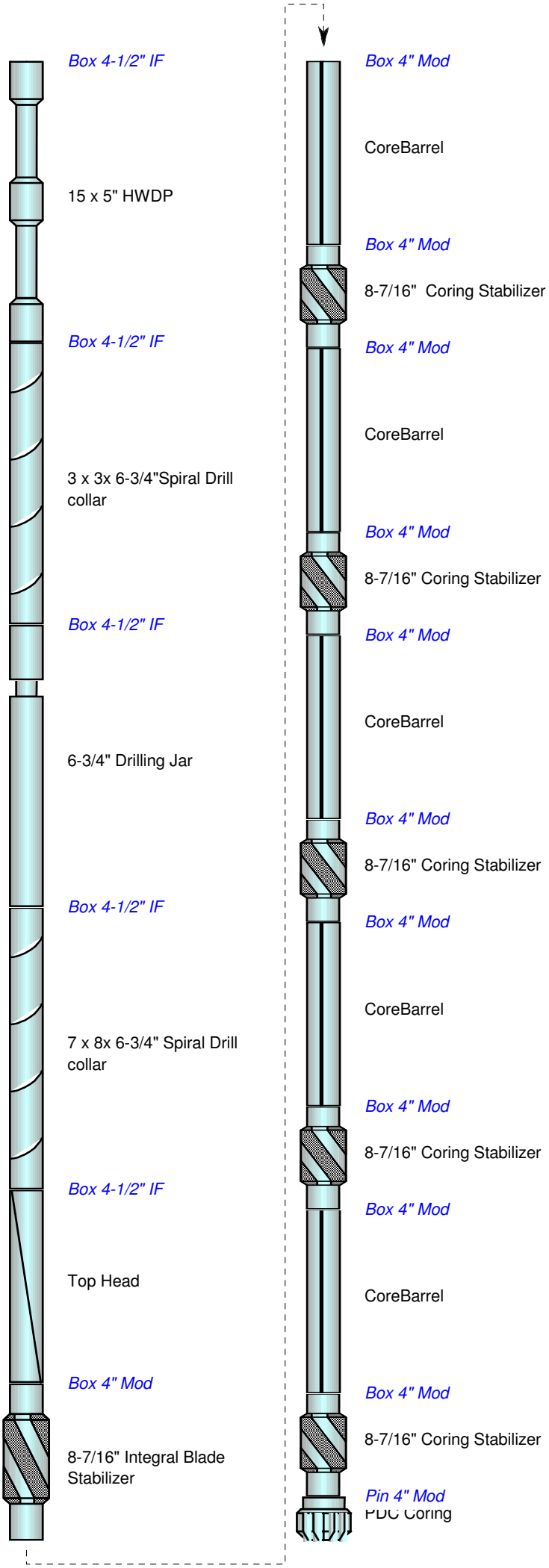
Trefoil-2

BHA ID #: 10

Coring Assembly - 2

BHA Configuration

O.D.	Length	Description
8.5"	0.28m	PDC Coring
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Coring Stabilizer
7.13"	5.33m	CoreBarrel
7.13"	0.76m	8-7/16" Integral Blade Stabilizer
7.13"	0.61m	Top Head
6.75"	74.97m	7 x 8x 6-3/4" Spiral Drill collar
6.75"	9.91m	6-3/4" Drilling Jar
6.75"	28.21m	3 x 3x 6-3/4"Spiral Drill collar
5"	141.13m	15 x 5" HWDP



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DRILLING SERVICES

BHA Report

Customer : Origin Energy Services
Well : Trefoil-2
Field : Australia
Slot : Bass Basin
Rig : Kan Tan IV
Job # : AU-DD-0006714148 **BHA# 11**

BHA# 11 : **Date In** :17/11/200 **MD In (m) :** 3175 **TVD In (m) :** 3174 **Date Cur**: 19/11/2009 **MD Cur (m):** 3235 **TVD Cur (m):** 3234

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
5rr3	8.500	Smith	Mi616VBPX	TX2104	6x14	0.902	

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Smith Mi616VBPX PDC	TX2104	8.500	2.500	8.500	176.66	P 4-1/2" Reg	0.28	
2	8-3/8" NB IB Stab w/Float	700172	6.750	2.813	8.375	100.77	B 4-1/2" IF	1.50	1.03
3	6-3/4" RLL w/DGR + EWR	90222505	6.750	1.920		112.09	B 4-1/2" IF	7.07	
4	6-3/4" PM/DM w/Dir	1025744	6.750	1.920		112.09	B 4-1/2" IF	2.81	
5	6-3/4" ALD + CTN	9022683	6.750	1.920	8.250	112.09	B 4-1/2" IF	9.20	
6	6-3/4" BAT-Sonic	90227155	6.750	1.920		112.09	B 4-1/2" IF	6.76	
7	6-3/4" HOC w/TM	302842	6.750	1.920		112.09	B 4-1/2" IF	3.03	
8	6-3/4" ACAL	90223063	6.750	1.920		112.09	B 4-1/2" IF	1.81	
9	8-3/8" Integral Blade Stabilizer	700802	6.750	2.813	8.375	100.77	B 4-1/2" IF	1.70	33.46
10	8x 6-3/4" Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	74.97	
11	6-3/4" Drilling Jar	17602018	6.750	2.750		101.71	B 4-1/2" IF	9.91	
12	3x 6-3/4"Spiral Drill collar	Rig	6.750	2.810		100.82	B 4-1/2" IF	28.21	
13	15 x 5" HWDP		5.000	3.000		42.83	B 4-1/2" IF	141.13	
								288.38	

Parameter	Min	Max	Ave
WOB (lbs) :			
RPM (rpm) :			
Flow (gpm) :			
SPP (psi) :			

Activity	Hrs
Drilling :	11.50
Reaming :	1.50
Circ-Other :	2.50
Total :	15.50

BHA Weight	(lb)
in Air (Total) :	69768
in Mud (Total) :	59772
in Air (Bel Jars) :	37301
in Mud (Bel Jars) :	31956

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2947

PERFORMANCE

	In	Out
Inclination (deg)	3.81	4.33
Azimuth (deg)	83.86	83.41

	Distance (m)	ROP (m/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	0.00	0			
Rotated :	60.00	0			
Total :	60.00	5	0.26	-0.23	0.26

COMMENTS

OBJECTIVES:

To log the cored interval and drill to TD

RESULTS:

Logged and drilled to TD without any problems.

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DRILLING SERVICES

BHA Schematic

Origin Energy Services

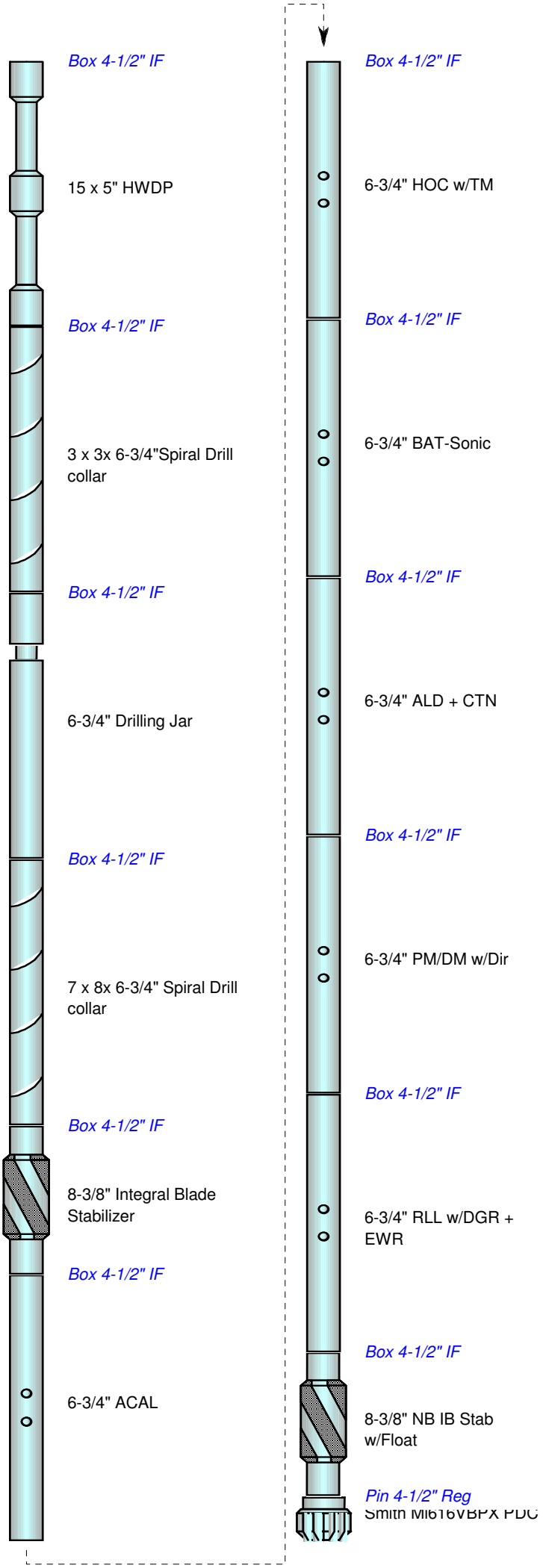
Trefoil-2

BHA ID #: 11

8-1/2" Rotary FEWDTD BHA

BHA Configuration

O.D.	Length	Description
8.5"	0.28m	Smith Mi616VBPX PDC
6.75"	1.5m	8-3/8" NB IB Stab w/Float
6.75"	7.07m	6-3/4" RLL w/DGR + EWR
6.75"	2.81m	6-3/4" PM/DM w/Dir
6.75"	9.2m	6-3/4" ALD + CTN
6.75"	6.76m	6-3/4" BAT-Sonic
6.75"	3.03m	6-3/4" HOC w/TM
6.75"	1.81m	6-3/4" ACAL
6.75"	1.7m	8-3/8" Integral Blade Stabilizer
6.75"	74.97m	7 x 8x 6-3/4" Spiral Drill collar
6.75"	9.91m	6-3/4" Drilling Jar
6.75"	28.21m	3 x 3x 6-3/4"Spiral Drill collar
5"	141.13m	15 x 5" HWDP



APPENDIX 8: WIRELINE LOGGING REPORT

Trefoil-2 END OF WELL REPORT

Logging Date: 18th-21st November 2009
Engineers: Vlad Torlov, Gareth Lee
Rig: Kan Tan IV

Table of Contents

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Crew Details 3
Logging summary 2
SUITE 1 RUN 1: SP-HRLA-PEX-HNGS-CMR+-GR 4
SUITE 1 RUN 2: XPT-MDT-GR Pressures, DFA and Sampling 6
SUITE 1 RUN 3: FMI-DSI-GR 8

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Highlights

- All safety hazards were accounted for and assessed.
- Zero HSE incidents during logging.
- Entire logging program completed with all data successfully acquired.
- A total of 65 pre tests were completed with 53 good tests and 12 tight tests.
- 6 MPSR (450cc) sample bottles were collected and successfully recovered.
- XPT run successfully with MDT. This decreased the operating time of the MDT run greatly and allowed for more pressure points at much greater speed. No lost seal during pre tests.

Lowlights

- Down time for inaccurate head tension reading at surface during run 1. Issue was resolved by changing load cell in LEH-QT.

- Down time for switch during run 1 – Switch checked in base and found to be ok. Most likely cause was loose / intermittent connection between WAFE and Collector. As part of on the job trouble shooting, every connection from the back of WAFE to collector was removed and reconnected. Once doing so, switch became operational. Full test phase with STGM was performed post job and found to be ok. Backup WAFE was mobilised for next well as a fail safe.

- Down time for power fluctuations during FMI-DSI run. Issue has been isolated to DSI power cartridge during post job trouble shooting – appropriate actions have been taken.

- Incorrect MPSR labelling for sampling stations. Issue has been reported, discussed and resolved to ensure it does not happen again.

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Crew Details

POSITION	FIRST CREW	SECOND CREW
Engineer	Vlad Torlov	Gareth Lee
Crew Chief	Stevi Nendissa	Sir Wardiyono
Operator	Shane Cumming	Rahim Johan van Leur
MDT Specialist	Dang Thanh Son	

Logging summary

OPERATIONS (Suite 1)	Operating Time (hrs)	Lost Time (hrs)
Run 1: SP-HRLA-PEX-HNGS-CMR+-GR	17.02	2.82
Run 2: XPT-MDT-GR	36.44	0.31
Run 3: FMI-DSI-GR	6.02	0.23
TOTAL	**59.48**	**3.36**

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SUITE 1 RUN 1: SP-HRLA-PEX-HNGS-CMR+-GR

Objective:

- Acquire accurate formation resistivity, density, porosity and natural gamma spectroscopy over the open hole interval during pass 1.
- Acquire accurate permeability and porosity using CMR from TD to 2800m during pass 2.
- Establish a first run in hole to be used for depth correlation during subsequent runs.

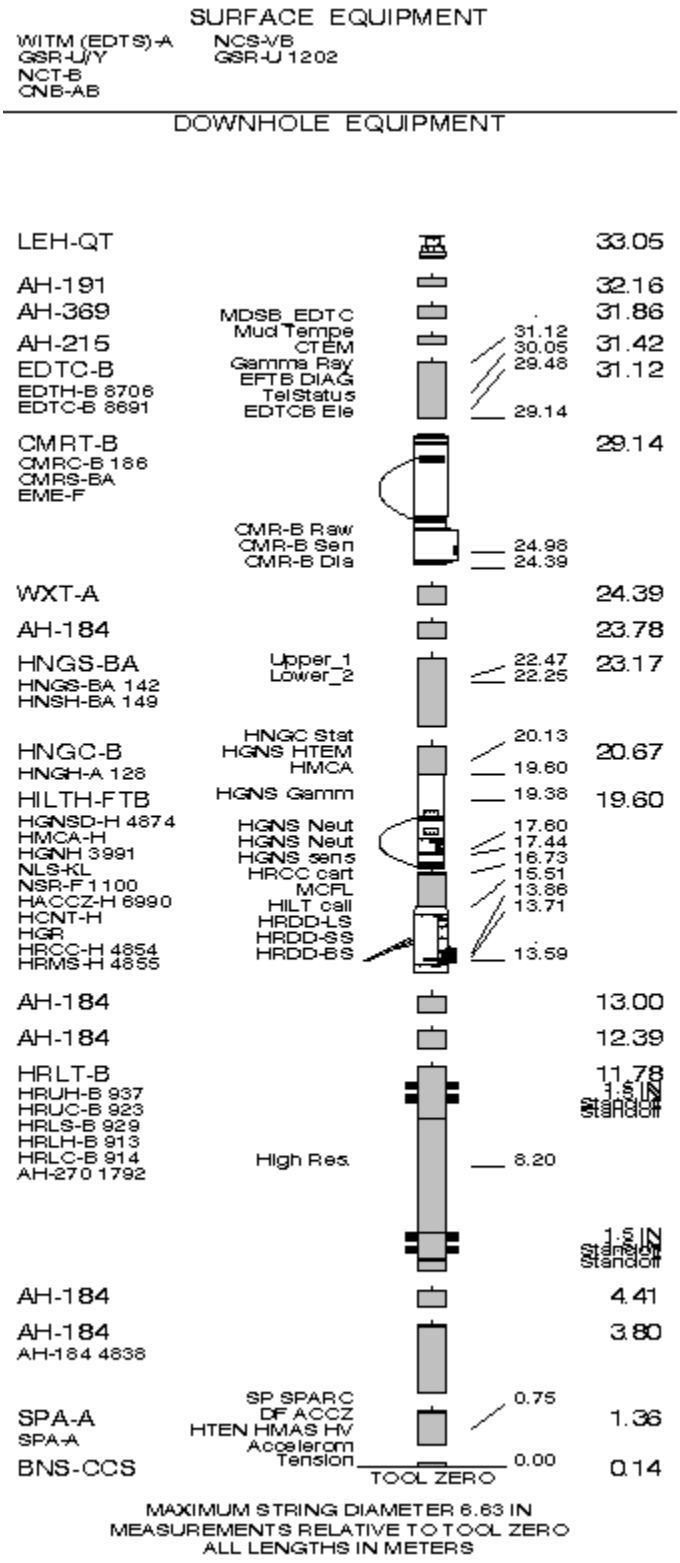
Chronology of Logging Operations - Suite 1 Run 1 (18-Nov-09)				
From	To	Time	Event	Details
16:25	18:23	1.97	Rig Up	Rig up sheaves, pick up tool and check
18:23	20:05	1.70	Lost Time	Head tension reading too low with tool weight
20:05	02:27	6.37	Operating Time	Pass 1: PEX-HRLA-SP-HNGS-GR
02:27	03:34	1.12	Lost Time	Unable to switch to CMR with WTX
03:34	11:09	7.58	Operating Time	Pass 2: CMR-GR
11:09	12:15	1.10	Rig Down	Unload RA sources and lay down tools

Actual time: 19.84hrs
Down Time: 2.82hrs

Comments for the run:

- New cable was used, hence a slower run in hole time due to the need for cable seasoning.
- TD was not tagged as per Origin request.
- Maximum recorded temperature was found to be 122DegC at 3196.8m.
- Logging speed limited to 1800 ft/hr for HNGS and high res density / porosity.

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Pic.1 Toolstring Run during Suite1 Run1

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SUITE 1 RUN 2 XPT-MDT-GR

Objective:

- Obtain sufficient formation pressure readings to establish gradients in key zones.
- Pump out for DFA in zones of interest.
- Pump out for sample capture in zones of interest.

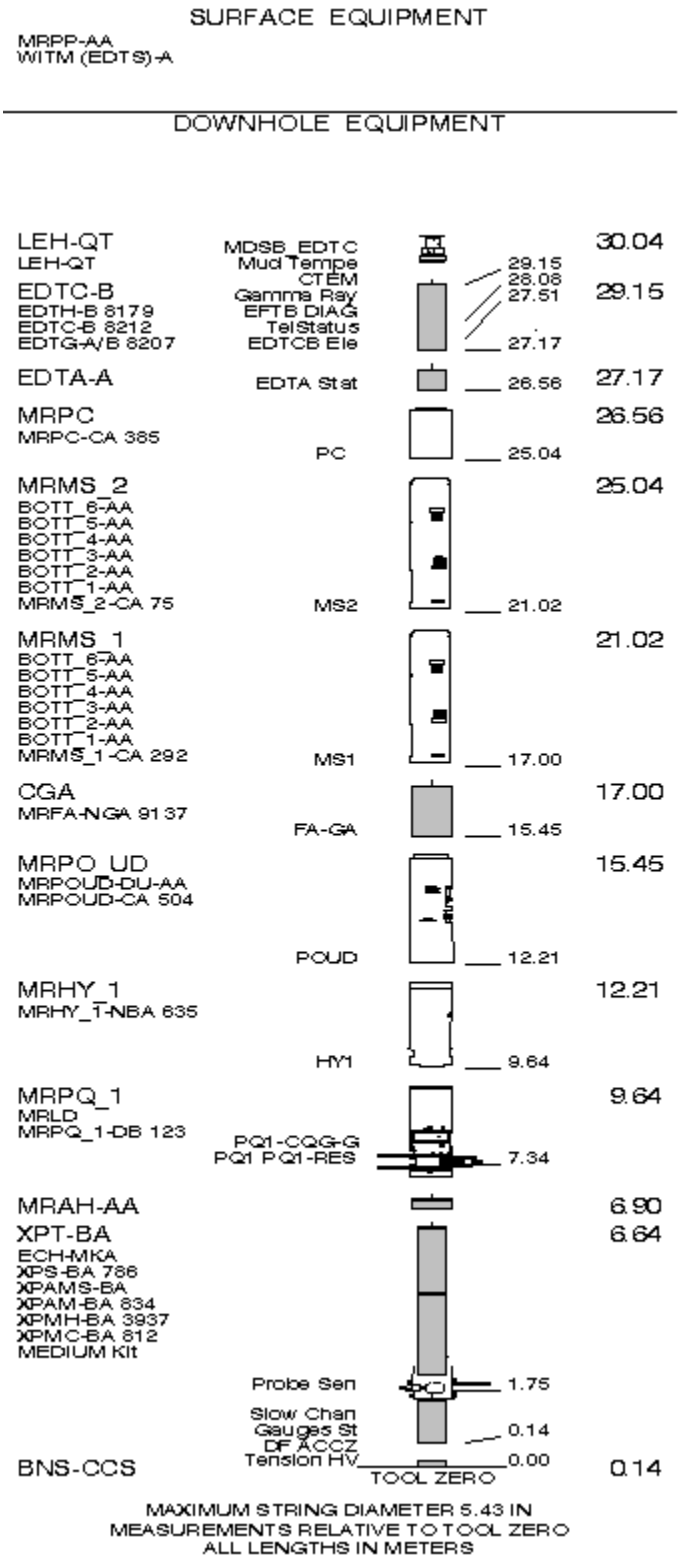
Chronology of Logging Operations - Suite 1 Run 2 (19-Nov-09)				
From	To	Time	Event	Details
12:15	13:05	0.83	Rig up	Pick up MDT-XPT tools and check
13:05	05:24	16:32	Operating time	XPT pre tests
05:24	05:32	0.13	Lost time	Restarted logging software
05:32	06:25	0.88	Operating time	XPT pre tests
06:25	06:30	0.08	Lost time	Restarted logging software
06:30	07:01	0.52	Operating time	XPT pre tests
07:01	07:07	0.10	Lost time	Restarted logging software
07:07	00:05	16.97	Operating time	MDT sampling
00:05	01:00	0.92	Rig down	Lay down MDT tool string

Actual time: 36.75Hrs
Down Time: 00.31Hrs

Comments for the run:

- 53 good tests and 12 tight tests were performed. No lost seals.
- XPT in combination with MDT provided fast pressure measurements while being able to sample in the same run.
- 6 MPRS (450cc) bottles were filled and recovered at 3 sampling stations.
- 4 DFA pumping stations were performed.

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Pic.2 Toolstring Run during Suite1 Run2

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SUITE 1 RUN 3: FMI-DSI-GR

Objective:

- To record P and S sonic waveforms across the entire OH section and into casing until the signal is lost.
- Record micro resistivity image from TD to 2800m.

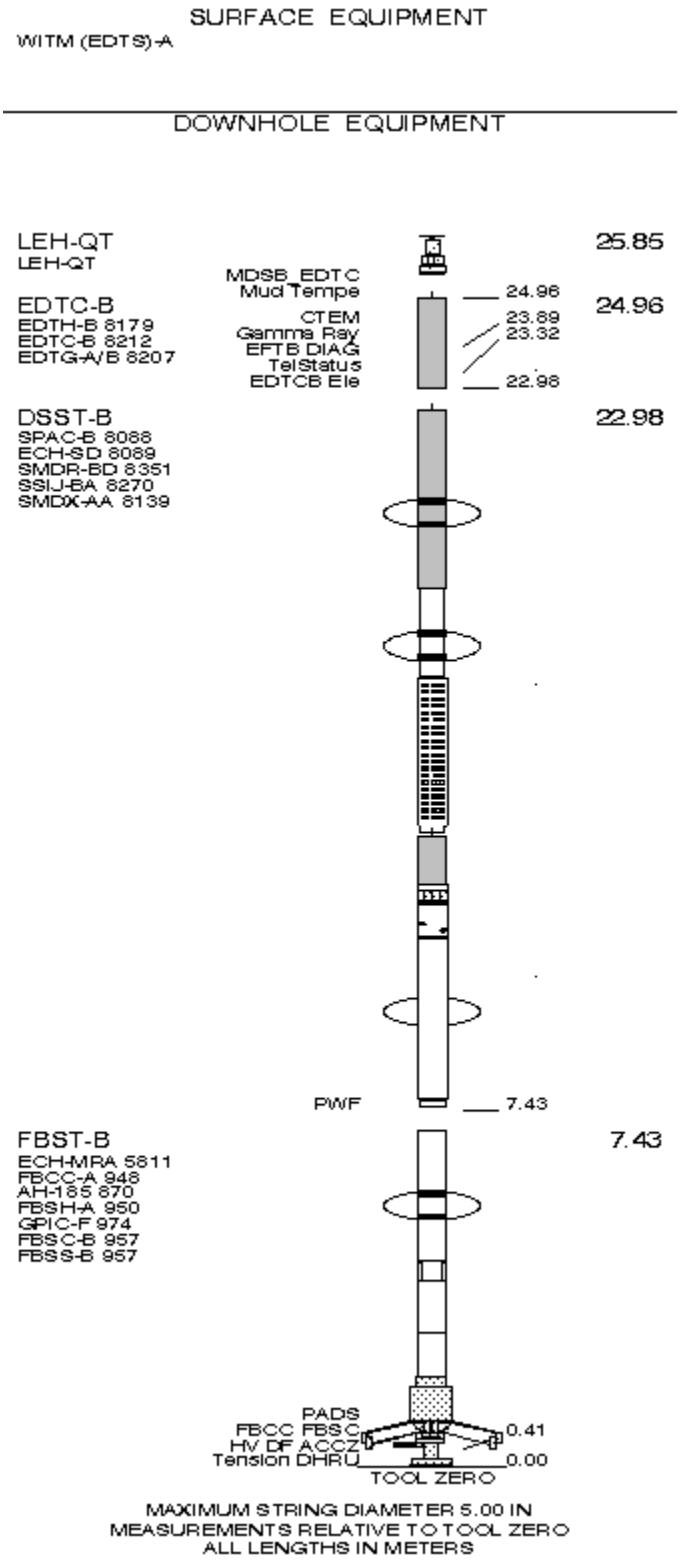
Chronology of Logging Operations - Suite 1 Run 3 (21-Nov-09)				
From	To	Time	Event	Details
01:00	01:40	0.67	Rig up	Pick up and check logging tool
01:40	04:12	2.53	Operating time	Logging FMI-DSI
04:12	04:26	0:23	Lost time	AC-Main power fluctuations
04:26	07:15	2.82	Operating time	Logging FMI-DSI
07:15	08:15	1.00	Rig down	Lay down tool and rig down sheaves

Actual time: 7.25
Down Time: 0.23

Comments for the run:

- No P wave was present in casing due to lack of cement.
- FMI pad pressure was change during logging according to real time FMI image.

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Pic.3 Toolstring Run during Suite1 Run3

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Trefoil-2

Well Details

Country:	Australia	Current Hole Size:	8.500	Casing O.D.:	9.625	AFE Cost:	$33,167,745
Field:	Trefoil	Measured Depth:	3235.0	Casing MD:	2520.0	AFE #:	Trefoil-2
Rig:	Kan Tan IV	True Vertical Depth:	3235.0	Casing TVD:	2520.0	Daily Cost:	$600,000
Planned TD:	3221.0m	Progress:	0	FIT/LOT:	11.00/	Cumul. Cost:	$35,023,151
RT-ASL(MSL):	26.0m	Days From Spud:	45.67			Last BOP Date:	05 Nov 2009
RT - ML:	95.0m	Days On Well:	50.38			Last LTI Date:	01 Nov 2009

Current Ops @ 0600:	Wire line Run #3, FMI-DSI-GR
Planned Operations:	Cont/ W/ wire line run #3. RIH with cmt stinger & pump cmt plugs for P&A.

Logging Suite Details

Suite No.	1	Witness:	D.Archer/L.Hansen
Wireline Depth MDBRT:	3235.0	Wireline Company:	Schlumberger
Wireline Shoe Depth MDBRT:	2520.0	Wireline Engineer 1:	Vladislav Torlov
		Wireline Engineer 2:	Gareth Lee

Mud Resistivity Data

Suite No. 1	Mud Source:	Flowline	Rm:	0.099 @ 24
	Rmf:	0.09 @ 24	Rmc:	0.122 @ 24

Run Depth Summary

Run No.	Tool String	Log Top	Log Bottom	Remarks
1	SP-HRLA-PEX-HNGS-CMR+	2520.0	3230.0	RIH from 2038 hrs to 3230 mMDRT. Did not tag hole bottom. Logged PEX/HRLA repeat section from 3215-3100m and main pass from 3230-2520 mMDRT@ 1800ft/hr. Unable to switch off PEX/HRLA. Repaired. Tuned CMR at 3127 mMDRT. Logged CMR repeat from 3068-2970m @ 500ft/hr. Retuned CMR @ 3010 mMDRT. RIH to 3230 mMDRT for CMR main pass. Max BHT 122 deg C @ 3196 mMDRT.
2	XPT-MDT	2560.0	3208.0	RIH from 1323 hrs to 2560 mMDRT. Commenced pretests at 1550 hrs. XPT-MDT pretests: 65 tests attempted, 50 valid, 1 supercharged, 14 tight. No problems coming off the wall. Conducted pump out and sampling program. Hole sticky, with both tool and cable becoming temporarily stuck. Yo-yoed cable and removed problem. 14 attempted sampling points, 7 pump outs, 3 sampling stations, 6 samples taken. Max BHT 126 deg C @ 3190 mMDRT.
3	FMI-DSI-GR	3230.0	2520.0	RIH from 0145 hrs to 3230 mMDRT. Commenced FMI-DSI logging of repeat section at 0319 hrs. Commenced FMI-DSI logging of main pass at 0344 hrs. Downhole tool failure due to voltage fluctuations. 1.5m of data lost and one overlap log run. Completed FMI log, continued with DSI log to shoe where formation signal was lost. Max BHT 126 deg C @ 3205 mMDRT.

Circulation History

Run No.	Date / Time circulation started	Date / Time circulation stopped	Date / Time tool left max depth	Max BHT °C / °F	Remarks
1	18 Nov 2009 - 03:00	18 Nov 2009 - 04:30	19 Nov 2009 - 06:09	122 / 251.6	
2	18 Nov 2009 - 03:00	18 Nov 2009 - 04:30	20 Nov 2009 - 02:30	126 / 258.8	
3	18 Nov 2009 - 03:00	18 Nov 2009 - 04:30	21 Nov 2009 - 03:19	126 / 258.8	

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Detailed Operational Summary						
Date	Class	Start Time	End Time	Duration mins	End Depth MDBRT	Activity
Run # 1						
18 Nov 2009	PT	00:00	10:30	630	2800.0	Complete CMR main pass. Turn off tool. POOH.
18 Nov 2009	PT	16:25	16:35	10		JSA
18 Nov 2009	PT	16:35	18:00	85		Pick up sheaves and tools
18 Nov 2009	PT	18:00	18:22	22		Op check tool string prior to loading sources
18 Nov 2009	PT	18:22	18:23	1		Zero tool
18 Nov 2009	LTT	18:23	20:05	102		Head tension reading too low. Replaced load sensor.
18 Nov 2009	PT	20:05	20:06	1		Zero tool
18 Nov 2009	PT	20:06	20:37	31		Install nuclear sources
18 Nov 2009	PT	20:37	20:38	1		Re-zero tool
18 Nov 2009	PT	20:38	20:48	10		Run into hole, all tools operating
18 Nov 2009	PT	20:48	20:50	2	100.0	Compensate
18 Nov 2009	PT	20:50	21:05	15	100.0	Run in hole
18 Nov 2009	PT	20:54	20:55	1	151.6	Rig up length surface (RULS)
18 Nov 2009	PT	20:55	21:05	10	151.6	Run in hole
18 Nov 2009	PT	21:05	21:08	3	500.0	Season cable
18 Nov 2009	PT	21:08	21:27	19	500.0	Run in hole
18 Nov 2009	PT	21:27	21:32	5	1000.0	Season cable
18 Nov 2009	PT	21:32	21:49	17	1000.0	Run in hole
18 Nov 2009	PT	21:49	21:55	6	1500.0	Season cable
18 Nov 2009	PT	21:55	22:08	13	1500.0	Run in hole
18 Nov 2009	PT	22:08	22:13	5	2000.0	Season cable
18 Nov 2009	PT	22:13	22:30	17	2000.0	Run in hole
18 Nov 2009	PT	22:30	22:36	6	2500.0	Season cable
18 Nov 2009	PT	22:31	22:32	1	2485.0	Caliper check at 2485 mMDRT = 8.40"
18 Nov 2009	PT	22:36	22:42	6	2500.0	Run in hole
18 Nov 2009	PT	22:42	23:01	19	2520.0	Run in hole. Downlog from shoe to 3230m; no problems going through shoe.
18 Nov 2009	PT	23:01	23:07	6	3050.0	Season cable
18 Nov 2009	PT	23:07	23:14	7	3050.0	Run in hole
18 Nov 2009	PT	23:14	23:30	16	3215.0	Log up PEX repeat section @ 1800ft/hr from 3215m to 3100m
18 Nov 2009	PT	23:30	23:39	9	3088.0	End PEX repeat section. Run in hole to 3230m to start Main pass.
18 Nov 2009	PT	23:39	23:59	20	3230.0	Log up PEX main pass @ 1800ft/hr.
19 Nov 2009	PT	00:00	01:08	68	3100.0	Logged up PEX main pass to 2520m (9 5/8" casing shoe)
19 Nov 2009	PT	01:08	01:09	1	2504.0	Caliper check in casing.
19 Nov 2009	PT	01:09	01:09	0	2504.0	Finished PEX main pass.
19 Nov 2009	PT	01:09	01:50	41	2504.0	Compiled PEX data to send to town before CMR run.
19 Nov 2009	PT	01:50	02:27	37	2504.0	Run in hole to 3230m @ 6000ft/hr (slowing down to 1500ft/hr closer to TD) to start CMR repeat section from 3068-2970m.
19 Nov 2009	LTT	02:27	03:34	67	3060.0	Unable to disconnect PEX-HRLA from CMR. Switch not getting any current. Reciprocated. Replaced cards.
19 Nov 2009	PT	03:34	03:39	5		Run in hole so CMR is at 3055m to tune the tool and log repeat section.
19 Nov 2009	PT	03:39	04:09	30	3076.5	Tuning CMR at 3127m.
19 Nov 2009	PT	04:09	04:29	20	3110.0	Set up CMR tool parameters.

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Detailed Operational Summary						
Date	Class	Start Time	End Time	Duration mins	End Depth MDBRT	Activity
19 Nov 2009	PT	04:29	05:42	73	3110.0	Log up CMR repeat section @ 500ft/hr from 3068m to 2970m.
19 Nov 2009	PT	05:42	05:59	17	2970.0	Stop logging repeat section. Run in to second tune station for CMR at 3010m.
19 Nov 2009	PT	05:59	06:09	10	3010.0	Run in hole to 3230m to start CMR main pass.
19 Nov 2009	PT	06:09	09:11	182	3230.0	Start CMR main pass @ 500ft/hr. Difficult to hold speed.
19 Nov 2009	PT	10:41	10:49	8	120.0	decompensate
19 Nov 2009	PT	10:49	11:09	20	120.0	POOH.
19 Nov 2009	PT	11:09	11:12	3	29.0	Remove sources
19 Nov 2009	PT	11:12	12:15	63	0.0	Lay out tools
Run # 2						
19 Nov 2009	PT	12:15	13:05	50		PU tool string
19 Nov 2009	PT	13:05	13:22	17		Surface checks...MDT OK, XPT OK
19 Nov 2009	PT	13:22	13:23	1		Zero tool
19 Nov 2009	PT	13:23	13:34	11	0.0	RIH to compensate
19 Nov 2009	PT	13:34	13:42	8	150.0	Set compensator
19 Nov 2009	PT	13:42	13:58	16	600.0	RIH
19 Nov 2009	PT	13:58	14:00	2	600.0	Season cable
19 Nov 2009	PT	14:00	14:11	11	1000.0	RIH
19 Nov 2009	PT	14:11	14:16	5	1000.0	Season cable
19 Nov 2009	PT	14:16	14:33	17	1500.0	RIH
19 Nov 2009	PT	14:33	14:36	3	1500.0	Season cable
19 Nov 2009	PT	14:36	14:49	13	2000.0	RIH
19 Nov 2009	PT	14:49	14:52	3	2000.0	Season cable
19 Nov 2009	PT	14:52	15:03	11	2455.0	RIH
19 Nov 2009	PT	15:03	15:06	3	2455.0	Season tool
19 Nov 2009	PT	15:06	15:16	10	2630.0	RIH
19 Nov 2009	PT	15:16	15:36	20	2630.0	Correlate -1.8m
19 Nov 2009	PT	15:36	15:50	14	2560.0	Fall off test, set, retract, fall off OK, set 2 mins, retract, fall off OK
19 Nov 2009	PT	15:50	16:25	35	2560.0	Commence pretests
19 Nov 2009	LTS	15:50	16:30	40	2614.8	Software problems
19 Nov 2009	PT	16:25	17:20	55	2632.5	Continue pretests
19 Nov 2009	PT	17:20	17:52	32	2900.0	Correlation +0.2
19 Nov 2009	PT	17:52	19:25	93	2704.0	Continue pretests
19 Nov 2009	PT	19:25	20:20	55	3130.0	Correlation + 0.8
19 Nov 2009	PT	20:20	23:06	166	2900.3	Continue pretests
19 Nov 2009	PT	23:06	23:59	53	3055.0	Correlation + 1.2
20 Nov 2009	PT	00:00	00:14	14	3055.0	Continue correlation + 1.2
20 Nov 2009	PT	00:14	02:02	108	3055.7	Continue pretests
20 Nov 2009	PT	02:02	02:31	29	3119.4	Correlation + 0.7
20 Nov 2009	PT	02:31	05:24	173	3134.6	Continue pretests, hydraulic setting pressure of the piston reading slightly low
20 Nov 2009	LTS	05:24	05:33	9	3180.0	Software problems
20 Nov 2009	PT	05:33	06:25	52	3180.0	Continue pretests
20 Nov 2009	LTS	06:25	06:30	5	3200.0	Software problems with mobility calculations

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Detailed Operational Summary						
Date	Class	Start Time	End Time	Duration mins	End Depth MDBRT	Activity
20 Nov 2009	PT	06:30	07:01	31	3200.0	Continue pretests. Completed pretests.
20 Nov 2009	LTS	07:01	07:07	6	3210.0	Software problems. Restart computer.
20 Nov 2009	PT	07:07	07:45	38	3210.0	Waiting to get sampling point depths from town. Correlate +0.2.
20 Nov 2009	PT	07:45	08:15	30		Continue to pull up slowly. Monitor depth correlatiuon. Wait on decision from town re sampling/pump out depths.
20 Nov 2009	PT	08:15	08:35	20	2700.0	RIH to bottom to recorrelate.
20 Nov 2009	PT	08:35	08:45	10	3220.0	Correlate...compensator at 14K rather than 16K. Adjust. Recalibrate.
20 Nov 2009	PT	08:45	08:54	9	3180.8	Move down to first pump out and sample collection point.
20 Nov 2009	PT	08:54	11:45	171	3182.0	Pump out at 3181.2 mMDRT.
20 Nov 2009	PT	11:45	11:58	13	3171.2	Off wall...lost 1500 lbs head tension...tool stuck...probable mud cake. Move to next point and check correlation on the way + .2m.
20 Nov 2009	PT	11:58	12:14	16	3171.2	Commenced pretest...differnet hydrostatic pressures and formation pressures. Abort test and do depth correlation.
20 Nov 2009	PT	12:14	12:27	13	3171.2	Correlate. Correlation OK.
20 Nov 2009	PT	12:27	14:42	135	3171.2	At 3171.2 mMDRT for pump out. Took two samples.
20 Nov 2009	PT	14:42	14:48	6	3175.0	Off wall...lost 2800 lbs on cable...move to station #3
20 Nov 2009	PT	14:48	15:58	70	3175.0	3175 mMDRT for pump out. Yo-yo cable...getting sticky....hard to get off wall.
20 Nov 2009	PT	15:58	16:11	13	3154.9	Move to and pump out at 3154.9 mMDRT. Tight spot. Move down 0.2 m.
20 Nov 2009	PT	16:11	17:50	99	3155.1	3155.1 MMDRT. Pump out.
20 Nov 2009	PT	17:45	18:58	73	3149.0	Move to and pump out from 3149 mMDRT
20 Nov 2009	PT	18:58	19:24	26	2992.0	Correlation - 0.2
20 Nov 2009	PT	19:24	19:33	9	2992.0	Move to pump out from 2992 mMDRT. Tight spot. Move down to 2994.8 mMDRT.
20 Nov 2009	PT	19:33	20:11	38	2994.8	Pretest at 2994.8 mMDRT. Start pumping @ 1943 hours. Retracted.
20 Nov 2009	PT	20:11	20:25	14	2980.5	Move to and pump out 2980.5 mMDRT. Tight spot. Move down by 0.2m.
20 Nov 2009	PT	20:25	20:36	11	2980.7	Move to pump out 2980.7 mMDRT. Retracted. Mobility too low to pump.
20 Nov 2009	PT	20:36	20:53	17	2980.7	Correlation OK
20 Nov 2009	PT	20:53	22:41	108	2830.3	Move to pump out 2830.3 mMDRT. Took two samples.
20 Nov 2009	PT	22:41	23:59	78	2830.3	POOH.
21 Nov 2009	PT	00:00	00:05	5	2830.3	POOH.
21 Nov 2009	PT	00:05	01:00	55		Laying down tools.
Run # 3						
21 Nov 2009	PT	01:00	01:40	40		PU tool string.
21 Nov 2009	PT	01:40	01:44	4		Surface checks OK
21 Nov 2009	PT	01:44	01:45	1		Zero tool
21 Nov 2009	PT	01:45	01:54	9		RIH.
21 Nov 2009	PT	01:54	01:57	3	150.0	Put tension back on compensator
21 Nov 2009	PT	01:57	02:44	47	150.0	RIH.
21 Nov 2009	PT	02:44	02:52	8	2500.0	Caliper test C1 8.309" and C2 8.372", adjusted offset for both
21 Nov 2009	PT	02:52	03:17	25		RIH while recording GR downlog with calipers closed
21 Nov 2009	PT	03:17	03:19	2	3220.0	Reached 3230 mMDRT

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Detailed Operational Summary						
Date	Class	Start Time	End Time	Duration mins	End Depth MDBRT	Activity
21 Nov 2009	PT	03:19	03:37	18	3220.0	Start logging DSI-FMI repeat section up to 3125 mMDRT
21 Nov 2009	PT	03:37	03:44	7	3220.0	RIH to start DSI-FMI main pass
21 Nov 2009	PT	03:44	04:00	16	3220.0	Start DSI-FMI main pass
21 Nov 2009	LTT	04:00	04:01	1	3167.0	Tool voltage fluctuation at 3167 mMDRT- lost 1.5 m of data
21 Nov 2009	PT	04:01	04:13	12	3767.0	Continue DSI-FMI main pass
21 Nov 2009	LTT	04:13	04:26	13	3025.0	Tool voltage fluctuations at 3025 mMDRT. Going back down to 3060m to run overlap log.
21 Nov 2009	PT	04:26	04:58	32	3060.0	Continue DSI-FMI main pass
21 Nov 2009	PT	04:58	05:46	48	2780.0	Stopped FMI at 2780 mMDRT. Continue logging DSI main pass through casing until loss of signal.
21 Nov 2009	PT	05:46	05:55	9	2400.0	Stopped DSI to change frequency. Went back down to 2450 mMDRT to try to get better reading. Continue to log DSI until loss of signal.
21 Nov 2009	PT	05:55	07:15	80	2400.0	POOH.
21 Nov 2009	PT	07:15	07:16	1		Tools at surface.
21 Nov 2009	PT	07:16	07:50	34		Lay down tools.
21 Nov 2009	PT	07:50	08:15	25		Rig down.

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APPENDIX 9: PALYNOLOGICAL BASIC DATA

MORGAN PALAEO ASSOCIATES

PALYNOLOGICAL/PETROLEUM GEOLOGICAL CONSULTANTS

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Palynostratigraphic age determinations for infill samples from

TREFOIL-2 2984-2994 mRT

BASIC REPORT

T/18P, Bass Basin, Tasmania

Mike Macphail

Palaeontological report prepared 27 July 2010 for *Origin Energy Resources* Ltd.
John Oxley Centre, 339 Coronation Drive, Milton, Qld. 4064

Consultant Palynological Services/Morgan Palaeo Associates,
PO Box 166, Maitland, SA 5573
mike.macphail@anu.edu.au

1 Basic data

Basic data are presented in Table 2. Yields and preservation were variable depending on the degree of downhole contamination.

Table 2 Basic data

Well	Depth (mRT)	Type	Yield			Preservation	
			kerogen	dinocysts	spore-pollen	dinocysts	spore-pollen
Trefoil-2	2984-2985	core	high	trace	high	poor	poor
	2993-2994	core	high	trace	high	poor	fair

TABLE 3A: QUANTITATIVE DATA INFILL SAMPLES

WELL	**TREFOIL-2**	
Sample type	core	core
Depth mRT	2984-2985	2993-2994
ANGIOSPERMS		
Australopollis obscurus		1
Gambierina spp.	2	1
Nothofagidites emarcidus-heterus		
Nothofagidites endurus/senectus	2	3
Peninsulpollis gillii	2	2
Periporopollenites spp.		
Proteacidites spp.	2	3
Spinizonocolpites prominatus		
Tricolpites spp.		1
Tricolporites/Rhoipites spp.		
unassigned angiosperms		
TOTAL ANGIOSPERMS	**8**	**11**
GYMNOSPERMS		
Aracuariacites australis	8	4
Dilwynites spp.	20	18
Lygistepollenites balmei		
Lygistepollenites florinii		
Microcachrydites antarcticus		
Phyllocladidites mawsonii	14	6
Podosporites/Trichotomosaccites	3	3
Podocarpidites (*sensu lato*)	15	25
TOTAL GYMNOSPERMS	**60**	**56**
FERNS, FERN ALLIES & BRYOPHYTES		
Baculatisporites spp.	6	5
Clavifera triplex	1	1
Cyathidites splendens	1	
Cyathidites (> 45 microns)	2	4
Gleicheniidites spp.		
Herkosporites/Neoraistrickia		
Latrobosporites spp.		
Laevigatosporites spp.	1	1
Peromonolites spp.		1
Retitriletes spp.		
Stereisporites spp.	3	1
psilate trilete spores incl. *Cyathidites* (< 45 microns)	15	16
Unassigned trilete spores	3	4
TOTAL CRYPTOGAMS	**32**	**33**
TOTAL POLLEN + SPORES	**100**	**100**
FUNGAL SPORES	**5**	**7**
FRESH- & BRACKISH WATER ALGAE		
Botryococcus		
Morkallacysta pyramidalis		
Saeptodinium		
unassigned cysts		
TOTAL FRESH- & BRACKISHWATER ALGAE	**0**	**0**
MARINE ALGAE (DINOCYSTS)		
TOTAL DINOCYSTS	**0**	**0**
RECYCLED TAXA		
Palaeozoic-Mesozoic gymnosperm pollen		
TOTAL RECYCLED	**0**	**0**
MODERN CONTAMINANTS		
Angiosperm pollen		
TOTAL CONTAMINANTS	**0**	**0**

TABLE 3B: DISTRIBUTION DATA INFILL SAMPLES		
WELL	TREFOIL-2	
Sample Type	core	core
DEPTH (mRT)	2984-2985	2993-2994
Botryococcus	X	
Fibrocysat bipolare		
Homotryblium tasmaniense		
Hystrichosphaeridium tubiferum		
Morkallacysta pyramidalis	X	X
Saeptodinium		
Spiniferites spp.		
Thallasiphora		
unassigned algal cysts	X	X
Pesavis [fungal spore]		X
Alisporites grandis		
Annulispora folliculosa		
Araucariacites australis	X	X
Australopollis obscurus		X
Baculatisporites spp.	X	X
Balmeiopsis limbata		
Battenipollis sectilis		
Beaupreaidites orbiculatus		cf.
Callialiasporites dampieri		
Camarozonosporites apiculata ms		
Camarozonosporites bullatus		
Cingutriletes congruens	X	
Clavifera triplex		X
Contignisporites glebulentus		
Corollinia simplex	X	
Cyathidites australis/minor	X	X
Cyathidites splendens	X	X
Cycadopites spp.		X
Dacrycarpites australiensis		
Dilwynites granulatus	X	X
Dilywnites pusillus		
Dilwynites tuberculatus	X	
Forcipites longus		
Forcipites spp.		X
Gambierina edwardsii		cf.
Gambierina bulbosus ms	X	X
Gambierina megarudata ms		
Gambierina pugillus ms	X	
Gambierina rudata	X	X
Gleicheniidites ancorus		X
Gleicheniidites spp.	X	X
Haloragacidites harrisii		
Herkosporites elliotii	X	cf.
Laevigaptosporites major		X
Laevigatosporites ovatus	X	X
Latrobosporites amplus complex	X	
Leptolepidites verrucatus		
Lygistepollenites balmei		
Lygistepollenites florinii		
Malvacipollis diversus		
Malvacipollis subtilis		
Microcachrydites antarcticus complex	X	X
Neoraistrickia equalis		X
Neoraistrickia spp.		
Nothofafgidites brachyspinulosus		
Nothofagidites emarcidus-heterus		
Nothofagiidtes endurus/kaitangataensis	X	X
Nothofagidites flemingii		X
Nothofagidites (unassigned spp.)	X	X
Ornamentifera sentosa		
Penisulapollis askinae		X
Peninsulapollis gillii	X	X
Periporopollenites polyoratus		
Peromonolites digitabulum ms		X
Perotrilites linearis		
Perotriletes majus complex	X	
Perotrilites spp.	X	
Phyllocladites mawsonii	X	X
Phyllocladidites reticulosaccatus		X
Plicatipollenites spp.		
Podocarpidites spp.	X	X
Podosporites microsaccatus complex	X	X
Polypodiisporites spp.	X	X
Propylipollis amolosexinus	cf.	cf.
Proteacidites angulatus		
Proteacidites crotonoides		
Proteacidites grandis		
Proteacidites cf. *grandis*	X	
Proteacidites pachypolus		
Proteaciidtes reticuloconcavus ms		cf.
Proteacidites spp.	X	X
Protohaploxypinus amplus	X	
Retitriletes australoclavatidites complex		X
Retitriletes circolumenus		
Retitriletes spp.		X
Rotverrusporites stellatus		
Rugulatisporites mallatus complex		X
Scheuringipollenites spp.	X	
Sellaspora asperata complex		
Spinizonocolpites prominatus		
Stereisporites antiquisporites		X
Stereisporites australis	X	X
Stereisporites maastrichtensis ms	X	X
Stereisporites regium	X	X
Tensucolpites lilliei		X
Tetracolporites multistrixus ms		
Tetracolporites verrucosus		X
Tricolpites confessus		cf.
Tricolpites spp. s.l.	X	
Tricolporites spp. s.l.	X	
Triorites aff. *magnificus*		
Trilites tuberculiformis complex		
Verrucosisporites sp.		
Vitreisporites signatus		
Brassicaceae		
Casuarinaceae	X	X
Chenopodiaceae	X	X
Eucalyptus	X	
Liliaceae		
Malvaceae		
Pinus		

APPENDIX 10: MDT PRESSURE DATA

PRETESTS

Sample No.	Depth mMD	Depth mTVDRT	Depth mTVDSS	Date	Total Test Time (hh:mm)	SAPPHIRE GAUGE (PSIA)		QUARTZ GAUGE (PSIA)		SAPPHIRE GAUGE (PSIA)	QUARTZ GAUGE (PSIA)	Temp°C	Mobility	Comments
						Hydrostatic pressure BEFORE	Formation pressure	Hydrostatic Pressure BEFORE	Formation pressure	Hydrostatic Pressure AFTER	Hydrostatic Pressure AFTER			
1	2560.0	2559.7	2533.7	19/11/2009	0:04	4181.47	3671.36	4177.57	3667.36			102.5	95.2	Valid
2	2589.9	2589.6	2563.6	19/11/2009	0:05	4229.51	3708.67	4225.62	3704.67	4229.44	4225.74	102.7	70.9	Valid
3	2614.8	2614.5	2588.5	19/11/2009	0:06	4269.66	3729.29	4265.34	3725.36			103.3	181.2	Valid
4	2632.5	2632.2	2606.2	19/11/2009	0:06	4297.71	3751.00	4293.91	3747.26	4297.38	4293.78	104.2	280.3	Valid
5	2647.0	2646.7	2620.7	19/11/2009	0:05	4319.56	3767.66	4315.81	3763.93	4319.07	4315.64	104.6	327.7	Valid
6	2659.8	2659.5	2633.5	19/11/2009	0:07	4339.89	3787.29	4336.19	3783.55	4339.43	4335.98	105	97.7	Valid
7	2684.0	2683.6	2657.6	19/11/2009	0:05	4378.60	3820.70	4374.95	3816.85	4378.41	4374.81	105.3	342.7	Valid
8	2704.8	2704.4	2678.4	19/11/2009	0:05	4410.98	3843.96	4408.20	3840.84	4410.82	4408.05	109.5	165.7	Valid
9	2707.5	2707.1	2681.1	19/11/2009	0:05	4415.22	3847.60	4412.46	3844.46	4415.05	4412.24	108.9	763.3	Valid
10	2748.0	2747.6	2721.6	19/11/2009	0:05	4480.39	3899.94	4477.41	3896.58	4480.04	4477.03	108.4	303.9	Valid
11	2830.3	2829.9	2803.9	19/11/2009	0:08	4611.74	4012.59	4608.41	4008.71	4611.52	4608.01	108.6	87.2	Valid
12	2832.6	2832.2	2806.2	19/11/2009	0:06	4615.18	4013.48	4611.63	4009.65	4614.98	4611.60	109.3	8.3	Valid
13	2837.9	2837.5	2811.5	19/11/2009	0:15	4623.66	4036.11	4620.19	4032.62	4623.06	4620.02	110.1	5.9	Supercharged?
14	2868.5	2868.1	2842.1	19/11/2009	0:03	4672.52	4072.71	4669.18	4069.06	4672.13	4668.92	110.3	169.6	Valid
15	2873.9	2873.4	2847.4	19/11/2009	0:05	4680.72	4080.30	4677.43	4076.62	4680.71	4677.41	110.7	76	Valid
16	2880.3	2879.8	2853.8	19/11/2009	0:04	4691.01		4687.64		4690.57	4687.60	110.9	0.2	Tight
17	2887.0	2886.5	2860.5	19/11/2009	0:06	4701.62	4095.11	4698.38	4091.70	4701.63	4698.42	111.5	5.1	Supercharged?
18	2900.2	2899.7	2873.7	19/11/2009	0:07	4721.05	4110.43	4719.38	4108.06	4721.66	4719.57	116.4	19.7	Valid
19	2915.6	2915.1	2889.1	19/11/2009	0:07	4745.91	4130.54	4743.71	4127.80	4746.08	4743.59	115	11.3	Valid
20	2932.0	2931.5	2905.5	19/11/2009	0:07	4772.56	4153.36	4769.84	4150.29	4772.70	4769.86	114.4	8.5	Supercharged?
21	2937.3	2936.8	2910.8	19/11/2009	0:08	4781.08	4159.29	4778.28	4156.13	4781.16	4778.24	114.2	17	Valid
22	2971.6	2971.1	2945.1	19/11/2009	0:06	4836.33	4200.49	4833.32	4197.03	4836.23	4833.15	114.1	19.4	Valid
23	2980.4	2979.9	2953.9	19/11/2009	0:12	4850.36	4220.39	4847.24	4217.01	4850.13	4847.19	114.5	3.1	Supercharged?
23a	2983.0	2982.5	2956.5	19/11/2009	0:09	4854.60	4218.46	4851.50	4215.50	4854.53	4851.60	114.8	2.9	Supercharged?
24	2984.8	2984.2	2958.2	19/11/2009	0:05	4857.63	4220.22	4854.54	4216.85	4857.67	4854.64	115	57.7	Valid
24a	2985.5	2984.9	2958.9	19/11/2009	0:05	4858.86	4221.28	4855.80	4217.94	4858.97	4856.06	115.1	25.5	Valid
25	2994.0	2993.4	2967.4	19/11/2009	0:08	4872.52	4230.27	4869.38	4227.02	4872.23	4869.27	115.5	1.9	Supercharged?
25a	2994.8	2994.2	2968.2	19/11/2009	0:06	4873.63	4230.29	4870.61	4226.99	4873.91	4870.95	115.6	44.3	Valid
26	2999.2	2998.6	2972.6	19/11/2009	0:06	4880.94	4237.07	4877.94	4233.71	4880.95	4878.08	115.8	27.8	Valid
26a	3001.0	3000.4	2974.4	19/11/2009	0:05	4884.38	4239.63	4881.50	4236.42	4884.54	4881.68	116.6	97.4	Valid
27	3004.5	3003.9	2977.9	19/11/2009	0:05	4889.47	4244.65	4886.52	4241.27	4889.52	4886.58	116	46.2	Valid
27a	3007.0	3006.4	2980.4	19/11/2009	0:06	4893.79	4248.08	4890.80	4244.84	4893.65	4890.86	116.5	63.5	Valid
28	3013.5	3012.9	2986.9	19/11/2009	0:07	4904.07	4257.95	4900.94	4254.63	4903.93	4901.07	116.2	16.5	Valid
29	3018.0	3017.4	2991.4	19/11/2009	0:06	4911.45	4263.90	4908.55	4260.67	4911.66	4908.80	116.6	28.2	Valid
29a	3054.6	3054.0	3028.0	19/11/2009	0:06	4970.40		4967.62		4970.33	4968.39	119.3	0.06	Tight
30	3055.0	3054.4	3028.4	19/11/2009	0:09	4971.13	4335.82	4967.73	4332.30	4970.89	4967.82	117.2	0.2	Supercharged?
30a	3055.7	3055.1	3029.1	19/11/2009	0:07	4970.75	4333.06	4968.90	4330.40	4971.04	4968.86	120.3	1.2	Supercharged?
30b	3075.4	3074.8	3048.8	20/11/2009	0:09	5003.75		5001.03		5003.60	5000.99	119.3	0.04	Tight
31	3075.8	3075.2	3049.2	19/11/2009	0:07	5003.45		5001.05		5003.65	5001.10	119.6	0.2	Tight
32	3090.0	3089.4	3063.4	20/11/2009	0:11	5027.05	4397.94	5024.14	4395.03	5026.93	5024.21	119.4	0.1	Supercharged
32a	3090.6	3090.0	3064.0	20/11/2009	0:07	5028.27	4395.29	5025.31	4392.04	5028.34	5025.59	119.6	6.1	Supercharged?
33	3092.0	3091.3	3065.3	20/11/2009	0:06	5030.24	4396.27	5027.42	4393.31	5030.28	5027.60	119.5	123.7	Valid
33a	3104.0	3103.3	3077.3	20/11/2009	0:04	5049.99		5046.87		5049.90	5047.18	119.7	0.1	Tight
34	3115.0	3114.3	3088.3	20/11/2009	0:03	5067.29		5064.34		5067.48	5064.70	120	0.3	Tight
34a	3119.4	3118.7	3092.7	20/11/2009	0:05	5074.62		5071.58		5074.47	5071.68	120.2	0.1	Tight
35	3134.6	3133.9	3107.9	20/11/2009	0:03	5097.87		5095.45		5097.48	5095.34	123.3	0.3	Tight
35a	3144.6	3143.9	3117.9	20/11/2009	0:06	5113.71		5111.06		5113.57	5111.06	122.6	0.2	Tight
36	3149.0	3148.3	3122.3	20/11/2009	0:12	5120.64	4492.29	5117.98	4489.21	5120.85	5118.11	122.4	8.2	Valid?
36a	3152.0	3151.3	3125.3	20/11/2009	0:23	5125.77	4508.13	5122.88	4505.19	5125.82	5123.16	122.5	8.5	Valid?

37	3154.9	3154.2	3128.2	20/11/2009	0:08	5130.68	4499.85	5127.79	4496.71	5130.49	5127.65	122.6	25.7	Valid
37a	3157.5	3156.8	3130.8	20/11/2009	0:15	5134.71	4514.92	5131.86	4511.91	5134.72	5131.89	122	8.7	Valid?
38	3159.6	3158.9	3132.9	20/11/2009	0:07	5137.97	4510.02	5135.10	4506.95	5137.96	5135.15	123	3.4	Supercharged?
38a	3161.0	3160.3	3134.3	20/11/2009	0:06	5140.43		5137.52		5140.16	5137.42	123.1	0.1	Tight
38b	3163.5	3162.8	3136.8	20/11/2009	0:07	5144.34	4524.31	5141.42	4521.31	5144.37	5141.57	123.2	0.7	Supercharged?
39	3171.2	3170.5	3144.5	20/11/2009	0:16	5156.50	4532.67	5153.53	4529.86	5156.25	5153.47	123.6	14.6	Valid?
39a	3172.0	3171.3	3145.3	20/11/2009	0:16	5157.57	4536.61	5154.73	4533.61	5157.24	5154.57	123.8	8.3	Supercharged?
40	3175.0	3174.3	3148.3	20/11/2009	0:06	5162.26	4530.20	5159.61	4527.80	5162.26	5159.39	124	19	Valid
40a	3177.5	3176.8	3150.8	20/11/2009	0:08	5166.05	4535.09	5163.15	4532.21	5165.88	5163.25	124.2	4.5	Supercharged?
41	3178.2	3177.5	3151.5	20/11/2009	0:06	5166.85	4536.47	5163.97	4533.48	5166.60	5163.88	124.6	6.1	Valid?
41a	3180.8	3180.1	3154.1	20/11/2009	0:10	5171.18	4550.62	5168.37	4547.62	5171.22	5168.46	124.7	8.2	Valid?
42	3193.0	3192.3	3166.3	20/11/2009	0:06	5190.55		5187.59		5190.45	5187.54	125	0.2	Tight
43	3199.8	3199.1	3173.1	20/11/2009	0:17	5201.44	4740.96	5198.42	4738.00	5201.19	5198.52	125.9	0.6	Supercharged
44	3205.5	3204.7	3178.7	20/11/2009	0:05			5207.79		5210.62	5207.70	126.3	0.09	Tight
44a	3207.0	3206.2	3180.2	20/11/2009	0:08	5212.86	4663.41	5209.93	4660.23	5212.54	5209.73	126.6	1.3	Supercharged
45	3208.3	3207.5	3181.5	20/11/2009	0:09	5214.94	4662.82	5211.94	4659.96	5214.63	5212.03	127.0	3.4	Supercharged

PUMP-OUTS

						SAPPHIRE GAUGE (PSIA)		QUARTZ GAUGE (PSIA)		SAPPHIRE GAUGE (PSIA)	QUARTZ GAUGE (PSIA)			
Sample No.	Depth mMD	Depth mTVDRT	Depth mTVDSS	Date	Total Test Time (hh:mm)	Hydrostatic pressure BEFORE	Formation pressure	Hydrostatic Pressure BEFORE	Formation pressure	Hydrostatic Pressure AFTER	Hydrostatic Pressure AFTER	Temp°C	Mobility	Comments
1	3180.8	3179.89	3153.89	20/11/2009	0:07	5152.85		5166.23		5166	5166.01			Tight
1A	3181.2	3180.20	3154.20	20/11/2009	0:15	5154.23	4545.41	5266.48	4547.62	5154.21	5166.23	122.2	0.3	Other
1B	3181.2	3180.20	3154.20	20/11/2009	2:19	5154.29	4535.63	5166.67	4547.97	5155.16	5167.56	122.4	4.4	Valid
2	3171.2	3170.00	3144.00	20/11/2009	0:16	5140.19		5152.06		5139.66	5152.3		4.7	Other
2A	3171.2	3170.00	3144.00	20/11/2009	2:13	5140.3	4518.66	5152.78	4530.99	5140.28	5153.17	123.3	4.4	Valid
3	3175.0	3174.14	3148.14	20/11/2009	1:07	5146.79	4515.70	5159.98	4528.6	5145.8	5159.15	123.7	23	Valid
4	3154.9	3154.08	3128.08	20/11/2009	0:04	5114.28		5127.12		5114.28	5127.19			Tight
4A	3155.1	3154.28	3128.28	20/11/2009	1:24	5114.76	4484.81	5127.34	4497.28	5112.93	5126.24	123.7	41.3	Valid
5	3149.0	3148.19	3122.19	20/11/2009	1:07	5103.79	4477.1	5117.09	4490.05	5116.27	5103.06	123.2	9.6	Valid
6	2992.0	2991.45	2965.45	20/11/2009	0:07	4855.06		4867.28		4854.31	4867.31			Tight
6A	2994.8	2994.25	2968.25	20/11/2009	0:35	4858.6	4214.23	4871.6	4227.19	4857.18	4871.15	117.4	68.8	Valid
7	2980.5	2979.77	2953.77	20/11/2009	0:06	4835.49		4848.27		4835.32	4848.81			Tight
7A	2980.7	2980.15	2954.15	20/11/2009	0:09	4835.88		4849.06		4835.52	4848.96		3	Tight
8	2830.3	2829.91	2803.91	20/11/2009	1:48	4597.48	3997.13	4609.9	4009.6	4595.32	4609.09	115.3	67.6	Valid

APPENDIX 11: DAILY ACTIVITY REPORT

DFE above MSL : 26.0m	Lat : 39 Deg 53 Min 07.9334 Sec	Spud Date : 06 Oct 2009	Release Date : 29 Nov 2009
Water Depth : 69.0m	Long : 145 Deg 22 Min 14.6152 Sec	Spud Time : 08:00	Release Time : 01:00

Activity Report For Trefoil-2

Date : 21 Sep 2009 **Daily Cost : US$ 3230866** **Report Number : 1**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		6	Moved away from dock side with the assistance of harbour tugs. Connected to tow bridle at 06:30. Connected tow boat Far Scimitar & proceeded to inclination test position in Port Phillip bay. 38-06-139S 144-52-058E

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DFE above MSL : 26.0m | Lat : 39 Deg 53 Min 07.9334 Sec | Spud Date : 06 Oct 2009 | Release Date : 29 Nov 2009
Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Activity Report For Trefoil-2

Date : 02 Oct 2009 **Daily Cost : US$ 2488992** **Report Number : 2**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		3	Begin tow with boat Far Scimitar from Port Phillip Bay To Trefoil-2.
0.0	P1	P	M1		6	Rig under tow with Far Scimitar to Trefoil-2. Rig position at 12:00 hrs LAT: 38 deg 19' 0.0" S. LONG 144 deg 36' 0.0" E. Total distance traveled 30.4 nautical miles. Average speed 3.7 knots. Distance to go 101.6 nautical miles.
0.0	P1	P	M1		8	Rig under tow with Far Scimitar to Trefoil-2. Rig position at 20:00 hrs LAT: 38 deg 48' 0.2" S. LONG 144 deg 46' 0.6" E. Total distance traveled 63.6 nautical miles. Average speed 3.7 knots. Distance to go 70.2 nautical miles.
0.0	P1	P	M1		4	Rig under tow with Far Scimitar to Trefoil-2 . Rig position at 24:00 hrs LAT: 39 deg 05' 0.5" S. LONG 144 deg 56' 0.1" E. Total distance traveled 63.6 nautical miles. Average speed 3.7 knots. Distance to go 80.7 nautical miles.

Date : 03 Oct 2009 **Daily Cost : US$ 540757** **Report Number : 3**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		6	Rig under tow with Far Scimitar to Trefoil-2. Rig position at 06:00 hrs LAT: 39 deg 32' 0.S. LONG 145 deg 10' 9.0" E. Total distance traveled 109.5 nautical miles. Average speed 5.0 knots. Distance to go 23.0 nautical miles.
0.0	P1	P	M1		6	Rig under tow with Far Scimitar to Trefoil-2. Rig position at 12:00 hrs LAT: 39 deg 53' 1.S. LONG 145 deg 23' 0.0" E. Total distance traveled 132.5 nautical miles. Average speed 5.5 knots. Arrived at location at 12:00 hrs.
0.0	P1	P	M4		3	Anchor Handling Operations. Commenced paying out on #6 at 12:15 hrs. Anchor on bottom at 12:30 hrs. Anchor #2 AHSV Far Fosna. Pennant passed to Far Fosna at 13:10 hrs. Commenced paying out on #2 at 13:55 hrs. Anchor on bottom at 14:20 hrs. Chasing back on #2 anchor at 14:25 hrs. PCP #2 back on rig at 15:00 hrs.
0.0	P1	P	M4		3	Anchor Handling Operations. Anchor #3 AHSV Far Fosna. Pennant passed to Far Fosna at 15:15 hrs. Commenced paying out on #3 at 15:25 hrs. Anchor on bottom at 16:22 hrs. Stripped back on #3 anchor at 16:25 hrs. PCP #3 back on rig at 17:00 hrs. Anchor #7 AHSV Far Fosna. Pennant passed to Far Fosna at 17:20 hrs. Commenced paying out on #7 anchor at 17:25 hrs. Anchor on bottom at 18:00 hrs.
0.0	P1	P	M4		3	Anchor Handling Operations. Commenced tensioning #7 anchor at 18:11 hrs. Far Scimitar instructed to commence spooling tow wire. PCP #7 back on rig at 18:45 hrs. Anchor #8 AHSV Far Fosna. Pennant passed to Far Fosna at 18:49 hrs. Commenced paying out on #8 anchor at 18:56 hrs. Anchor on bottom at 19:25 hrs. Chasing back on #8 anchor at 19:32 hrs. PCP #8 back on rig at 20:13 hrs. Anchor #1 AHSV Far Fosna. Pennant passed to Far Fosna at 20:20 hrs. Commenced paying out on #1 anchor at 20:30 hrs. Anchor on bottom at 20:54 hrs. Note: Far Scimitar informed that the tow line had parted at 19:08 hrs.
0.0	P1	P	M4		2.5	Anchor Handling Operations. Chasing back on #1 anchor at 21:00 hrs. PCP #1 back on rig at 21:26 hrs. Anchor #5 AHSV Far Scimitar. Pennant passed to Far Scimitar at 21:56 hrs.

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DFE above MSL : 26.0m | Lat : 39 Deg 53 Min 07.9334 Sec | Spud Date : 06 Oct 2009 | Release Date : 29 Nov 2009

Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 03 Oct 2009 **Daily Cost : US$ 540757** **Report Number : 3**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
						Anchor #4 AHSV Far Fosna. Commenced paying out#5 anchor at 22:21 hrs. Pennant passed to Far Fosna at 22:32 hrs. Anchor #5 on bottom at 22:43 hrs. Commenced paying out #4 anchor at 22:45 hrs. Chasing back on #5 anchor at 22:52 hrs. Anchor #4 on bottom at 23:06 hrs. Chasing back on #4 anchor at 23:15 hrs. PCP #5 back to rig at 23:19 hrs. PCP #4 back to rig at 23:40 hrs. Note: Far Scimitar and Far Fosna outside 500m, running at standby.
0.0	P1	P	M3		0.5	Commenced ballasting rig down to drilling draft.

Date : 04 Oct 2009 **Daily Cost : US$ 564101** **Report Number : 4**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M3		0.5	Ballast rig down to drilling draft.
0.0	P1	TP	M3	RE	1	Stopped ballasting rig down due to leaking sounding pipe on starboard #9 ballast tank. Pumped out water prior to repairing leaking sounding pipe.
0.0	P1	TP	M3	RE	3	Welder repaired leaking sounding pipe on starboard #9 ballast tank.
0.0	P1	TP	M3	RE	3.5	Leak repaired. Pumped water from port pump room with Wilden pumps due to leaking pressure gauge on propellor shaft oil seal.
0.0	P1	P	M3		6	Ballast rig down to drilling draft (20m).
0.0	P1	P	M5		3.5	Cross Tension Anchors.
0.0	P1	P	M2		1	Position rig over location. Fugro confirmed position. Final Rig Heading: 316.79 deg. Latitude: 39 deg 53' 07.9321"S Longitude: 145 deg 22' 14.6192"E Position is 5.67m @264.45 deg T (263.40 deg G) from intended location.
0.0	P2	P	G1		1.5	Rigged up to pick up 5" tubulars. Laid out and measured 5" HWDP prior to picking up same. Concurrently rigged up bulk hoses to Far Scimitar.
0.0	P2	P	G2		2	Held toolbox meeting with drill crew and deck crew prior to picking up tubulars. Picked up 3 joints of 5" HWDP, crossover and made up Dril-Quip 30" housing running tool. Racked back same in derrick. Drifted all tubulars with 3" drift.
0.0	P2	P	G2		2	Picked up 12 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.

Date : 05 Oct 2009 **Daily Cost : US$ 558941** **Report Number : 5**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P2	P	G2		0.5	Picked up 3 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.
0.0	P2	P	G2		15.5	Picked up 240 joints of 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.
0.0	P2	P	G6		4	Held JSA prior to picking up BHA. Made up 26" bit, 36" hole opener, bit sub and Anderdrift tool. RIH with same
0.0	P2	P	G24		1	Held pre spud meeting with all personnel.
0.0	P2	P	G6		3	Held JSA prior to picking up drill collars. Made up 3 x 9 1/2" drill collars, crossover, 1 x 8 1/4" drill collar. RIH with same.

Date : 06 Oct 2009 **Daily Cost : US$ 633384** **Report Number : 6**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P2	P	G6		1	Continued picking up 8 1/4" drill collars.
0.0	P2	P	G6		1	Made up cement stand and racked back in derrick
0.0	P2	P	G6		1.5	Continued picking up 8 1/4" drill collars.
0.0	P2	P	G6		0.5	Made up crossover and pup joint and engaged TDS. Function tested Anderdrift survey tool. Good test.

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DFE above MSL : 26.0m | Lat : 39 Deg 53 Min 07.9334 Sec | Spud Date : 06 Oct 2009 | Release Date : 29 Nov 2009

Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 06 Oct 2009 **Daily Cost : US$ 633384** **Report Number : 6**

0.0	P2	TP	F3	RE	1	Delay in starting-up pump #3.
0.0	P2	P	F3		0.5	Ran and tested pumps #1, #2 and #3 at 240 spm, 1200 gpm, 1180 psi. All pumps ok.
0.0	P2	P	G6		2.5	Picked up remaining 8 1/4" drill collars. Engaged TDS and prepared to spud Trefoil-2.
0.0	P2	P	D8		4	Spudded Well. Confirmed following: RT to MSL = 26m. RT to Seabed = 95m. Water Depth = 69m. Drilled 26"/36" hole from mudline at 95m to 155m. Pumped 3 x 50 bbl PHB sweeps per stand. Reamed each stand. Took Anderdrift survey at mudline and each stand drilled and at TD (0 ° at TD). Pumped 100 bbls PHB mud.
155.0	P2	P	G8		0.5	POOH from 155m to mudline at 95m. No drag.
155.0	P2	P	G8		1	RIH to TD at 155m. No fill.
155.0	P2	P	F3		0.5	Displaced hole with 1.5 x volume (370 bbls) of PHB mud.
155.0	P2	P	G8		3	POOH and racked back BHA. Concurrently positioned PGB on transporter skid.
155.0	P3	P	G1		0.5	Held PJSM. Rigged up to run 30" conductor.
155.0	P3	P	G9		4	Picked up 20" x 30" swaged shoe joint and confirmed float drains. Continued running 2 x Intermediate joints and 1 x crossover joint to 47.4m.
155.0	P3	P	G9		0.5	Picked up 30" wellhead and landed in rotary table
155.0	P3	P	G1		0.5	Rigged down 30" handling equipment and cleared rig floor of all excess equipment.
155.0	P3	P	G9		0.5	Installed C-Plate and RIH 1 x stand of 5" drill pipe stinger. Made up wellhead running tool to cement stinger.
155.0	P3	P	G9		1	Lowered wellhead into PGB on transporter in moonpool. Engaged housing snap ring.

Date : 07 Oct 2009 **Daily Cost : US$ 603734** **Report Number : 7**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
155.0	P3	P	G9		1	Lowered conductor to splash zone. Engaged TDS and pumped at 1000 gpm with seawater venting all air. Closed casing valve.
155.0	P3	P	G9		0.5	Observed entry of shoe into existing hole with ROV sonar.
155.0	P3	P	G9		1	Continued RIH with 30" conductor on 5" HWDP landing string.
155.0	P3	P	G9		1	Made up cement stand and spaced out to set 30" shoe at 153m with 3m stick up above seabed.
155.0	P3	P	G9		0.5	ROV confirmed bullseye reading 1/4 deg to port and rig heading 316 deg. PGB stickup 3m from mudline.
155.0	P3	TP	G9	RE	1	Observed twist in guide lines. Checked guide line tensioner system and and found #1 guideline tensioner leaking.
155.0	P3	TP	G9	RE	2.5	Subsea investigated seal failure on guide line tensioner #1.
155.0	P3	TP	G9	RE	0.5	Pulled back casing 10m tension up guideline. Rotated PGB and removed twist on guide lines. Slacked off - shoe at 153m.
155.0	P3	P	F4		3	Circulated with seawater at 600 gpm to avoid hole washout. ROV confirmed heading at 307 deg, bullseye aft/stb 1/4 deg (operation delayed due to poor visibility). Concurrently held JSA and prepared for cement job.
155.0	P3	P	F3		1	Pumped 30 bbls of spacer ahead with cement unit. Pressure tested cement lines to 1000 psi. Followed by 20 bbls of mica.
155.0	P3	P	F3		2	Pumped 50 bbls of seawater spacer ahead. Mixed and pumped 260 bbls 15.8 ppg class G slurry (53 MT) with 155 bbls of seawater. Displaced with 72.4 bbls of seawater. Cement in place at 13:45 hrs. Returns observed at mudline.
155.0	P3	P	G24		5	Waited on cement.
155.0	P3	P	G12		0.5	ROV confirmed heading 307 deg and inclination aft/stb 1/4 deg. Slacked off 3m and backed out 30" running tool.
155.0	P3	P	G8		2	POOH and racked back cement stand. POOH with landing string. Broke out and laid down 30" runnng tool.
155.0	P3	P	G12		2.5	Picked up and made up inner string stinger assembly to 18 3/4" HPWH housing running tool. Made up Halliburton swivel equaliser assembly to inner string. Drifted inner string with 2 7/8" drift. Laid out inner string assembly.

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DFE above MSL : 26.0m | Lat : 39 Deg 53 Min 07.9334 Sec | Spud Date : 06 Oct 2009 | Release Date : 29 Nov 2009

Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 08 Oct 2009 **Daily Cost : US$ 611316** **Report Number : 8**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
155.0	P3	P	G12		2.5	Picked up and made up 18 3/4" HPWH housing. Lowered housing to rotary table. Removed wellhead running tool. Picked up wellhead running tool and inner string assembly. Installed Halliburton SSR plugs to assembly and made up wellhead running tool. Laid out same.
155.0	P3	P	G6		3.5	Laid out 26" drill bit, 36" hole opener, Anderdrift , 2 x 9.5" DC
155.0	P4	P	G6		2	Held JSA prior to picking up 17.5" BHA. Made up 17.5" drill bit, bit sub w/float, 9.5" NMHOC and RIH.
155.0	P4	TP	G11	RE	1.5	Iron roughneck damaged. Secured pipe spinner carrier, hydraulic motor broken. Repaired same.
155.0	P4	P	G6		1.5	Handle BHA. Made up 1 x 17.5" stabliser, 1 x 9.5" drill collar, 1 x 17.5" stabliser, crossover, 2 x 8.25" drill collars and RIH. Attached stab-in lines to NMHOC.
155.0	P4	P	G12		0.5	Held JSA. Attached stab in lines to guidelines.
155.0	P4	P	G6		2.5	RIH with 17.5" BHA. Picked up and made up 8" drilling jars. Continued RIH to above 30" WHH.
155.0	P4	P	G8		0.5	Stabbed into 30" WHH with ROV assistance.
155.0	P4	P	G8		1	Continued RIH with 17.5" BHA
155.0	P4	P	G15		0.5	Installed gelograph wires. Halliburton shallow tested MWD at 1200 gpm, 1000 psi.
155.0	P4	P	F1		0.5	Washed down from 140m to 30"/20" shoe at 153m
155.0	P4	P	D1		2.5	Drilled out 30"/20" shoe and worked bit and stabilisers through shoe to clean up.
245.0	P4	P	D8		5	Drilled 17.5" hole from 155m to 245m with seawater. Average Parameters: ROP 18 m/hr, RPM 150, WOB 0-5k, flow rate 1200 gpm, SPP 2100 psi, Torque 5000 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.

Date : 09 Oct 2009 **Daily Cost : US$ 565889** **Report Number : 9**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
390.0	P4	P	D8		6	Drilled 17.5" hole from 245m to 390m with seawater. Average Parameters: ROP 23 m/hr, RPM 150, WOB 0-5k, flow rate 1200 gpm, SPP 2300 psi, Torque 5 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
561.0	P4	P	D8		6	Drilled 17.5" hole from 390m to 561m with seawater. Average Parameters: ROP 28.5 m/hr, RPM 150, WOB 5-12k, flow rate 1140 gpm, SPP 2300 psi, Torque 6-12 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
748.0	P4	P	D8		6	Drilled 17.5" hole from 561m to 748m with seawater. Average Parameters: ROP 31.1 m/hr, RPM 150, WOB 6-10k, flow rate 1180 gpm, SPP 2350 psi, Torque 4-8 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
849.0	P4	P	D8		6	Drilled 17.5" hole from 748m to 849m with seawater. Average Parameters: ROP 16.8 m/hr, RPM 150, WOB -8-12k, flow rate 1150 gpm, SPP 2420 psi, Torque 4-7 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.

Date : 10 Oct 2009 **Daily Cost : US$ 590980** **Report Number : 10**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P4	P	D8		6	Drilled 17.5" hole from 849m to 935m with seawater. Average Parameters: ROP 13.3 m/hr, RPM 150, WOB 8-14k, flow rate 1150 gpm, SPP 2420 psi, Torque 4-8 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection
935.0	P4	P	F4		1.5	Pumped 50 bbls of hi-vis and circulated well clean.
935.0	P4	P	G8		1	POOH. Tight hole from 903m. Back reamed to 832m. Max overpull 30k.
935.0	P4	P	G8		1.5	POOH on elevators from 832m to 30"/20" shoe at 153m.
935.0	P4	P	G8		0.5	RIH. Took 30k down weight at 582m.
935.0	P4	P	F1		4.5	Washed and reamed from 582m to 639m at 20 RPM, 1150 GPM, 2010 psi.
935.0	P4	P	F3		1	Pumped 100 bbls hi vis mud, sweep and displaced out with seawater.

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Date : 10 Oct 2009 **Daily Cost : US$ 590980** **Report Number : 10**

935.0	P4	P	F3	1	Took check survey shot. Pumped 1200 bbls of 9.0 ppg pad mud whilst reciprocating pipe.
935.0	P4	P	G8	2	POOH to shoe at 153m. No drag observed.
935.0	P4	P	G6	1	Held JSA with drill crew. POOH with BHA from 153m to 102m.
935.0	P4	P	G12	3.5	Massive amounts of cuttings. Rigged up lines in moonpool area to assist whilst washing wellhead and PGB at 260 spm, 1600 psi. Rigged down lines.
935.0	P4	P	G6	0.5	POOH with BHA from 102m to 25m.

Date : 11 Oct 2009 **Daily Cost : US$ 556818** **Report Number : 11**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P4	P	G6		2	Handle BHA. Continue POOH with BHA. Retrieved MWD probe.
935.0	P5	P	G1		1	Picked up cement stand and RIH and laid out side FOSV and side entry sub. Picked up Halliburton SSR cement head and made up same. Racked cement stand back in derrick.
935.0	P5	P	G1		2.5	Held JSA. Rigged up 13 3/8" casing handling equipment.
935.0	P5	P	G9		1	Picked up shoe joint and checked float - ok. Made up float collar joint and checked float - ok . Thread locked the shoe track. Picked up and installed C plates for guideline attachment.
935.0	P5	P	G9		3.5	Ran 13 3/8" casing from 24m to 146m. Stabbed into well with ROV assistance.
935.0	P5	P	G1		3.5	Held JSA. Rigged up FMS, 500 ton elevators and control lines. Made up FACL.
935.0	P5	P	G9		9	Ran 13 3/8" casing from 146m to 826m. Filled pipe every 5 joints with mud.
935.0	P5	P	G1		1	Rigged down 13 3/8" casing handling equipment and rigged up 5" drill pipe handling equipment.
935.0	P5	P	G12		0.5	Prepared to pick up 18 3/4" HPWH.

Date : 12 Oct 2009 **Daily Cost : US$ 851280** **Report Number : 12**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P5	P	G12		1	Picked up and made up 18 3/4" HPWH housing. Lowered housing to rotary table and set in slips.
935.0	P5	P	G9		1	Ran in hole with 13 3/8" casing with 5" HWDP landing string. Broke circulation and washed down to 13m above the wellhead.
935.0	P5	P	G12		1	Made up cement stand. Landed the 18 3/4" wellhead. Confirmed with 50k overpull. ROV confirmed bullseye 0.25 deg aft/port.
935.0	P5	P	G1		1	Rigged up surface lines. Attached cement hose to Halliburton cement head assembly and connected control head lines.
935.0	P5	P	F4		2	Circulated with seawater 1.5 times casing volume at 12 bpm, 500 gpm, 850 psi.
935.0	P5	P	F3		0.5	Held JSA prior to cementing. Cement unit pumped 5 bbls of seawater ahead and pressure tested cement lines to 3000 psi. Good test.
935.0	P5	P	F3		0.5	Pumped 50 bbls of seawater spacer at 5-6 bpm using the cement unit. Added mica to the last 20 bbls pumped.
935.0	P5	P	F3		2	Mixed and pumped 436 bbls of 11.5 ppg lead slurry (35 MT class G cement) with 368 bbls of mix fluid. Mixed and pumped 67 bbls of 15.8 ppg tail slurry (14 MT class G cement) with 40 bbls of mix fluid.
935.0	P5	P	F3		0.5	Dropped the dart and released top plug.
935.0	P5	P	F3		1.5	Cement unit displaced with 412 bbls of seawater at 7 - 10 bpm (observed returns with ROV). Bumped plug with 250 psi and pressure tested casing to 2700 psi for 10 minutes. Released pressure and observed for back flow. Float holding.
935.0	P5	P	G1		1.5	Rigged down cement lines. Released running tool from HPWH. Pulled clear and racked back cement stand.
935.0	P5	P	G8		1.5	POOH with landing string from 92.4m to surface. Laid out pup joints, subs and running tool.
935.0	P6	P	G1		2	Rigged up to run BOP riser, changed elevators and bails to 500 ton. Laid down 5" drill pipe elevators and bails.
935.0	P6	P	M2		0.5	Skidded rig off well centre. Confirmed by ROV.
935.0	P6	TP	G11	RE	0.5	Unable to make up one dog. Replaced same.

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Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 12 Oct 2009 **Daily Cost : US$ 851280** **Report Number : 12**

935.0	P6	P	G13		1	Picked up double of riser. Moved BOP under rotary.
935.0	P6	TP	G25	WOW	1	Due to squalls there was a loss of standby boat cover.
935.0	P6	P	G13		1	Held JSA with drill crew. Installed guidelines onto posts.
935.0	P6	P	G23		0.5	Held fire and abandon drill with all personnel.
935.0	P6	P	G13		1	Checked beacons and riser tensioner sheaves.
935.0	P6	TP	G13	RE	2.5	Connected pod lines to tensioners. Installed work platform on BOP.

Date : 13 Oct 2009 **Daily Cost : US$ 553938** **Report Number : 13**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P6	TP	G13	RE	4	Completed installing work platform above flex joint. Installed two bullseyes.
935.0	P6	P	G13		3	Nippled up riser to BOP, string weight 530k off beams. Slope indicator readings: LMRP on beams (1 deg port/aft), BOP on beams (bullseye 1 deg port/fwd). Installed angle indicator.
935.0	P6	P	G13		1	Held JSA. Prepared to pick up flotation joint of riser.
935.0	P6	TP	G11	RE	1.5	Investigated main boom gear box for possible leak on port crane. Found vent tube blocked causing over pressuring of gear box. Cleaned vent tube and re-checked gear box. Ok
935.0	P6	P	G13		1.5	Ran BOP and marine riser.
935.0	P6	TP	G25	WOW	0.5	Wind 40 knots - outside of crane limits. Waited on Weather.
935.0	P6	P	G13		4	Ran BOP and marine riser. Picked up slip joint.
935.0	P6	TP	G25	WOW	4.5	Waited on Weather 16:00 hrs, Wind Speed 25 knots, Direction NNW, Swell Height 4 mtrs. 16:30 hrs, Wind Speed 51 knots, Direction NNW, Swell Height 4 mtrs. 17:00 hrs, Wind Speed 42 knots. Direction NNW, Swell Height 4 mtrs. 18:30 hrs, Wind Speed 36 knots, Direction NNW, Swell Height 4 to 5 mtrs. 19:00 hrs, Wind Speed 30 knots, Direction NNW, Swell Height 4 to 5 mtrs. 20:00 hrs, Wind Speed 27 knots, Direction NNW, Swell Height 3 mtrs.
935.0	P6	P	G13		1	Ran BOP and marine riser on slip joint.
935.0	P6	P	G13		1	Picked up landing joint and lowered BOP marine riser system to position for installation of choke and kill goosenecks.
935.0	P6	P	G13		2	Commenced installing choke and kill goosenecks.

Date : 14 Oct 2009 **Daily Cost : US$ 562976** **Report Number : 14**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P6	P	G13		2	Completed installing choke and kill goosenecks, boost lines and pressure tested choke and kill to 300psi low and 5000psi high for 5/10 mins.
935.0	P6	P	G13		5	Installed 6 x marine riser tensioner lines.
935.0	P6	P	G13		2.5	Installed pod umbilical line saddles and storm loops. Pressured up and stroked out marine riser tensioners.
935.0	P6	P	M2		0.5	Skidded rig back over wellhead.
935.0	P6	P	G13		0.5	Attempted to unlock drill string compensator. Lock bar would not unlock. Increased pressure - ok.
935.0	P6	TP	G25	WOW	2.5	Waited on weather.
935.0	P6	P	G13		2	Landed and latched BOPs. Confirmed with 50k overpull. Tested H4 wellhead connector to 2000psi. Good test.
935.0	P6	P	G13		3	Unpinned slip joint and landed in spider in difficult conditions.
935.0	P6	P	G13		1	Laid out landing joint.
935.0	P6	P	G13		3	Picked up diverter and replaced lockdown dog. Installed diverter and confirmed with 10k overpull - ok.
935.0	P6	P	G1		1	Rigged down BOP handling equipment. Changed out 500ton bails to 350ton drilling bails. Rigged up 5" handling equipment. Concurrently rigged up packer control lines, logging compensator line and index line. Connected water line to slip joint.
935.0	P6	P	G1		1	Picked up cement stand and laid out Halliburton cement head assembly.

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Date : 15 Oct 2009 **Daily Cost : US$ 877619** **Report Number : 15**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P6	P	G6		3.5	Laid down 17.5" BHA, drill bit, float sub, 2 x 17.5" stabilisers, MWD tools.
935.0	P11	P	G6		5	Made up 12.25" BHA. Directional driller checked bearing gap and orientation of motor (0.78 deg). Halliburton MWD plugged into tool and down linked data. Scribed motor and RIH with BHA to 140m.
935.0	P11	P	G6		0.5	Shallow tested MWD at 800 gpm, 1100 psi. Good test.
935.0	P11	P	G6		1.5	Made up BHA and RIH from 140m to 252m.
935.0	P11	P	G8		1.5	RIH with 12.25" BHA on 5" drill pipe from 252m to 890m.
935.0	P11	P	F1		1	Washed down from 890m to 917m. Tagged cement with 5 klbs.
938.0	P11	P	D1		3.5	Drilled cement and shoe track from 917m to 930m. Drilled rathole and 3m of new formation to 938m. Displaced well to mud and closed in system.
938.0	P11	P	F4		2	Circulated and conditioned mud until 9.1 ppg even in and out.
938.0	P11	P	F3		1.5	Displaced choke and kill lines to mud. Racked back 1 stand and made up TIW and side entry sub. Rigged up surface hose.
938.0	P11	P	E1		1	Cement unit pumped 5 bbls of mud ahead and pressure tested surface lines to 1000psi. Performed a leak off 1025psi EMW 15.15 ppg . Mud weight in use 9.1 ppg. TVD 930m. Volume pumped 2.58 bbls. Volume returned 2.0 bbls.
938.0	P11	P	G7		1.5	Rigged down cement hose. Laid out FOSV, side entry sub. Pulled diverter packer. Picked up Dril-Quip emergency drill pipe hang off tool. Made up same and racked in derrick.
938.0	P11	P	G1		1	Installed raised back system (RBS) pins.
938.0	P11	P	G1		0.5	Installed Geoservices and Halliburton MWD geolograph lines. Installed diverter packer.

Date : 16 Oct 2009 **Daily Cost : US$ 587983** **Report Number : 16**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
942.0	P11	P	D2		0.5	Drilled 12.25" hole from 938m to 942m. RPM 100, WOB -10k, flow rate 1000 gpm.
942.0	P11	TP	G2	RE	2.5	Whilst making a connection with RBS damage was sustained to pin and box connections due to incorrect alignment resulting in laying out 2 x damaged joints.
1062.0	P11	P	D2		3	Drilled 12.25" hole from 942m to 1062m. Average Parameters: ROP 40.0 m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 1860 psi, Torque 4-7 Klbs/ft.
1062.0	P11	P	F4		0.5	Circulated whilst clearing over loaded shakers.
1275.0	P11	P	D2		5.5	Drilled 12.25" hole from 1062m to 1275m. Average Parameters: ROP 38.7.0 m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2280 psi, Torque 5-10 Klbs/ft.
1352.0	P11	P	D2		3	Drilled 12.25" hole from 1275m to 1352m. Average Parameters: ROP 25.70. m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2280 psi, Torque 2-8 Klbs/ft.
1352.0	P11	TP	F4	RE	0.5	Circulated whilst trouble shooting 5" drill pipe elevators.
1423.0	P11	P	D2		2	Drilled 12.25" hole from 1352m to 1423m. Average Parameters: ROP 35.50m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2400 psi, Torque 2-10 Klbs/ft.
1432.0	P11	P	D3		1	Slide from 1423m to 1432m.
1504.0	P11	P	D2		3	Drilled 12.25" hole from 1432m to 1504m. Average Parameters: ROP 24.00m/hr, RPM 100, WOB - 4k, flow rate 1000 gpm, SPP 2430 psi, Torque 3-10 Klbs/ft.
1514.0	P11	P	D3		1	Slide drilled from 1504m to 1514m
1540.0	P11	P	D2		1.5	Drilled 12.25" hole from 1514m to 1540m. Average Parameters: ROP 17.30m/hr, RPM 100, WOB - 8-10k, flow rate 1000 gpm, SPP 2430 psi, Torque 3-10 Klbs/ft.

Date : 17 Oct 2009 **Daily Cost : US$ 584583** **Report Number : 17**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity

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Date : 17 Oct 2009 **Daily Cost : US$ 584583** **Report Number : 17**

1696.0	P11	P	D2		6	Drilled 12.25" hole from 1540m to 1696m. Average Parameters: ROP 26.00m/hr, RPM 100, WOB - 8-10k, flow rate 1000 gpm, SPP 2550 psi, Torque 3-10 Klbs/ft.
1780.0	P11	P	D2		4.5	Drilled 12.25" hole from 1696m to 1780m. Average Parameters: ROP 33.60. m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2700 psi, Torque 6-12 Klbs/ft.
1780.0	P11	P	P3		0.5	Flow checked well, 5bbl gain in active. Spaced out and checked for flow. Well static.
1790.0	P11	P	D2		1	Drilled 12.25" hole from 1780m to 1790m. Average Parameters: ROP 10.30m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2700 psi, Torque 6-12 Klbs/ft.
1920.0	P11	P	D2		6	Drilled 12.25" hole from 1790m to 1920m. Average Parameters: ROP 21.60m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2750 psi, Torque 7-14 Klbs/ft.
1937.0	P11	P	D2		1.5	Drilled 12.25" hole from 1920m to 1937m. Average Parameters: ROP 11.30m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2750 psi, Torque 7-14 Klbs/ft.
1951.0	P11	P	D3		1	Slide drilled from 1937m to 1948m. Rotated from 1948m to 1951m.
1958.0	P11	P	D3		1	Slide drilled from 1951m to 1958m.
1958.0	P11	P	P3		0.5	Flow checked well, 9 bbl gain on connection. Spaced out and checked for flow. Well static.
2004.0	P11	P	D2		2	Drilled 12.25" hole from 1958m to 2004m. Average Parameters: ROP 23.00m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2700 psi, Torque 8-140Klbs/ft.

Date : 18 Oct 2009 **Daily Cost : US$ 580035** **Report Number : 18**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2104.0	P11	P	D2		5.5	Drilled 12.25" hole from 2004m to 2104m. Average Parameters: ROP 16.60m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2750 psi, Torque 8-14Klbs/ft.
2104.0	P11	P	P3		0.5	Drilling motor stalled out. Flow checked well. 10bbls pit gain in active. Spaced out and checked for flow. Well static.
2130.0	P11	P	D2		3	Drilled 12.25" hole from 2104m to 2130m. Average Parameters: ROP 8.70m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2750 psi, Torque 8-14Klbs/ft.
2130.0	P11	TP	G11	RE	3	Saver sub backed out on top of stand #65 during connection. Laid out top single and attempted to make up new saver sub. Not possible due to problems with PH85 pipe handler. Laid out single. Made up circulating head and rigged up surface lines. Investigated problems and repaired PH85 pipe handler while circulating and rotating string.
2130.0	P11	TP	G11	RE	1	Installed new saver sub.
2166.0	P11	P	D2		5	Drilled 12.25" hole from 2130m to 2166m. Average Parameters: ROP 7.20m/hr, RPM 100, WOB - 5-20k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-9Klbs/ft.
2166.0	P11	P	P3		0.5	Flow checked well 5 bbls pit gain in active. Spaced out and checked for flow. Well static.
2244.0	P11	P	D2		5.5	Drilled 12.25" hole from 2166m to 2244m. Average Parameters: ROP 14.20m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-8Klbs/ft.

Date : 19 Oct 2009 **Daily Cost : US$ 520084** **Report Number : 19**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2246.0	P11	P	D2		0.5	Drilled 12.25" hole from 2244m to 2246m. Average Parameters: ROP 14.20m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-8Klbs/ft.
2246.0	P11	TP	G11	RE	1	Pop off went off on mud pump #2. Reset same.
2246.0	P11	TP	G11	RE	1	Replaced piston on pump #1. Continued circulating with pump #3, whilst replacing pop off on pump

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						#2 and piston on pump #1.
2271.0	P11	P	D2		1.5	Drilled 12.25" hole from 2246m to 2271m. Average Parameters: ROP 16.60m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2740 psi, Torque 3-8Klbs/ft.
2271.0	P11	U	P1		0.5	Observed loss of 300 psi differential pressure, whilst adding premix to mud system. Closed standpipe valve and pressure tested all 3 mud pumps. Attempted to re-establish drilling parameters, no differential pressure observed on bottom.
2271.0	P11	U	F4		1.5	Circulated hole clean.
2271.0	P11	U	G8		6	POOH from 2271m to 2161m. Observed 30k consistent overpull from 2148m to 2137m. Continued POOH back reaming tight spots from 2137m to 1669m.
2271.0	P11	U	D6		7.5	Back reamed at 50 rpm, 350 gpm from 1669m to 13 3/8" shoe at 930m.
2271.0	P11	U	P3		0.5	Flow checked - well static. Pumped 40 bbls of 10.0 ppg slug.
2271.0	P11	U	G8		2	POOH from 930m to BHA at 252m.
2271.0	P11	U	P3		0.5	Flow checked well for 15 minutes prior to pulling BHA through BOP.
2271.0	P11	U	G6		1.5	POOH with BHA from 252m to 72m.

Date : 20 Oct 2009 **Daily Cost : US$ 562563** **Report Number : 20**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2271.0	P11	U	G6		1	POOH with BHA from 72m to surface.
2271.0	P11	U	G6		0.5	Tested mud motor at 700 gpm, 500 psi. Good test.
2271.0	P11	U	G6		1	Broke out bit for inspection. IADC bit grade 1-1-BT-N-X-I-CT-PP. Checked all 12.25" stabilisers - Ok. Racked back stand. Halliburton MWD downloaded tool.
2271.0	P11	P	G11		1	Serviced TDS.
2271.0	P11	P	G5		2	Made up Halliburton SSR cement head stand and installed FOSV. Attempted to rack back in derrick on starboard side, no success. Racked back same on Port side in derrick.
2271.0	P11	P	G5		0.5	Held JSA. Prepared to make up 9.625" casing hanger assembly.
2271.0	P11	P	G5		2	Picked up and made up 9.625" casing hanger assembly. Made up Halliburton SSR plugs to assembly. Racked back assembly in derrick.
2271.0	P11	U	G6		4.5	Held JSA. RIH with 12.25" BHA. Directional driller checked bearing gap and orientation of motor 0.78 deg. Changed out Halliburton MWD pulser and plugged into tool and down linked data. Scribed motor and RIH to 167m.
2271.0	P11	U	G6		0.5	Shallow tested MWD at 800 gpm, 1000 psi. Good test.
2271.0	P11	U	G6		1	Made up BHA and RIH from 167m to 252m. Installed diverter packer.
2271.0	P11	U	G8		6.5	RIH with 12.25" BHA on 5" drill pipe from 252m to 2165m. Filled pipe every 20 stands. Installed Geoservices and Halliburton MWD geolograph lines.
2271.0	P11	U	F1		2.5	Took 20k down weight at 2165m. Washed down from 2165m with 900 gpm, 2680 psi. Tight spots at 2174m, 2181m, 2185m, 2217m and 2242m. Washed down with 10klbs constant weight. RIH from 2242m to 2271m without additional weight.
2284.0	P11	P	D2		1	Drilled 12.25" hole from 2271m to 2284m. Average Parameters: ROP 13.00m/hr, RPM 110, WOB - 10-12k, flow rate 950 gpm, SPP 2850 psi, Torque 4-12Klbs/ft.

Date : 21 Oct 2009 **Daily Cost : US$ 571896** **Report Number : 21**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2370.0	P11	P	D2		6	Drilled 12.25" hole from 2284m to 2370m. Average Parameters: ROP 14.30m/hr, RPM 110, WOB - 10-20k, flow rate 950 gpm, SPP 3050 psi, Torque 7-25Klbs/ft.
2450.0	P11	P	D2		6	Drilled 12.25" hole from 2370m to 2450m. Average Parameters: ROP 13.30m/hr, RPM 110, WOB - 6-10k, flow rate 950 gpm, SPP 3000 psi, Torque 4-12Klbs/ft.
2520.0	P11	P	D2		7	Drilled 12.25" hole from 2450m to 2520m. Average Parameters: ROP 10.00m/hr, RPM 110, WOB - 5-10k, flow rate 950 gpm, SPP 2930 psi,

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Date : 21 Oct 2009 **Daily Cost : US$ 571896** **Report Number : 21**

						Torque 4-15Klbs/ft.
2520.0	P11	P	F4		2.5	Circulated well clean and conditioned mud.
2520.0	P11	P	P3		0.5	Flushed kill and choke lines.
2520.0	P11	P	G8		1	POOH on elevators from 2520m to 2267m. Max overpull 20k at 2512m, 2412m, 2383m, 2354m and 2235m.
2520.0	P11	P	G8		1	RIH from 2267m to TD at 2520m. Max drag down 15klbs. No Fill.

Date : 22 Oct 2009 **Daily Cost : US$ 613578** **Report Number : 22**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P11	P	F4		1	Circulated bottoms up.
2520.0	P11	P	P3		0.5	Spotted 40 bbls hi-vis pill on bottom. Pumped slug. Flow checked well. Well static.
2520.0	P11	P	G8		3.5	POOH dry from 2520m to 930m at 15 stands/hr.
2520.0	P11	P	P3		1	Flow checked well at shoe. Well static. Concurrently serviced rig.
2520.0	P11	P	G8		0.5	Pulled out of hole from 930m to 355m at 20 stands/hr.
2520.0	P11	P	P3		0.5	Flow checked well prior to pulling BHA through BOP. Well static
2520.0	P11	P	G8		0.5	Pulled out of hole from 355m to 252m.
2520.0	P11	P	G6		1.5	Removed diverter packer and drill pipe wiper. Pulled out of hole with BHA to surface.
2520.0	P11	P	G6		1	Removed bit and drained motor. 12.125" motor sleeve was measured 1/16" under gauge at surface. Checked mud motor - in spec. Checked 12.25" string stablisers, both in gauge. Down loaded MWD tools all data received. 2 plugged nozzles in bit, but still in good condition. IADC bit grade 1-1-CT-A-X-I-PN-TD.
2520.0	P11	P	G12		2	Made up Dril-Quip MPT retrieval tool and RIH. Washed the wellhead with the jet sub at 800 gpm, 250 psi. Retrieved the wear bushing. POOH and laid down wear bushing and MPT. Dril-Quip obtained index measuremnet for casing hanger seat.
2520.0	P13	P	G1		3	Held JSA. Rigged up to run 9.625" casing.
2520.0	P13	TP	G1	TP	2.5	Attempted to make up shoe track. Malfunction of casing equipment. Changed out 11.75" elevator inserts to 9.625" inserts.
2520.0	P13	P	G9		6.5	Ran 9.625" casing to 830m. Filled pipe every 5 joints with mud.

Date : 23 Oct 2009 **Daily Cost : US$ 554953** **Report Number : 23**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	P	G9		12.5	Ran 9.625" casing from 830m to 2417m. Filled pipe every 5 joints with mud.
2520.0	P13	P	G1		0.5	Rigged down and laid out 9.625" 500 ton casing elevators and fill up tool
2520.0	P13	P	G9		0.5	Picked up 9.625" casing hanger assembly and made up same.
2520.0	P13	P	G1		0.5	Rigged down 9.625" casing flush mounted slips.
2520.0	P13	P	G9		0.5	RIH with 9.625" casing hanger and landing string to 2480m. Casing stood up with 20 - 35 kips.
2520.0	P13	P	G9		3.5	Engaged TDS and washed down from 2480m to 2508m. Pumped 70 bbls hi-vis pill and circulated out of hole.
2520.0	P13	TP	G9	WB	1.5	Casing stuck at 2508m. Attempted to work free - no progress. Set slips and closed compensator.
2520.0	P13	TP	G23	WB	3	String parted due to heave. Conducted derrick survey.
2520.0	P13	TP	G8	WB	1	Pulled out of hole with landing string. Laid out pup joint, 1 x single HWDP and parted single (9.185m)
2520.0	P13	P	G23		0.5	Held JSA prior to slip and cut drill line.

Date : 24 Oct 2009 **Daily Cost : US$ 555027** **Report Number : 24**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	P	G1		1.5	Slipped and cut drill line.

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Date : 24 Oct 2009 **Daily Cost : US$ 555027** **Report Number : 24**

2520.0	P13	TP	G4	WB	1	Moved used HWDP from running string to port side of derrick.
2520.0	P13	TP	G18	WB	2	Made up Dril-Quip MPT and RIH and tagged top of fish at 81.5mRT with 5k. POOH and laid out MPT.
2520.0	P13	TP	G18	WB	2.5	Made up 8 3/8" overshot, dressed with 6 5/8" spiral grapple and RIH. Attempted to engage fish. No success. POOH.
2520.0	P13	TP	G11	RE	10	Investigated and inspected TDS. Changed out lube oil motor and secured junction box. Function tested gear change and sighted inside of gearbox through rear inspection plug while rotaing shaft by hand. All ok.
2520.0	P13	TP	G18	WB	2	Made up 8 3/8" overshot dressed with 6 5/8" spiral grapple. RIH and tagged top of fish at 81.5mRT with 5k.
2520.0	P13	TP	G18	WB	1.5	Slowly lowered the fishing string to the right and gradually lowered the overshot over the top of the fish with a max down weight of 15k and 2 turns to the right. Maximum torque 6-7 kft/lbs. Made several attempts to engage fish. No success.
2520.0	P13	TP	G2	WB	0.5	Cleaned out overshot. Laid out overshot, EMDPHOT, sub and pup joint assembly.
2520.0	P13	TP	P1	RE	3	Held JSA. Pressure tested choke and kill manifold 250/5000psi. Concurrently repaired clamp/unclamp switch on iron roughneck.

Date : 25 Oct 2009 **Daily Cost : US$ 551497** **Report Number : 25**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	P1	WB	3	Continued to pressure test choke and kill manifold to 250/5000 psi.
2520.0	P13	TP	P1	WB	3.5	Pressure tested standpipe manifold, top drive and kelly cocks to 250/5000 psi.
2520.0	P13	TP	G16	WB	4	Made up bullnose jetting tool assembly. RIH from surface to above top of fish washing slowly down with jetting tool assembly at 1250 gpm, 3000 psi. Pumped down choke and kill lines and boosted riser. No significant cuttings observed over shakers. POOH to surface.
2520.0	P13	P	G11		1	Serviced rig equipment.
2520.0	P13	TP	G18	WB	1	RIH with 8 3/8" overshot assembly, dressed with 6 5/8" spiral grapple. Whilst attempting to engage fish, damaged TDS alignment cylinder.
2520.0	P13	TP	G11	RE	1.5	Inspected TDS. Changed out alignment cylinder clevis.
2520.0	P13	TP	G18	WB	0.5	POOH with 8 3/8" overshot assembly and laid out same. Inspected overshot at surface and confirmed that overshot had gone over fish as wear was obvious on inside top of bowl.
2520.0	P13	TP	G18	WB	5.5	RIH with 11 1/4" overshot assembly, dressed with 7 7/8" spiral grapple. Slowly rotated to the right 2 x turns with 15k down weight, 20,000 ft/lbs torque. Picked up and observed 80k overpull. Attempted to release 9 5/8" running tool with 20,000 ft/lbs torque. Unable to release. No success. Picked up and observed only string weight. POOH to surface.
2520.0	P13	P	G6		4	Laid down 12.25" BHA from derrick, mud motor, MWD tools, 2 x 12.25" stabilisers, 3 x 8.25" drill collars.

Date : 26 Oct 2009 **Daily Cost : US$ 618918** **Report Number : 26**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	P	G6		3.5	Laid down 12.25" BHA from derrick, 5 x 8.25" drill collars, 8" drilling jars.
2520.0	P13	P	G6		2	Laid down landing string that was used for 9.625" casing.
2520.0	P13	TP	G11	WB	0.5	Serviced break and checked TDS mud gooseneck top plug in readiness for Schlumberger wireline operations.
2520.0	P13	TP	G11	RE	5.5	Worked on TDS alignment. Removed top drive alignment cylinder. Installed spare alignment cylinder and adjusted as per set-up procedures. Investigated fault finding on the alignment hydraulic system - unsuccessful. Removed alignment cylinder and installed bracket.
2520.0	P13	TP	G18	WB	3	Made up 11 1/4" overshot assembly dressed with 7 7/8" basket grapple and RIH to above fish at 81.5m. Attempted to confirm injection test. Pumped 1.2 bbls to 3500psi. No success. Bled of pressure and POOH to surface.
2520.0	P13	TP	G18	WB	1.5	Re-dressed 11 1/4" overshot assembly with a new 7 7/8" basket grapple and RIH to 51mRT. Torqued each connection to 28,000 ft/lbs.
2520.0	P13	TP	G11	RE	3	Worked on PH85 pipe handler. Investigated problem with pipe handler counter balance. Set up and adjusted as per Varco torque wrench procedure - unsuccessful. Pipe handler still not operational.

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2520.0	P13	TP	G18	WB	1	Held JSA. RIH with 11 1/4" overshot assembly from 51mRT to top of fish at 81.5mRT. Torqued each connection to 28,000 ft/lbs. Engaged fish and confirmed with 5klbs overpull. Applied 10,000 ft.lbs of left hand torque. Worked string between 5-10klbs overpull. Increased left hand torque in 2000 ft/lbs increments until torque reached 20,000 ft/lbs. Torque dropped off continued to rotate 4 1/2 turns to the left and weight dropped off.
2520.0	P13	TP	G18	WB	1	POOH with fishing assembly. Pipe backed off below pup joint. Top of fish #2 at 52.3mRT.
2520.0	P13	TP	G18	WB	1.5	Ran in hole with 8 3/8" overshot assembly, dressed with 6 5/8" spiral grapple to above top of fish #2 at 52.3mRT. Made several attempts to engage fish without success.
2520.0	P13	TP	G18	WB	0.5	POOH with 8 3/8" overshot assembly to surface.
2520.0	P13	TP	G18	WB	1	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.

Date : 27 Oct 2009 **Daily Cost : US$ 567343** **Report Number : 27**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	1.5	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.
2520.0	P13	TP	G18	WB	3	RIH with 8 3/8" overshot assembly, dressed with modified 11 3/4" x 15" lip guide to top of fish #2 at 52.3mRT. Successfully engaged fish. POOH to surface and released fish. Laid out 8 3/8" overshot assembly.
2520.0	P13	TP	G18	WB	1.5	POOH with the 11 1/4" overshot assembly. Laid down the Dril-Quip EDPHT. Serviced break and laid down 11 1/4" overshot assembly.
2520.0	P13	TP	G11	WB	2.5	Made up 11 1/4" overshot assembly dressed with 7 7/8" basket grapple. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. RIH to above fish at 61m.
2520.0	P13	TP	G18	RE	1	Investigated and continued to trouble shoot problems with TDS hydraulic system. No success.
2520.0	P13	TP	G18	WB	3	RIH with 11 1/4" overshot assembly from 61m to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish and attempted to mechanically back off casing with 50klbs overpull and 24,000 ft/lbs left hand torque. Bowen overshot prematurely released from fish. Made several attempts without success. POOH to inspect overshot and grapple. Checked basket grapple, slight wear 3 inches of wickers were worn flat.
2520.0	P13	TP	G18	WB	4	Made up reverse circulating junk basket assembly. RIH to top of fish at 81.5m. Closed lower annular 3 times, monitored flow meter, opened annular pumped 5 bbls hi-vis and circulated up riser and observed shakers. No excess cuttings observed. Performed injection test, pumped 3.2 bbls, 950 psi. Pressure dropped to 750 psi. Pumped 1.3 bbls at 950 psi. Bled off slowly to 900 psi. Pressure steady at 900 psi. Washed top of fish. Bleed of pressure and opened annular. POOH to surface.
2520.0	P13	TP	G18	WB	2.5	Modified basket grapple. Welded numerous beads on the outside of a new 7 7/8" basket grapple to reduce the size of the catch. Re-dressed 11 1/4" overshot assembly.
2520.0	P13	TP	G18	WB	2	RIH with 11 1/4" overshot assembly to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish with 20k to 25k overpull. Applied left hand torque, string jumped and overshot slipped free. Made several more attempts, without success. POOH to surface. Checked basket grapple, the first 2 to 3 inches of wickers were worn flat.
2520.0	P13	TP	G2	WB	3	Held JSA. Picked up and racked back 9 x 6.75" drill collars in derrick.

Date : 28 Oct 2009 **Daily Cost : US$ 576391** **Report Number : 28**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	P	G2		1	Laid down Halliburton SSR cement head.
2520.0	P13	TP	G2	WB	2	Picked up and made up 2 x 6.75" drill collars and 1 x 6.75" drilling jars and racked back in derrick.
2520.0	P13	TP	G2	WB	3.5	Installed diverter and wiper rubber. Picked up 9 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift. Moved 2 x stands of 5" HWDP from port to starboard side of derrick.
2520.0	P13	TP	G2	WB	1	Picked up 9 joints of 5" drill pipe and racked back in derrick. Drifted all tubulars with 3" drift.
2520.0	P13	TP	G11	RE	3	Investigated problems with TDS hydraulic system.
2520.0	P13	TP	G18	WB	4.5	RIH with 11 1/4" overshot assembly to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish with 50klb

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						overpull. Applied 20,000 ft/lbs left hand torque, torque slipped. Attempted to engage grapple numerous times. No success. POOH to surface. Checked basket grapple, the first 2 to 3 inches of wickers were worn flat.
2520.0	P13	TP	G18	WB	4.5	Made up 11-3/4" overshot, dressed with 7-3/4" basket grapple, bumper sub, jars, 4 x 8" drill collars, accelerator, crossover. Changed out damaged 8" drill collar. Torqued each 6 5/8" connection to 56,000 ft/lbs
2520.0	P13	TP	G18	WB	4.5	RIH with 11-3/4" overshot assembly to above fish at 81.5m. Engaged fish, confirmed with 10k overpull. Began jarring lightly on fish. Slacked off to 160klb and picked up to 230klb - jars firing. Made several attempts, unsuccessful. Set torque limit to 30,000 ft/lbs. Applied 27,000 ft.lbs of left hand torque (23 turns). String jumped. POOH to surface. Observed top sub connection on Jars had backed off, leaving the 11 3-4" overshot, bumper sub and jars in the hole. Top of fish #2 at 74.7mRT

Date : 29 Oct 2009 **Daily Cost : US$ 557193** **Report Number : 29**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	2.5	RIH with 11-1/4" overshot (BHA #13), dressed with 8" basket grapple to top of fish at 74.7mRT (fish #2). Made several attempts to engage fish, without success. POOH to surface to change basket grapple. All connections were torqued to 32,000 ft/lbs on previous run.
2520.0	P13	TP	G18	WB	1.5	RIH with 11-1/4" overshot (BHA #13), dressed with 7-7/8" basket grapple to top of fish at 74.7mRT (fish #2.) Made several attempts to engage, without success. POOH to surface. Maximum left hand torque applied 6000 ft/lbs to attempt to engage fish. At surface observed the 11-1/4" overshot and crossover missing.
2520.0	P13	TP	G18	WB	2.5	Ran back in hole and attempted to screw back into the top of the 11-1/4" overshot at 73.3mRT (fish #3). No success. POOH to surface
2520.0	P13	TP	G18	WB	1.5	Modified 8 3/8" overshot, and dressed with 6 3/4" spiral grapple.
2520.0	P13	TP	G18	WB	4	RIH with 8 3/8" overshot (BHA #14) dressed with a 6 3/4" spiral grapple to top of fish #3 at 73.3mRT. Made several attempts to engage fish #3 without success. POOH to surface.
2520.0	P13	TP	G11	RE	1	Changed out burst hose on compensator lock bar.
2520.0	P13	TP	G18	WB	2.5	Re-dressed overshot. Cleaned and painted same. RIH with 8 3/8" overshot (BHA #14) dressed with a 6 3/4" spiral grapple, to top of fish #3 at 73.3mRT. Made several more attempts to engage fish #3, without success. POOH to surface.
2520.0	P13	TP	G11	WO	2	Waited on helicopter to arrive with fishing tools and NOV engineer to troubleshoot malfunction of PH85 pipe handler on TDS.
2520.0	P13	TP	G18	WB	2.5	Made up BHA #15, 11-3/4" overshot, dressed with a 6 3/4" basket grapple
2520.0	P13	TP	G18	WB	2	RIH with BHA #15 to top of fish #3 at 73.3m. Attempted to engage fish. POOH to surface. No success
2520.0	P13	TP	G18	WB	0.5	Changed out mill control from 6-3/4" to 8". Beveled mill control.
2520.0	P13	TP	G18	WB	1	RIH with BHA #15, 11 3/4" overshot, dressed with 6-3/4" basket grapple. Attempted to engage fish. POOH to surface. No success.
2520.0	P13	TP	G18	WB	0.5	Commenced changing out basket grapple.

Date : 30 Oct 2009 **Daily Cost : US$ 559803** **Report Number : 30**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	1.5	Dressed the 11-1/4" overshot with a 8-1/4" basket grapple.
2520.0	P13	TP	G18	WB	1	RIH with 11-1/4" overshot assembly dressed with 8-1/4" basket grapple (RR BHA #15). Pick up weight 160 klbs, slack off weight 170klbs. Rotated at 40 rpm and engaged fish with 5klbs, confirmed with 20klbs overpull, slacked off 5klbs, at 30 rpm string jumped, lost all weight, slacked back off with 10klbs, picked back up with 50klbs overpull. String jumped. Attempted to release the overshot, but the top one released first.
2520.0	P13	TP	G18	WB	1.5	POOH to surface. No fish. Inspected 11-1/4" overshot assembly. The markings on the overshot showed that the guide was bottoming out on the larger OD of the fish, before it could engage the grapple enough to get a firm grip. The bottom two or three wickers of the grapple, had blue as well as green paint (the colors of the cross over and the overshot).
2520.0	P13	TP	G18	WB	5	Laid down excess fishing tools (11-3/4" overshot assembly, reverse circulating assembly). Made up 11-1/4" overshot assembly.

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Date : 30 Oct 2009 **Daily Cost : US$ 559803** **Report Number : 30**

2520.0	P13	TP	G18	WB	1.5	Prepare and RIH with 8 3/8" overshot with 6 3/4" grapple and modified overshot on 5" DP. Set down 10klbs with rotation, no torque or overpull, POOH same.
2520.0	P13	TP	G18	WB	3.5	Prepare and RIH 11 1/4" overshot with 8 1/4" grapple on 5" DP. Set down 10klbs with rotation, pick up and set down with 15klbs with rotation with right hand torque (7000ft/lbs), left hand torque (7000ft/lbs). POOH same.
2520.0	P13	TP	G18	WB	4.5	Trouble shoot problems with top drive & elmago brake while 8 3/8" overshot at welders for modifcation. Make top drive secure prepare 8 3/8" overshot with modified pup joint.
2520.0	P13	TP	G18	WB	2	Makeup modified pup joint & lip guide & RIH to top of fish at 73.7m. BHA #16F. Pump at 10spm and tag top of fish. Rotate & attempt to screw modified overshot & pupjoint into fish with no success. POOH same. Score marks inside overshot where top of fish had been rubbing indicated fish entered skirt but pin on pup joint failed to enter tool joint box of the fish.
2520.0	P13	TP	G18	WB	3.5	RIH with open ended single of DP to tag top of fish. Attempt to stab DP into 4 1/2" IF box of fish. Trimmed rig forward and aft, port & stbd and reciprocated string.

Date : 31 Oct 2009 **Daily Cost : US$ 559803** **Report Number : 31**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	1	POOH with open ended string. No visible marks on DP single.
2520.0	P13	TP	G11	WB	10	Trouble shot topdrive and iron roughneck hydraulic unit.
2520.0	P13	TP	G18	WB	1.5	Dressed and RIH with 11 1/4" overshot with 8 3/4" grapple on 5" drill pipe. Tagged fish at 75m. 170klbs up wt, 165klbs down wt, overpull of 40lbsk. POOH with same, No Success.
2520.0	P13	TP	G18	WB	2.5	Dressed 11 3/4" overshot with 7 1/8" grapple and 8 3/8" mill guide. RIH with same on 5" DP to top of fish at 75m. Unsuccessful attempt POOH.
2520.0	P13	TP	G18	WB	2	Dressed same 11 3/4" overshot but with 7 " grapple and 8 3/8" mill guide. RIH with same on 5" DP to top of fish at 75m. Applied right hand rotation with no indications. POOH fish #3. Fish on surface at 16.40hrs. Laid out same.
2520.0	P13	TP	G18	WB	1	Dressed fishing tool BHA #18 for fish #2 with 11 3/4" overshot with 7 3/4" basket grapple and mill control while rig crew rearranged derrick to allow access to 6 3/4" DCs.
2520.0	P13	TP	G18	WB	2	RIH with fishing tool BHA #18 for fish #2 with 11 3/4" overshot with 7 3/4" basket grapple and mill control. Tagged top of fish using rotation with 10klbs down. Overpull of 30klbs when string released. POOH. No luck. Marks on the side of the guide indicated that tool had gone down beside the fish & not over it.
2520.0	P13	TP	G18	WB	4	Rerun BHA #18 with a 15" guide and same 7 3/4" grapple. Tag top of fish with rotation & 20klbs down. 40klbs overpull on fish & allowed time for jars to bleed down. Held 35klbs on fish while confirm with town operation. Held JSA on rig floor for shearing of pipe.

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Activity Report For Trefoil-2

Date : 01 Nov 2009 **Daily Cost : US$ 550470** **Report Number : 32**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	5	Closed shear rams against 9 5/8" casing from koomey room. Observed flow meter count of 56 bbls - correct volume. No loss of block weight observed. Pressure tested seal of shear rams to 500 psi through C&K lines and held for 30 min - good test. Began overpull and jarring to free stuck casing hanger. At 03.45hrs string came free with between 40 - 70klbs overpull. POOH with fish complete to surface.
2520.0	P13	TP	G18	WB	2	Broke out and & laid down fishing BHA and fish.
2520.0	P13	TP	G18	WB	2.5	Performed post jarring inspection while fishing tools were being dismantled on deck. Serviced top drive and inspected same.
2520.0	P13	TP	P1	WB	1	Service break connections & laid out fishing tools. Simops - tested 9 5/8" annulus against shear rams 500 psi/10 min - ok.
2520.0	P13	TP	G23	WO	1	Time out for safety due to Derrickman hurting his back on rigfloor. IP had to be strechered from rig floor. Flash Report #44.
2520.0	P13	TP	G18	WB	1	Continued to service break connections and lay out fishing tools.
2520.0	P13	TP	G18	WB	3	Laid out 5 stands of DP from derrick that had been dry torqued for fishing job.
2520.0	P13	TP	G19	WB	0.5	Opened shear rams and pumped 5 bbls of HiVis mud & circulated bottoms up @ 160 strokes = 650 psi, while preparing 17 1/2" mill BHA.
2520.0	P13	TP	G19	WB	1	Make up 17 1/2" mill assembly and BHA run #19F
2520.0	P13	TP	G19	WB	1	RIH with 17 1/2" mill assembly and BHA run #19F. Tagged out at the 13 3/8" x 20" casing swedge at 98.97m. Indicated top of fish is inside the 13 3/8" casing.
2520.0	P13	TP	G19	WB	1.5	POOH and laid out 17 1/2" mill.
2520.0	P13	TP	G19	WB	1	Made up 12 1/4" mill plus 2 x junk subs on BHA.
2520.0	P13	TP	G19	WB	1	RIH with 12 1/4" mill on BHA Run#19F. Tagged top of 9 5/8" casing at 102m.
2520.0	P13	TP	G19	WB	1.5	Began milling top of sheared casing from 102m - 103m at 70 spm, 350gpm/50psi. 5k WOB.
2520.0	P13	TP	G19	WB	0.5	Pumped 10 bbls hivis and circulated shakers clean. 425 grams returned from magnets down stream from shakers.
2520.0	P13	TP	G19	WB	0.5	POOH with 12 1/4" milling tool from 103m.

Date : 02 Nov 2009 **Daily Cost : US$ 559804** **Report Number : 33**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G19	WB	0.5	Continued to POOH with 12 1/4" milling BHA from 103m to surface.
2520.0	P13	TP	G19	WB	0.5	Broke out & laid out 12 1/4" mill and junk baskets.
2520.0	P13	TP	G19	WB	1	Made up 8 1/2" tapered casing mill.
2520.0	P13	TP	G19	WB	0.5	RIH with tapered mill to 103m
2520.0	P13	TP	G19	WB	0.5	Milled inside casing from 103m - 106m at 50rpm, 70spm.
2520.0	P13	TP	G19	WB	0.5	POOH with tapered mill from 106m to surface.
2520.0	P13	TP	G19	WB	0.5	Laid down tapered mill and components.
2520.0	P13	TP	G16	WB	0.5	Picked up and made up wellhead mill and flush tool.
2520.0	P13	TP	G16	WB	0.5	RIH to 92.5m - well head depth.
2520.0	P13	TP	G16	WB	0.5	Washed and jetted wellhead and BOPs with 200spm, 220psi.
2520.0	P13	TP	G16	WB	1	POOH to surface with mill and jetting tool.
2520.0	P13	TP	G16	WB	0.5	Cleaned and cleared rig floor.
2520.0	P13	TP	G12	WB	2	M/Up 9 5/8" hanger assy on HWDP & racked back in mast.
2520.0	P13	TP	G1	WB	1.5	M/Up cement head & racked back same.
2520.0	P13	TP	G1	WB	1	P/Up & M/Up spear assy.
2520.0	P13	TP	G18	WB	1.5	RIH with spear assy on BHA #21 to top of casing fish.
2520.0	P13	TP	G18	WB	1	Pumped @ 60spm/ 300gpm/ 40psi. Inserted spear into fish and picked-up - no overpull observed.

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Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

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						Slacked off string and applied 1 LH turn - confirmed latch with overpull of 350klbs. Circulate 60spm/300gpm. Took overpull to 400klbs and increased circulation to 100spm/500gpm/ 250psi.
2520.0	P13	TP	G11	WB	0.5	Pressured up compensator bottle to required pressure while reinstalling index line.
2520.0	P13	TP	G18	WB	1	Pulled 580klbs and applied 10klbs torque & held same. Circulated at 180spm/900gpm/530psi. Stopped pumps, released torque, slacked off all weight to release spear.
2520.0	P13	TP	G18	WB	0.5	POOH with spear assembly to surface.
2520.0	P13	TP	G18	WB	0.5	Broke out and laid out spear and accelerator.
2520.0	P13	TP	G1	WB	1.5	Cleaned and cleared rig floor and pipe deck of fishing tools while preparing BHA for casing cutting run.
2520.0	P13	TP	G1	WB	1.5	P/Up & M/Up casing cutting BHA # 22F.
2520.0	P13	TP	G8	WB	2	RIH with casing cutting BHA to top of fish. BHA hung up while entering top of fish. Made up top drive and rotated slowly while lowering string into 9 5/8" casing fish. Continued to RIH.
2520.0	P13	TP	G17	WB	1	Landed out swivel on top of fish at 103m. Began cutting casing at 157m with 30spm/150gpm/380psi/60rpm/6-8000ft/lbs torque.
2520.0	P13	TP	G8	WB	1	POOH to the swivel at 61m. Lost weight near surface. No Fish.
2520.0	P13	TP	G2	WB	0.5	Broke out spearand casing cutting BHA & laid out out.

Date : 03 Nov 2009 **Daily Cost : US$ 562284** **Report Number : 34**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G1	WB	1	Continued to break out spear and casing cutting BHA and laid out same.
2520.0	P13	TP	G18	WB	1	Picked up & made up back up casing grapple, bumper sub & jars.
2520.0	P13	TP	G18	WB	1	RIH to top of fish at 103m. Latched into fish with 10klbs down weight. Confirmed fish caught with 7klbs overpull.
2520.0	P13	TP	G18	WB	0.5	POOH with fish to surface.
2520.0	P13	TP	G1	WB	1	Held toolbox talk on rigging up casing. Rigged up casing 500ton elevators, tongs and equipment.
2520.0	P13	TP	G2	WB	2	Held toolbox talk on laying out casing. Laid out 9 5/8" casing fish.
2520.0	P13	TP	G2	WB	0.5	Rigged down & laid out 9 5/8" casing equipment.
2520.0	P13	TP	G2	WB	2	Made up wear bushing, RIH & landed out. Confirmed index mark. POOH & retrieved running tool.
2520.0	P13	TP	G19	WB	2.5	Dressed 12 1/4" milling assy & RIH under controlled conditions due to weather. Tagged top of casing @ 157m.
2520.0	P13	TP	G19	WB	1.5	Took parameters and started milling 9 5/8" casing at 100rpm/100spm/500gpm/ 250psi. Pumped HiVis pill and circulated 2 x bottoms up.
2520.0	P13	TP	G19	WB	2	POOH with 12 1/4" milling assy and laid out same.
2520.0	P13	TP	G12	WB	2.5	RIH with wearbushing retrieval tool. Applied overpull of 60klbs to confirm latch. POOH same and attempt to remove wearbushing from running tool with no success. Laid out R/T & wearbushing as one.
2520.0	P13	TP	G2	WB	2	Picked up 9 5/8" casing hanger from the derrick. Backed out 9 5/8" pup joint from below hanger then racked back in derrick.
2520.0	P13	TP	G2	WB	3.5	Held pre job safety meeting on running casing patch on 9 5/8" casing. Made up casing patch to first joint of casing & RIH with 9 5/8" casing to 66m.
2520.0	P13	TP	G2	WB	1	Pick up casing hanger and running tool from mast & make up to 9 5/8" casing patch string.

Date : 04 Nov 2009 **Daily Cost : US$ 561915** **Report Number : 35**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G9	WB	2	RIH 9 5/8" casing patch on landing string and landed out in well head. No indication of patch latching into casing string. Worked string and rotated string to the left in an attempt to engage casing patch grapple. Discussed with Smith Services representive and ADA Drilling Supervisor in town the way ahead. Checked all calculations and discussed possible scenarios. Decision made to continue as planned.
2520.0	P13	TP	G9	WB	2.5	Released casing running tool and POOH. Racked back running tool in the mast.

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Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 04 Nov 2009 **Daily Cost : US$ 561915** **Report Number : 35**

2520.0	P13	TP	G2	WB	2	Picked up and made up spear assy and RIH.
2520.0	P13	TP	G9	WB	2	Tagged at 158m. Engaged grapple at 160m. Performed overpull to 280klbs to pull casing into casing patch. Slacked off 180klbs and picked up 172klbs. Released spear and picked up to 150m (above patch). Picked up to verify casing patch engaged - not engaged. Repeated same procedures as above in an attempt to engage casing patch.
2520.0	P13	TP	P4	RE	0.5	Stopped operation to build up air in compensator bottles.
2520.0	P13	TP	G9	WB	3	Held string in tension @ 450klbs and pressured up to 50psi to confirm casing stump inside casing patch. Continued to work casing string to get casing patch to engage to energize the seals. Confirmed casing patch seals energized by pick up to 115m. Engaged spear with overpull of 40klbs.
2520.0	P13	TP	G8	WB	3	POOH casing spear. Had problems with top drive and elevators.
2520.0	P13	P	G2		1	Broke down casing hanger and laid down same.
2520.0	P13	TP	G12	WB	3	Made up hanger seal assy and RIH to top of well head @ 92.5m.
2520.0	P13	P	P1		0.5	Set seal assy and pressure tested to 3000/5000psi for 5/10 mins - good test.
2520.0	P13	TP	P1	WB	4.5	Tested BOPs and C&K manifold (250psi Low / 5000psi high).

Date : 05 Nov 2009 **Daily Cost : US$ 981063** **Report Number : 36**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	P1	WB	1.5	Continued to test BOPs and C&K manifold (250psi low/ 5000psi high).
2520.0	P13	TP	G8	WB	1.5	Released running tool with 60klbs overpull and POOH.
2520.0	P13	TP	G2	WB	3	Broke out and laid down casing spear, cement head and one stand of DC from mast.
2520.0	P13	TP	G11	RE	18	Troubleshot top drive hydraulic system, pipe handler and alignment problems. Repaired oil leak on manipulator arm. Replaced lindal brake on elmago and tested same - OK. Installed new Martin Decker weight indicator gauge and pumped up deadman sensor. Tested SPP gauges and calibrated same. Replaced lube oil cooler fan and motor assy. TDS pipehandler clamp piston bolts renewed. Shim plates removed from stbd lower dolly roller carriage. Shim plates added to port lower dolly roller carriage.

Date : 06 Nov 2009 **Daily Cost : US$ 607696** **Report Number : 37**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G11	RE	11	Continued to troubleshoot top drive hydraulic system, pipe handler and alignment problems. Prepared 8 1/2" drillout BHA. Changed out saver sub. Tested TDS and pipe handler. Perform alignment test and checked hook position indicator on compenstor. ADA Drilling Supervisor witnessed and excepted repairs and improvements.
2520.0	P17	TP	G12	WB	3	Picked up wear bushing running tool and made up wear bushing. RIH and landed out in wellhead @ 92.5m. 25klbs down weight applied and overpulled 30klbs - bushing set. POOH running tool.
2520.0	P17	TP	G21	WB	0.5	Picked up jammed wear bushing running tool with bushing attached from deck and attempted to free from running tool - no success. Laid out same.
2520.0	P17	TP	G5	WB	1	Made up emergency hang off tool and racked in mast.
2520.0	P17	TP	G6	WB	3.5	Made up 8 1/2" drillout BHA and RIH to 255m while checking serial numbers on all components.
2520.0	P17	TP	G2	WB	1	Made up RTTS packer to string and RIH packer to 190m packer depth (445m bit depth).
2520.0	P17	TP	F4	WB	0.5	Broke circulation and held prejob toolbox talk.
2520.0	P17	TP	P1	WB	1	Set RTTS Packer. Lined up cement pump to pump down choke line. Broke circulation with 5bbls. Pressure tested lines to 4000psi/5 min. Closed lower annular and performed pressure test on casing patch to 4000psi in 500psi increments, held for 10 min - good test. Total amount of bbls pumped = 1.75bbls. Volume returned 1.5bbls.
2520.0	P17	TP	G8	WB	1.5	Unseat packer & POOH to 255m. Laid out RTTS packer.
2520.0	P17	TP	G8	WB	1	Picked up drill pipe from deck and RIH from 255m to 402m.

Date : 07 Nov 2009 **Daily Cost : US$ 594231** **Report Number : 38**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity

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Date : 07 Nov 2009 **Daily Cost : US$ 594231** **Report Number : 38**

2520.0	P17	TP	G8	WB	3	Continued to pick up drill pipe from deck and RIH from 402m to 900m. Filled pipe. 75 joints total picked up.
2520.0	P17	TP	G8	WB	5	Continued to RIH with stands from 900m to 2402m. Filled pipe every 20 stands.
2520.0	P17	TP	F1	WB	1.5	Washed and reamed from 2402m to 2494m. Tagged float collar.
2520.0	P17	TP	G23	WB	1	Took SCRs and CLF. Performed well control exercise with drill crew.
2523.0	P17	P	D8		1.5	Drilled out shoe track with 5-10klbs WOB (70rpm, 140spm=700gpm @ 1550psi). Shoe depth 2520m. Drilled 3m of new formation from 2520m to 2523m.
2523.0	P17	P	F4		1	Pumped 25bbls Hi Vis pill and circulated hole clean with 140spm=700gpm @ 1550psi. Installed Geoservices bracket.
2523.0	P17	P	E1		2.5	Pulled back inside casing shoe to rig up and perform FIT to 710psi = 11.0 ppg EMW.
2523.0	P17	TP	G8	WB	4.5	Pumped slug and POOH from 2520m to 257m.
2523.0	P17	TP	G14	WB	1.5	Performed flow check prior to pulling BHA through the BOPs. POOH and racked back BHA from 257m - 54m.
2523.0	P17	TP	G23	WB	1	Time out for safety. Roughnecks heard something land on the rig floor which had dropped from out of the derrick. Inspection found that the pin of a shackle used by the derrickman on a sheave on his pull back tugger at the monkey board level had fallen out. Performed mast inspection and checked all other similar shackles and sheaves in the mast prior to continuing operations. Flash Report #047
2523.0	P17	TP	G8	WB	0.5	Continued to POOH BHA from 54m to surface. Dull bit (#4) grade 1-1-WT-A-E-I-NO-BHA.
2523.0	P17	P	G6		1	Picked up and made up 8 1/2" PDC bit and BHA.

Date : 08 Nov 2009 **Daily Cost : US$ 567646** **Report Number : 39**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2523.0	P17	P	G6		1	Picked up and RIH 8 1/2" BHA to 31m.
2523.0	P17	P	G7		1.5	Downloaded MWD tools and installed radio active source.
2523.0	P17	P	G6		1	Continued to pick up BHA and RIH from 31m to 180m.
2523.0	P17	P	G7		1	Performed shallow water test of MWD tools (127spm/635gpm/1150psi).
2523.0	P17	P	G6		0.5	Continued to RIH BHA from 180m to 287m.
2523.0	P17	P	G8		4.5	RIH 8 1/2" BHA on 5" DP from 287m to 2457m. Filled every 15 stands.
2523.0	P17	U	G23		1	Circulated and monitored well while rig has safety stand down.
2523.0	P17	P	G11		0.5	Serviced TDS and inspected dolly rollers.
2523.0	P17	P	F1		3	Reamed down from 2457m to 2523m. Reamed through float and shoe collar area 2 or 3 times due to new stiffer BHA.
2540.0	P17	P	D2		0.5	Drilled new 8 1/2" hole from 2523m to 2540m (141spm/721gpm/2450psi/110rpm/3-10 torque/10klbs WOB, MW=9.3ppg).
2540.0	P17	TP	G8	TP	1	POOH to shoe for Geoservice to troubleshoot their systems.
2629.0	P17	P	D2		8.5	Continued to drill ahead from 2540m - 2629m. Encountered high vibration and stick slip on down hole MWD tools at 2670m. Adjusted parameters to suit (141spm/700gpm/2470psi/110rpm/3-10 torque/10-15klbs WOB, MW=9.3ppg). Drilled from 2610m to 2629m with no depth reference for MWD as MWD geolograph cable parted in mast. Drill crew installed new cable to spool during this period.

Date : 09 Nov 2009 **Daily Cost : US$ 611990** **Report Number : 40**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2629.0	P17	TP	G15	TP	1	Re-logged from 2610m to 2629m due to the MWD and Geoservices geolograph cables in the mast getting tangled and parting during the making of the previous connection.
2629.0	P17	TP	G15	TP	1	Made up connection at 2629m. MWD tools failed to return any signal. Attempted to recycle pumps and performed mode switch to reset tools.
2633.0	P17	P	D2		0.5	Drilled from 2629m to 2633m while continuing to troubleshoot MWD problems. All attempts failed.
2633.0	P17	TP	F4	TP	1	Circulated bottoms up to clean well and allowed Geoservices to gather samples.
2633.0	P17	TP	D7	TP	1	Pumped out of hole to shoe from 2633m to 2520m.

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Date : 09 Nov 2009 **Daily Cost : US$ 611990** **Report Number : 40**

2633.0	P17	TP	G14	TP	0.5	Performed flow check and pumped slug.
2633.0	P17	TP	G8	TP	4.5	Continued to POOH from 2520m to 403m.
2633.0	P17	TP	G8	TP	3	Flowchecked and POOH BHA to surface. Downloaded radio active source and racked back in mast.
2633.0	P17	TP	G11	RE	5	Performed drill floor maintenance. Performed mast inspection. Fixed oil leak on top drive. Checked dolly rollers. Cleaned discharge strainers on the mud pumps. Repaired drillers Totco readout panel. Installed bracket for Geoservices and MWD line.
2633.0	P17	TP	G7	TP	2.5	Laid out MWD tools from the mast. Dull bit grade = 0-1-WT-G-X-I-No-DTF.
2633.0	P17	TP	G7	TP	2	Picked up and made up MWD tools form the deck and RIH to 31m (Bit #5RR).
2633.0	P17	TP	G7	TP	1	Downloaded and tested MWD Tools. Installed radioactive sources.
2633.0	P17	TP	G8	TP	1	Continued to make up and RIH 8 1/2" BHA # 26 from 31m to 89m.

Date : 10 Nov 2009 **Daily Cost : US$ 562791** **Report Number : 41**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2633.0	P17	TP	G8	TP	1	Continued to pick up BHA and RIH to 175m.
2633.0	P17	TP	G15	TP	0.5	Performed shallow test on MWD tools at 600gpm/1020psi - ok.
2633.0	P17	TP	G8	TP	0.5	Continued to make up and RIH BHA from 175m to 288m.
2633.0	P17	TP	G8	TP	4.5	RIH 8 1/2" BHA #26 on 5" DP. Monitored well on trip tank. Stopped and filled every 25 stands from 288m to 2520m.
2633.0	P17	P	G11		3	Slipped and cut drilling line, 1/2 hour for crew handover, 1/2 hour PMS Top Drive.
2633.0	P17	TP	F1	TP	1	Attached Geoservices and Sperry geolograph line. RIH from 2520m to 2577m. Made up the top drive and light reamed to 2,633m. Recorded parameters: hook load 380kips/700gpm/2400psi/125rpm/10k torque/mud weight 9.4ppg.
2644.0	P17	P	D2		0.5	Drilled 8-1/2" hole from 2633m to 2644m with 700gpm/2500psi/10klbs WOB/ 140rpm/10k torque/mud weight 9.4ppg
2644.0	P17	TP	G14	RE	1	Monitored 40bbls losses. Flow checked on trip tank - ok. Checked mud tanks and shale shaker areas and found that there was a blockage from sand traps to mud pit. Cleared blockage and circulated at 700gpm. No mud lost downhole or to the sea.
2774.0	P17	P	D2		12	Continued to drill ahead 8 1/2" hole from 2644m to 2774m with 700gpm/2500psi/10klbs WOB/140rpm/10k torque/mud weight 9.4ppg. Took surveys on each connection.

Date : 11 Nov 2009 **Daily Cost : US$ 581501** **Report Number : 42**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2950.0	P17	P	D2		12.5	Continued to drill ahead 8 1/2" hole from 2774m to 2950m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Took surveys on each connection. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
2950.0	P17	P	F4		1.5	Racked back stand #93 to enable Driller to work full stand of pipe and circulate hole clean @ 700gpm/2700psi.
2968.0	P17	P	D2		3.5	Continued to drill ahead 8 1/2" hole from 2950m to 2968m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
2968.0	P17	P	F4		1.5	Circulated for geological sample @ 700gpm/2700psi. Took SCRs @ 30/40/50 spm.
2983.0	P17	P	D2		1	Continued to drill ahead 8 1/2" hole from 2968m to 2983m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
2983.0	P17	P	F4		1	Circulated hole clean @ 700gpm/2700psi.
2983.0	P17	P	F4		1	Geologist confirmed core point depth @ 2983m. Flow check continued to circulate hole clean @ 700gpm/2700psi.
2983.0	P17	P	D7		1	Pumped out of the hole from 2983m - 2871m 350gpm/1400psi
2983.0	P17	P	G8		1	POOH on elevators monitoring trip tank from 2871m - 2669m. Hole in good shape. No tight spots observed

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Date : 12 Nov 2009 **Daily Cost : US$ 545281** **Report Number : 43**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2983.0	P17	P	G8		1	Continued to POOH on elevators monitoring well on trip tank from 2669m to 2520m (9 5/8" casing shoe). Hole in good condition. No Tight spots observed.
2983.0	P17	P	G14		0.5	Perform 15 min flow check. Serviced top drive. Removed MWD and Geoservices geolograph lines.
2983.0	P17	P	G8		4	Pumped slug and POOH in casing from 2520m to 380m.
2983.0	P17	P	G8		2.5	Performed 15 min flow check and continued to POOH from 380m to 30m.
2983.0	P17	P	G7		1	Removed sources and down loaded Halliburton tools.
2983.0	P17	P	G6		0.5	POOH and broke off 8-1/2" PDC bit and racked back stand. Bit dull grading = 1-2-CT-S-X-I-WT-CP.
2983.0	P17	P	G23		0.5	Held JSA with drill crews, crane operator and roustabouts. Discussed procedures on picking up outer core barrel.
2983.0	P17	P	E7		1.5	Picked up 1st joint of outer core barrel and made up 8-1/2" core bit MCP 572. Continued to pick up outer barrels.
2983.0	P17	P	E7		1	Picked up inner core barrels and spaced out inner barrel to core bit.
2983.0	P17	P	G6		1.5	Made up 6-3/4" BHA and RIH to 288m.
2983.0	P17	P	G8		4.5	Function tested diverter. Continued to RIH coring BHA on 5" DP to 9-5/8" Shoe at 2520m.
2983.0	P17	P	G8		0.5	Broke circulation and recorded parameters - hook Load, drag up and down, 280gpm and torque. Took SCR's.
2983.0	P17	P	G8		2	Continued to RIH at a controlled speed from 2520m to 2946m.
2983.0	P17	P	F1		0.5	Washed and reamed from 2946m to 2983m. Picked up a DP single and 3m pup to space out for a continuous 30m core.
2983.0	P17	P	E7		0.5	Dropped the ball. Pressure increased from 540 to 730psi. Took SCRs. Set coring parameters: 210gpm/555psi/70rpm/5-7 torque.
2988.0	P17	P	E7		2	Began coring run #1: 210gpm/560psi/70rpm/10klbs WOB/Torq 5-7. Cut core from 2983m to 2988m.

Date : 13 Nov 2009 **Daily Cost : US$ 573477** **Report Number : 44**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3013.0	P17	P	E7		2.5	Continued to cut core #1 from 2988m to 3013m (210gpm/560psi/70rpm/10klbs WOB/Torq 5-7).
3013.0	P17	P	E7		0.5	Picked up off bottom. POOH 2 stands to 2850m. 20-30klbs overpull on 1st stand. Flow checked while laying down pup joint. Pumped 25bbl slug.
3013.0	P17	P	G8		2	Continued to POOH at controlled rate at 3min per stand from 2850m to 2520m (shoe depth).
3013.0	P17	P	G8		7	Flow checked at shoe. Continued to POOH at controlled rate at 3min per stand from 2520m to 600m.
3013.0	P17	P	G8		3	Continued to POOH at controlled rate at 6min per stand from 600m to 150m then 150m to 32m @ 8 min per stand.
3013.0	P17	P	E7		3	Held pre job safety meeting and recovered cores as per Corpro instructions. 31.2m of core retrieved 104%. Broke off bit and racked back core barrrel in the mast.
3013.0	P17	P	G15		1.5	Made up MWD tools from mast. Installed radio active sources and loaded tools.
3013.0	P17	P	G6		1.5	Continued to make up BHA and RIH to 147m.
3013.0	P17	P	G15		0.5	Shallow tested MWD tools at @ 120spm/ 600gpm/ 1050psi.
3013.0	P17	P	G6		0.5	Continued to RIH on HWDP from 147m to 288m.
3013.0	P17	P	G8		2	Continued to RIH 8 1/2" BHA on 5" DP from 288m to 1215m. Performed trip drill (32 sec). Filled pipe every 25 stands. Performed 10 min flow check due to closed end displacement on pipe. Well static.

Date : 14 Nov 2009 **Daily Cost : US$ 570646** **Report Number : 45**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3013.0	P17	P	G8		2.5	Continued to RIH 8 1/2" BHA on 5" DP from 1215m to 2520m. Filled pipe every 25 stands.
3013.0	P17	P	P3		1	Performed flow check at the shoe. Serviced top drive. Installed MWD and Geoservices bracket for their wire line sheaves. Performed trip drill (38 sec).

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DFE above MSL : 26.0m | Lat : 39 Deg 53 Min 07.9334 Sec | Spud Date : 06 Oct 2009 | Release Date : 29 Nov 2009

Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 14 Nov 2009 **Daily Cost : US$ 570646** **Report Number : 45**

3013.0	P17	P	G8		1.5	Continued to RIH in open hole from 2520m to 2927m.
3013.0	P17	P	F1		1.5	Washed and light reamed from 2927m to 2960m @ 700 gpm. Took SCRs at 30/40/50 strokes.
3013.0	P17	P	F1		2.5	Relogged hole from 2960m - 3013m at controlled rate with 700gpm/ 2800psi/70rpm.
3130.0	P17	P	D2		13	Drilled 8-1/2" hole from 3013m to 3130m (700gpm/2800psi/130 rpm/ 5-10klbs WOB/Mud weight 9.4ppg).
3130.0	P17	P	F4		0.5	Circulated bottoms up to clean well and allow geologist to collect sample at 700gpm/ 2800psi/ 70rpm.
3130.0	P17	P	D2		1.5	Drilled 8-1/2" hole from 3030m to 3139m (700gpm/ 2800psi /130 rpm/ 5-10klbs WOB/Mud weight 9.4ppg) as per Geologist request.

Date : 15 Nov 2009 **Daily Cost : US$ 570358** **Report Number : 46**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3145.0	P17	P	D2		1.5	Continued to drill 8-1/2" hole from 3139m to 3145m (700gpm/ 2800psi /130 rpm/5-10klbs WOB/Mud weight 9.4ppg) as per geologist request. Adjusted parameters to reduce vibration and whirl on down hole tools when required.
3145.0	P17	P	F4		0.5	Circulated bottoms up to allow geologist to collect sample at 700gpm/2800psi/70rpm. Continued to circulate untill shakers are clean.
3145.0	P17	P	P3		0.5	Flow checked - OK. Pumped slug.
3145.0	P17	P	G8		2.5	POOH from 3145m to 2520m. No overpull or tight spots observed.
3145.0	P17	P	G8		2.5	Performed trip drill (30 sec). Flow checked at the shoe and filled trip tank. Continued to POOH in casing from 2520m - 895m.
3145.0	P17	TP	G8	RE	0.5	Secured indicator hose for compensator due to it hanging up in derrick.
3145.0	P17	P	G8		1.5	Cont/ to POOH F/895m - 288m BHA. Flow checked prior to pulling BHA through BOPs.
3145.0	P17	P	G8		1.5	POOH BHA F/288m - 32m
3145.0	P17	P	G7		2	Removed sources, down loaded MWD tools & broke off bit.
3145.0	P17	P	G7		1	Prepared & ran core barrel to 32m.
3145.0	P17	P	G7		1	M/Up BHA to core barrel & RIH F/ 32m - 288m.
3145.0	P17	P	G8		5	RIH BHA on 5" DP F/288m - 2520m, shoe depth.
3145.0	P17	P	G14		0.5	Flow checked at shoe. Serviced top drive. Took SCRs & drilling parameters.
3145.0	P17	P	G8		1.5	Cont/ to RIH in open hole F/2520m - 3089m
3145.0	P17	P	F1		0.5	M/Up top drive, washed & light reamed F/3089m - 3145m W/ 60spm/ 300gpm/ 650psi.
3145.0	P17	P	E7		0.5	Tagged bottom @ 3245m, Took parameters, spaced out & made connection. Dropped the ball & observed a 60psi increase on landing out. F/550psi - 610psi. Took SCRs @ 30-40 & 50 spm. Take new parameters
3153.0	P17	P	E7		1	Drilled core F/ 3145m - 3153m, W/42spm/ 210gpm/ 644psi.70rpm/ 5k torque.

Date : 16 Nov 2009 **Daily Cost : US$ 981665** **Report Number : 47**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3175.0	P17	P	E7		3	Continued to cut core #2 from 3153m to 3175m with 42spm/210gpm/644psi/70rpm/5k torque.
3175.0	P17	P	G8		0.5	Pulled back 1 stand of DP from 3175m to 3145m. Performed flow check - OK. Removed Geoservice geolograph line and pumped slug.
3175.0	P17	P	G8		4	POOH at controlled rate of 3 mins per stand monitoring well on trip tank. POOH from 3145m to 2050m.
3175.0	P17	P	G11		2	Performed trip drill. Flow checked - ok. Slipped and cut drilling line.
3175.0	P17	P	G8		7.5	POOH from 2050m to 32m as per Copro trip speed procedures. At 12:00 hours rig held a 15 minutes remembrance for Mr. Flower.
3175.0	P17	P	E7		3.5	Recovered core and inner barrel and lay out same. A total of 29.25m of core recovered (97.5%). Service broke and laid out outer barrel. Broke off bit - no additional wear to bit (1-1-NO-A-X-I-NO-BHA).
3175.0	P17	P	G7		1.5	Made up 8 1/2" bit to MWD tools from mast. Installed radio active sources and loaded tools.

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Date : 16 Nov 2009 **Daily Cost : US$ 981665** **Report Number : 47**

3175.0	P17	P	G8		1.5	Continued to RIH with 8 1/2" drilling assy to 147m.
3175.0	P17	P	G7		0.5	Shallow tested MWD at 120 spm/600gpm/1020psi.

Date : 17 Nov 2009 **Daily Cost : US$ 572057** **Report Number : 48**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3175.0	P17	P	G8		4	Continued to RIH from 147m to 1908m. Filled pipe every 25 stands.
3175.0	P17	TP	G11	RE	10.5	Troubleshot draw works problems. Draw works jumped out of gear while driller was running blocks up the mast. Could not get draw works back into gear. Coupling on A motor was found to be stripped. Performed pull test on draw works prior to putting back in service.
3175.0	P17	P	G8		1	RIH from 1908m to 2520m (9-5/8" shoe).
3175.0	P17	P	G8		1	Made up top drive and broke circulation. Continued to RIH in open hole from 2520m to 2937m.
3175.0	P17	P	D6		0.5	Washed and reamed tight spot from 2937m to 3120m with 700gpm/ 2900psi/ 70rpm.
3175.0	P17	P	G8		2.5	Re-logged with Sperry Sun from 3120m to 3175m with 700gpm/ 2900psi/ 70rpm.
3208.0	P17	P	D2		4.5	Drilled 8 1/2" hole from 3175m - 3208 with 700gpm/ 2900psi/ 100rpm/15 WOB/ 10k torque.

Date : 18 Nov 2009 **Daily Cost : US$ 641877** **Report Number : 49**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P17	P	D2		3	Continued to drill ahead 8 1/2" hole with 700gpm/ 2900psi/ 100rpm/ 15 WOB/ 10k torque to TD at 3235m.
3235.0	P17	P	F4		1.5	Circulated 2x bottoms up with 700gpm/ 2900psi to allow Geoservices to retrieve sample. No gas on bottoms up recorded. Shakers clean.
3235.0	P17	P	D7		1	Pumped out of the hole from 3235m to 3151m.
3235.0	P17	P	G8		2	Pumped slug and continued to POOH on elevators from 3151m to 2514m. Monitored well on the trip tank.
3235.0	P17	P	P3		0.5	Performed flow check at shoe - static. Serviced top drive.
3235.0	P17	P	G8		4.5	Continued to POOH in casing from 2514m to 288m. Performed flow check prior to pulling BHA into BOPs.
3235.0	P17	P	G6		1.5	POOH BHA from 288m to 32m.
3235.0	P17	P	G7		0.5	Downloaded MWD and removed sources from same.
3235.0	P17	P	G7		1.5	Broke off bit and laid down MWD tools. Bit grade 1-2-CT-S-X-I-NO-TD. A total of 440 grams of steel recovered from the ditch magnets.
3235.0	P17	P	G1		1	Held pre job safety meeting and rigged up Schlumberger wire line.
3235.0	P17	P	E3		3.5	Picked up and made up Schlumberger wire line tools for logging run#1 (CMR+/ Pex/ HRLA/ HNGS).
3235.0	P17	P	E3		2.5	RIH with Schlumberger tools @ 6000 ft/hr.
3235.0	P17	P	E3		1	Schlumberger tools at 3230m. Commenced logging up. Mechanics worked on draw works shaft and HPU pump.

Date : 19 Nov 2009 **Daily Cost : US$ 1226410** **Report Number : 50**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P17	P	E3		11	Continued with wireline run #1 (CMR+/ Pex/ HRLA/ HNGS). Monitored well on trip tank.
3235.0	P17	P	E3		1	POOH with run #1 and removed sources. Laid down run #1 tools. Filled trip tank (35.8bbls).
3235.0	P17	P	E3		1	Picked up and made up tools for run #2.
3235.0	P17	P	E3		11	RIH and logged with run #2 (MDT/XPT). Monitoring well on Trip Tank. Completed 35 pretests between 2560.1m and 3055m. Rig crews installed new camera bracket in the mast. Serviced the fluid ends on all 3 mud pumps. Installed covers to draw works. General rig maintenance and housekeeping.

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Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 20 Nov 2009 **Daily Cost : US$ 673925** **Report Number : 51**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P17	P	E3		23	Continued with wire line run #2 (MDT/XPT). Completed 4 correlation runs and 65 pretests from 2560.1m to 3208.3m (50 valid, 14 tight, 1 super charged). - 14 attempted sampling points - 7 pump outs - 3 sampling stations - 6 samples taken Volume of hydrocarbons pumped into the borehole at each pumpout station: 3181.2 m MDRT = 34.345 litres; fluid type = water 3171.2 m MDRT = 26.675 litres; fluid type = gas/water 3175 m MDRT = 38.315 litres; fluid type = water 3155.1 m MDRT = 35.89 litres; fluid type = gas/condensate 3149.0 m MDRT = 17.945 litres; fluid type = gas/condensate 2994.8 m MDRT = 20.370 litres; fluid type = water 2830.3 m MDRT = 51.158 litres; fluid type = gas/condensate Total volume: 224.698 litres. Monitored well on trip tank. Drill crew continued PMS on drilling equipment.
3235.0	P17	P	E3		1	POOH wire line run # 2 to surface.

Date : 21 Nov 2009 **Daily Cost : US$ 557732** **Report Number : 52**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P17	P	E3		1	Lay down wireline tools for run #2.
3235.0	P17	P	E3		1	Picked up and made up wire line tools for run #3 (SMI/DSI/GR/LEHQT).
3235.0	P17	P	E3		4	RIH and logged with wireline tools SMI/DSI/GR/LEHQT.
3235.0	P17	P	E3		1	POOH with wireline run #3.
3235.0	P17	P	E3		1	Held PJSM and laid out wireline tools from run #3 (SMI/DSI/GR/LEHQT).
3235.0	P17	P	G1		1	Rigged down wireline equipment.
3235.0	P17	P	G6		1.5	Laid out 8 1/2" stabiliser, jars and 2 x 6 3/4" DCs.
3235.0	P21	P	G23		0.5	Held PJSM and rigged up to run 2 7/8" tubing.
3235.0	P21	P	G8		1.5	Picked up and RIH 2 7/8" tubing to 101m.
3235.0	P21	P	G8		6.5	RIH 2 7/8" tubing on 5" DP from 101m - 3235m.
3235.0	P21	P	F4		1.5	Circulated bottoms up @ 400gpm/ 1800psi. Max gas on bottoms up 20%.
3235.0	P21	P	F3		1.5	Cement plug #1A: Made up cement head. Broke circulation and pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water, followed by 43.2bbls of 15.8ppg cement (3085m to 3235m). Cement in place at 21.50hrs. Displaced cement with 165 bbls of 9.4ppg mud.
3235.0	P21	P	G8		0.5	Broke off cement head and POOH from 3235m to 3085m on the elevators.
3235.0	P21	P	F4		1	Circulated bottoms up at 3085m with 700gpm/1800psi. No cement returns seen at shakers.
3235.0	P21	P	F3		0.5	Cement plug #1B: Made up cement head. Broke circulation and pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2935m to 3085m).

Date : 22 Nov 2009 **Daily Cost : US$ 580181** **Report Number : 53**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	F3		0.5	Continued with cement plug #1B. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2935m to 3085m). Displaced with 156bbls of 9.4ppg mud.
3235.0	P21	P	G8		0.5	POOH from 3085m to 2935m.
3235.0	P21	P	F4		1	Circulated bottoms up @ 700gpm/ 1800psi. Diverted and treated 35bbls of cement contaminated mud.
3235.0	P21	P	F3		1	Cement plug 1C: Made up cement head and pumped 5 bbls of mud. Pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2785m to 2749m). Displaced with 148 bbls of 9.4ppg mud. Plug set in place 0300hrs.
3235.0	P21	P	G8		1	POOH from 2935m to 2520m.

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Date : 22 Nov 2009 **Daily Cost : US$ 580181** **Report Number : 53**

3235.0	P21	P	F4	1	Circulated bottoms up at 700gpm/1800psi.
3235.0	P21	P	G4	2.5	Laid out 5" DP while wait on cement.
3235.0	P21	P	G8	1.5	RIH from 2241m to 2702m.
3235.0	P21	P	G8	1	Made up top drive and washed from 2702m and tagged cement plug at 2749m with 5klbs.
3235.0	P21	P	G8	0.5	POOH from 2749m to 2620m.
3235.0	P21	P	F3	0.5	Make up top drive and broke circulation. Spotted 12 blls of Hi-Vis pill at 2620m.
3235.0	P21	P	G8	0.5	POOH from 2620m to 2570m.
3235.0	P21	P	F3	1	Cement plug #2: Made up cement assembly and installed hose. Tested to 3,000psi - ok. Pumped 15bbls of fresh water ahead. Mixed and pumped 35bbls of 15.8ppg slurry (2337m to 2570m). Displaced with 125bbls of 9.5ppg WBM. Checked back flow - ok.
3235.0	P21	P	G8	0.5	Laid down cement assembly. POOH from 2570m to 2412m.
3235.0	P21	P	F4	2	Circulated bottoms up. No cement contaminated WBM observed.
3235.0	P21	P	G4	2	Laid down 2 stands of DP. Picked up and racked back 1 stand of 8 1/4" DCs while waiting on cement.
3235.0	P21	P	G11	0.5	Carried out rig service while waiting on cement.
3235.0	P21	P	G4	2	Continued to lay out 6 stands of 5" DP while waiting on cement.
3235.0	P21	P	G4	1	Laid down 1 stand of 6 3/4" DC. Cranes shut down due to weather conditions during this operation. Held toolbox talk to discuss change of plans for the laying out of the DCs while waiting on cement.
3235.0	P21	P	G8	1	RIH and tagged top of cement at 2437m with 5 - 10klbs down weight.
3235.0	P21	P	P1	1	Performed line test to 2000psi and pressure tested cement plug against pipe rams to 2000psi @ 500psi intervals - ok.
3235.0	P21	P	G8	1.5	Racked back 1 stand of DP. Pumped slug and POOH laying down DP from 2307m to 2100m.

Date : 23 Nov 2009 **Daily Cost : US$ 558543** **Report Number : 54**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G8		3.5	Continued to POOH laying out drill pipe from 2100m to 1596m. Cranes shut down at 0200 hrs. Continued to lay out pipe until pipe bay was full.
3235.0	P21	TP	G25	WOW7		Waited on weather. Wind speed: 30+ Knots Roll: 3.2 deg Heave: 4m Pitch: 1.1 deg
3235.0	P21	P	G8		6	Continued to lay down DP from 1596m to 101m.
3235.0	P21	P	G4		1.5	Laid down 101m of 2-7/8" stinger.
3235.0	P21	P	G1		0.5	Cleaned rig floor and pulled diverter element.
3235.0	P21	P	G12		2	Made up Drillquip jetting tool and wear bushing retrieval tool and RIH. Jetted well head and BOPs. Latched into wear bushing and POOH with same.
3235.0	P21	P	G15		1	Cleared rig floor and held PJSM. Made up Halliburton EZSV packer.
3235.0	P21	P	G8		1	RIH to 203m with Halliburton EZSV packer. Set packer with 35 turns to the right. 50klbs overpull performed at 10k intervals. RIH and tagged top of packer with 10klbs down to confirm set - ok.
3235.0	P21	P	G8		1	POOH with packer running tool and laid out same.
3235.0	P21	P	G8		0.5	Picked up and made up 9 5/8" casing cutting tools and RIH same.

Date : 24 Nov 2009 **Daily Cost : US$ 578833** **Report Number : 55**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G8		1	Continued to pick up and make up 9 5/8" casing cutting tools and RIH same.
3235.0	P21	P	G17		0.5	Cut 9 5/8" at 145m with 90gpm/745psi/85rpm/3k torque.
3235.0	P21	P	G8		1	Flow checked. POOH casing cutter and laid out same.
3235.0	P21	P	G8		1	Picked up and made up spear assembly and RIH.

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Date : 24 Nov 2009 **Daily Cost : US$ 578833** **Report Number : 55**

3235.0	P21	P	G8		1	Tagged top of 9 5/8" casing hanger and applied 10klbs down weight. Applied 50klbs over pull to release hanger and 9 5/8" casing. POOH, released spear and racked back in the mast. Fish at surface at 04.10 hrs.
3235.0	P21	P	G1		1	Rigged up casing tongs and laid out 9 5/8" casing hanger and casing joint. Casing backed out 1 joint below hanger while being cut.
3235.0	P21	TP	G18	WB	1.5	Made up casing spear and RIH to spear remainder of 9 5/8" casing while displacing riser and C&K lines from mud to seawater. POOH with casing to surface.
3235.0	P21	P	G9		1	Hold PJSM. Rigged up casing handling equipment and laid out 9 5/8" casing.
3235.0	P21	P	G1		1	Rigged down casing equipment and laid out spear assembly.
3235.0	P21	P	G13		2.5	Prepared to pull riser and BOPs.
3235.0	P21	P	G13		1.5	Pulled diverter and laid out same.
3235.0	P21	P	G13		4	Held PJSM. Picked up riser landing joint and connected to slip joint.
3235.0	P21	P	G13		0.5	Unlatched BOP from well head (360klbs MRTs/ 264klbs DSC).
3235.0	P21	P	M2		0.5	Moved rig 25ft off location.
3235.0	P21	P	G13		4.5	Disconnected MRT cables and C&K lines from the slip joint in the moon pool.
3235.0	P21	P	G13		1.5	Pulled landing joint. Disconnected and laid out same.

Date : 25 Nov 2009 **Daily Cost : US$ 569244** **Report Number : 56**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G13		1	Pulled slip joint. Disconnected and laid out same.
3235.0	P21	P	G13		1.5	Continued to pull riser and BOPs
3235.0	P21	P	G13		4.5	BOP at surface. Secured BOP on Nomar carrier. Disconnected riser from BOP and laid out same while moving BOP to aft of moon pool area.
3235.0	P21	P	G1		2.5	Rigged down riser handling equipment and rigged up to handle DP
3235.0	P21	P	G11		0.5	Serviced rig.
3235.0	P21	P	G7		2.5	Made up Smith casing cutting assembly. Shallow tested cutter assmbly with 196gpm, 500psi - ok.
3235.0	P21	P	G7		0.5	Made up centralising ropes from cutting assembly to guide lines in moonpool.
3235.0	P21	P	G8		1	RIH with casing cutting assembly. Stabbed into wellhead and landed out rotating spear with 15klbs down weight. Picked up to 220klbs to test latch. Reduced to 200klbs (30klbs overpull).
3235.0	P21	P	G17		2.5	Commenced cutting 20"/30" casing at 99.4m, 4.5m below mud line (80rpm, 2/3k ft-lbs, 160gpm, 780psi).
3235.0	P21	P	G17		0.5	Stopped cutting casing. Attempted to pull casing free with 200klbs overpull - unsuccessful.
3235.0	P21	P	G17		7	Continued to cut 20"/30" casing (100rpm, 185gpm, 1200psi, 3/5k ft-lbs.). Obsered 18 3/4" wellhead turning at intermittent intervals.

Date : 26 Nov 2009 **Daily Cost : US$ 545973** **Report Number : 57**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G17		0.5	Stopped cutting casing. Attempted to pull casing free with 300klbs overpull - unsuccessful.
3235.0	P21	P	G7		0.5	Released Smith collet spear from 18 3/4" wellhead.
3235.0	P21	P	G8		0.5	POOH with 20"x 30" cutting BHA.
3235.0	P21	P	G7		2	Checked condition of casing cutter assembly. Knives confirmed that 20" and 30" casing had been cut. Laid out cutting BHA.
3235.0	P21	P	G7		3	Made up grapple, fishing jar and accelerator BHA
3235.0	P21	P	G18		1	RIH to seabed with jarring assembly and attempted to stab into 18 3/4" wellhead - unsuccessful.
3235.0	P21	P	G18		1	POOH. Re-secured guide line ropes to BHA and RIH. Stabbed into 18 3/4" wellhead and engaged with casing spear.
3235.0	P21	P	G18		3	Worked jar. Jar fired at 300klbs and attempted to free with 200klbs overpull - unsuccessful. Continued jarring with static overpulls up to 280klbs. No movement in casing.

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3235.0	P21	P	G18	0.5	Disengaged spear and pulled assembly clear of wellhead.
3235.0	P21	P	G11	1	Performed post jarring mast and TDS check.
3235.0	P21	P	G22	1.5	POOH and laid out jarring BHA.
3235.0	P21	P	G8	3	Made up 20/30" casing cutting assembly and shallow tested same (140gpm/600psi). RIH to sea bed.
3235.0	P21	P	G11	0.5	Serviced top drive. Tightened and tie wired loose bolts observed on TDS link tilt.
3235.0	P21	P	G17	0.5	Stabbed into well and engaged 18 3/4" wellhead with spear. Applied 25klbs overpull (200klbs MD) to confirm latch.
3235.0	P21	P	G17	0.5	Reduced weight to 190klbs and commenced cutting casing at 96.88m with 15klbs overpull (100rpm/150gpm/800psi/2-6 ft-lbs). Compensator closed as 18 3/4" housing inner came free.
3235.0	P21	P	G8	0.5	Visually checked fish with ROV. POOH with fish.
3235.0	P21	P	G5	1.5	Laid out 18 3/4" inner wellhead housing and 20" casing stub (18 3/4" landing ring and reaction ring left in the 30" housing).
3235.0	P21	P	G7	2	Made up 20" grapple fishing BHA.
3235.0	P21	P	G8	1	RIH with 20" grapple BHA to seabed and stabbed into wellhead.

Date : 27 Nov 2009 **Daily Cost : US$ 544060** **Report Number : 58**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G18		0.5	Engaged 20" casing fish with spear and confirmed with ROV.
3235.0	P21	P	G8		0.5	POOH with spear assembly and 20" casing stub.
3235.0	P21	P	G5		1.5	Laid out spear assembly with fished casing stub attached.
3235.0	P21	P	G7		1	Made up 30" casing cutting assembly.
3235.0	P21	P	G8		1.5	Made up DCs to cutting assembly and secured ropes to guide lines. RIH with casing cutter assembly and stabbed into wellhead.
3235.0	P21	P	G17		3.5	Landed stop collar on wellhead with 10klbs down weight and commenced cutting 30" casing at 97.88m while maintaining 18.4klbs tension on the PGB with the guide lines (80rpm, 150gpm, 800psi, 10k weight down, 5k ft-lbs torque.)
3235.0	P21	P	G7		3	Picked up PGB running tool and attached guide bridles to guide wires.
3235.0	P21	P	G10		5	RIH and latched onto PGB with ROV assistance and pulled to surface. PGB running tool disengaged. Pulled PGB to surface with guide wires.
3235.0	P21	P	G8		1	Made up 5" cement mule shoe and RIH to 203m.
3235.0	P21	P	F3		2	Cemented as per program. Tested lines to 1000psi. Cement slurry: 70bbl, 15.9ppg, 341sx of G cement. Observed cement returns at seabed.
3235.0	P21	P	G8		0.5	Rigged down cement assembly. POOH to above seabed and flushed drill string.
3235.0	P1	P	G2		2	Laid down excess tubulars in mast.
3235.0	P1	P	M4		2	Commenced pulling anchor #8 at 22:00hrs and anchor #5 at 22:29hrs.

Date : 28 Nov 2009 **Daily Cost : US$ 552313** **Report Number : 59**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P1	P	M4		1.5	00:40 Anchor #8 suspended at cow catcher. 01:10 Anchor #5 suspended at cow catcher.
3235.0	P1	P	G2		6.5	Waited on weather. Winds gusting 40knts, heave 3m to 4m. Pitched max 4.5deg, rolled max 3.5deg. Continued to lay down tubulars from mast.
3235.0	P1	P	M7		2	Sea fastenings completed.
3235.0	P1	P	M3		4.5	Deballasted rig to transit draft.
3235.0	P1	P	M4		9.5	Recovered Anchors. #5 anchor racked back at 14:35. #8 anchor racked at back 14:55. #1 anchor commenced at 15:52 and racked back at 18:45 (Far Scimitar).

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Date : 28 Nov 2009 **Daily Cost : US$ 552313** **Report Number : 59**

#4 anchor commenced at 16:15 and racked back at 18:07 (Far Fosna).
#3 anchor commenced at 18:30 and racked back at 19:58 (Far Fosna).

20:50 Far Fosna connected to tow bridle.

#7 anchor commenced at 19:12 and completed at 21:51 (Far Scimitar).
#2 anchor commenced at 22:15 (Far Scimitar).

Date : 29 Nov 2009 **Daily Cost : US$ 22624** **Report Number : 60**

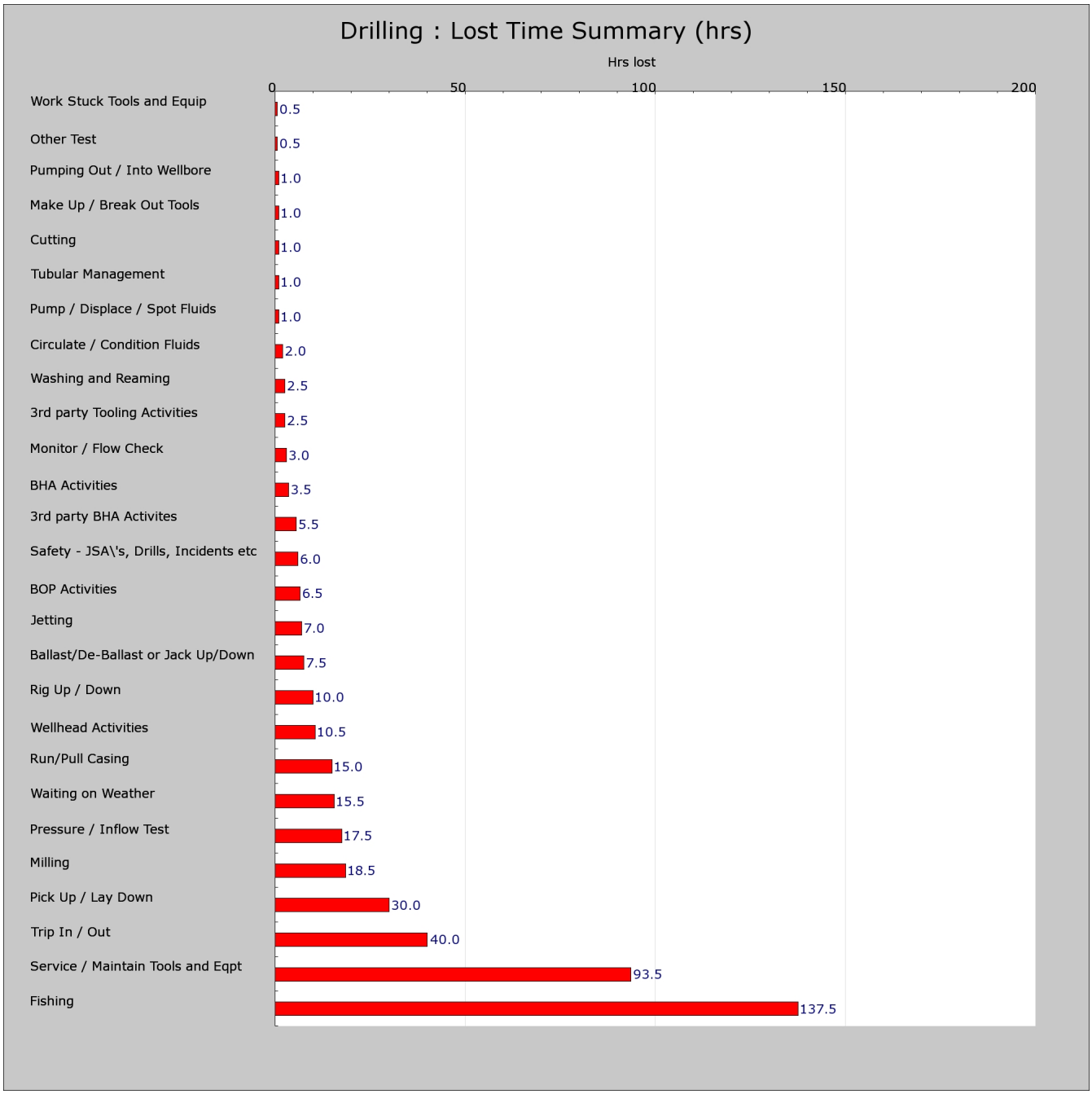
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P1	P	M4		1	Recovered anchors: 00:04 #2 anchoring completed. 00:30 Rig hauled in on #6 anchor to bring rig over anchor for pick up. Rig under tight tow from Trefoil-2 location to mark end of well at 01:00hrs. Rig transferred to Rockhopper-1.

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APPENDIX 12: NET PRODUCTIVE TIME ANALYSIS

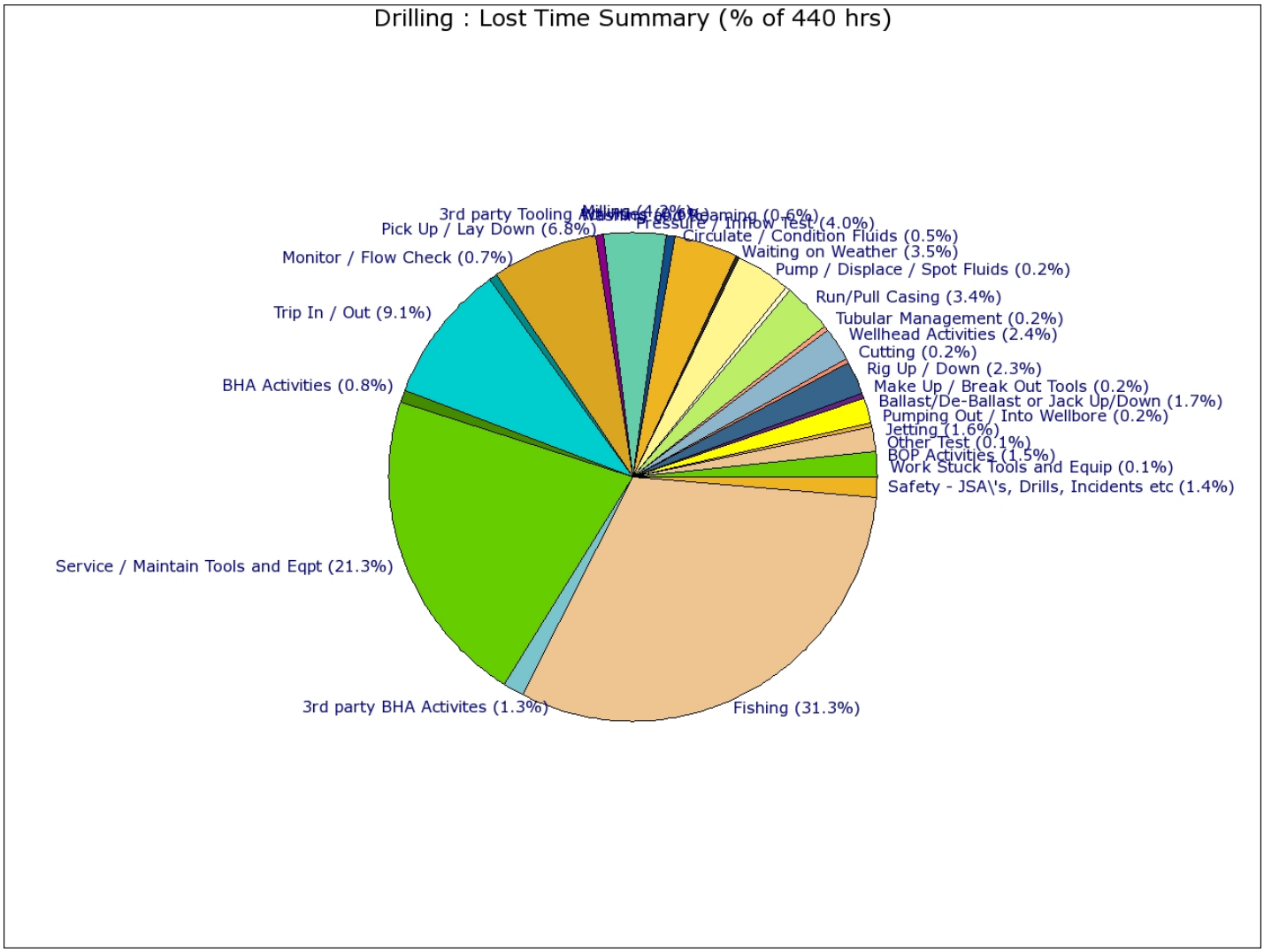
DFE above MSL : 26.0m	Lat : 39 Deg 53 Min 07.9334 Sec	Spud Date : 06 Oct 2009	Release Date : 29 Nov 2009
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Trouble



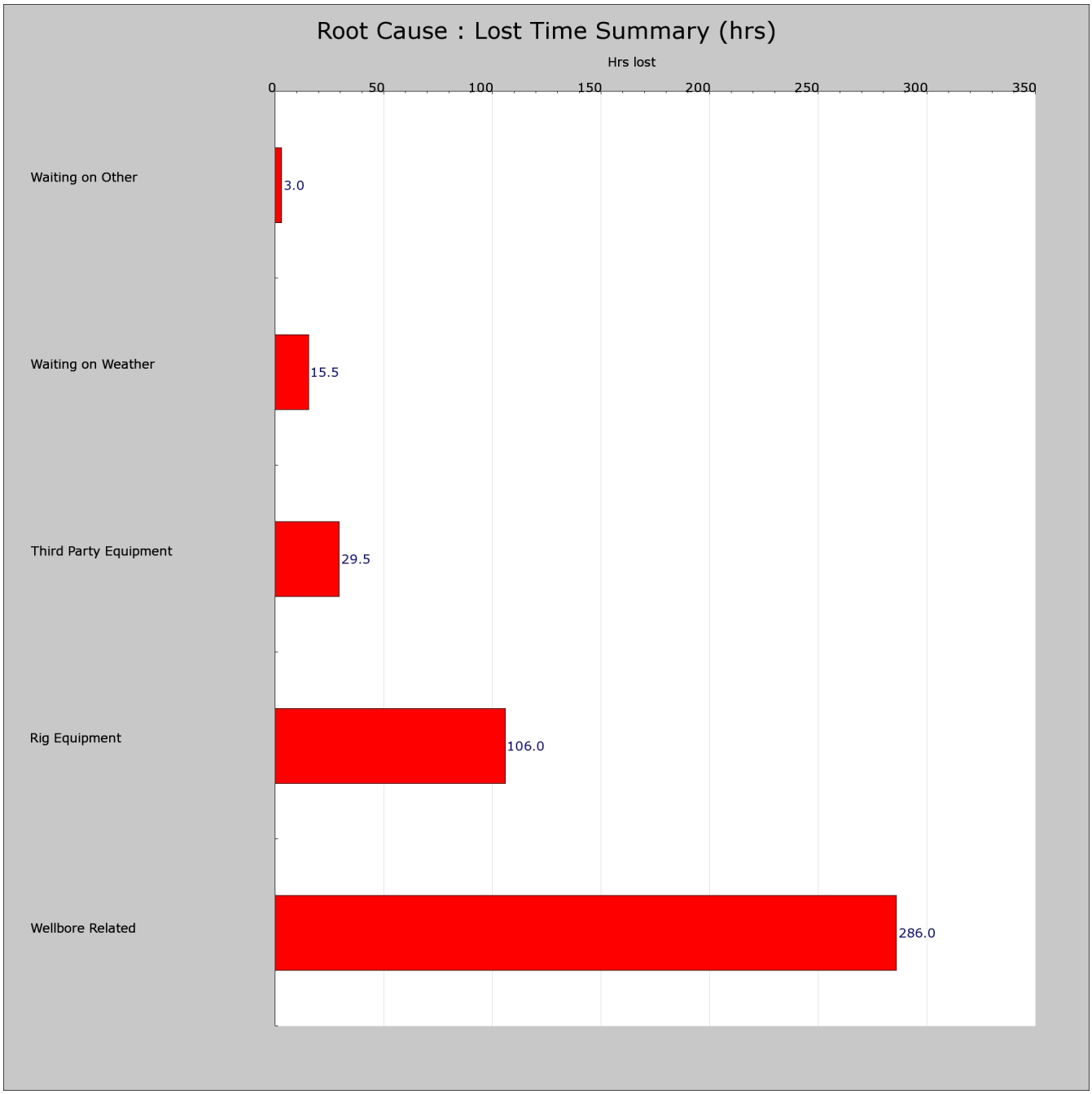
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Wellname : Trefoil-2	Drilling Co. : Maersk		Rig : Kan Tan IV
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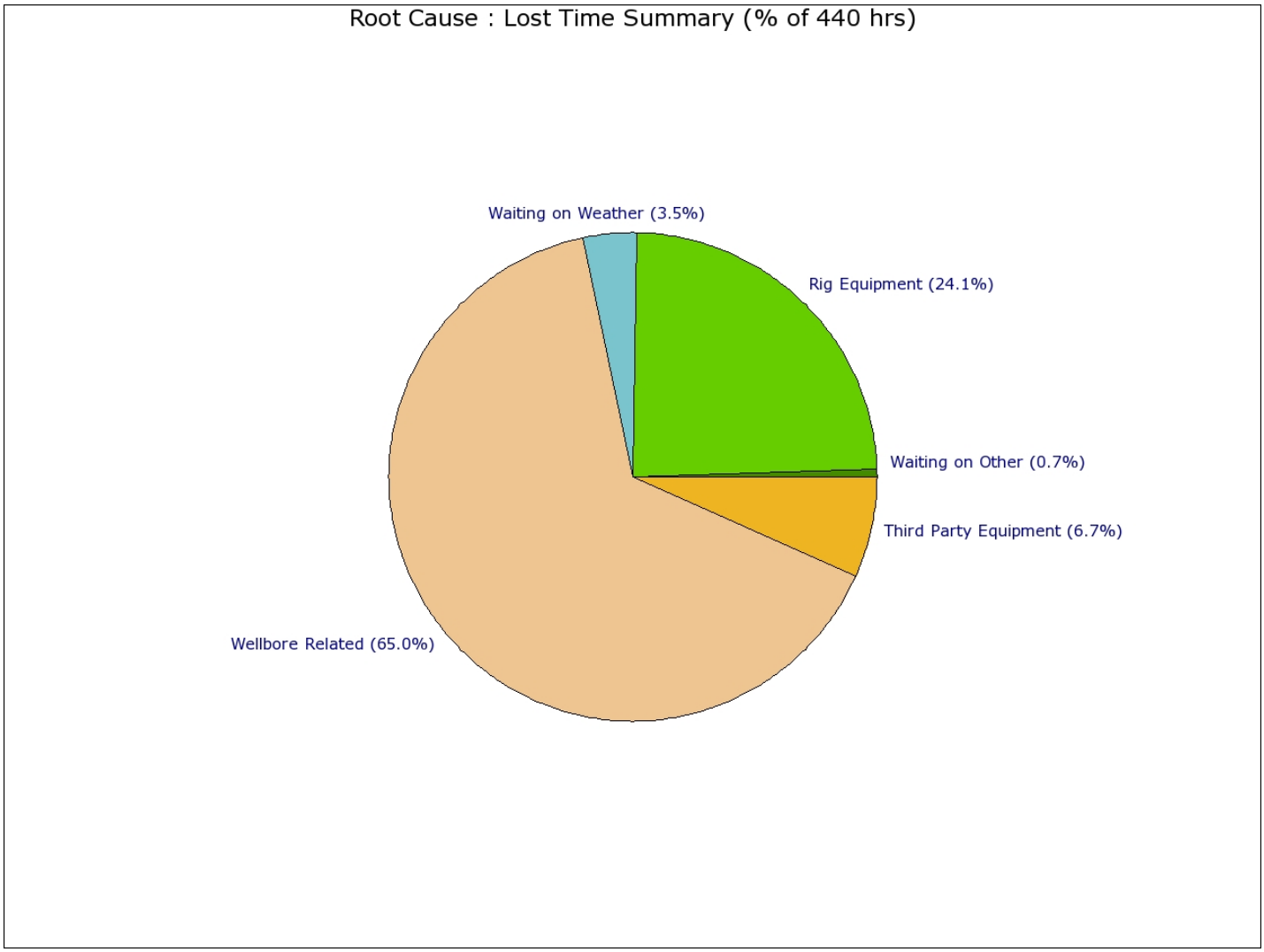
Wellname : Trefoil-2	Drilling Co. : Maersk		Rig : Kan Tan IV
DFE above MSL : 26.0m	Lat : 39 Deg 53 Min 07.9334 Sec	Spud Date : 06 Oct 2009	Release Date : 29 Nov 2009
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Wellname : Trefoil-2	Drilling Co. : Maersk	Rig : Kan Tan IV

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Trouble During Programmed Time for Trefoil-2

Date	PHS	Operation	NPT	Depth	Description of Programmed Trouble Time
04 Oct 2009	P1	Ballast/De-Ballast or Jack Up/Down	1	0.0	Stopped ballasting rig down due to leaking sounding pipe on starboard #9 ballast tank. Pumped out water prior to repairing leaking sounding pipe.
04 Oct 2009	P1	Ballast/De-Ballast or Jack Up/Down	3	0.0	Welder repaired leaking sounding pipe on starboard #9 ballast tank.
04 Oct 2009	P1	Ballast/De-Ballast or Jack Up/Down	3.5	0.0	Leak repaired. Pumped water from port pump room with Wilden pumps due to leaking pressure gauge on propellor shaft oil seal.
06 Oct 2009	P2	Pump / Displace / Spot Fluids	1	0.0	Delay in starting-up pump #3.
07 Oct 2009	P3	Run/Pull Casing	1	155.0	Observed twist in guide lines. Checked guide line tensioner system and and found #1 guideline tensioner leaking.
07 Oct 2009	P3	Run/Pull Casing	2.5	155.0	Subsea investigated seal failure on guide line tensioner #1.
07 Oct 2009	P3	Run/Pull Casing	0.5	155.0	Pulled back casing 10m tension up guideline. Rotated PGB and removed twist on guide lines. Slacked off - shoe at 153m.
08 Oct 2009	P4	Service / Maintain Tools and Eqpt	1.5	155.0	Iron roughneck damaged. Secured pipe spinner carrier, hydraulic motor broken. Repaired same.
12 Oct 2009	P6	Service / Maintain Tools and Eqpt	0.5	935.0	Unable to make up one dog. Replaced same.
12 Oct 2009	P6	Waiting on Weather	1	935.0	Due to squalls there was a loss of standby boat cover.
12 Oct 2009	P6	BOP Activities	2.5	935.0	Connected pod lines to tensioners. Installed work platform on BOP.
13 Oct 2009	P6	BOP Activities	4	935.0	Completed installing work platform above flex joint. Installed two bullseyes.
13 Oct 2009	P6	Service / Maintain Tools and Eqpt	1.5	935.0	Investigated main boom gear box for possible leak on port crane. Found vent tube blocked causing over pressuring of gear box. Cleaned vent tube and re-checked gear box. Ok
13 Oct 2009	P6	Waiting on Weather	0.5	935.0	Wind 40 knots - outside of crane limits. Waited on Weather.
13 Oct 2009	P6	Waiting on Weather	4.5	935.0	Waited on Weather 16:00 hrs, Wind Speed 25 knots, Direction NNW, Swell Height 4 mtrs. 16:30 hrs, Wind Speed 51 knots, Direction NNW, Swell Height 4 mtrs. 17:00 hrs, Wind Speed 42 knots. Direction NNW, Swell Height 4 mtrs. 18:30 hrs, Wind Speed 36 knots, Direction NNW, Swell Height 4 to 5 mtrs. 19:00 hrs, Wind Speed 30 knots, Direction NNW, Swell Height 4 to 5 mtrs. 20:00 hrs, Wind Speed 27 knots, Direction NNW, Swell Height 3 mtrs.
14 Oct 2009	P6	Waiting on Weather	2.5	935.0	Waited on weather.
16 Oct 2009	P11	Pick Up / Lay Down	2.5	942.0	Whilst making a connection with RBS damage was sustained to pin and box connections due to incorrect alignment resulting in laying out 2 x damaged joints.
16 Oct 2009	P11	Circulate / Condition Fluids	0.5	1352.0	Circulated whilst trouble shooting 5" drill pipe elevators.
18 Oct 2009	P11	Service / Maintain Tools and Eqpt	3	2130.0	Saver sub backed out on top of stand #65 during connection. Laid out top single and attempted to make up new saver sub. Not possible due to problems with PH85 pipe handler. Laid out single. Made up circulating head and rigged up surface lines. Investigated problems and repaired PH85 pipe handler while circulating and rotating string.
18 Oct 2009	P11	Service / Maintain Tools and Eqpt	1	2130.0	Installed new saver sub.
19 Oct 2009	P11	Service / Maintain Tools and Eqpt	1	2246.0	Pop off went off on mud pump #2. Reset same.
19 Oct 2009	P11	Service / Maintain Tools and Eqpt	1	2246.0	Replaced piston on pump #1. Continued circulating with pump #3, whilst replacing pop off on pump #2 and piston on pump #1.
22 Oct 2009	P13	Rig Up / Down	2.5	2520.0	Attempted to make up shoe track. Malfunction of casing equipment. Changed out 11.75" elevator inserts to 9.625" inserts.
23 Oct 2009	P13	Run/Pull Casing	1.5	2520.0	Casing stuck at 2508m. Attempted to work free - no progress. Set slips and closed compensator.
23 Oct 2009	P13	Safety - JSA's, Drills, Incidents etc	3	2520.0	String parted due to heave. Conducted derrick survey.

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Trouble During Programmed Time for Trefoil-2

Date	PHS	Operation	NPT	Depth	Description of Programmed Trouble Time
23 Oct 2009	P13	Trip In / Out	1	2520.0	Pulled out of hole with landing string. Laid out pup joint, 1 x single HWDP and parted single (9.185m)
24 Oct 2009	P13	Tubular Management	1	2520.0	Moved used HWDP from running string to port side of derrick.
24 Oct 2009	P13	Fishing	2	2520.0	Made up Dril-Quip MPT and RIH and tagged top of fish at 81.5mRT with 5k. POOH and laid out MPT.
24 Oct 2009	P13	Fishing	2.5	2520.0	Made up 8 3/8" overshot, dressed with 6 5/8" spiral grapple and RIH. Attempted to engage fish. No success. POOH.
24 Oct 2009	P13	Service / Maintain Tools and Eqpt	10	2520.0	Investigated and inspected TDS. Changed out lube oil motor and secured junction box. Function tested gear change and sighted inside of gearbox through rear inspection plug while rotaing shaft by hand. All ok.
24 Oct 2009	P13	Fishing	2	2520.0	Made up 8 3/8" overshot dressed with 6 5/8" spiral grapple. RIH and tagged top of fish at 81.5mRT with 5k.
24 Oct 2009	P13	Fishing	1.5	2520.0	Slowly lowered the fishing string to the right and gradually lowered the overshot over the top of the fish with a max down weight of 15k and 2 turns to the right. Maximum torque 6-7 kft/lbs. Made several attempts to engage fish. No success.
24 Oct 2009	P13	Pick Up / Lay Down	0.5	2520.0	Cleaned out overshot. Laid out overshot, EMDPHOT, sub and pup joint assembly.
24 Oct 2009	P13	Pressure / Inflow Test	3	2520.0	Held JSA. Pressure tested choke and kill manifold 250/5000psi. Concurrently repaired clamp/unclamp switch on iron roughneck.
25 Oct 2009	P13	Pressure / Inflow Test	3	2520.0	Continued to pressure test choke and kill manifold to 250/5000 psi.
25 Oct 2009	P13	Pressure / Inflow Test	3.5	2520.0	Pressure tested standpipe manifold, top drive and kelly cocks to 250/5000 psi.
25 Oct 2009	P13	Jetting	4	2520.0	Made up bullnose jetting tool assembly. RIH from surface to above top of fish washing slowly down with jetting tool assembly at 1250 gpm, 3000 psi. Pumped down choke and kill lines and boosted riser. No significant cuttings observed over shakers. POOH to surface.
25 Oct 2009	P13	Fishing	1	2520.0	RIH with 8 3/8" overshot assembly, dressed with 6 5/8" spiral grapple. Whilst attempting to engage fish, damaged TDS alignment cylinder.
25 Oct 2009	P13	Service / Maintain Tools and Eqpt	1.5	2520.0	Inspected TDS. Changed out alignment cylinder clevis.
25 Oct 2009	P13	Fishing	0.5	2520.0	POOH with 8 3/8" overshot assembly and laid out same. Inspected overshot at surface and confirmed that overshot had gone over fish as wear was obvious on inside top of bowl.
25 Oct 2009	P13	Fishing	5.5	2520.0	RIH with 11 1/4" overshot assembly, dressed with 7 7/8" spiral grapple. Slowly rotated to the right 2 x turns with 15k down weight, 20,000 ft/lbs torque. Picked up and observed 80k overpull. Attempted to release 9 5/8" running tool with 20,000 ft/lbs torque. Unable to release. No success. Picked up and observed only string weight. POOH to surface.
26 Oct 2009	P13	Service / Maintain Tools and Eqpt	0.5	2520.0	Serviced break and checked TDS mud gooseneck top plug in readiness for Schlumberger wireline operations.
26 Oct 2009	P13	Service / Maintain Tools and Eqpt	5.5	2520.0	Worked on TDS alignment. Removed top drive alignment cylinder. Installed spare alignment cylinder and adjusted as per set-up procedures. Investigated fault finding on the alignment hydraulic system - unsuccessful. Removed alignment cylinder and installed bracket.
26 Oct 2009	P13	Fishing	3	2520.0	Made up 11 1/4" overshot assembly dressed with 7 7/8" basket grapple and RIH to above fish at 81.5m. Attempted to confirm injection test. Pumped 1.2 bbls to 3500psi. No success. Bled of pressure and POOH to surface.
26 Oct 2009	P13	Fishing	1.5	2520.0	Re-dressed 11 1/4" overshot assembly with a new 7 7/8" basket grapple and RIH to 51mRT. Torqued each connection to 28,000 ft/lbs.
26 Oct 2009	P13	Service / Maintain Tools and Eqpt	3	2520.0	Worked on PH85 pipe handler. Investigated problem with pipe handler counter balance. Set up and adjusted as per Varco torque wrench procedure - unsuccessful. Pipe handler still not operational.

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Trouble During Programmed Time for Trefoil-2

Date	PHS	Operation	NPT	Depth	Description of Programmed Trouble Time
26 Oct 2009	P13	Fishing	1	2520.0	Held JSA. RIH with 11 1/4" overshot assembly from 51mRT to top of fish at 81.5mRT. Torqued each connection to 28,000 ft/lbs. Engaged fish and confirmed with 5klbs overpull. Applied 10,000 ft.lbs of left hand torque. Worked string between 5-10klbs overpull. Increased left hand torque in 2000 ft/lbs increments until torque reached 20,000 ft/lbs. Torque dropped off continued to rotate 4 1/2 turns to the left and weight dropped off.
26 Oct 2009	P13	Fishing	1	2520.0	POOH with fishing assembly. Pipe backed off below pup joint. Top of fish #2 at 52.3mRT.
26 Oct 2009	P13	Fishing	1.5	2520.0	Ran in hole with 8 3/8" overshot assembly, dressed with 6 5/8" spiral grapple to above top of fish #2 at 52.3mRT. Made several attempts to engage fish without success.
26 Oct 2009	P13	Fishing	0.5	2520.0	POOH with 8 3/8" overshot assembly to surface.
26 Oct 2009	P13	Fishing	1	2520.0	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.
27 Oct 2009	P13	Fishing	1.5	2520.0	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.
27 Oct 2009	P13	Fishing	3	2520.0	RIH with 8 3/8" overshot assembly, dressed with modified 11 3/4" x 15" lip guide to top of fish #2 at 52.3mRT. Successfully engaged fish. POOH to surface and released fish. Laid out 8 3/8" overshot assembly.
27 Oct 2009	P13	Fishing	1.5	2520.0	POOH with the 11 1/4" overshot assembly. Laid down the Dril-Quip EDPHT. Serviced break and laid down 11 1/4" overshot assembly.
27 Oct 2009	P13	Service / Maintain Tools and Eqpt	2.5	2520.0	Made up 11 1/4" overshot assembly dressed with 7 7/8" basket grapple. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. RIH to above fish at 61m.
27 Oct 2009	P13	Fishing	1	2520.0	Investigated and continued to trouble shoot problems with TDS hydraulic system. No success.
27 Oct 2009	P13	Fishing	3	2520.0	RIH with 11 1/4" overshot assembly from 61m to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish and attempted to mechanically back off casing with 50klbs overpull and 24,000 ft/lbs left hand torque. Bowen overshot prematurely released from fish. Made several attempts without success. POOH to inspect overshot and grapple. Checked basket grapple, slight wear 3 inches of wickers were worn flat.
27 Oct 2009	P13	Fishing	4	2520.0	Made up reverse circulating junk basket assembly. RIH to top of fish at 81.5m. Closed lower annular 3 times, monitored flow meter, opened annular pumped 5 bbls hi-vis and circulated up riser and observed shakers. No excess cuttings observed. Performed injection test, pumped 3.2 bbls, 950 psi. Pressure dropped to 750 psi. Pumped 1.3 bbls at 950 psi. Bled off slowly to 900 psi. Pressure steady at 900 psi. Washed top of fish. Bleed of pressure and opened annular. POOH to surface.
27 Oct 2009	P13	Fishing	2.5	2520.0	Modified basket grapple. Welded numerous beads on the outside of a new 7 7/8" basket grapple to reduce the size of the catch. Re-dressed 11 1/4" overshot assembly.
27 Oct 2009	P13	Fishing	2	2520.0	RIH with 11 1/4" overshot assembly to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish with 20k to 25k overpull. Applied left hand torque, string jumped and overshot slipped free. Made several more attempts, without success. POOH to surface. Checked basket grapple, the first 2 to 3 inches of wickers were worn flat.
27 Oct 2009	P13	Pick Up / Lay Down	3	2520.0	Held JSA. Picked up and racked back 9 x 6.75" drill collars in derrick.
28 Oct 2009	P13	Pick Up / Lay Down	2	2520.0	Picked up and made up 2 x 6.75" drill collars and 1 x 6.75" drilling jars and racked back in derrick.
28 Oct 2009	P13	Pick Up / Lay Down	3.5	2520.0	Installed diverter and wiper rubber. Picked up 9 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift. Moved 2 x stands of 5" HWDP from port to starboard side of derrick.
28 Oct 2009	P13	Pick Up / Lay Down	1	2520.0	Picked up 9 joints of 5" drill pipe and racked back in derrick. Drifted all tubulars with 3" drift.
28 Oct 2009	P13	Service / Maintain Tools and Eqpt	3	2520.0	Investigated problems with TDS hydraulic system.

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Trouble During Programmed Time for Trefoil-2

Date	PHS	Operation	NPT	Depth	Description of Programmed Trouble Time
28 Oct 2009	P13	Fishing	4.5	2520.0	RIH with 11 1/4" overshot assembly to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish with 50klb overpull. Applied 20,000 ft/lbs left hand torque, torque slipped. Attempted to engage grapple numerous times. No success. POOH to surface. Checked basket grapple, the first 2 to 3 inches of wickers were worn flat.
28 Oct 2009	P13	Fishing	4.5	2520.0	Made up 11-3/4" overshot, dressed with 7-3/4" basket grapple, bumper sub, jars, 4 x 8" drill collars, accelerator, crossover. Changed out damaged 8" drill collar. Torqued each 6 5/8" connection to 56,000 ft/lbs
28 Oct 2009	P13	Fishing	4.5	2520.0	RIH with 11-3/4" overshot assembly to above fish at 81.5m. Engaged fish, confirmed with 10k overpull. Began jarring lightly on fish. Slacked off to 160klb and picked up to 230klb - jars firing. Made several attempts, unsuccessful. Set torque limit to 30,000 ft/lbs. Applied 27,000 ft.lbs of left hand torque (23 turns). String jumped. POOH to surface. Observed top sub connection on Jars had backed off, leaving the 11 3-4" overshot, bumper sub and jars in the hole. Top of fish #2 at 74.7mRT
29 Oct 2009	P13	Fishing	2.5	2520.0	RIH with 11-1/4" overshot (BHA #13), dressed with 8" basket grapple to top of fish at 74.7mRT (fish #2). Made several attempts to engage fish, without success. POOH to surface to change basket grapple. All connections were torqued to 32,000 ft/lbs on previous run.
29 Oct 2009	P13	Fishing	1.5	2520.0	RIH with 11-1/4" overshot (BHA #13), dressed with 7-7/8" basket grapple to top of fish at 74.7mRT (fish #2.) Made several attempts to engage, without success. POOH to surface. Maximum left hand torque applied 6000 ft/lbs to attempt to engage fish. At surface observed the 11-1/4" overshot and crossover missing.
29 Oct 2009	P13	Fishing	2.5	2520.0	Ran back in hole and attempted to screw back into the top of the 11-1/4" overshot at 73.3mRT (fish #3). No success. POOH to surface
29 Oct 2009	P13	Fishing	1.5	2520.0	Modified 8 3/8" overshot, and dressed with 6 3/4" spiral grapple.
29 Oct 2009	P13	Fishing	4	2520.0	RIH with 8 3/8" overshot (BHA #14) dressed with a 6 3/4" spiral grapple to top of fish #3 at 73.3mRT. Made several attempts to engage fish #3 without success. POOH to surface.
29 Oct 2009	P13	Service / Maintain Tools and Eqpt	1	2520.0	Changed out burst hose on compensator lock bar.
29 Oct 2009	P13	Fishing	2.5	2520.0	Re-dressed overshot. Cleaned and painted same. RIH with 8 3/8" overshot (BHA #14) dressed with a 6 3/4" spiral grapple, to top of fish #3 at 73.3mRT. Made several more attempts to engage fish #3, without success. POOH to surface.
29 Oct 2009	P13	Service / Maintain Tools and Eqpt	2	2520.0	Waited on helicopter to arrive with fishing tools and NOV engineer to troubleshoot malfunction of PH85 pipe handler on TDS.
29 Oct 2009	P13	Fishing	2.5	2520.0	Made up BHA #15, 11-3/4" overshot, dressed with a 6 3/4" basket grapple
29 Oct 2009	P13	Fishing	2	2520.0	RIH with BHA #15 to top of fish #3 at 73.3m. Attempted to engage fish. POOH to surface. No success
29 Oct 2009	P13	Fishing	0.5	2520.0	Changed out mill control from 6-3/4" to 8". Beveled mill control.
29 Oct 2009	P13	Fishing	1	2520.0	RIH with BHA #15, 11 3/4" overshot, dressed with 6-3/4" basket grapple. Attempted to engage fish. POOH to surface. No success.
29 Oct 2009	P13	Fishing	0.5	2520.0	Commenced changing out basket grapple.
30 Oct 2009	P13	Fishing	1.5	2520.0	Dressed the 11-1/4" overshot with a 8-1/4" basket grapple.
30 Oct 2009	P13	Fishing	1	2520.0	RIH with 11-1/4" overshot assembly dressed with 8-1/4" basket grapple (RR BHA #15). Pick up weight 160 klbs, slack off weight 170klbs. Rotated at 40 rpm and engaged fish with 5klbs, confirmed with 20klbs overpull, slacked off 5klbs, at 30 rpm string jumped, lost all weight, slacked back off with 10klbs, picked back up with 50klbs overpull. String jumped. Attempted to release the overshot, but the top one released first.
30 Oct 2009	P13	Fishing	1.5	2520.0	POOH to surface. No fish. Inspected 11-1/4" overshot assembly. The markings on the overshot showed that the guide was bottoming out on the larger OD of the fish, before it could engage the grapple enough to get a firm grip. The bottom two or three wickers of the grapple, had blue as well as green paint (the colors of the cross over and the overshot).

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Trouble During Programmed Time for Trefoil-2

Date	PHS	Operation	NPT	Depth	Description of Programmed Trouble Time
30 Oct 2009	P13	Fishing	5	2520.0	Laid down excess fishing tools (11-3/4" overshot assembly, reverse circulating assembly). Made up 11-1/4" overshot assembly.
30 Oct 2009	P13	Fishing	1.5	2520.0	Prepare and RIH with 8 3/8" overshot with 6 3/4" grapple and modified overshot on 5" DP. Set down 10klbs with rotation, no torque or overpull, POOH same.
30 Oct 2009	P13	Fishing	3.5	2520.0	Prepare and RIH 11 1/4" overshot with 8 1/4" grapple on 5" DP. Set down 10klbs with rotation, pick up and set down with 15klbs with rotation with right hand torque (7000ft/lbs), left hand torque (7000ft/lbs). POOH same.
30 Oct 2009	P13	Fishing	4.5	2520.0	Trouble shoot problems with top drive & elmago brake while 8 3/8" overshot at welders for modifcation. Make top drive secure prepare 8 3/8" overshot with modified pup joint.
30 Oct 2009	P13	Fishing	2	2520.0	Makeup modified pup joint & lip guide & RIH to top of fish at 73.7m. BHA #16F. Pump at 10spm and tag top of fish. Rotate & attempt to screw modified overshot & pupjoint into fish with no success. POOH same. Score marks inside overshot where top of fish had been rubbing indicated fish entered skirt but pin on pup joint failed to enter tool joint box of the fish.
30 Oct 2009	P13	Fishing	3.5	2520.0	RIH with open ended single of DP to tag top of fish. Attempt to stab DP into 4 1/2" IF box of fish. Trimmed rig forward and aft, port & stbd and reciprocated string.
31 Oct 2009	P13	Fishing	1	2520.0	POOH with open ended string. No visible marks on DP single.
31 Oct 2009	P13	Service / Maintain Tools and Eqpt	10	2520.0	Trouble shot topdrive and iron roughneck hydraulic unit.
31 Oct 2009	P13	Fishing	1.5	2520.0	Dressed and RIH with 11 1/4" overshot with 8 3/4" grapple on 5" drill pipe. Tagged fish at 75m. 170klbs up wt, 165klbs down wt, overpull of 40lbsk. POOH with same, No Success.
31 Oct 2009	P13	Fishing	2.5	2520.0	Dressed 11 3/4" overshot with 7 1/8" grapple and 8 3/8" mill guide. RIH with same on 5" DP to top of fish at 75m. Unsuccessful attempt POOH.
31 Oct 2009	P13	Fishing	2	2520.0	Dressed same 11 3/4" overshot but with 7 " grapple and 8 3/8" mill guide. RIH with same on 5" DP to top of fish at 75m. Applied right hand rotation with no indications. POOH fish #3. Fish on surface at 16.40hrs. Laid out same.
31 Oct 2009	P13	Fishing	1	2520.0	Dressed fishing tool BHA #18 for fish #2 with 11 3/4" overshot with 7 3/4" basket grapple and mill control while rig crew rearranged derrick to allow access to 6 3/4" DCs.
31 Oct 2009	P13	Fishing	2	2520.0	RIH with fishing tool BHA #18 for fish #2 with 11 3/4" overshot with 7 3/4" basket grapple and mill control. Tagged top of fish using rotation with 10klbs down. Overpull of 30klbs when string released. POOH. No luck. Marks on the side of the guide indicated that tool had gone down beside the fish & not over it.
31 Oct 2009	P13	Fishing	4	2520.0	Rerun BHA #18 with a 15" guide and same 7 3/4" grapple. Tag top of fish with rotation & 20klbs down. 40klbs overpull on fish & allowed time for jars to bleed down. Held 35klbs on fish while confirm with town operation. Held JSA on rig floor for shearing of pipe.
01 Nov 2009	P13	Fishing	5	2520.0	Closed shear rams against 9 5/8" casing from koomey room. Observed flow meter count of 56 bbls - correct volume. No loss of block weight observed. Pressure tested seal of shear rams to 500 psi through C&K lines and held for 30 min - good test. Began overpull and jarring to free stuck casing hanger. At 03.45hrs string came free with between 40 - 70klbs overpull. POOH with fish complete to surface.
01 Nov 2009	P13	Fishing	2	2520.0	Broke out and & laid down fishing BHA and fish.
01 Nov 2009	P13	Fishing	2.5	2520.0	Performed post jarring inspection while fishing tools were being dismantled on deck. Serviced top drive and inspected same.
01 Nov 2009	P13	Pressure / Inflow Test	1	2520.0	Service break connections & laid out fishing tools. Simops - tested 9 5/8" annulus against shear rams 500 psi/10 min - ok.
01 Nov 2009	P13	Safety - JSA's, Drills, Incidents etc	1	2520.0	Time out for safety due to Derrickman hurting his back on rigfloor. IP had to be strechered from rig floor. Flash Report #44.
01 Nov 2009	P13	Fishing	1	2520.0	Continued to service break connections and lay out fishing tools.
01 Nov 2009	P13	Fishing	3	2520.0	Laid out 5 stands of DP from derrick that had been dry torqued for fishing job.

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01 Nov 2009	P13	Milling	0.5	2520.0	Opened shear rams and pumped 5 bbls of HiVis mud & circulated bottoms up @ 160 strokes = 650 psi, while preparing 17 1/2" mill BHA.
01 Nov 2009	P13	Milling	1	2520.0	Make up 17 1/2" mill assembly and BHA run #19F
01 Nov 2009	P13	Milling	1	2520.0	RIH with 17 1/2" mill assembly and BHA run #19F. Tagged out at the 13 3/8" x 20" casing swedge at 98.97m. Indicated top of fish is inside the 13 3/8" casing.
01 Nov 2009	P13	Milling	1.5	2520.0	POOH and laid out 17 1/2" mill.
01 Nov 2009	P13	Milling	1	2520.0	Made up 12 1/4" mill plus 2 x junk subs on BHA.
01 Nov 2009	P13	Milling	1	2520.0	RIH with 12 1/4" mill on BHA Run#19F. Tagged top of 9 5/8" casing at 102m.
01 Nov 2009	P13	Milling	1.5	2520.0	Began milling top of sheared casing from 102m - 103m at 70 spm, 350gpm/50psi. 5k WOB.
01 Nov 2009	P13	Milling	0.5	2520.0	Pumped 10 bbls hivis and circulated shakers clean. 425 grams returned from magnets down stream from shakers.
01 Nov 2009	P13	Milling	0.5	2520.0	POOH with 12 1/4" milling tool from 103m.
02 Nov 2009	P13	Milling	0.5	2520.0	Continued to POOH with 12 1/4" milling BHA from 103m to surface.
02 Nov 2009	P13	Milling	0.5	2520.0	Broke out & laid out 12 1/4" mill and junk baskets.
02 Nov 2009	P13	Milling	1	2520.0	Made up 8 1/2" tapered casing mill.
02 Nov 2009	P13	Milling	0.5	2520.0	RIH with tapered mill to 103m
02 Nov 2009	P13	Milling	0.5	2520.0	Milled inside casing from 103m - 106m at 50rpm, 70spm.
02 Nov 2009	P13	Milling	0.5	2520.0	POOH with tapered mill from 106m to surface.
02 Nov 2009	P13	Milling	0.5	2520.0	Laid down tapered mill and components.
02 Nov 2009	P13	Jetting	0.5	2520.0	Picked up and made up wellhead mill and flush tool.
02 Nov 2009	P13	Jetting	0.5	2520.0	RIH to 92.5m - well head depth.
02 Nov 2009	P13	Jetting	0.5	2520.0	Washed and jetted wellhead and BOPs with 200spm, 220psi.
02 Nov 2009	P13	Jetting	1	2520.0	POOH to surface with mill and jetting tool.
02 Nov 2009	P13	Jetting	0.5	2520.0	Cleaned and cleared rig floor.
02 Nov 2009	P13	Wellhead Activities	2	2520.0	M/Up 9 5/8" hanger assy on HWDP & racked back in mast.
02 Nov 2009	P13	Rig Up / Down	1.5	2520.0	M/Up cement head & racked back same.
02 Nov 2009	P13	Rig Up / Down	1	2520.0	P/Up & M/Up spear assy.
02 Nov 2009	P13	Fishing	1.5	2520.0	RIH with spear assy on BHA #21 to top of casing fish.
02 Nov 2009	P13	Fishing	1	2520.0	Pumped @ 60spm/ 300gpm/ 40psi. Inserted spear into fish and picked-up - no overpull observed. Slacked off string and applied 1 LH turn - confirmed latch with overpull of 350klbs. Circulate 60spm/300gpm. Took overpull to 400klbs and increased circulation to 100spm/500gpm/ 250psi.
02 Nov 2009	P13	Service / Maintain Tools and Eqpt	0.5	2520.0	Pressured up compensator bottle to required pressure while reinstalling index line.
02 Nov 2009	P13	Fishing	1	2520.0	Pulled 580klbs and applied 10klbs torque & held same. Circulated at 180spm/900gpm/530psi. Stopped pumps, released torque, slacked off all weight to release spear.
02 Nov 2009	P13	Fishing	0.5	2520.0	POOH with spear assembly to surface.
02 Nov 2009	P13	Fishing	0.5	2520.0	Broke out and laid out spear and accelerator.
02 Nov 2009	P13	Rig Up / Down	1.5	2520.0	Cleaned and cleared rig floor and pipe deck of fishing tools while preparing BHA for casing cutting run.
02 Nov 2009	P13	Rig Up / Down	1.5	2520.0	P/Up & M/Up casing cutting BHA # 22F.
02 Nov 2009	P13	Trip In / Out	2	2520.0	RIH with casing cutting BHA to top of fish. BHA hung up while entering top of fish. Made up top drive and rotated slowly while lowering string into 9 5/8" casing fish. Continued to RIH.
02 Nov 2009	P13	Cutting	1	2520.0	Landed out swivel on top of fish at 103m. Began cutting casing at 157m with 30spm/150gpm/380psi/60rpm/6-8000ft/lbs torque.
02 Nov 2009	P13	Trip In / Out	1	2520.0	POOH to the swivel at 61m. Lost weight near surface. No Fish.
02 Nov 2009	P13	Pick Up / Lay Down	0.5	2520.0	Broke out spearand casing cutting BHA & laid out out.
03 Nov 2009	P13	Rig Up / Down	1	2520.0	Continued to break out spear and casing cutting BHA and laid out same.
03 Nov 2009	P13	Fishing	1	2520.0	Picked up & made up back up casing grapple, bumper sub & jars.
03 Nov 2009	P13	Fishing	1	2520.0	RIH to top of fish at 103m. Latched into fish with 10klbs down weight. Confirmed fish caught with 7klbs overpull.

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03 Nov 2009	P13	Fishing	0.5	2520.0	POOH with fish to surface.
03 Nov 2009	P13	Rig Up / Down	1	2520.0	Held toolbox talk on rigging up casing. Rigged up casing 500ton elevators, tongs and equipment.
03 Nov 2009	P13	Pick Up / Lay Down	2	2520.0	Held toolbox talk on laying out casing. Laid out 9 5/8" casing fish.
03 Nov 2009	P13	Pick Up / Lay Down	0.5	2520.0	Rigged down & laid out 9 5/8" casing equipment.
03 Nov 2009	P13	Pick Up / Lay Down	2	2520.0	Made up wear bushing, RIH & landed out. Confirmed index mark. POOH & retrieved running tool.
03 Nov 2009	P13	Milling	2.5	2520.0	Dressed 12 1/4" milling assy & RIH under controlled conditions due to weather. Tagged top of casing @ 157m.
03 Nov 2009	P13	Milling	1.5	2520.0	Took parameters and started milling 9 5/8" casing at 100rpm/100spm/500gpm/ 250psi. Pumped HiVis pill and circulated 2 x bottoms up.
03 Nov 2009	P13	Milling	2	2520.0	POOH with 12 1/4" milling assy and laid out same.
03 Nov 2009	P13	Wellhead Activities	2.5	2520.0	RIH with wearbushing retrieval tool. Applied overpull of 60klbs to confirm latch. POOH same and attempt to remove wearbushing from running tool with no success. Laid out R/T & wearbushing as one.
03 Nov 2009	P13	Pick Up / Lay Down	2	2520.0	Picked up 9 5/8" casing hanger from the derrick. Backed out 9 5/8" pup joint from below hanger then racked back in derrick.
03 Nov 2009	P13	Pick Up / Lay Down	3.5	2520.0	Held pre job safety meeting on running casing patch on 9 5/8" casing. Made up casing patch to first joint of casing & RIH with 9 5/8" casing to 66m.
03 Nov 2009	P13	Pick Up / Lay Down	1	2520.0	Pick up casing hanger and running tool from mast & make up to 9 5/8" casing patch string.
04 Nov 2009	P13	Run/Pull Casing	2	2520.0	RIH 9 5/8" casing patch on landing string and landed out in well head. No indication of patch latching into casing string. Worked string and rotated string to the left in an attempt to engage casing patch grapple. Discussed with Smith Services representive and ADA Drilling Supervisor in town the way ahead. Checked all calculations and discussed possible scenarios. Decision made to continue as planned.
04 Nov 2009	P13	Run/Pull Casing	2.5	2520.0	Released casing running tool and POOH. Racked back running tool in the mast.
04 Nov 2009	P13	Pick Up / Lay Down	2	2520.0	Picked up and made up spear assy and RIH.
04 Nov 2009	P13	Run/Pull Casing	2	2520.0	Tagged at 158m. Engaged grapple at 160m. Performed overpull to 280klbs to pull casing into casing patch. Slacked off 180klbs and picked up 172klbs. Released spear and picked up to 150m (above patch). Picked up to verify casing patch engaged - not engaged. Repeated same procedures as above in an attempt to engage casing patch.
04 Nov 2009	P13	Other Test	0.5	2520.0	Stopped operation to build up air in compensator bottles.
04 Nov 2009	P13	Run/Pull Casing	3	2520.0	Held string in tension @ 450klbs and pressured up to 50psi to confirm casing stump inside casing patch. Continued to work casing string to get casing patch to engage to energize the seals. Confirmed casing patch seals energized by pick up to 115m. Engaged spear with overpull of 40klbs.
04 Nov 2009	P13	Trip In / Out	3	2520.0	POOH casing spear. Had problems with top drive and elevators.
04 Nov 2009	P13	Wellhead Activities	3	2520.0	Made up hanger seal assy and RIH to top of well head @ 92.5m.
04 Nov 2009	P13	Pressure / Inflow Test	4.5	2520.0	Tested BOPs and C&K manifold (250psi Low / 5000psi high).
05 Nov 2009	P13	Pressure / Inflow Test	1.5	2520.0	Continued to test BOPs and C&K manifold (250psi low/ 5000psi high).
05 Nov 2009	P13	Trip In / Out	1.5	2520.0	Released running tool with 60klbs overpull and POOH.
05 Nov 2009	P13	Pick Up / Lay Down	3	2520.0	Broke out and laid down casing spear, cement head and one stand of DC from mast.

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05 Nov 2009	P13	Service / Maintain Tools and Eqpt	18	2520.0	Troubleshot top drive hydraulic system, pipe handler and alignment problems. Repaired oil leak on manipulator arm. Replaced lindal brake on elmago and tested same - OK. Installed new Martin Decker weight indicator gauge and pumped up deadman sensor. Tested SPP gauges and calibrated same. Replaced lube oil cooler fan and motor assy. TDS pipehandler clamp piston bolts renewed. Shim plates removed from stbd lower dolly roller carriage. Shim plates added to port lower dolly roller carriage.
06 Nov 2009	P13	Service / Maintain Tools and Eqpt	11	2520.0	Continued to troubleshoot top drive hydraulic system, pipe handler and alignment problems. Prepared 8 1/2" drillout BHA. Changed out saver sub. Tested TDS and pipe handler. Perform alignment test and checked hook position indicator on compenstor. ADA Drilling Supervisor witnessed and excepted repairs and improvements.
06 Nov 2009	P17	Wellhead Activities	3	2520.0	Picked up wear bushing running tool and made up wear bushing. RIH and landed out in wellhead @ 92.5m. 25klbs down weight applied and overpulled 30klbs - bushing set. POOH running tool.
06 Nov 2009	P17	Work Stuck Tools and Equip	0.5	2520.0	Picked up jammed wear bushing running tool with bushing attached from deck and attempted to free from running tool - no success. Laid out same.
06 Nov 2009	P17	Make Up / Break Out Tools	1	2520.0	Made up emergency hang off tool and racked in mast.
06 Nov 2009	P17	BHA Activities	3.5	2520.0	Made up 8 1/2" drillout BHA and RIH to 255m while checking serial numbers on all components.
06 Nov 2009	P17	Pick Up / Lay Down	1	2520.0	Made up RTTS packer to string and RIH packer to 190m packer depth (445m bit depth).
06 Nov 2009	P17	Circulate / Condition Fluids	0.5	2520.0	Broke circulation and held prejob toolbox talk.
06 Nov 2009	P17	Pressure / Inflow Test	1	2520.0	Set RTTS Packer. Lined up cement pump to pump down choke line. Broke circulation with 5bbls. Pressure tested lines to 4000psi/5 min. Closed lower annular and performed pressure test on casing patch to 4000psi in 500psi increments, held for 10 min - good test. Total amount of bbls pumped = 1.75bbls. Volume returned 1.5bbls.
06 Nov 2009	P17	Trip In / Out	1.5	2520.0	Unseat packer & POOH to 255m. Laid out RTTS packer.
06 Nov 2009	P17	Trip In / Out	1	2520.0	Picked up drill pipe from deck and RIH from 255m to 402m.
07 Nov 2009	P17	Trip In / Out	3	2520.0	Continued to pick up drill pipe from deck and RIH from 402m to 900m. Filled pipe. 75 joints total picked up.
07 Nov 2009	P17	Trip In / Out	5	2520.0	Continued to RIH with stands from 900m to 2402m. Filled pipe every 20 stands.
07 Nov 2009	P17	Washing and Reaming	1.5	2520.0	Washed and reamed from 2402m to 2494m. Tagged float collar.
07 Nov 2009	P17	Safety - JSA's, Drills, Incidents etc	1	2520.0	Took SCRs and CLF. Performed well control exercise with drill crew.
07 Nov 2009	P17	Trip In / Out	4.5	2523.0	Pumped slug and POOH from 2520m to 257m.
07 Nov 2009	P17	Monitor / Flow Check	1.5	2523.0	Performed flow check prior to pulling BHA through the BOPs. POOH and racked back BHA from 257m - 54m.
07 Nov 2009	P17	Safety - JSA's, Drills, Incidents etc	1	2523.0	Time out for safety. Roughnecks heard something land on the rig floor which had dropped from out of the derrick. Inspection found that the pin of a shackle used by the derrickman on a sheave on his pull back tugger at the monkey board level had fallen out. Performed mast inspection and checked all other similar shackles and sheaves in the mast prior to continuing operations. Flash Report #047
07 Nov 2009	P17	Trip In / Out	0.5	2523.0	Continued to POOH BHA from 54m to surface. Dull bit (#4) grade 1-1-WT-A-E-I-NO-BHA.
08 Nov 2009	P17	Trip In / Out	1	2540.0	POOH to shoe for Geoservice to troubleshoot their systems.
09 Nov 2009	P17	3rd party Tooling Activities	1	2629.0	Re-logged from 2610m to 2629m due to the MWD and Geoservices geolograph cables in the mast getting tangled and parting during the making of the previous connection.
09 Nov 2009	P17	3rd party Tooling Activities	1	2629.0	Made up connection at 2629m. MWD tools failed to return any signal. Attempted to recycle pumps and performed mode switch to reset tools.
09 Nov 2009	P17	Circulate / Condition Fluids	1	2633.0	Circulated bottoms up to clean well and allowed Geoservices to gather samples.
09 Nov 2009	P17	Pumping Out / Into Wellbore	1	2633.0	Pumped out of hole to shoe from 2633m to 2520m.
09 Nov 2009	P17	Monitor / Flow Check	0.5	2633.0	Performed flow check and pumped slug.
09 Nov 2009	P17	Trip In / Out	4.5	2633.0	Continued to POOH from 2520m to 403m.

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Trouble During Programmed Time for Trefoil-2

Date	PHS	Operation	NPT	Depth	Description of Programmed Trouble Time
09 Nov 2009	P17	Trip In / Out	3	2633.0	Flowchecked and POOH BHA to surface. Downloaded radio active source and racked back in mast.
09 Nov 2009	P17	Service / Maintain Tools and Eqpt	5	2633.0	Performed drill floor maintenance. Performed mast inspection. Fixed oil leak on top drive. Checked dolly rollers. Cleaned discharge strainers on the mud pumps. Repaired drillers Totco readout panel. Installed bracket for Geoservices and MWD line.
09 Nov 2009	P17	3rd party BHA Activites	2.5	2633.0	Laid out MWD tools from the mast. Dull bit grade = 0-1-WT-G-X-I-No-DTF.
09 Nov 2009	P17	3rd party BHA Activites	2	2633.0	Picked up and made up MWD tools form the deck and RIH to 31m (Bit #5RR).
09 Nov 2009	P17	3rd party BHA Activites	1	2633.0	Downloaded and tested MWD Tools. Installed radioactive sources.
09 Nov 2009	P17	Trip In / Out	1	2633.0	Continued to make up and RIH 8 1/2" BHA # 26 from 31m to 89m.
10 Nov 2009	P17	Trip In / Out	1	2633.0	Continued to pick up BHA and RIH to 175m.
10 Nov 2009	P17	3rd party Tooling Activities	0.5	2633.0	Performed shallow test on MWD tools at 600gpm/1020psi - ok.
10 Nov 2009	P17	Trip In / Out	0.5	2633.0	Continued to make up and RIH BHA from 175m to 288m.
10 Nov 2009	P17	Trip In / Out	4.5	2633.0	RIH 8 1/2" BHA #26 on 5" DP. Monitored well on trip tank. Stopped and filled every 25 stands from 288m to 2520m.
10 Nov 2009	P17	Washing and Reaming	1	2633.0	Attached Geoservices and Sperry geolograph line. RIH from 2520m to 2577m. Made up the top drive and light reamed to 2,633m. Recorded parameters: hook load 380kips/700gpm/2400psi/125rpm/10k torque/mud weight 9.4ppg.
10 Nov 2009	P17	Monitor / Flow Check	1	2644.0	Monitored 40bbls losses. Flow checked on trip tank - ok. Checked mud tanks and shale shaker areas and found that there was a blockage from sand traps to mud pit. Cleared blockage and circulated at 700gpm. No mud lost downhole or to the sea.
15 Nov 2009	P17	Trip In / Out	0.5	3145.0	Secured indicator hose for compensator due to it hanging up in derrick.
17 Nov 2009	P17	Service / Maintain Tools and Eqpt	10.5	3175.0	Troubleshot draw works problems. Draw works jumped out of gear while driller was running blocks up the mast. Could not get draw works back into gear. Coupling on A motor was found to be stripped. Performed pull test on draw works prior to putting back in service.
23 Nov 2009	P21	Waiting on Weather	7	3235.0	Waited on weather. Wind speed: 30+ Knots Roll: 3.2 deg Heave: 4m Pitch: 1.1 deg
24 Nov 2009	P21	Fishing	1.5	3235.0	Made up casing spear and RIH to spear remainder of 9 5/8" casing while displacing riser and C&K lines from mud to seawater. POOH with casing to surface.

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DFE above MSL : 26.0m	Lat : 39 Deg 53 Min 07.9334 Sec	Spud Date : 06 Oct 2009	Release Date : 29 Nov 2009
Water Depth : 69.0m	Long : 145 Deg 22 Min 14.6152 Sec	Spud Time : 08:00	Release Time : 01:00

Activity Report For Trefoil-2

Date : 21 Sep 2009 **Daily Cost : US$ 3230866** **Report Number : 1**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		6	Moved away from dock side with the assistance of harbour tugs. Connected to tow bridle at 06:30. Connected tow boat Far Scimitar & proceeded to inclination test position in Port Phillip bay. 38-06-139S 144-52-058E

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Activity Report For Trefoil-2

Date : 02 Oct 2009 **Daily Cost : US$ 2488992** **Report Number : 2**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		3	Begin tow with boat Far Scimitar from Port Phillip Bay To Trefoil-2.
0.0	P1	P	M1		6	Rig under tow with Far Scimitar to Trefoil-2. Rig position at 12:00 hrs LAT: 38 deg 19' 0.0" S. LONG 144 deg 36' 0.0" E. Total distance traveled 30.4 nautical miles. Average speed 3.7 knots. Distance to go 101.6 nautical miles.
0.0	P1	P	M1		8	Rig under tow with Far Scimitar to Trefoil-2. Rig position at 20:00 hrs LAT: 38 deg 48' 0.2" S. LONG 144 deg 46' 0.6" E. Total distance traveled 63.6 nautical miles. Average speed 3.7 knots. Distance to go 70.2 nautical miles.
0.0	P1	P	M1		4	Rig under tow with Far Scimitar to Trefoil-2 . Rig position at 24:00 hrs LAT: 39 deg 05' 0.5" S. LONG 144 deg 56' 0.1" E. Total distance traveled 63.6 nautical miles. Average speed 3.7 knots. Distance to go 80.7 nautical miles.

Date : 03 Oct 2009 **Daily Cost : US$ 540757** **Report Number : 3**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M1		6	Rig under tow with Far Scimitar to Trefoil-2. Rig position at 06:00 hrs LAT: 39 deg 32' 0.S. LONG 145 deg 10' 9.0" E. Total distance traveled 109.5 nautical miles. Average speed 5.0 knots. Distance to go 23.0 nautical miles.
0.0	P1	P	M1		6	Rig under tow with Far Scimitar to Trefoil-2. Rig position at 12:00 hrs LAT: 39 deg 53' 1.S. LONG 145 deg 23' 0.0" E. Total distance traveled 132.5 nautical miles. Average speed 5.5 knots. Arrived at location at 12:00 hrs.
0.0	P1	P	M4		3	Anchor Handling Operations. Commenced paying out on #6 at 12:15 hrs. Anchor on bottom at 12:30 hrs. Anchor #2 AHSV Far Fosna. Pennant passed to Far Fosna at 13:10 hrs. Commenced paying out on #2 at 13:55 hrs. Anchor on bottom at 14:20 hrs. Chasing back on #2 anchor at 14:25 hrs. PCP #2 back on rig at 15:00 hrs.
0.0	P1	P	M4		3	Anchor Handling Operations. Anchor #3 AHSV Far Fosna. Pennant passed to Far Fosna at 15:15 hrs. Commenced paying out on #3 at 15:25 hrs. Anchor on bottom at 16:22 hrs. Stripped back on #3 anchor at 16:25 hrs. PCP #3 back on rig at 17:00 hrs. Anchor #7 AHSV Far Fosna. Pennant passed to Far Fosna at 17:20 hrs. Commenced paying out on #7 anchor at 17:25 hrs. Anchor on bottom at 18:00 hrs.
0.0	P1	P	M4		3	Anchor Handling Operations. Commenced tensioning #7 anchor at 18:11 hrs. Far Scimitar instructed to commence spooling tow wire. PCP #7 back on rig at 18:45 hrs. Anchor #8 AHSV Far Fosna. Pennant passed to Far Fosna at 18:49 hrs. Commenced paying out on #8 anchor at 18:56 hrs. Anchor on bottom at 19:25 hrs. Chasing back on #8 anchor at 19:32 hrs. PCP #8 back on rig at 20:13 hrs. Anchor #1 AHSV Far Fosna. Pennant passed to Far Fosna at 20:20 hrs. Commenced paying out on #1 anchor at 20:30 hrs. Anchor on bottom at 20:54 hrs. Note: Far Scimitar informed that the tow line had parted at 19:08 hrs.
0.0	P1	P	M4		2.5	Anchor Handling Operations. Chasing back on #1 anchor at 21:00 hrs. PCP #1 back on rig at 21:26 hrs. Anchor #5 AHSV Far Scimitar. Pennant passed to Far Scimitar at 21:56 hrs.

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Date : 03 Oct 2009 **Daily Cost : US$ 540757** **Report Number : 3**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
						Anchor #4 AHSV Far Fosna. Commenced paying out#5 anchor at 22:21 hrs. Pennant passed to Far Fosna at 22:32 hrs. Anchor #5 on bottom at 22:43 hrs. Commenced paying out #4 anchor at 22:45 hrs. Chasing back on #5 anchor at 22:52 hrs. Anchor #4 on bottom at 23:06 hrs. Chasing back on #4 anchor at 23:15 hrs. PCP #5 back to rig at 23:19 hrs. PCP #4 back to rig at 23:40 hrs. Note: Far Scimitar and Far Fosna outside 500m, running at standby.
0.0	P1	P	M3		0.5	Commenced ballasting rig down to drilling draft.

Date : 04 Oct 2009 **Daily Cost : US$ 564101** **Report Number : 4**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P1	P	M3		0.5	Ballast rig down to drilling draft.
0.0	P1	TP	M3	RE	1	Stopped ballasting rig down due to leaking sounding pipe on starboard #9 ballast tank. Pumped out water prior to repairing leaking sounding pipe.
0.0	P1	TP	M3	RE	3	Welder repaired leaking sounding pipe on starboard #9 ballast tank.
0.0	P1	TP	M3	RE	3.5	Leak repaired. Pumped water from port pump room with Wilden pumps due to leaking pressure gauge on propellor shaft oil seal.
0.0	P1	P	M3		6	Ballast rig down to drilling draft (20m).
0.0	P1	P	M5		3.5	Cross Tension Anchors.
0.0	P1	P	M2		1	Position rig over location. Fugro confirmed position. Final Rig Heading: 316.79 deg. Latitude: 39 deg 53' 07.9321"S Longitude: 145 deg 22' 14.6192"E Position is 5.67m @264.45 deg T (263.40 deg G) from intended location.
0.0	P2	P	G1		1.5	Rigged up to pick up 5" tubulars. Laid out and measured 5" HWDP prior to picking up same. Concurrently rigged up bulk hoses to Far Scimitar.
0.0	P2	P	G2		2	Held toolbox meeting with drill crew and deck crew prior to picking up tubulars. Picked up 3 joints of 5" HWDP, crossover and made up Dril-Quip 30" housing running tool. Racked back same in derrick. Drifted all tubulars with 3" drift.
0.0	P2	P	G2		2	Picked up 12 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.

Date : 05 Oct 2009 **Daily Cost : US$ 558941** **Report Number : 5**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P2	P	G2		0.5	Picked up 3 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.
0.0	P2	P	G2		15.5	Picked up 240 joints of 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.
0.0	P2	P	G6		4	Held JSA prior to picking up BHA. Made up 26" bit, 36" hole opener, bit sub and Anderdrift tool. RIH with same
0.0	P2	P	G24		1	Held pre spud meeting with all personnel.
0.0	P2	P	G6		3	Held JSA prior to picking up drill collars. Made up 3 x 9 1/2" drill collars, crossover, 1 x 8 1/4" drill collar. RIH with same.

Date : 06 Oct 2009 **Daily Cost : US$ 633384** **Report Number : 6**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0.0	P2	P	G6		1	Continued picking up 8 1/4" drill collars.
0.0	P2	P	G6		1	Made up cement stand and racked back in derrick
0.0	P2	P	G6		1.5	Continued picking up 8 1/4" drill collars.
0.0	P2	P	G6		0.5	Made up crossover and pup joint and engaged TDS. Function tested Anderdrift survey tool. Good test.

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Date : 06 Oct 2009 **Daily Cost : US$ 633384** **Report Number : 6**

0.0	P2	TP	F3	RE	1	Delay in starting-up pump #3.
0.0	P2	P	F3		0.5	Ran and tested pumps #1, #2 and #3 at 240 spm, 1200 gpm, 1180 psi. All pumps ok.
0.0	P2	P	G6		2.5	Picked up remaining 8 1/4" drill collars. Engaged TDS and prepared to spud Trefoil-2.
0.0	P2	P	D8		4	Spudded Well. Confirmed following: RT to MSL = 26m. RT to Seabed = 95m. Water Depth = 69m. Drilled 26"/36" hole from mudline at 95m to 155m. Pumped 3 x 50 bbl PHB sweeps per stand. Reamed each stand. Took Anderdrift survey at mudline and each stand drilled and at TD (0 ° at TD). Pumped 100 bbls PHB mud.
155.0	P2	P	G8		0.5	POOH from 155m to mudline at 95m. No drag.
155.0	P2	P	G8		1	RIH to TD at 155m. No fill.
155.0	P2	P	F3		0.5	Displaced hole with 1.5 x volume (370 bbls) of PHB mud.
155.0	P2	P	G8		3	POOH and racked back BHA. Concurrently positioned PGB on transporter skid.
155.0	P3	P	G1		0.5	Held PJSM. Rigged up to run 30" conductor.
155.0	P3	P	G9		4	Picked up 20" x 30" swaged shoe joint and confirmed float drains. Continued running 2 x Intermediate joints and 1 x crossover joint to 47.4m.
155.0	P3	P	G9		0.5	Picked up 30" wellhead and landed in rotary table
155.0	P3	P	G1		0.5	Rigged down 30" handling equipment and cleared rig floor of all excess equipment.
155.0	P3	P	G9		0.5	Installed C-Plate and RIH 1 x stand of 5" drill pipe stinger. Made up wellhead running tool to cement stinger.
155.0	P3	P	G9		1	Lowered wellhead into PGB on transporter in moonpool. Engaged housing snap ring.

Date : 07 Oct 2009 **Daily Cost : US$ 603734** **Report Number : 7**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
155.0	P3	P	G9		1	Lowered conductor to splash zone. Engaged TDS and pumped at 1000 gpm with seawater venting all air. Closed casing valve.
155.0	P3	P	G9		0.5	Observed entry of shoe into existing hole with ROV sonar.
155.0	P3	P	G9		1	Continued RIH with 30" conductor on 5" HWDP landing string.
155.0	P3	P	G9		1	Made up cement stand and spaced out to set 30" shoe at 153m with 3m stick up above seabed.
155.0	P3	P	G9		0.5	ROV confirmed bullseye reading 1/4 deg to port and rig heading 316 deg. PGB stickup 3m from mudline.
155.0	P3	TP	G9	RE	1	Observed twist in guide lines. Checked guide line tensioner system and and found #1 guideline tensioner leaking.
155.0	P3	TP	G9	RE	2.5	Subsea investigated seal failure on guide line tensioner #1.
155.0	P3	TP	G9	RE	0.5	Pulled back casing 10m tension up guideline. Rotated PGB and removed twist on guide lines. Slacked off - shoe at 153m.
155.0	P3	P	F4		3	Circulated with seawater at 600 gpm to avoid hole washout. ROV confirmed heading at 307 deg, bullseye aft/stb 1/4 deg (operation delayed due to poor visibility). Concurrently held JSA and prepared for cement job.
155.0	P3	P	F3		1	Pumped 30 bbls of spacer ahead with cement unit. Pressure tested cement lines to 1000 psi. Followed by 20 bbls of mica.
155.0	P3	P	F3		2	Pumped 50 bbls of seawater spacer ahead. Mixed and pumped 260 bbls 15.8 ppg class G slurry (53 MT) with 155 bbls of seawater. Displaced with 72.4 bbls of seawater. Cement in place at 13:45 hrs. Returns observed at mudline.
155.0	P3	P	G24		5	Waited on cement.
155.0	P3	P	G12		0.5	ROV confirmed heading 307 deg and inclination aft/stb 1/4 deg. Slacked off 3m and backed out 30" running tool.
155.0	P3	P	G8		2	POOH and racked back cement stand. POOH with landing string. Broke out and laid down 30" runnng tool.
155.0	P3	P	G12		2.5	Picked up and made up inner string stinger assembly to 18 3/4" HPWH housing running tool. Made up Halliburton swivel equaliser assembly to inner string. Drifted inner string with 2 7/8" drift. Laid out inner string assembly.

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Date : 08 Oct 2009 **Daily Cost : US$ 611316** **Report Number : 8**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
155.0	P3	P	G12		2.5	Picked up and made up 18 3/4" HPWH housing. Lowered housing to rotary table. Removed wellhead running tool. Picked up wellhead running tool and inner string assembly. Installed Halliburton SSR plugs to assembly and made up wellhead running tool. Laid out same.
155.0	P3	P	G6		3.5	Laid out 26" drill bit, 36" hole opener, Anderdrift , 2 x 9.5" DC
155.0	P4	P	G6		2	Held JSA prior to picking up 17.5" BHA. Made up 17.5" drill bit, bit sub w/float, 9.5" NMHOC and RIH.
155.0	P4	TP	G11	RE	1.5	Iron roughneck damaged. Secured pipe spinner carrier, hydraulic motor broken. Repaired same.
155.0	P4	P	G6		1.5	Handle BHA. Made up 1 x 17.5" stabliser, 1 x 9.5" drill collar, 1 x 17.5" stabliser, crossover, 2 x 8.25" drill collars and RIH. Attached stab-in lines to NMHOC.
155.0	P4	P	G12		0.5	Held JSA. Attached stab in lines to guidelines.
155.0	P4	P	G6		2.5	RIH with 17.5" BHA. Picked up and made up 8" drilling jars. Continued RIH to above 30" WHH.
155.0	P4	P	G8		0.5	Stabbed into 30" WHH with ROV assistance.
155.0	P4	P	G8		1	Continued RIH with 17.5" BHA
155.0	P4	P	G15		0.5	Installed gelograph wires. Halliburton shallow tested MWD at 1200 gpm, 1000 psi.
155.0	P4	P	F1		0.5	Washed down from 140m to 30"/20" shoe at 153m
155.0	P4	P	D1		2.5	Drilled out 30"/20" shoe and worked bit and stabilisers through shoe to clean up.
245.0	P4	P	D8		5	Drilled 17.5" hole from 155m to 245m with seawater. Average Parameters: ROP 18 m/hr, RPM 150, WOB 0-5k, flow rate 1200 gpm, SPP 2100 psi, Torque 5000 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.

Date : 09 Oct 2009 **Daily Cost : US$ 565889** **Report Number : 9**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
390.0	P4	P	D8		6	Drilled 17.5" hole from 245m to 390m with seawater. Average Parameters: ROP 23 m/hr, RPM 150, WOB 0-5k, flow rate 1200 gpm, SPP 2300 psi, Torque 5 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
561.0	P4	P	D8		6	Drilled 17.5" hole from 390m to 561m with seawater. Average Parameters: ROP 28.5 m/hr, RPM 150, WOB 5-12k, flow rate 1140 gpm, SPP 2300 psi, Torque 6-12 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
748.0	P4	P	D8		6	Drilled 17.5" hole from 561m to 748m with seawater. Average Parameters: ROP 31.1 m/hr, RPM 150, WOB 6-10k, flow rate 1180 gpm, SPP 2350 psi, Torque 4-8 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
849.0	P4	P	D8		6	Drilled 17.5" hole from 748m to 849m with seawater. Average Parameters: ROP 16.8 m/hr, RPM 150, WOB -8-12k, flow rate 1150 gpm, SPP 2420 psi, Torque 4-7 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.

Date : 10 Oct 2009 **Daily Cost : US$ 590980** **Report Number : 10**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P4	P	D8		6	Drilled 17.5" hole from 849m to 935m with seawater. Average Parameters: ROP 13.3 m/hr, RPM 150, WOB 8-14k, flow rate 1150 gpm, SPP 2420 psi, Torque 4-8 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection
935.0	P4	P	F4		1.5	Pumped 50 bbls of hi-vis and circulated well clean.
935.0	P4	P	G8		1	POOH. Tight hole from 903m. Back reamed to 832m. Max overpull 30k.
935.0	P4	P	G8		1.5	POOH on elevators from 832m to 30"/20" shoe at 153m.
935.0	P4	P	G8		0.5	RIH. Took 30k down weight at 582m.
935.0	P4	P	F1		4.5	Washed and reamed from 582m to 639m at 20 RPM, 1150 GPM, 2010 psi.
935.0	P4	P	F3		1	Pumped 100 bbls hi vis mud, sweep and displaced out with seawater.

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Date : 10 Oct 2009 **Daily Cost : US$ 590980** **Report Number : 10**

935.0	P4	P	F3	1	Took check survey shot. Pumped 1200 bbls of 9.0 ppg pad mud whilst reciprocating pipe.
935.0	P4	P	G8	2	POOH to shoe at 153m. No drag observed.
935.0	P4	P	G6	1	Held JSA with drill crew. POOH with BHA from 153m to 102m.
935.0	P4	P	G12	3.5	Massive amounts of cuttings. Rigged up lines in moonpool area to assist whilst washing wellhead and PGB at 260 spm, 1600 psi. Rigged down lines.
935.0	P4	P	G6	0.5	POOH with BHA from 102m to 25m.

Date : 11 Oct 2009 **Daily Cost : US$ 556818** **Report Number : 11**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P4	P	G6		2	Handle BHA. Continue POOH with BHA. Retrieved MWD probe.
935.0	P5	P	G1		1	Picked up cement stand and RIH and laid out side FOSV and side entry sub. Picked up Halliburton SSR cement head and made up same. Racked cement stand back in derrick.
935.0	P5	P	G1		2.5	Held JSA. Rigged up 13 3/8" casing handling equipment.
935.0	P5	P	G9		1	Picked up shoe joint and checked float - ok. Made up float collar joint and checked float - ok . Thread locked the shoe track. Picked up and installed C plates for guideline attachment.
935.0	P5	P	G9		3.5	Ran 13 3/8" casing from 24m to 146m. Stabbed into well with ROV assistance.
935.0	P5	P	G1		3.5	Held JSA. Rigged up FMS, 500 ton elevators and control lines. Made up FACL.
935.0	P5	P	G9		9	Ran 13 3/8" casing from 146m to 826m. Filled pipe every 5 joints with mud.
935.0	P5	P	G1		1	Rigged down 13 3/8" casing handling equipment and rigged up 5" drill pipe handling equipment.
935.0	P5	P	G12		0.5	Prepared to pick up 18 3/4" HPWH.

Date : 12 Oct 2009 **Daily Cost : US$ 851280** **Report Number : 12**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P5	P	G12		1	Picked up and made up 18 3/4" HPWH housing. Lowered housing to rotary table and set in slips.
935.0	P5	P	G9		1	Ran in hole with 13 3/8" casing with 5" HWDP landing string. Broke circulation and washed down to 13m above the wellhead.
935.0	P5	P	G12		1	Made up cement stand. Landed the 18 3/4" wellhead. Confirmed with 50k overpull. ROV confirmed bullseye 0.25 deg aft/port.
935.0	P5	P	G1		1	Rigged up surface lines. Attached cement hose to Halliburton cement head assembly and connected control head lines.
935.0	P5	P	F4		2	Circulated with seawater 1.5 times casing volume at 12 bpm, 500 gpm, 850 psi.
935.0	P5	P	F3		0.5	Held JSA prior to cementing. Cement unit pumped 5 bbls of seawater ahead and pressure tested cement lines to 3000 psi. Good test.
935.0	P5	P	F3		0.5	Pumped 50 bbls of seawater spacer at 5-6 bpm using the cement unit. Added mica to the last 20 bbls pumped.
935.0	P5	P	F3		2	Mixed and pumped 436 bbls of 11.5 ppg lead slurry (35 MT class G cement) with 368 bbls of mix fluid. Mixed and pumped 67 bbls of 15.8 ppg tail slurry (14 MT class G cement) with 40 bbls of mix fluid.
935.0	P5	P	F3		0.5	Dropped the dart and released top plug.
935.0	P5	P	F3		1.5	Cement unit displaced with 412 bbls of seawater at 7 - 10 bpm (observed returns with ROV). Bumped plug with 250 psi and pressure tested casing to 2700 psi for 10 minutes. Released pressure and observed for back flow. Float holding.
935.0	P5	P	G1		1.5	Rigged down cement lines. Released running tool from HPWH. Pulled clear and racked back cement stand.
935.0	P5	P	G8		1.5	POOH with landing string from 92.4m to surface. Laid out pup joints, subs and running tool.
935.0	P6	P	G1		2	Rigged up to run BOP riser, changed elevators and bails to 500 ton. Laid down 5" drill pipe elevators and bails.
935.0	P6	P	M2		0.5	Skidded rig off well centre. Confirmed by ROV.
935.0	P6	TP	G11	RE	0.5	Unable to make up one dog. Replaced same.

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Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 12 Oct 2009 **Daily Cost : US$ 851280** **Report Number : 12**

935.0	P6	P	G13		1	Picked up double of riser. Moved BOP under rotary.
935.0	P6	TP	G25	WOW	1	Due to squalls there was a loss of standby boat cover.
935.0	P6	P	G13		1	Held JSA with drill crew. Installed guidelines onto posts.
935.0	P6	P	G23		0.5	Held fire and abandon drill with all personnel.
935.0	P6	P	G13		1	Checked beacons and riser tensioner sheaves.
935.0	P6	TP	G13	RE	2.5	Connected pod lines to tensioners. Installed work platform on BOP.

Date : 13 Oct 2009 **Daily Cost : US$ 553938** **Report Number : 13**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P6	TP	G13	RE	4	Completed installing work platform above flex joint. Installed two bullseyes.
935.0	P6	P	G13		3	Nippled up riser to BOP, string weight 530k off beams. Slope indicator readings: LMRP on beams (1 deg port/aft), BOP on beams (bullseye 1 deg port/fwd). Installed angle indicator.
935.0	P6	P	G13		1	Held JSA. Prepared to pick up flotation joint of riser.
935.0	P6	TP	G11	RE	1.5	Investigated main boom gear box for possible leak on port crane. Found vent tube blocked causing over pressuring of gear box. Cleaned vent tube and re-checked gear box. Ok
935.0	P6	P	G13		1.5	Ran BOP and marine riser.
935.0	P6	TP	G25	WOW	0.5	Wind 40 knots - outside of crane limits. Waited on Weather.
935.0	P6	P	G13		4	Ran BOP and marine riser. Picked up slip joint.
935.0	P6	TP	G25	WOW	4.5	Waited on Weather 16:00 hrs, Wind Speed 25 knots, Direction NNW, Swell Height 4 mtrs. 16:30 hrs, Wind Speed 51 knots, Direction NNW, Swell Height 4 mtrs. 17:00 hrs, Wind Speed 42 knots. Direction NNW, Swell Height 4 mtrs. 18:30 hrs, Wind Speed 36 knots, Direction NNW, Swell Height 4 to 5 mtrs. 19:00 hrs, Wind Speed 30 knots, Direction NNW, Swell Height 4 to 5 mtrs. 20:00 hrs, Wind Speed 27 knots, Direction NNW, Swell Height 3 mtrs.
935.0	P6	P	G13		1	Ran BOP and marine riser on slip joint.
935.0	P6	P	G13		1	Picked up landing joint and lowered BOP marine riser system to position for installation of choke and kill goosenecks.
935.0	P6	P	G13		2	Commenced installing choke and kill goosenecks.

Date : 14 Oct 2009 **Daily Cost : US$ 562976** **Report Number : 14**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P6	P	G13		2	Completed installing choke and kill goosenecks, boost lines and pressure tested choke and kill to 300psi low and 5000psi high for 5/10 mins.
935.0	P6	P	G13		5	Installed 6 x marine riser tensioner lines.
935.0	P6	P	G13		2.5	Installed pod umbilical line saddles and storm loops. Pressured up and stroked out marine riser tensioners.
935.0	P6	P	M2		0.5	Skidded rig back over wellhead.
935.0	P6	P	G13		0.5	Attempted to unlock drill string compensator. Lock bar would not unlock. Increased pressure - ok.
935.0	P6	TP	G25	WOW	2.5	Waited on weather.
935.0	P6	P	G13		2	Landed and latched BOPs. Confirmed with 50k overpull. Tested H4 wellhead connector to 2000psi. Good test.
935.0	P6	P	G13		3	Unpinned slip joint and landed in spider in difficult conditions.
935.0	P6	P	G13		1	Laid out landing joint.
935.0	P6	P	G13		3	Picked up diverter and replaced lockdown dog. Installed diverter and confirmed with 10k overpull - ok.
935.0	P6	P	G1		1	Rigged down BOP handling equipment. Changed out 500ton bails to 350ton drilling bails. Rigged up 5" handling equipment. Concurrently rigged up packer control lines, logging compensator line and index line. Connected water line to slip joint.
935.0	P6	P	G1		1	Picked up cement stand and laid out Halliburton cement head assembly.

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Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 15 Oct 2009 **Daily Cost : US$ 877619** **Report Number : 15**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
935.0	P6	P	G6		3.5	Laid down 17.5" BHA, drill bit, float sub, 2 x 17.5" stabilisers, MWD tools.
935.0	P11	P	G6		5	Made up 12.25" BHA. Directional driller checked bearing gap and orientation of motor (0.78 deg). Halliburton MWD plugged into tool and down linked data. Scribed motor and RIH with BHA to 140m.
935.0	P11	P	G6		0.5	Shallow tested MWD at 800 gpm, 1100 psi. Good test.
935.0	P11	P	G6		1.5	Made up BHA and RIH from 140m to 252m.
935.0	P11	P	G8		1.5	RIH with 12.25" BHA on 5" drill pipe from 252m to 890m.
935.0	P11	P	F1		1	Washed down from 890m to 917m. Tagged cement with 5 klbs.
938.0	P11	P	D1		3.5	Drilled cement and shoe track from 917m to 930m. Drilled rathole and 3m of new formation to 938m. Displaced well to mud and closed in system.
938.0	P11	P	F4		2	Circulated and conditioned mud until 9.1 ppg even in and out.
938.0	P11	P	F3		1.5	Displaced choke and kill lines to mud. Racked back 1 stand and made up TIW and side entry sub. Rigged up surface hose.
938.0	P11	P	E1		1	Cement unit pumped 5 bbls of mud ahead and pressure tested surface lines to 1000psi. Performed a leak off 1025psi EMW 15.15 ppg . Mud weight in use 9.1 ppg. TVD 930m. Volume pumped 2.58 bbls. Volume returned 2.0 bbls.
938.0	P11	P	G7		1.5	Rigged down cement hose. Laid out FOSV, side entry sub. Pulled diverter packer. Picked up Dril-Quip emergency drill pipe hang off tool. Made up same and racked in derrick.
938.0	P11	P	G1		1	Installed raised back system (RBS) pins.
938.0	P11	P	G1		0.5	Installed Geoservices and Halliburton MWD geolograph lines. Installed diverter packer.

Date : 16 Oct 2009 **Daily Cost : US$ 587983** **Report Number : 16**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
942.0	P11	P	D2		0.5	Drilled 12.25" hole from 938m to 942m. RPM 100, WOB -10k, flow rate 1000 gpm.
942.0	P11	TP	G2	RE	2.5	Whilst making a connection with RBS damage was sustained to pin and box connections due to incorrect alignment resulting in laying out 2 x damaged joints.
1062.0	P11	P	D2		3	Drilled 12.25" hole from 942m to 1062m. Average Parameters: ROP 40.0 m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 1860 psi, Torque 4-7 Klbs/ft.
1062.0	P11	P	F4		0.5	Circulated whilst clearing over loaded shakers.
1275.0	P11	P	D2		5.5	Drilled 12.25" hole from 1062m to 1275m. Average Parameters: ROP 38.7.0 m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2280 psi, Torque 5-10 Klbs/ft.
1352.0	P11	P	D2		3	Drilled 12.25" hole from 1275m to 1352m. Average Parameters: ROP 25.70. m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2280 psi, Torque 2-8 Klbs/ft.
1352.0	P11	TP	F4	RE	0.5	Circulated whilst trouble shooting 5" drill pipe elevators.
1423.0	P11	P	D2		2	Drilled 12.25" hole from 1352m to 1423m. Average Parameters: ROP 35.50m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2400 psi, Torque 2-10 Klbs/ft.
1432.0	P11	P	D3		1	Slide from 1423m to 1432m.
1504.0	P11	P	D2		3	Drilled 12.25" hole from 1432m to 1504m. Average Parameters: ROP 24.00m/hr, RPM 100, WOB - 4k, flow rate 1000 gpm, SPP 2430 psi, Torque 3-10 Klbs/ft.
1514.0	P11	P	D3		1	Slide drilled from 1504m to 1514m
1540.0	P11	P	D2		1.5	Drilled 12.25" hole from 1514m to 1540m. Average Parameters: ROP 17.30m/hr, RPM 100, WOB - 8-10k, flow rate 1000 gpm, SPP 2430 psi, Torque 3-10 Klbs/ft.

Date : 17 Oct 2009 **Daily Cost : US$ 584583** **Report Number : 17**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity

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Date : 17 Oct 2009 **Daily Cost : US$ 584583** **Report Number : 17**

1696.0	P11	P	D2		6	Drilled 12.25" hole from 1540m to 1696m. Average Parameters: ROP 26.00m/hr, RPM 100, WOB - 8-10k, flow rate 1000 gpm, SPP 2550 psi, Torque 3-10 Klbs/ft.
1780.0	P11	P	D2		4.5	Drilled 12.25" hole from 1696m to 1780m. Average Parameters: ROP 33.60. m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2700 psi, Torque 6-12 Klbs/ft.
1780.0	P11	P	P3		0.5	Flow checked well, 5bbl gain in active. Spaced out and checked for flow. Well static.
1790.0	P11	P	D2		1	Drilled 12.25" hole from 1780m to 1790m. Average Parameters: ROP 10.30m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2700 psi, Torque 6-12 Klbs/ft.
1920.0	P11	P	D2		6	Drilled 12.25" hole from 1790m to 1920m. Average Parameters: ROP 21.60m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2750 psi, Torque 7-14 Klbs/ft.
1937.0	P11	P	D2		1.5	Drilled 12.25" hole from 1920m to 1937m. Average Parameters: ROP 11.30m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2750 psi, Torque 7-14 Klbs/ft.
1951.0	P11	P	D3		1	Slide drilled from 1937m to 1948m. Rotated from 1948m to 1951m.
1958.0	P11	P	D3		1	Slide drilled from 1951m to 1958m.
1958.0	P11	P	P3		0.5	Flow checked well, 9 bbl gain on connection. Spaced out and checked for flow. Well static.
2004.0	P11	P	D2		2	Drilled 12.25" hole from 1958m to 2004m. Average Parameters: ROP 23.00m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2700 psi, Torque 8-140Klbs/ft.

Date : 18 Oct 2009 **Daily Cost : US$ 580035** **Report Number : 18**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2104.0	P11	P	D2		5.5	Drilled 12.25" hole from 2004m to 2104m. Average Parameters: ROP 16.60m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2750 psi, Torque 8-14Klbs/ft.
2104.0	P11	P	P3		0.5	Drilling motor stalled out. Flow checked well. 10bbls pit gain in active. Spaced out and checked for flow. Well static.
2130.0	P11	P	D2		3	Drilled 12.25" hole from 2104m to 2130m. Average Parameters: ROP 8.70m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2750 psi, Torque 8-14Klbs/ft.
2130.0	P11	TP	G11	RE	3	Saver sub backed out on top of stand #65 during connection. Laid out top single and attempted to make up new saver sub. Not possible due to problems with PH85 pipe handler. Laid out single. Made up circulating head and rigged up surface lines. Investigated problems and repaired PH85 pipe handler while circulating and rotating string.
2130.0	P11	TP	G11	RE	1	Installed new saver sub.
2166.0	P11	P	D2		5	Drilled 12.25" hole from 2130m to 2166m. Average Parameters: ROP 7.20m/hr, RPM 100, WOB - 5-20k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-9Klbs/ft.
2166.0	P11	P	P3		0.5	Flow checked well 5 bbls pit gain in active. Spaced out and checked for flow. Well static.
2244.0	P11	P	D2		5.5	Drilled 12.25" hole from 2166m to 2244m. Average Parameters: ROP 14.20m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-8Klbs/ft.

Date : 19 Oct 2009 **Daily Cost : US$ 520084** **Report Number : 19**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2246.0	P11	P	D2		0.5	Drilled 12.25" hole from 2244m to 2246m. Average Parameters: ROP 14.20m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-8Klbs/ft.
2246.0	P11	TP	G11	RE	1	Pop off went off on mud pump #2. Reset same.
2246.0	P11	TP	G11	RE	1	Replaced piston on pump #1. Continued circulating with pump #3, whilst replacing pop off on pump

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Date : 19 Oct 2009 **Daily Cost : US$ 520084** **Report Number : 19**

						#2 and piston on pump #1.
2271.0	P11	P	D2		1.5	Drilled 12.25" hole from 2246m to 2271m. Average Parameters: ROP 16.60m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2740 psi, Torque 3-8Klbs/ft.
2271.0	P11	U	P1		0.5	Observed loss of 300 psi differential pressure, whilst adding premix to mud system. Closed standpipe valve and pressure tested all 3 mud pumps. Attempted to re-establish drilling parameters, no differential pressure observed on bottom.
2271.0	P11	U	F4		1.5	Circulated hole clean.
2271.0	P11	U	G8		6	POOH from 2271m to 2161m. Observed 30k consistent overpull from 2148m to 2137m. Continued POOH back reaming tight spots from 2137m to 1669m.
2271.0	P11	U	D6		7.5	Back reamed at 50 rpm, 350 gpm from 1669m to 13 3/8" shoe at 930m.
2271.0	P11	U	P3		0.5	Flow checked - well static. Pumped 40 bbls of 10.0 ppg slug.
2271.0	P11	U	G8		2	POOH from 930m to BHA at 252m.
2271.0	P11	U	P3		0.5	Flow checked well for 15 minutes prior to pulling BHA through BOP.
2271.0	P11	U	G6		1.5	POOH with BHA from 252m to 72m.

Date : 20 Oct 2009 **Daily Cost : US$ 562563** **Report Number : 20**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2271.0	P11	U	G6		1	POOH with BHA from 72m to surface.
2271.0	P11	U	G6		0.5	Tested mud motor at 700 gpm, 500 psi. Good test.
2271.0	P11	U	G6		1	Broke out bit for inspection. IADC bit grade 1-1-BT-N-X-I-CT-PP. Checked all 12.25" stabilisers - Ok. Racked back stand. Halliburton MWD downloaded tool.
2271.0	P11	P	G11		1	Serviced TDS.
2271.0	P11	P	G5		2	Made up Halliburton SSR cement head stand and installed FOSV. Attempted to rack back in derrick on starboard side, no success. Racked back same on Port side in derrick.
2271.0	P11	P	G5		0.5	Held JSA. Prepared to make up 9.625" casing hanger assembly.
2271.0	P11	P	G5		2	Picked up and made up 9.625" casing hanger assembly. Made up Halliburton SSR plugs to assembly. Racked back assembly in derrick.
2271.0	P11	U	G6		4.5	Held JSA. RIH with 12.25" BHA. Directional driller checked bearing gap and orientation of motor 0.78 deg. Changed out Halliburton MWD pulser and plugged into tool and down linked data. Scribed motor and RIH to 167m.
2271.0	P11	U	G6		0.5	Shallow tested MWD at 800 gpm, 1000 psi. Good test.
2271.0	P11	U	G6		1	Made up BHA and RIH from 167m to 252m. Installed diverter packer.
2271.0	P11	U	G8		6.5	RIH with 12.25" BHA on 5" drill pipe from 252m to 2165m. Filled pipe every 20 stands. Installed Geoservices and Halliburton MWD geolograph lines.
2271.0	P11	U	F1		2.5	Took 20k down weight at 2165m. Washed down from 2165m with 900 gpm, 2680 psi. Tight spots at 2174m, 2181m, 2185m, 2217m and 2242m. Washed down with 10klbs constant weight. RIH from 2242m to 2271m without additional weight.
2284.0	P11	P	D2		1	Drilled 12.25" hole from 2271m to 2284m. Average Parameters: ROP 13.00m/hr, RPM 110, WOB - 10-12k, flow rate 950 gpm, SPP 2850 psi, Torque 4-12Klbs/ft.

Date : 21 Oct 2009 **Daily Cost : US$ 571896** **Report Number : 21**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2370.0	P11	P	D2		6	Drilled 12.25" hole from 2284m to 2370m. Average Parameters: ROP 14.30m/hr, RPM 110, WOB - 10-20k, flow rate 950 gpm, SPP 3050 psi, Torque 7-25Klbs/ft.
2450.0	P11	P	D2		6	Drilled 12.25" hole from 2370m to 2450m. Average Parameters: ROP 13.30m/hr, RPM 110, WOB - 6-10k, flow rate 950 gpm, SPP 3000 psi, Torque 4-12Klbs/ft.
2520.0	P11	P	D2		7	Drilled 12.25" hole from 2450m to 2520m. Average Parameters: ROP 10.00m/hr, RPM 110, WOB - 5-10k, flow rate 950 gpm, SPP 2930 psi,

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Date : 21 Oct 2009 **Daily Cost : US$ 571896** **Report Number : 21**

						Torque 4-15Klbs/ft.
2520.0	P11	P	F4		2.5	Circulated well clean and conditioned mud.
2520.0	P11	P	P3		0.5	Flushed kill and choke lines.
2520.0	P11	P	G8		1	POOH on elevators from 2520m to 2267m. Max overpull 20k at 2512m, 2412m, 2383m, 2354m and 2235m.
2520.0	P11	P	G8		1	RIH from 2267m to TD at 2520m. Max drag down 15klbs. No Fill.

Date : 22 Oct 2009 **Daily Cost : US$ 613578** **Report Number : 22**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P11	P	F4		1	Circulated bottoms up.
2520.0	P11	P	P3		0.5	Spotted 40 bbls hi-vis pill on bottom. Pumped slug. Flow checked well. Well static.
2520.0	P11	P	G8		3.5	POOH dry from 2520m to 930m at 15 stands/hr.
2520.0	P11	P	P3		1	Flow checked well at shoe. Well static. Concurrently serviced rig.
2520.0	P11	P	G8		0.5	Pulled out of hole from 930m to 355m at 20 stands/hr.
2520.0	P11	P	P3		0.5	Flow checked well prior to pulling BHA through BOP. Well static
2520.0	P11	P	G8		0.5	Pulled out of hole from 355m to 252m.
2520.0	P11	P	G6		1.5	Removed diverter packer and drill pipe wiper. Pulled out of hole with BHA to surface.
2520.0	P11	P	G6		1	Removed bit and drained motor. 12.125" motor sleeve was measured 1/16" under gauge at surface. Checked mud motor - in spec. Checked 12.25" string stablisers, both in gauge. Down loaded MWD tools all data received. 2 plugged nozzles in bit, but still in good condition. IADC bit grade 1-1-CT-A-X-I-PN-TD.
2520.0	P11	P	G12		2	Made up Dril-Quip MPT retrieval tool and RIH. Washed the wellhead with the jet sub at 800 gpm, 250 psi. Retrieved the wear bushing. POOH and laid down wear bushing and MPT. Dril-Quip obtained index measuremnet for casing hanger seat.
2520.0	P13	P	G1		3	Held JSA. Rigged up to run 9.625" casing.
2520.0	P13	TP	G1	TP	2.5	Attempted to make up shoe track. Malfunction of casing equipment. Changed out 11.75" elevator inserts to 9.625" inserts.
2520.0	P13	P	G9		6.5	Ran 9.625" casing to 830m. Filled pipe every 5 joints with mud.

Date : 23 Oct 2009 **Daily Cost : US$ 554953** **Report Number : 23**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	P	G9		12.5	Ran 9.625" casing from 830m to 2417m. Filled pipe every 5 joints with mud.
2520.0	P13	P	G1		0.5	Rigged down and laid out 9.625" 500 ton casing elevators and fill up tool
2520.0	P13	P	G9		0.5	Picked up 9.625" casing hanger assembly and made up same.
2520.0	P13	P	G1		0.5	Rigged down 9.625" casing flush mounted slips.
2520.0	P13	P	G9		0.5	RIH with 9.625" casing hanger and landing string to 2480m. Casing stood up with 20 - 35 kips.
2520.0	P13	P	G9		3.5	Engaged TDS and washed down from 2480m to 2508m. Pumped 70 bbls hi-vis pill and circulated out of hole.
2520.0	P13	TP	G9	WB	1.5	Casing stuck at 2508m. Attempted to work free - no progress. Set slips and closed compensator.
2520.0	P13	TP	G23	WB	3	String parted due to heave. Conducted derrick survey.
2520.0	P13	TP	G8	WB	1	Pulled out of hole with landing string. Laid out pup joint, 1 x single HWDP and parted single (9.185m)
2520.0	P13	P	G23		0.5	Held JSA prior to slip and cut drill line.

Date : 24 Oct 2009 **Daily Cost : US$ 555027** **Report Number : 24**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	P	G1		1.5	Slipped and cut drill line.

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Date : 24 Oct 2009 **Daily Cost : US$ 555027** **Report Number : 24**

2520.0	P13	TP	G4	WB	1	Moved used HWDP from running string to port side of derrick.
2520.0	P13	TP	G18	WB	2	Made up Dril-Quip MPT and RIH and tagged top of fish at 81.5mRT with 5k. POOH and laid out MPT.
2520.0	P13	TP	G18	WB	2.5	Made up 8 3/8" overshot, dressed with 6 5/8" spiral grapple and RIH. Attempted to engage fish. No success. POOH.
2520.0	P13	TP	G11	RE	10	Investigated and inspected TDS. Changed out lube oil motor and secured junction box. Function tested gear change and sighted inside of gearbox through rear inspection plug while rotaing shaft by hand. All ok.
2520.0	P13	TP	G18	WB	2	Made up 8 3/8" overshot dressed with 6 5/8" spiral grapple. RIH and tagged top of fish at 81.5mRT with 5k.
2520.0	P13	TP	G18	WB	1.5	Slowly lowered the fishing string to the right and gradually lowered the overshot over the top of the fish with a max down weight of 15k and 2 turns to the right. Maximum torque 6-7 kft/lbs. Made several attempts to engage fish. No success.
2520.0	P13	TP	G2	WB	0.5	Cleaned out overshot. Laid out overshot, EMDPHOT, sub and pup joint assembly.
2520.0	P13	TP	P1	RE	3	Held JSA. Pressure tested choke and kill manifold 250/5000psi. Concurrently repaired clamp/unclamp switch on iron roughneck.

Date : 25 Oct 2009 **Daily Cost : US$ 551497** **Report Number : 25**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	P1	WB	3	Continued to pressure test choke and kill manifold to 250/5000 psi.
2520.0	P13	TP	P1	WB	3.5	Pressure tested standpipe manifold, top drive and kelly cocks to 250/5000 psi.
2520.0	P13	TP	G16	WB	4	Made up bullnose jetting tool assembly. RIH from surface to above top of fish washing slowly down with jetting tool assembly at 1250 gpm, 3000 psi. Pumped down choke and kill lines and boosted riser. No significant cuttings observed over shakers. POOH to surface.
2520.0	P13	P	G11		1	Serviced rig equipment.
2520.0	P13	TP	G18	WB	1	RIH with 8 3/8" overshot assembly, dressed with 6 5/8" spiral grapple. Whilst attempting to engage fish, damaged TDS alignment cylinder.
2520.0	P13	TP	G11	RE	1.5	Inspected TDS. Changed out alignment cylinder clevis.
2520.0	P13	TP	G18	WB	0.5	POOH with 8 3/8" overshot assembly and laid out same. Inspected overshot at surface and confirmed that overshot had gone over fish as wear was obvious on inside top of bowl.
2520.0	P13	TP	G18	WB	5.5	RIH with 11 1/4" overshot assembly, dressed with 7 7/8" spiral grapple. Slowly rotated to the right 2 x turns with 15k down weight, 20,000 ft/lbs torque. Picked up and observed 80k overpull. Attempted to release 9 5/8" running tool with 20,000 ft/lbs torque. Unable to release. No success. Picked up and observed only string weight. POOH to surface.
2520.0	P13	P	G6		4	Laid down 12.25" BHA from derrick, mud motor, MWD tools, 2 x 12.25" stabilisers, 3 x 8.25" drill collars.

Date : 26 Oct 2009 **Daily Cost : US$ 618918** **Report Number : 26**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	P	G6		3.5	Laid down 12.25" BHA from derrick, 5 x 8.25" drill collars, 8" drilling jars.
2520.0	P13	P	G6		2	Laid down landing string that was used for 9.625" casing.
2520.0	P13	TP	G11	WB	0.5	Serviced break and checked TDS mud gooseneck top plug in readiness for Schlumberger wireline operations.
2520.0	P13	TP	G11	RE	5.5	Worked on TDS alignment. Removed top drive alignment cylinder. Installed spare alignment cylinder and adjusted as per set-up procedures. Investigated fault finding on the alignment hydraulic system - unsuccessful. Removed alignment cylinder and installed bracket.
2520.0	P13	TP	G18	WB	3	Made up 11 1/4" overshot assembly dressed with 7 7/8" basket grapple and RIH to above fish at 81.5m. Attempted to confirm injection test. Pumped 1.2 bbls to 3500psi. No success. Bled of pressure and POOH to surface.
2520.0	P13	TP	G18	WB	1.5	Re-dressed 11 1/4" overshot assembly with a new 7 7/8" basket grapple and RIH to 51mRT. Torqued each connection to 28,000 ft/lbs.
2520.0	P13	TP	G11	RE	3	Worked on PH85 pipe handler. Investigated problem with pipe handler counter balance. Set up and adjusted as per Varco torque wrench procedure - unsuccessful. Pipe handler still not operational.

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Date : 26 Oct 2009 **Daily Cost : US$ 618918** **Report Number : 26**

2520.0	P13	TP	G18	WB	1	Held JSA. RIH with 11 1/4" overshot assembly from 51mRT to top of fish at 81.5mRT. Torqued each connection to 28,000 ft/lbs. Engaged fish and confirmed with 5klbs overpull. Applied 10,000 ft.lbs of left hand torque. Worked string between 5-10klbs overpull. Increased left hand torque in 2000 ft/lbs increments until torque reached 20,000 ft/lbs. Torque dropped off continued to rotate 4 1/2 turns to the left and weight dropped off.
2520.0	P13	TP	G18	WB	1	POOH with fishing assembly. Pipe backed off below pup joint. Top of fish #2 at 52.3mRT.
2520.0	P13	TP	G18	WB	1.5	Ran in hole with 8 3/8" overshot assembly, dressed with 6 5/8" spiral grapple to above top of fish #2 at 52.3mRT. Made several attempts to engage fish without success.
2520.0	P13	TP	G18	WB	0.5	POOH with 8 3/8" overshot assembly to surface.
2520.0	P13	TP	G18	WB	1	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.

Date : 27 Oct 2009 **Daily Cost : US$ 567343** **Report Number : 27**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	1.5	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.
2520.0	P13	TP	G18	WB	3	RIH with 8 3/8" overshot assembly, dressed with modified 11 3/4" x 15" lip guide to top of fish #2 at 52.3mRT. Successfully engaged fish. POOH to surface and released fish. Laid out 8 3/8" overshot assembly.
2520.0	P13	TP	G18	WB	1.5	POOH with the 11 1/4" overshot assembly. Laid down the Dril-Quip EDPHT. Serviced break and laid down 11 1/4" overshot assembly.
2520.0	P13	TP	G11	WB	2.5	Made up 11 1/4" overshot assembly dressed with 7 7/8" basket grapple. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. RIH to above fish at 61m.
2520.0	P13	TP	G18	RE	1	Investigated and continued to trouble shoot problems with TDS hydraulic system. No success.
2520.0	P13	TP	G18	WB	3	RIH with 11 1/4" overshot assembly from 61m to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish and attempted to mechanically back off casing with 50klbs overpull and 24,000 ft/lbs left hand torque. Bowen overshot prematurely released from fish. Made several attempts without success. POOH to inspect overshot and grapple. Checked basket grapple, slight wear 3 inches of wickers were worn flat.
2520.0	P13	TP	G18	WB	4	Made up reverse circulating junk basket assembly. RIH to top of fish at 81.5m. Closed lower annular 3 times, monitored flow meter, opened annular pumped 5 bbls hi-vis and circulated up riser and observed shakers. No excess cuttings observed. Performed injection test, pumped 3.2 bbls, 950 psi. Pressure dropped to 750 psi. Pumped 1.3 bbls at 950 psi. Bled off slowly to 900 psi. Pressure steady at 900 psi. Washed top of fish. Bleed of pressure and opened annular. POOH to surface.
2520.0	P13	TP	G18	WB	2.5	Modified basket grapple. Welded numerous beads on the outside of a new 7 7/8" basket grapple to reduce the size of the catch. Re-dressed 11 1/4" overshot assembly.
2520.0	P13	TP	G18	WB	2	RIH with 11 1/4" overshot assembly to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish with 20k to 25k overpull. Applied left hand torque, string jumped and overshot slipped free. Made several more attempts, without success. POOH to surface. Checked basket grapple, the first 2 to 3 inches of wickers were worn flat.
2520.0	P13	TP	G2	WB	3	Held JSA. Picked up and racked back 9 x 6.75" drill collars in derrick.

Date : 28 Oct 2009 **Daily Cost : US$ 576391** **Report Number : 28**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	P	G2		1	Laid down Halliburton SSR cement head.
2520.0	P13	TP	G2	WB	2	Picked up and made up 2 x 6.75" drill collars and 1 x 6.75" drilling jars and racked back in derrick.
2520.0	P13	TP	G2	WB	3.5	Installed diverter and wiper rubber. Picked up 9 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift. Moved 2 x stands of 5" HWDP from port to starboard side of derrick.
2520.0	P13	TP	G2	WB	1	Picked up 9 joints of 5" drill pipe and racked back in derrick. Drifted all tubulars with 3" drift.
2520.0	P13	TP	G11	RE	3	Investigated problems with TDS hydraulic system.
2520.0	P13	TP	G18	WB	4.5	RIH with 11 1/4" overshot assembly to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish with 50klb

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						overpull. Applied 20,000 ft/lbs left hand torque, torque slipped. Attempted to engage grapple numerous times. No success. POOH to surface. Checked basket grapple, the first 2 to 3 inches of wickers were worn flat.
2520.0	P13	TP	G18	WB	4.5	Made up 11-3/4" overshot, dressed with 7-3/4" basket grapple, bumper sub, jars, 4 x 8" drill collars, accelerator, crossover. Changed out damaged 8" drill collar. Torqued each 6 5/8" connection to 56,000 ft/lbs
2520.0	P13	TP	G18	WB	4.5	RIH with 11-3/4" overshot assembly to above fish at 81.5m. Engaged fish, confirmed with 10k overpull. Began jarring lightly on fish. Slacked off to 160klb and picked up to 230klb - jars firing. Made several attempts, unsuccessful. Set torque limit to 30,000 ft/lbs. Applied 27,000 ft.lbs of left hand torque (23 turns). String jumped. POOH to surface. Observed top sub connection on Jars had backed off, leaving the 11 3-4" overshot, bumper sub and jars in the hole. Top of fish #2 at 74.7mRT

Date : 29 Oct 2009 **Daily Cost : US$ 557193** **Report Number : 29**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	2.5	RIH with 11-1/4" overshot (BHA #13), dressed with 8" basket grapple to top of fish at 74.7mRT (fish #2). Made several attempts to engage fish, without success. POOH to surface to change basket grapple. All connections were torqued to 32,000 ft/lbs on previous run.
2520.0	P13	TP	G18	WB	1.5	RIH with 11-1/4" overshot (BHA #13), dressed with 7-7/8" basket grapple to top of fish at 74.7mRT (fish #2.) Made several attempts to engage, without success. POOH to surface. Maximum left hand torque applied 6000 ft/lbs to attempt to engage fish. At surface observed the 11-1/4" overshot and crossover missing.
2520.0	P13	TP	G18	WB	2.5	Ran back in hole and attempted to screw back into the top of the 11-1/4" overshot at 73.3mRT (fish #3). No success. POOH to surface
2520.0	P13	TP	G18	WB	1.5	Modified 8 3/8" overshot, and dressed with 6 3/4" spiral grapple.
2520.0	P13	TP	G18	WB	4	RIH with 8 3/8" overshot (BHA #14) dressed with a 6 3/4" spiral grapple to top of fish #3 at 73.3mRT. Made several attempts to engage fish #3 without success. POOH to surface.
2520.0	P13	TP	G11	RE	1	Changed out burst hose on compensator lock bar.
2520.0	P13	TP	G18	WB	2.5	Re-dressed overshot. Cleaned and painted same. RIH with 8 3/8" overshot (BHA #14) dressed with a 6 3/4" spiral grapple, to top of fish #3 at 73.3mRT. Made several more attempts to engage fish #3, without success. POOH to surface.
2520.0	P13	TP	G11	WO	2	Waited on helicopter to arrive with fishing tools and NOV engineer to troubleshoot malfunction of PH85 pipe handler on TDS.
2520.0	P13	TP	G18	WB	2.5	Made up BHA #15, 11-3/4" overshot, dressed with a 6 3/4" basket grapple
2520.0	P13	TP	G18	WB	2	RIH with BHA #15 to top of fish #3 at 73.3m. Attempted to engage fish. POOH to surface. No success
2520.0	P13	TP	G18	WB	0.5	Changed out mill control from 6-3/4" to 8". Beveled mill control.
2520.0	P13	TP	G18	WB	1	RIH with BHA #15, 11 3/4" overshot, dressed with 6-3/4" basket grapple. Attempted to engage fish. POOH to surface. No success.
2520.0	P13	TP	G18	WB	0.5	Commenced changing out basket grapple.

Date : 30 Oct 2009 **Daily Cost : US$ 559803** **Report Number : 30**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	1.5	Dressed the 11-1/4" overshot with a 8-1/4" basket grapple.
2520.0	P13	TP	G18	WB	1	RIH with 11-1/4" overshot assembly dressed with 8-1/4" basket grapple (RR BHA #15). Pick up weight 160 klbs, slack off weight 170klbs. Rotated at 40 rpm and engaged fish with 5klbs, confirmed with 20klbs overpull, slacked off 5klbs, at 30 rpm string jumped, lost all weight, slacked back off with 10klbs, picked back up with 50klbs overpull. String jumped. Attempted to release the overshot, but the top one released first.
2520.0	P13	TP	G18	WB	1.5	POOH to surface. No fish. Inspected 11-1/4" overshot assembly. The markings on the overshot showed that the guide was bottoming out on the larger OD of the fish, before it could engage the grapple enough to get a firm grip. The bottom two or three wickers of the grapple, had blue as well as green paint (the colors of the cross over and the overshot).
2520.0	P13	TP	G18	WB	5	Laid down excess fishing tools (11-3/4" overshot assembly, reverse circulating assembly). Made up 11-1/4" overshot assembly.

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Date : 30 Oct 2009 **Daily Cost : US$ 559803** **Report Number : 30**

2520.0	P13	TP	G18	WB	1.5	Prepare and RIH with 8 3/8" overshot with 6 3/4" grapple and modified overshot on 5" DP. Set down 10klbs with rotation, no torque or overpull, POOH same.
2520.0	P13	TP	G18	WB	3.5	Prepare and RIH 11 1/4" overshot with 8 1/4" grapple on 5" DP. Set down 10klbs with rotation, pick up and set down with 15klbs with rotation with right hand torque (7000ft/lbs), left hand torque (7000ft/lbs). POOH same.
2520.0	P13	TP	G18	WB	4.5	Trouble shoot problems with top drive & elmago brake while 8 3/8" overshot at welders for modifcation. Make top drive secure prepare 8 3/8" overshot with modified pup joint.
2520.0	P13	TP	G18	WB	2	Makeup modified pup joint & lip guide & RIH to top of fish at 73.7m. BHA #16F. Pump at 10spm and tag top of fish. Rotate & attempt to screw modified overshot & pupjoint into fish with no success. POOH same. Score marks inside overshot where top of fish had been rubbing indicated fish entered skirt but pin on pup joint failed to enter tool joint box of the fish.
2520.0	P13	TP	G18	WB	3.5	RIH with open ended single of DP to tag top of fish. Attempt to stab DP into 4 1/2" IF box of fish. Trimmed rig forward and aft, port & stbd and reciprocated string.

Date : 31 Oct 2009 **Daily Cost : US$ 559803** **Report Number : 31**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	1	POOH with open ended string. No visible marks on DP single.
2520.0	P13	TP	G11	WB	10	Trouble shot topdrive and iron roughneck hydraulic unit.
2520.0	P13	TP	G18	WB	1.5	Dressed and RIH with 11 1/4" overshot with 8 3/4" grapple on 5" drill pipe. Tagged fish at 75m. 170klbs up wt, 165klbs down wt, overpull of 40lbsk. POOH with same, No Success.
2520.0	P13	TP	G18	WB	2.5	Dressed 11 3/4" overshot with 7 1/8" grapple and 8 3/8" mill guide. RIH with same on 5" DP to top of fish at 75m. Unsuccessful attempt POOH.
2520.0	P13	TP	G18	WB	2	Dressed same 11 3/4" overshot but with 7 " grapple and 8 3/8" mill guide. RIH with same on 5" DP to top of fish at 75m. Applied right hand rotation with no indications. POOH fish #3. Fish on surface at 16.40hrs. Laid out same.
2520.0	P13	TP	G18	WB	1	Dressed fishing tool BHA #18 for fish #2 with 11 3/4" overshot with 7 3/4" basket grapple and mill control while rig crew rearranged derrick to allow access to 6 3/4" DCs.
2520.0	P13	TP	G18	WB	2	RIH with fishing tool BHA #18 for fish #2 with 11 3/4" overshot with 7 3/4" basket grapple and mill control. Tagged top of fish using rotation with 10klbs down. Overpull of 30klbs when string released. POOH. No luck. Marks on the side of the guide indicated that tool had gone down beside the fish & not over it.
2520.0	P13	TP	G18	WB	4	Rerun BHA #18 with a 15" guide and same 7 3/4" grapple. Tag top of fish with rotation & 20klbs down. 40klbs overpull on fish & allowed time for jars to bleed down. Held 35klbs on fish while confirm with town operation. Held JSA on rig floor for shearing of pipe.

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Activity Report For Trefoil-2

Date : 01 Nov 2009 **Daily Cost : US$ 550470** **Report Number : 32**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G18	WB	5	Closed shear rams against 9 5/8" casing from koomey room. Observed flow meter count of 56 bbls - correct volume. No loss of block weight observed. Pressure tested seal of shear rams to 500 psi through C&K lines and held for 30 min - good test. Began overpull and jarring to free stuck casing hanger. At 03.45hrs string came free with between 40 - 70klbs overpull. POOH with fish complete to surface.
2520.0	P13	TP	G18	WB	2	Broke out and & laid down fishing BHA and fish.
2520.0	P13	TP	G18	WB	2.5	Performed post jarring inspection while fishing tools were being dismantled on deck. Serviced top drive and inspected same.
2520.0	P13	TP	P1	WB	1	Service break connections & laid out fishing tools. Simops - tested 9 5/8" annulus against shear rams 500 psi/10 min - ok.
2520.0	P13	TP	G23	WO	1	Time out for safety due to Derrickman hurting his back on rigfloor. IP had to be strechered from rig floor. Flash Report #44.
2520.0	P13	TP	G18	WB	1	Continued to service break connections and lay out fishing tools.
2520.0	P13	TP	G18	WB	3	Laid out 5 stands of DP from derrick that had been dry torqued for fishing job.
2520.0	P13	TP	G19	WB	0.5	Opened shear rams and pumped 5 bbls of HiVis mud & circulated bottoms up @ 160 strokes = 650 psi, while preparing 17 1/2" mill BHA.
2520.0	P13	TP	G19	WB	1	Make up 17 1/2" mill assembly and BHA run #19F
2520.0	P13	TP	G19	WB	1	RIH with 17 1/2" mill assembly and BHA run #19F. Tagged out at the 13 3/8" x 20" casing swedge at 98.97m. Indicated top of fish is inside the 13 3/8" casing.
2520.0	P13	TP	G19	WB	1.5	POOH and laid out 17 1/2" mill.
2520.0	P13	TP	G19	WB	1	Made up 12 1/4" mill plus 2 x junk subs on BHA.
2520.0	P13	TP	G19	WB	1	RIH with 12 1/4" mill on BHA Run#19F. Tagged top of 9 5/8" casing at 102m.
2520.0	P13	TP	G19	WB	1.5	Began milling top of sheared casing from 102m - 103m at 70 spm, 350gpm/50psi. 5k WOB.
2520.0	P13	TP	G19	WB	0.5	Pumped 10 bbls hivis and circulated shakers clean. 425 grams returned from magnets down stream from shakers.
2520.0	P13	TP	G19	WB	0.5	POOH with 12 1/4" milling tool from 103m.

Date : 02 Nov 2009 **Daily Cost : US$ 559804** **Report Number : 33**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G19	WB	0.5	Continued to POOH with 12 1/4" milling BHA from 103m to surface.
2520.0	P13	TP	G19	WB	0.5	Broke out & laid out 12 1/4" mill and junk baskets.
2520.0	P13	TP	G19	WB	1	Made up 8 1/2" tapered casing mill.
2520.0	P13	TP	G19	WB	0.5	RIH with tapered mill to 103m
2520.0	P13	TP	G19	WB	0.5	Milled inside casing from 103m - 106m at 50rpm, 70spm.
2520.0	P13	TP	G19	WB	0.5	POOH with tapered mill from 106m to surface.
2520.0	P13	TP	G19	WB	0.5	Laid down tapered mill and components.
2520.0	P13	TP	G16	WB	0.5	Picked up and made up wellhead mill and flush tool.
2520.0	P13	TP	G16	WB	0.5	RIH to 92.5m - well head depth.
2520.0	P13	TP	G16	WB	0.5	Washed and jetted wellhead and BOPs with 200spm, 220psi.
2520.0	P13	TP	G16	WB	1	POOH to surface with mill and jetting tool.
2520.0	P13	TP	G16	WB	0.5	Cleaned and cleared rig floor.
2520.0	P13	TP	G12	WB	2	M/Up 9 5/8" hanger assy on HWDP & racked back in mast.
2520.0	P13	TP	G1	WB	1.5	M/Up cement head & racked back same.
2520.0	P13	TP	G1	WB	1	P/Up & M/Up spear assy.
2520.0	P13	TP	G18	WB	1.5	RIH with spear assy on BHA #21 to top of casing fish.
2520.0	P13	TP	G18	WB	1	Pumped @ 60spm/ 300gpm/ 40psi. Inserted spear into fish and picked-up - no overpull observed.

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						Slacked off string and applied 1 LH turn - confirmed latch with overpull of 350klbs. Circulate 60spm/300gpm. Took overpull to 400klbs and increased circulation to 100spm/500gpm/ 250psi.
2520.0	P13	TP	G11	WB	0.5	Pressured up compensator bottle to required pressure while reinstalling index line.
2520.0	P13	TP	G18	WB	1	Pulled 580klbs and applied 10klbs torque & held same. Circulated at 180spm/900gpm/530psi. Stopped pumps, released torque, slacked off all weight to release spear.
2520.0	P13	TP	G18	WB	0.5	POOH with spear assembly to surface.
2520.0	P13	TP	G18	WB	0.5	Broke out and laid out spear and accelerator.
2520.0	P13	TP	G1	WB	1.5	Cleaned and cleared rig floor and pipe deck of fishing tools while preparing BHA for casing cutting run.
2520.0	P13	TP	G1	WB	1.5	P/Up & M/Up casing cutting BHA # 22F.
2520.0	P13	TP	G8	WB	2	RIH with casing cutting BHA to top of fish. BHA hung up while entering top of fish. Made up top drive and rotated slowly while lowering string into 9 5/8" casing fish. Continued to RIH.
2520.0	P13	TP	G17	WB	1	Landed out swivel on top of fish at 103m. Began cutting casing at 157m with 30spm/150gpm/380psi/60rpm/6-8000ft/lbs torque.
2520.0	P13	TP	G8	WB	1	POOH to the swivel at 61m. Lost weight near surface. No Fish.
2520.0	P13	TP	G2	WB	0.5	Broke out spearand casing cutting BHA & laid out out.

Date : 03 Nov 2009 **Daily Cost : US$ 562284** **Report Number : 34**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G1	WB	1	Continued to break out spear and casing cutting BHA and laid out same.
2520.0	P13	TP	G18	WB	1	Picked up & made up back up casing grapple, bumper sub & jars.
2520.0	P13	TP	G18	WB	1	RIH to top of fish at 103m. Latched into fish with 10klbs down weight. Confirmed fish caught with 7klbs overpull.
2520.0	P13	TP	G18	WB	0.5	POOH with fish to surface.
2520.0	P13	TP	G1	WB	1	Held toolbox talk on rigging up casing. Rigged up casing 500ton elevators, tongs and equipment.
2520.0	P13	TP	G2	WB	2	Held toolbox talk on laying out casing. Laid out 9 5/8" casing fish.
2520.0	P13	TP	G2	WB	0.5	Rigged down & laid out 9 5/8" casing equipment.
2520.0	P13	TP	G2	WB	2	Made up wear bushing, RIH & landed out. Confirmed index mark. POOH & retrieved running tool.
2520.0	P13	TP	G19	WB	2.5	Dressed 12 1/4" milling assy & RIH under controlled conditions due to weather. Tagged top of casing @ 157m.
2520.0	P13	TP	G19	WB	1.5	Took parameters and started milling 9 5/8" casing at 100rpm/100spm/500gpm/ 250psi. Pumped HiVis pill and circulated 2 x bottoms up.
2520.0	P13	TP	G19	WB	2	POOH with 12 1/4" milling assy and laid out same.
2520.0	P13	TP	G12	WB	2.5	RIH with wearbushing retrieval tool. Applied overpull of 60klbs to confirm latch. POOH same and attempt to remove wearbushing from running tool with no success. Laid out R/T & wearbushing as one.
2520.0	P13	TP	G2	WB	2	Picked up 9 5/8" casing hanger from the derrick. Backed out 9 5/8" pup joint from below hanger then racked back in derrick.
2520.0	P13	TP	G2	WB	3.5	Held pre job safety meeting on running casing patch on 9 5/8" casing. Made up casing patch to first joint of casing & RIH with 9 5/8" casing to 66m.
2520.0	P13	TP	G2	WB	1	Pick up casing hanger and running tool from mast & make up to 9 5/8" casing patch string.

Date : 04 Nov 2009 **Daily Cost : US$ 561915** **Report Number : 35**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G9	WB	2	RIH 9 5/8" casing patch on landing string and landed out in well head. No indication of patch latching into casing string. Worked string and rotated string to the left in an attempt to engage casing patch grapple. Discussed with Smith Services representive and ADA Drilling Supervisor in town the way ahead. Checked all calculations and discussed possible scenarios. Decision made to continue as planned.
2520.0	P13	TP	G9	WB	2.5	Released casing running tool and POOH. Racked back running tool in the mast.

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DFE above MSL : 26.0m | Lat : 39 Deg 53 Min 07.9334 Sec | Spud Date : 06 Oct 2009 | Release Date : 29 Nov 2009

Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 04 Nov 2009 **Daily Cost : US$ 561915** **Report Number : 35**

2520.0	P13	TP	G2	WB	2	Picked up and made up spear assy and RIH.
2520.0	P13	TP	G9	WB	2	Tagged at 158m. Engaged grapple at 160m. Performed overpull to 280klbs to pull casing into casing patch. Slacked off 180klbs and picked up 172klbs. Released spear and picked up to 150m (above patch). Picked up to verify casing patch engaged - not engaged. Repeated same procedures as above in an attempt to engage casing patch.
2520.0	P13	TP	P4	RE	0.5	Stopped operation to build up air in compensator bottles.
2520.0	P13	TP	G9	WB	3	Held string in tension @ 450klbs and pressured up to 50psi to confirm casing stump inside casing patch. Continued to work casing string to get casing patch to engage to energize the seals. Confirmed casing patch seals energized by pick up to 115m. Engaged spear with overpull of 40klbs.
2520.0	P13	TP	G8	WB	3	POOH casing spear. Had problems with top drive and elevators.
2520.0	P13	P	G2		1	Broke down casing hanger and laid down same.
2520.0	P13	TP	G12	WB	3	Made up hanger seal assy and RIH to top of well head @ 92.5m.
2520.0	P13	P	P1		0.5	Set seal assy and pressure tested to 3000/5000psi for 5/10 mins - good test.
2520.0	P13	TP	P1	WB	4.5	Tested BOPs and C&K manifold (250psi Low / 5000psi high).

Date : 05 Nov 2009 **Daily Cost : US$ 981063** **Report Number : 36**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	P1	WB	1.5	Continued to test BOPs and C&K manifold (250psi low/ 5000psi high).
2520.0	P13	TP	G8	WB	1.5	Released running tool with 60klbs overpull and POOH.
2520.0	P13	TP	G2	WB	3	Broke out and laid down casing spear, cement head and one stand of DC from mast.
2520.0	P13	TP	G11	RE	18	Troubleshot top drive hydraulic system, pipe handler and alignment problems. Repaired oil leak on manipulator arm. Replaced lindal brake on elmago and tested same - OK. Installed new Martin Decker weight indicator gauge and pumped up deadman sensor. Tested SPP gauges and calibrated same. Replaced lube oil cooler fan and motor assy. TDS pipehandler clamp piston bolts renewed. Shim plates removed from stbd lower dolly roller carriage. Shim plates added to port lower dolly roller carriage.

Date : 06 Nov 2009 **Daily Cost : US$ 607696** **Report Number : 37**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2520.0	P13	TP	G11	RE	11	Continued to troubleshoot top drive hydraulic system, pipe handler and alignment problems. Prepared 8 1/2" drillout BHA. Changed out saver sub. Tested TDS and pipe handler. Perform alignment test and checked hook position indicator on compenstor. ADA Drilling Supervisor witnessed and excepted repairs and improvements.
2520.0	P17	TP	G12	WB	3	Picked up wear bushing running tool and made up wear bushing. RIH and landed out in wellhead @ 92.5m. 25klbs down weight applied and overpulled 30klbs - bushing set. POOH running tool.
2520.0	P17	TP	G21	WB	0.5	Picked up jammed wear bushing running tool with bushing attached from deck and attempted to free from running tool - no success. Laid out same.
2520.0	P17	TP	G5	WB	1	Made up emergency hang off tool and racked in mast.
2520.0	P17	TP	G6	WB	3.5	Made up 8 1/2" drillout BHA and RIH to 255m while checking serial numbers on all components.
2520.0	P17	TP	G2	WB	1	Made up RTTS packer to string and RIH packer to 190m packer depth (445m bit depth).
2520.0	P17	TP	F4	WB	0.5	Broke circulation and held prejob toolbox talk.
2520.0	P17	TP	P1	WB	1	Set RTTS Packer. Lined up cement pump to pump down choke line. Broke circulation with 5bbls. Pressure tested lines to 4000psi/5 min. Closed lower annular and performed pressure test on casing patch to 4000psi in 500psi increments, held for 10 min - good test. Total amount of bbls pumped = 1.75bbls. Volume returned 1.5bbls.
2520.0	P17	TP	G8	WB	1.5	Unseat packer & POOH to 255m. Laid out RTTS packer.
2520.0	P17	TP	G8	WB	1	Picked up drill pipe from deck and RIH from 255m to 402m.

Date : 07 Nov 2009 **Daily Cost : US$ 594231** **Report Number : 38**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity

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Date : 07 Nov 2009 **Daily Cost : US$ 594231** **Report Number : 38**

2520.0	P17	TP	G8	WB	3	Continued to pick up drill pipe from deck and RIH from 402m to 900m. Filled pipe. 75 joints total picked up.
2520.0	P17	TP	G8	WB	5	Continued to RIH with stands from 900m to 2402m. Filled pipe every 20 stands.
2520.0	P17	TP	F1	WB	1.5	Washed and reamed from 2402m to 2494m. Tagged float collar.
2520.0	P17	TP	G23	WB	1	Took SCRs and CLF. Performed well control exercise with drill crew.
2523.0	P17	P	D8		1.5	Drilled out shoe track with 5-10klbs WOB (70rpm, 140spm=700gpm @ 1550psi). Shoe depth 2520m. Drilled 3m of new formation from 2520m to 2523m.
2523.0	P17	P	F4		1	Pumped 25bbls Hi Vis pill and circulated hole clean with 140spm=700gpm @ 1550psi. Installed Geoservices bracket.
2523.0	P17	P	E1		2.5	Pulled back inside casing shoe to rig up and perform FIT to 710psi = 11.0 ppg EMW.
2523.0	P17	TP	G8	WB	4.5	Pumped slug and POOH from 2520m to 257m.
2523.0	P17	TP	G14	WB	1.5	Performed flow check prior to pulling BHA through the BOPs. POOH and racked back BHA from 257m - 54m.
2523.0	P17	TP	G23	WB	1	Time out for safety. Roughnecks heard something land on the rig floor which had dropped from out of the derrick. Inspection found that the pin of a shackle used by the derrickman on a sheave on his pull back tugger at the monkey board level had fallen out. Performed mast inspection and checked all other similar shackles and sheaves in the mast prior to continuing operations. Flash Report #047
2523.0	P17	TP	G8	WB	0.5	Continued to POOH BHA from 54m to surface. Dull bit (#4) grade 1-1-WT-A-E-I-NO-BHA.
2523.0	P17	P	G6		1	Picked up and made up 8 1/2" PDC bit and BHA.

Date : 08 Nov 2009 **Daily Cost : US$ 567646** **Report Number : 39**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2523.0	P17	P	G6		1	Picked up and RIH 8 1/2" BHA to 31m.
2523.0	P17	P	G7		1.5	Downloaded MWD tools and installed radio active source.
2523.0	P17	P	G6		1	Continued to pick up BHA and RIH from 31m to 180m.
2523.0	P17	P	G7		1	Performed shallow water test of MWD tools (127spm/635gpm/1150psi).
2523.0	P17	P	G6		0.5	Continued to RIH BHA from 180m to 287m.
2523.0	P17	P	G8		4.5	RIH 8 1/2" BHA on 5" DP from 287m to 2457m. Filled every 15 stands.
2523.0	P17	U	G23		1	Circulated and monitored well while rig has safety stand down.
2523.0	P17	P	G11		0.5	Serviced TDS and inspected dolly rollers.
2523.0	P17	P	F1		3	Reamed down from 2457m to 2523m. Reamed through float and shoe collar area 2 or 3 times due to new stiffer BHA.
2540.0	P17	P	D2		0.5	Drilled new 8 1/2" hole from 2523m to 2540m (141spm/721gpm/2450psi/110rpm/3-10 torque/10klbs WOB, MW=9.3ppg).
2540.0	P17	TP	G8	TP	1	POOH to shoe for Geoservice to troubleshoot their systems.
2629.0	P17	P	D2		8.5	Continued to drill ahead from 2540m - 2629m. Encountered high vibration and stick slip on down hole MWD tools at 2670m. Adjusted parameters to suit (141spm/700gpm/2470psi/110rpm/3-10 torque/10-15klbs WOB, MW=9.3ppg). Drilled from 2610m to 2629m with no depth reference for MWD as MWD geolograph cable parted in mast. Drill crew installed new cable to spool during this period.

Date : 09 Nov 2009 **Daily Cost : US$ 611990** **Report Number : 40**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2629.0	P17	TP	G15	TP	1	Re-logged from 2610m to 2629m due to the MWD and Geoservices geolograph cables in the mast getting tangled and parting during the making of the previous connection.
2629.0	P17	TP	G15	TP	1	Made up connection at 2629m. MWD tools failed to return any signal. Attempted to recycle pumps and performed mode switch to reset tools.
2633.0	P17	P	D2		0.5	Drilled from 2629m to 2633m while continuing to troubleshoot MWD problems. All attempts failed.
2633.0	P17	TP	F4	TP	1	Circulated bottoms up to clean well and allowed Geoservices to gather samples.
2633.0	P17	TP	D7	TP	1	Pumped out of hole to shoe from 2633m to 2520m.

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Water Depth : 69.0m | Long : 145 Deg 22 Min 14.6152 Sec | Spud Time : 08:00 | Release Time : 01:00

Date : 09 Nov 2009 **Daily Cost : US$ 611990** **Report Number : 40**

2633.0	P17	TP	G14	TP	0.5	Performed flow check and pumped slug.
2633.0	P17	TP	G8	TP	4.5	Continued to POOH from 2520m to 403m.
2633.0	P17	TP	G8	TP	3	Flowchecked and POOH BHA to surface. Downloaded radio active source and racked back in mast.
2633.0	P17	TP	G11	RE	5	Performed drill floor maintenance. Performed mast inspection. Fixed oil leak on top drive. Checked dolly rollers. Cleaned discharge strainers on the mud pumps. Repaired drillers Totco readout panel. Installed bracket for Geoservices and MWD line.
2633.0	P17	TP	G7	TP	2.5	Laid out MWD tools from the mast. Dull bit grade = 0-1-WT-G-X-I-No-DTF.
2633.0	P17	TP	G7	TP	2	Picked up and made up MWD tools form the deck and RIH to 31m (Bit #5RR).
2633.0	P17	TP	G7	TP	1	Downloaded and tested MWD Tools. Installed radioactive sources.
2633.0	P17	TP	G8	TP	1	Continued to make up and RIH 8 1/2" BHA # 26 from 31m to 89m.

Date : 10 Nov 2009 **Daily Cost : US$ 562791** **Report Number : 41**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2633.0	P17	TP	G8	TP	1	Continued to pick up BHA and RIH to 175m.
2633.0	P17	TP	G15	TP	0.5	Performed shallow test on MWD tools at 600gpm/1020psi - ok.
2633.0	P17	TP	G8	TP	0.5	Continued to make up and RIH BHA from 175m to 288m.
2633.0	P17	TP	G8	TP	4.5	RIH 8 1/2" BHA #26 on 5" DP. Monitored well on trip tank. Stopped and filled every 25 stands from 288m to 2520m.
2633.0	P17	P	G11		3	Slipped and cut drilling line, 1/2 hour for crew handover, 1/2 hour PMS Top Drive.
2633.0	P17	TP	F1	TP	1	Attached Geoservices and Sperry geolograph line. RIH from 2520m to 2577m. Made up the top drive and light reamed to 2,633m. Recorded parameters: hook load 380kips/700gpm/2400psi/125rpm/10k torque/mud weight 9.4ppg.
2644.0	P17	P	D2		0.5	Drilled 8-1/2" hole from 2633m to 2644m with 700gpm/2500psi/10klbs WOB/ 140rpm/10k torque/mud weight 9.4ppg
2644.0	P17	TP	G14	RE	1	Monitored 40bbls losses. Flow checked on trip tank - ok. Checked mud tanks and shale shaker areas and found that there was a blockage from sand traps to mud pit. Cleared blockage and circulated at 700gpm. No mud lost downhole or to the sea.
2774.0	P17	P	D2		12	Continued to drill ahead 8 1/2" hole from 2644m to 2774m with 700gpm/2500psi/10klbs WOB/140rpm/10k torque/mud weight 9.4ppg. Took surveys on each connection.

Date : 11 Nov 2009 **Daily Cost : US$ 581501** **Report Number : 42**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2950.0	P17	P	D2		12.5	Continued to drill ahead 8 1/2" hole from 2774m to 2950m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Took surveys on each connection. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
2950.0	P17	P	F4		1.5	Racked back stand #93 to enable Driller to work full stand of pipe and circulate hole clean @ 700gpm/2700psi.
2968.0	P17	P	D2		3.5	Continued to drill ahead 8 1/2" hole from 2950m to 2968m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
2968.0	P17	P	F4		1.5	Circulated for geological sample @ 700gpm/2700psi. Took SCRs @ 30/40/50 spm.
2983.0	P17	P	D2		1	Continued to drill ahead 8 1/2" hole from 2968m to 2983m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
2983.0	P17	P	F4		1	Circulated hole clean @ 700gpm/2700psi.
2983.0	P17	P	F4		1	Geologist confirmed core point depth @ 2983m. Flow check continued to circulate hole clean @ 700gpm/2700psi.
2983.0	P17	P	D7		1	Pumped out of the hole from 2983m - 2871m 350gpm/1400psi
2983.0	P17	P	G8		1	POOH on elevators monitoring trip tank from 2871m - 2669m. Hole in good shape. No tight spots observed

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Date : 12 Nov 2009 **Daily Cost : US$ 545281** **Report Number : 43**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2983.0	P17	P	G8		1	Continued to POOH on elevators monitoring well on trip tank from 2669m to 2520m (9 5/8" casing shoe). Hole in good condition. No Tight spots observed.
2983.0	P17	P	G14		0.5	Perform 15 min flow check. Serviced top drive. Removed MWD and Geoservices geolograph lines.
2983.0	P17	P	G8		4	Pumped slug and POOH in casing from 2520m to 380m.
2983.0	P17	P	G8		2.5	Performed 15 min flow check and continued to POOH from 380m to 30m.
2983.0	P17	P	G7		1	Removed sources and down loaded Halliburton tools.
2983.0	P17	P	G6		0.5	POOH and broke off 8-1/2" PDC bit and racked back stand. Bit dull grading = 1-2-CT-S-X-I-WT-CP.
2983.0	P17	P	G23		0.5	Held JSA with drill crews, crane operator and roustabouts. Discussed procedures on picking up outer core barrel.
2983.0	P17	P	E7		1.5	Picked up 1st joint of outer core barrel and made up 8-1/2" core bit MCP 572. Continued to pick up outer barrels.
2983.0	P17	P	E7		1	Picked up inner core barrels and spaced out inner barrel to core bit.
2983.0	P17	P	G6		1.5	Made up 6-3/4" BHA and RIH to 288m.
2983.0	P17	P	G8		4.5	Function tested diverter. Continued to RIH coring BHA on 5" DP to 9-5/8" Shoe at 2520m.
2983.0	P17	P	G8		0.5	Broke circulation and recorded parameters - hook Load, drag up and down, 280gpm and torque. Took SCR's.
2983.0	P17	P	G8		2	Continued to RIH at a controlled speed from 2520m to 2946m.
2983.0	P17	P	F1		0.5	Washed and reamed from 2946m to 2983m. Picked up a DP single and 3m pup to space out for a continuous 30m core.
2983.0	P17	P	E7		0.5	Dropped the ball. Pressure increased from 540 to 730psi. Took SCRs. Set coring parameters: 210gpm/555psi/70rpm/5-7 torque.
2988.0	P17	P	E7		2	Began coring run #1: 210gpm/560psi/70rpm/10klbs WOB/Torq 5-7. Cut core from 2983m to 2988m.

Date : 13 Nov 2009 **Daily Cost : US$ 573477** **Report Number : 44**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3013.0	P17	P	E7		2.5	Continued to cut core #1 from 2988m to 3013m (210gpm/560psi/70rpm/10klbs WOB/Torq 5-7).
3013.0	P17	P	E7		0.5	Picked up off bottom. POOH 2 stands to 2850m. 20-30klbs overpull on 1st stand. Flow checked while laying down pup joint. Pumped 25bbl slug.
3013.0	P17	P	G8		2	Continued to POOH at controlled rate at 3min per stand from 2850m to 2520m (shoe depth).
3013.0	P17	P	G8		7	Flow checked at shoe. Continued to POOH at controlled rate at 3min per stand from 2520m to 600m.
3013.0	P17	P	G8		3	Continued to POOH at controlled rate at 6min per stand from 600m to 150m then 150m to 32m @ 8 min per stand.
3013.0	P17	P	E7		3	Held pre job safety meeting and recovered cores as per Corpro instructions. 31.2m of core retrieved 104%. Broke off bit and racked back core barrrel in the mast.
3013.0	P17	P	G15		1.5	Made up MWD tools from mast. Installed radio active sources and loaded tools.
3013.0	P17	P	G6		1.5	Continued to make up BHA and RIH to 147m.
3013.0	P17	P	G15		0.5	Shallow tested MWD tools at @ 120spm/ 600gpm/ 1050psi.
3013.0	P17	P	G6		0.5	Continued to RIH on HWDP from 147m to 288m.
3013.0	P17	P	G8		2	Continued to RIH 8 1/2" BHA on 5" DP from 288m to 1215m. Performed trip drill (32 sec). Filled pipe every 25 stands. Performed 10 min flow check due to closed end displacement on pipe. Well static.

Date : 14 Nov 2009 **Daily Cost : US$ 570646** **Report Number : 45**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3013.0	P17	P	G8		2.5	Continued to RIH 8 1/2" BHA on 5" DP from 1215m to 2520m. Filled pipe every 25 stands.
3013.0	P17	P	P3		1	Performed flow check at the shoe. Serviced top drive. Installed MWD and Geoservices bracket for their wire line sheaves. Performed trip drill (38 sec).

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Date : 14 Nov 2009 **Daily Cost : US$ 570646** **Report Number : 45**

3013.0	P17	P	G8		1.5	Continued to RIH in open hole from 2520m to 2927m.
3013.0	P17	P	F1		1.5	Washed and light reamed from 2927m to 2960m @ 700 gpm. Took SCRs at 30/40/50 strokes.
3013.0	P17	P	F1		2.5	Relogged hole from 2960m - 3013m at controlled rate with 700gpm/ 2800psi/70rpm.
3130.0	P17	P	D2		13	Drilled 8-1/2" hole from 3013m to 3130m (700gpm/2800psi/130 rpm/ 5-10klbs WOB/Mud weight 9.4ppg).
3130.0	P17	P	F4		0.5	Circulated bottoms up to clean well and allow geologist to collect sample at 700gpm/ 2800psi/ 70rpm.
3130.0	P17	P	D2		1.5	Drilled 8-1/2" hole from 3030m to 3139m (700gpm/ 2800psi /130 rpm/ 5-10klbs WOB/Mud weight 9.4ppg) as per Geologist request.

Date : 15 Nov 2009 **Daily Cost : US$ 570358** **Report Number : 46**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3145.0	P17	P	D2		1.5	Continued to drill 8-1/2" hole from 3139m to 3145m (700gpm/ 2800psi /130 rpm/5-10klbs WOB/Mud weight 9.4ppg) as per geologist request. Adjusted parameters to reduce vibration and whirl on down hole tools when required.
3145.0	P17	P	F4		0.5	Circulated bottoms up to allow geologist to collect sample at 700gpm/2800psi/70rpm. Continued to circulate untill shakers are clean.
3145.0	P17	P	P3		0.5	Flow checked - OK. Pumped slug.
3145.0	P17	P	G8		2.5	POOH from 3145m to 2520m. No overpull or tight spots observed.
3145.0	P17	P	G8		2.5	Performed trip drill (30 sec). Flow checked at the shoe and filled trip tank. Continued to POOH in casing from 2520m - 895m.
3145.0	P17	TP	G8	RE	0.5	Secured indicator hose for compensator due to it hanging up in derrick.
3145.0	P17	P	G8		1.5	Cont/ to POOH F/895m - 288m BHA. Flow checked prior to pulling BHA through BOPs.
3145.0	P17	P	G8		1.5	POOH BHA F/288m - 32m
3145.0	P17	P	G7		2	Removed sources, down loaded MWD tools & broke off bit.
3145.0	P17	P	G7		1	Prepared & ran core barrel to 32m.
3145.0	P17	P	G7		1	M/Up BHA to core barrel & RIH F/ 32m - 288m.
3145.0	P17	P	G8		5	RIH BHA on 5" DP F/288m - 2520m, shoe depth.
3145.0	P17	P	G14		0.5	Flow checked at shoe. Serviced top drive. Took SCRs & drilling parameters.
3145.0	P17	P	G8		1.5	Cont/ to RIH in open hole F/2520m - 3089m
3145.0	P17	P	F1		0.5	M/Up top drive, washed & light reamed F/3089m - 3145m W/ 60spm/ 300gpm/ 650psi.
3145.0	P17	P	E7		0.5	Tagged bottom @ 3245m, Took parameters, spaced out & made connection. Dropped the ball & observed a 60psi increase on landing out. F/550psi - 610psi. Took SCRs @ 30-40 & 50 spm. Take new parameters
3153.0	P17	P	E7		1	Drilled core F/ 3145m - 3153m, W/42spm/ 210gpm/ 644psi.70rpm/ 5k torque.

Date : 16 Nov 2009 **Daily Cost : US$ 981665** **Report Number : 47**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3175.0	P17	P	E7		3	Continued to cut core #2 from 3153m to 3175m with 42spm/210gpm/644psi/70rpm/5k torque.
3175.0	P17	P	G8		0.5	Pulled back 1 stand of DP from 3175m to 3145m. Performed flow check - OK. Removed Geoservice geolograph line and pumped slug.
3175.0	P17	P	G8		4	POOH at controlled rate of 3 mins per stand monitoring well on trip tank. POOH from 3145m to 2050m.
3175.0	P17	P	G11		2	Performed trip drill. Flow checked - ok. Slipped and cut drilling line.
3175.0	P17	P	G8		7.5	POOH from 2050m to 32m as per Copro trip speed procedures. At 12:00 hours rig held a 15 minutes remembrance for Mr. Flower.
3175.0	P17	P	E7		3.5	Recovered core and inner barrel and lay out same. A total of 29.25m of core recovered (97.5%). Service broke and laid out outer barrel. Broke off bit - no additional wear to bit (1-1-NO-A-X-I-NO-BHA).
3175.0	P17	P	G7		1.5	Made up 8 1/2" bit to MWD tools from mast. Installed radio active sources and loaded tools.

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Date : 16 Nov 2009 **Daily Cost : US$ 981665** **Report Number : 47**

3175.0	P17	P	G8		1.5	Continued to RIH with 8 1/2" drilling assy to 147m.
3175.0	P17	P	G7		0.5	Shallow tested MWD at 120 spm/600gpm/1020psi.

Date : 17 Nov 2009 **Daily Cost : US$ 572057** **Report Number : 48**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3175.0	P17	P	G8		4	Continued to RIH from 147m to 1908m. Filled pipe every 25 stands.
3175.0	P17	TP	G11	RE	10.5	Troubleshot draw works problems. Draw works jumped out of gear while driller was running blocks up the mast. Could not get draw works back into gear. Coupling on A motor was found to be stripped. Performed pull test on draw works prior to putting back in service.
3175.0	P17	P	G8		1	RIH from 1908m to 2520m (9-5/8" shoe).
3175.0	P17	P	G8		1	Made up top drive and broke circulation. Continued to RIH in open hole from 2520m to 2937m.
3175.0	P17	P	D6		0.5	Washed and reamed tight spot from 2937m to 3120m with 700gpm/ 2900psi/ 70rpm.
3175.0	P17	P	G8		2.5	Re-logged with Sperry Sun from 3120m to 3175m with 700gpm/ 2900psi/ 70rpm.
3208.0	P17	P	D2		4.5	Drilled 8 1/2" hole from 3175m - 3208 with 700gpm/ 2900psi/ 100rpm/15 WOB/ 10k torque.

Date : 18 Nov 2009 **Daily Cost : US$ 641877** **Report Number : 49**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P17	P	D2		3	Continued to drill ahead 8 1/2" hole with 700gpm/ 2900psi/ 100rpm/ 15 WOB/ 10k torque to TD at 3235m.
3235.0	P17	P	F4		1.5	Circulated 2x bottoms up with 700gpm/ 2900psi to allow Geoservices to retrieve sample. No gas on bottoms up recorded. Shakers clean.
3235.0	P17	P	D7		1	Pumped out of the hole from 3235m to 3151m.
3235.0	P17	P	G8		2	Pumped slug and continued to POOH on elevators from 3151m to 2514m. Monitored well on the trip tank.
3235.0	P17	P	P3		0.5	Performed flow check at shoe - static. Serviced top drive.
3235.0	P17	P	G8		4.5	Continued to POOH in casing from 2514m to 288m. Performed flow check prior to pulling BHA into BOPs.
3235.0	P17	P	G6		1.5	POOH BHA from 288m to 32m.
3235.0	P17	P	G7		0.5	Downloaded MWD and removed sources from same.
3235.0	P17	P	G7		1.5	Broke off bit and laid down MWD tools. Bit grade 1-2-CT-S-X-I-NO-TD. A total of 440 grams of steel recovered from the ditch magnets.
3235.0	P17	P	G1		1	Held pre job safety meeting and rigged up Schlumberger wire line.
3235.0	P17	P	E3		3.5	Picked up and made up Schlumberger wire line tools for logging run#1 (CMR+/ Pex/ HRLA/ HNGS).
3235.0	P17	P	E3		2.5	RIH with Schlumberger tools @ 6000 ft/hr.
3235.0	P17	P	E3		1	Schlumberger tools at 3230m. Commenced logging up. Mechanics worked on draw works shaft and HPU pump.

Date : 19 Nov 2009 **Daily Cost : US$ 1226410** **Report Number : 50**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P17	P	E3		11	Continued with wireline run #1 (CMR+/ Pex/ HRLA/ HNGS). Monitored well on trip tank.
3235.0	P17	P	E3		1	POOH with run #1 and removed sources. Laid down run #1 tools. Filled trip tank (35.8bbls).
3235.0	P17	P	E3		1	Picked up and made up tools for run #2.
3235.0	P17	P	E3		11	RIH and logged with run #2 (MDT/XPT). Monitoring well on Trip Tank. Completed 35 pretests between 2560.1m and 3055m. Rig crews installed new camera bracket in the mast. Serviced the fluid ends on all 3 mud pumps. Installed covers to draw works. General rig maintenance and housekeeping.

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Date : 20 Nov 2009 **Daily Cost : US$ 673925** **Report Number : 51**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P17	P	E3		23	Continued with wire line run #2 (MDT/XPT). Completed 4 correlation runs and 65 pretests from 2560.1m to 3208.3m (50 valid, 14 tight, 1 super charged). - 14 attempted sampling points - 7 pump outs - 3 sampling stations - 6 samples taken Volume of hydrocarbons pumped into the borehole at each pumpout station: 3181.2 m MDRT = 34.345 litres; fluid type = water 3171.2 m MDRT = 26.675 litres; fluid type = gas/water 3175 m MDRT = 38.315 litres; fluid type = water 3155.1 m MDRT = 35.89 litres; fluid type = gas/condensate 3149.0 m MDRT = 17.945 litres; fluid type = gas/condensate 2994.8 m MDRT = 20.370 litres; fluid type = water 2830.3 m MDRT = 51.158 litres; fluid type = gas/condensate Total volume: 224.698 litres. Monitored well on trip tank. Drill crew continued PMS on drilling equipment.
3235.0	P17	P	E3		1	POOH wire line run # 2 to surface.

Date : 21 Nov 2009 **Daily Cost : US$ 557732** **Report Number : 52**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P17	P	E3		1	Lay down wireline tools for run #2.
3235.0	P17	P	E3		1	Picked up and made up wire line tools for run #3 (SMI/DSI/GR/LEHQT).
3235.0	P17	P	E3		4	RIH and logged with wireline tools SMI/DSI/GR/LEHQT.
3235.0	P17	P	E3		1	POOH with wireline run #3.
3235.0	P17	P	E3		1	Held PJSM and laid out wireline tools from run #3 (SMI/DSI/GR/LEHQT).
3235.0	P17	P	G1		1	Rigged down wireline equipment.
3235.0	P17	P	G6		1.5	Laid out 8 1/2" stabiliser, jars and 2 x 6 3/4" DCs.
3235.0	P21	P	G23		0.5	Held PJSM and rigged up to run 2 7/8" tubing.
3235.0	P21	P	G8		1.5	Picked up and RIH 2 7/8" tubing to 101m.
3235.0	P21	P	G8		6.5	RIH 2 7/8" tubing on 5" DP from 101m - 3235m.
3235.0	P21	P	F4		1.5	Circulated bottoms up @ 400gpm/ 1800psi. Max gas on bottoms up 20%.
3235.0	P21	P	F3		1.5	Cement plug #1A: Made up cement head. Broke circulation and pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water, followed by 43.2bbls of 15.8ppg cement (3085m to 3235m). Cement in place at 21.50hrs. Displaced cement with 165 bbls of 9.4ppg mud.
3235.0	P21	P	G8		0.5	Broke off cement head and POOH from 3235m to 3085m on the elevators.
3235.0	P21	P	F4		1	Circulated bottoms up at 3085m with 700gpm/1800psi. No cement returns seen at shakers.
3235.0	P21	P	F3		0.5	Cement plug #1B: Made up cement head. Broke circulation and pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2935m to 3085m).

Date : 22 Nov 2009 **Daily Cost : US$ 580181** **Report Number : 53**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	F3		0.5	Continued with cement plug #1B. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2935m to 3085m). Displaced with 156bbls of 9.4ppg mud.
3235.0	P21	P	G8		0.5	POOH from 3085m to 2935m.
3235.0	P21	P	F4		1	Circulated bottoms up @ 700gpm/ 1800psi. Diverted and treated 35bbls of cement contaminated mud.
3235.0	P21	P	F3		1	Cement plug 1C: Made up cement head and pumped 5 bbls of mud. Pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2785m to 2749m). Displaced with 148 bbls of 9.4ppg mud. Plug set in place 0300hrs.
3235.0	P21	P	G8		1	POOH from 2935m to 2520m.

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3235.0	P21	P	F4	1	Circulated bottoms up at 700gpm/1800psi.
3235.0	P21	P	G4	2.5	Laid out 5" DP while wait on cement.
3235.0	P21	P	G8	1.5	RIH from 2241m to 2702m.
3235.0	P21	P	G8	1	Made up top drive and washed from 2702m and tagged cement plug at 2749m with 5klbs.
3235.0	P21	P	G8	0.5	POOH from 2749m to 2620m.
3235.0	P21	P	F3	0.5	Make up top drive and broke circulation. Spotted 12 blls of Hi-Vis pill at 2620m.
3235.0	P21	P	G8	0.5	POOH from 2620m to 2570m.
3235.0	P21	P	F3	1	Cement plug #2: Made up cement assembly and installed hose. Tested to 3,000psi - ok. Pumped 15bbls of fresh water ahead. Mixed and pumped 35bbls of 15.8ppg slurry (2337m to 2570m). Displaced with 125bbls of 9.5ppg WBM. Checked back flow - ok.
3235.0	P21	P	G8	0.5	Laid down cement assembly. POOH from 2570m to 2412m.
3235.0	P21	P	F4	2	Circulated bottoms up. No cement contaminated WBM observed.
3235.0	P21	P	G4	2	Laid down 2 stands of DP. Picked up and racked back 1 stand of 8 1/4" DCs while waiting on cement.
3235.0	P21	P	G11	0.5	Carried out rig service while waiting on cement.
3235.0	P21	P	G4	2	Continued to lay out 6 stands of 5" DP while waiting on cement.
3235.0	P21	P	G4	1	Laid down 1 stand of 6 3/4" DC. Cranes shut down due to weather conditions during this operation. Held toolbox talk to discuss change of plans for the laying out of the DCs while waiting on cement.
3235.0	P21	P	G8	1	RIH and tagged top of cement at 2437m with 5 - 10klbs down weight.
3235.0	P21	P	P1	1	Performed line test to 2000psi and pressure tested cement plug against pipe rams to 2000psi @ 500psi intervals - ok.
3235.0	P21	P	G8	1.5	Racked back 1 stand of DP. Pumped slug and POOH laying down DP from 2307m to 2100m.

Date : 23 Nov 2009 **Daily Cost : US$ 558543** **Report Number : 54**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G8		3.5	Continued to POOH laying out drill pipe from 2100m to 1596m. Cranes shut down at 0200 hrs. Continued to lay out pipe until pipe bay was full.
3235.0	P21	TP	G25	WOW7		Waited on weather. Wind speed: 30+ Knots Roll: 3.2 deg Heave: 4m Pitch: 1.1 deg
3235.0	P21	P	G8		6	Continued to lay down DP from 1596m to 101m.
3235.0	P21	P	G4		1.5	Laid down 101m of 2-7/8" stinger.
3235.0	P21	P	G1		0.5	Cleaned rig floor and pulled diverter element.
3235.0	P21	P	G12		2	Made up Drillquip jetting tool and wear bushing retrieval tool and RIH. Jetted well head and BOPs. Latched into wear bushing and POOH with same.
3235.0	P21	P	G15		1	Cleared rig floor and held PJSM. Made up Halliburton EZSV packer.
3235.0	P21	P	G8		1	RIH to 203m with Halliburton EZSV packer. Set packer with 35 turns to the right. 50klbs overpull performed at 10k intervals. RIH and tagged top of packer with 10klbs down to confirm set - ok.
3235.0	P21	P	G8		1	POOH with packer running tool and laid out same.
3235.0	P21	P	G8		0.5	Picked up and made up 9 5/8" casing cutting tools and RIH same.

Date : 24 Nov 2009 **Daily Cost : US$ 578833** **Report Number : 55**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G8		1	Continued to pick up and make up 9 5/8" casing cutting tools and RIH same.
3235.0	P21	P	G17		0.5	Cut 9 5/8" at 145m with 90gpm/745psi/85rpm/3k torque.
3235.0	P21	P	G8		1	Flow checked. POOH casing cutter and laid out same.
3235.0	P21	P	G8		1	Picked up and made up spear assembly and RIH.

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Date : 24 Nov 2009 **Daily Cost : US$ 578833** **Report Number : 55**

3235.0	P21	P	G8		1	Tagged top of 9 5/8" casing hanger and applied 10klbs down weight. Applied 50klbs over pull to release hanger and 9 5/8" casing. POOH, released spear and racked back in the mast. Fish at surface at 04.10 hrs.
3235.0	P21	P	G1		1	Rigged up casing tongs and laid out 9 5/8" casing hanger and casing joint. Casing backed out 1 joint below hanger while being cut.
3235.0	P21	TP	G18	WB	1.5	Made up casing spear and RIH to spear remainder of 9 5/8" casing while displacing riser and C&K lines from mud to seawater. POOH with casing to surface.
3235.0	P21	P	G9		1	Hold PJSM. Rigged up casing handling equipment and laid out 9 5/8" casing.
3235.0	P21	P	G1		1	Rigged down casing equipment and laid out spear assembly.
3235.0	P21	P	G13		2.5	Prepared to pull riser and BOPs.
3235.0	P21	P	G13		1.5	Pulled diverter and laid out same.
3235.0	P21	P	G13		4	Held PJSM. Picked up riser landing joint and connected to slip joint.
3235.0	P21	P	G13		0.5	Unlatched BOP from well head (360klbs MRTs/ 264klbs DSC).
3235.0	P21	P	M2		0.5	Moved rig 25ft off location.
3235.0	P21	P	G13		4.5	Disconnected MRT cables and C&K lines from the slip joint in the moon pool.
3235.0	P21	P	G13		1.5	Pulled landing joint. Disconnected and laid out same.

Date : 25 Nov 2009 **Daily Cost : US$ 569244** **Report Number : 56**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G13		1	Pulled slip joint. Disconnected and laid out same.
3235.0	P21	P	G13		1.5	Continued to pull riser and BOPs
3235.0	P21	P	G13		4.5	BOP at surface. Secured BOP on Nomar carrier. Disconnected riser from BOP and laid out same while moving BOP to aft of moon pool area.
3235.0	P21	P	G1		2.5	Rigged down riser handling equipment and rigged up to handle DP
3235.0	P21	P	G11		0.5	Serviced rig.
3235.0	P21	P	G7		2.5	Made up Smith casing cutting assembly. Shallow tested cutter assmbly with 196gpm, 500psi - ok.
3235.0	P21	P	G7		0.5	Made up centralising ropes from cutting assembly to guide lines in moonpool.
3235.0	P21	P	G8		1	RIH with casing cutting assembly. Stabbed into wellhead and landed out rotating spear with 15klbs down weight. Picked up to 220klbs to test latch. Reduced to 200klbs (30klbs overpull).
3235.0	P21	P	G17		2.5	Commenced cutting 20"/30" casing at 99.4m, 4.5m below mud line (80rpm, 2/3k ft-lbs, 160gpm, 780psi).
3235.0	P21	P	G17		0.5	Stopped cutting casing. Attempted to pull casing free with 200klbs overpull - unsuccessful.
3235.0	P21	P	G17		7	Continued to cut 20"/30" casing (100rpm, 185gpm, 1200psi, 3/5k ft-lbs.). Obsered 18 3/4" wellhead turning at intermittent intervals.

Date : 26 Nov 2009 **Daily Cost : US$ 545973** **Report Number : 57**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G17		0.5	Stopped cutting casing. Attempted to pull casing free with 300klbs overpull - unsuccessful.
3235.0	P21	P	G7		0.5	Released Smith collet spear from 18 3/4" wellhead.
3235.0	P21	P	G8		0.5	POOH with 20"x 30" cutting BHA.
3235.0	P21	P	G7		2	Checked condition of casing cutter assembly. Knives confirmed that 20" and 30" casing had been cut. Laid out cutting BHA.
3235.0	P21	P	G7		3	Made up grapple, fishing jar and accelerator BHA
3235.0	P21	P	G18		1	RIH to seabed with jarring assembly and attempted to stab into 18 3/4" wellhead - unsuccessful.
3235.0	P21	P	G18		1	POOH. Re-secured guide line ropes to BHA and RIH. Stabbed into 18 3/4" wellhead and engaged with casing spear.
3235.0	P21	P	G18		3	Worked jar. Jar fired at 300klbs and attempted to free with 200klbs overpull - unsuccessful. Continued jarring with static overpulls up to 280klbs. No movement in casing.

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Date : 26 Nov 2009 **Daily Cost : US$ 545973** **Report Number : 57**

3235.0	P21	P	G18	0.5	Disengaged spear and pulled assembly clear of wellhead.
3235.0	P21	P	G11	1	Performed post jarring mast and TDS check.
3235.0	P21	P	G22	1.5	POOH and laid out jarring BHA.
3235.0	P21	P	G8	3	Made up 20/30" casing cutting assembly and shallow tested same (140gpm/600psi). RIH to sea bed.
3235.0	P21	P	G11	0.5	Serviced top drive. Tightened and tie wired loose bolts observed on TDS link tilt.
3235.0	P21	P	G17	0.5	Stabbed into well and engaged 18 3/4" wellhead with spear. Applied 25klbs overpull (200klbs MD) to confirm latch.
3235.0	P21	P	G17	0.5	Reduced weight to 190klbs and commenced cutting casing at 96.88m with 15klbs overpull (100rpm/150gpm/800psi/2-6 ft-lbs). Compensator closed as 18 3/4" housing inner came free.
3235.0	P21	P	G8	0.5	Visually checked fish with ROV. POOH with fish.
3235.0	P21	P	G5	1.5	Laid out 18 3/4" inner wellhead housing and 20" casing stub (18 3/4" landing ring and reaction ring left in the 30" housing).
3235.0	P21	P	G7	2	Made up 20" grapple fishing BHA.
3235.0	P21	P	G8	1	RIH with 20" grapple BHA to seabed and stabbed into wellhead.

Date : 27 Nov 2009 **Daily Cost : US$ 544060** **Report Number : 58**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P21	P	G18		0.5	Engaged 20" casing fish with spear and confirmed with ROV.
3235.0	P21	P	G8		0.5	POOH with spear assembly and 20" casing stub.
3235.0	P21	P	G5		1.5	Laid out spear assembly with fished casing stub attached.
3235.0	P21	P	G7		1	Made up 30" casing cutting assembly.
3235.0	P21	P	G8		1.5	Made up DCs to cutting assembly and secured ropes to guide lines. RIH with casing cutter assembly and stabbed into wellhead.
3235.0	P21	P	G17		3.5	Landed stop collar on wellhead with 10klbs down weight and commenced cutting 30" casing at 97.88m while maintaining 18.4klbs tension on the PGB with the guide lines (80rpm, 150gpm, 800psi, 10k weight down, 5k ft-lbs torque.)
3235.0	P21	P	G7		3	Picked up PGB running tool and attached guide bridles to guide wires.
3235.0	P21	P	G10		5	RIH and latched onto PGB with ROV assistance and pulled to surface. PGB running tool disengaged. Pulled PGB to surface with guide wires.
3235.0	P21	P	G8		1	Made up 5" cement mule shoe and RIH to 203m.
3235.0	P21	P	F3		2	Cemented as per program. Tested lines to 1000psi. Cement slurry: 70bbl, 15.9ppg, 341sx of G cement. Observed cement returns at seabed.
3235.0	P21	P	G8		0.5	Rigged down cement assembly. POOH to above seabed and flushed drill string.
3235.0	P1	P	G2		2	Laid down excess tubulars in mast.
3235.0	P1	P	M4		2	Commenced pulling anchor #8 at 22:00hrs and anchor #5 at 22:29hrs.

Date : 28 Nov 2009 **Daily Cost : US$ 552313** **Report Number : 59**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P1	P	M4		1.5	00:40 Anchor #8 suspended at cow catcher. 01:10 Anchor #5 suspended at cow catcher.
3235.0	P1	P	G2		6.5	Waited on weather. Winds gusting 40knts, heave 3m to 4m. Pitched max 4.5deg, rolled max 3.5deg. Continued to lay down tubulars from mast.
3235.0	P1	P	M7		2	Sea fastenings completed.
3235.0	P1	P	M3		4.5	Deballasted rig to transit draft.
3235.0	P1	P	M4		9.5	Recovered Anchors. #5 anchor racked back at 14:35. #8 anchor racked at back 14:55. #1 anchor commenced at 15:52 and racked back at 18:45 (Far Scimitar).

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ORIGINENERGY_FWR.xsl (parent/child V1.3)

DFE above MSL : 26.0m	Lat : 39 Deg 53 Min 07.9334 Sec	Spud Date : 06 Oct 2009	Release Date : 29 Nov 2009
Water Depth : 69.0m	Long : 145 Deg 22 Min 14.6152 Sec	Spud Time : 08:00	Release Time : 01:00

Date : 28 Nov 2009 **Daily Cost : US$ 552313** **Report Number : 59**

#4 anchor commenced at 16:15 and racked back at 18:07 (Far Fosna).
#3 anchor commenced at 18:30 and racked back at 19:58 (Far Fosna).

20:50 Far Fosna connected to tow bridle.

#7 anchor commenced at 19:12 and completed at 21:51 (Far Scimitar).
#2 anchor commenced at 22:15 (Far Scimitar).

Date : 29 Nov 2009 **Daily Cost : US$ 22624** **Report Number : 60**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3235.0	P1	P	M4		1	Recovered anchors: 00:04 #2 anchoring completed. 00:30 Rig hauled in on #6 anchor to bring rig over anchor for pick up. Rig under tight tow from Trefoil-2 location to mark end of well at 01:00hrs. Rig transferred to Rockhopper-1.

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ORIGINENERGY_FWR.xsl (parent/child V1.3)

APPENDIX 13: RIG MOVE AND POSITIONING REPORT

GO OFFSORE CONSULTANCY DIVISION

Kan Tan IV

Rig Move Report

Port Phillip Bay to Trefoil-2

4/10/2009

This document is a report on the latest tow from Melbourne and positioning at Trefoil-2 of the Semi Sub oil rig Kan Tan 4

RIG MOVE REPORT

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2.0 DEPARTURE DETAILS 4

3.0 PASSAGE DETAILS 7

4.0 ANCHOR DEPLOYMENT 8

5.0 RECOMMENDATIONS & COMMENTS 10

6.0 SUMMARY 11

1.0 MOVE INFORMATION

DEPARTURE LOCATION	**NAME**	Port Phillip Bay		
	CLIENT	Origin		
	LATITUDE	38°06.1's		
	LONGITUDE	144°51.9'e		
	HEADING	Various	WATER DEPTH:	20m
ARRIVAL LOCATION	**NAME**	Trefoil - 2		
	CLIENT	Origin		
	LATITUDE	39° 53' 07.89"s		
	LONGITUDE	145° 22' 14.87"e		
HEADING	**PROPOSED**	315°	**FINAL Hd**	316.79°
Position Tollerance	**Heading**	+-5°	**DISTANCE**	5.77m
	DISTANCE	10m	**BEARING**	265°
	WATER DEPTH	67.8m		
LOCATION APPROVAL REFERENCE		DSA BK CPH 17th July 2009		
FINAL PROCEDURE REFERENCE		KT4A Proc 003B July 20th 2009		
MOORING ANALYSIS		Noble Denton H8843/NDCI/FZ 8th July 2009		

2.0 DEPARTURE DETAILS

2.1 ANCHOR SPREAD DETAILS

ANCHOR #	BEARING (Deg)	Anchor Horizontal Distance (f)	CHAIN / WIRE PAYOUT (f)	Tension (kips)	Water Depth at Anchor (mtrs)
			N/A		

2.2 SUPPORTING VESSELS DETAILS

VESSEL	MASTER	HP	BP (tn)	24hr Ops	Tow wire Spec	Work Wire Spec	GM (m)
Far Fosna	Bruce Dickson	14400	150	Yes	1250m x 80mm*	675m x 76mm**	
Far Scimitar	Dick Burgess	14483	180	Yes	1500m x 80mm	1200m x 80mm	

*New. ** Port side 675m Strb 650m

2.3 RIG MOVE AND SENIOR PERSONNEL:

NAME	POSITION	COMPANY
Brian Meechan	OIM	Maersk
Allan Linder-Madson	Tow Master	Maersk
Lasse Pederson/Uni Jacobsen	Barge Master/Asst BM	Maersk
John Mc Garrity	Company Man	ADA
Roger Harris	Marine Rep	Go Offshore/ADA
John Mangini/Simon McLeod	MO47 Master/Mate	OMS
Alex Waugh/Carey Simonsen	Surveyors	FUGRO
Paul Patterson	Safety	ADA
Garrath Wilson/Kevin Vogt	Logistics	ADA

2.4 ANCHOR RECOVERY TIMES

ANCHOR	AHTS	PCP PASSED TO AHTS		ANCHOR OFF BOTTOM		ANCHOR RACKED		PCP PASSED BACK		TOTAL TIME
					N/A					

	Date	Time
Time Commence Anchors		
Time Completed Anchors		
Total Elapsed Time		
Total Duration		

2.5 SUMMARY OF TIMES

ANCHOR	DURATION	EXPLANATION
		N/A

2.6 RIG DEPARTURE STABILITY

Item	Total	Item	Total
Displacement (lt)	17456	GMT/GML(FT)	28.5/55.63
VCG Max (ft)	77.7	Variable Deck Load(lt)	472
GM Min(ft)	24.31	Mean Draft (ft)	27.83
GM Margin (ft)	3.18	Heel/Trim(°)	-0.592/-0.2

2.7 CERTIFICATION

CERTIFICATES (Expiry dates)			
Load Line	31.08.13	Safety Radio	30.04.11
MODU Safety Cert	31.08.13	Class	31.08.13
IOPP	31.08.13	ISPPC (short term)/IAPPC	01.11.09/31.08.13

3.0 PASSAGE DETAILS

3.1 PASSAGE PLAN

Location	Latitude	Longitude	Co (T)	Leg	Dist(nm)
Port Phillip Bay	38°06.1's	144°52.1'e	172°	1	13.7
Hovell Pile	38°19.7's	144°54.5'e	238°	2	0.6
South Channel Route	38°19.9's	144353.9'e	275°	3	1.5
	38°19.85's	144°52'e	287°	4	1.5
	38°19.4's	144°50.1'e	284°	5	3.7
	38°18.5's	144°45.5'e	286°	6	3.6
	38°17.5's	144°41.1'e	286°	7	1.4
	38°17.1's	144°39.4'e	248°	8	0.9
	38°17.5's	144°38.3'e	222°	9	3.8
	38°20.3's	144°35'e	245	10	2.1
Pilot Station	38°21.2's	144°32.6'e	157°	11	99.7
Trefoil-2	39°53.1's	145°22.1'e			
				Total Dist	**132.5nm**

3.2 PASSAGE DETAILS

TOW COMMENCED	02.10.09 0300hrs	**TOTAL DISTANCE**	132.5	**AV TOW VESSEL BOLLARD PULL**	N/A
TOW COMPLETED	03.10.09 1200hrs	**TOTAL AV SPEED**	4.01kts	**AV TENSION**	85tn
TOTAL TIME	33hrs	**DEVIATIONS**	Nil	**INCIDENTS**	Yes See below
WEATHER	SW to S going to Easterly toward the end of the tow. Wind 20 to 25kts with a SW'ly swell to 3mts				
COMMENT	The FS damaged her spooling gear while the tow was transiting the Rip rendering it unusable. The vessel Master has submitted a damage report.				

4.0 ANCHOR DEPLOYMENT

4.1 SUPPORT VESSEL DEATILS

VESSEL NAME	MASTER	H P	B P	24hr Ops	Tow wire Spec	Work Wire Spec
Far Fosna	Bruce Dickson	14400	150	Yes	1250m x 80mm	675m x 76mm
Far Scimitar	Dick Burgess	14483	180	Yes	1500m x 80mm	1200m x 80mm

4.2 ANCHOR DEPLOYMENT TIMES

ANCHOR	AHTS	PCP PASSED TO AHTS		ANCHOR ON BOTTOM		AHTS CHASE BACK		PCP PASSED BACK		TOTAL TIME
6	Rig Drop			03.10.09	1230					00:25
2	Far Fosna	03.10.09	1310	03.10.09	1420	03.10.09	1425	03.10.09	1500	01:50
3	Far Fosna	03.10.09	1515	03.10.09	1622	03.10.09	1625	03.10.09	1700	01:45
7	Far Fosna	03.10.09	1720	03.10.09	1800	03.10.09	1807	03.10.09	1845	01:25
8	Far Fosna	03.10.09	1849	03.10.09	1925	03.10.09	1932	03.10.09	2013	01:24
1	Far Fosna	03.10.09	2020	03.10.09	2054	03.10.09	2100	03.10.09	2126	01:26
5	Far Scimitar	03.10.09	2156	03.10.09	2252	03.10.09	2300	03.10.09	2319	01:24
4	Far Fosna	03.10.09	2232	03.10.09	2306	03.10.09	2315	03.10.09	2340	01:08

	Date	Time
Time Commence Anchors	03.10.09	1230
Time Completed Anchors	04.10.09	1820
Total Elapsed Time	29hr 50m	
Total Duration	10hr 49m	

4.3 *SUMMARY OF TIMES*

ANCHOR	DURATION	EXPLANATION
		Nil

COMMENTS

All anchors were run in good time and within Maersk parameters for this rig.
One hour was lost when the shackle pin came adrift where the shackle was attached to the bridle retrieving wire.
Ballasting down was delayed from 4th/0030 to 0800 due to a leak in the sounding pipe to #9 Strb ballast tank.
Unable to obtain final distance to anchors due to anchor chain counters either not working or inaccurate.
Anchors deployed using survey information

4.4 FINAL POSITION DETAILS

ANCHOR	BEARING (T°)	ANCHOR HORIZONTAL DISTANCE (ft)	CHAIN / WIRE PAY OUT (ft)	WORKING TENSION (Ave kips)	TOUCH DOWN POSITION	WATER DEPTH at ANCHOR (mtrs)
1	248			200		
2	292			200		
3	337			200		
4	023			200		
5	067			200		
6	113			200		
7	157			200		
8	202			200		

4.5 PRETENSION

ANCHOR	DURATION	KIPS	COMMENT
1	15min	820/840	Anchor came up to tension quickly
2	15min	820/840	Anchor came up to tension quickly
3	15min	820/840	Anchor came up to tension quickly
4	15min	820/840	Anchor came up to tension quickly
5	15min	820/840	Anchor came up to tension quickly
6	15min	820/840	Anchor came up to tension quickly
7	15min	820/840	Anchor came up to tension quickly
8	15min	820/840	Took longer to come up to tension

5.0 RECOMMENDATIONS

That an attempt be made to make all chain counters operational and accurate

6.0 SUMMARY

DATE	
27.09.09	Joined the rig out in Port Phillip bay. The rig is not ready for tow, awaiting arrival of a new fuel pump for the strb crane and spud gear, FO and PW
02.10.09	Depart standby area for Trefoil-2 at 0300
02.10.09	Clear Port Phillip and commence sea passage toward Trefoil-2
03.10.09	Arrive Trefoil-2 locn at 1200hrs
03.10.09	Complete run anchors before midnight
04.10.09	Delay ballasting from 2330/3rd to 0800/4th due to repair required to sounding pipe in Strb #9 ballast tank
04.10.09	Move complete and position accepted by ADA Rep
05.10.09	Dept rig and return to Brisbane

Report written and compiled by



…….

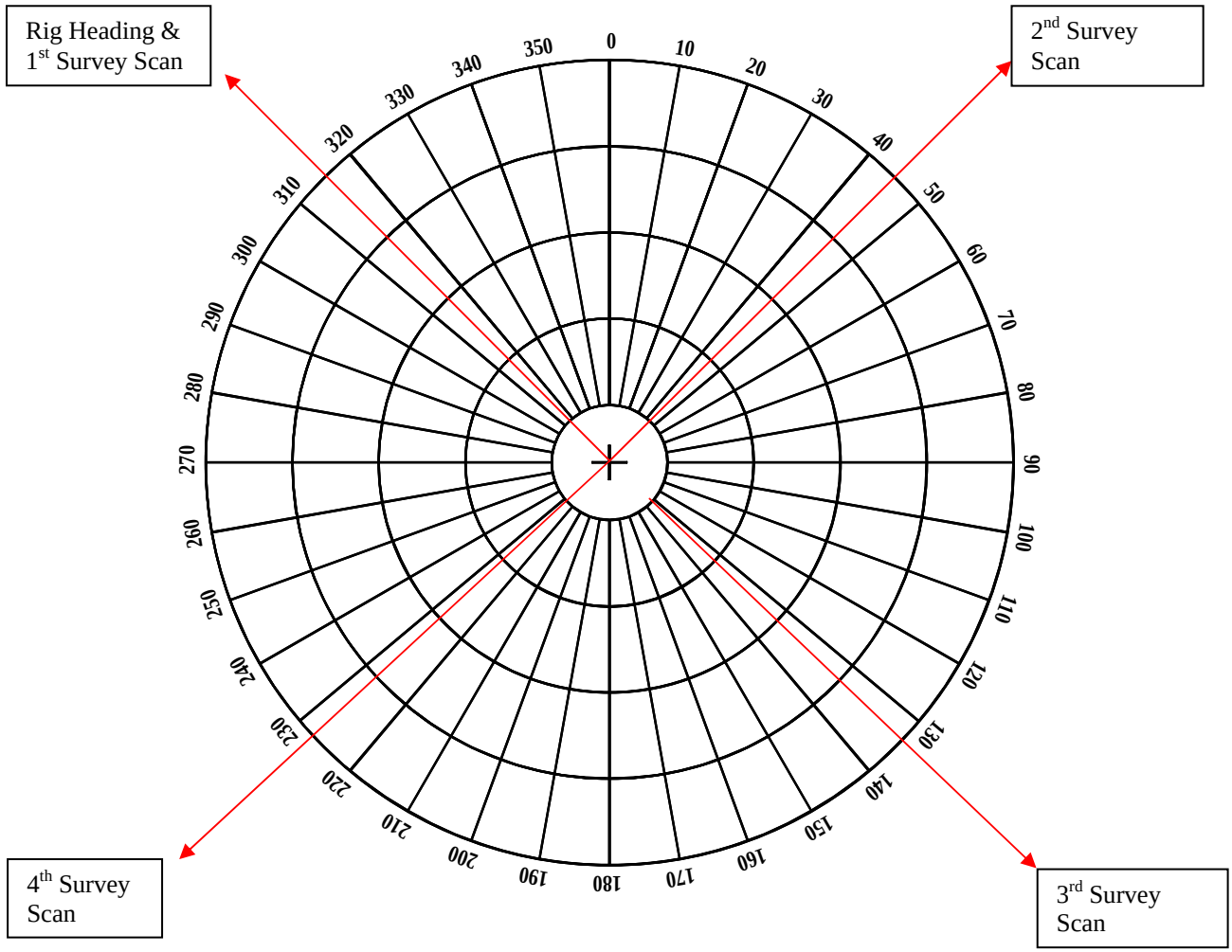
Capt. Roger J Harris
Marine Consultant
Go Offshore

DISCLAIMER SIGNATURE PAGE: This report was compiled without prejudice. The report is written with the interests of the concerned parties and neither the company nor the above signed shall be held liable whatsoever for any act, error, omission or default in connection therewith.

FUGRO SURVEY PTY LTD

Seabed Clearance Certificate

VESSEL/RIG:	**Kan Tan 4**	**PROJECT:**	**Trefoil 2**
LOCATION:	**Bass Basin**	**DATE:**	**27/11/09**
Co-ordinates: N/A			
Method of Survey: Visual and Sonar			
Type of Equipment Used: Imagenex Sonar		Contractor: ADA - Origin	
Range of Coverage: 25m visual + 50m Sonar		No. of scans: 4	
Rig Heading (Indicate on Diagram): 316°			
Positions of Rig Relative to Well During Scans: Same			
Height Above Seabed: ≤ 2mtrs		Height of Scanning Unit During Scan: ≤ 2m	
Nature of Seabed: Sand/ Silt		Type of Wellhead: N/A	
Type of Records Made: 1 video log, duplicated as needed			



All Scans 25m visual and sonar plus 50m sonar sweeps from 25m mark

LIST OF TARGETS					
	Position (Range & Bearing)	Approx. Dimensions (M)	Description	Means of Identification	Recovered
1	Nil				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Means of Identification	Reasons for not removing remaining debris:
A - Sonar Scan	
B - Diving Inspection	
C - R.O.V.	
D - Rig Records	

Signatories:

Name	Bryan Houston	ROV Supervisor	Stu Maclean
Position	ADA Rep	Signature	ROV Supervisor
Signature		Date	

Guidance Notes

1 Survey should extend to at least 70 metres from the well head.
2 The first signatory should be the person responsible for the rig, either the OIM or Client representative.

REPORT FOR THE
KAN TAN IV RIG MOVE TO
TREFOIL-2

FUGRO BTW JOB NO. 09011

Client : AUSTRALIAN DRILLING ASSOCIATES LTD

Date of Survey : 25 September – 05 October 2009

0	Final	S. Armstrong	07 October 2009
Rev	Description	Checked and Approved	Date

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ABSTRACT

Between 24 July and 12 August 2009, Fugro-BTW Ltd (Fugro) mobilised the Kan Tan IV, Far Scimitar and Far Fosna in preparation for the Kan Tan IV rig moves. Between 25 September and 05 October 2009, Fugro provided equipment and personnel for the semi-submersible Mobile Offshore Drilling Unit Kan Tan IV rig move from Geelong, Australia to Trefoil-2 in Permit T/18P, Bass Basin, Australia.

Surface positioning was provided by Fugro's Starfix Total Position System (Starfix TOPS) and Starfix.Seis Navigation Software.

The final position for the drill stem derived from HP GPS observations at Trefoil-2 is:

Location Name:	**Trefoil-2**
Easting (m):	360690.389
Northing (m):	5583676.588
Latitude:	39° 53' 07.9334" S
Longitude:	145° 22' 14.6152" E
Rig Heading:	316.79° (True)

This position is 5.77m at a bearing of 265.17° (True) from the proposed Trefoil-2 location.

All coordinates in this report are referenced to the Geocentric Datum of Australia 1994 (GDA94) and projected onto the Map Grid of Australia 1994 (MGA94) Zone 55 (CM 147°E), unless otherwise stated.

All times in this report are quoted in Australian Eastern Standard Time (AEST) unless otherwise stated.

1.0 INTRODUCTION

Fugro-BTW Ltd (Fugro) was contracted by ADA Ltd to provide navigation and positioning survey services onboard the semi-submersible Mobile Offshore Drilling Unit (MODU) *Kan Tan IV*, during the rig move from Geelong, Australia to Trefoil-2 in Permit T/18P, Bass Basin, Australia.

A general location diagram is shown in Figure 1-1.

This report details the equipment used, survey parameters adopted, procedures employed and the results achieved. A section on safety is included in Section 3.0 of this report.

1.1 Scope of Work

Personnel and equipment were provided on a 24 hour per day basis for:

- Calibration and function testing of the survey equipment onboard the rig and the two Anchor Handling Vessels (AHVs).
- Surface navigation for the *Kan Tan IV* using Fugro's Starfix HP (High Performance) DGPS services.
- Surface navigation for AHVs during anchoring operations, using Starfix HP DGPS.
- Final rig surface positioning for Trefoil-2 using DGPS observations.
- Final reporting of the positioning results.

1.2 Sequence of Events

On 24 July 2009, S. Armstrong, R. Ruddick and A. Waugh departed New Plymouth, New Zealand for Melbourne, Australia. Personnel remained in Melbourne on standby waiting to mobilise *Kan Tan IV* and AHVs. On 28 July 2009 ADA instructed Fugro personnel to demobilise back to NZ due to crane failure.

On 04 August 2009 S. Armstrong, R. Ruddick and A. Waugh departed New Plymouth, New Zealand for Melbourne, Australia. Mobilisation of AHVs commence on 05 August. On 06 August mobilisation of *Kan Tan IV* commenced. On 11 August mobilisation of AHVs and rig was completed. Fugro personnel returned to NZ on 12 August.

On 25 September 2009 C. Simonson and A. Waugh departed New Zealand for Melbourne, Australia.

On 27 September Fugro personnel departed Melbourne for the *Kan Tan IV*.

On 02 October 2009 the *Kan Tan IV* began the tow to Trefoil-2.

At 2100 on 04 October 2009 the Final Fix for the *Kan Tan IV* position at Trefoil-2 was completed.

Fugro personnel departed the Kan Tan IV at 0900 on 05 October 2009 then flew to NZ from Melbourne.

Further details of Fugro's involvement in the rig move are presented in the Daily Operations Reports included in Appendix A.

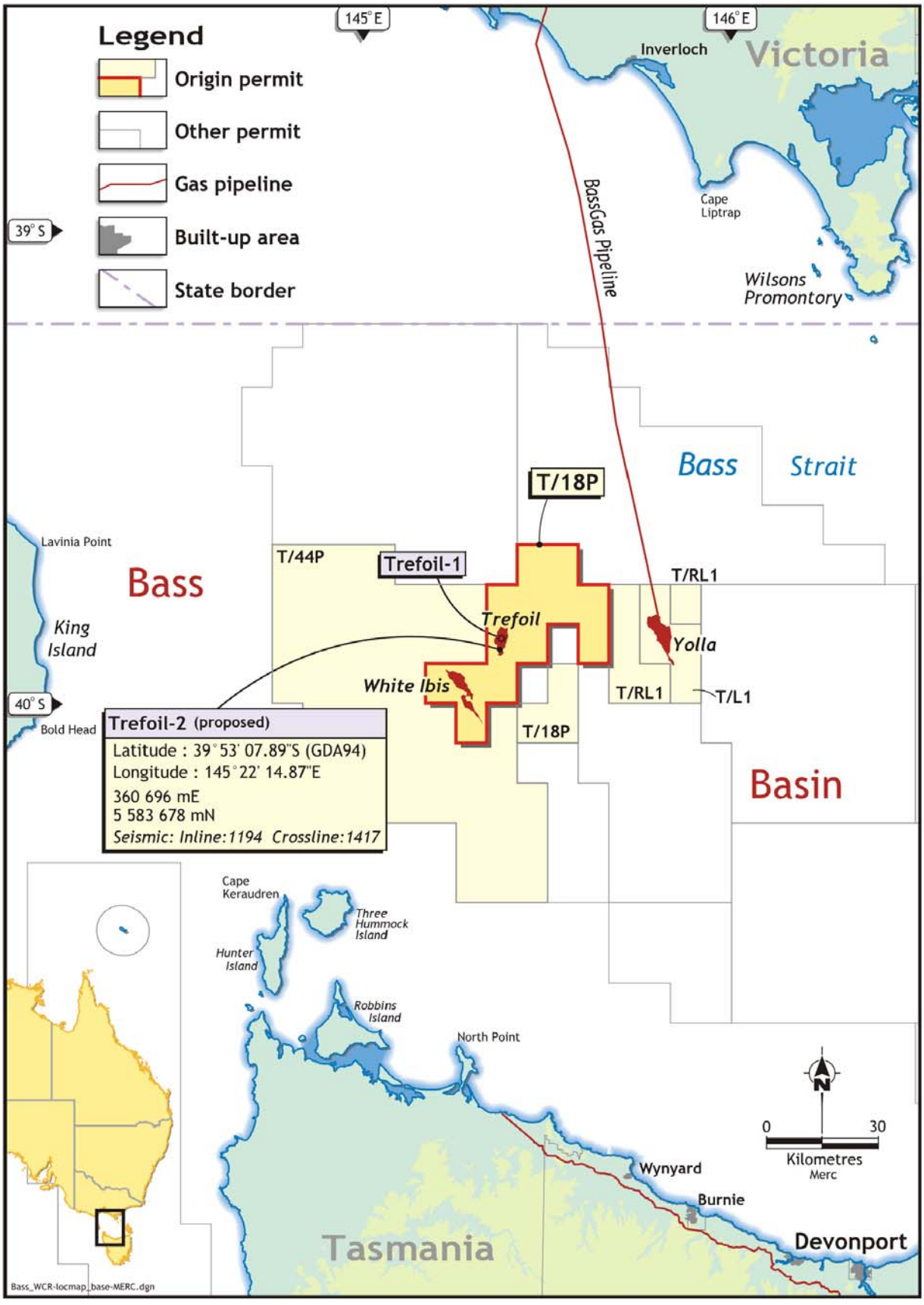


FIGURE 1-1 : GENERAL LOCATION DIAGRAM

2.0 RESULTS

2.1 Final Position

The final position of the *Kan Tan IV* drill stem was established upon arrival at Trefoil-2 location. A mean position was calculated from two hours of HP data logged between 1823 and 2023 on 04 October 2009. During this period, calculated drill stem coordinates from the primary and secondary positioning systems were logged at five second intervals in Starfix.Seis. Data from the primary positioning system were used for the final position calculation.

GDA94 geographical positions for Trefoil-2 are shown in Table 2-1.

GDA94			
Position	**Method**	**Latitude**	**Longitude**
Drill Stem at Surface	Starfix HP	39° 53' 07.9334" S	145° 22' 14.6152" E
Proposed Location	-	39° 53' 07.8909" S	145° 22' 14.8525" E

TABLE 2-1 : GEOGRAPHICAL POSITIONS FOR TREFOIL-2

GDA94 grid coordinates (CM 147°E) for Trefoil-2 are shown in Table 2-2.

GDA94, MGA, Zone 55, CM 147°E			
Position	**Method**	**Easting (m)**	**Northing (m)**
Drill Stem at Surface	HP	360690.389	5583676.588
Proposed Location	-	360696.000	5583678.000

TABLE 2-2 : GRID COORDINATES FOR TREFOIL-2

This position is 5.79m at a bearing of 255.87° (Grid) from the design location.

A copy of the original rig position field report is contained in Appendix B.

2.2 Rig Heading

The heading of the *Kan Tan IV* was established by calculating the average heading during two hours of gyro data logged between 1823 and 2023 on 04 October 2009. During this period, gyro readings were logged at five second intervals in Starfix.Seis.

The *Kan Tan IV*'s heading is shown in Table 2-3.

Description	**Method**	**True**	**Grid**
Rig Heading	Starfix.TOPS	316.79°	315.75°
Proposed Heading	-	-	-

TABLE 2-3 : RIG HEADING FOR TREFOIL-2

2.3 Anchor Positions

The approximate locations of the *Kan Tan IV*'s anchors are shown in Table 2-4.

GDA94, MGA, Zone 55, CM 147°E			
Anchor	**Easting (m)**	**Northing (m)**	**Deployed By**
1	359892.2	5583355.1	*Far Fosna*
2	359881.0	5583982.5	*Far Fosna*
3	360363.5	5584456.7	*Far Fosna*
4	360993.9	5584489.6	*Far Fosna*
5	361466.0	5584019.8	*Far Scimitar*
6	361533.1	5583360.4	*Kan Tan IV*
7	361018.7	5582886.5	*Far Fosna*
8	360392.9	5582874.1	*Far Fosna*

TABLE 2-4 : ANCHOR POSITIONS FOR TREFOIL-2

Because the on board chain and tension counters were out of operation the approximate coordinates of the *Kan Tan IV*'s anchors were unable to be recalculated for a more correct position.
The anchor locations shown in Table 2-4 are therefore simply the stern position of the AHV when the anchor 'On The Bottom' was called.

3.0 SAFETY

All work undertaken by Fugro personnel during the project was performed within the guidelines of Fugro's Health Safety & Environmental Management System Manual (HSEMS).

Fugro personnel worked within all project safety guidelines and plans adopted by ADA Ltd and Maersk.

No safety incidents involving Fugro personnel were reported during the project.

Fugro personnel attended all relevant safety meetings onboard the rig as required.

4.0 SURVEY OPERATIONS

4.1 Mobilisation

The survey equipment onboard the *Kan Tan IV, Far Scimitar and Far Fosna* was mobilised between 24 July and 12 August 2009.
The equipment was confirmed as operational after arrival at 17:30 on 29 September 2009. Rig offsets were checked and a total station traverse was conducted to determine C-O values for the Gyro compass and Starfix.TOPS.

4.2 General Survey Procedures

The *Kan Tan IV* was taken under tow from the Inclination Test location by the *Far Scimitar* at 0300 02 October 20098.

Anchor deployment operations commenced at 1255 on 03 October 2009, when Anchor #6 was deployed by the *Kan Tan IV*. All other anchors were deployed by the two AHVs. During the deployment of these anchors, the AHVs were provided with a waypoint and corresponding runline via the Wombat telemetry system. The AHVs ran out the anchors along this line to the desired drop point.

The *Kan Tan IV* was positioned at Trefoil-2 with all anchoring, cross-tensioning and ballasting complete at 1820 on 04 October 2009. Final position data was logged between 1823 and 2023 on 04 October 2009. A rig positioning field report was issued to the ADA Ltd Company Representative (see Appendix B).

4.3 Demobilisation

The survey equipment onboard the *Kan Tan IV* was left onboard in preparation for the rig moves in the rest of the Drilling Program.

C. Simonson and A. Waugh departed the *Kan Tan IV* at 0900 on 05 October 2009.

5.0 EQUIPMENT CALIBRATION

5.1 DGPS Navigation Integrity Check

In order to prove the correct operation of the navigation systems installed on board the *Kan Tan IV*, DGPS data was logged for 1 minute on 30 September 2009, whilst the rig was located at the Inclination Test site.

A comparison of the independent primary and secondary DGPS was also conducted. The results from both of these checks are provided in Table 5-1.

GDA94, MGA, Zone 55, CM 147°E		
	Easting (m)	**Northing (m)**
Established Well Coordinates	313256.10	5780730.19
Observed Coordinates	313257.82	5780728.85
Difference	-1.72	1.34
Primary Navigation	313257.82	5780728.85
Secondary Navigation	313257.80	5780728.68
Difference	**0.02**	**0.17**

TABLE 5-1 : DGPS NAVIGATION INTEGRITY CHECK

The DGPS check described above was carried out while the *Kan Tan IV* was held in place by the tow wire only and was therefore moving. The check was carried out to determine whether the two independent navigation systems were calculating the same position for the drill stem. This check demonstrated that the navigation systems onboard the *Kan Tan IV* were set up and working correctly.

Details of all positioning checks are provided in Appendix C.

5.2 Gyro Compass Calibration

The primary heading system Starfix.TOPS calculates a highly accurate real-time True heading using two GPS antennas set up at a known baseline and offset.

The calibration of the Starfix.TOPS heading system and survey gyro compasses comprised a total station traverse to determine the correction in heading from the GPS antenna baseline and the rig centreline.

These observations were carried out while the rig was alongside Lascelles Wharf in Geelong and stationary on 11 August 2009.

As the GPS baseline is a constant offset from the rig centreline and GPS is not affected by a slow ‘drift’ effect like conventional gyro compasses, therefore regular sun observations for a gyro compass correction are not required.

A C-O (Corrected-Observed) value of 99.98° was determined for the Starfix.TOPS baseline correction to align it to the rig centreline. This correction was applied in the navigation suite.

6.0 SURVEY PARAMETERS

6.1 Geodetic Parameters

All coordinates are referenced to the Geocentric Datum of Australia 1994 (GDA94) unless otherwise noted. The Global Positioning System (GPS) operates on the World Geodetic System 1984 (WGS84) datum. Fugro's Differential GPS Reference Stations are currently defined in the International Terrestrial Reference Frame 2000 (ITRF2000 Epoch 2009.5) datum. Due to the continual refinement of the WGS84 reference frame, for all cases, the transformation parameters indicate that the WGS84 and ITRF2000 reference frames are essentially identical.

Datum	**:**	**World Geodetic System 1984 (WGS84)**
Reference Spheroid	:	World Geodetic System 1984
Semi Major Axis	:	6378137.000m
Inverse flattening	:	298.257223563

Datum	**:**	**Geocentric Datum of Australia 1994 (GDA94)**
Reference Spheroid	:	Geodetic Reference System 1980 (GRS80)
Semi Major Axis	:	6378137.000m
Inverse flattening	:	298.257222101

The following seven parameter datum transformation (Table 6-1) was used in Fugro's software to transform WGS84 (ITRF2000 Epoch 2009.5) coordinates to GDA94 coordinates. These parameters are calculated from the 14 parameter transformation defined by Geoscience Australia. Fugro follows the Coordinate Frame Rotation convention (as defined by UKOOA) for datum transformations.

Transformation Parameters from WGS84 (ITRF2000 Epoch 2009.5) to GDA94			
dX	+0.0284m	rX	+0.018588"
dY	-0.0529m	rY	+0.015736"
dZ	-0.1209m	rZ	+0.019196"
dS	+0.002824ppm		

TABLE 6-1 : TRANSFORMATION PARAMETERS

The proposed drilling location and all project coordinates are grid coordinates on the Map Grid of Australia.

Grid	**:**	**Map Grid of Australia (MGA94)**
Projection	:	Universal Transverse Mercator
Latitude of Origin	:	0°
Central Meridian	:	147° E (UTM Zone 55)
Central Scale Factor	:	0.9996
False Easting	:	500000m
False Northing	:	10000000m
Units	:	Metres

6.2 Differential GPS Reference Stations

Fugro's Differential GPS Reference Stations are currently defined in the ITRF2000 (Epoch 2009.75) datum and are shown in Table 6-2.

ITRF2000, Epoch 2009.75					
Station	**Id**	**Latitude**	**Longitude**	**Height (m)**	**Uplink**
Melbourne	385	37° 47' 59.26129" S	144° 57' 39.31262" E	67.34	OCSat
Bathurst	336	33° 25' 46.87488" S	149° 34' 01.97127" E	756.675	OCSat
Cobar	316	31° 29' 57.42689" S	145° 50' 20.34725" E	270.182	OCSat
Brisbane	275	27° 28' 38.48330" S	153° 01' 37.35417" E	93.164	OCSat

TABLE 6-2 : DGPS REFERENCE STATIONS

6.3 Project Coordinates and Tolerances

Project target coordinates and surface tolerance for Trefoil-2 were supplied by ADA Ltd and are shown in Table 6-3. Client supplied project information is provided in Appendix D.

GDA94, MGA, Zone 55, CM 147°E			
Location	**Easting (m)**	**Northing (m)**	**Tolerance**
Trefoil-2	360696.00	5583678.00	10m radius

TABLE 6-3 : PROJECT DESIGN COORDINATES

7.0 SURVEY EQUIPMENT, VESSEL AND PERSONNEL

7.1 Equipment

Survey equipment used for positioning the *Kan Tan IV* is shown in Table 7-1.

Equipment Listing	
Ocean Patriot	
3 x	Starfix 8200HP (1 APSat link, 1 spare)
2 x	Starfix.TOPS Total Positioning System (1 OCSat link, 1 spare)
2 x	Pentium 4 computers, running Fugro's Starfix.Seis navigation software suite (1 spare)
5 x	20" monitors (2 spare)
1 x	SG Brown gyro compass
2 x	Uninterruptible power supply units (UPS)
2 x	Teledesign radio/modem (1 spare)
2 x	Esteem Wireless WiFi radios
1 x	Theodolite, tripod and dark glass
1 x	Printer
AHVs (complete system per vessel, plus one complete set of spares)	
1 x	Pentium 4 computer, running Starfix Display/Wombat
1 x	Monitor
1 x	Starfix 8200HP unit
1 x	Fluxgate compass
1 x	Teledesign radio/modem

TABLE 7-1 : EQUIPMENT LIST

All systems were provided complete with all necessary cabling, connectors, power supplies, antennae, accessories, manuals and consumables.

Refer to Figure 7-1 for an equipment flow diagram for the *Ocean Patriot* and Figure 7-2 for the equipment flow diagram for the AHVs.

7.2 Vessels

The vessels used for anchor handling and towing the *Kan Tan IV* were the *Far Fosna* and the *Far Scimitar*.

Refer to Figure 7-3 for the rig offsets.

7.3 Personnel

Fugro personnel involved in the rig move and positioning operations were as follows:

Carey Simonson	Surveyor in Charge	25 September – 05 October 2009
Alex Waugh	Surveyor	25 September – 05 October 2009

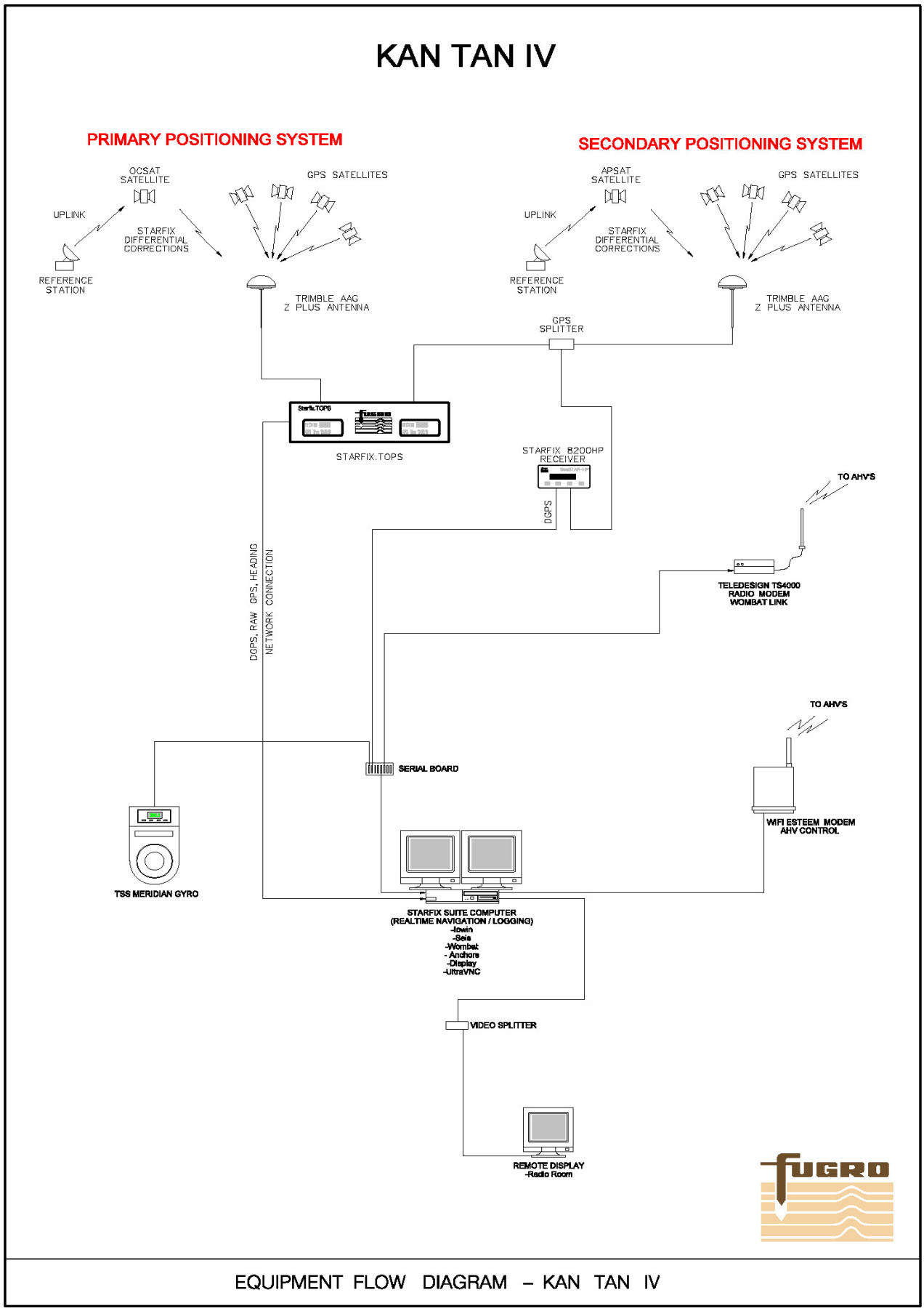


FIGURE 7-1 : EQUIPMENT FLOW DIAGRAM – MODU *KAN TAN IV*

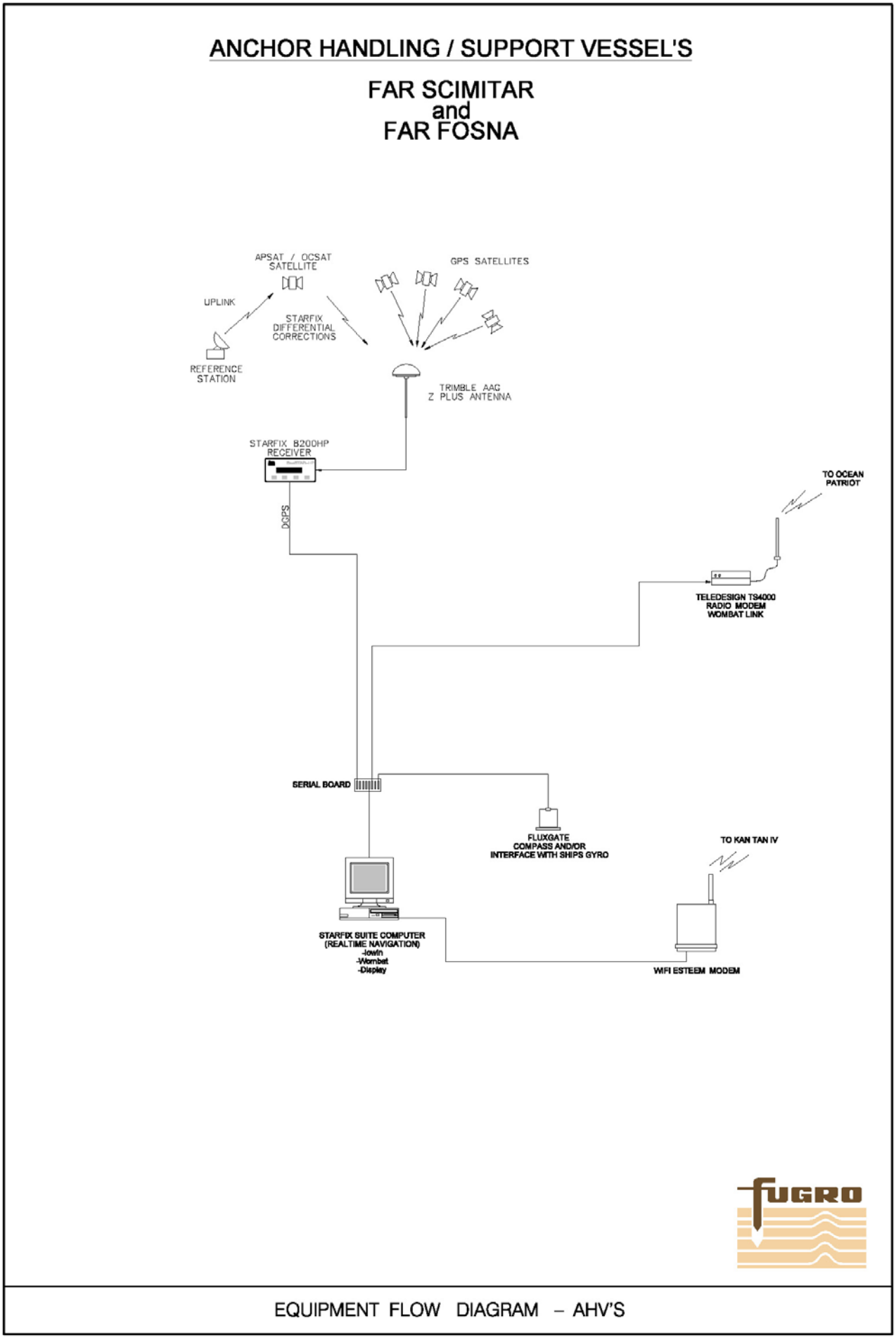


FIGURE 7-2 : EQUIPMENT FLOW DIAGRAM – AHVS

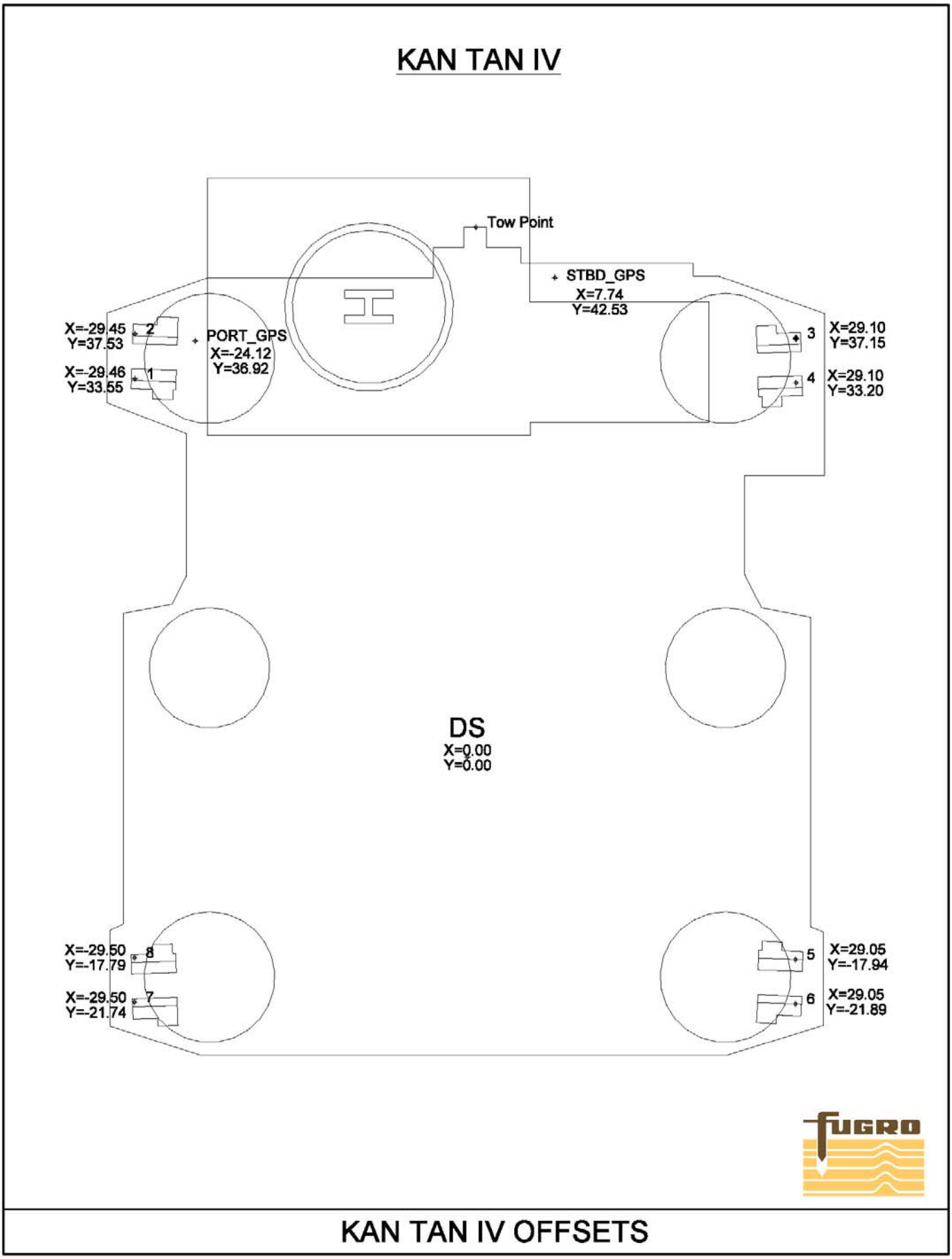


FIGURE 7-3 : RIG OFFSET DIAGRAM – MODU *KAN TAN IV*

8.0 CONCLUSIONS AND RECOMMENDATIONS

- The *Kan Tan IV* was successfully positioned during the recovery of anchors and the tow to Trefoil-2.
- The *Far Fosna* and *Far Scimitar* were successfully positioned during the towing and anchoring operations.
- The surface position of the Trefoil-2 well was determined.
- Fugro personnel worked well together with the Tow-masters, Marine and AHV crews resulting in a safe, efficient and positive working environment.

9.0 DISTRIBUTION

Copies of this report have been distributed as follows:

ADA Ltd	: 2 hard copies
Attn: Mr Mark Nasarczyk	: 1 electronic copy

APPENDIX A
DAILY OPERATIONS REPORTS

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 24/07/09
PROJECT: MOBLISATION OF KANTAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
1900	2000	S. Armstrong, A. Waugh and R. Ruddick depart New Plymouth.
2000	2030	S. Armstrong, A. Waugh and R. Ruddick arrive in Auckland.
2030	2359	S. Armstrong, A. Waugh and R. Ruddick check in Auckland Centra Airport Hotel.
2359		S. Armstrong, A. Waugh and R. Ruddick overnight in Auckland

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES:

CONSUMABLES:

ACCOMMODATION: 3 x Auckland Centra Airport Hotel

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-01

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 25/07/09
PROJECT: MOBLISATION OF KANTAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0525	S. Armstrong, A. Waugh and R. Ruddick overnight in Auckland.
0525	0700	S. Armstrong, A. Waugh and R. Ruddick check out.
0700 NZST	0900 AEST	S. Armstrong, A. Waugh and R. Ruddick fly to Melbourne.
		ALL TIMES NOW AEST.
0900	1000	S. Armstrong, A. Waugh and R. Ruddick arrive in Melbourne.
1000	1200	S. Armstrong picks up Hertz rental car.
1200	2359	S. Armstrong, A. Waugh and R. Ruddick check into Hilton Melbourne Airport Hotel.
2359		S. Armstrong, A. Waugh and R. Ruddick overnight in Melbourne on standby.

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0
Comments:					

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION: 3 x Hilton Melbourne Airport Hotel.

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-02

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 26/07/09
PROJECT: MOBLISATION OF KANTAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0930	S. Armstrong, A. Waugh and R. Ruddick overnight in Melbourne on standby.
0930	1500	S. Armstrong, A. Waugh and R. Ruddick check out.
1500	2359	S. Armstrong, A. Waugh and R. Ruddick check in Hilton Melbourne South Wharf Hotel.
2359		S. Armstrong, A. Waugh and R. Ruddick overnight in Melbourne on standby.

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION: 3 x Hilton Melbourne South Wharf Hotel.

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-03

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 27/07/09
PROJECT: MOBLISATION OF KANTAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	1030	S. Armstrong, A. Waugh and R. Ruddick overnight in Melbourne on standby.
1100	1115	Fugro informed mobilisation is delayed. Prepare to book flights to NZ.
1300	1400	S. Armstrong, A. Waugh and R. Ruddick inspect Fugro equipment container.
1400	2359	S. Armstrong, A. Waugh and R. Ruddick overnight in Melbourne.

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION: 3 x Hilton Melbourne South Wharf Hotel.

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-04

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 28/07/09
PROJECT: MOBLISATION OF KANTAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0930	S. Armstrong, A. Waugh and R. Ruddick overnight in Melbourne.
0930	1000	S. Armstrong, A. Waugh and R. Ruddick Check out.
1000	1200	S. Armstrong returns Hertz rental car.
1200 AEST	1700 NZST	S. Armstrong, A. Waugh and R. Ruddick fly to Auckland.
		ALL TIMES NOW NZST.
1700	1900	S. Armstrong, A. Waugh and R. Ruddick arrive in Auckland
1900	2000	S. Armstrong, A. Waugh and R. Ruddick fly to New Plymouth
2000		S. Armstrong, A. Waugh and R. Ruddick arrive in New Plymouth

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-05

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 04/08/09
PROJECT: MOBLISATION OF KANTAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
1300	1400	S. Armstrong, A. Waugh and R. Ruddick depart New Plymouth, NZ
1400		Fugro personnel arrive in Auckland.
1500 NZST	1700 AEST	Fugro personnel depart Auckland for Melbourne.
		ALL TIMES NOW AEST.
1700		Fugro personnel arrive in Melbourne
1800	1930	Fugro personnel collect Hertz Rental Car and drive to Geelong
1930		Fugro personnel arrive Geelong and check into Four Points Sheraton Geelong
1930	2359	Fugro personnel overnight in Geelong.

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION: 3 X FOUR POINTS SHERATON GEELONG

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-06

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 05/08/09
PROJECT: MOBLISATION OF KAN TAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0730	Fugro personnel overnight in Geelong
0730	0810	Fugro personnel arrive at Lascelles Wharf, Geelong receive Port Induction.
0810	0820	Vessel mobilisation JHA for mob of Far Scimitar and Far Fosna.
0820	0830	Board Far Scimitar, sign on and receive vessel induction.
0830	1400	Commence mobilisation of Far Scimitar, installation of critical navigation system component only.
1400		Far Scimitar anchor handling nav spread installed, less critical components left due to time constraints.
1405	1415	Board Far Fosna, sign on and receive vessel induction.
1415	2130	Commence mobilisation of Far Fosna, installation of critical components only.
2130		Far Fosna anchor handling nav spread installed and operational.
2130	2230	Carrying out quay-side gyro calibrations of AHVs Far Scimitar and Far Fosna at Lascelles Wharf. Packing up equipment.
2230	2245	Re-secure equipment in Fugro container ready for lift to Kan Tan IV.
2245	2300	Sign out and leave Geelong Port. Travel to Four Points Sheraton
2300	2359	Overnight in Geelong

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	1
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	6

Comments:
Fugro personnel received 3 x inductions of Far Scimitar and Far Fosna, as well as Lascelles wharf induction.

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION: 3 X FOUR POINTS SHERATON GEELONG

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-07

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 06/08/09
PROJECT: MOBLISATION OF KAN TAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0830	Fugro personnel overnight in Geelong
0830	1000	Travel to Jaycar Electronics to purchase necessary equipment.
1000		Request information from ADA company man on status of Fugro container lift and whether or not to check out of hotel. Told to call back at midday.
1100	1200	Check out of Four Points Sheraton Geelong hotel. Travel to Bunnings to purchase additional tools.
1200	1230	Informed by ADA company man that Fugro container lift is postponed due to crane issues, informed that Far Scimitar is still alongside Lascelles wharf.
1230	1245	Arrive at Lascelles wharf to install additional item on Far Scimitar. Informed that it is due to leave in an hour.
1245	1255	Board Far Scimitar to install Wireless Esteem radio. Informed that pilot is due in 30min. Pilot arrives earlier than planned.
1255	1310	Leave Far Scimitar as it is leaving Lascelles Wharf, sign off vessel.
1310	1330	Contact Far Fosna regarding collection by FRC to install Wireless Esteem radio. Leave Lascelles Wharf.
1330	1340	Board Far Fosna Fast Rescue Craft, depart to Far Fosna.
1340	1400	Arrive on board Far Fosna.
1400	1715	Commence installation of Esteem Wireless radio control system.
1715	1730	Complete installation of Esteem radios, packing up and signing off vessel.
1730	1745	Depart Far Fosna by FRC for Geelong
1745	1800	Arrive in Geelong, depart Geelong for Lascelles Wharf.
1800	1830	Arrive Lascelles wharf.
1830	1900	Arrive on board Kan Tan IV, receive safety induction and internal walk-around
1900	2359	Overnight on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	3

Comments: Fugro personnel received 3 x inductions of Kan Tan IV

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-08

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 07/08/09
PROJECT: MOBLISATION OF KAN TAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0700	Overnight Kan Tan IV
0700	0730	Standing by for external walkaround/induction
0730	0830	Receive exterior walk-around Kan Tan IV.
0830	0930	Informed that Fugro container will not be lifted to Kan Tan IV. Standing by and preparing equipment to install on Far Scimitar.
0930	1300	Leave Kan Tan IV to install wireless esteem radio on Far Scimitar.
1300	1310	Board Far Scimitar FRC in Geelong. Travel to Far Scimitar
1310	1320	Arrive on board Far Scimitar and sign on to vessel
1320	1630	Commence installation of Wireless Esteem Radio system.
1630	1635	Complete installation of Wireless Esteem Radio, all systems on both AHVs confirmed as working via wireless link to Far Fosna.
1635	1645	Sign off Far Scimitar and depart via FRC to Geelong.
1645	1700	Arrive in Geelong, depart for Lascelles Wharf.
1700	1830	Arrive Lascelles Wharf, hand carry some equipment up gangway to avoid crane delays.
1830	1900	Walk around to determine antenna placement.
1830	1930	S Armstrong receivers Maersk Permit to Work training.
1900	2359	Overnight on board Kan Tan IV.

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-09

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 08/08/09
PROJECT: MOBLISATION OF KAN TAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0640	Overnight Kan Tan IV
0640	0700	S Armstrong attends Pre-tour meeting, informed that shore crane will lift Fugro container onto Kan Tan IV
0700	0730	Carry out JHA for mobilisation of Kan Tan IV
073	1100	Commence mobilisation of Kan Tan IV, running cables for GPS antennae.
1100	1130	Finished installation of GPS antennae and cables. Running cable for radio.
1130	1400	Enquire about taking out a Permit To Work to install Radio and Esteem modem on Kan Tan IV radar mast.
1200		Fugro container lifted onto Kan Tan IV helideck.
1400	1600	Permit to Work Aloft issued. Begin installation of Esteem and Radio antennas.
1600	1900	Work up Radar mast complete. Permit closed. Running cables for Radio and Esteem antennas.
1900	2359	Overnight on Kan Tan IV.

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	1
Incidents	0	Hazard Cards Submitted	3	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-10

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 09/08/09
PROJECT: MOBLISATION OF KAN TAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0640	Overnight Kan Tan IV
0640	0700	S Armstrong attends Pre-tour meeting.
0700	0900	Carry on running Esteem cables, preparing for offset measurements
0900	1900	Measuring offsets with Total Station
0930	1000	Installing second Esteem antenna
1000	1900	Installing internal systems, connecting up nav spread components, installing monitors, running internal cables etc.
1900	2359	End of day, overnight on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	3	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-11

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 10/08/09
PROJECT: MOBLISATION OF KAN TAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0640	Overnight Kan Tan IV
0640	0700	S Armstrong and R Ruddick attend Pre-tour meeting.
0700	1300	Measuring offsets for anchor fairleads and vessel.
1300	1400	Troubleshooting radio and esteem systems to test whether it is obstruction causing a lack of connection to AHVs.
1400	1500	S Armstrong and R Ruddick leave Lascelles Wharf to test radio connection. Confirmed it is working and it is distance/obstructions between rig and AHVs that is causing no connection.
1500	1530	S Armstrong and R Ruddick arrive on board Far Fosna to re-start Nav system .
1530	1600	S Armstrong and R Ruddick back on board Kan Tan IV. Re-installing antenna used for radio test.
1600	1900	Measuring fairleads and offsets.
1900	2359	End of day, overnight on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	3	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	0	Starfix Wombat (remote)	0	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	0	Fluxgate Compass	0	A. Waugh	Surveyor
Radio Modem	0	Radio Modem	0	R. Ruddick	Engineer
UPS	0	Starfix HP DGPS	0		
Theodolite	0				
SG Brown Gyro	0				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-12

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 11/08/09
PROJECT: MOBLISATION OF KAN TAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0640	Overnight Kan Tan IV
0640	0700	S Armstrong and R Ruddick attend Pre-tour meeting.
0700	0730	Continue measurement of fairleads.
073	1100	A Waugh departs Lascelles Wharf for Jaycar to purchase consumables.
1100	1130	Centreline of vessel marked, Fugro container arranged and tidied.
1130		All systems operational.
1230	1330	Fugro personnel depart Kan Tan IV, mobilisation finished.
1330	1400	Hertz rental car returned at Melbourne airport.
1400	2359	Fugro personnel overnight at Hilton Melbourne airport hotel.

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	3	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

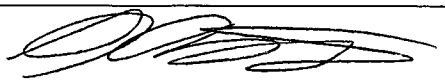
EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2	R. Ruddick	Engineer
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-13

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 12/08/09
PROJECT: MOBLISATION OF KAN TAN IV & AHV VESSELS	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	1000	Overnight at Hilton Melbourne Airport Hotel
1000	1200	Check in at Melbourne airport for flight to NZ.
1200		Fugro personnel depart Melbourne Airport for NZ.
		ALL TIMES NOW NZST
1730		Fugro personnel arrive in Auckland.
1915	2000	Fugro personnel depart Auckland for New Plymouth.
2000		Fugro personnel arrive New Plymouth.

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

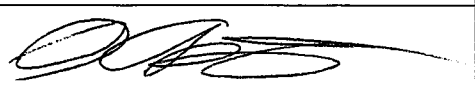
EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	S. Armstrong	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2	R. Ruddick	Engineer
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				

VEHICLES: Hertz Rental car.

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-14

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 25/09/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001		
1400		Fugro Personnel depart New Plymouth for Wellington
1435		Fugro Personnel arrive in Wellington
1600		Fugro Personnel depart Wellington for Melbourne
		ALL TIMES NOW AEST
1800		Fugro Personnel arrive Melbourne
1845		Fugro Personnel check in to South Wharf Hilton
2359		Personnel overnight in Melbourne

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION: SOUTH WHARF HILTON					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-15

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 26/09/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	2359	Personnel Standingby in Melbourne
2359		Personnel overnight in Melbourne

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION: SOUTH WHARF HILTON					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-16

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 27/09/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0600	Personnel Standingby in Melbourne
0600		Personnel check out of hotel
0610		Personnel Taxi to Britstow Heliport
0700		Check in at Bristow Heliport
1215		Depart heliport for Kan Tan IV
1230		Arrive Kan Tan IV
1330		Carey Simonson attends Kan Tan IV Induction
1500		System up and running. Far Scimitar not coming in. Will need to visit vessel.
2359		Standing by on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	1

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-17

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 28/09/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0700	Standing by on Kan Tan IV
0700		Checked setup
0900	1130	Conducted a Pre Rig Move GPS Check
1330	1500	System shut down for planned power outage
1700		Received Rig Move procedures and filled in spreadsheet and anchor positions
1700	2359	Standing by on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-18

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 29/09/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0900	Standing by on Kan Tan IV
0900		Received passage plan for tow from Far Scimitar
1245		Received fairlead and chain specs
1510		Alex Billy Pughed to Far Fosna to transfer to Far Scimitar
1730		Alex returned to Kan Tan Iv
1730	2359	Standing by on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	1
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-19

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 30/09/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	1600	Standing by on Kan Tan IV
1600	1645	Rig Move Meeting
1645	2359	Standing by on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-20

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 01/10/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	1600	Standing by on Kan Tan IV
1900	1915	Abandon Rig Drill
1915	2359	Standing by on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	1	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-21

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 02/10/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001	0300	Standing by on Kan Tan IV
0300		Start Tow to Trefoil-2
0515		Pilot on board
1305		Pilot Departs
1625		Rebooted Seis Computer to get mouse working again
2359		Continuing Tow to Trefoil-2

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments:

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-22

DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD		LOCATION: MELBOURNE, AUSTRALIA	DATE: 03/10/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2		VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001		Continuing Tow to Trefoil-2
0945		Start shortening Tow Wire and Reducing Speed
1215		Commence Deploying Anchor #6
1230		Anchor #6 on Bottom
1255		Stop running out chain for Anchor #6
1310		Anchor #2 Pennant Wire handed to Far Fosna
1340		Commence Deploying Anchor #2
1420		Anchor #2 on Bottom
1425		Far Fosna Chasing Back
1505		Anchor #2 Pennant Wire handed back to Kan Tan IV
1515		Anchor #3 Pennant Wire handed to Far Fosna
1525		Commence Deploying Anchor #3
1625		Anchor #3 on Bottom
1625		Far Fosna Chasing Back
1700		Anchor #3 Pennant Wire handed back to Kan Tan IV
1720		Anchor #7 Pennant Wire handed to Far Fosna
1730		Commence Deploying Anchor #7
1800		Anchor #7 on Bottom
1810		Far Fosna Chasing Back
1845		Anchor #7 Pennant Wire handed back to Kan Tan IV
1855		Anchor #8 Pennant Wire handed to Far Fosna
1900		Commence Deploying Anchor #8
1925		Anchor #8 on Bottom
1935		Far Fosna Chasing Back
1955		Anchor #8 Pennant Wire handed back to Kan Tan IV
2000		Tow Bridal disconnected off Far Scimitar
2030		Anchor #1 Pennant Wire handed to Far Fosna
2035		Commence Deploying Anchor #1
2055		Anchor #1 on Bottom
2100		Far Fosna Chasing Back
2125		Anchor #1 Pennant Wire handed back to Kan Tan IV
2145		Anchor #5 Pennant Wire handed to Far Scimitar
2235		Anchor #4 Pennant Wire handed to Far Fosna
2205		Far Scimitar Commence Deploying Anchor #5
2240		Far Fosna Commence Deploying Anchor #4
2242		Anchor #5 on Bottom
2250		Far Scimitar Chasing Back
2305		Anchor #4 on Bottom
2315		Far Fosna Chasing Back
2320		Anchor #5 Pennant Wire handed back to Kan Tan IV
2330		Commence Ballasting Down
2340		Anchor #4 Pennant Wire handed back to Kan Tan IV
2359		Ballasting Down Continuing

DAILY OPERATIONS REPORT

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0
Comments:					

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-23

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 04/10/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001		Ballasting Down Continuing
0800	0830	C Simonson attends Rig Safety Meeting
1405		Kan Tan IV at drilling draft
1430		Commence Cross Tensioning
1715		Cross Tensioning Completed and Commencing moving Kan Tan IV into Position
1820		Rig Move Completed. Kan Tan IV in Drilling Position
1823	2023	Logging Position for Final Fix Report
2000	2030	A Waugh attends Rig Safety Meeting
2100		Final Fix Position Report Completed and Signed by Party Chief and Client Rep
2359		Over Night on Kan Tan IV

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments: Rig Safety Meeting Attem\nded by both Fugro BTW Survey Personnel

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-24

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: ADA PTY LTD	LOCATION: MELBOURNE, AUSTRALIA	DATE: 05/10/09
PROJECT: RIG MOVE KAN TAN IV TO TREFOIL-2	VESSEL: KAN TAN IV	JOB NO: 09011

FROM	TO	SUMMARY OF OPERATIONS
0001		Over Night on Kan Tan IV
0730	0800	Helicopter briefing and safety video
0900	1000	C Simonson and A Waugh depart Kan Tan IV by Helicopter
1000	1200	Arrive Bristow Heliport Melbourne
1200	1800	Fugro personnel fly form Melbourne to Auckland
		ALL TIMES NOW NZDT
1800	1900	Arrive in Auckland
1900	2000	Depart Auckland to New Plymouth
2000		Fugro personnel arrive New Plymouth

HSE DETAILS					
Emergency Muster	0	Toolbox Meetings	0	JHA's	0
Incidents	0	Hazard Cards Submitted	0	HSE / Project Meetings	0
Safety Drills Fire/Abandon	0	Safety Notices Received	0	Vessel inductions	0

Comments: Rig Safety Meeting Attended by both Fugro BTW Survey Personnel

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	2	C. Simonson	Surveyor in Charge
Starfix HP DGPS	1	Fluxgate Compass	1	A. Waugh	Surveyor
Radio Modem	2	Radio Modem	2		
UPS	2	Starfix HP DGPS	2		
Theodolite	1				
SG Brown Gyro	1				
Starfix.TOPS	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		09011-25

APPENDIX B
FINAL POSITIONING DATA

Starfix Final Fix Report

Fugro Job Number	09011
Job Name	Trefoil-2 Rig Move
Fugro Personnel	C.M. Simonson & A.R. Waugh
Client Name	ADA
Client Representative	J. McGarrity
Sampling Started	04 Oct 2009 6:23:31 p.m.
Sampling Ended	04 Oct 2009 8:23:31 p.m.
Comment	Trefoil-2 Final Position

Intended Offset / Well Location

Geodetic Datum	**GDA94**
Latitude	39°53'07.8909"S
Longitude	145°22'14.8525"E
Projection	**Transverse Mercator (UTM) Zone: 55**
Easting	360696.000 m
Northing	5583678.000 m
Intended Rig Heading	0.00 °T

Final DGPS Position Fix Summary for Kan Tan IV

CRP computed from TOPS_OCSAT.GGA (Primary)

CRP Offset From CRP		
Starboard	0.000 m	
Forward	0.000 m	
Up	0.000 m	
Geodetic Datum	**GDA94**	**WGS84**
Latitude	39°53'07.9334"S	39°53'07.9058"S
Longitude	145°22'14.6152"E	145°22'14.6280"E
Projection	**Transverse Mercator (UTM) Zone: 55**	
Easting	360690.389 m	
Northing	5583676.588 m	
Height	20.644 m (ellipsoidal)	
Final Rig Heading	316.79 °T (Convergence -1.04° Australia/New Zealand)	
Gyro C-O	99.98 °	

Position is 5.79 m @ 256.92 °T (255.87 °G) FROM intended location

CRP computed from 8200HP_APSAT.GGA (Secondary)

Geodetic Datum	**GDA94**
Latitude	39°53'07.9321"S
Longitude	145°22'14.6192"E
Projection	**Transverse Mercator (UTM) Zone: 55**
Easting	360690.481 m
Northing	5583676.630 m
Height	21.377 m (ellipsoidal)

Position is 5.69 m @ 257.10 °T (256.06 °G) FROM intended location

Positioning System Comparison (System 2 minus System 1)

Delta Easting	0.093 m
Delta Northing	0.042 m
Delta Height	0.733 m

Party Chief: _____ Client Representative: _____

Geodetic Parameters

Geodetic Datum	**GDA94**		
Spheroid	**GRS80**		
Semi-Major Axis	6378137.000		
Inverse Flattening	298.2572221010		
Eccentricity^2	0.006694380022901		
DX	0.0284m	RX	0.0186 arc seconds
DY	-0.0529m	RY	0.0157 arc seconds
DZ	-0.1209m	RZ	0.0192 arc seconds
D Scale	0.0028ppm		
Rotation Convention	+RZ=-RLongitude		
Projection	**Transverse Mercator (UTM) Zone: 55**		
Latitude of Origin	0°00'00.0000"N		
Longitude of Origin	147°00'00.0000"E		
False Easting	500000.000m		
False Northing	10000000.000m		
Scale Factor	0.9996		

Final Primary Antenna Position (TOPS_OCSAT.GGA)
14401 observations used out of a total of 14401

Primary Antenna Offset from CRP

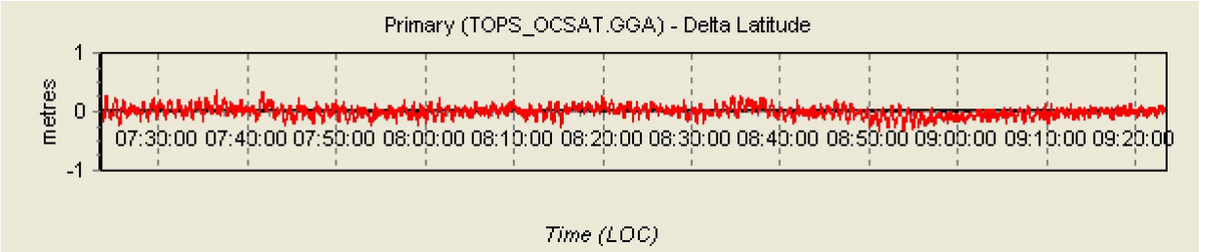
Starboard	-24.120 m
Forward	36.920 m
Up	0.000 m

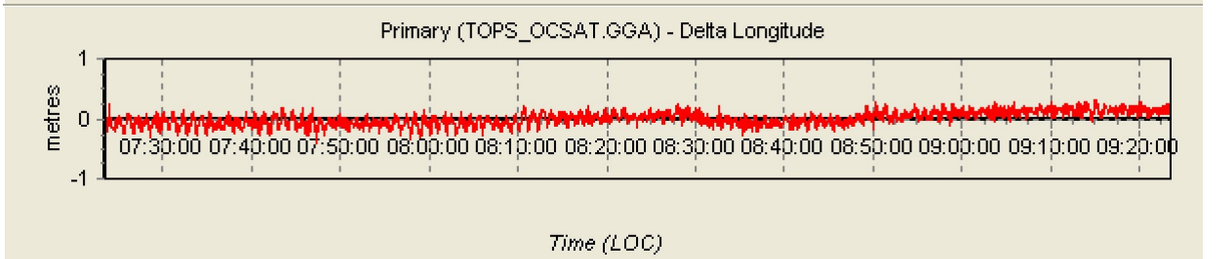
Mean

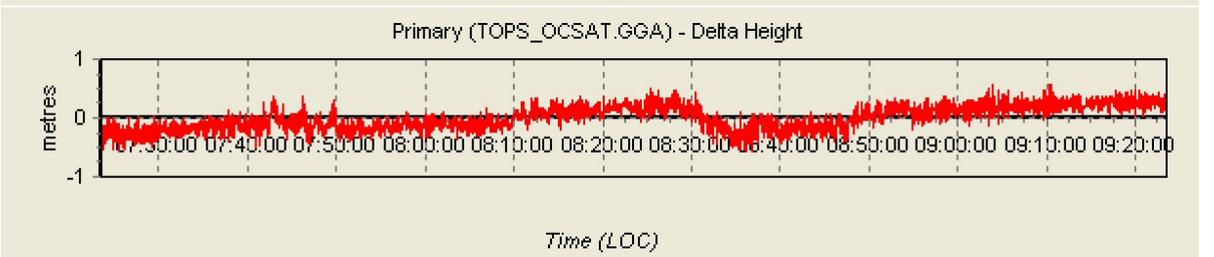
Geodetic Datum	**WGS84**
Latitude	39°53'07.5686"S
Longitude	145°22'12.8240"E
Spheroidal Ht	20.59 m
Geodetic Datum	**GDA94**
Latitude	39°53'07.5962"S
Longitude	145°22'12.8112"E
Spheroidal Ht	20.64 m
Projection	**Transverse Mercator (UTM) Zone: 55**
Easting	360647.349 m
Northing	5583686.202 m
HDOP	1.14
Heading	316.79 °T
Age Of Corrections	12.5 s
Satellites	9

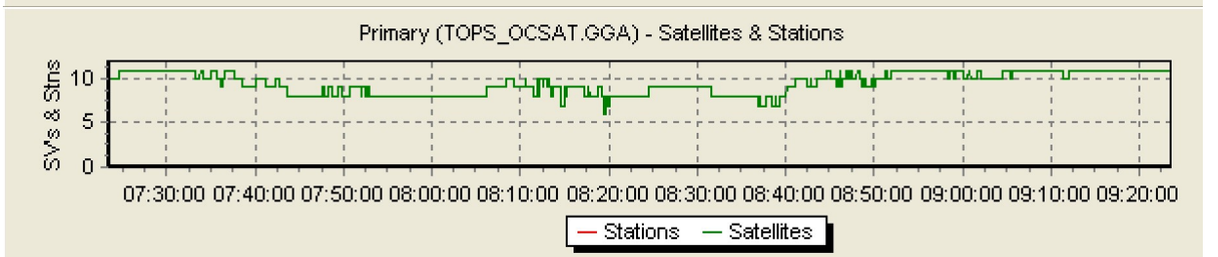
Standard Deviation

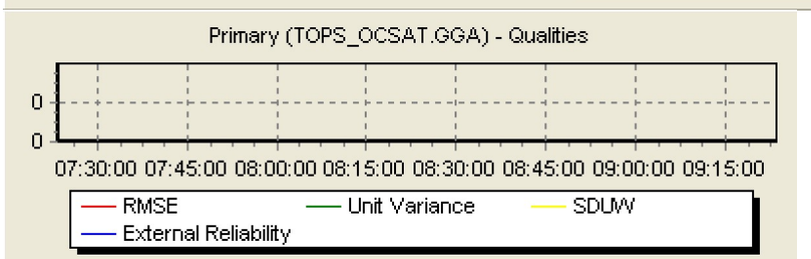
Latitude or Northing	0.09 m
Longitude or Easting	0.11 m
Spheroidal Height	0.20 m
HDOP	0.34
Heading	0.10 °T

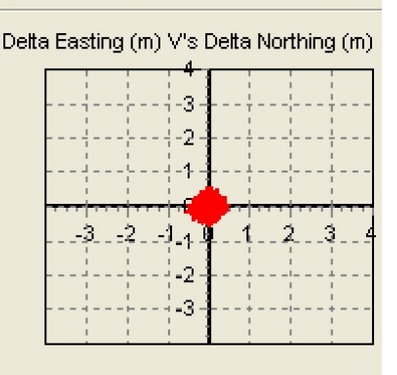

Primary (TOPS_OCSAT.GGA) - Delta Latitude
metres
1
0
-1
07:30:00 07:40:00 07:50:00 08:00:00 08:10:00 08:20:00 08:30:00 08:40:00 08:50:00 09:00:00 09:10:00 09:20:00
Time (LOC)

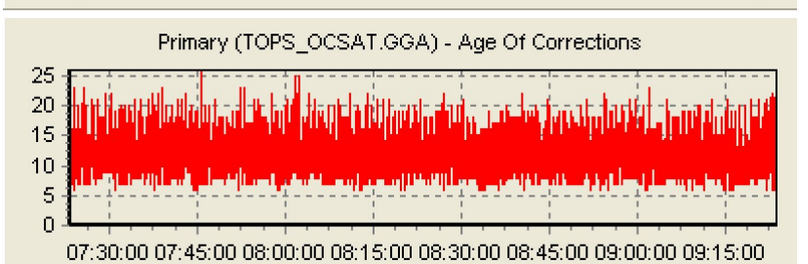

Primary (TOPS_OCSAT.GGA) - Delta Longitude
metres
1
0
-1
07:30:00 07:40:00 07:50:00 08:00:00 08:10:00 08:20:00 08:30:00 08:40:00 08:50:00 09:00:00 09:10:00 09:20:00
Time (LOC)


Primary (TOPS_OCSAT.GGA) - Delta Height
metres
1
0
-1
07:30:00 07:40:00 07:50:00 08:00:00 08:10:00 08:20:00 08:30:00 08:40:00 08:50:00 09:00:00 09:10:00 09:20:00
Time (LOC)


Primary (TOPS_OCSAT.GGA) - Satellites & Stations
SVs & Stns
10
5
0
07:30:00 07:40:00 07:50:00 08:00:00 08:10:00 08:20:00 08:30:00 08:40:00 08:50:00 09:00:00 09:10:00 09:20:00
Stations
Satellites

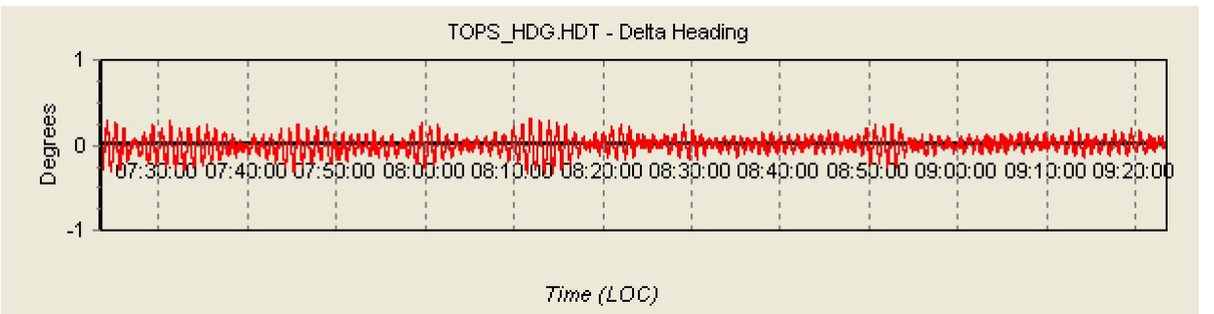

Primary (TOPS_OCSAT.GGA) - Qualities
0
0
07:30:00 07:45:00 08:00:00 08:15:00 08:30:00 08:45:00 09:00:00 09:15:00
RMSE
Unit Variance
SDUW
External Reliability


Delta Easting (m) V's Delta Northing (m)
4
3
2
1
-3
-2
-1
1
2
3
4
-1
-2
-3


Primary (TOPS_OCSAT.GGA) - Age Of Corrections
25
20
15
10
5
0
07:30:00 07:45:00 08:00:00 08:15:00 08:30:00 08:45:00 09:00:00 09:15:00

Heading Statistics (TOPS_HDG.HDT)
14401 observations used out of a total of 14401

Gyro C-O	99.98 °
Mean	316.79 °T
Standard Deviation	0.10 °T



APPENDIX C
RIG MOVE POSITIONING SYSTEM SETUP, CHECKS AND CALIBRATIONS

RIG POSITIONING
DGPS CHECK LIST (PRE RIG MOVE)

Client : **ADA** **Job Number :** **09011**

Rig : **Kan Tan IV** **Date:** **30-Sep-09**

Project : **Rig Move from Geelong to Trefoil-2**
from **Geelong** **to** **Trefoil-2**

1) **ESTABLISHED WELL COORDINATES**
Horizontal Datum: GRS80
Observe 1 minute of DGPS data, logging both Primary and Secondary systems.
Establish a mean drill stem position from the primary navigation system and compare against the established well coordinates.

	Easting	Northing
Established Well Coordinates	313256.10	5780730.19
Observed Coordinates	313257.82	5780728.85
Differences	-1.72	1.34

Ensure agreement OK(?) Y / N
If No, Check and ensure that rig has not moved off location.

2) PRIMARY/SECONDARY NAV SYSTEMS
From the data logged above, compare the observed coordinates for both Primary and Secondary navigation systems.

	Easting	Northing
Primary Navigation	313257.82	5780728.85
Secondary Navigation	313257.80	5780728.68
Differences	0.02	0.17

Ensure agreement OK(?) Y / N
If No, Check antenna offsets and gyro calibration.

Party Chief/Surveyor: C. Simonson Client Representative: J McGarrity

APPENDIX D
CLIENT SUPPLIED INFORMATION

4.0 Well Data

4.1 General License and Field Data

Well Name	Trefoil-2
Well Type	Appraisal
Field Name	Trefoil
License/Permit	T/18P
Well Operator	Origin Energy Resources Ltd
Permit Operator	Origin Energy Resources Ltd
Partners	AWE Petroleum Ltd Cal Energy Gas (Australia) Ltd Arc (Bass Gas) Pty Ltd
Earliest Spud Date	July 2009
Latest Spud Date	August 2009
Total Depth	3195mTVDSS / 3221mTVDRT
Well Type	Vertical
Water Depth	69m MSL

4.2 Surface Location

Spheroid and Datum	GDA94
Latitude	39° 53’ 07.89” S
Longitude	145° 22’ 14.87” E
Projection	UTM 55
Easting	360 696m
Northing	5 583 678m
Surface Tolerance	10m radius, centred on proposed well location

4.3 Total Depth Location

Latitude	39° 53’ 07.89” S
Longitude	145° 22’ 14.87” E
Projection	UTM 55
Easting	360 696m
Northing	5 583 678m
Subsurface Target Tolerance – Top reservoir and TD	50m radius, centred on proposed well location
Primary Target	Intra-EVCM sands (top TL10 to base TF110)
Secondary Target	N/A

APPENDIX 14: CASING TALLY AND CEMENTING REPORT

The following casing tally is a tally of the 9.625in casing string prior to the stuck-in-hole incident.

Trefoil - 2

9 5/8" CASING TALLY

FINAL RUNNING TALLY

Updated: Wednesday 21st October 2009

Casing Specifications					
Grade	L80		Date Casing Run		
Weight (ppf)	47	(70.1 kg/m)	Casing Burst	6,860	psi (47.3 MPa)
Connection	Vam Top		Casing Collapse	4,760	psi (32.8 MPa)
Ave Thread Loss (m)	0.15	(5.905 in)	Pipe Yield	1,086,000	lb (483 kdaN)
Casing OD (in)	9.625	(244.475 mm)	Connection Yield	1,062,000	lb (472 kdaN)
Calipered ID (in)	8.728	(221.69 mm)	Calc. Capacity	0.2428	bbl/m (0.0386 M3/m)
Hole ID (in)	12.250	(311.15 mm)	Calc. Capacity	10.197	US Gallons/metre
Mud Weight	9.10	ppg (1.092 SG	Calc. CE Displacement	0.2953	bbl/m (0.0469 M3/m)
Bouyancy Factor	0.8608		Est. Dry Wt (lb)	388,778	(176.72 MT)
Nominal Thread Loss	8.681		Est. Bouyant Wt (lb)	334,674	(152.12 MT)
			Make-Up Torque	15,900	kftlb (2200 daNm)

** Make up loss from W'ford Data book and confirmed with measurement*

Centraliser Program

Shoe Joint - 2 x Slider 11 - 2 spaced equally between length of pipe. Pre-installed onshore
Intermediate joint - 2 x Slider 11 - mid joint. - Pre-installed onshore
Float collar joint - 1 x Slider 11 - mid joint. - Pre-installed onshore
Casing - 8 x slider 11 - mid joint - 1 per joint above shoe track.

Torque		
Max	17,400	Ft/Lbs
Optium	15,900	Ft/Lbs
Min	14,400	Ft/Lbs

Pup Joint lengths

#A	0.000	m
#B	0.000	m
#C	0.000	m

RT to top of 13-3/8" WH	93.81	m
Hole Depth	2520.12	m
Rat Hole Required	5.00	m
9.625 in Landing Depth	2515.12	m
9.625 in Run Tally Length	2521.27	m
12.25 in Rat Hole/Stickup	-6.15	m

Max Coupling OD *10.625*

Comment:
Comment:

Seq No	IN / OUT	Joint Name	Joint Length	Effective Length	Cum. Length	Depth top Conn	Depth Bot Conn	Remarks	Cum Bouyed Wt (lb)	Cum PVT Displ (bbl)
1		Shoe Jt	12.620	12.470	12.470	2502.65	2515.12	2 X Slider 11 Centraliser	1670	3.7
2		Int Jt	12.184	12.034	24.504	2490.62	2502.65	2 x Slider 11 Centraliser	3270	7.2
3		Float Jt	12.650	12.500	37.004	2478.12	2490.62	1 x Slider 11 Centraliser	4940	10.9
4		245	12.183	12.033	49.037	2466.08	2478.12	1 x Slider 11 Centraliser	6550	14.5
5		244	12.017	11.867	60.904	2454.22	2466.08	1 x Slider 11 Centraliser	8140	18
6		243	12.185	12.035	72.939	2442.18	2454.22	1 x Slider 11 Centraliser	9750	21.5
7		242	12.180	12.030	84.969	2430.15	2442.18	1 x Slider 11 Centraliser	11350	25.1
8		241	12.177	12.027	96.996	2418.12	2430.15	1 x Slider 11 Centraliser	12960	28.6
9		240	12.181	12.031	109.027	2406.09	2418.12	1 x Slider 11 Centraliser	14570	32.2
10		239	12.184	12.034	121.061	2394.06	2406.09	1 x Slider 11 Centraliser	16180	35.7
11		238	12.183	12.033	133.094	2382.03	2394.06	1 x Slider 11 Centraliser	17780	39.3
12		237	11.980	11.830	144.924	2370.20	2382.03		19360	42.8
13		236	12.180	12.030	156.954	2358.17	2370.20		20970	46.3
14		235	12.181	12.031	168.985	2346.14	2358.17		22580	49.9
15		234	12.184	12.034	181.019	2334.10	2346.14		24190	53.4
16		233	12.183	12.033	193.052	2322.07	2334.10		25800	57
17		232	12.183	12.033	205.085	2310.04	2322.07		27400	60.6
18		231	12.182	12.032	217.117	2298.00	2310.04		29010	64.1

Seq No	IN / OUT	Joint Name	Joint Length	Effective Length	Cum. Length	Depth top Conn	Depth Bot Conn	Remarks	Cum Bouyed Wt (lb)	Cum PVT Displ (bbl)
19		**230**	**12.182**	**12.032**	229.149	2285.97	2298.00		30620	67.7
20		**229**	**12.156**	**12.006**	241.155	2273.97	2285.97		32220	71.2
21		**228**	**12.184**	**12.034**	253.189	2261.93	2273.97		33830	74.8
22		**227**	**12.183**	**12.033**	265.222	2249.90	2261.93		35440	78.3
23		**226**	**11.969**	**11.819**	277.041	2238.08	2249.90		37020	81.8
24		**225**	**12.180**	**12.030**	289.071	2226.05	2238.08		38620	85.4
25		**224**	**12.183**	**12.033**	301.104	2214.02	2226.05		40230	88.9
26		**223**	**12.180**	**12.030**	313.134	2201.99	2214.02		41840	92.5
27		**222**	**12.184**	**12.034**	325.168	2189.95	2201.99		43450	96
28		**221**	**12.181**	**12.031**	337.199	2177.92	2189.95		45060	99.6
29		**220**	**12.840**	**12.690**	349.889	2165.23	2177.92		46750	103.3
30		**219**	**12.186**	**12.036**	361.925	2153.20	2165.23		48360	106.9
31		**218**	**12.182**	**12.032**	373.957	2141.16	2153.20		49970	110.4
32		**217**	**11.945**	**11.795**	385.752	2129.37	2141.16		51540	113.9
33		**216**	**12.181**	**12.031**	397.783	2117.34	2129.37		53150	117.4
34		**215**	**12.183**	**12.033**	409.816	2105.30	2117.34		54760	121
35		**214**	**12.182**	**12.032**	421.848	2093.27	2105.30		56370	124.6
36		**213**	**12.182**	**12.032**	433.880	2081.24	2093.27		57970	128.1
37		**212**	**12.144**	**11.994**	445.874	2069.25	2081.24		59580	131.6
38		**211**	**12.182**	**12.032**	457.906	2057.21	2069.25		61180	135.2
39		**210**	**12.180**	**12.030**	469.936	2045.18	2057.21		62790	138.8
40		**209**	**12.180**	**12.030**	481.966	2033.15	2045.18		64400	142.3
41		**208**	**12.180**	**12.030**	493.996	2021.12	2033.15		66010	145.9
42		**207**	**12.179**	**12.029**	506.025	2009.10	2021.12		67610	149.4
43		**206**	**12.180**	**12.030**	518.055	1997.07	2009.10		69220	153
44		**205**	**12.184**	**12.034**	530.089	1985.03	1997.07		70830	156.5
45		**204**	**12.180**	**12.030**	542.119	1973.00	1985.03		72440	160.1
46		**203**	**12.184**	**12.034**	554.153	1960.97	1973.00		74040	163.6
47		**202**	**12.193**	**12.043**	566.196	1948.92	1960.97		75650	167.2
48		**201**	**12.182**	**12.032**	578.228	1936.89	1948.92		77260	170.7
49		**200**	**12.185**	**12.035**	590.263	1924.86	1936.89		78870	174.3
50		**199**	**12.180**	**12.030**	602.293	1912.83	1924.86		80480	177.8
51		**198**	**12.010**	**11.860**	614.153	1900.97	1912.83		82060	181.3
52		**197**	**12.160**	**12.010**	626.163	1888.96	1900.97		83670	184.9
53		**196**	**12.185**	**12.035**	638.198	1876.92	1888.96		85270	188.4
54		**195**	**12.180**	**12.030**	650.228	1864.89	1876.92		86880	192
55		**194**	**12.185**	**12.035**	662.263	1852.86	1864.89		88490	195.5
56		**193**	**12.183**	**12.033**	674.296	1840.82	1852.86		90100	199.1
57		**192**	**12.185**	**12.035**	686.331	1828.79	1840.82		91710	202.6
58		**191**	**12.180**	**12.030**	698.361	1816.76	1828.79		93310	206.2
59		**190**	**12.185**	**12.035**	710.396	1804.72	1816.76		94920	209.8
60		**189**	**12.189**	**12.039**	722.435	1792.69	1804.72		96530	213.3
61		**188**	**12.180**	**12.030**	734.465	1780.66	1792.69		98140	216.9
62		**187**	**12.189**	**12.039**	746.504	1768.62	1780.66		99750	220.4
63		**186**	**12.180**	**12.030**	758.534	1756.59	1768.62		101350	224
64		**185**	**12.185**	**12.035**	770.569	1744.55	1756.59		102960	227.5
65		**184**	**12.185**	**12.035**	782.604	1732.52	1744.55		104570	231.1
66		**183**	**12.185**	**12.035**	794.639	1720.48	1732.52		106180	234.6

Seq No	IN / OUT	Joint Name	Joint Length	Effective Length	Cum. Length	Depth top Conn	Depth Bot Conn	Remarks	Cum Bouyed Wt (lb)	Cum PVT Displ (bbl)
67		182	12.190	12.040	806.679	1708.44	1720.48		107790	238.2
68		181	12.175	12.025	818.704	1696.42	1708.44		109390	241.7
69		180	12.165	12.015	830.719	1684.40	1696.42		111000	245.3
70		179	12.185	12.035	842.754	1672.37	1684.40		112610	248.8
71		178	12.185	12.035	854.789	1660.33	1672.37		114210	252.4
72		177	12.190	12.040	866.829	1648.29	1660.33		115820	255.9
73		176	12.130	11.980	878.809	1636.31	1648.29		117420	259.5
74		175	12.030	11.880	890.689	1624.43	1636.31		119010	263
75		174	12.180	12.030	902.719	1612.40	1624.43		120620	266.5
76		173	12.180	12.030	914.749	1600.37	1612.40		122230	270.1
77		172	12.185	12.035	926.784	1588.34	1600.37		123830	273.6
78		171	12.180	12.030	938.814	1576.31	1588.34		125440	277.2
79		170	12.185	12.035	950.849	1564.27	1576.31		127050	280.7
80		169	12.070	11.920	962.769	1552.35	1564.27		128640	284.3
81		168	12.180	12.030	974.799	1540.32	1552.35		130250	287.8
82		167	12.180	12.030	986.829	1528.29	1540.32		131860	291.4
83		166	12.010	11.860	998.689	1516.43	1528.29		133440	294.9
84		165	12.180	12.030	1010.719	1504.40	1516.43		135050	298.4
85		164	12.180	12.030	1022.749	1492.37	1504.40		136660	302
86		163	12.180	12.030	1034.779	1480.34	1492.37		138260	305.5
87		162	12.180	12.030	1046.809	1468.31	1480.34		139870	309.1
88		161	12.180	12.030	1058.839	1456.28	1468.31		141480	312.6
89		160	12.185	12.035	1070.874	1444.25	1456.28		143090	316.2
90		159	12.183	12.033	1082.907	1432.21	1444.25		144700	319.7
91		158	12.798	12.648	1095.555	1419.57	1432.21		146390	323.5
92		157	12.184	12.034	1107.589	1407.53	1419.57		147990	327
93		156	12.180	12.030	1119.619	1395.50	1407.53		149600	330.6
94		155	12.184	12.034	1131.653	1383.47	1395.50		151210	334.1
95		154	12.183	12.033	1143.686	1371.43	1383.47		152820	337.7
96		153	12.185	12.035	1155.721	1359.40	1371.43		154420	341.2
97		152	12.180	12.030	1167.751	1347.37	1359.40		156030	344.8
98		151	12.185	12.035	1179.786	1335.33	1347.37		157640	348.3
99		150	12.182	12.032	1191.818	1323.30	1335.33		159250	351.9
100		149	12.183	12.033	1203.851	1311.27	1323.30		160860	355.4
101		148	12.184	12.034	1215.885	1299.24	1311.27		162460	359
102		147	12.185	12.035	1227.920	1287.20	1299.24		164070	362.6
103		146	12.183	12.033	1239.953	1275.17	1287.20		165680	366.1
104		145	12.180	12.030	1251.983	1263.14	1275.17		167290	369.7
105		144	12.185	12.035	1264.018	1251.10	1263.14		168890	373.2
106		143	12.180	12.030	1276.048	1239.07	1251.10		170500	376.8
107		142	12.175	12.025	1288.073	1227.05	1239.07		172110	380.3
108		141	12.180	12.030	1300.103	1215.02	1227.05		173720	383.9
109		140	11.779	11.629	1311.732	1203.39	1215.02		175270	387.3
110		139	12.182	12.032	1323.764	1191.36	1203.39		176880	390.9
111		138	12.180	12.030	1335.794	1179.33	1191.36		178490	394.4
112		137	12.180	12.030	1347.824	1167.30	1179.33		180090	398
113		136	12.185	12.035	1359.859	1155.26	1167.30		181700	401.5
114		135	12.183	12.033	1371.892	1143.23	1155.26		183310	405.1

Seq No	IN / OUT	Joint Name	Joint Length	Effective Length	Cum. Length	Depth top Conn	Depth Bot Conn	Remarks	Cum Bouyed Wt (lb)	Cum PVT Displ (bbl)
115		134	12.185	12.035	1383.927	1131.19	1143.23		184920	408.6
116		133	12.185	12.035	1395.962	1119.16	1131.19		186520	412.2
117		132	12.185	12.035	1407.997	1107.12	1119.16		188130	415.7
118		131	12.180	12.030	1420.027	1095.09	1107.12		189740	419.3
119		130	12.185	12.035	1432.062	1083.06	1095.09		191350	422.8
120		129	12.055	11.905	1443.967	1071.15	1083.06		192940	426.3
121		128	12.185	12.035	1456.002	1059.12	1071.15		194550	429.9
122		127	12.179	12.029	1468.031	1047.09	1059.12		196150	433.4
123		126	12.185	12.035	1480.066	1035.05	1047.09		197760	437
124		125	12.183	12.033	1492.099	1023.02	1035.05		199370	440.6
125		124	12.180	12.030	1504.129	1010.99	1023.02		200980	444.1
126		123	12.180	12.030	1516.159	998.96	1010.99		202580	447.7
127		122	12.150	12.000	1528.159	986.96	998.96		204190	451.2
128		121	12.180	12.030	1540.189	974.93	986.96		205800	454.8
129		120	12.180	12.030	1552.219	962.90	974.93		207400	458.3
130		119	12.180	12.030	1564.249	950.87	962.90		209010	461.9
131		118	12.180	12.030	1576.279	938.84	950.87		210620	465.4
132		117	12.182	12.032	1588.311	926.81	938.84		212230	469
133		116	12.180	12.030	1600.341	914.78	926.81		213830	472.5
134		115	12.180	12.030	1612.371	902.75	914.78		215440	476.1
135		114	12.180	12.030	1624.401	890.72	902.75		217050	479.6
136		113	12.182	12.032	1636.433	878.69	890.72		218660	483.2
137		112	12.183	12.033	1648.466	866.65	878.69		220260	486.7
138		111	12.180	12.030	1660.496	854.62	866.65		221870	490.3
139		110	12.180	12.030	1672.526	842.59	854.62		223480	493.8
140		109	12.180	12.030	1684.556	830.56	842.59		225090	497.4
141		108	12.182	12.032	1696.588	818.53	830.56		226690	500.9
142		107	12.180	12.030	1708.618	806.50	818.53		228300	504.5
143		106	12.180	12.030	1720.648	794.47	806.50		229910	508
144		105	12.180	12.030	1732.678	782.44	794.47		231520	511.6
145		104	12.185	12.035	1744.713	770.41	782.44		233120	515.1
146		103	12.130	11.980	1756.693	758.43	770.41		234720	518.7
147		102	12.180	12.030	1768.723	746.40	758.43		236330	522.2
148		101	12.187	12.037	1780.760	734.36	746.40		237940	525.8
149		100	12.180	12.030	1792.790	722.33	734.36		239550	529.3
150		99	12.180	12.030	1804.820	710.30	722.33		241160	532.9
151		98	12.180	12.030	1816.850	698.27	710.30		242760	536.4
152		97	12.180	12.030	1828.880	686.24	698.27		244370	540
153		96	12.170	12.020	1840.900	674.22	686.24		245980	543.5
154		95	12.180	12.030	1852.930	662.19	674.22		247580	547.1
155		94	12.180	12.030	1864.960	650.16	662.19		249190	550.6
156		93	12.180	12.030	1876.990	638.13	650.16		250800	554.2
157		92	12.170	12.020	1889.010	626.11	638.13		252400	557.7
158		91	12.120	11.970	1900.980	614.14	626.11		254000	561.3
159		90	12.180	12.030	1913.010	602.11	614.14		255610	564.8
160		89	12.180	12.030	1925.040	590.08	602.11		257220	568.4
161		88	12.182	12.032	1937.072	578.05	590.08		258830	571.9
162		87	12.015	11.865	1948.937	566.18	578.05		260410	575.4

Seq No	IN / OUT	Joint Name	Joint Length	Effective Length	Cum. Length	Depth top Conn	Depth Bot Conn	Remarks	Cum Bouyed Wt (lb)	Cum PVT Displ (bbl)
163		**86**	**12.180**	**12.030**	1960.967	554.15	566.18		262020	579
164		**85**	**12.180**	**12.030**	1972.997	542.12	554.15		263630	582.5
165		**84**	**12.180**	**12.030**	1985.027	530.09	542.12		265230	586.1
166		**83**	**12.180**	**12.030**	1997.057	518.06	530.09		266840	589.6
167		**82**	**12.182**	**12.032**	2009.089	506.03	518.06		268450	593.2
168		**81**	**12.180**	**12.030**	2021.119	494.00	506.03		270060	596.8
169		**80**	**12.180**	**12.030**	2033.149	481.97	494.00		271660	600.3
170		**79**	**11.780**	**11.630**	2044.779	470.34	481.97		273220	603.7
171		**78**	**12.182**	**12.032**	2056.811	458.31	470.34		274830	607.3
172		**77**	**12.183**	**12.033**	2068.844	446.28	458.31		276430	610.8
173		**76**	**12.183**	**12.033**	2080.877	434.24	446.28		278040	614.4
174		**75**	**12.180**	**12.030**	2092.907	422.21	434.24		279650	617.9
175		**74**	**12.180**	**12.030**	2104.937	410.18	422.21		281260	621.5
176		**73**	**12.184**	**12.034**	2116.971	398.15	410.18		282860	625.1
177		**72**	**12.180**	**12.030**	2129.001	386.12	398.15		284470	628.6
178		**71**	**12.185**	**12.035**	2141.036	374.08	386.12		286080	632.2
179		**70**	**12.180**	**12.030**	2153.066	362.05	374.08		287690	635.7
180		**69**	**12.184**	**12.034**	2165.100	350.02	362.05		289290	639.3
181		**68**	**12.182**	**12.032**	2177.132	337.99	350.02		290900	642.8
182		**67**	**12.180**	**12.030**	2189.162	325.96	337.99		292510	646.4
183		**66**	**12.182**	**12.032**	2201.194	313.93	325.96		294120	649.9
184		**65**	**12.180**	**12.030**	2213.224	301.90	313.93		295720	653.5
185		**64**	**12.182**	**12.032**	2225.256	289.86	301.90		297330	657
186		**63**	**12.180**	**12.030**	2237.286	277.83	289.86		298940	660.6
187		**62**	**12.185**	**12.035**	2249.321	265.80	277.83		300550	664.1
188		**61**	**12.185**	**12.035**	2261.356	253.76	265.80		302160	667.7
189		**60**	**12.183**	**12.033**	2273.389	241.73	253.76		303760	671.2
190		**59**	**12.183**	**12.033**	2285.422	229.70	241.73		305370	674.8
191		**58**	**12.182**	**12.032**	2297.454	217.67	229.70		306980	678.3
192		**57**	**12.080**	**11.930**	2309.384	205.74	217.67		308570	681.9
193		**56**	**12.182**	**12.032**	2321.416	193.70	205.74		310180	685.4
194		**55**	**12.182**	**12.032**	2333.448	181.67	193.70		311790	689
195		**54**	**12.182**	**12.032**	2345.480	169.64	181.67		313400	692.5
196		**53**	**12.185**	**12.035**	2357.515	157.60	169.64		315000	696.1
197		**52**	**12.185**	**12.035**	2369.550	145.57	157.60		316610	699.6
198		**51**	**12.135**	**11.985**	2381.535	133.58	145.57		318210	703.2
199		**50**	**12.180**	**12.030**	2393.565	121.55	133.58		319820	706.7
200		**49**	**12.180**	**12.030**	2405.595	109.52	121.55		321430	710.3
201		**48**	**12.155**	**12.005**	2417.600	97.52	109.52		323030	713.8
	out	**47**	**11.830**	**0.000**	2417.600	97.52	97.52		323030	713.8
	out	**46**	**12.180**	**0.000**	2417.600	97.52	97.52		323030	713.8
	out	**45**	**12.182**	**0.000**	2417.600	97.52	97.52		323030	713.8
	out	**44**	**12.185**	**0.000**	2417.600	97.52	97.52		323030	713.8
	out	**43**	**12.180**	**0.000**	2417.600	97.52	97.52		323030	713.8
	out	**42**	**12.185**	**0.000**	2417.600	97.52	97.52		323030	713.8
	out	**41**	**12.180**	**0.000**	2417.600	97.52	97.52		323030	713.8
	out	**40**	**12.180**	**0.000**	2417.600	97.52	97.52		323030	713.8
	out	**39**	**12.180**	**0.000**	2417.600	97.52	97.52		323030	713.8

Seq No	IN / OUT	Joint Name	Joint Length	Effective Length	Cum. Length	Depth top Conn	Depth Bot Conn	Remarks	Cum Bouyed Wt (lb)	Cum PVT Displ (bbl)
	out	38	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	37	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	36	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	35	12.175	0.000	2417.600	97.52	97.52		323030	713.8
	out	34	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	33	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	32	12.170	0.000	2417.600	97.52	97.52		323030	713.8
	out	31	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	30	11.930	0.000	2417.600	97.52	97.52		323030	713.8
	out	29	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	28	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	27	12.175	0.000	2417.600	97.52	97.52		323030	713.8
	out	26	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	25	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	24	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	23	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	22	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	21	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	20	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	19	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	18	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	17	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	16	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	15	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	14	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	13	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	12	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	11	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	10	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	9	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	8	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	7	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	6	12.090	0.000	2417.600	97.52	97.52		323030	713.8
	out	5	12.170	0.000	2417.600	97.52	97.52		323030	713.8
	out	4	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	3	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	2	12.180	0.000	2417.600	97.52	97.52		323030	713.8
	out	1	12.180	0.000	2417.600	97.52	97.52		323030	713.8
			3.857	3.707	2421.307	93.81	1347.37	Btm of 9 5/8" Hanger	323530	714.9
			0.000	0.000	2421.307	93.81	1347.37	Hang off point	323530	714.9
			1.310	1.160	2422.467	92.65	1347.37	Top of 9 5/8" hanger	323680	715.3
			0.540	0.390	2422.857	92.26	1346.21	R/Tool	323740	715.4
			9.630	9.480	2432.337	82.78	1345.82	Single 5" drill pipe	325000	718.2
			9.470	9.320	2441.657	73.46	1336.34	Single 5" HWDP	326250	720.9
			4.600	4.450	2446.107	69.01	1327.02	Pup Joint	326840	722.2
			28.30	28.150	2474.257	40.86	1322.57	Std #1 HWDP	330600	730.5
			28.36	28.210	2502.467	12.65	1294.42	Std #2 HWDP	334370	738.9
			9.470	9.320	2511.787	3.33	1266.21	1 x Single 5" HWDP	335620	741.6

Seq No	IN / OUT	Joint Name	Joint Length	Effective Length	Cum. Length	Depth top Conn	Depth Bot Conn	Remarks	Cum Bouyed Wt (lb)	Cum PVT Displ (bbl)
			9.630	**9.480**	2521.267	-6.15	1256.89	In on Cmt Std	336880	744.4
	47		Joint Length	Effective Length	Cum. Length	Depth top Conn	Depth Bot Conn	Remarks	Cum Bouyed Wt (lb)	Cum PVT Displ (bbl)
Summary			***3077.209***	***2474.257***	***2474.257***	***40.863***	***2515.120***		***330,600***	***730.5***

HALLIBURTON CEMENTING
END OF WELL REPORT

Prepared For: Australian Drilling Associates Pty Ltd

Well Name: Trefoil 2

Permit: P/L 0153

Location: Bass Straight

Rig: Kan Tan IV

Date: May 18, 2009

Revision: 1

Submitted by: Dave Webb/Prem kumar Salibendla
Technical Professional
Cementing

HALLIBURTON

Halliburton Australia Pty Ltd

END OF WELL REPORT

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1.0 WELL REVIEW

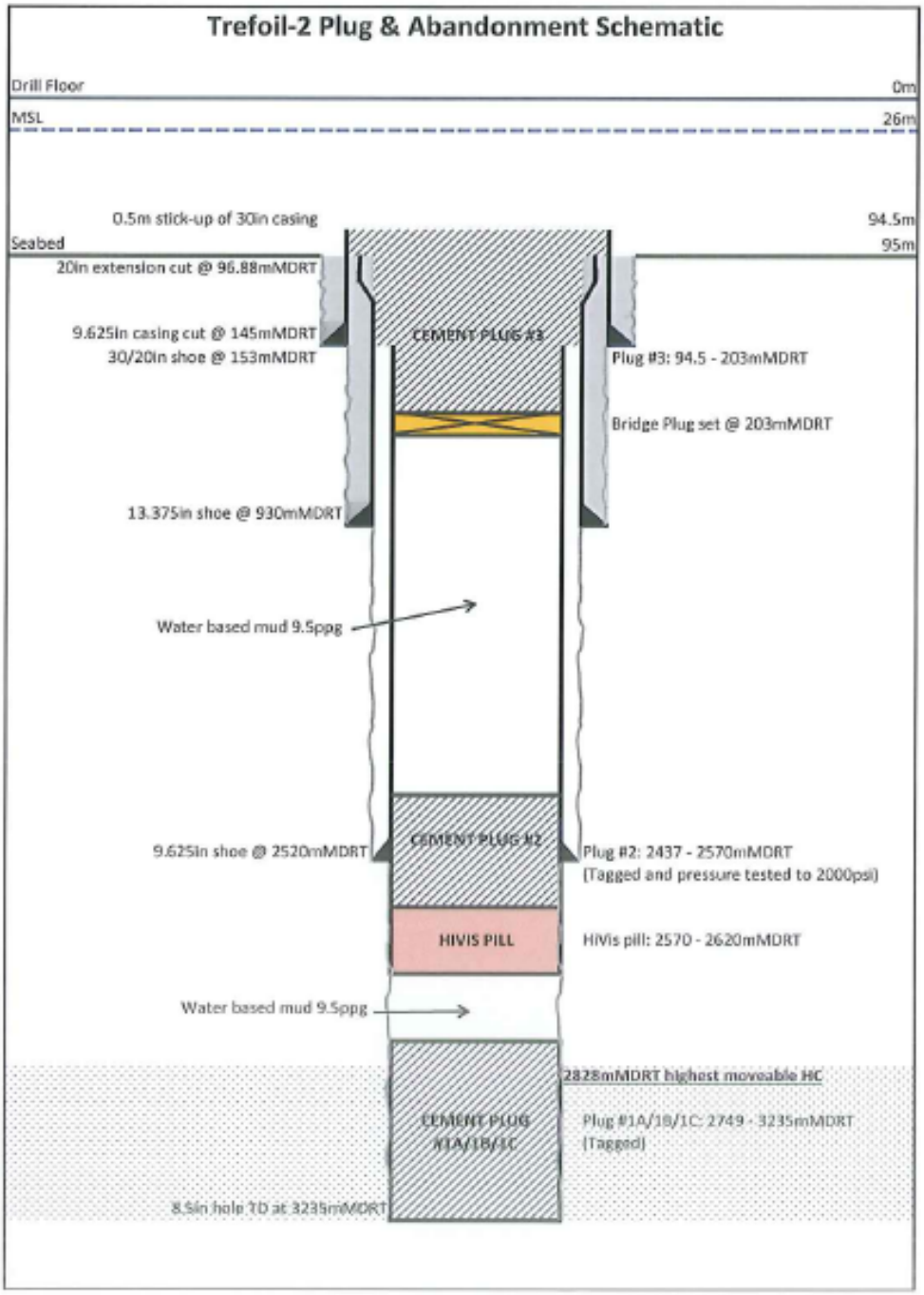
1.1 Cementing Event Summary

Event Date	Event Description
7/10/2009	Cement 30" Conductor Casing: 50 bbl seawater with MICA followed by 260 bbls 15.9ppg Class G slurry with 1%bwoc $CaCl_2$ slurry mixed with sea water
12/10/2009	Cement 13 $^3/_8$" Surface Casing: 50 bbl seawater with MICA followed by 428 bbls of 11.5ppg Class G slurry with 23gal/10bbl Econolite &1gal/10bblMF of HR-6L Lead Slurry 67 bbls of 15.8 ppg Class G slurry with 10gal/10bbl Halad 413L Tail Slurry
	9 $^5/_8$" Intermediate Casing: not Cemented
21/11/2009	**Plug 1** A/B/C– TOC 2749 m MD 3 X 43.2 bbl of 15.8ppg Class G slurry with 10 gal/10bblMF SCR-100L
22/11/2009	**Plug 2** – TOC 2437 m MD 34 bbl of 15.8ppg Class G slurry 4 gal/10bblMF SCR-100L
27/11/2009	**Plug 3** – TOC 94.5 m MD 70 bbl of 15.9ppg Class G slurry with 1%bwoc $CaCl_2$ slurry mixed with sea water

1.2 Lessons Learnt

- Cement Heads requires a swivel to be attached to speed up rig up
- 11.5ppg lead slurry on the 13 3/8" casing worked well with returns seen at sea floor
- Hydraulic Power Pack needs to be changed out to stop Cement unit from tripping breaker.

1.3 Well Schematic



2.0 CEMENT 30" CONDUCTOR CASING

2.1 Job Summary

HSE – no accidents or incidents occurred during this job.

Operations – the job was planned to be performed using ABC Class G cement with 1% Calcium chloride pre-hydrated in the mixwater in the pits. Unit tripped breaker once reset the job was completed without any issues.

- TOC – 94.5mMD
- Casing setting depth – 153m MD
- Total Slurry volume pumped – 260bbl
- Displacement volume – 72 bbl
- Cement returns were seen @ seafloor.

2.2 Job Logs

PERSONELL

PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE	hrs	PERSONNEL / EXPOSURE	hrs
00408437	David Fernandez	24	#N/A	Blaie Barrie	24				

WELL PROFILE

NEW CASING	OPEN HOLE + EXCESS OR CALIPER DATA	PREVIOUS CASINGS
Non Tapered Casing , , m shoe track		
30in 456ppf D60 : 0m to 153m MD, m TVD 30in 310ppf D60 : m to m MD, m TVD 20in 196ppf D60 : m to m MD, m TVD	36in, 200 percent excess, 0m to 155	

CEMENT DESIGN

Spacer				Lead			
DENSITY	8.6ppg	**WATER**	0.00gal/sk	**DENSITY**	15.9ppg	**WATER**	5.20gal/sk
YIELD	0.00cuft/ft	**MIX FLUID**	0.00gal/sk	**YIELD**	1.17cuft/ft	**MIX FLUID**	5.20gal/sk
WATER SOURCE	Seawater			**WATER SOURCE**	Seawater		
CEMENT TYPE	at lb/sk			**CEMENT TYPE**	ABC Class 'G' at 94lb/sk		
Total Cement Used	MT			**Total Cement Used**	MT		
Estimated TOC				**Estimated TOC**	m		

Additive	Concentration	Total Used	Additive	Concentration	Total Used
			Calcium Chloride	0.01 %BWOC	1265lbs

JOB LOGS

DATE	TIME	VOLUME	PRESSURE (psi)		RATE	JOB DESCRIPTION
DAY-MTH-YR	HRS:MIN	BBLS	HIGH	LOW	BPM	REMARKS/DETAILS
7.10.2009						Hold JSA with All crews involved
						Make PA Annusenent, for Pressure Testing Surface Lines
	11:00	30	120		2	Pump 30bbls Sea Water
	11:26	0.2	1000			Shut in Lo Torq Valve on Rig floor, Test Surface lines to 1000psi hold for 5 min.
	11:32	20			2	Open Valve , Pump 20 bbls Sea Water Spacer with Mica
	11:59	260	180		4	Mix & Pump 260 bbls CMT Slurry @ 15.9ppg,with 154 Mix Water 1% CC
	1:16	74	190		4	Displace with 72 bbls Sea Water
	1:35	0.3				Check Floats and for Returnes, .3 bbls returnes
						Note : Shut Down during Job, Hyd Power Pack breaker Triped.
END OF JOB LOGS						

2.3 CSS

CUSTOMER SATISFACTION SURVEY

Sales	**Line Item:**	
0	0	
Customer:		**Job Type (BOM):**
ADA		Zonal
Customer Rep./Phone:		**API / UWI: (leave blank if unknown)**
Mr Mac		0
Well Name:		**Well Number:**
Trefoil 2		0
Well Type:	**Well Country:**	
Gas & Oil	Australia	
H2S	**Well State:**	**Well County:**
0	0	0

Dear Customer,

We hope that you were satisfied with the service delivery of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

CATEGORY	CUSTOMER SATISFACTION RATING (Please circle yes or no)	
Survey Conducted Date	**The date the survey was conducted**	
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	
Customer Participation	**Did the customer partipcipate in this survey? (Y/N)**	
Customer Representative	**Enter the Customer representative name**	
HSE	**Was our HSE performance satisfactory? Circle Y or N**	
Equipment	**Were you satisfied with our Equipment? Circle Y or N**	
Personnel	**Were you satisfied with our people? Circle Y or N**	
Customer Comment		
Job DVA	**Did we provide job DVA above our normal service today? Circle Y or N**	
Time	**Please enter hours in decimal format to nearest quarter hour.**	
Other	**Enter short text for other efficiencies gained.**	
Customer Initials	**Customer's Initials**	
Please provide details		

CUSTOMER SIGNATURE

3.0 CEMENT 13 3/8" SURFACE CASING

3.1 Job Summary

HSE – no accidents or incidents occurred during this job.

Operations – the job was planned to be performed using ABC Class G Lead cement with 23gal/10bbl Econolite and ABC Class G Tail cement with 10 gal/10bbl of Halad 413L. The bottom plug on the 13 3/8 SSR plug set sheared off early see NCR "KTIV-OERL-T2-002 Bottom Plug" for more details. Rig displaced the last 88bbls of displacement fluid due to water in fuel. The job was completed without any issues.

- TOC 94.5mMD.
- Casing Setting Depth – 930mMD
- Total Slurry volume pumped – 495 bbl
- Displacement volume – 410 bbl
- Cement returns were seen @ seafloor.

3.2 Job Logs

PERSONELL

PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE	hrs	PERSONNEL / EXPOSURE	hrs
00408437	David Fernandez	24	#N/A	Blaie Barrie	24				

EQUIPMENT

SAP#	PUMPING / MIXING	HOURS	SAP#	BULK SUPPLY / TANKS	HOURS
#N/A	MIXING EQUIPMENT	4			

WELL PROFILE

NEW CASING	OPEN HOLE + EXCESS OR CALIPER DATA	PREVIOUS CASINGS
Non Tapered Casing , , 12m shoe track		
13.375in 68ppf N80 : 0m to 930m MD, m TVD	17.5in, 25 percent excess, 0m to 155	30in, 456ppf, 0 to 155
		30in, 310ppf, m to m

CEMENT DESIGN

	Spacer			Lead			Tail		
DENSITY	8.6ppg	WATER	0.00gal/sk	11.5ppg	WATER	17.88gal/sk	15.8ppg	WATER	5.00gal/sk
YIELD	0.00cuft/ft	MIX FLUID	0.00gal/sk	3.01cuft/ft	MIX FLUID	18.98gal/sk	1.16cuft/ft	MIX FLUID	5.12gal/sk
WATER SOURCE	Seawater			Seawater			Drillwater		
CEMENT TYPE	at lb/sk			ABC Class 'G' at 94lb/sk			ABC Class 'G' at 94lb/sk		
Total Cement Used	MT			MT			MT		
Estimated TOC				95m			815m		

Additive	Concentration	Total Used	Additive	Concentration	Total Used	Additive	Concentration	Total Used
Mica	55lbs	1sks	Econolite Liquid	23gal gal/10bbl	892gals	Halad-413L	10 gal/10bbl	40gals
			HR-6L	1gal gal/10bbl	45gals	NF-6	0.25 gal/10bbl	1gals
			NF-6	0.25 gal/10bbl	10gals			

JOB LOGS

DATE	TIME	VOLUME	PRESSURE (psi)		RATE	JOB DESCRIPTION
DAY-MTH-YR	HRS:MIN	BBLS	HIGH	LOW	BPM	REMARKS/DETAILS
12.10.2009	5:30					Hold JSA with All crews involved
						Make PA Annusenent, for Pressure Testing Surface Lines
		3	120		2	Pump 3bbls Sea Water
	6:25	0.2	3000			Shut in Lo Torq Valve on Rig floor, Test Surface lines to 3000psi hold for 5 min.
	6:30	47	120		2	Open Valve , Pump 47 bbls Sea Water Spacer last 20 bbls with Mica
	6:45					Release Ball,
	7:30	428	180		5	Mix & Pump 428 bbls CMT Slurry @ 11.5ppg,with 340bbls Sea Mix Water
	9:05	67	190		4.5	Mix & Pump 67 bbls CMT Slurry @ 15.8ppg,with 38.3 Mix Water
	9:20					Release Dart, see Flag go
	9:22	322	250		6.3	Displace with Sea water.
	10:47					Handover to Rig to finish Displacement, 88bbls
						Note: Hand over to Rig due to Water in Fuel,

END OF JOB LOGS

3.3 CSS

CUSTOMER SATISFACTION SURVEY

Sales	**Line Item:**	
0	0	
Customer:		**Job Type (BOM):**
ADA		Zonal
Customer Rep./Phone:		**API / UWI: (leave blank if unknown)**
Mr Mac		0
Well Name:		**Well Number:**
Trefoil 2		0
Well Type:	**Well Country:**	
Gas & Oil	Australia	
H2S	**Well State:**	**Well County:**
0	0	0

Dear Customer,

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Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

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Survey Conducted Date	**The date the survey was conducted**	
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	
Customer Participation	**Did the customer partipcipate in this survey? (Y/N)**	
Customer Representative	**Enter the Customer representative name**	
HSE	**Was our HSE performance satisfactory? Circle Y or N**	
Equipment	**Were you satisfied with our Equipment? Circle Y or N**	
Personnel	**Were you satisfied with our people? Circle Y or N**	
Customer Comment		
Job DVA	**Did we provide job DVA above our normal service today? Circle Y or N**	
Time	**Please enter hours in decimal format to nearest quarter hour.**	
Other	**Enter short text for other efficiencies gained.**	
Customer Initials	**Customer's Initials**	
Please provide details		

CUSTOMER SIGNATURE

4.0 CEMENT 9 5/8" SURFACE CASING

4.1 Job Summary

HSE – no accidents or incidents occurred during this job.

Operations – Due to a good formation test the 9 5/8" casing was not cemented.

5.0 PLUGS

5.1 Plug-1 A @ TD Job Summary

HSE – no accidents or incidents occurred during this job.

Operations – the job was mixed and pumped as programmed without any issues.

- Plug displaced with 3 bbl drill water + 165 bbl mud = 168 bbl
- Total Slurry volume pumped –43.2bbl of 15.8ppg slurry.

5.2 Plug-1 B @ TD Job Summary

HSE – no accidents or incidents occurred during this job.

Operations – the job was mixed and pumped as programmed without any issues.

- Plug displaced with 3 bbl drill water + 156 bbl mud = 159 bbl
- Total Slurry volume pumped –43.2bbl of 15.8ppg slurry.

5.3 Plug-1 C @ TD Job Summary

HSE – no accidents or incidents occurred during this job.

Operations – the job was mixed and pumped as programmed without any issues.

- Plug displaced with 3 bbl drill water + 148 bbl mud = 151 bbl
- Total Slurry volume pumped –43.2bbl of 15.8ppg slurry.

5.4 Plug-2 @ 9 5/8" Shoe Job Summary

HSE – no accidents or incidents occurred during this job.

Operations – the job was mixed and pumped as programmed without any issues.

- Plug displaced with 3 bbl drill water + 125 bbl mud = 128 bbl
- Total Slurry volume pumped –34bbl of 15.8ppg slurry.

5.5 Plug-3 @ Surface Job Summary

HSE – no accidents or incidents occurred during this job.

Operations – the job was mixed and pumped as programmed without any issues.

- Plug displaced with 1.4 bbl Seawater.
- Total Slurry volume pumped –70bbl of 15.9ppg slurry.

5.6 Job Logs

PERSONELL

PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE		hrs	PERSONNEL / EXPOSURE	hrs
00408437	David Fernandez	24	#N/A	John Bendall	24	00386793	Robert Bridgeman	24		

EQUIPMENT

SAP#	PUMPING / MIXING	HOURS	SAP#	BULK SUPPLY / TANKS	HOURS
#N/A	MIXING EQUIPMENT	18			

FLOAT EQUIPMENT AND CASING EQUIPMENT

SAP#	CASING ATTACHMENTS	QTY	SAP#	OTHER	QTY
			#N/A	Wiper Ball -7"	1

WELL PROFILE

NEW CASING	OPEN HOLE + EXCESS OR CALIPER DATA	PREVIOUS CASINGS
	8.5in, 25 percent excess, 2520m to 3235m	9.625in, 47ppf, 0 to 2520m

FOR PLUG AND LINER JOBS PLEASE INDICATE WORKSTRING: 5in ppf Drill Pipe with 2 7/8"in of 219in ppf Stinger

CEMENT DESIGN

Single				Single				Single			
DENSITY	15.8ppg	WATER	5.00gal/sk	DENSITY	15.8ppg	WATER	5.00gal/sk	DENSITY	15.8ppg	WATER	5.00gal/sk
YIELD	1.16cuft/ft	MIX FLUID	5.12gal/sk	YIELD	1.16cuft/ft	MIX FLUID	5.12gal/sk	YIELD	1.16cuft/ft	MIX FLUID	15.80gal/sk
WATER SOURCE	Drillwater			WATER SOURCE	Drillwater			WATER SOURCE	Drillwater		
CEMENT TYPE	ABC Class 'G' at 94lb/sk			CEMENT TYPE	ABC Class 'G' at 94lb/sk			CEMENT TYPE	ABC Class 'G' at 94lb/sk		
Total Cement Used	209sks			Total Cement Used	209sks			Total Cement Used	209sks		
Estimated TOC	3085m			Estimated TOC	2935m			Estimated TOC	2785m		
Additive	Concentration	Total Used		Additive	Concentration	Total Used		Additive	Concentration	Total Used	
SCR-100L	10 gal/10bbl	25sks		SCR-100L	10 gal/10bbl	25gals		SCR-100L	10 gal/10bbl	25gals	
NF-6	0.125 gal/10bbl	1gals		NF-6	0.125 gal/10bbl	1gals		NF-6	0.125 gal/10bbl	1gals	

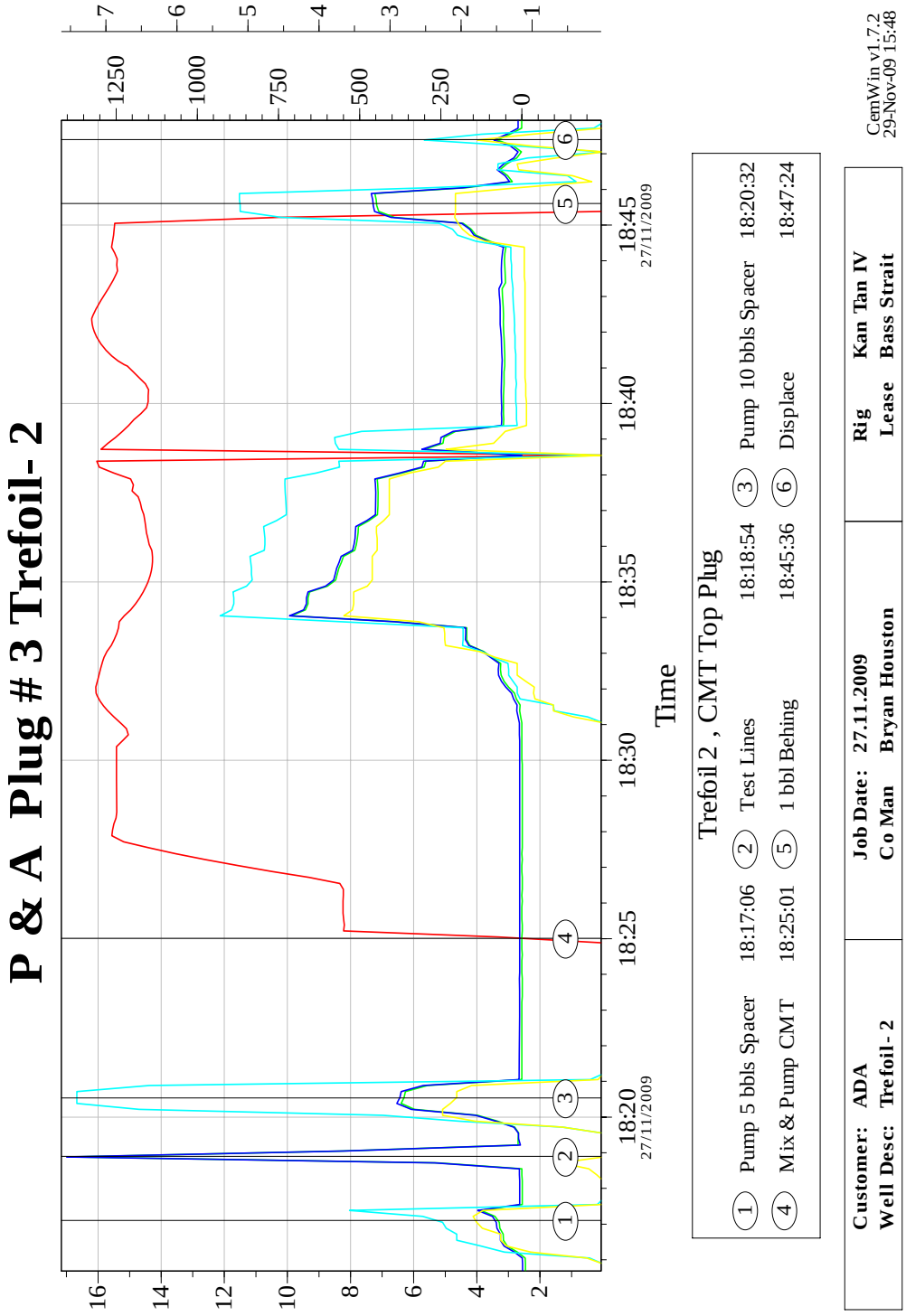
Single				Single			
DENSITY	15.8ppg	WATER	5.09gal/sk	DENSITY	15.9ppg	WATER	5.03gal/sk
YIELD	1.16cuft/ft	MIX FLUID	5.11gal/sk	YIELD	1.15cuft/ft	MIX FLUID	5.07gal/sk
WATER SOURCE	Drillwater			WATER SOURCE	Drillwater		
CEMENT TYPE	ABC Class 'G' at 94lb/sk			CEMENT TYPE	ABC Class 'G' at 94lb/sk		
Total Cement Used	164sks			Total Cement Used	341sks		
Estimated TOC	2470m			Estimated TOC	95m		
Additive	Concentration	Total Used		Additive	Concentration	Total Used	
SCR-100L	4 gal/10bbl	8gals		Calcium Chloride	0.01 %BWOC	320lbs	
NF-6	0.125 gal/10bbl	1gals		NF-6	0.125 gal/10bbl	1gals	

JOB LOGS

DATE	TIME	VOLUME	PRESSURE (psi)		RATE	JOB DESCRIPTION
DAY-MTH-YR	HRS:MIN	BBLS	HIGH	LOW	BPM	REMARKS/DETAILS
20.11.2009						Prepare CMT unit for P & A
21.11.2009	18:30					Hold JSA with all Crews , Sign Permits, PA Announcement
		5				Pump 5 bbls Drill Water Ahead
						Test Sureface Lines to 3000psi
		10				Pump Remaining 10 bbls Ahead
		43.2				Mix & Pump 43.2 bbls CMT & 15.8ppg, W/ 25.5 bbls Mix water
		3				Pump 3 bbls behind
						Displace with 165 bbls of Mud
						Bleed off, no returnes
	21:30					
						Make PA Announcement
		5				Pump 5 bbls Drill Water Ahead
						Test Sureface Lines to 3000psi
		10				Pump Remaining 10 bbls Ahead
		43.2				Mix & Pump 43.2 bbls CMT & 15.8ppg, W/ 25.5 bbls Mix water
		3				Pump 3 bbls behind
						Displace with 156 bbls of Mud
						Bleed off, no returnes
	2:30					
						Make PA Announcement
		5				Pump 5 bbls Drill Water Ahead
						Test Sureface Lines to 3000psi
		10				Pump Remaining 10 bbls Ahead
		43.2				Mix & Pump 43.2 bbls CMT & 15.8ppg, W/ 25.5 bbls Mix water
		3				Pump 3 bbls behind
		165				Displace with 148 bbls of Mud
						Bleed off, no returnes

23.11.2009	20:30					Hold JSA on the rig floor with all crews
	20:40					Make up X Over , MST & EZSV
	21:30					Tool Through Rotary Table
	22:20					Tool at Depth 206 m
						Weight Indicator 165,000lbs
	22:27					Set EZSV
	22:30					Sit down weight 15000lbs
	22:35					POOH
	23:10					MST at Surface
	0:00					Lay tool Down
27.11.2009						Hold JSA with all Crews , Sign Permits, PA Announcement
	18:10					Pump 5 bbls Drill Water Ahead
	18:15					Test Sureface Lines to 1000psi
	18:20					Pump Remaining 10 bbls Ahead
	18 30					Mix & Pump 70 bbls CMT & 15.9ppg, W/ 40 bbls Mix water
	18:50					Pump 1 bbls behind
	18:51					Displace with 1.4 bbls of Sea Water
	18:52					Bleed off, no returnes
27.11.2009						Test Surface equipment, Choke & Kill
	20:10					Hold JSA with all Crews , Sign Permits, PA Announcement
	20:30	2			0.5	Flush lines with Sea Water
	20:37		5000	500		Test HOWCO Unit
	21:26		5000	250		Test # 1 TIW & Standpipe
	22:21		5000	250		Test # 2 TIW
	22:54		5000	250		Test # 3 Lower IBOP
	23:17		5000	250		Test # 4 Upper IBOP
	23:41		5000	250		Test # 5 Wash Pipe, Kelly Hose & Stand Pipe Valve # 1
28.11.2009	0:10	1.5			0.5	Flush Surface Lines
	0:38		5000	250		Test # 6 Valves # 4,12,7&8
	1:38		5000	250		Test # 7 Valves # 6 & 3
	1:59		5000	250		Test # 8 Valves # 5
						Choke Manifold
	2:36		5000	250		Test # 1 Valve # 3
	3:00		5000	250		Test # 2 Valves # 6,7 & 10
	3:38		5000	250		Test # 3 Valves # 2,4,5,9,11,14,23
	4:06		5000	250		Test # 4 Valves # 1,8,13,15,22
	4:36		5000	250		Test # 5 Valve # 12
	5:18		5000	250		Test # 6 Valves # 16,17,18,19
	5:48		3500	250		Test # 7 Valves # 20,21,24,25
						Sign permit off, End Job
END OF JOB LOGS						

5.7 Job Plot


P & A Plug # 3 Trefoil- 2
Time
18:20
27/11/2009
18:25
18:30
18:35
18:40
18:45
27/11/2009
Trefoil 2 , CMT Top Plug
1 Pump 5 bbls Spacer 18:17:06
2 Test Lines 18:18:54
3 Pump 10 bbls Spacer 18:20:32
4 Mix & Pump CMT 18:25:01
5 1 bbl Behing 18:45:36
6 Displace 18:47:24
Customer: ADA
Well Desc: Trefoil- 2
Job Date: 27.11.2009
Co Man Bryan Houston
Rig Kan Tan IV
Lease Bass Strait
CemWin v1.7.2
29-Nov-09 15:48

5.8 EJCS

HALLIBURTON

CUSTOMER	SALES ORDER No.	DATE
ADA	0	28.11.2009

CEMENT/PUMPING JOB SUMMARY

LL	LOCATION/FIELD NAME	COUNTRY	HES REP	CUSTOMER REP	WELL TYPE
ifol - 2	Bass Strait	Australia	David Fernandez	Bryan Houston	Gas & Oil Dev
B TYPE		JOB PURPOSE CODE		BDA	RIG
A Plugs		PLUG TO ABANDON 7528		Perth	Kan Tan IV

USTOMER SATISFACTION SURVEY

Sales
0
Line Item:
0
Customer:
ADA
Job Type (BOM):
P&A Plugs
Customer Rep./Phone:
Bryan Houston
API / UWI: (leave blank if unknown)
0
Well Name:
Trefiol - 2
Well Number:
0
Well Type:
Gas & Oil
Well Country:
Australia
H2S
0
Well State:
0
Well County:
0

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Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

CATEGORY	CUSTOMER SATISFACTION RATING (Please circle yes or no)	
Survey Conducted Date	The date the survey was conducted	/ /
Survey Interviewer	The survey interviewer is the person who initiated the survey.	
Customer Participation	Did the customer partipcipate in this survey? (Y/N)	Y
Customer Representative	Enter the Customer representative name	HOUSTON
HSE	Was our HSE performance satisfactory? Circle Y or N	Y N
Equipment	Were you satisfied with our Equipment? Circle Y or N	Y N
Personnel	Were you satisfied with our people? Circle Y or N	Y N
Customer Comment		
Job DVA	Did we provide job DVA above our normal service today? Circle Y or N	Y
Time	Please enter hours in decimal format to nearest quarter hour.	
Other	Enter short text for other efficiencies gained.	
Customer Initials	Customer's Initials	BH
Please provide details	Excellent Job.	

CUSTOMER SIGNATURE BA HOUSTON

6.0 APPENDICES

6.1 Lab Reports

6.1.1 30" Conductor Casing

HALLIBURTON **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 16-Jun-09
Rig Name	: Kan Tan IV	Lab Reference	: C-09-034A
Well Name	: Trefoil-1	API Schedule	: 9.2
Pipe Size / Casing Size	: Conductor		

Well Information

BHST	:	14	°C
BHCT	:	13	°C
Measured Depth	:	190	m
Total Vertical depth	:	190	m

HalCem™ cement Single Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			19/5/09	Far Supplier
Calcium Chloride	1.000	BWOC	1.00	BWOC		
NF-6	0.003	gal/sk	0.25	gal/10bbl		
Seawater	5.15	gal/sk				
Total Mixing Fluid :	5.16	gal/sk				
Slurry Density :	15.9	lb/gal				
Slurry Yield :	1.17	ft^3/sk				

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
29	2:02	3:19	3:57

Pumping time at 13 °C & 528 psi is 3:57 hrs:mins

Slurry thickening time test is performed with slurry in motion, not in static condition

Free Fluid Traces Vertical at 27 °C

Slurry Rheology

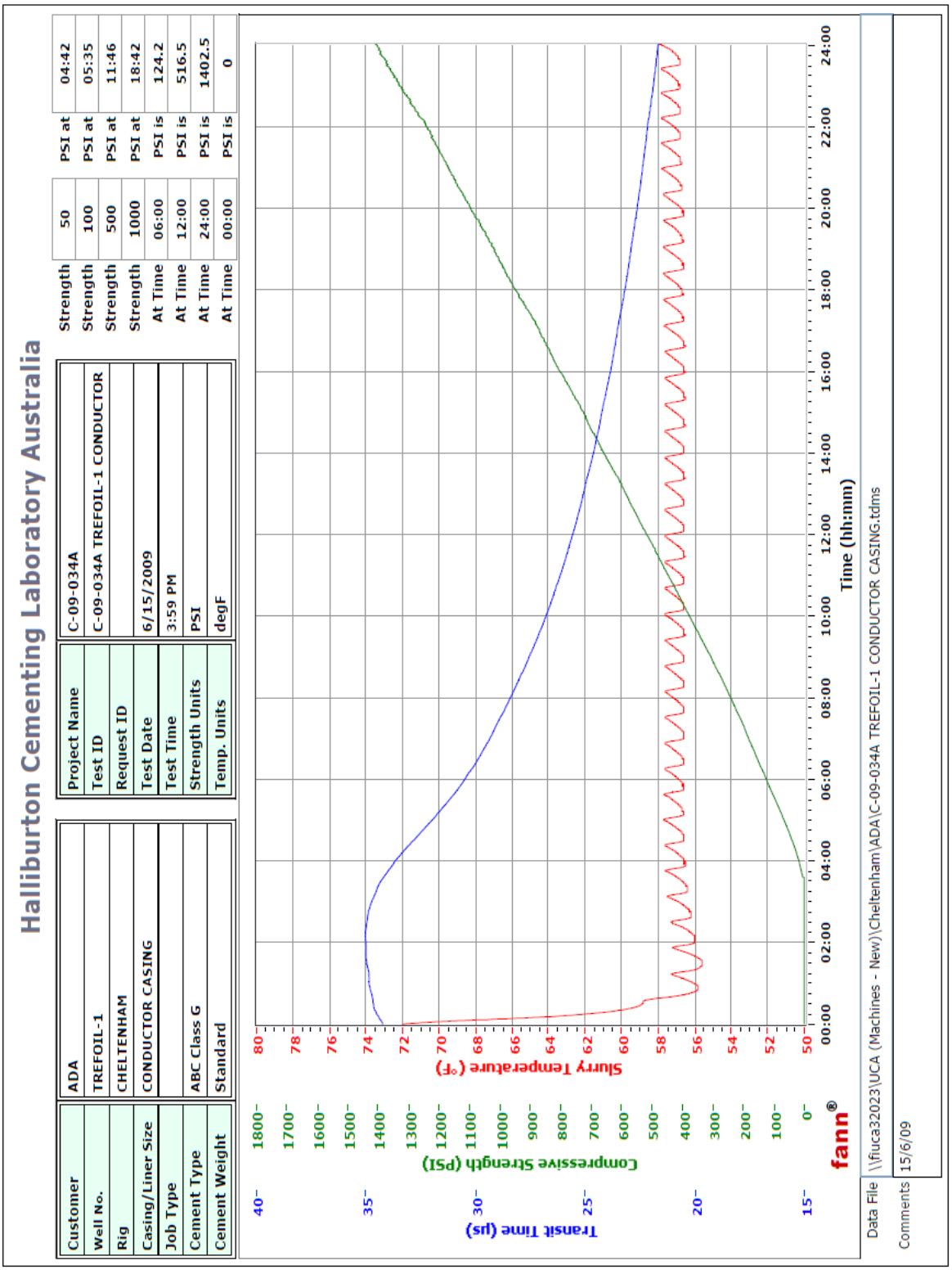
	Fann Readings (RPM)						
	300	200	100	6	3	PV (cP)	YP (lb_f/100ft^2)
Mix Temp							

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	14 °C	3000 psi	4:42	1403 psi

Lab Technician: Maggie Batko
Approved: Dave Webb

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Halliburton Cementing Laboratory Australia
Customer ADA
Well No. TREFOIL-1
Rig CHELTENHAM
Casing/Liner Size CONDUCTOR CASING
Job Type
Cement Type ABC Class G
Cement Weight Standard
Project Name C-09-034A
Test ID C-09-034A TREFOIL-1 CONDUCTOR
Request ID
Test Date 6/15/2009
Test Time 3:59 PM
Strength Units PSI
Temp. Units degF
Strength 50 PSI at 04:42
Strength 100 PSI at 05:35
Strength 500 PSI at 11:46
Strength 1000 PSI at 18:42
At Time 06:00 PSI is 124.2
At Time 12:00 PSI is 516.5
At Time 24:00 PSI is 1402.5
At Time 00:00 PSI is 0
Transit Time (µs)
Compressive Strength (PSI)
Slurry Temperature (°F)
Time (hh:mm)
fann®
Data File \\fluca32023\UCA (Machines - New)\Cheltenham\ADA\C-09-034A TREFOIL-1 CONDUCTOR CASING.tdms
Comments 15/6/09

6.1.2 13 3/8" Lead Surface Casing

HALLIBURTON — **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 22-Sep-09
Rig Name	: Kan Tan IV	Lab Reference	: C-09-072A
Well Name	: Trefoil-1	API Schedule	: 9.30
Pipe Size / Casing Size	: 13 3/8" Surface Casing		

Well Information

BHST	:	41	°C
BHCT	:	32	°C
Measured Depth	:	900	m
Total Vertical depth	:	900	m

EconoCem™ cement Lead Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			21/7/09	BBMT
Econolite Liquid	1.054	gal/sk	23.00	gal/10bbl		
NF-6	0.011	gal/sk	0.25	gal/10bbl		
Seawater	18.18	gal/sk				
Total Mixing Fluid	19.24	gal/sk				
Slurry Density	11.5	lb/gal				
Slurry Yield	3.04	ft^3/sk				

Laboratory Test Results

Thickening Time

Initial BC	30	50	70	
15	3:33	4:59	5:50	

Pumping time at 32 °C & 1619 psi is 5:50 hrs:mins

Slurry thickening time test is performed with slurry in motion, not in static condition

Free Fluid: Traces Vertical at 27 °C

Slurry Rheology

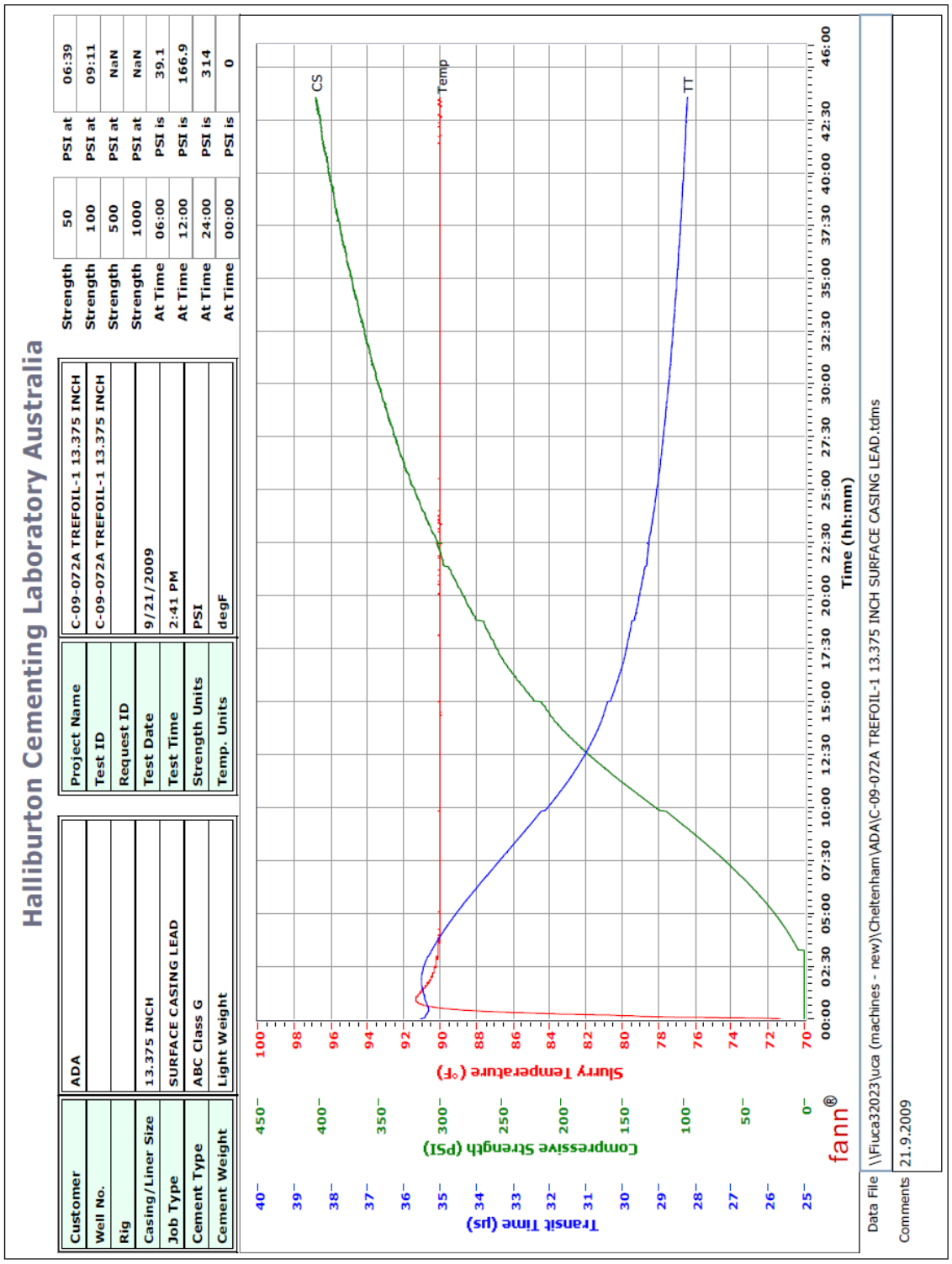
	Fann Readings (RPM)						
	300	200	100	6	3	PV (cP)	YP (lb_f/100ft^2)
Mix Temp	27	24.5	21.5	16	13.5	8.25	19
Raised Temp 35 °C	28	24	22	14.5	11.5	9	19

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	32 °C	3000 psi	6:39	314 psi

Lab Technician: Gary Reid
Approved: Dave Webb

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Halliburton Cementing Laboratory Australia
Customer
Well No.
Rig
Casing/Liner Size
Job Type
Cement Type
Cement Weight
ADA
13.375 INCH
SURFACE CASING LEAD
ABC Class G
Light Weight
Project Name
Test ID
Request ID
Test Date
Test Time
Strength Units
Temp. Units
C-09-072A TREFOIL-1 13.375 INCH
C-09-072A TREFOIL-1 13.375 INCH
9/21/2009
2:41 PM
PSI
degF
Strength 50 PSI at 06:39
Strength 100 PSI at 09:11
Strength 500 PSI at NaN
Strength 1000 PSI at NaN
At Time 06:00 PSI is 39.1
At Time 12:00 PSI is 166.9
At Time 24:00 PSI is 314
At Time 00:00 PSI is 0
Transit Time (µs)
Compressive Strength (PSI)
Slurry Temperature (°F)
CS
Temp
TT
Time (hh:mm)
00:00 02:30 05:00 07:30 10:00 12:30 15:00 17:30 20:00 22:30 25:00 27:30 30:00 32:30 35:00 37:30 40:00 42:30 46:00
fann®
Data File \\Fiuca32023\uca (machines - new)\Cheltenham\ADA\C-09-072A TREFOIL-1 13.375 INCH SURFACE CASING LEAD.tdms
Comments 21.9.2009

6.1.3 13 3/8" Tail Surface Casing

HALLIBURTON — **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 22-Sep-09
Rig Name	: Kan Tan IV	Lab Reference	: C-09-073A
Well Name	: Trefoil-1	API Schedule	: 9.30
Pipe Size / Casing Size	: 13 3/8" Surface Casing		

Well Information

BHST	:	41	°C
BHCT	:	32	°C
Measured Depth	:	900	m
Total Vertical depth	:	900	m

HalCem™ cement Tail Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			27/7/09	BBMT
Halad-413L	0.122	gal/sk	10.00	gal/10bbl		
NF-6	0.003	gal/sk	0.25	gal/10bbl		
Freshwater	5.00	gal/sk	**Cl- Content**	200	mg/L	

Total Mixing Fluid	:	5.13	gal/sk
Slurry Density	:	15.8	lb/gal
Slurry Yield	:	1.16	ft^3/sk

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
6	4:18	4:51	5:16

Pumping time at 32 °C & 1619 psi is 5:16 hrs:mins

Slurry thickening time test is performed with slurry in motion, not in static condition

Free Fluid: 0.8 % Vertical at 27 °C

Calculated API Fluid Loss: 649 cc/30 mins. at 32 °C and 1,000 psi

Slurry Rheology

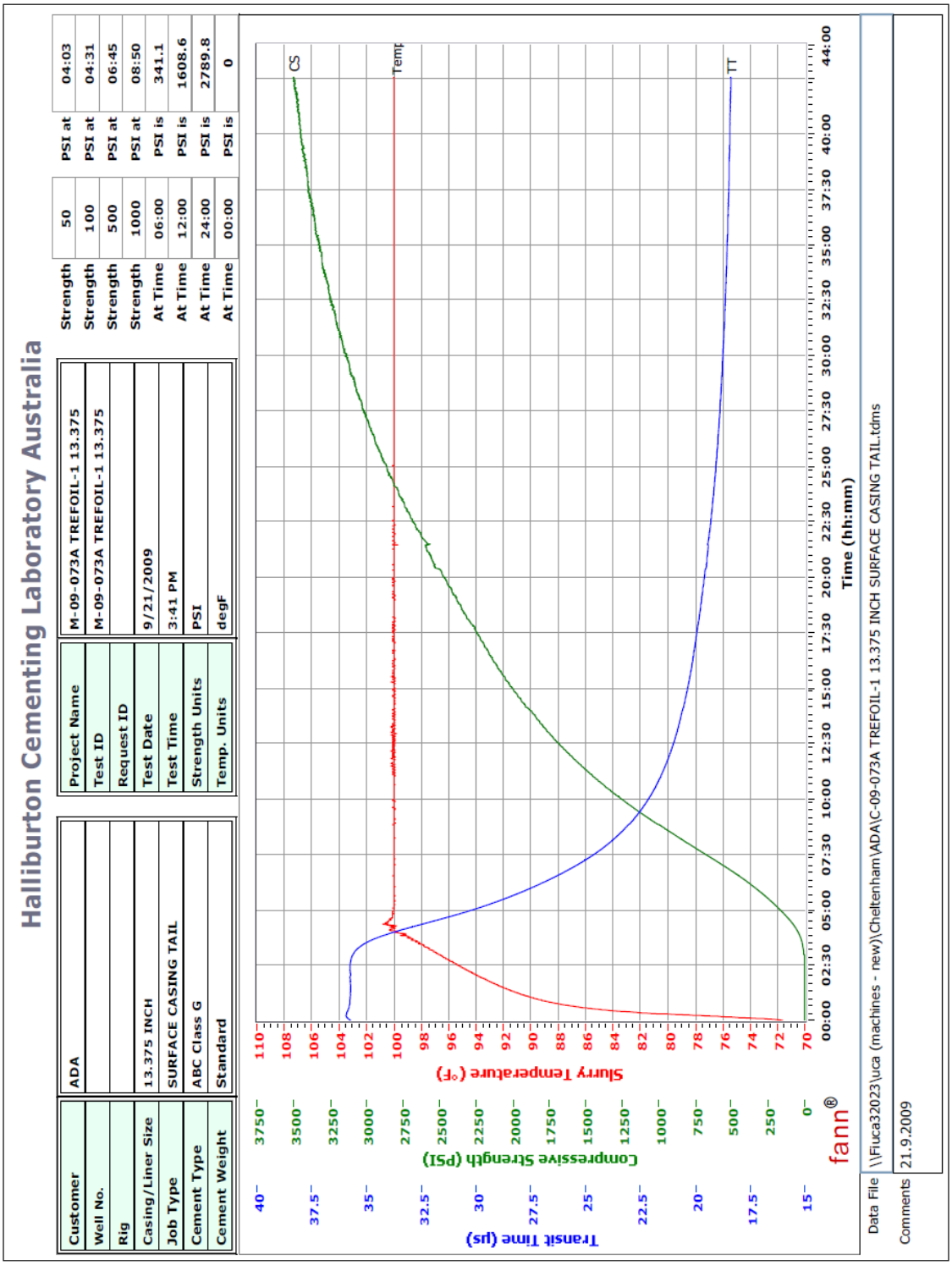
	Fann Readings (RPM)						
	300	**200**	**100**	**6**	**3**	**PV (cP)**	**YP ($lb_f/100ft^2$)**
Mix Temp	127	115	102	31	20.5	37.5	90
Raised Temp 32 °C	107	95	87.5	36.5	22	29.25	78

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	38 °C	3000 psi	4:03	2790 psi

Lab Technician: Gary Reid
Approved: Dave Webb

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Halliburton Cementing Laboratory Australia
Customer ADA
Well No.
Rig
Casing/Liner Size 13.375 INCH
Job Type SURFACE CASING TAIL
Cement Type ABC Class G
Cement Weight Standard
Project Name M-09-073A TREFOIL-1 13.375
Test ID M-09-073A TREFOIL-1 13.375
Request ID
Test Date 9/21/2009
Test Time 3:41 PM
Strength Units PSI
Temp. Units degF
Strength 50 PSI at 04:03
Strength 100 PSI at 04:31
Strength 500 PSI at 06:45
Strength 1000 PSI at 08:50
At Time 06:00 PSI is 341.1
At Time 12:00 PSI is 1608.6
At Time 24:00 PSI is 2789.8
At Time 00:00 PSI is 0
Transit Time (µs)
Compressive Strength (PSI)
Slurry Temperature (°F)
Time (hh:mm)
CS
Temp
TT
fann®
Data File \\Fiuca32023\uca (machines - new)\Cheltenham\ADA\C-09-073A TREFOIL-1 13.375 INCH SURFACE CASING TAIL.tdms
Comments 21.9.2009

6.1.4 9 5/8 casing Lead

HALLIBURTON — **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 12-Oct-09
Rig Name	: Kan Tan IV	Lab Reference	: C-09-074B
Well Name	: Trefoil-2	API Schedule	: 9.60
Pipe Size / Casing Size	: 9 5/8" Intermediate Casing		

Well Information

BHST	:	103	°C
BHCT	:	64	°C
Measured Depth	:	2500	m
Total Vertical depth	:	2500	m

EconoCem™ cement Lead Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			27/7/09	BBMT
Gascon 469	1.024	gal/sk	35.00	gal/10bbl		
SCR-100L	0.117	gal/sk	4.00	gal/10bbl		
Halad-413L	0.439	gal/sk	15.00	gal/10bbl		
NF-6	0.007	gal/sk	0.25	gal/10bbl		
Freshwater	10.70	gal/sk	**Cl- Content**	200	mg/L	
Total Mixing Fluid :	12.29	gal/sk				
Slurry Density :	12.5	lb/gal				
Slurry Yield :	2.11	ft^3/sk				

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
7	5:11	5:28	5:58

Pumping time at 64 °C & 4641 psi is 5:58 hrs:mins

Slurry thickening time test is performed with slurry in motion, not in static condition

Free Fluid Traces Vertical at 27 °C

API Fluid Loss 78 cc/30 mins. at 64 °C and 1,000 psi

Slurry Rheology

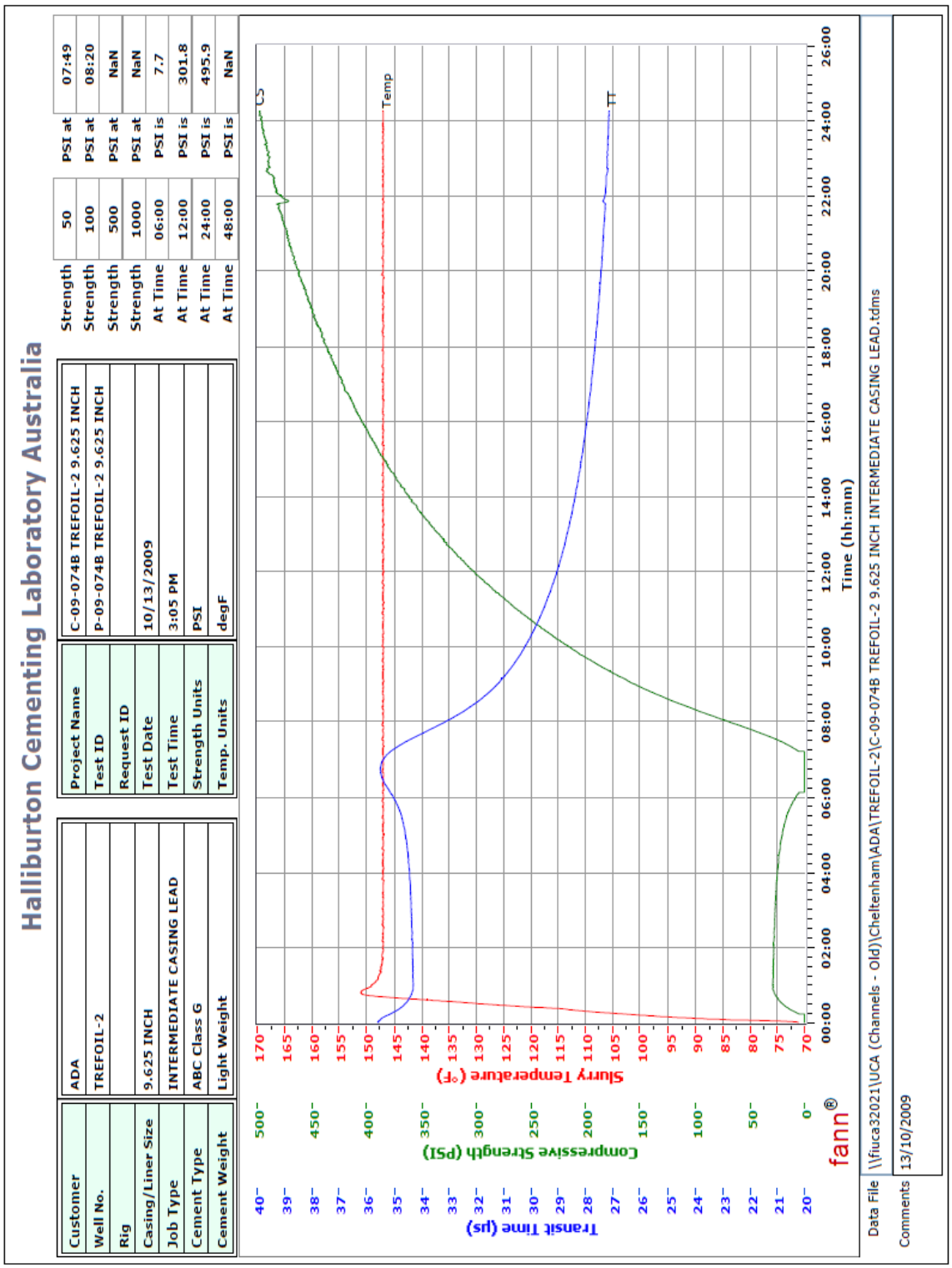
	Fann Readings (RPM)						
	300	200	100	6	3	PV (cP)	YP (lb_f/100ft^2)
Mix Temp	41	30.5	19	2.5	1.5	33	8
Raised Temp 54 °C	30	21.5	13.5	2	1	24.75	5

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	64 °C	3000 psi	7:49	496 psi

Lab Technician: Gary Reid
Approved: Dave Webb

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Halliburton Cementing Laboratory Australia
Customer ADA
Well No. TREFOIL-2
Rig
Casing/Liner Size 9.625 INCH
Job Type INTERMEDIATE CASING LEAD
Cement Type ABC Class G
Cement Weight Light Weight
Project Name C-09-074B TREFOIL-2 9.625 INCH
Test ID P-09-074B TREFOIL-2 9.625 INCH
Request ID
Test Date 10/13/2009
Test Time 3:05 PM
Strength Units PSI
Temp. Units degF
Strength 50 PSI at 07:49
Strength 100 PSI at 08:20
Strength 500 PSI at NaN
Strength 1000 PSI at NaN
At Time 06:00 PSI is 7.7
At Time 12:00 PSI is 301.8
At Time 24:00 PSI is 495.9
At Time 48:00 PSI is NaN
Transit Time (µs)
Compressive Strength (PSI)
Slurry Temperature (°F)
Time (hh:mm)
CS
Temp
TT
fann®
Data File \\fiuca32021\UCA (Channels - Old)\Cheltenham\ADA\TREFOIL-2\C-09-074B TREFOIL-2 9.625 INCH INTERMEDIATE CASING LEAD.tdms
Comments 13/10/2009

6.1.5 9 5/8" Casing Tail

HALLIBURTON — **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 12-Oct-09
Rig Name	: Kan Tan IV	Lab Reference	: C-09-075A
Well Name	: Trefoil-2	API Schedule	: 9.60
Pipe Size / Casing Size	: 9 5/8" Intermediate Casing		

Well Information

BHST	:	103	°C
BHCT	:	64	°C
Measured Depth	:	2500	m
Total Vertical depth	:	2500	m

HalCem™ cement Tail Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			22/9/09	BBMT
Gascon 469	0.123	gal/sk	10.00	gal/10bbl		
CFR-3L	0.037	gal/sk	3.00	gal/10bbl		
Halad-413L	0.370	gal/sk	30.00	gal/10bbl		
SCR-100L	0.037	gal/sk	3.00	gal/10bbl		
NF-6	0.003	gal/sk	0.25	gal/10bbl		
Drill Water	4.61	gal/sk	Cl- Content	200	mg/L	

Total Mixing Fluid	: 5.18	gal/sk	
Slurry Density	: 15.8	lb/gal	
Slurry Yield	: 1.17	ft^3/sk	

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
33	3:24	3:39	3:42

Pumping time at 64 °C & 4641 psi is 3:42 hrs:mins

Slurry thickening time test is performed with slurry in motion, not in static condition

Free Fluid: Traces Vertical at 27 °C

API Fluid Loss: 36 cc/30 mins. at 64 °C and 1,000 psi

Slurry Rheology

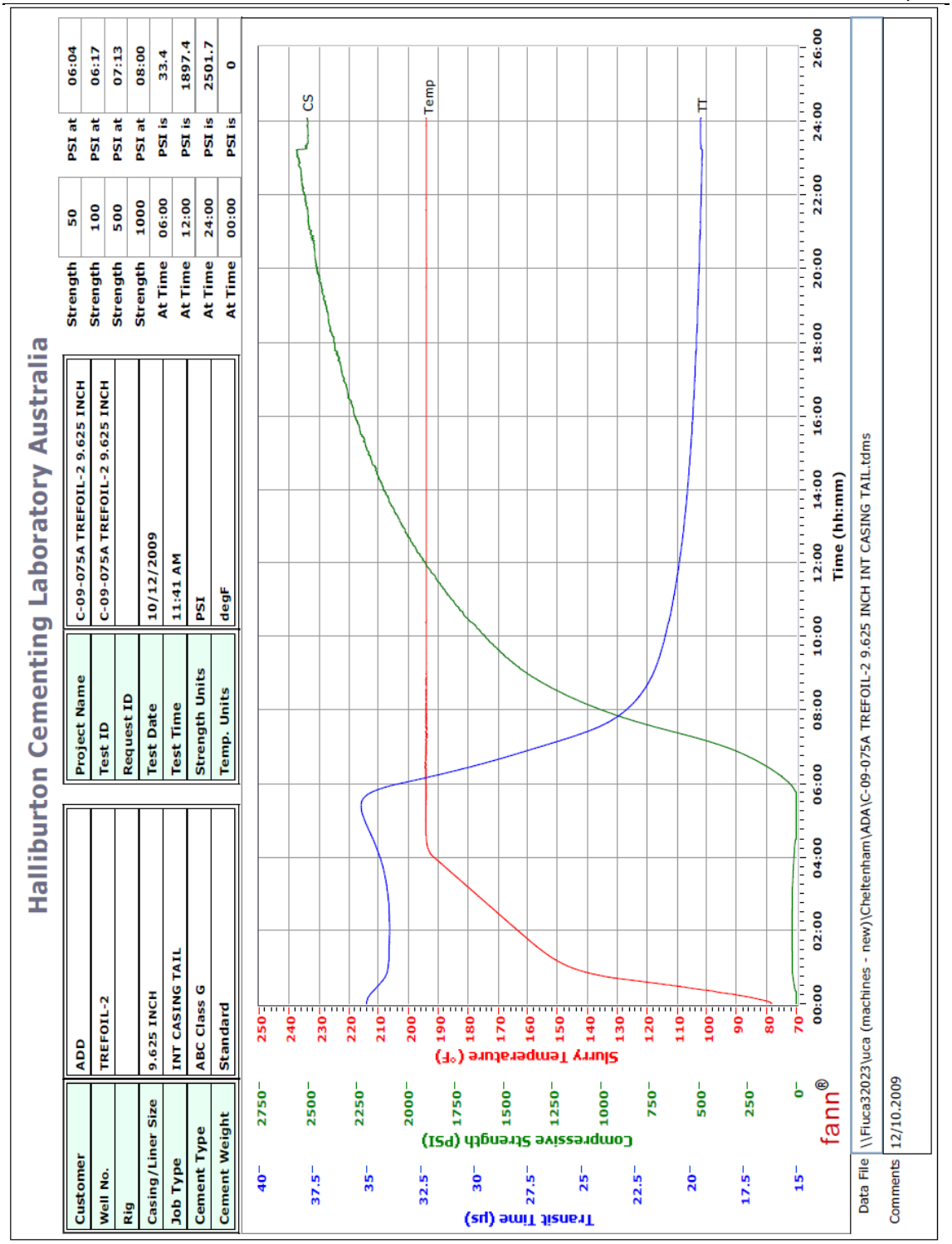
	Fann Readings (RPM)						
	300	200	100	6	3	PV (cP)	YP ($lb_f/100ft^2$)
Mix Temp	275	213	140	29	17	202.5	73
Raised Temp 56 °C	178	133	82.5	11	7.5	143.25	35

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	90 °C	3000 psi	6:04	2502 psi

Lab Technician: Gary Reid
Approved: Dave Webb

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Halliburton Cementing Laboratory Australia
Customer ADD
Well No. TREFOIL-2
Rig
Casing/Liner Size 9.625 INCH
Job Type INT CASING TAIL
Cement Type ABC Class G
Cement Weight Standard
Project Name C-09-075A TREFOIL-2 9.625 INCH
Test ID C-09-075A TREFOIL-2 9.625 INCH
Request ID
Test Date 10/12/2009
Test Time 11:41 AM
Strength Units PSI
Temp. Units degF
Strength 50 PSI at 06:04
Strength 100 PSI at 06:17
Strength 500 PSI at 07:13
Strength 1000 PSI at 08:00
At Time 06:00 PSI is 33.4
At Time 12:00 PSI is 1897.4
At Time 24:00 PSI is 2501.7
At Time 00:00 PSI is 0
Transit Time (µs)
Compressive Strength (PSI)
Slurry Temperature (°F)
Time (hh:mm)
CS
Temp
TT
fann®
Data File \\Fiuca32023\uca (machines - new)\Cheltenham\ADA\C-09-075A TREFOIL-2 9.625 INCH INT CASING TAIL.tdms
Comments 12/10.2009

6.1.6 Plugs

HALLIBURTON — **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 26-Oct-09
Rig Name	: Kan Tan IV	Lab Reference	: C-09-080B
Well Name	: Trefoil-2	API Schedule	: 9.19
Pipe Size / Casing Size	: Plug-1		

Well Information

BHST	:	130	°C
BHCT	:	109	°C
Measured Depth	:	3221	m
Total Vertical depth	:	3200	m

HalCem™ cement Plug Job Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			12/10/09	From Rig
SCR-100L	0.122	gal/sk	10.00	gal/10bbl		
		gal/sk		gal/10bbl		
NF-6	0.003	gal/sk	0.25	gal/10bbl		
Freshwater	5.01	gal/sk	Cl- Content	200	mg/L	

Total Mixing Fluid	: 5.14	gal/sk	
Slurry Density	: 15.8	lb/gal	
Slurry Yield	: 1.16	ft³/sk	

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
13	1:47	3:28	3:33

Pumping time at 109 °C & 6036 psi is 3:33 hrs:mins

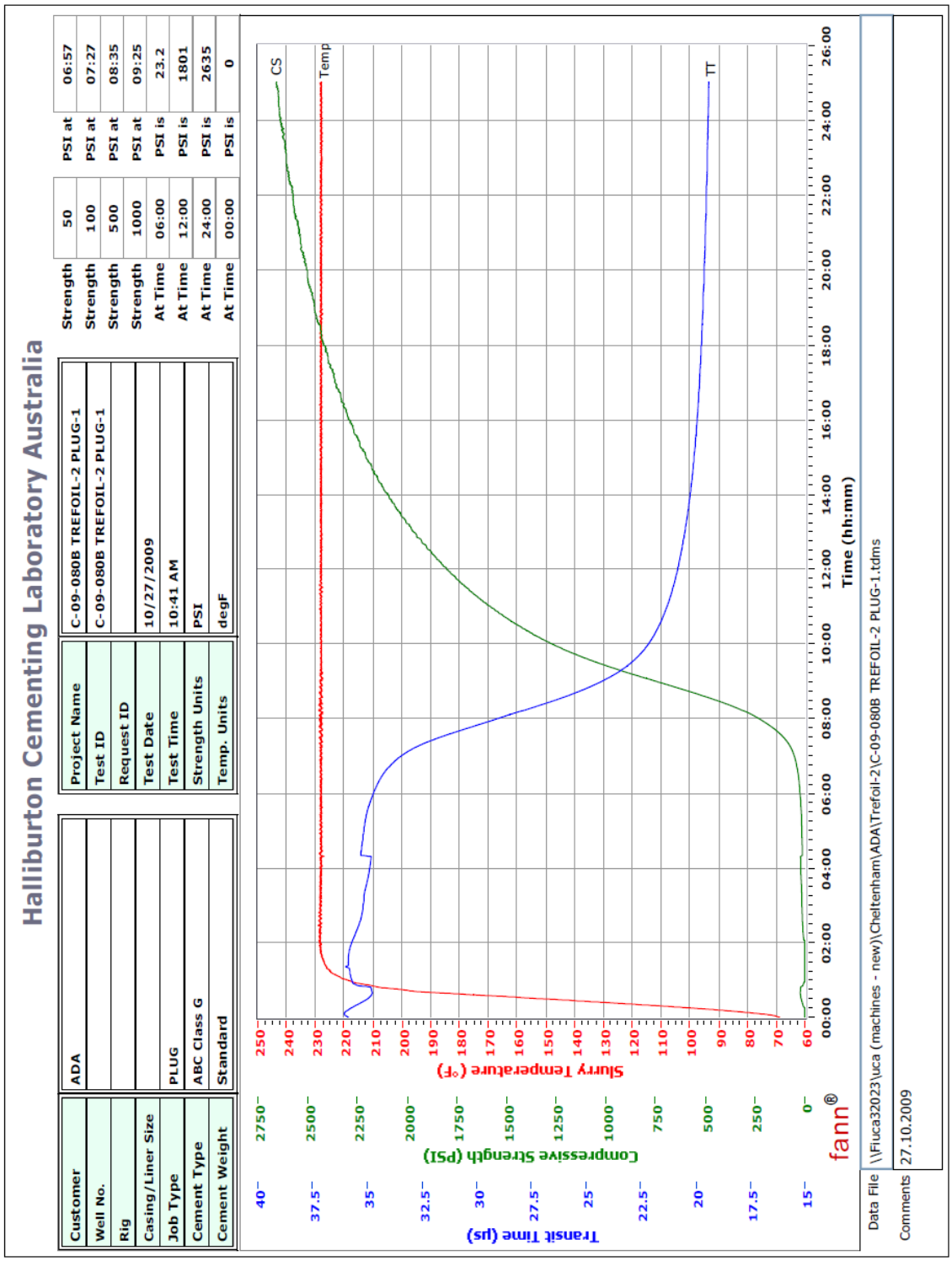
Slurry thickening time test is performed with slurry in motion, not in static condition

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	109 °C	3000 psi	6:57	2635 psi

Lab Technician: Gary Reid
Approved: Dave Webb

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Halliburton Cementing Laboratory Australia
Customer ADA
Well No.
Rig
Casing/Liner Size
Job Type PLUG
Cement Type ABC Class G
Cement Weight Standard
Project Name C-09-080B TREFOIL-2 PLUG-1
Test ID C-09-080B TREFOIL-2 PLUG-1
Request ID
Test Date 10/27/2009
Test Time 10:41 AM
Strength Units PSI
Temp. Units degF
Strength 50 PSI at 06:57
Strength 100 PSI at 07:27
Strength 500 PSI at 08:35
Strength 1000 PSI at 09:25
At Time 06:00 PSI is 23.2
At Time 12:00 PSI is 1801
At Time 24:00 PSI is 2635
At Time 00:00 PSI is 0
CS
Temp
TT
Time (hh:mm)
Slurry Temperature (°F)
Compressive Strength (PSI)
Transit Time (µs)
fann®
Data File \\Fiuca32023\uca (machines - new)\Cheltenham\ADA\Trefoil-2\C-09-080B TREFOIL-2 PLUG-1.tdms
Comments 27.10.2009

HALLIBURTON **CEMENT SLURRY LABORATORY REPORT**

Customer Information

Customer	: ADA	Date	: 26-Oct-09
Rig Name	: Kan Tan IV	Lab Reference	: C-09-081B
Well Name	: Trefoil-2	API Schedule	: 9.18
Pipe Size / Casing Size	: Plug-2		

Well Information

BHST	:	106	°C
BHCT	:	87	°C
Measured Depth	:	2575	m
Total Vertical depth	:	2575	m

HalCem™ cement Plug Job Slurry Design

MATERIAL	Conc.	Unit	Conc.	Unit	Date	Source
ABC Class G	94.00	lbs			12/10/09	From Rig
SCR-100L	0.049	gal/sk	4.00	gal/10bbl		
		gal/sk		gal/10bbl		
NF-6	0.003	gal/sk	0.25	gal/10bbl		
Freshwater	5.07	gal/sk	**Cl- Content**	200	mg/L	

Total Mixing Fluid	:	5.12	gal/sk
Slurry Density	:	15.8	lb/gal
Slurry Yield	:	1.16	ft^3/sk

Laboratory Test Results

Thickening Time

Initial BC	30	50	70
9	3:11	3:20	3:22

Pumping time at 87 °C & 4863 psi is 3:22 hrs:mins

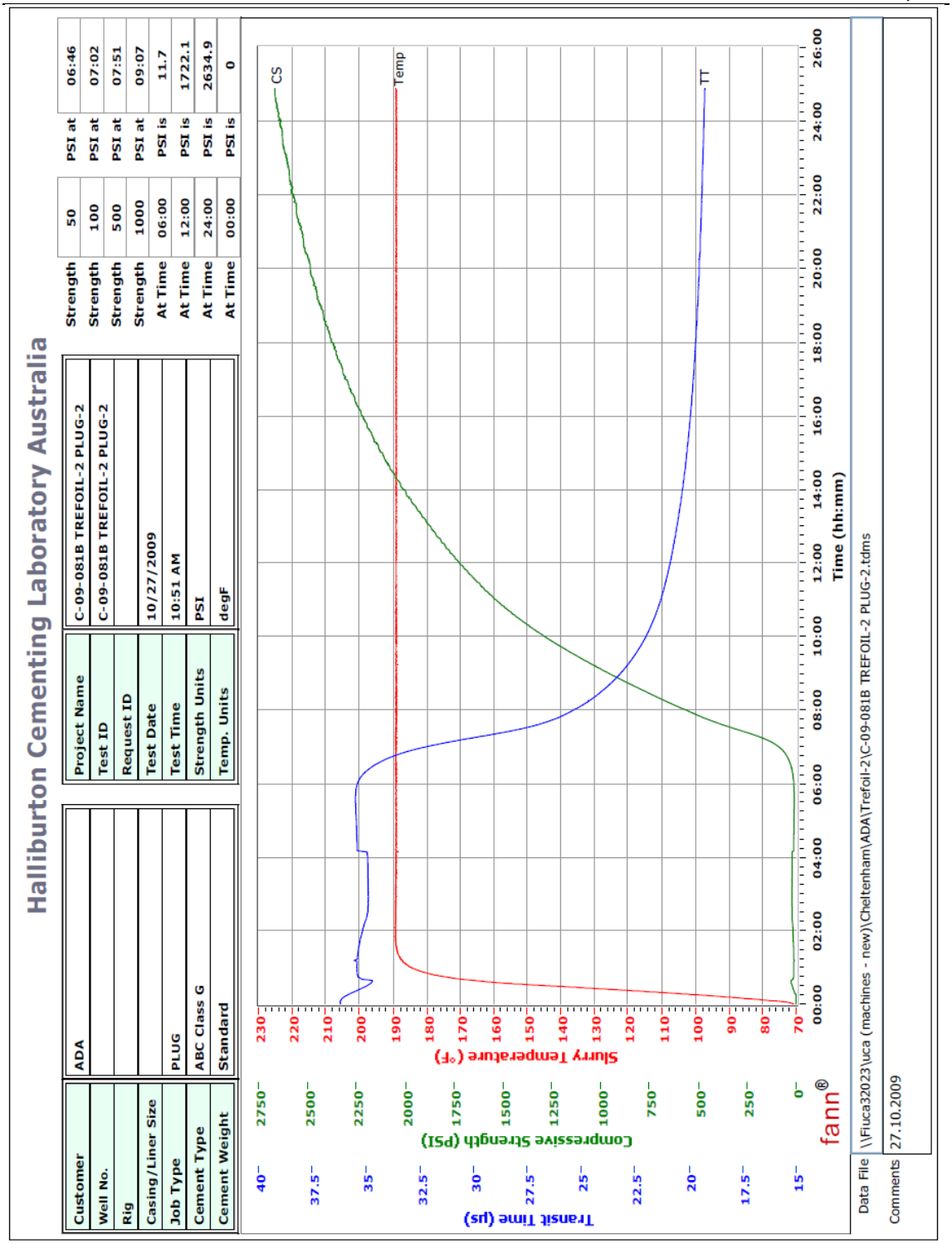
Slurry thickening time test is performed with slurry in motion, not in static condition

Compressive Strength

Non Destructive (UCA)	Temp	Pressure	50psi	24 hours
	87 °C	3000 psi	6:46	2635 psi

Lab Technician: Gary Reid
Approved: Dave Webb

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Halliburton Cementing Laboratory Australia
Customer ADA
Well No.
Rig
Casing/Liner Size
Job Type PLUG
Cement Type ABC Class G
Cement Weight Standard
Project Name C-09-081B TREFOIL-2 PLUG-2
Test ID C-09-081B TREFOIL-2 PLUG-2
Request ID
Test Date 10/27/2009
Test Time 10:51 AM
Strength Units PSI
Temp. Units degF
Strength 50 PSI at 06:46
Strength 100 PSI at 07:02
Strength 500 PSI at 07:51
Strength 1000 PSI at 09:07
At Time 06:00 PSI is 11.7
At Time 12:00 PSI is 1722.1
At Time 24:00 PSI is 2634.9
At Time 00:00 PSI is 0
CS
Temp
TT
Transit Time (µs)
Compressive Strength (PSI)
Slurry Temperature (°F)
Time (hh:mm)
fann®
Data File \\Fluca32023\uca (machines - new)\Cheltenham\ADA\Trefoil-2\C-09-081B TREFOIL-2 PLUG-2.tdms
Comments 27.10.2009

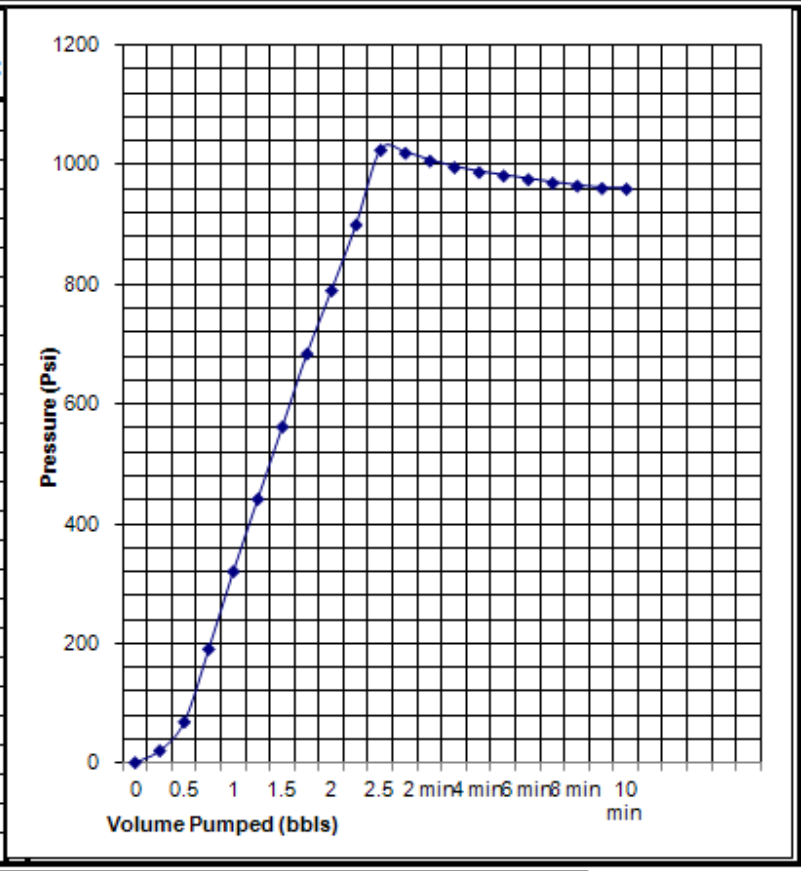
APPENDIX 15: FIT/LOT SUMMARY SHEETS

FIT / LOT TEST RESULTS.

Australian Drilling Associates Pty Ltd ADA

FIT / LOT DATA					
TEST DATE:	15/10/2009	WELL #:	Trefoil-2	CLIENT:	Origin Energy
CASING DATA				TEST MUD DATA	
CASING SIZE	CASING GRADE	SHOE TVD (M)	SHOE MD (M)	WEIGHT (PPG)	VISCOSITY (SEC)
13 3/8"	K55	930	930	9.1	52
INDICATE TYPE OF TEST:		FIT:	☐	LOT:	☑
LEAK OFF OR FIT TEST PRESSURE (PSI):		EQUIVALENT MUD WEIGHT (PPG):	MAX. MUD WEIGHT (PPG):	VOLUME PUMPED (BBLS):	VOLUME RETURNED (BBLS):
960		6.05	15.15	2.58	2

SURFACE PRESSURE (PSI):	VOLUME PUMPED (BBLS):
0	0
20	0.25
68	0.5
190	0.75
320	1
441	1.25
562	1.5
684	1.75
790	2
900	2.25
1025	2.5
1020	1 min
1007	2 min
996	3 min
988	4 min
982	5 min
976	6 min
970	7 min
965	8 min
961	9 min
960	10 min



PRESENT DAY INFO.				
DATE:	DEPTH (M):		MUD:	
	MD:	TVD:	WEIGHT (PPG):	VISCOSITY (SEC):
15/10/2009	938	938	9.1	52

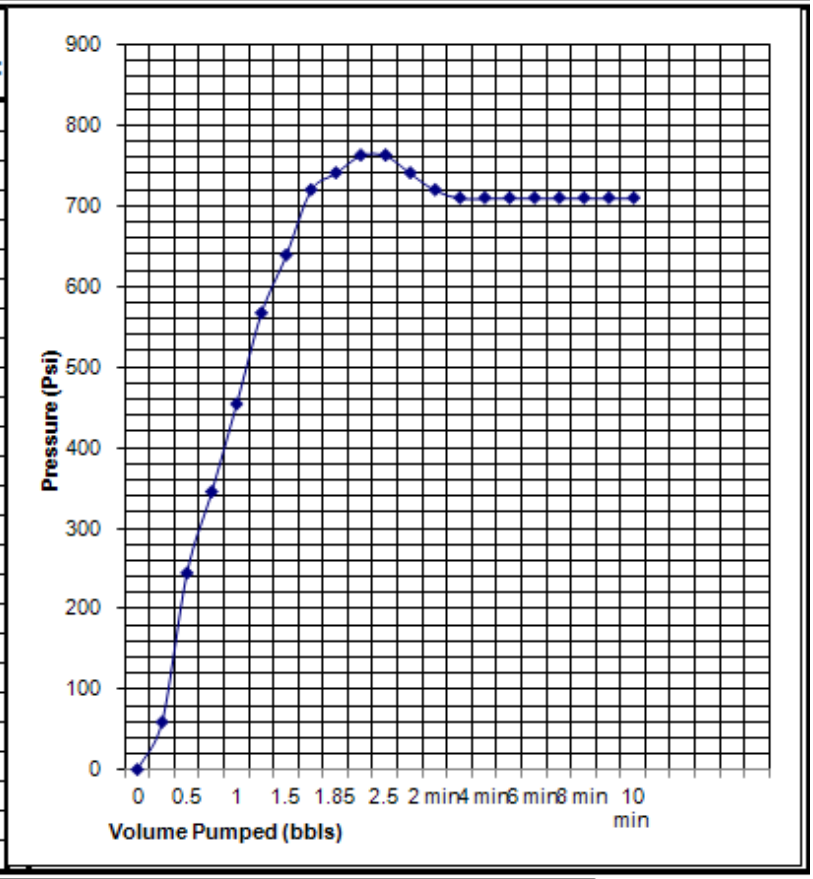
MAASP = 960

COMMENTS:	

FIT / LOT TEST RESULTS.

FIT / LOT DATA					
TEST DATE:	7/11/2009	WELL #:	Trefoil-2	CLIENT:	Origin Energy
CASING DATA				TEST MUD DATA	
CASING SIZE	CASING GRADE	SHOE TVD (M)	SHOE MD (M)	WEIGHT (PPG)	VISCOSITY (SEC)
9.625in	L80	2520	2520	9.4	55
INDICATE TYPE OF TEST:		FIT:	☑	LOT:	☐
LEAK OFF OR FIT TEST PRESSURE (PSI):		EQUIVALENT MUD WEIGHT (PPG):	MAX. MUD WEIGHT (PPG):	VOLUME PUMPED (BBLS):	VOLUME RETURNED (BBLS):
710		1.65	11.05		

SURFACE PRESSURE (PSI):	VOLUME PUMPED (BBLS):
0	0
59	0.25
244	0.5
345	0.75
454	1
567	1.25
639	1.5
720	1.75
741	1.85
763	2.2
763	2.5
741	1 min
720	2 min
710	3 min
710	4 min
710	5 min
710	6 min
710	7 min
710	8 min
710	9 min
710	10 min



PRESENT DAY INFO.				
DATE:	DEPTH (M):		MUD:	
	MD:	TVD:	WEIGHT (PPG):	VISCOSITY (SEC):
7/11/2009	2523	2523	9.4	55

MAASP = 710

COMMENTS:
The 9.625in casing string was uncemented.
The FIT confirmed the integrity of the formation at the shoe and pack-off around the casing.

APPENDIX 16: DAILY DRILLING REPORTS

Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 1
Trefoil-2

21 Sep 2009

From: Tim Lee/ Paul Leathem
To: Texas Richards

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	US$32,736,278
Field	Trefoil	TVDBRT	0.0m	Last Casing OD		AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	0.0m	Daily Cost	US$850,000
Rig	Kan Tan IV	Days from spud		Shoe MDBRT	0.0m	Cum Cost	US$850,000
Wtr Dpth(MSL)	69.0m	Days on well	0.25	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Preparing for Inclination test. Waiting on Weather		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Perform Rig Inclination test. Connect rig anchors.		

Summary of Period 0000 to 2400 Hrs

0600hrs - 12.30hrs Under tow with the Tow Boat Far Scimitar. From dock side to inclination test position in bay.38-06-139S 144-52-058E .

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Pre-move abandon drill	Conducted abandon drill. 9 minutes to muster.
Last BOP stack test	2	17 Days	Test BOP	
Permit To Work	8	0 Days	Permits administerd.	
STOP Card	22	0 Days	Number of STOP Cards submitted	

Operations For Period 0000 Hrs to 2400 Hrs on 21 Sep 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0630	1230	6.00	0.0m	Moved away from dock side with the assistance of harbour tugs. Connected to tow bridle at 06:30. Connected tow boat Far Scimitar & proceeded to inclination test position in Port Phillip bay. 38-06-139S 144-52-058E

Phase Data to 2400hrs, 21 Sep 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	6	21 Sep 2009	21 Sep 2009	6.00	0.250	0.0m

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	bbls	0	0	0	310.0
Lube-Oil	LT	0	75	75	3,659.0
Fuel	LT	0	4	5	261.0
Potable Water	bbls	0	25	0	230.0

Personnel On Board

Company	Pax
ADA	4
Maersk	57
OMS	14
GRN	4
Noble Denton	1
Halliburton	2
ABS	1
Total	83

Marine

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Printed on 21 Sep 2009

Weather on 21 Sep 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
4.0nm	15kn	201.0deg	998.0mbar	10C°	1.0m	0.0deg	

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
			1.0m	0.0deg		

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	06 00		Holding rig in position on tow line. Position 38-02-139 S 144-52-058 E

Bulks

Item	Unit	Used	Quantity
Barite	t		84
Bentonite	t		42
	t		120
Fuel	M3		700
Potable Water	M3		375

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	0600		Standby.

Bulks

Item	Unit	Used	Quantity
Barite	t		42
Bentonite	t		42
	t		126
Drill Water	M3		640
Pot Water	M3		294

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 2
Trefoil-2

02 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	0.0m	Last Casing OD		AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	0.0m	Daily Cost	US$ 0
Rig	Kan Tan IV	Days from spud		Shoe MDBRT	0.0m	Cum Cost	US$2,367,261
Wtr Dpth(MSL)	69.0m	Days on well	1.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Rig under tow with Far Scimitar to Trefoil-2 location		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Complete tow with Far Scimitar to Trefoil-2 location. Run Anchors.		

Summary of Period 0000 to 2400 Hrs

Completed sea fastening. Rig under tow to Trefoil-2 location. Departure time 03:00hrs, 2nd October 2009.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Held abandon Drill prior to tow.	
Last BOP stack test	2	28 Days	Test BOP	
Permit To Work	7	0 Days	Permits administerd.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	5 Days	Held weekly safety meeting with each crew.	
STOP Card	15	0 Days	Number of STOP Cards submitted	

Operations For Period 0000 Hrs to 2400 Hrs on 02 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0300	0600	3.00	0.0m	Begin tow with boat Far Scimitar from Port Phillip Bay To Trefoil-2 location.
P1	P	M1	0600	1200	6.00	0.0m	Rig under tow with Far Scimitar to Trefoil-2 location. Rig position at 12:00 hrs LAT: 38 deg 19' 0.0" S. LONG 144 deg 36' 0.0" E. Total distance traveled 30.4 nautical miles. Average speed 3.7 knots. Distance to go 101.6 nautical miles. ETA = 09:00 hrs 3rd October 09.
P1	P	M1	1200	2000	8.00	0.0m	Rig under tow with Far Scimitar to Trefoil-2 location. Rig position at 20:00 hrs LAT: 38 deg 48' 0.2" S. LONG 144 deg 46' 0.6" E. Total distance traveled 63.6 nautical miles. Average speed 3.7 knots. Distance to go 70.2 nautical miles. ETA = 12:00 hrs 3rd October 09.
P1	P	M1	2000	2400	4.00	0.0m	Rig under tow with Far Scimitar to Trefoil-2 location. Rig position at 24:00 hrs LAT: 39 deg 05' 0.5" S. LONG 144 deg 56' 0.1" E. Total distance traveled 63.6 nautical miles. Average speed 3.7 knots. Distance to go 80.7 nautical miles. ETA = 11:30 hrs 3rd October 09.

Operations For Period 0000 Hrs to 0600 Hrs on 03 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0000	0600	6.00	0.0m	Rig under tow with Far Scimitar to Trefoil-2 location. Rig position at 06:00 hrs LAT: 39 deg 32' 0.S. LONG 145 deg 10' 9.0" E. Total distance traveled 109.5 nautical miles. Average speed 5.0 knots. Distance to go 23.0 nautical miles. ETA = 11:00 hrs 3rd October 09.

Phase Data to 2400hrs, 02 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	27	21 Sep 2009	02 Oct 2009	27.00	1.125	0.0m

General Comments

00:00 TO 24:00 Hrs ON 02 Oct 2009

Operational Comments	Far Fosna under power 5 klms off rig

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	Ltrs	0	3	413	410.0
Drill Water	bbls	0	0	0	310.0
Potable Water	bbls	0	0	570	800.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97			
2	Continental Emsco	6.50		97			
3	Continental Emsco	6.50		97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	5
Maersk	48
OMS	20
GRN	2
Noble Denton	1
Halliburton	3
Fugro	5
Dril-Quip	1
Other	5
Total	90

Marine

Weather on 02 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
8.0nm	24kn	172.0deg	1013.0mbar	9C°	3.0m	172.0deg	

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
			130.0m	170.0deg		

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	06 00		Holding rig in position on tow line. Position 38-02-139 S 144-52-058 E

Bulks

Item	Unit	Used	Quantity
Barite	t		84
Bentonite	t		42
	t		120
Fuel	M3		700
Potable Water	M3		375

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	0600		Standby.

Bulks

Item	Unit	Used	Quantity
Barite	t		42
Bentonite	t		42
	t		126
Drill Water	M3		640
Pot Water	M3		294

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	08:17 / 08:32	15 / 15	Crew Change
2	Bristow Helicopters	10:13 / 10:28	8 / 3	3rd Party

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 3
Trefoil-2

03 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	0.0m	Last Casing OD		AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	0.0m	Daily Cost	US$ 0
Rig	Kan Tan IV	Days from spud		Shoe MDBRT	0.0m	Cum Cost	US$2,367,261
Wtr Dpth(MSL)	69.0m	Days on well	2.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Pumping water from the port side propulsion pump room with the Wilden system.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Complete ballasting rig down to drilling draft. Cross tension anchors. Fugro to confirm location and heading. Jump ROV and conduct seabed survey. Make up 30" running tool. Make up cement stand. Pick up 5" drill pipe.		

Summary of Period 0000 to 2400 Hrs

On location 12:00 hrs . All 8 anchors ran and on bottom 23:30.
Commenced Ballasting down to drilling draft 23:30

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Held abandon Drill prior to tow.	
Last BOP stack test	2	29 Days	Test BOP	
Permit To Work	7	0 Days	Permits administerd.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	6 Days	Held weekly safety meeting with each crew.	
STOP Card	24	0 Days	Number of STOP Cards submitted	

Operations For Period 0000 Hrs to 2400 Hrs on 03 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M1	0000	0600	6.00	0.0m	Rig under tow with Far Scimitar to Trefoil-2 location. Rig position at 06:00 hrs LAT: 39 deg 32' 0.S. LONG 145 deg 10' 9.0" E. Total distance traveled 109.5 nautical miles. Average speed 5.0 knots. Distance to go 23.0 nautical miles. ETA = 11:00 hrs 3rd October 09.
P1	P	M1	0600	1200	6.00	0.0m	Rig under tow with Far Scimitar to Trefoil-2 location. Rig position at 12:00 hrs LAT: 39 deg 53' 1.S. LONG 145 deg 23' 0.0" E. Total distance traveled 132.5 nautical miles. Average speed 5.5 knots. Arrived at location at 12:00 hrs 3rd October 09.
P1	P	M4	1200	1500	3.00	0.0m	Anchor Handling Operations. Commenced paying out on #6 at 12:15 hrs. Anchor on bottom at 12:30 hrs. Anchor #2 AHSV Far Fosna. Pennant passed to Far Fosna at 13:10 hrs. Commenced paying out on #2 at 13:55 hrs. Anchor on bottom at 14:20 hrs. Chasing back on #2 anchor at 14:25 hrs. PCP #2 back on rig at 15:00 hrs.
P1	P	M4	1500	1800	3.00	0.0m	Anchor Handling Operations. Anchor #3 AHSV Far Fosna. Pennant passed to Far Fosna at 15:15 hrs. Commenced paying out on #3 at 15:25 hrs. Anchor on bottom at 16:22 hrs. Stripped back on #3 anchor at 16:25 hrs. PCP #3 back on rig at 17:00 hrs. Anchor #7 AHSV Far Fosna. Pennant passed to Far Fosna at 17:20 hrs. Commenced paying out on #7 anchor at 17:25 hrs. Anchor on bottom at 18:00 hrs.
P1	P	M4	1800	2100	3.00	0.0m	Anchor Handling Operations. Commenced tensioning #7 anchor at 18:11 hrs. Far Scimitar instructed to commence spooling tow wire.

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Printed on 03 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							PCP #7 back on rig at 18:45 hrs. Anchor #8 AHSV Far Fosna. Pennant passed to Far Fosna at 18:49 hrs. Commenced paying out on #8 anchor at 18:56 hrs. Anchor on bottom at 19:25 hrs. Chasing back on #8 anchor at 19:32 hrs. PCP #8 back on rig at 20:13 hrs. Anchor #1 AHSV Far Fosna. Pennant passed to Far Fosna at 20:20 hrs. Commenced paying out on #1 anchor at 20:30 hrs. Anchor on bottom at 20:54 hrs. Note: Far Scimitar informed that the tow line had parted at 19:08 hrs.
P1	P	M4	2100	2330	2.50	0.0m	Anchor Handling Operations. Chasing back on #1 anchor at 21:00 hrs. PCP #1 back on rig at 21:26 hrs. Anchor #5 AHSV Far Scimitar. Pennant passed to Far Scimitar at 21:56 hrs. Anchor #4 AHSV Far Fosna. Commenced paying out#5 anchor at 22:21 hrs. Pennant passed to Far Fosna at 22:32 hrs. Anchor #5 on bottom at 22:43 hrs. Commenced paying out #4 anchor at 22:45 hrs. Chasing back on #5 anchor at 22:52 hrs. Anchor #4 on bottom at 23:06 hrs. Chasing back on #4 anchor at 23:15 hrs. PCP #5 back to rig at 23:19 hrs. PCP #4 back to rig at 23:40 hrs. Note: Far Scimitar and Far Fosna outside 500m, running at standby.
P1	P	M3	2330	2400	0.50	0.0m	Commenced ballasting rig down to drilling draft.

Operations For Period 0000 Hrs to 0600 Hrs on 04 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M3	0000	0030	0.50	0.0m	Ballast rig down to drilling draft.
P1	TP (RE)	M3	0030	0130	1.00	0.0m	Stopped ballasting rig down due to leaking sounding pipe on starboard #9 ballast tank. Pumped out water prior to repairing leaking sounding pipe.
P1	TP (RE)	M3	0130	0430	3.00	0.0m	Welder repaired leaking sounding pipe on starboard #9 ballast tank.
P1	TP (RE)	M3	0430	0600	1.50	0.0m	Leak fixed. Pumping water from port pump room with wilden pumps due to leaking pressure gauge on propellor shaft oil seal.

Phase Data to 2400hrs, 03 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	51	21 Sep 2009	03 Oct 2009	51.00	2.125	0.0m

General Comments

00:00 TO 24:00 Hrs ON 03 Oct 2009

Operational Comments	Far Fosna under power 5 klms off rig during towing operations.
Operational Comments	Kan Tan 1V arrived at Trefoil-2 location at 12:00 hrs 3rd October 2009.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	0	90	503.0
Drill Water	m3	0	0	0	50.0
Potable Water	m3	9	15	0	121.0

Pumps

Pump Data - Last 24 Hrs

Slow Pump Data

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	Continental Emsco	6.50		97													
2	Continental Emsco	6.50		97													
3	Continental Emsco	6.50		97													

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Personnel On Board

Company	Pax
ADA	5
Maersk	48
OMS	20
GRN	2
Noble Denton	1
Halliburton	3
Fugro	5
Dril-Quip	1
Other	5
Total	90

Marine

Weather on 03 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
8.0nm	18kn	52.0deg	1018.0mbar	9C°	2.5m	52.0deg	5s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
			1.5m	170.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	06 00		Standby.

Item	Unit	Used	Quantity
Barite	t		84
Bentonite	t		42
	t		120
Fuel	M3		100
Potable Water	M3		375

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	0600		Standby.

Item	Unit	Used	Quantity
Barite	t		42
Bentonite	t		42
	t		126
Drill Water	M3		640
Pot Water	M3		294

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 4
Trefoil-2

04 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	0.0m	Last Casing OD		AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	0.0m	Daily Cost	US$ 0
Rig	Kan Tan IV	Days from spud		Shoe MDBRT	0.0m	Cum Cost	US$2,367,261
Wtr Dpth(MSL)	69.0m	Days on well	3.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Picking up 5" drill pipe and racking in derrick.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Complete picking up 5" drill pipe. Make up cement stand and rack in derrrick. Make up 36" BHA. RIH to seabed. Spud well. Drill 36" hole to section TD.		

Summary of Period 0000 to 2400 Hrs

Completed ballasting rig down to drilling draft. Cross tension anchors. Position rig over location. Fugro confirmed location and heading. Jumped ROV and conducted seabed survey. Made up 30" running tool. Picked up 15 x 5" HWDP.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Held abandon Drill prior to tow.	
Last BOP stack test	2	30 Days	Test BOP	
Permit To Work	9	0 Days	Permits administerd.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	0 Days	Held 2 x General Safety Meeting	
STOP Card	16	0 Days	Number of STOP Cards submitted	

Operations For Period 0000 Hrs to 2400 Hrs on 04 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M3	0000	0030	0.50	0.0m	Ballast rig down to drilling draft.
P1	TP (RE)	M3	0030	0130	1.00	0.0m	Stopped ballasting rig down due to leaking sounding pipe on starboard #9 ballast tank. Pumped out water prior to repairing leaking sounding pipe.
P1	TP (RE)	M3	0130	0430	3.00	0.0m	Welder repaired leaking sounding pipe on starboard #9 ballast tank.
P1	TP (RE)	M3	0430	0800	3.50	0.0m	Leak fixed. Pumping water from port pump room with wilden pumps due to leaking pressure gauge on propellor shaft oil seal.
P1	P	M3	0800	1400	6.00	0.0m	Ballast rig down to drilling draft. (20m)
P1	P	M5	1400	1730	3.50	0.0m	Cross Tension Anchors.
P1	P	M5	1730	1830	1.00	0.0m	Position rig over location. Fugro confirm position. Final Rig Heading: 316.79 deg. Latitude: 39 deg 53'07.9321"S Longitude: 145 deg 22'14.6192"E Position is 5.67m @264.45 deg T (263.40 deg G) FROM intended location.
P2	P	G1	1830	2000	1.50	0.0m	Rigged up to pick up 5" tubulars. Laid out and measured 5" HWDP prior to picking up same. Concurrently rigged up bulk hoses to Far Scimitar.
P2	P	G2	2000	2200	2.00	0.0m	Held toolbox meeting with drill crew and deck crew prior to picking up tubulars. Picked up 3 joints of 5" HWDP, crossover and made up Dril-Quip 30" housing running tool. Racked back same in derrick. Drifted all tubulars with 3" drift.
P2	P	G2	2200	2400	2.00	0.0m	Picked up 12 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.

Operations For Period 0000 Hrs to 0600 Hrs on 05 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P2	P	G2	0000	0030	0.50	0.0m	Picked up 3 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.
P2	P	G2	0030	0600	5.50	0.0m	Picked up 75 joints of 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.

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Phase Data to 2400hrs, 04 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	5.5	04 Oct 2009	04 Oct 2009	75.00	3.125	0.0m

General Comments

00:00 TO 24:00 Hrs ON 04 Oct 2009

Operational Comments	Ballested rig down to 66 ft (20.1m) drilling draft.
Operational Comments	Jumped ROV. Conducted seabed survey
Operational Comments	All anchors - tensioned to 70 (kips)

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	100	14	0	589.0
Drill Water	m3	376	0	0	426.0
Potable Water	m3	53	26	0	148.0
Aldacide	25kg/pail	32	0	0	64.0
Barazan D+	25kg/sx	80	0	0	160.0
Barite	MT	84	0	0	84.0
Baradefoam-W300	can	16	0	0	32.0
Barolift	boxes	18	0	0	36.0
Bentonite	MT	0	0	0	0.0
Caustic Soda	pail	32	0	0	64.0
Con-Det	5 gal/pail	32	0	0	64.0
Dextrid Lte	25kg/sx	72	0	0	144.0
Guar Gum	25kg/sx	80	0	0	160.0
Lime	sx	54	0	0	108.0
Mica	25kg/sx	40	0	0	80.0
Omyacarb 5	25kg/sx	96	0	0	192.0
Pac-LE	25kg/sx	80	0	0	160.0
Soda Ash	sx	40	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97			
2	Continental Emsco	6.50		97			
3	Continental Emsco	6.50		97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	5
Maersk	48
OMS	14
GRN	2
Noble Denton	1
Halliburton	2
Dril-Quip	2
Halliburton (Baroid)	2
Reach	1
PCS	3
Fugro ROV	6
Fugro Survey	2
Halliburton	2
Other	4

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Personnel On Board

Total	94

Marine

Weather on 04 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
8.0nm	13kn	268.0deg	1018.0mbar	9C°	1.3m	268.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		508.00klb	1.8m	245.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Far Scimitar		23:55 hrs 04/10/09	Enroute to Geelong	

Item	Unit	Used	Quantity
Barite	t		0
Bentonite	t		42
	t		120
Potable Water	M3		0
Drill Water	M3		0
Rig Fuel	M3		0

ETA Geelong Pilot at 06:00 rs 05/10/09

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Far Fosna	0600		Standby Kan Tan 1V	

Item	Unit	Used	Quantity
Barite	t		42
Bentonite	t		42
	t		126
Drill Water	M3		640
Pot Water	M3		390
Rig Fuel	M3		260

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:58 / 10:14	11 / 7	

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 5

Trefoil-2

05 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	0.0m	Cur. Hole Size		AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	0.0m	Last Casing OD		AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	0.0m	Daily Cost	US$850,000
Rig	Kan Tan IV	Days from spud		Shoe MDBRT	0.0m	Cum Cost	US$4,067,261
Wtr Dpth(MSL)	69.0m	Days on well	4.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Prepare to spud		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Spud well. Drill 36" hole to section TD. POOH. Run 30" Conductor.		

Summary of Period 0000 to 2400 Hrs

Picked up 240 joints 5" drill pipe and racked in derrick.
Held pre spud meeting with all personnel.
Prepare and mix spud mud whilst picking up 36" BHA.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	5 Days	Held abandon Drill prior to tow.	
Last BOP stack test	2	31 Days	Test BOP	
Permit To Work	10	0 Days	Permits administerd.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	1 Day	Held 2 x General Safety Meeting	
STOP Card	34	0 Days	Number of STOP Cards submitted	

Operations For Period 0000 Hrs to 2400 Hrs on 05 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P2	P	G2	0000	0030	0.50	0.0m	Picked up 3 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.
P2	P	G2	0030	1600	15.50	0.0m	Picked up 240 joints of 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift.
P2	P	G6	1600	2000	4.00	0.0m	Held JSA prior to picking up BHA. Made up 26" bit, 36" hole opener, bit sub and Anderdrift tools. RIH with same
P2	P	C13	2000	2100	1.00	0.0m	Held pre spud meeting with all personnel.
P2	P	G6	2100	2400	3.00	0.0m	Held JSA prior to picking up drill collars. Made up 3 x 9 1/2" drill collars, crossover, 1 x 8 1/4" drill collars. RIH with same.

Operations For Period 0000 Hrs to 0600 Hrs on 06 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P2	P	G6	0000	0100	1.00	0.0m	Continued picking up 8 1/4" drill collars.
P2	P	G6	0100	0200	1.00	0.0m	Made up cement stand and racked back in derrick
P2	P	G6	0200	0330	1.50	0.0m	Continued picking up 8 1/4" drill collars.
P2	P	G6	0330	0400	0.50	0.0m	Made up crossover and pup joint and engaged TDS. Function tested Anderdrift survey tool. Good test.
P2	TP (RE)	G6	0400	0500	1.00	0.0m	Troubleshoot problems with AC Generator on EMD #3.
P2	P	F3	0500	0530	0.50	0.0m	Ran and tested pumps #1, #2 and #3 at 240 spm, 1200 gpm, 1180 psi. All pumps ok.
P2	P	G6	0530	0600	0.50	0.0m	Pick up remaining 8 1/4" drill collars

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 05 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	29.5	04 Oct 2009	05 Oct 2009	99.00	4.125	0.0m

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General Comments

00:00 TO 24:00 Hrs ON 05 Oct 2009

Operational Comments	Held Pre Phase Meeting for running and cementing of 30in conductor.
Operational Comments	Held Pre Spud meeting with all personnel.

WBM Data

Cost Today US$ 11853

Mud Type:	PHB Gel	API FL:	Cl:	Solids(%vol):	Viscosity
Sample-From:		Filter-Cake:	K+C*1000:	H2O:	PV
Time:		HTHP-FL:	Hard/Ca:	Oil(%):	YP
Weight:		HTHP-cake:	MBT:	Sand:	Gels 10s
Temp:			PM:	pH:	Gels 10m
			PF:	PHPA:	Fann 003
Comment		Note: Cost is in AUD			Fann 006
					Fann 100
					Fann 200
					Fann 300
					Fann 600

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	2	0	587.0
Drill Water	m3	0	60	0	366.0
Potable Water	m3	49	18	0	179.0
Aldacide	25kg/pail	0	0	0	32.0
Barazan D+	25kg/sx	0	0	0	80.0
Barite	MT	0	15	0	69.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	42	0	0	42.0
Caustic Soda	pail	0	12	0	20.0
Con-Det	5 gal/pail	0	0	0	32.0
Dextrid Lte	25kg/sx	0	0	0	72.0
Guar Gum	25kg/sx	0	0	0	80.0
Lime	sx	0	0	0	54.0
Mica	25kg/sx	0	0	0	40.0
Omyacarb 5	25kg/sx	0	0	0	96.0
Pac-LE	25kg/sx	0	0	0	80.0
Soda Ash	sx	0	8	0	32.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97			
2	Continental Emsco	6.50		97			
3	Continental Emsco	6.50		97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	8
Maersk	45
OMS	15
GRN	3
Halliburton	2
Dril-Quip	2
Halliburton (Baroid)	2
Reach	1
PCS	3
Fugro ROV	6

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Personnel On Board

Halliburton	2
Geoservices	3
Other	4
Total	96

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	**878.0bbl**	**Losses**	**0.0bbl**	Equipment	Description	Mesh Size
Active	55.0bbl	Downhole				
Mixing	823.0bbl	Surf+ Equip	0.0bbl			
Hole		Dumped				
Slug		De-Gasser				
Reserve		De-Sander				
Kill		De-Silter				
		Centrifuge				

Comments: Mixing 750 bbl 10ppg Kill Mud & PHB sweeps

Marine

Weather on 05 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
8.0nm	18kn	211.0deg	1020.0mbar	9C°	1.3m	211.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		154.00klb	1.8m	245.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		23:55 hrs 04/10/09	Alongside South Wharf

Item	Unit	Used	Quantity
Barite	t		0
Bentonite	t		42
	t		120
Potable Water	M3		370
Drill Water	M3		0
Rig Fuel	M3		200
Brine	M3		190

ETA Geelong Pilot at 06:00 rs 05/10/09

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	0600		Standby Kan Tan 1V

Item	Unit	Used	Quantity
Barite	t		42
Bentonite	t		0
	t		126
Drill Water	M3		640
Pot Water	M3		390
Rig Fuel	M3		260

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
2	Bristow Helicopters	12:38 / 12:48	7 / 3	Crew Change
1	Bristow Helicopters	09:05 / 09:18	7 / 9	Crew Change

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Printed on 05 Oct 2009

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 6
Trefoil-2

06 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	155.0m	Cur. Hole Size	36.000in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	155.0m	Last Casing OD	30.000in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	60.0m	Shoe TVDBRT	0.0m	Daily Cost	US$850,000
Rig	Kan Tan IV	Days from spud	0.67	Shoe MDBRT	0.0m	Cum Cost	US$4,917,261
Wtr Dpth(MSL)	69.0m	Days on well	5.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Investigate guide line tensioners		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Cement 30" Conductor. Wait on cement Back out running tool. POOH with landing string. Lay down 36" BHA and pick up 17 1/2" BHA.		

Summary of Period 0000 to 2400 Hrs

Made up 36" BHA and RIH.
Spudded Trefoil-2 at 08:00 hrs 6th October 2009.
Drilled 36" hole to 155m. Made wiper trip to mudline. Pumped 100 bbls PHB. POOH and racked back BHA. Rigged up and ran 30" conductor to 59.5m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	6 Days	Held abandon Drill prior to tow.	
Last BOP stack test	2	32 Days	Test BOP	
Permit To Work	8	0 Days	Permits administerd.	
Pre-tour Meeting	2	1 Day	Shift change meetings	
Safety Meeting	2	2 Days	Held 2 x General Safety Meeting	
STOP Card	44	0 Days	Number of STOP Cards submitted	

Operations For Period 0000 Hrs to 2400 Hrs on 06 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P2	P	G6	0000	0100	1.00	0.0m	Continued picking up 8 1/4" drill collars.
P2	P	G6	0100	0200	1.00	0.0m	Made up cement stand and racked back in derrick
P2	P	G6	0200	0330	1.50	0.0m	Continued picking up 8 1/4" drill collars.
P2	P	G6	0330	0400	0.50	0.0m	Made up crossover and pup joint and engaged TDS. Function tested Anderdrift survey tool. Good test.
P2	TP (RE)	G6	0400	0500	1.00	0.0m	Delay in starting-up pump #3.
P2	P	F3	0500	0530	0.50	0.0m	Ran and tested pumps #1, #2 and #3 at 240 spm, 1200 gpm, 1180 psi. All pumps ok.
P2	P	G6	0530	0800	2.50	0.0m	Pick up remaining 8 1/4" drill collars. Engaged TDS and prepared to spud Trefoil-2.
P2	P	D8	0800	1200	4.00	0.0m	Spudded Well. Confirmed following: RT to MSL = 26m. RT to Seabed = 95m. Water Depth = 69m. Drilled 26"/36" hole from mudline at 95m to 155m. (26" bit @156.5m). Pumped 3 x 50 bbl PHB sweeps per stand. Reamed each stand. Took Anderdrift survey at mudline and each stand drilled and at TD. Pumped 100 bbls PHB mud.
P2	P	G8	1200	1230	0.50	155.0m	POOH from 155m to mudline at 95m. No drag.
P2	P	G8	1230	1330	1.00	155.0m	RIH to TD at 155m. No fill.
P2	P	F3	1330	1400	0.50	155.0m	Displaced hole with 1.5 x volume (370 bbls) of PHB mud.
P2	P	G8	1400	1700	3.00	155.0m	POOH and racked back BHA. Concurrently positioned PGB on transporter skid..
P2	P	G1	1700	1730	0.50	155.0m	Held PJSM. Rigged up to run 30" conductor.
P2	P	G9	1730	2130	4.00	155.0m	Picked uo 20" x 30" swaged shoe joint and confirmed float drains. Continued running 2 x Intermediate joints and 1 x crossover joint to 47.4m.
P2	P	G9	2130	2200	0.50	155.0m	Picked up 30" wellhead and landed in rotary table
P2	P	G1	2200	2230	0.50	155.0m	Rigged down 30" handling equipment and cleared rig floor of all excess equipment.
P2	P	G9	2230	2300	0.50	155.0m	Installed C-Plate and RIH 1 x stand of 5" drill pipe stinger. Made up wellhead running tool to cement stinger.
P2	P	G9	2300	2400	1.00	155.0m	Lower wellhead into PGB on transporter in moonpool. Engaged housing snap ring.

Operations For Period 0000 Hrs to 0600 Hrs on 07 Oct 2009

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P2	P	G9	0000	0100	1.00	155.0m	Lower conductor to splash zone. Engaged TDS and pumped at 1000 gpm with seawater venting all air. Closed casing valve.
P2	P	G9	0100	0130	0.50	155.0m	Observed entry of shoe into existing hole with ROV sonar.
P2	P	G9	0130	0230	1.00	155.0m	Continued RIH with 30" conductor on 5" HWDP landing string.
P2	P	G9	0230	0330	1.00	155.0m	Made up cement stand and spaced out to set 30" shoe at 153m with 3m stick up from seabed.
P2	P	G9	0330	0400	0.50	155.0m	ROV confirm bullseye reading 1/4 deg to port and rig heading 316 deg. PGB stickup 3m from mudline.
P2	TP (RE)	G9	0400	0600	2.00	155.0m	Observed twist in guide lines. Subsea engineer invistigate guide line tensioner system.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 06 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m

WBM Data

Cost Today US$ 37712

Mud Type:	PHB Gel	API FL:		Cl:		Solids(%vol):	
Sample-From:		Filter-Cake:		K+C*1000:		H2O:	98%
Time:		HTHP-FL:		Hard/Ca:		Oil(%):	
Weight:		HTHP-cake:		MBT:		Sand:	
Temp:				PM:		pH:	9
				PF:		PHPA:	

Viscosity	125sec/qt
PV	44cp
YP	24lb/100ft²
Gels 10s	
Gels 10m	
Fann 003	13
Fann 006	15
Fann 100	32
Fann 200	45
Fann 300	68
Fann 600	112

Comment — Note: Cost is in AUD

Bit # 1

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles	Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	17.50in	IADC#		No. Size	Progress	60.0m	Cum. Progress	60.0m
Mfr:	Hughes	WOB(avg)	7.00klb		On Bottom Hrs	4.0h	Cum. On Btm Hrs	4.0h
Type:	Rock	RPM(avg)	70		IADC Drill Hrs	4.0h	Cum IADC Drill Hrs	4.0h
Serial No.:	6077163	F.Rate	240gpm		Total Revs		Cum Total Revs	0
Bit Model	CR-1	SPP	1440psi		ROP(avg)	15.00 m/hr	ROP(avg)	15.00 m/hr
Depth In		HSI						
Depth Out		TFA	0.000					

Bit Comment

BHA # 1

Weight(Wet)		Length	150.5m	Torque(max)		D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)		String		Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	0fpm
		Slack-Off				D.P. Ann Velocity	0fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.54m	17.50in	3.00in	6077163	
Hole Opener	2.72m	36.00in	3.00in	703394	
Float Sub	1.17m	9.50in	3.00in	79	
Anderdrift	2.91m	9.50in	3.00in	ADB993	
9.5in DC	28.07m	9.50in	3.00in	1148	
X/Over	1.13m	9.50in	3.00in	94	
Drill Collar	56.32m	8.25in	2.88in		

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Equipment	Length	OD	ID	Serial #	Comment
X/Over	1.09m	8.25in			
HWDP	56.51m	5.00in	3.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	21	0	566.0
Drill Water	m3	88	0	0	454.0
Potable Water	m3	7	0	0	186.0
Aldacide	25kg/pail	3	0	0	35.0
Barazan D+	25kg/sx	2	0	0	82.0
Barite	MT	22	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	24.1	0	0	66.1
Caustic Soda	pail	0	0	0	20.0
Con-Det	5 gal/pail	0	0	0	32.0
Dextrid Lte	25kg/sx	0	0	0	72.0
Guar Gum	25kg/sx	26	0	0	106.0
Lime	sx	2	0	0	56.0
Mica	25kg/sx	0	0	0	40.0
Omyacarb 5	25kg/sx	0	0	0	96.0
Pac-LE	25kg/sx	0	0	0	80.0
Soda Ash	sx	0	0	0	32.0
Shaker Screen 110	box	24	0	0	24.0
Shaker Screen 140	box	40	0	0	40.0
Shaker Screen 175	box	24	0	0	24.0
Shaker Screen 50	box	24	0	0	24.0
Shaker Screen 210	box	24	0	0	24.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97			
2	Continental Emsco	6.50		97			
3	Continental Emsco	6.50		97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	8
Maersk	45
OMS	15
GRN	3
Halliburton	2
Dril-Quip	2
Halliburton (Baroid)	2
Reach	1
PCS	3
Fugro ROV	6
Halliburton	2
Geoservices	3
Other	4
Total	96

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	1440.8bbl	Losses	0.0bbl
Active	49.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	247.8bbl	Dumped	
Slug		De-Gasser	
Reserve	1144.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size

Comments

Marine

Weather on 06 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
8.0nm	18kn	211.0deg	1020.0mbar	9C°	1.3m	211.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		154.00klb	1.8m	245.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		23:55 hrs 04/10/09	Alongside South Wharf

Bulks

Item	Unit	Used	Quantity
Barite	t		0
Bentonite	t		42
	t		120
Potable Water	M3		370
Drill Water	M3		196
Rig Fuel	M3		200
Brine	M3		190

ETA Geelong Pilot at 06:00 rs 05/10/09

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	0600		Standby Kan Tan 1V

Bulks

Item	Unit	Used	Quantity
Barite	t		0
Bentonite	t		0
	t		0
Drill Water	M3		320
Pot Water	M3		390
Rig Fuel	M3		230

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 7
Trefoil-2

07 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	155.0m	Cur. Hole Size	36.000in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	155.0m	Last Casing OD	30.000in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	0.0m	Daily Cost	US$603,734
Rig	Kan Tan IV	Days from spud	1.67	Shoe MDBRT	0.0m	Cum Cost	US$8,620,775
Wtr Dpth(MSL)	69.0m	Days on well	6.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Make up 17.5" BHA		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Make up 17.5" BHA. RIH and tag cement. Drill cement and shoe. Drill 17.5" hole section.		

Summary of Period 0000 to 2400 Hrs

Ran and cemented 30" conductor.
Waited on cement.
Backed out 30" R/Tool and POOH.
Made up 18 3/4" HPWH inner cement stinger assembly.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	7 Days	Held abandon drill prior to tow.	
Last BOP stack test	2	33 Days	Test BOP	
Permit To Work	8	0 Days	Permits administered.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	3 Days	Held 2 x General Safety Meeting	
STOP Card	40	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m

Operations For Period 0000 Hrs to 2400 Hrs on 07 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P3	P	G9	0000	0100	1.00	155.0m	Lowered conductor to splash zone. Engaged TDS and pumped at 1000 gpm with seawater venting all air. Closed casing valve.
P3	P	G9	0100	0130	0.50	155.0m	Observed entry of shoe into existing hole with ROV sonar.
P3	P	G9	0130	0230	1.00	155.0m	Continued RIH with 30" conductor on 5" HWDP landing string.
P3	P	G9	0230	0330	1.00	155.0m	Made up cement stand and spaced out to set 30" shoe at 153m with 3m stick up above seabed.
P3	P	G9	0330	0400	0.50	155.0m	ROV confirmed bullseye reading 1/4 deg to port and rig heading 316 deg. PGB stickup 3m from mudline.
P3	TP (RE)	G9	0400	0500	1.00	155.0m	Observed twist in guide lines. Checked guide line tensioner system and and found #1 guideline tensioner leaking.
P3	TP (RE)	G9	0500	0730	2.50	155.0m	Subsea investigated seal failure on guide line tensioner #1.
P3	TP (RE)	G9	0730	0800	0.50	155.0m	Pulled back casing 10m tension up guideline. Rotated PGB and removed twist on guide lines. Slacked off - shoe at 153m.
P3	P	F4	0800	1100	3.00	155.0m	Circulated with seawater at 600 gpm to avoid hole washout. ROV confirmed heading at 307 deg, bullseye aft/stb 1/4 deg (operation delayed due to poor visibility). Concurrently held JSA and prepared for cement job.
P3	P	F3	1100	1200	1.00	155.0m	Pumped 30 bbls of spacer ahead with cement unit. Pressure tested cement lines to 1000 psi. Followed by 20 bbls of mica.
P3	P	F3	1200	1400	2.00	155.0m	Pumped 50 bbls of seawater spacer ahead. Mixed and pumped 260 bbls 15.8 ppg class G slurry (53 MT) with 155 bbls of seawater. Displaced with 72.4 bbls of seawater. Cement in place at 13:45 hrs. Returns observed at mudline.
P3	P	G24	1400	1900	5.00	155.0m	Waited on cement.
P3	P	G12	1900	1930	0.50	155.0m	ROV confirmed heading 307 deg and inclination aft/stb 1/4 deg. Slacked off 3m and backed out 30" running tool.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P3	P	G8	1930	2130	2.00	155.0m	POOH and racked back cement stand. POOH with landing string. Broke out and laid down 30" runnng tool.
P3	P	G12	2130	2400	2.50	155.0m	Picked up and made up inner string stinger assembly to 18 3/4" HPWH housing running tool. Made up Halliburton swivel equaliser assembly to inner string. Drifted inner string with 2 7/8" drift. Laid out inner string assembly.

Operations For Period 0000 Hrs to 0600 Hrs on 08 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P3	P	G12	0000	0230	2.50	155.0m	Picked up and made up 18 3/4' HPWH housing. Lowered housing to rotary table. Removed wellhead running tool. Picked up wellhead running tool and inner string assembly. Installed Halliburton SSR plugs to assembly and made up wellhead running tool. Laid out same.
P3	P	G6	0230	0600	3.50	155.0m	Laid out 26" drill bit, 36" hole opener, Anderdrift , 2 x 9.5" DC

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 07 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	31	06 Oct 2009	07 Oct 2009	147.00	6.125	155.0m

General Comments

00:00 TO 24:00 Hrs ON 07 Oct 2009

Operational Comments	This is the first DGR for Trefoil-2
Operational Comments	Seal failure on guide line tensioner #1. Removed oil from above piston and recharged system.
Operational Comments	Trefoil-2 spud at 0800 hrs 6 Oct 09
Operational Comments	Geoservices: 2 Data engineers, 1 technician on board. Connecting up communications networks. Sperry: 2 MWD engineers, 1 technician on board. 445 mm tools: main and back up checked OK. SLB: 1 communications tech on board, working on phones.

WBM Data — Cost Today US$ 6876

Mud Type:	PHB Gel	API FL:	Cl:	Solids(%vol):		Viscosity	126sec/qt
Sample-From:		Filter-Cake:	K+C*1000:	H2O:	98%	PV	45cp
Time:		HTHP-FL:	Hard/Ca:	Oil(%):		YP	25lb/100ft²
Weight:		HTHP-cake:	MBT:	Sand:		Gels 10s	
Temp:			PM:	pH:	9	Gels 10m	
			PF:	PHPA:		Fann 003	13
Comment		Note: Cost is in AUD				Fann 006	15
						Fann 100	32
						Fann 200	44
						Fann 300	68
						Fann 600	115

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	5	0	561.0
Drill Water	m3	0	38	0	416.0
Potable Water	m3	31	9	0	208.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	7.9	0	58.2
Caustic Soda	pail	32	0	0	52.0
Lime	sx	0	0	0	56.0
Soda Ash	sx	40	0	0	72.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	24.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	48	0	0	48.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	55gal	32	0	0	32.0
Brine	pail	128	0	0	128.0
Cement class \'G\'	pail	23	0	0	23.0
Potable Water	pail	64	0	0	64.0
Drill Water	pail	32	0	0	32.0
Mud	Sacks	40	0	0	40.0
Rig Fuel	Sacks	40	0	0	40.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97			
2	Continental Emsco	6.50		97			
3	Continental Emsco	6.50		97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	5
Maersk	44
OMS	16
GRN	3
Halliburton	2
Dril-Quip	2
Halliburton (Baroid)	2
Reach	1
PCS	3
Fugro ROV	6
Halliburton	3
Geoservices	3
Other	4
Total	94

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	**1551.8bbl**
Active	50.0bbl
Mixing	
Hole	140.8bbl
Slug	
Reserve	1361.0bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size

Comments

Marine

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Weather on 07 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
8.0nm	8kn	100.0deg	1025.0mbar	9C°	1.3m	100.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		46.00klb	1.8m	90.0deg	5s	A High pressure cell over waters south of South Australia is expected to drift slowly ESE towards Tasmania over the next 2 to 3 days. Mainly moderate to fresh S~SE'ly winds can be expected at first, shifting and easing to moderate-light ESE~'NEly later in the forecast period. Low to moderate WSW~S'ly swell expected to persist in the Bass Strait throughout the forecast period. Fair

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Far Scimitar	07:10 hrs 07/10/09		Standby Rig	

Item	Unit	Used	Quantity
Rig Fuel	M3		200
Potable Water	M3		450
Drill Water	M3		196
	t		120
Barite	t		0
Bentonite	t		42
Brine	M3		190

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Far Fosna		07:10 hrs 07/10/09	S 27 Melbourne	

Item	Unit	Used	Quantity
Rig Fuel	M3		210
Pot Water	M3		390
Drill Water	M3		320
Bentonite	t		0
Barite	t		42
	t		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:03 / 09:15	6 / 8	Crew Change

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DRILLING MORNING REPORT # 8
Trefoil-2

08 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	245.0m	Cur. Hole Size	17.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	245.0m	Last Casing OD	30.000in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	90.0m	Shoe TVDBRT	153.0m	Daily Cost	US$611,316
Rig	Kan Tan IV	Days from spud	2.67	Shoe MDBRT	153.0m	Cum Cost	US$9,232,091
Wtr Dpth(MSL)	69.0m	Days on well	7.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Drilling 17.5" hole. Depth at 06:00 hrs 390m.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Drill 17.5" hole to section TD.		

Summary of Period 0000 to 2400 Hrs

Picked up 18 3/4" HPWH housing. Installed SSR plugs to inner cement stinger. Made up primary running tool and laid out 18 3/4" HPWH housing assembly. Laid down 36" BHA. Made up 17.5" BHA. Drilled 30"/20" shoe. Drilled 17.5" hole from 155m to 245m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	8 Days	Held abandon drill prior to tow.	
Last BOP stack test	2	34 Days	Test BOP	
Permit To Work	7	0 Days	Permits administered.	
Pre-tour Meeting	2	1 Day	Shift change meetings	
Safety Meeting	2	4 Days	Held 2 x General Safety Meeting	
STOP Card	33	0 Days	Number of STOP Cards submitted	

FORMATION	
Name	Top
Torquay Group	95.00m

Operations For Period 0000 Hrs to 2400 Hrs on 08 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P3	P	G12	0000	0230	2.50	155.0m	Picked up and made up 18 3/4" HPWH housing. Lowered housing to rotary table. Removed wellhead running tool. Picked up wellhead running tool and inner string assembly. Installed Halliburton SSR plugs to assembly and made up wellhead running tool. Laid out same.
P3	P	G6	0230	0600	3.50	155.0m	Laid out 26" drill bit, 36" hole opener, Anderdrift , 2 x 9.5" DC
P4	P	G6	0600	0800	2.00	155.0m	Held JSA prior to picking up 17.5" BHA. Made up 17.5" drill bit, bit sub w/float, 9.5" NMHOC and RIH.
P4	TP (RE)	G11	0800	0930	1.50	155.0m	Iron roughneck damaged. Secured pipe spinner carrier, hydraulic motor broken. Repaired same.
P4	P	G6	0930	1100	1.50	155.0m	Handle BHA. Made up 1 x 17.5" stabliser, 1 x 9.5" drill collar, 1 x 17.5" stabliser, crossover, 2 x 8.25" drill collars and RIH. Attached stab-in lines to NMHOC.
P4	P	G12	1100	1130	0.50	155.0m	Held JSA. Attached stab in lines to guidelines.
P4	P	G6	1130	1400	2.50	155.0m	RIH with 17.5" BHA. Picked up and made up 8" drilling jars. Continued RIH to above 30" WHH.
P4	P	G8	1400	1430	0.50	155.0m	Stabbed into 30" WHH with ROV assistance.
P4	P	G8	1430	1530	1.00	155.0m	Continued RIH with 17.5" BHA
P4	P	G15	1530	1600	0.50	155.0m	Installed gelograph wires. Halliburton shallow tested MWD at 1200 gpm, 1000 psi.
P4	P	F1	1600	1630	0.50	155.0m	Washed down from 140m to 30"/20" shoe at 153m
P4	P	D1	1630	1900	2.50	155.0m	Drilled out 30"/20" shoe and worked bit and stabilisers through shoe to clean up.
P4	P	D8	1900	2400	5.00	245.0m	Drilled 17.5" hole from 155m to 245m with seawater. Average Parameters: ROP 18 m/hr, RPM 150, WOB 0-5k, flow rate 1200 gpm, SPP 2100 psi, Torque 5000 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.

Operations For Period 0000 Hrs to 0600 Hrs on 09 Oct 2009

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	D8	0000	0600	6.00	390.0m	Drilled 17.5" hole from 245m to 390m with seawater. Average Parameters: ROP 23 m/hr, RPM 150, WOB 0-5k, flow rate 1200 gpm, SPP 2300 psi, Torque 5000 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 08 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	18	08 Oct 2009	08 Oct 2009	171.00	7.125	245.0m

General Comments

00:00 TO 24:00 Hrs ON 08 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 1 technician on board. Testing real time data links. Gas traps installed. Sperry: 2 MWD engineers on board. Back up checked OK. Shallow test OK. SLB: 1 communications tech on board, working on phones.
Operational Comments	Iron roughneck damaged. Secured pipe spinner carrier. Hydraulic motor broken.

WBM Data — Cost Today US$ 2952

Mud Type:	PHB Gel	API FL:	Cl:	Solids(%vol):		Viscosity	120sec/qt
Sample-From:		Filter-Cake:	K+C*1000:	H2O:	98%	PV	45cp
Time:		HTHP-FL:	Hard/Ca:	Oil(%):		YP	21lb/100ft²
Weight:		HTHP-cake:	MBT:	Sand:		Gels 10s	
Temp:			PM:	pH:	9	Gels 10m	
			PF:	PHPA:		Fann 003	13
						Fann 006	15
						Fann 100	31
						Fann 200	44
						Fann 300	66
						Fann 600	111

Comment — Note: Cost is in AUD

Bit # 2

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	17.50in	IADC#	115	No.	Size	Progress	90.0m	Cum. Progress	90.0m
Mfr:	Smith	WOB(avg)	5.00klb	1	13/32nd"	On Bottom Hrs	5.0h	Cum. On Btm Hrs	5.0h
Type:	mt	RPM(avg)	150	3	22/32nd"	IADC Drill Hrs		Cum IADC Drill Hrs	0.0h
Serial No.:	PM2605	F.Rate	1200gpm			Total Revs		Cum Total Revs	0
Bit Model	XR+VCPS	SPP	2100psi			ROP(avg)	18.00 m/hr	ROP(avg)	18.00 m/hr
Depth In	153.0m	HSI							
Depth Out		TFA	1.243						

Bit Comment

BHA # 2

Weight(Wet)	75000.00klb	Length	244.3m	Torque(max)	5000ft-lbs	D.C. (1) Ann Velocity	136fpm
Wt Below Jar(Wet)	25000.00klb	String	220000.00klb	Torque(Off.Btm)	2500ft-lbs	D.C. (2) Ann Velocity	121fpm
		Pick-Up	210000.00klb	Torque(On.Btm)	5000ft-lbs	H.W.D.P. Ann Velocity	105fpm
		Slack-Off	225000.00klb			D.P. Ann Velocity	105fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.44m	17.50in		PM2605	
Bit Sub	1.22m	9.50in	3.00in		
MWD	9.74m	9.50in	3.25in	46809	

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Equipment	Length	OD	ID	Serial #	Comment
Stabiliser	2.51m	17.50in		T19048	
Drill Collar	9.45m	9.50in		1141	
Stabiliser	2.05m	17.50in		207A34	
X/Over Sub	1.13m	8.00in		94	
Drill Collar	18.63m	8.25in		1160	
Drilling Jars	9.68m	8.00in		1158	
Drill Collar	75.33m	8.25in			
X/Over Sub	1.09m	5.00in	3.00in		
HWDP	113.04m				

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	544	0	0	544.0
Drill Water	m3	417	0	0	417.0
Pot Water	m3	214	0	0	214.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	58.2
Caustic Soda	pail	0	8	0	44.0
Lime	sx	0	2	0	54.0
Soda Ash	sx	0	0	0	72.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	24.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	48.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97			
2	Continental Emsco	6.50		97			
3	Continental Emsco	6.50		97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	8
Maersk	45
OMS	15
GRN	3
Halliburton	2
Dril-Quip	2
Halliburton (Baroid)	2
Reach	1
PCS	3
Fugro ROV	6
Halliburton	2
Geoservices	3
Other	4
Total	96

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	1822.2bbl	Losses	92.9bbl
Active	50.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	487.2bbl	Dumped	92.9bbl
Slug		De-Gasser	
Reserve	1285.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments

Marine

Weather on 08 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
8.0nm	8kn	100.0deg	1025.0mbar	9C°	1.3m	100.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		46.00klb	1.8m	90.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	07:10 hrs 07/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		697
Potable Water	M3		528
Drill Water	M3		196
	t		120
Barite	t		0
Bentonite	t		42
Brine	M3		190

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		07:10 hrs 07/10/09	Enroute to Kan Tan 1V

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		446
Pot Water	M3		499
Drill Water	M3		590
Bentonite	t		0
Barite	t		42
	t		0
Brine	M3		284

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:04 / 09:13	2 / 1	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 9
Trefoil-2

09 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	849.0m	Cur. Hole Size	17.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	849.0m	Last Casing OD	30.000in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	609.0m	Shoe TVDBRT	153.0m	Daily Cost	US$565,889
Rig	Kan Tan IV	Days from spud	3.67	Shoe MDBRT	153.0m	Cum Cost	US$9,797,980
Wtr Dpth(MSL)	69.0m	Days on well	8.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Drilling ahead 17.5" hole. Depth at 06:00 hrs 935m.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Circulate hole clean. Make wiper trip to 30/20" shoe Displace well to PHB mud. POOH with BHA Rig up and run 13.375" casing.		

Summary of Period 0000 to 2400 Hrs

Drilling ahead 17.5" Hole.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	9 Days	Held abandon drill prior to tow.	
Last BOP stack test	2	35 Days	Test BOP	
Permit To Work	8	0 Days	Permits administered.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	5 Days	Held 2 x General Safety Meeting	
STOP Card	30	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m

Operations For Period 0000 Hrs to 2400 Hrs on 09 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	D8	0000	0600	6.00	390.0m	Drilled 17.5" hole from 245m to 390m with seawater. Average Parameters: ROP 23 m/hr, RPM 150, WOB 0-5k, flow rate 1200 gpm, SPP 2300 psi, Torque 5 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
P4	P	D8	0600	1200	6.00	561.0m	Drilled 17.5" hole from 390m to 561m with seawater. Average Parameters: ROP 28.5 m/hr, RPM 150, WOB 5-12k, flow rate 1140 gpm, SPP 2300 psi, Torque 6-12 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
P4	P	D8	1200	1800	6.00	748.0m	Drilled 17.5" hole from 561m to 748m with seawater. Average Parameters: ROP 31.1 m/hr, RPM 150, WOB 6-10k, flow rate 1180 gpm, SPP 2350 psi, Torque 4-8 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.
P4	P	D8	1800	2400	6.00	849.0m	Drilled 17.5" hole from 748m to 849m with seawater. Average Parameters: ROP 16.8 m/hr, RPM 150, WOB -8-12k, flow rate 1150 gpm, SPP 2420 psi, Torque 4-7 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection.

Operations For Period 0000 Hrs to 0600 Hrs on 10 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	D8	0000	0600	6.00	935.0m	Drilled 17.5" hole from 849m to 935m with seawater. Average Parameters: ROP 13.3 m/hr, RPM 150, WOB 8-14k, flow rate 1150 gpm, SPP 2420 psi, Torque 4-8 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection

Operations For Period Hrs to Hrs on

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Phase Data to 2400hrs, 09 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	42	08 Oct 2009	09 Oct 2009	195.00	8.125	849.0m

General Comments

00:00 TO 24:00 Hrs ON 09 Oct 2009

WBM Data

Cost Today US$ 17482

Mud Type:	PHB Gel	API FL:	Cl:	Solids(%vol):		Viscosity	120sec/qt
Sample-From:		Filter-Cake:	K+C*1000:	H2O:	98%	PV	45cp
Time:		HTHP-FL:	Hard/Ca:	Oil(%):		YP	21lb/100ft²
Weight:		HTHP-cake:	MBT:	Sand:		Gels 10s	
Temp:			PM:	pH:	9	Gels 10m	
			PF:	PHPA:		Fann 003	13
Comment		Note: Cost is in AUD				Fann 006	15
						Fann 100	31
						Fann 200	44
						Fann 300	66
						Fann 600	111

Bit # 2

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	17.50in	IADC#	115	No.	Size	Progress	609.0m	Cum. Progress	699.0m
Mfr:	Smith	WOB(avg)	9000.00klb	1	13/32nd"	On Bottom Hrs	24.0h	Cum. On Btm Hrs	29.0h
Type:	mt	RPM(avg)	120	3	22/32nd"	IADC Drill Hrs	29.0h	Cum IADC Drill Hrs	29.0h
Serial No.:	PM2605	F.Rate	1150gpm			Total Revs		Cum Total Revs	0
Bit Model	XR+VCPS	SPP	2350psi			ROP(avg)	25.38 m/hr	ROP(avg)	24.10 m/hr
Depth In	153.0m	HSI							
Depth Out		TFA	1.243						

Bit Comment

BHA # 2

Weight(Wet)	75000.00klb	Length	244.3m	Torque(max)	12000ft-lbs	D.C. (1) Ann Velocity	130fpm
Wt Below Jar(Wet)	25000.00klb	String	260000.00klb	Torque(Off.Btm)	2500ft-lbs	D.C. (2) Ann Velocity	116fpm
		Pick-Up	260000.00klb	Torque(On.Btm)	6000ft-lbs	H.W.D.P. Ann Velocity	100fpm
		Slack-Off	270000.00klb			D.P. Ann Velocity	100fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.44m	17.50in		PM2605	
Bit Sub	1.22m	9.50in	3.00in		
MWD	9.74m	9.50in	3.25in	46809	
Stabiliser	2.51m	17.50in		T19048	
Drill Collar	9.45m	9.50in		1141	
Stabiliser	2.05m	17.50in		207A34	
X/Over Sub	1.13m	8.00in		94	
Drill Collar	18.63m	8.25in		1160	
Drilling Jars	9.68m	8.00in		1158	
Drill Collar	75.33m	8.25in			
X/Over Sub	1.09m	5.00in	3.00in		
HWDP	113.04m				

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Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.0	MWD
95.00	0.0		95.00	0.0	0.0	0.0	0.0	MWD
204.92	0.6		204.92	0.6	0.6	0.0	0.5	MWD
289.50	0.6		289.49	1.5	1.5	0.0	0.0	MWD
376.49	0.3		376.48	2.1	2.1	0.0	0.3	MWD
435.08	0.4		435.07	2.5	2.5	0.0	0.2	MWD
521.95	0.7		521.94	3.3	3.3	0.0	0.3	MWD
547.83	0.7		547.81	3.7	3.7	0.0	0.0	MWD
579.00	0.7		578.98	4.0	4.0	0.0	0.0	MWD
665.44	0.4		665.42	4.9	4.9	0.0	0.3	MWD
782.28	0.7		782.25	6.0	6.0	0.0	0.3	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	26	0	518.0
Drill Water	m3	0	38	0	379.0
Pot Water	m3	54	46	0	222.0
Brine	m3	88	0	0	88.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	10	0	48.2
Caustic Soda	pail	0	10	0	34.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	0	0	72.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	24.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	48.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97	80	1200	400
2	Continental Emsco	6.50		97	80	1200	400
3	Continental Emsco	6.50		97	80	1200	400

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	8
Maersk	44
OMS	15
GRN	3
Halliburton	2
Dril-Quip	2
Halliburton (Baroid)	2
Reach	1
PCS	3

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Personnel On Board

Fugro ROV	6
Halliburton	2
Geoservices	3
Other	4
Total	95

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / Kosta Georgiou

Available	**5499.2bbl**	**Losses**	**92.9bbl**
Active	1822.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	1772.2bbl	Dumped	92.9bbl
Slug		De-Gasser	
Reserve	1285.0bbl	De-Sander	
Kill	620.0bbl	De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size

Comments

Marine

Weather on 09 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	15kn	55.0deg	1031.0mbar	9C°	1.3m	55.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		161.00klb	1.2m	100.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		08:30 hrs 9/10/09	In Port

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		677
Potable Water	M3		525
Drill Water	M3		196
	t		120
Barite	t		0
Bentonite	t		42
Brine	M3		190

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	08:30 9/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		433
Pot Water	M3		496
Drill Water	M3		590
Bentonite	t		0
Barite	t		42
	t		0
Brine	M3		284

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	08:58 / 09:08	8 / 8	Crew Change

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 10
Trefoil-2

10 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	935.0m	Cur. Hole Size	17.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	935.0m	Last Casing OD	30.000in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	86.0m	Shoe TVDBRT	153.0m	Daily Cost	US$590,980
Rig	Kan Tan IV	Days from spud	4.67	Shoe MDBRT	153.0m	Cum Cost	US$10,388,960
Wtr Dpth(MSL)	69.0m	Days on well	9.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Running 13 3/8" casing		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Complete running 13 3/8" casing. Cement and displace 13 3/8" casing. Run BOP.		

Summary of Period 0000 to 2400 Hrs

Drilled 17.5" hole from 849m to 935m. Circulated hole clean. Made wiper trip to 153m. Washed and reamed from 582m to 935m. Displaced hole with 1200 bbls of 9 ppg pad mud. POOH to 102m. Massive cuttings around PGB. Rigged up lines in moonpool to assist washing wellhead and PGB. POOH with BHA.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	10 Days	Held abandon drill prior to tow.	
Last BOP stack test	2	36 Days	Test BOP	
Permit To Work	9	0 Days	Permits administered.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	6 Days	Held 2 x General Safety Meeting	
STOP Card	44	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m
Lower Miocene Seismic Marker	918.00m

Operations For Period 0000 Hrs to 2400 Hrs on 10 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	D8	0000	0600	6.00	935.0m	Drilled 17.5" hole from 849m to 935m with seawater. Average Parameters: ROP 13.3 m/hr, RPM 150, WOB 8-14k, flow rate 1150 gpm, SPP 2420 psi, Torque 4-8 Klbs/ft. Pumped 40 bbls sweep per single and 40 bbls prior to each connection
P4	P	F4	0600	0730	1.50	935.0m	Pumped 50 bbls of hi-vis and circulated well clean.
P4	P	G8	0730	0830	1.00	935.0m	POOH. Tight hole from 903m. Back reamed to 832m. Max overpull 30k.
P4	P	G8	0830	1000	1.50	935.0m	POOH on elevators from 832m to 30"/20" shoe at 153m.
P4	P	G8	1000	1030	0.50	935.0m	RIH. Took 30k down weight at 582m.
P4	P	F1	1030	1500	4.50	935.0m	Washed and reamed from 582m to 639m at 20 RPM, 1150 GPM, 2010 psi.
P4	P	F3	1500	1600	1.00	935.0m	Pumped 100 bbls hi vis mud, sweep and displaced out with seawater.
P4	P	F3	1600	1700	1.00	935.0m	Took check survey shot. Pumped 1200 bbls of 9.0 ppg pad mud whilst reciprocating pipe.
P4	P	G8	1700	1900	2.00	935.0m	POOH to shoe at 153m. No drag observed.
P4	P	G6	1900	2000	1.00	935.0m	Held JSA with drill crew. POOH with BHA from 153m to 102m.
P4	P	G12	2000	2330	3.50	935.0m	Massive amounts of cuttings. Rigged up lines in moonpool area to assist whilst washing wellhead and PGB at 260 spm, 1600 psi. Rigged down lines.
P4	P	G6	2330	2400	0.50	935.0m	POOH with BHA from 102m to 25m.

Operations For Period 0000 Hrs to 0600 Hrs on 11 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	G6	0000	0200	2.00	935.0m	Handle BHA. Continue POOH with BHA. Retrieved MWD probe.
P5	P	G1	0200	0300	1.00	935.0m	Picked up cement stand and RIH and laid out side FOSV and side entry sub. Picked up Halliburton SSR cement head and made up same. Racked cement stand back in

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							derrick.
P5	P	G1	0300	0530	2.50	935.0m	Held JSA. Rigged up 13 3/8" casing handling equipment.
P5	P	G9	0530	0600	0.50	935.0m	(IN PROGRESS) Picked up shoe joint and checked float - ok. Made up float collar joint and checked float - ok . Thread locked the shoe track. Picked up and installed C plates for guideline attachment.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 10 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	66	08 Oct 2009	10 Oct 2009	219.00	9.125	935.0m

General Comments

00:00 TO 24:00 Hrs ON 10 Oct 2009

Operational Comments	ROV cleaning and clearing cuttings around PGB (off critical path)

WBM Data — Cost Today US$ 17482

Mud Type:	PAD mud	API FL:		Cl:		Solids(%vol):	
Sample-From:	4	Filter-Cake:		K+C*1000:		H2O:	98%
Time:	1700	HTHP-FL:		Hard/Ca:		Oil(%):	
Weight:	9.00ppg	HTHP-cake:		MBT:		Sand:	
Temp:	20C°			PM:		pH:	9
				PF:		PHPA:	

Comment	Note: Cost is in AUD

Viscosity	58sec/qt
PV	11cp
YP	18lb/100ft²
Gels 10s	6
Gels 10m	8
Fann 003	6
Fann 006	8
Fann 100	18
Fann 200	24
Fann 300	29
Fann 600	40

Bit # 2

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	17.50in	IADC#	115	No.	Size	Progress	86.0m	Cum. Progress	785.0m
Mfr:	Smith	WOB(avg)	9000.00klb	1	13/32nd"	On Bottom Hrs	4.3h	Cum. On Btm Hrs	33.3h
Type:	mt	RPM(avg)	120	3	22/32nd"	IADC Drill Hrs	6.0h	Cum IADC Drill Hrs	35.0h
Serial No.:	PM2605	F.Rate	1150gpm			Total Revs		Cum Total Revs	0
Bit Model	XR+VCPS	SPP	2350psi			ROP(avg)	20.00 m/hr	ROP(avg)	23.57 m/hr
Depth In	153.0m	HSI							
Depth Out		TFA	1.243						

Bit Comment

BHA # 2

Weight(Wet)	75000.00klb	Length	244.3m	Torque(max)	18000ft-lbs	D.C. (1) Ann Velocity	130fpm
Wt Below Jar(Wet)	25000.00klb	String	260000.00klb	Torque(Off.Btm)	2500ft-lbs	D.C. (2) Ann Velocity	116fpm
		Pick-Up	260000.00klb	Torque(On.Btm)	6000ft-lbs	H.W.D.P. Ann Velocity	100fpm
		Slack-Off	270000.00klb			D.P. Ann Velocity	100fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.44m	17.50in		PM2605	
Bit Sub	1.22m	9.50in	3.00in		
MWD	9.74m	9.50in	3.25in	46809	
Stabiliser	2.51m	17.50in		T19048	
Drill Collar	9.45m	9.50in		1141	
Stabiliser	2.05m	17.50in		207A34	

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Equipment	Length	OD	ID	Serial #	Comment
X/Over Sub	1.13m	8.00in		94	
Drill Collar	18.63m	8.25in		1160	
Drilling Jars	9.68m	8.00in		1158	
Drill Collar	75.33m	8.25in			
X/Over Sub	1.09m	5.00in	3.00in		
HWDP	113.04m				

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
812.12	0.7		812.09	6.3	6.3	0.0	0.0	MWD
868.19	0.3		868.16	6.8	6.8	0.0	0.7	MWD
896.77	1.0		896.74	7.2	7.2	0.0	2.4	MWD
925.97	0.7		925.93	7.6	7.6	0.0	1.0	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	7	0	511.0
Drill Water	m3	0	73	0	306.0
Pot Water	m3	18	20	0	220.0
Brine	m3	0	0	0	88.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	8	0	26.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	9	0	63.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	24.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	48.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97	80	1200	400
2	Continental Emsco	6.50		97	80	1200	400
3	Continental Emsco	6.50		97	80	1200	400

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	8
Maersk	44
OMS	15
GRN	3
Halliburton	2
Dril-Quip	2
Halliburton (Baroid)	2
Reach	1

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Personnel On Board

PCS	3
Fugro ROV	6
Halliburton	2
Geoservices	3
Other	4
Total	95

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / Kosta Georgiou

Available	**4176.0bbl**	**Losses**	**0.0bbl**	Equipment	Description	Mesh Size
Active	2059.5bbl	Downhole				
Mixing		Surf+ Equip	0.0bbl			
Hole	896.5bbl	Dumped				
Slug		De-Gasser				
Reserve	1110.0bbl	De-Sander				
Kill	110.0bbl	De-Silter				
		Centrifuge				

Comments

Marine

Weather on 10 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	15kn	55.0deg	1031.0mbar	9C°	1.3m	55.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		161.00klb	1.2m	100.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		08:30 hrs 9/10/09	Enroute to Geelong

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		656
Potable Water	M3		523
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		42
Brine	M3		190

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	08:30 9/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		422
Pot Water	M3		493
Drill Water	M3		590
Bentonite	t		0
Barite	t		42
	t		0
Brine	M3		184

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 11

Trefoil-2

11 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	935.0m	Cur. Hole Size	17.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	935.0m	Last Casing OD	30.000in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	153.0m	Daily Cost	US$556,818
Rig	Kan Tan IV	Days from spud	5.67	Shoe MDBRT	153.0m	Cum Cost	US$10,945,778
Wtr Dpth(MSL)	69.0m	Days on well	10.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Circulating 13 3/8" casing.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Cement and displace 13 3/8" casing. Release 18 3/4" running tool. POOH with landing string. Run BOP and riser.		

Summary of Period 0000 to 2400 Hrs

POOH with 17 1/2" BHA.
Rigged up to run 13 3/8" casing.
Ran 13 3/8" casing.
Rigged down 13 3/8" casing handling equipment.
Rigged up 5" drill pipe handling equipment.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	11 Days	Held abandon drill prior to tow.	
Last BOP stack test	2	37 Days	Test BOP	
Permit To Work	12	0 Days	Permits administered.	
Pre-tour Meeting	2	1 Day	Shift change meetings	
Safety Meeting	2	7 Days	Held 2 x General Safety Meeting	
STOP Card	48	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m
Lower Miocene Seismic Marker	918.00m

Operations For Period 0000 Hrs to 2400 Hrs on 11 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P4	P	G6	0000	0200	2.00	935.0m	Handle BHA. Continue POOH with BHA. Retrieved MWD probe.
P5	P	G1	0200	0300	1.00	935.0m	Picked up cement stand and RIH and laid out side FOSV and side entry sub. Picked up Halliburton SSR cement head and made up same. Racked cement stand back in derrick.
P5	P	G1	0300	0530	2.50	935.0m	Held JSA. Rigged up 13 3/8" casing handling equipment.
P5	P	G9	0530	0630	1.00	935.0m	Picked up shoe joint and checked float - ok. Made up float collar joint and checked float - ok . Thread locked the shoe track. Picked up and installed C plates for guideline attachment.
P5	P	G9	0630	1000	3.50	935.0m	Ran 13 3/8" casing from 24m to 146m. Stabbed into well with ROV assistance.
P5	P	G1	1000	1330	3.50	935.0m	Held JSA. Rigged up FMS, 500 ton elevators and control lines. Made up FACL.
P5	P	G9	1330	2230	9.00	935.0m	Ran 13 3/8" casing from 146m to 826m. Filled pipe every 5 joints with mud.
P5	P	G1	2230	2330	1.00	935.0m	Rigged down 13 3/8" casing handling equipment and rigged up 5" drill pipe handling equipment.
P5	P	G12	2330	2400	0.50	935.0m	Prepared to pick up 18 3/4" HPWH.

Operations For Period 0000 Hrs to 0600 Hrs on 12 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P5	P	G12	0000	0100	1.00	935.0m	Picked up and made up 18 3/4" HPWH housing. Lowered housing to rotary table and set in slips.
P5	P	G9	0100	0200	1.00	935.0m	Ran in hole with 13 3/8" casing with 5" HWDP landing string. Broke circulation and

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							washed down to 13m above the wellhead.
P5	P	G12	0200	0300	1.00	935.0m	Made up cement stand. Landed the 18 3/4" wellhead. Confirmed with 50k overpull. ROV confirmed bullseye 0.25 deg aft/port.
P5	P	G1	0300	0400	1.00	935.0m	Rigged up surface lines. Attached cement hose to Halliburton cement head assembly and connected control head lines.
P5	P	F3	0400	0600	2.00	935.0m	Circulated with seawater 1.5 times casing volume at 12 bpm, 500 gpm, 850 psi.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 11 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cum Hrs	Cum Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	22	11 Oct 2009	11 Oct 2009	243.00	10.125	935.0m

General Comments

00:00 TO 24:00 Hrs ON 11 Oct 2009

WBM Data

Cost Today US$ 0

Mud Type:	PAD mud	API FL:		Cl:		Solids(%vol):	
Sample-From:	3	Filter-Cake:		K+C*1000:		H2O:	98%
Time:	1730	HTHP-FL:		Hard/Ca:		Oil(%):	
Weight:	9.00ppg	HTHP-cake:		MBT:		Sand:	
Temp:	20C°			PM:		pH:	9
				PF:		PHPA:	

Viscosity	58sec/qt
PV	11cp
YP	19lb/100ft²
Gels 10s	7
Gels 10m	9
Fann 003	7
Fann 006	9
Fann 100	14
Fann 200	24
Fann 300	30
Fann 600	41

Comment — Note: Cost is in AUD

Bit # 2

Wear	I	O1	D	L	B	G	O2	R
	2	2	NO	A	2	I	NO	

Bitwear Comments:

Size ("):	17.50in	IADC#	115	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	Smith	WOB(avg)	9000.00klb	No.	Size	Progress	0.0m	Cum. Progress	785.0m
Type:	mt	RPM(avg)	120	1	13/32nd"	On Bottom Hrs	0.0h	Cum. On Btm Hrs	33.3h
Serial No.:	PM2605	F.Rate	1150gpm	3	22/32nd"	IADC Drill Hrs	0.0h	Cum IADC Drill Hrs	35.0h
Bit Model	XR+VCPS	SPP	2350psi			Total Revs		Cum Total Revs	0
Depth In	153.0m	HSI				ROP(avg)	N/A	ROP(avg)	23.57 m/hr
Depth Out	935.0m	TFA	1.243						

Bit Comment

BHA # 2

Weight(Wet)	75000.00klb	Length	244.3m	Torque(max)	18000ft-lbs	D.C. (1) Ann Velocity	130fpm
Wt Below Jar(Wet)	25000.00klb	String	260000.00klb	Torque(Off.Btm)	2500ft-lbs	D.C. (2) Ann Velocity	116fpm
		Pick-Up	260000.00klb	Torque(On.Btm)	6000ft-lbs	H.W.D.P. Ann Velocity	100fpm
		Slack-Off	270000.00klb			D.P. Ann Velocity	100fpm

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.44m	17.50in		PM2605	
Bit Sub	1.22m	9.50in	3.00in		
MWD	9.74m	9.50in	3.25in	46809	
Stabiliser	2.51m	17.50in		T19048	
Drill Collar	9.45m	9.50in		1141	

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Equipment	Length	OD	ID	Serial #	Comment
Stabiliser	2.05m	17.50in		207A34	
X/Over Sub	1.13m	8.00in		94	
Drill Collar	18.63m	8.25in		1160	
Drilling Jars	9.68m	8.00in		1158	
Drill Collar	75.33m	8.25in			
X/Over Sub	1.09m	5.00in	3.00in		
HWDP	113.04m				

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	2	0	509.0
Drill Water	m3	0	16	0	290.0
Pot Water	m3	11	10	0	221.0
Brine	m3	0	0	0	88.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	26.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	0	0	63.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	24.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	48.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97	80	1200	400
2	Continental Emsco	6.50		97	80	1200	400
3	Continental Emsco	6.50		97	80	1200	400

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	8
Maersk	44
OMS	15
GRN	3
Halliburton	2
Dril-Quip	2
Halliburton (Baroid)	2
Reach	1
PCS	3
Fugro ROV	6
Halliburton	2
Geoservices	3
Other	4
Total	95

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / Kosta Georgiou

Available	1741.3bbl
Active	220.0bbl
Mixing	
Hole	895.8bbl
Slug	
Reserve	515.5bbl
Kill	110.0bbl

Losses	374.5bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	374.5bbl
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size

Comments

Marine

Weather on 11 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	15kn	100.0deg	1008.0mbar	10C°	1.3m	100.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		16.00klb	1.2m	100.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	19:20 hrs 10/10/09	22:15 hrs 10/10/09	Alongside 27 South Wharf

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		643
Potable Water	M3		520
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		42
Brine	M3		190

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	08:30 9/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		413
Pot Water	M3		490
Drill Water	M3		590
Bentonite	t		0
Barite	t		42
	t		0
Brine	M3		184

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 12
Trefoil-2

12 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	935.0m	Cur. Hole Size	17.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	935.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$600,000
Rig	Kan Tan IV	Days from spud	6.67	Shoe MDBRT	930.0m	Cumul Cost	US$10,988,909
Wtr Dpth(MSL)	69.0m	Days on well	11.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Prepare to run 18 3/4" BOP on marine riser.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Complete running 18 3/4" BOP on marine riser. Pick up slip joint and landing joint. Install marine riser tensioner lines. Install kill & choke goosenecks. Land and latch BOPs. Unpin slip joint and lay out landing joint. Install diverter. Rig down handling equipment.		

Summary of Period 0000 to 2400 Hrs

Ran 18 3/4" HPWH housing.
Landed and confirmed with 50k overpull.
Circulated 1.5 times casing volume with seawater.
Cemented and displaced 13 3/8" casing.
Released 18 3/4" running tool.
POOH with landing string.
Rigged up to run 18 3/4" BOPs.
Picked up double of marine riser.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Held abandon Drill	
Fire Drill	1	0 Days	Main deck - Fire in rubbish container	
Last BOP stack test	2	38 Days	Test BOP	
Permit To Work	11	0 Days	Permits administerd.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	2 Days	Held 2 x General Safety Meeting	
STOP Card	41	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m
Lower Miocene Seismic Marker	918.00m

Operations For Period 0000 Hrs to 2400 Hrs on 12 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P5	P	G12	0000	0100	1.00	935.0m	Picked up and made up 18 3/4" HPWH housing. Lowered housing to rotary table and set in slips.
P5	P	G9	0100	0200	1.00	935.0m	Ran in hole with 13 3/8" casing with 5" HWDP landing string. Broke circulation and washed down to 13m above the wellhead.
P5	P	G12	0200	0300	1.00	935.0m	Made up cement stand. Landed the 18 3/4" wellhead. Confirmed with 50k overpull. ROV confirmed bullseye 0.25 deg aft/port.
P5	P	G1	0300	0400	1.00	935.0m	Rigged up surface lines. Attached cement hose to Halliburton cement head assembly and connected control head lines.
P5	P	F3	0400	0600	2.00	935.0m	Circulated with seawater 1.5 times casing volume at 12 bpm, 500 gpm, 850 psi.
P5	P	F3	0600	0630	0.50	935.0m	Held JSA prior to cementing. Cement unit pumped 5 bbls of seawater ahead and pressure tested cement lines to 3000 psi. Good test.
P5	P	F3	0630	0700	0.50	935.0m	Pumped 50 bbls of seawater spacer at 5-6 bpm using the cement unit. Added mica to the last 20 bbls pumped. Dropped ball and pumped at 1 bpm to land on a seal in the bottom plug ID. Applied 1100 psi to shear pins and release bottom plug.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P5	P	F3	0700	0900	2.00	935.0m	Mix and pumped 436 bbls of 11.5 ppg lead slurry (35 MT class G cement) with 368 bbls of mix fluid. Mix and pumped 67 bbls of 67 bbls of 15.8 ppg tail slurry (14 MT class G cement) with 40 bbls of mix fluid.
P5	P	F3	0900	0930	0.50	935.0m	Dropped dart. Started displacing with cement unit at 3 bpm until indications dart has launched. Slowed pumps down to 1 - 1.5 bpm. Observed shear pressure.
P5	P	F3	0930	1100	1.50	935.0m	Cement unit displaced with 412 bbls of seawater at 7 - 10 bpm. (observed returns with ROV). Bumped plug and pressure tested casing to 2700 psi for 10 minutes. Released pressure and observed for back flow. Float holding.
P5	P	F3	1100	1230	1.50	935.0m	Rigged down cement lines. Released running tool from HPWH. Pulled clear and racked back cement stand.
P5	P	G8	1230	1400	1.50	935.0m	POOH with landing string from 94m to surface. Laid out pup joints, subs and running tool.
P6	P	G12	1400	1600	2.00	935.0m	Rigged up to run BOP riser, changed elevators and bails to 500 ton. Laid down 5" drill pipe elevators and bails.
P6	P	G13	1600	1630	0.50	935.0m	Skidded rig off well centre. Confirmed by ROV.
P6	TP (RE)	G13	1630	1700	0.50	935.0m	Unable to make up one dog. Replaced same.
P6	P	G13	1700	1800	1.00	935.0m	Picked up double of riser. Moved BOP under rotary.
P6	TP (WOW)	G13	1800	1900	1.00	935.0m	Squall meant loss of stanby boat cover.
P6	P	G13	1900	2000	1.00	935.0m	Helld JSA with drill crew. Installed guidelines onto posts.
P6	P	C13	2000	2030	0.50	935.0m	Held fire and abandom drill with all personnel.
P6	P	G13	2030	2130	1.00	935.0m	Checked beacons and riser tensioner sheaves
P6	TP (RE)	G13	2130	2400	2.50	935.0m	Connected pod lines to tensioners. Installed work platform on BOP.

Operations For Period 0000 Hrs to 0600 Hrs on 13 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	TP (RE)	G13	0000	0400	4.00	935.0m	Completed installing work platform above flex joint. Installed two bullseyes.
P6	P	G13	0400	0600	2.00	935.0m	Nippled up riser to BOP, string weight 530k off beams. Slope indicator readings: LMRP on beams (1 deg port/aft) BOP on beams (bullseye 1 deg port/fwd. Install angle indicator.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 12 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul Hrs	Cumul Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	10	12 Oct 2009	12 Oct 2009	267.00	11.125	935.0m

General Comments

00:00 TO 24:00 Hrs ON 12 Oct 2009

Operational Comments	Blocked fuel filters on Halliburton cement unit caused both engines to shutdown whilst displacing cement.
Operational Comments	Shaft bearing on port crane boom gear box damaged. Unable to pick up marine riser joints. Port crane down for repairs from 19:30 hrs to 02:30 hrs (7 hrs)
Operational Comments	Limit switch on boom hoists stuck on both Port and Aft cranes. Disabled both and installed micro switches
Operational Comments	Rig Equipment Down: 1. Compactor down due to lack of bags. 2. Aft crane down due to removal of shaft boom gear box bearing. Waiting on parts

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WBM Data

Cost Today US$ 0

Mud Type:	PAD mud	API FL:		Cl:		Solids(%vol):	
Sample-From:	3	Filter-Cake:		K+C*1000:		H2O:	98%
Time:	1730	HTHP-FL:		Hard/Ca:		Oil(%):	
Weight:	9.00ppg	HTHP-cake:		MBT:		Sand:	
Temp:	20C°			PM:		pH:	9
				PF:		PHPA:	

Viscosity	58sec/qt
PV	11cp
YP	19lb/100ft²
Gels 10s	7
Gels 10m	9
Fann 003	7
Fann 006	9
Fann 100	14
Fann 200	24
Fann 300	30
Fann 600	41

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	38	0	471.0
Drill Water	m3	337	0	0	627.0
Pot Water	m3	46	34	0	233.0
Brine	m3	107	0	0	195.0
Barazan D+	25kg/sx	0	0	0	48.0
Barite	MT	0	0	0	47.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	0.0
Caustic Soda	pail	0	0	0	26.0
Con-Det	5 gal/pail	0	0	0	32.0
Dextrid Lte	25kg/sx	0	0	0	216.0
Guar Gum	25kg/sx	0	0	0	20.0
Lime	sx	0	0	0	50.0
Mica	25kg/sx	0	0	0	40.0
Omyacarb 5	25kg/sx	0	0	0	240.0
Pac-LE	25kg/sx	0	0	0	110.0
Soda Ash	sx	0	0	0	63.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	24.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	48.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0
Potable Water	m3	0	0	0	208.0
Aldacide	25kg/pail	0	0	0	26.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97	80	1200	400
2	Continental Emsco	6.50		97	80	1200	400
3	Continental Emsco	6.50		97	80	1200	400

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Personnel On Board

Company	Pax
ADA	6
Maersk	42
GRN	2
OMS	17
Reach	1

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Personnel On Board

Geoservices	6
Halliburton Cementers	3
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	6
Dril-Quip	1
Swaco	1
Others	3
Total	94

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / Kosta Georgiou

Available	**1741.3bbl**	**Losses**	**374.5bbl**
Active	220.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	895.8bbl	Dumped	374.5bbl
Slug		De-Gasser	
Reserve	515.5bbl	De-Sander	
Kill	110.0bbl	De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50bottom
Shaker 2	Brandt VSM 300	20 top/50bottom
Shaker 3	Brandt VSM 300	20 top/50bottom
Shaker 4	Brandt VSM 300	20 top/50bottom

Comments

Marine

Weather on 12 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	26kn	301.0deg	995.0mbar	10C°	1.3m	301.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		117.00klb	1.2m	90.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	19:20 hrs 10/10/09	22:15 hrs 10/10/09	Enroute to rig. ETA KT4 08:00 hrs 13/10/09

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		638
Potable Water	M3		556
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		42
Brine	M3		190

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	08:30 9/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		398
Pot Water	M3		490
Drill Water	M3		202
Bentonite	t		0
Barite	t		42
	t		0
Brine	M3		84

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	-	09:34 hrs / 09:45 hrs	8 / 11	Crew Change
2	-	12:56 hrs / 13:08 hrs	6 / 4	Crew Change

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Australian Drilling Associates Pty Ltd ADA

13 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 13
Trefoil-2

Well Data

Country	Australia	MDBRT	935.0m	Cur. Hole Size	17.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	935.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$553,938
Rig	Kan Tan IV	Days from spud	7.67	Shoe MDBRT	930.0m	Cumul. Cost	US$12,350,996
Wtr Dpth(MSL)	69.0m	Days on well	12.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Install two remaining marine riser tensioner lines.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Position rig over wellhead. Land and latch BOPs. Test wellhead connector. Unpin slip joint and lay out landing joint. Rig up storm loops on pod line hoses. Install diverter. Rig down handling equipment. Function test diverter and BOPs.		

Summary of Period 0000 to 2400 Hrs

Completed installation of work platform on LMRP.
Ran BOP on marine riser.
Waited on Weather.
Pick up slip joint and landing joint.
Ran BOP marine riser to 78m.
Commenced installing choke & kill goosenecks.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Held abandon drill	
Fire Drill	1	1 Day	Main deck - Fire in rubbish container	
Last BOP stack test	2	39 Days	Test BOP	
Permit To Work	12	0 Days	Permits administered.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	3 Days	Held 2 x General Safety Meeting	
STOP Card	36	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m
Lower Miocene Seismic Marker	918.00m

Operations For Period 0000 Hrs to 2400 Hrs on 13 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	TP (RE)	G13	0000	0400	4.00	935.0m	Completed installing work platform above flex joint. Installed two bullseyes.
P6	P	G13	0400	0700	3.00	935.0m	Nippled up riser to BOP, string weight 530k off beams. Slope indicator readings: LMRP on beams (1 deg port/aft), BOP on beams (bullseye 1 deg port/fwd). Installed angle indicator.
P6	P	G13	0700	0800	1.00	935.0m	Held JSA. Prepared to pick up flotation joint of riser.
P6	TP (RE)	G11	0800	0930	1.50	935.0m	Investigated main boom gear box for possible leak on port crane. Found vent tube blocked causing over pressuring of gear box. Cleaned vent tube and re-checked gear box. Ok
P6	P	G13	0930	1100	1.50	935.0m	Ran BOP and marine riser.
P6	TP (WOW)	G25	1100	1130	0.50	935.0m	Wind 40 knots - outside of crane limits. Waited on Weather.
P6	P	G13	1130	1530	4.00	935.0m	Ran BOP and marine riser. Picked up slip joint.
P6	TP (WOW)	G25	1530	2000	4.50	935.0m	Waited on Weather 16:00 hrs, Wind Speed 25 knots, Direction NNW, Swell Height 4 mtrs. 16:30 hrs, Wind Speed 51 knots, Direction NNW, Swell Height 4 mtrs. 17:00 hrs, Wind Speed 42 knots. Direction NNW, Swell Height 4 mtrs.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							18:30 hrs, Wind Speed 36 knots, Direction NNW, Swell Height 4 to 5 mtrs. 19:00 hrs, Wind Speed 30 knots, Direction NNW, Swell Height 4 to 5 mtrs. 20:00 hrs, Wind Speed 27 knots, Direction NNW, Swell Height 3 mtrs.
P6	P	G13	2000	2100	1.00	935.0m	Ran BOP and marine riser on slip joint.
P6	P	G13	2100	2200	1.00	935.0m	Picked up landing joint and lowered BOP marine riser system to position for installation of choke and kill goosenecks.
P6	P	G13	2200	2400	2.00	935.0m	Commenced installing choke and kill goosenecks.

Operations For Period 0000 Hrs to 0600 Hrs on 14 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	P	G13	0000	0200	2.00	935.0m	Completed installing choke and kill goosenecks, boost lines and pressure tested choke and kill to 300 psi low and 5000 psi high for 5/10 mins.
P6	P	G13	0200	0600	4.00	935.0m	Installed 6 x marine riser tensioner lines.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 13 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	34	12 Oct 2009	13 Oct 2009	291.00	12.125	935.0m

General Comments

00:00 TO 24:00 Hrs ON 13 Oct 2009

WBM Data — Cost Today US$ 0

Mud Type:	PAD mud	API FL:		Cl:		Solids(%vol):	
Sample-From:	3	Filter-Cake:		K+C*1000:		H2O:	98%
Time:	1730	HTHP-FL:		Hard/Ca:		Oil(%):	
Weight:	9.00ppg	HTHP-cake:		MBT:		Sand:	
Temp:	20C°			PM:		pH:	9
				PF:		PHPA:	

Viscosity	58sec/qt
PV	11cp
YP	19lb/100ft²
Gels 10s	7
Gels 10m	9
Fann 003	7
Fann 006	9
Fann 100	14
Fann 200	24
Fann 300	30
Fann 600	41

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	12	0	459.0
Drill Water	m3	0	14	0	613.0
Pot Water	m3	31	21	0	243.0
Brine	m3	0	107	0	88.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	26.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	0	0	63.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	24.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	48.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0

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Printed on 13 Oct 2009

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97	80	1200	400
2	Continental Emsco	6.50		97	80	1200	400
3	Continental Emsco	6.50		97	80	1200	400

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

Personnel On Board

Company	Pax
ADA	6
Maersk	42
GRN	2
OMS	17
Reach	1
Geoservices	6
Halliburton Cementers	3
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	6
Dril-Quip	1
Swaco	1
Others	3
Total	94

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / Kosta Georgiou

Available	**1741.3bbl**
Active	220.0bbl
Mixing	
Hole	895.8bbl
Slug	
Reserve	515.5bbl
Kill	110.0bbl

Losses	**374.5bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	374.5bbl
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50bottom
Shaker 2	Brandt VSM 300	20 top/50bottom
Shaker 3	Brandt VSM 300	20 top/50bottom
Shaker 4	Brandt VSM 300	20 top/50bottom

Comments

Marine

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Weather on 13 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	28kn	225.0deg	984.0mbar	11C°	4.2m	225.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		140.00klb	2.4m	330.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	08:30 hrs 13/10/09		Standby rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		622
Potable Water	M3		553
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		42
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		08:30 hrs 13/10/09	Melbourne

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		398
Pot Water	M3		490
Drill Water	M3		202
Bentonite	t		0
Barite	t		42
	t		0
Brine	M3		84

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Australian Drilling Associates Pty Ltd ADA

14 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 14
Trefoil-2

Well Data

Country	Australia	MDBRT	935.0m	Cur. Hole Size	17.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	935.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$562,976
Rig	Kan Tan IV	Days from spud	8.67	Shoe MDBRT	930.0m	Cumul. Cost	US$12,913,972
Wtr Dpth(MSL)	69.0m	Days on well	13.13	FIT/LOT:	/		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Picking up 12.25" BHA.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Make up 12.25" BHA and RIH. Drill out the float collar and shoe with seawater. Drill to 938m and displace hole with 9.0 ppg KCL mud. Condition mud and perform a LOT. Drill ahead with 12.25" hole.		

Summary of Period 0000 to 2400 Hrs

Positioned rig over wellhead. Landed and latched BOPs. Tested wellhead connector. Unpinned slip joint and laid out landing joint. Rigged up storm loops on pod line hoses. Installed diverter. Rigged down handling equipment. Laid down Halliburton cement head assembly.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Held abandon drill	
Fire Drill	1	2 Days	Main deck - Fire in rubbish container	
Permit To Work	13	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	4 Days	Held 2 x General Safety Meeting	
STOP Card	61	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m
Lower Miocene Seismic Marker	918.00m

Operations For Period 0000 Hrs to 2400 Hrs on 14 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	P	G13	0000	0200	2.00	935.0m	Completed installing choke and kill goosenecks, boost lines and pressure tested choke and kill to 300psi low and 5000psi high for 5/10 mins.
P6	P	G13	0200	0700	5.00	935.0m	Installed 6 x marine riser tensioner lines.
P6	P	G13	0700	0930	2.50	935.0m	Installed pod umbilical line saddles and storm loops. Pressured up and stroked out marine riser tensioners.
P6	P	M2	0930	1000	0.50	935.0m	Skidded rig back over wellhead.
P6	P	G13	1000	1030	0.50	935.0m	Attempted to unlock drill string compensator. Lock bar would not unlock. Increased pressure - ok.
P6	TP (WOW)	G25	1030	1300	2.50	935.0m	Waited on weather.
P6	P	G13	1300	1500	2.00	935.0m	Landed and latched BOPs. Confirmed with 50k overpull. Tested H4 wellhead connector to 2000psi. Good test.
P6	P	G13	1500	1800	3.00	935.0m	Unpinned slip joint and landed in spider in difficult conditions.
P6	P	G13	1800	1900	1.00	935.0m	Laid out landing joint.
P6	P	G13	1900	2200	3.00	935.0m	Picked up diverter and replaced lockdown dog. Installed diverter and confirmed with 10k overpull - ok.
P6	P	G1	2200	2300	1.00	935.0m	Rigged down BOP handling equipment. Changed out 500ton bails to 350ton drilling bails. Rigged up 5" handling equipment. Concurrently rigged up packer control lines, logging compensator line and index line. Connected water line to slip joint.
P6	P	G1	2300	2400	1.00	935.0m	Picked up cement stand and laid out Halliburton cement head assembly.

Operations For Period 0000 Hrs to 0600 Hrs on 15 Oct 2009

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	P	G6	0000	0330	3.50	935.0m	Laid down 17.5" BHA, drill bit, float sub, 2 x 17.5" stabilisers, MWD tools.
P11	P	G6	0330	0600	2.50	935.0m	Make up 12.25" BHA and RIH.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 14 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	58	12 Oct 2009	14 Oct 2009	315.00	13.125	935.0m

General Comments

00:00 TO 24:00 Hrs ON 14 Oct 2009

WBM Data

Cost Today US$ 0

Mud Type:	KCl POLYMER	API FL:	5.6cc/30min	Cl:	38000mg/l	Solids(%vol):	2%	Viscosity	49sec/qt
		Filter-Cake:	1/32nd"	K+C*1000:		H2O:	95%	PV	10cp
Sample-From:	3	HTHP-FL:	11.0cc/30min	Hard/Ca:	320mg/l	Oil(%):		YP	14lb/100ft²
Time:	2110	HTHP-cake:	1/32nd"	MBT:	10	Sand:		Gels 10s	8
Weight:	9.00ppg			PM:	2.2	pH:	8	Gels 10m	10
Temp:	20C°			PF:	1.5	PHPA:	2ppb	Fann 003	8
								Fann 006	10
								Fann 100	17
								Fann 200	23
								Fann 300	27
								Fann 600	37

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10	0	449.0
Drill Water	m3	0	0	0	613.0
Pot Water	m3	45	38	0	250.0
Brine	m3	0	0	0	88.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	26.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	0	0	63.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	24.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	48.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97	80	1200	400
2	Continental Emsco	6.50		97	80	1200	400

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
3	Continental Emsco	6.50		97	80	1200	400										

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

Personnel On Board

Company	Pax
ADA	6
Maersk	42
GRN	2
OMS	17
Reach	1
Geoservices	6
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	6
Dril-Quip	1
Swaco	1
Others	3
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : MikeLawrance / Kosta Georgiou

Available	1741.3bbl
Active	220.0bbl
Mixing	
Hole	895.8bbl
Slug	
Reserve	515.5bbl
Kill	110.0bbl

Losses	374.5bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	374.5bbl
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50bottom
Shaker 2	Brandt VSM 300	20 top/50bottom
Shaker 3	Brandt VSM 300	20 top/50bottom
Shaker 4	Brandt VSM 300	20 top/50bottom

Comments

Correct Mud volumes will be entered tomorrow when we start drilling, all chemicals will be charged off as well.

Marine

Weather on 14 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	28kn	225.0deg	984.0mbar	11C°	4.2m	225.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg		140.00klb	2.4m	330.0deg	5s	

Comments

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	08:30 hrs 13/10/09		Standby rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		607
Potable Water	M3		550
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		42

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Printed on 14 Oct 2009

				Item	Unit	Used	Quantity
				Brine	M3		165

				Item	Unit	Used	Quantity
Far Fosna		08:30 hrs 13/10/09	Melbourne	Rig Fuel	M3		398
				Pot Water	M3		490
				Drill Water	M3		202
				Bentonite	t		0
				Barite	t		0
					t		0
				Brine	M3		84

No midnight report received.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:15 hrs / 09:25 hrs	9 / 10	Crew Change

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Printed on 14 Oct 2009

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 15
Trefoil-2

15 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	938.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	938.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	3.0m	Shoe TVDBRT	930.0m	Daily Cost	US$634,342
Rig	Kan Tan IV	Days from spud	9.67	Shoe MDBRT	930.0m	Cumul. Cost	US$13,548,314
Wtr Dpth(MSL)	69.0m	Days on well	14.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Drilling ahead with 12.25" hole. Depth at 06:00 hrs 1062m.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Drill ahead with 12.25" hole.		

Summary of Period 0000 to 2400 Hrs

Laid down 17.5" BHA. Made up 12.25" BHA.
RIH tagged top of cement at 917m
Drilled out cement and shoe track.
Displaced hole with 9.1 ppg KCL mud.
Rigged up and performed a LOT.
Installed RBS pins. Geoservices and Halliburton geolograph lines.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	3 Days	Held abandon drill	
Fire Drill	1	3 Days	Main deck - Fire in rubbish container	
Permit To Work	15	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	5 Days	Held 2 x General Safety Meeting	
STOP Card	40	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m
Lower Miocene Seismic Marker	918.00m

Operations For Period 0000 Hrs to 2400 Hrs on 15 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P6	P	G6	0000	0330	3.50	935.0m	Laid down 17.5" BHA, drill bit, float sub, 2 x 17.5" stabilisers, MWD tools.
P11	P	G6	0330	0830	5.00	935.0m	Made up 12.25" BHA. Directional driller checked bearing gap and orientation of motor (0.78 deg). Halliburton MWD plugged into tool and down linked data. Scribed motor and RIH with BHA to 140m.
P11	P	G6	0830	0900	0.50	935.0m	Shallow tested MWD at 800 gpm, 1100 psi. Good test.
P11	P	G6	0900	1030	1.50	935.0m	Made up BHA and RIH from 140m to 252m.
P11	P	G8	1030	1200	1.50	935.0m	RIH with 12.25" BHA on 5" drill pipe from 252m to 890m.
P11	P	F1	1200	1300	1.00	935.0m	Washed down from 890m to 917m. Tagged cement with 5 klbs.
P11	P	D1	1300	1630	3.50	938.0m	Drilled cement and shoe track from 917m to 930m. Drilled rathole and 3m of new formation to 938m. Displaced well to mud and closed in system.
P11	P	F4	1630	1830	2.00	938.0m	Circulated and conditioned mud until 9.1 ppg even in and out.
P11	P	F3	1830	2000	1.50	938.0m	Displaced choke and kill lines to mud. Racked back 1 stand and made up TIW and side entry sub. Rigged up surface hose.
P11	P	E1	2000	2100	1.00	938.0m	Cement unit pumped 5 bbls of mud ahead and pressure tested surface lines to 1000psi. Performed a leak off 1025psi EMW 15.15 ppg . Mud weight in use 9.1 ppg. TVD 930m. Volume pumped 2.58 bbls. Volume returned 2.0 bbls.
P11	P	G7	2100	2230	1.50	938.0m	Rigged down cement hose. Laid out FOSV, side entry sub. Pulled diverter packer. Picked up Dril-Quip emergency drill pipe hang off tool. Made up same and racked in derrick.
P11	P	G1	2230	2330	1.00	938.0m	Installed raised back system (RBS) pins.
P11	P	G1	2330	2400	0.50	938.0m	Installed Geoservices and Halliburton MWD geolograph lines. Installed diverter packer.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description

Operations For Period 0000 Hrs to 0600 Hrs on 16 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D8	0000	0030	0.50	942.0m	Drilled 12.25" hole from 938m to 942m
P11	TP (RE)	G2	0030	0300	2.50	942.0m	Whilst making a connection with RBS damage was sustained to pin and box connections due to incorrect alignment resulting in laying out 2 x damaged joints.
P11	P	D2	0300	0600	3.00	1062.0m	Drilled 12.25" hole from 942m to 1062m. Average Parameters: ROP 40.0 m/hr, RPM 100, WOB -16k, flow rate 1150 gpm, SPP 1820 psi, Torque 4-7 Klbs/ft.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 15 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	20.5	15 Oct 2009	15 Oct 2009	339.00	14.125	938.0m

General Comments

00:00 TO 24:00 Hrs ON 15 Oct 2009

WBM Data — Cost Today US$ 82438

Mud Type:	KCl POLYMER	API FL:	5.8cc/30min	Cl:	41000mg/l	Solids(%vol):	2%	Viscosity	46sec/qt
Sample-From:	1	Filter-Cake:	1/32nd"	K+C*1000:		H2O:	95%	PV	10cp
Time:	2135	HTHP-FL:	11.2cc/30min	Hard/Ca:	280mg/l	Oil(%):		YP	20lb/100ft²
Weight:	9.00ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:		Gels 10s	8
Temp:	20C°			PM:	2.2	pH:	9.5	Gels 10m	10
				PF:	1.1	PHPA:	2ppb	Fann 003	9
								Fann 006	11
								Fann 100	18
								Fann 200	23
								Fann 300	30
								Fann 600	40

Comment — Note: Cost is in AUD

Bit # 3

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	12.25in	IADC#	M432	No.	Size	Progress	3.0m	Cumul. Progress	3.0m
Mfr:	REED	WOB(avg)	14.00klb	8	13/32nd"	On Bottom Hrs	0.4h	Cumul. On Btm Hrs	0.4h
Type:	PDC	RPM(avg)	80			IADC Drill Hrs	0.4h	Cumul. IADC Drill Hrs	0.4h
Serial No.:	222369	F.Rate	660gpm			Total Revs	27	Cumul. Total Revs	27
Bit Model	RSX616M	SPP	1200psi			ROP(avg)	7.50 m/hr	ROP(avg)	7.50 m/hr
Depth In	935.0m	HSI							
Depth Out		TFA	1.037						

Bit Comment

BHA # 3

Weight(Wet)	68340.00klb	Length	252.7m	Torque(max)	10000ft-lbs	D.C. (1) Ann Velocity	197fpm
Wt Below Jar(Wet)	36205.00klb	String	265000.00klb	Torque(Off.Btm)	6000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	265000.00klb	Torque(On.Btm)	4000ft-lbs	H.W.D.P. Ann Velocity	129fpm
		Slack-Off	275000.00klb			D.P. Ann Velocity	129fpm

BHA Run Description

BHA Run Comment

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Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		222369	
Mud Motor	9.22m	9.63in		963448	
String Stab	1.86m	12.25in	3.00in	701049	
LWD Tools	12.08m	8.00in			
NM Drill Collar	4.80m	8.00in		246906	
String Stab	1.88m	12.25in	3.00in	231931	
Drill Collar	84.74m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621339	
Drill Collar	18.63m	8.25in	2.88in		
X/Over Sub	1.09m	6.75in			
HWDP	141.54m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
981.35	0.7		981.31	8.3	8.3	0.0	0.3	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	9	0	440.0
Drill Water	m3	0	350	0	263.0
Pot Water	m3	37	30	0	257.0
Brine	m3	0	24	0	64.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	26.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	5	0	58.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	16	0	8.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	9	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97	80	1200	400
2	Continental Emsco	6.50		97	80	1200	400
3	Continental Emsco	6.50		97	80	1200	400

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
938.0	30	50	150	40	70	200	50	80	250
938.0	30	70	150	40	120	200	50	140	250
938.0	30	50	150	40	180	200	50	180	250

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

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Personnel On Board

Company	Pax
ADA	6
Maersk	42
GRN	2
OMS	17
Reach	1
Geoservices	6
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	6
Dril-Quip	1
Swaco	1
Others	3
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**1762.5bbl**	**Losses**	**431.8bbl**
Active	168.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	471.5bbl	Dumped	431.8bbl
Slug		De-Gasser	
Reserve	1123.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50bottom	
Shaker 1	Brandt VSM 300	20 top/50bottom	
Shaker 2	Brandt VSM 300	20 top/50bottom	
Shaker 2	Brandt VSM 300	20 top/50bottom	
Shaker 3	Brandt VSM 300	20 top/50bottom	
Shaker 3	Brandt VSM 300	20 top/50bottom	
Shaker 4	Brandt VSM 300	20 top/50bottom	
Shaker 4	Brandt VSM 300	20 top/50bottom	

Marine

Weather on 15 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	19kn	240.0deg	1006.0mbar	10C°	1.5m	240.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg	111583.00klb	42637.00klb	1.8m	240.0deg	5s	

Comments

Rig Support

Anchors	Tension (klb)
1	281.0
2	139.0
3	135.0
4	211.0
5	138.0
6	125.0
7	204.0
8	206.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	08:30 hrs 13/10/09		Standby rig

Item	Unit	Used	Quantity
Rig Fuel	M3		593
Potable Water	M3		547
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		08:30 hrs 13/10/09	Melbourne

Item	Unit	Used	Quantity
Rig Fuel	M3		398
Pot Water	M3		490
Drill Water	M3		202
Bentonite	t		0
Barite	t		42
	t		0
Brine	M3		84

No midnight report received.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment

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Helicopter Movement				
1	Bristow Helicopters	09:15 hrs / 09:25 hrs	9 / 10	Crew Change

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origin

Australian Drilling Associates Pty Ltd ADA

16 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 16
Trefoil-2

Well Data

Country	Australia	MDBRT	1540.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	1540.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	602.0m	Shoe TVDBRT	930.0m	Daily Cost	US$587,983
Rig	Kan Tan IV	Days from spud	10.67	Shoe MDBRT	930.0m	Cumul. Cost	US$14,136,297
Wtr Dpth(MSL)	69.0m	Days on well	15.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Drilling ahead with 12.25" bit Depth at 06:00 hrs 1696m. RPM 100, WOB -10k, flow rate 1000 gpm		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Drill 12.25" hole section to TD at 2510m		

Summary of Period 0000 to 2400 Hrs

Drilled 12.25" hole from 938m to 1423m.
Slide from 1423m to 1432m
Drilled 12.25" hole from 1432m to 1504m.
Slide from 1504m to 1514m.
Drilled 12.25" hole from 1514m to 1540m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Held abandon drill	
Fire Drill	1	4 Days	Main deck - Fire in rubbish container	
Permit To Work	15	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	6 Days	Held 2 x General Safety Meeting	
STOP Card	31	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Torquay Group	95.00m
Lower Miocene Seismic Marker	918.00m
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m

Operations For Period 0000 Hrs to 2400 Hrs on 16 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0030	0.50	942.0m	Drilled 12.25" hole from 938m to 942m. RPM 100, WOB -10k, flow rate 1000 gpm.
P11	TP (RE)	G2	0030	0300	2.50	942.0m	Whilst making a connection with RBS damage was sustained to pin and box connections due to incorrect alignment resulting in laying out 2 x damaged joints.
P11	P	D2	0300	0600	3.00	1062.0m	Drilled 12.25" hole from 942m to 1062m. Average Parameters: ROP 40.0 m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 1860 psi, Torque 4-7 Klbs/ft.
P11	P	F4	0600	0630	0.50	1062.0m	Circulated whilst clearing over loaded shakers.
P11	P	D2	0630	1200	5.50	1275.0m	Drilled 12.25" hole from 1062m to 1275m. Average Parameters: ROP 38.7.0 m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2280 psi, Torque 5-10 Klbs/ft.
P11	P	D2	1200	1500	3.00	1352.0m	Drilled 12.25" hole from 1275m to 1352m. Average Parameters: ROP 25.70. m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2280 psi, Torque 2-8 Klbs/ft.
P11	TP (RE)	F4	1500	1530	0.50	1352.0m	Circulated whilst trouble shooting 5" drill pipe elevators.
P11	P	D2	1530	1730	2.00	1423.0m	Drilled 12.25" hole from 1352m to 1423m. Average Parameters: ROP 35.50m/hr, RPM 100, WOB -10k, flow rate 1000 gpm, SPP 2400 psi, Torque 2-10 Klbs/ft.

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Printed on 18 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D3	1730	1830	1.00	1432.0m	Slide from 1423m to 1432m.
P11	P	D2	1830	2130	3.00	1504.0m	Drilled 12.25" hole from 1432m to 1504m. Average Parameters: ROP 24.00m/hr, RPM 100, WOB - 4k, flow rate 1000 gpm, SPP 2430 psi, Torque 3-10 Klbs/ft.
P11	P	D3	2130	2230	1.00	1514.0m	Slide drilled from 1504m to 1514m
P11	P	D2	2230	2400	1.50	1540.0m	Drilled 12.25" hole from 1514m to 1540m. Average Parameters: ROP 17.30m/hr, RPM 100, WOB - 8-10k, flow rate 1000 gpm, SPP 2430 psi, Torque 3-10 Klbs/ft.

Operations For Period 0000 Hrs to 0600 Hrs on 17 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0600	6.00	1696.0m	Drilled 12.25" hole from 1540m to 1696m. Average Parameters: ROP 26.00m/hr, RPM 100, WOB - 8-10k, flow rate 1000 gpm, SPP 2550 psi, Torque 3-10 Klbs/ft.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 16 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	44.5	15 Oct 2009	16 Oct 2009	363.00	15.125	1540.0m

General Comments

00:00 TO 24:00 Hrs ON 16 Oct 2009

WBM Data

Cost Today US$ 48359

Mud Type:	KCl POLYMER	API FL:	5.1cc/30min	Cl:	40000mg/l	Solids(%vol):	2%
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	95%
Time:	2020	HTHP-FL:	9.9cc/30min	Hard/Ca:	240mg/l	Oil(%):	
Weight:	9.00ppg	HTHP-cake:	2/32nd"	MBT:	5	Sand:	
Temp:	20C°			PM:	0.78	pH:	9
				PF:	0.7	PHPA:	2ppb

Viscosity	56sec/qt
PV	13cp
YP	22lb/100ft²
Gels 10s	11
Gels 10m	14
Fann 003	10
Fann 006	12
Fann 100	23
Fann 200	30
Fann 300	35
Fann 600	48

Comment — Note: Cost is in AUD

Bit # 3

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	12.25in	IADC#	M432	No.	Size	Progress	602.0m	Cumul. Progress	605.0m
Mfr:	REED	WOB(avg)	8.00klb	8	13/32nd"	On Bottom Hrs	11.3h	Cumul. On Btm Hrs	11.7h
Type:	PDC	RPM(avg)	100			IADC Drill Hrs	21.0h	Cumul. IADC Drill Hrs	21.4h
Serial No.:	222369	F.Rate	1000gpm			Total Revs	139000	Cumul. Total Revs	139027
Bit Model	RSX616M	SPP	2350psi			ROP(avg)	53.27 m/hr	ROP(avg)	51.71 m/hr
Depth In	935.0m	HSI							
Depth Out		TFA	1.037						

Bit Comment

BHA # 3

Weight(Wet)	68340.00klb	Length	252.7m	Torque(max)	10000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	36205.00klb	String	320000.00klb	Torque(Off.Btm)	6000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	310000.00klb	Torque(On.Btm)	4000ft-lbs	H.W.D.P. Ann Velocity	196fpm
		Slack-Off	320000.00klb			D.P. Ann Velocity	196fpm

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BHA Run Description

BHA Run Comment Hours on drilling jars = 103.5 hrs.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		222369	8x13 Jets
Mud Motor	9.22m	9.63in		963448	Ported float installed
String Stab	1.86m	12.25in	3.00in	701049	
LWD Tools	12.08m	8.00in			
NM Drill Collar	4.80m	8.00in		246906	
String Stab	1.88m	12.25in	3.00in	231931	
Drill Collar	84.74m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621339	
Drill Collar	18.63m	8.25in	2.88in		
X/Over Sub	1.09m	6.75in			
HWDP	141.54m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
1010.20	0.8		1010.15	8.7	8.7	0.0	0.3	MWD
1067.21	0.9		1067.16	9.5	9.5	0.0	0.2	MWD
1095.87	0.8		1095.82	10.0	10.0	0.0	0.3	MWD
1153.51	1.1		1153.45	10.9	10.9	0.0	0.5	MWD
1182.36	1.3		1182.29	11.5	11.5	0.0	0.7	MWD
1211.30	1.0		1211.22	12.1	12.1	0.0	1.0	MWD
1240.32	1.0		1240.24	12.6	12.6	0.0	0.0	MWD
1269.44	1.0		1269.36	13.1	13.1	0.0	0.0	MWD
1298.71	1.1		1298.62	13.7	13.7	0.0	0.3	MWD
1327.95	1.3		1327.85	14.3	14.3	0.0	0.7	MWD
1357.12	1.3		1357.02	14.9	14.9	0.0	0.0	MWD
1385.95	1.4		1385.84	15.6	15.6	0.0	0.3	MWD
1414.80	1.3		1414.68	16.3	16.3	0.0	0.3	MWD
1443.26	1.4		1443.13	17.0	17.0	0.0	0.4	MWD
1471.76	1.4		1471.62	17.7	17.7	0.0	0.0	MWD
1500.56	1.4		1500.42	18.4	18.4	0.0	0.0	MWD
1529.74	1.0		1529.59	19.0	19.0	0.0	1.4	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	7	0	433.0
Drill Water	m3	0	0	177	440.0
Pot Water	m3	13	28	0	242.0
Brine	m3	0	0	26	90.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	0	0	16.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	26.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	2	0	56.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	16	0	-8.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	416.0
Potable Water	m3	0	0	0	208.0

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Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97	80	1200	400
2	Continental Emsco	6.50		97	80	1200	400
3	Continental Emsco	6.50		97	80	1200	400

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1204.0	30	200	150	40	260	200	50	300	250
1204.0	30	200	150	40	260	200	50	300	250
1204.0	30	200	150	40	250	200	50	300	250

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

Personnel On Board

Company	Pax
ADA	6
Maersk	43
GRN	2
OMS	17
Geoservices	6
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	3
Dril-Quip	2
Swaco	1
Others	3
Total	91

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**4058.6bbl**
Active	1200.0bbl
Mixing	450.0bbl
Hole	722.6bbl
Slug	53.0bbl
Reserve	1633.0bbl
Kill	

Losses	**131.0bbl**
Downhole	
Surf+ Equip	131.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50bottom	
Shaker 1	Brandt VSM 300	20 top/50bottom	
Shaker 2	Brandt VSM 300	20 top/50bottom	
Shaker 2	Brandt VSM 300	20 top/50bottom	
Shaker 3	Brandt VSM 300	20 top/50bottom	
Shaker 3	Brandt VSM 300	20 top/50bottom	
Shaker 4	Brandt VSM 300	20 top/50bottom	
Shaker 4	Brandt VSM 300	20 top/50bottom	

Marine

Weather on 16 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	26kn	226.0deg	1016.0mbar	10C°	2.1m	226.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg	111583.00klb	94492.00klb	1.8m	226.0deg	5s	

Comments

Rig Support

Anchors	Tension (klb)
1	278.0
2	131.0
3	138.0
4	201.0
5	130.0
6	124.0
7	198.0
8	215.0

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Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks

Far Scimitar | 08:30 hrs 13/10/09 | | Standby rig

Item	Unit	Used	Quantity
Rig Fuel	M3		579
Potable Water	M3		544
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		0
Brine	M3		165

Far Fosna | | 08:30 hrs 13/10/09 | Geelong

Item	Unit	Used	Quantity
Rig Fuel	M3		374
Pot Water	M3		478
Drill Water	M3		582
Bentonite	t		48
Barite	t		42
	t		130
Brine	M3		130

No midnight report received.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:109hrs / 09:22 hrs	9 / 11	Crew Change

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Australian Drilling Associates Pty Ltd ADA

17 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 17
Trefoil-2

Well Data

Country	Australia	MDBRT	2004.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2004.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	464.0m	Shoe TVDBRT	930.0m	Daily Cost	US$584,583
Rig	Kan Tan IV	Days from spud	11.67	Shoe MDBRT	930.0m	Cumul. Cost	US$14,720,880
Wtr Dpth(MSL)	69.0m	Days on well	16.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Drilling 12.25" hole. Depth at 06:00 hrs 2104m		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Drill 12.25" hole to section TD at 2510m		

Summary of Period 0000 to 2400 Hrs

Drilled 12.25" hole from 1540m to 1937m.
Slide from 1937m to 1948m.
Rotate from 1948m to 1951m
Slide from 1951m to 1958m.
Drilled 12.25" hole from 1958m to 2004m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Held abandon drill	
ER Exercises		0 Days	International Ship and Port Facility - Drill	
Fire Drill	1	5 Days	Main deck - Fire in rubbish container	
Permit To Work	18	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	7 Days	Held 2 x General Safety Meeting	
STOP Card	36	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Lower Miocene Seismic Marker	918.00m
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m

Operations For Period 0000 Hrs to 2400 Hrs on 17 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0600	6.00	1696.0m	Drilled 12.25" hole from 1540m to 1696m. Average Parameters: ROP 26.00m/hr, RPM 100, WOB - 8-10k, flow rate 1000 gpm, SPP 2550 psi, Torque 3-10 Klbs/ft.
P11	P	D2	0600	1030	4.50	1780.0m	Drilled 12.25" hole from 1696m to 1780m. Average Parameters: ROP 33.60. m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2700 psi, Torque 6-12 Klbs/ft.
P11	P	P3	1030	1100	0.50	1780.0m	Flow checked well, 5bbl gain in active. Spaced out and checked for flow. Well static.
P11	P	D2	1100	1200	1.00	1790.0m	Drilled 12.25" hole from 1780m to 1790m. Average Parameters: ROP 10.30m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2700 psi, Torque 6-12 Klbs/ft.
P11	P	D2	1200	1800	6.00	1920.0m	Drilled 12.25" hole from 1790m to 1920m. Average Parameters: ROP 21.60m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2750 psi, Torque 7-14 Klbs/ft.
P11	P	D2	1800	1930	1.50	1937.0m	Drilled 12.25" hole from 1920m to 1937m. Average Parameters: ROP 11.30m/hr, RPM 100, WOB - 5-27k, flow rate 1000 gpm, SPP 2750 psi, Torque 7-14 Klbs/ft.
P11	P	D3	1930	2030	1.00	1951.0m	Slide drilled from 1937m to 1948m. Rotated from 1948m to 1951m.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D3	2030	2130	1.00	1958.0m	Slide drilled from 1951m to 1958m.
P11	P	P3	2130	2200	0.50	1958.0m	Flow checked well, 9 bbl gain on connection. Spaced out and checked for flow. Well static.
P11	P	D2	2200	2400	2.00	2004.0m	Drilled 12.25" hole from 1958m to 2004m. Average Parameters: ROP 23.00m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2700 psi, Torque 8-140Klbs/ft.

Operations For Period 0000 Hrs to 0600 Hrs on 18 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0530	5.50	2104.0m	Drilled 12.25" hole from 2004m to 2104m. Average Parameters: ROP 16.60m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2750 psi, Torque 8-14Klbs/ft.
P11	P	P3	0530	0600	0.50	2104.0m	Drilling motor stalled out. Flow checked well. 10bbls pit gain in active. Spaced out and checked for flow. Well static.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 17 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	68.5	15 Oct 2009	17 Oct 2009	387.00	16.125	2004.0m

General Comments

00:00 TO 24:00 Hrs ON 17 Oct 2009

Operational Comments	Ditch Magnets: 24 hour metal recovery - 50.0 grams. Total for section - 50.0 grams.

WBM Data — Cost Today US$ 27065

Mud Type:	KCl POLYMER	API FL:	5.6cc/30min	Cl:	39000mg/l	Solids(%vol):	3%	Viscosity	54sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	94%	PV	16cp
Time:	2115	HTHP-FL:	10.4cc/30min	Hard/Ca:	380mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.00ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:		Gels 10s	12
Temp:	35C°			PM:	0.3	pH:	9	Gels 10m	18
				PF:	0.3	PHPA:	2ppb	Fann 003	10
								Fann 006	12
								Fann 100	29
								Fann 200	36
								Fann 300	45
								Fann 600	61

Comment — Note: Cost is in AUD

Bit # 3

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	12.25in	IADC#	M432	No.	Size	Progress	464.0m	Cumul. Progress	1069.0m
Mfr:	REED	WOB(avg)	15.00klb	8	13/32nd"	On Bottom Hrs	13.9h	Cumul. On Btm Hrs	25.6h
Type:	PDC	RPM(avg)	100			IADC Drill Hrs	23.0h	Cumul. IADC Drill Hrs	44.4h
Serial No.:	222369	F.Rate	1000gpm			Total Revs	326000	Cumul. Total Revs	465027
Bit Model	RSX616M	SPP	2700psi			ROP(avg)	33.38 m/hr	ROP(avg)	41.76 m/hr
Depth In	935.0m	HSI							
Depth Out		TFA	1.037						

Bit Comment

BHA # 3

Weight(Wet)	68340.00klb	Length	252.7m	Torque(max)	10000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	36205.00klb	String	340000.00klb	Torque(Off.Btm)	6000ft-lbs	D.C. (2) Ann Velocity	0fpm

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	Pick-Up	330000.00klb	Torque(On.Btm) 4000ft-lbs	H.W.D.P. Ann Velocity	196fpm
	Slack-Off	340000.00klb		D.P. Ann Velocity	196fpm

BHA Run Description

BHA Run Comment: Hours on drilling jars = 103.5 hrs.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		222369	8x13 Jets
Mud Motor	9.22m	9.63in		963448	Ported float installed
String Stab	1.86m	12.25in	3.00in	701049	
LWD Tools	12.08m	8.00in			
NM Drill Collar	4.80m	8.00in		246906	
String Stab	1.88m	12.25in	3.00in	231931	
Drill Collar	84.74m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621339	
Drill Collar	18.63m	8.25in	2.88in		
X/Over Sub	1.09m	6.75in			
HWDP	141.54m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
1559.00	1.1		1558.84	19.5	19.5	0.0	0.3	MWD
1588.15	1.1		1587.99	20.1	20.1	0.0	0.0	MWD
1617.27	1.1		1617.10	20.6	20.6	0.0	0.0	MWD
1646.32	1.2		1646.15	21.2	21.2	0.0	0.3	MWD
1675.15	1.3		1674.97	21.8	21.8	0.0	0.3	MWD
1703.61	1.0		1703.43	22.4	22.4	0.0	1.1	MWD
1731.98	1.1		1731.79	22.9	22.9	0.0	0.4	MWD
1760.71	1.2		1760.52	23.5	23.5	0.0	0.3	MWD
1790.08	1.1		1789.88	24.1	24.1	0.0	0.3	MWD
1819.45	1.2		1819.24	24.7	24.7	0.0	0.3	MWD
1848.52	1.2		1848.31	25.3	25.3	0.0	0.0	MWD
1877.80	1.1		1877.58	25.9	25.9	0.0	0.3	MWD
1906.65	1.2		1906.43	26.5	26.5	0.0	0.3	MWD
1934.67	1.1		1934.44	27.0	27.0	0.0	0.4	MWD
1963.22	0.5		1962.99	27.4	27.4	0.0	2.1	MWD
1992.33	0.6		1992.10	27.7	27.7	0.0	0.3	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	14	0	419.0
Drill Water	m3	0	0	0	440.0
Pot Water	m3	18	33	0	227.0
Brine	m3	0	17	0	73.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	9	0	7.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	26.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	9	0	47.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	40.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	-8.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	150	0	266.0
Potable Water	m3	0	0	0	208.0

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Printed on 18 Oct 2009

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	80	1000	330
2	Continental Emsco	6.50	1.09	97	80	1000	330
3	Continental Emsco	6.50	1.09	97	80	1000	330

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1581.0	30	150	150	40	200	200	50	260	250
1581.0	30	200	160	40	190	200	50	240	250
1581.0	30	200	150	40	250	200	50	300	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

Personnel On Board

Company	Pax
ADA	6
Maersk	43
GRN	1
OMS	17
Geoservices	6
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	3
Dril-Quip	2
Swaco	1
PCS	6
Others	3
Total	96

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**2655.0bbl**
Active	178.0bbl
Mixing	350.0bbl
Hole	945.0bbl
Slug	4.0bbl
Reserve	1178.0bbl
Kill	

Losses	**326.3bbl**
Downhole	
Surf+ Equip	309.3bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	17.0bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50bottom
Shaker 1	Brandt VSM 300	20 top/50bottom
Shaker 2	Brandt VSM 300	20 top/50bottom
Shaker 2	Brandt VSM 300	20 top/50bottom
Shaker 3	Brandt VSM 300	20 top/50bottom
Shaker 3	Brandt VSM 300	20 top/50bottom
Shaker 4	Brandt VSM 300	20 top/50bottom
Shaker 4	Brandt VSM 300	20 top/50bottom

Comments

Centrifuge #2 down due to electrical fan motor failure. New motor orderd.

Marine

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Weather on 17 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	12kn	237.0deg	1024.0mbar	9C°	1.2m	237.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg	240000.00klb	95508.00klb	1.5m	237.0deg	5s	

Comments

Rig Support

Anchors	Tension (klb)
1	267.0
2	126.0
3	134.0
4	206.0
5	136.0
6	124.0
7	193.0
8	197.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	08:30 hrs 13/10/09	08:45 hrs 17/10/09	Alongside south wharf.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		557
Potable Water	M3		540
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06:00 hrs 17/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		362
Pot Water	M3		475
Drill Water	M3		582
Bentonite	t		42
Barite	t		42
	t		130
Brine	M3		130

No midnight report received.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	13:529hrs / 14:06 hrs	6 / 1	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 18
Trefoil-2

18 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	2244.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2244.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	240.0m	Shoe TVDBRT	930.0m	Daily Cost	US$580,035
Rig	Kan Tan IV	Days from spud	12.67	Shoe MDBRT	930.0m	Cumul. Cost	US$15,300,915
Wtr Dpth(MSL)	69.0m	Days on well	17.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	POOH for bit change. Depth at 06:00 hrs 2271m.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Bit change. RIH and drill ahead to 2510m.		

Summary of Period 0000 to 2400 Hrs

Drilled 12.25" hole from 2004m to 2244m

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Held abandon drill	
BOP Drill	2	0 Days	Picked off bottom and flow checked. Prepared for shut in.	
ER Exercises		1 Day	International Ship and Port Facility - Drill	
Fire Drill	1	6 Days	Main deck - Fire in rubbish container	
Permit To Work	19	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	0 Days	Held 2 x General Safety Meeting	
STOP Card	38	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 18 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0530	5.50	2104.0m	Drilled 12.25" hole from 2004m to 2104m. Average Parameters: ROP 16.60m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2750 psi, Torque 8-14Klbs/ft.
P11	P	P3	0530	0600	0.50	2104.0m	Drilling motor stalled out. Flow checked well. 10bbls pit gain in active. Spaced out and checked for flow. Well static.
P11	P	D2	0600	0900	3.00	2130.0m	Drilled 12.25" hole from 2104m to 2130m. Average Parameters: ROP 8.70m/hr, RPM 100, WOB - 5-25k, flow rate 1000 gpm, SPP 2750 psi, Torque 8-14Klbs/ft.
P11	TP (RE)	G11	0900	1200	3.00	2130.0m	Saver sub backed out on top of stand #65 during connection. Laid out top single and attempted to make up new saver sub. Not possible due to problems with PH85 pipe handler. Laid out single. Made up circulating head and rigged up surface lines. Investigated problems and repaired PH85 pipe handler while circulating and rotating string.
P11	TP (RE)	G11	1200	1300	1.00	2130.0m	Installed new saver sub.
P11	P	D2	1300	1800	5.00	2166.0m	Drilled 12.25" hole from 2130m to 2166m. Average Parameters: ROP 7.20m/hr, RPM 100, WOB - 5-20k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-9Klbs/ft.
P11	P	P3	1800	1830	0.50	2166.0m	Flow checked well 5 bbls pit gain in active. Spaced out and checked for flow.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	1830	2400	5.50	2244.0m	Well static. Drilled 12.25" hole from 2166m to 2244m. Average Parameters: ROP 14.20m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-8Klbs/ft.

Operations For Period 0000 Hrs to 0600 Hrs on 19 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0030	0.50	2246.0m	Drilled 12.25" hole from 2244m to 2246m. Average Parameters: ROP 14.20. m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-8Klbs/ft.
P11	TP (RE)	G11	0030	0130	1.00	2246.0m	Pop off went off on mud pump #2. Reset same.
P11	TP (RE)	G11	0130	0230	1.00	2246.0m	Piston not operating pump #1. Continued circulating with pump #3, whilst replacing pop off on pump #2 and piston on pump #1.
P11	P	D2	0230	0400	1.50	2271.0m	Drilled 12.25" hole from 2246m to 2271m. Average Parameters: ROP 16.60m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2740 psi, Torque 3-8Klbs/ft.
P11	P	P1	0400	0430	0.50	2271.0m	Observed loss of 300 psi differential pressure, whilst adding premix to mud system. Closed standpipe valve and pressure tested all 3 mud pumps. Attempted to re-establish drilling parameters, no differential pressure observed on bottom.
P11	P	F4	0430	0600	1.50	2271.0m	Circulated hole clean.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 18 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	92.5	15 Oct 2009	18 Oct 2009	411.00	17.125	2244.0m

General Comments

00:00 TO 24:00 Hrs ON 18 Oct 2009

Operational Comments	Ditch Magnets: 24 hour metal recovery - 0 grams. Total for section - 50.0 grams.

WBM Data

Cost Today US$ 22216

Mud Type:	KCl POLYMER	API FL:	4.8cc/30min	Cl:	40000mg/l	Solids(%vol):	3%	Viscosity	52sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	8%	H2O:	94%	PV	14cp
Time:	2150	HTHP-FL:	9.0cc/30min	Hard/Ca:	320mg/l	Oil(%):		YP	28lb/100ft²
Weight:	9.10ppg	HTHP-cake:	2/32nd"	MBT:	15	Sand:		Gels 10s	10
Temp:	43C°			PM:	0.6	pH:	9	Gels 10m	13
				PF:	0.4	PHPA:	2ppb	Fann 003	9
								Fann 006	11
								Fann 100	25
								Fann 200	34
								Fann 300	42
								Fann 600	56

Comment — Note: Cost is in AUD

Bit # 3

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	12.25in	IADC#	M432	No.	Size	Progress	240.0m	Cumul. Progress	1309.0m
Mfr:	REED	WOB(avg)	13.00klb	8	13/32nd"	On Bottom Hrs	19.5h	Cumul. On Btm Hrs	45.1h
Type:	PDC	RPM(avg)	100			IADC Drill Hrs	19.0h	Cumul. IADC Drill Hrs	63.4h
Serial No.:	222369	F.Rate	1000gpm			Total Revs	454000	Cumul. Total Revs	919027
Bit Model	RSX616M	SPP	2800psi			ROP(avg)	12.31 m/hr	ROP(avg)	29.02 m/hr
Depth In	935.0m	HSI							
Depth Out		TFA	1.037						

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Bit Comment

BHA # 3

Weight(Wet)	68340.00klb	Length	252.7m	Torque(max)	10000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	36205.00klb	String	360000.00klb	Torque(Off.Btm)	6000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	350000.00klb	Torque(On.Btm)	4000ft-lbs	H.W.D.P. Ann Velocity	196fpm
		Slack-Off	360000.00klb			D.P. Ann Velocity	196fpm

BHA Run Description	
BHA Run Comment	Hours on drilling jars = 103.5 hrs.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		222369	8x13 Jets
Mud Motor	9.22m	9.63in		963448	Ported float installed
String Stab	1.86m	12.25in	3.00in	701049	
LWD Tools	12.08m	8.00in			
NM Drill Collar	4.80m	8.00in		246906	
String Stab	1.88m	12.25in	3.00in	231931	
Drill Collar	84.74m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621339	
Drill Collar	18.63m	8.25in	2.88in		
X/Over Sub	1.09m	6.75in			
HWDP	141.54m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2050.74	0.6		2050.50	28.3	28.3	0.0	0.0	MWD
2080.19	0.6		2079.95	28.6	28.6	0.0	0.0	MWD
2102.20	0.7		2101.96	28.9	28.9	0.0	0.5	MWD
2138.04	0.7		2137.80	29.3	29.3	0.0	0.0	MWD
2195.19	0.6		2194.94	30.0	30.0	0.0	0.2	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	20	0	399.0
Drill Water	m3	0	0	0	440.0
Pot Water	m3	18	20	0	225.0
Brine	m3	0	7	0	66.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	5	0	2.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	19	0	7.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	0	0	47.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	6	0	34.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	-8.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
1	Continental Emsco	6.50	1.09	97	80	1000	330	1581.0	30	150	150	40	200	200	50	260	250
2	Continental Emsco	6.50	1.09	97	80	1000	330	1581.0	30	200	160	40	190	200	50	240	250
3	Continental Emsco	6.50	1.09	97	80	1000	330	1581.0	30	200	150	40	250	200	50	300	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

Personnel On Board

Company	Pax
ADA	6
Maersk	43
GRN	1
OMS	17
Geoservices	6
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	3
Dril-Quip	2
Swaco	1
PCS	6
Others	3
Total	96

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : MikeLawrance / Kosta Georgiou

Available	2817.0bbl	Losses	173.0bbl
Active	214.0bbl	Downhole	
Mixing	200.0bbl	Surf+ Equip	148.0bbl
Hole	1053.0bbl	Dumped	
Slug	53.0bbl	De-Gasser	
Reserve	1297.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	25.0bbl

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50bottom	
Shaker 2	Brandt VSM 300	20 top/50bottom	
Shaker 3	Brandt VSM 300	20 top/50bottom	
Shaker 4	Brandt VSM 300	20 top/50bottom	

Marine

Weather on 18 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	12kn	263.0deg	1025.0mbar	9C°	1.2m	263.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg	240000.00klb	103636.00klb	1.5m	263.0deg	5s	

Comments

Rig Support

Anchors	Tension (klb)
1	267.0
2	126.0
3	135.0
4	201.0
5	134.0
6	121.0
7	182.0
8	195.0

Vessel Name	Arrived (Date/Time)	Departed	Status	Bulks

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Printed on 18 Oct 2009

(Date/Time)							
Far Scimitar	08:30 hrs 13/10/09	08:45 hrs 17/10/09	Alongside south wharf.	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		557
				Potable Water	M3		540
				Drill Water	M3		196
					t		55
				Barite	t		0
				Bentonite	t		0
				Brine	M3		165
Far Fosna	06:00 hrs 17/10/09		Standby Rig	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		353
				Pot Water	M3		472
				Drill Water	M3		582
				Bentonite	t		42
				Barite	t		48
					t		130
				Brine	M3		130

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Printed on 18 Oct 2009

Australian Drilling Associates Pty Ltd ADA

19 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 19
Trefoil-2

Well Data

Country	Australia	MDBRT	2271.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2271.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	27.0m	Shoe TVDBRT	930.0m	Daily Cost	US$520,084
Rig	Kan Tan IV	Days from spud	13.67	Shoe MDBRT	930.0m	Cumul. Cost	US$15,820,999
Wtr Dpth(MSL)	69.0m	Days on well	18.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Prepare to make up 9 5/8" casing hanger and setback same.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Make up 12.25" BHA and RIH to 2271m. Drill 12.25" hole to section TD at 2510m.		

Summary of Period 0000 to 2400 Hrs

Drilled 12.25" hole from 2244m to 2271m.
Circulated hole clean.
POOH to 13 3/8" casing shoe. Flow checked well.
POOH with BHA to 72m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Held abandon drill	
ER Exercises		2 Days	International Ship and Port Facility - Drill	
Fire Drill	1	7 Days	Main deck - Fire in rubbish container	
Permit To Work	16	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	1 Day	Held 2 x General Safety Meeting	
STOP Card	32	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 19 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0030	0.50	2246.0m	Drilled 12.25" hole from 2244m to 2246m. Average Parameters: ROP 14.20m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2780 psi, Torque 3-8Klbs/ft.
P11	TP (RE)	G11	0030	0130	1.00	2246.0m	Pop off went off on mud pump #2. Reset same.
P11	TP (RE)	G11	0130	0230	1.00	2246.0m	Replaced piston on pump #1. Continued circulating with pump #3, whilst replacing pop off on pump #2 and piston on pump #1.
P11	P	D2	0230	0400	1.50	2271.0m	Drilled 12.25" hole from 2246m to 2271m. Average Parameters: ROP 16.60m/hr, RPM 100, WOB - 5-17k, flow rate 1000 gpm, SPP 2740 psi, Torque 3-8Klbs/ft.
P11	P	P1	0400	0430	0.50	2271.0m	Observed loss of 300 psi differential pressure, whilst adding premix to mud system. Closed standpipe valve and pressure tested all 3 mud pumps. Attempted to re-establish drilling parameters, no differential pressure observed on bottom.
P11	P	F4	0430	0600	1.50	2271.0m	Circulated hole clean.
P11	U	G8	0600	1200	6.00	2271.0m	POOH from 2271m to 2161m. Observed 30k consistent overpull from 2148m to 2137m. Continued POOH back reaming tight spots from 2137m to 1669m.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	U	D6	1200	1930	7.50	2271.0m	Back reamed at 50 rpm, 350 gpm from 1669m to 13 3/8" shoe at 930m.
P11	P	P3	1930	2000	0.50	2271.0m	Flow checked - well static. Pumped 40 bbls of 10.0 ppg slug.
P11	P	G8	2000	2200	2.00	2271.0m	POOH from 930m to BHA at 252m.
P11	P	P3	2200	2230	0.50	2271.0m	Flow checked well for 15 minutes prior to pulling BHA through BOP.
P11	P	G6	2230	2400	1.50	2271.0m	POOH with BHA from 252m to 72m.

Operations For Period 0000 Hrs to 0600 Hrs on 20 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	G6	0000	0100	1.00	2271.0m	POOH with BHA from 72m to surface.
P11	P	G6	0100	0130	0.50	2271.0m	Tested mud motor at 700 gpm, 500 psi. Good test.
P11	P	G6	0130	0230	1.00	2271.0m	Broke out bit for inspection. IADC bit grade 1-1-BT-N-X-I-CT-PP. Checked all 12 1/4" stabilisers - Ok. Racked back stand. Halliburton MWD downloaded tool.
P11	P	G11	0230	0330	1.00	2271.0m	Serviced TDS.
P11	P	G5	0330	0530	2.00	2271.0m	Made up Halliburton SSR cement head stand and installed FOSV. Attempted to rack back in derrick on starboard side, no success. Racked back same on Port side in derrick.
P11	P	G5	0530	0600	0.50	2271.0m	Held JSA. Prepared to make up 9 5/8" casing hanger assembly.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 19 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	116.5	15 Oct 2009	19 Oct 2009	435.00	18.125	2271.0m

General Comments

00:00 TO 24:00 Hrs ON 19 Oct 2009

Operational Comments	Ditch Magnets: 24 hour metal recovery - 400 grams. Total for section - 450.0 grams.

WBM Data — Cost Today US$ 28298

Mud Type:	KCl POLYMER	API FL:	4.2cc/30min	Cl:	44000mg/l	Solids(%vol):	3%	Viscosity	56sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	94%	PV	16cp
Time:	2045	HTHP-FL:	9.9cc/30min	Hard/Ca:	320mg/l	Oil(%):		YP	28lb/100ft²
Weight:	9.20ppg	HTHP-cake:	2/32nd"	MBT:	15	Sand:		Gels 10s	11
Temp:	30C°			PM:	0.2	pH:	9	Gels 10m	15
				PF:	0.3	PHPA:	2ppb	Fann 003	10
								Fann 006	12
								Fann 100	28
								Fann 200	38
								Fann 300	44
								Fann 600	60

Comment — Note: Cost is in AUD

Bit # 3

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	12.25in	IADC#	M432	No.	Size	Progress	27.0m	Cumul. Progress	1336.0m
Mfr:	REED	WOB(avg)	13.00klb	8	13/32nd"	On Bottom Hrs		Cumul. On Btm Hrs	45.1h
Type:	PDC	RPM(avg)	100			IADC Drill Hrs	2.0h	Cumul. IADC Drill Hrs	65.4h
Serial No.:	222369	F.Rate	1000gpm			Total Revs	454000	Cumul. Total Revs	1373027
Bit Model	RSX616M	SPP	2800psi			ROP(avg)	N/A	ROP(avg)	29.62 m/hr
Depth In	935.0m	HSI							
Depth Out		TFA	1.037						

Bit Comment

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Printed on 19 Oct 2009

BHA # 3

Weight(Wet)	68340.00klb	Length	252.7m	Torque(max)	10000ft-lbs	D.C. (1) Ann Velocity	299fpm
Wt Below Jar(Wet)	36205.00klb	String	360000.00klb	Torque(Off.Btm)	6000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	350000.00klb	Torque(On.Btm)	4000ft-lbs	H.W.D.P. Ann Velocity	196fpm
		Slack-Off	360000.00klb			D.P. Ann Velocity	196fpm

BHA Run Description

BHA Run Comment: Hours on drilling jars = 103.5 hrs.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		222369	8x13 Jets
Mud Motor	9.22m	9.63in		963448	Ported float installed
String Stab	1.86m	12.25in	3.00in	701049	
LWD Tools	12.08m	8.00in			
NM Drill Collar	4.80m	8.00in		246906	
String Stab	1.88m	12.25in	3.00in	231931	
Drill Collar	84.74m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621339	
Drill Collar	18.63m	8.25in	2.88in		
X/Over Sub	1.09m	6.75in			
HWDP	141.54m	5.00in	3.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	29	0	370.0
Drill Water	m3	0	74	0	366.0
Pot Water	m3	17	43	0	199.0
Brine	m3	0	0	0	66.0
Barite	MT	0	0	0	91.0
Baradefoam-W300	can	0	2	0	0.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	7.0
Lime	sx	0	0	0	54.0
Soda Ash	sx	0	0	0	47.0
Shaker Screen 110	box	0	0	0	24.0
Shaker Screen 140	box	0	0	0	34.0
Shaker Screen 175	box	0	0	0	24.0
Shaker Screen 50	box	0	0	0	-8.0
Shaker Screen 210	box	0	0	0	24.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	80	1000	330
2	Continental Emsco	6.50	1.09	97	80	1000	330
3	Continental Emsco	6.50	1.09	97	80	1000	330

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1581.0	30	150	150	40	200	200	50	260	250
1581.0	30	200	160	40	190	200	50	240	250
1581.0	30	200	150	40	250	200	50	300	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

Personnel On Board

Company	Pax
ADA	6
Maersk	44
GRN	4
OMS	15
Geoservices	4
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	3
Dril-Quip	2
Swaco	1
PCS	6
Others	3
Total	96

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**2815.3bbl**	**Losses**	**161.6bbl**
Active	188.0bbl	Downhole	
Mixing	350.0bbl	Surf+ Equip	161.6bbl
Hole	1171.3bbl	Dumped	
Slug	30.0bbl	De-Gasser	
Reserve	1076.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/80bottom	
Shaker 1	Brandt VSM 300	20 top/80bottom	
Shaker 2	Brandt VSM 300	20 top/80bottom	
Shaker 2	Brandt VSM 300	20 top/80bottom	
Shaker 3	Brandt VSM 300	20 top/80bottom	
Shaker 3	Brandt VSM 300	20 top/80bottom	
Shaker 4	Brandt VSM 300	20 top/80bottom	
Shaker 4	Brandt VSM 300	20 top/80bottom	

Marine

Weather on 19 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	12kn	34.0deg	1020.0mbar	12C°	0.6m	34.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg	240000.00klb	143262.00klb	0.9m	34.0deg	5s	

Comments

Rig Support

Anchors	Tension (klb)
1	239.0
2	125.0
3	135.0
4	208.0
5	141.0
6	121.0
7	192.0
8	193.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	08:30 hrs 13/10/09	08:45 hrs 17/10/09	Enroute to rig.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		545
Potable Water	M3		533
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06:00 hrs 17/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		342
Pot Water	M3		469
Drill Water	M3		582

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Item	Unit	Used	Quantity
Bentonite	t		42
Barite	t		48
	t		130
Brine	M3		130

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:07 hrs / 09:20 hrs	9 / 9	Crew Change

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Australian Drilling Associates Pty Ltd ADA

20 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 20
Trefoil-2

Well Data

Country	Australia	MDBRT	2284.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2284.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	13.0m	Shoe TVDBRT	930.0m	Daily Cost	US$562,563
Rig	Kan Tan IV	Days from spud	14.67	Shoe MDBRT	930.0m	Cumul. Cost	US$16,383,562
Wtr Dpth(MSL)	69.0m	Days on well	19.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Drilling 12.25" hole. Depth at 06:00 hrs: 2370m.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Drill 12.25" hole to section TD at 2520m.		

Summary of Period 0000 to 2400 Hrs

POOH with 12.25" BHA to surface.
Made up Halliburton SSR cement head stand.
Made up 9.625" casing hanger assembly.
RIH with 12.25" drilling assembly to 2165m.
Washed from 2165m to 2271m.
Drilled 12.25" hole from 2271m to 2284m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill		3 Days	Held abandon drill	
ER Exercises		3 Days	International Ship and Port Facility - Drill	
Fire Drill		8 Days	Main deck - Fire in rubbish container	
Permit To Work	18	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	2 Days	Held 2 x General Safety Meeting	
STOP Card	34	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 20 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	G6	0000	0100	1.00	2271.0m	POOH with BHA from 72m to surface.
P11	P	G6	0100	0130	0.50	2271.0m	Tested mud motor at 700 gpm, 500 psi. Good test.
P11	P	G6	0130	0230	1.00	2271.0m	Broke out bit for inspection. IADC bit grade 1-1-BT-N-X-I-CT-PP. Checked all 12.25" stabilisers - Ok. Racked back stand. Halliburton MWD downloaded tool.
P11	P	G11	0230	0330	1.00	2271.0m	Serviced TDS.
P11	P	G5	0330	0530	2.00	2271.0m	Made up Halliburton SSR cement head stand and installed FOSV. Attempted to rack back in derrick on starboard side, no success. Racked back same on Port side in derrick.
P11	P	G5	0530	0600	0.50	2271.0m	Held JSA. Prepared to make up 9.625" casing hanger assembly.
P11	P	G5	0600	0800	2.00	2271.0m	Picked up and made up 9.625" casing hanger assembly. Made up Halliburton SSR plugs to assembly. Racked back assembly in derrick.
P11	P	G6	0800	1230	4.50	2271.0m	Held JSA. RIH with 12.25" BHA. Directional driller checked bearing gap and orientation of motor 0.78 deg. Changed out Halliburton MWD pulser and plugged into tool and down linked data. Scribed motor and RIH to 167m.
P11	P	G6	1230	1300	0.50	2271.0m	Shallow tested MWD at 800 gpm, 1000 psi. Good test.
P11	P	G6	1300	1400	1.00	2271.0m	Made up BHA and RIH from 167m to 252m. Installed diverter packer.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	G8	1400	2030	6.50	2271.0m	RIH with 12.25" BHA on 5" drill pipe from 252m to 2165m. Filled pipe every 20 stands. Installed Geoservices and Halliburton MWD geolograph lines.
P11	P	F1	2030	2300	2.50	2271.0m	Took 20k down weight at 2165m. Washed down from 2165m with 900 gpm, 2680 psi. Tight spots at 2174m, 2181m, 2185m, 2217m and 2242m. Washed down with 10klbs constant weight. RIH from 2242m to 2271m without additional weight.
P11	P	D2	2300	2400	1.00	2284.0m	Drilled 12.25" hole from 2271m to 2284m. Average Parameters: ROP 13.00m/hr, RPM 110, WOB - 10-12k, flow rate 950 gpm, SPP 2850 psi, Torque 4-12Klbs/ft.

Operations For Period 0000 Hrs to 0600 Hrs on 21 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0600	6.00	2370.0m	Drilled 12.25" hole from 2284m to 2370m. Average Parameters: ROP 14.30m/hr, RPM 110, WOB - 10-20k, flow rate 950 gpm, SPP 3050 psi, Torque 7-25Klbs/ft.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 20 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	140.5	15 Oct 2009	20 Oct 2009	459.00	19.125	2284.0m

General Comments

00:00 TO 24:00 Hrs ON 20 Oct 2009

Operational Comments	Ditch Magnets: 24 hour metal recovery - 125 grams. Total for section - 575.0 grams.
Operational Comments	Flushed choke and kill lines.

WBM Data

Cost Today US$ 64719

Mud Type:	KCl POLYMER	API FL:	4.1cc/30min	Cl:	44000mg/l	Solids(%vol):	3%	Viscosity	57sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	16cp
Time:	2045	HTHP-FL:	8.3cc/30min	Hard/Ca:	340mg/l	Oil(%):		YP	31lb/100ft²
Weight:	9.50ppg	HTHP-cake:	2/32nd"	MBT:	15	Sand:		Gels 10s	11
Temp:	31C°			PM:	0.5	pH:	9.5	Gels 10m	16
				PF:	0.5	PHPA:	2ppb	Fann 003	10
								Fann 006	12
								Fann 100	30
								Fann 200	38
								Fann 300	47
								Fann 600	63

Comment: Note: Cost is in AUD

Bit # 3

Wear	I	O1	D	L	B	G	O2	R
	1	1	BT	N	X	I	CT	PP

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	12.25in	IADC#	M432	No.	Size	Progress	0.0m	Cumul. Progress	1336.0m
Mfr:	REED	WOB(avg)	13.00klb	8	13/32nd"	On Bottom Hrs		Cumul. On Btm Hrs	45.1h
Type:	PDC	RPM(avg)	100			IADC Drill Hrs	63.0h	Cumul. IADC Drill Hrs	128.4h
Serial No.:	222369	F.Rate	1000gpm			Total Revs	454000	Cumul. Total Revs	1827027
Bit Model	RSX616M	SPP	2800psi			ROP(avg)	N/A	ROP(avg)	29.62 m/hr
Depth In	935.0m	HSI							
Depth Out	2271.0m	TFA	1.037						

Bit Comment

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Bit # RR#3

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size (''):	12.25in	IADC#	M432	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED	WOB(avg)	15.00klb	No.	Size	Progress	13.0m	Cumul. Progress	13.0m
Type:	PDC	RPM(avg)	110	8	13/32nd"	On Bottom Hrs	1.0h	Cumul. On Btm Hrs	1.0h
Serial No.:	222369	F.Rate	900gpm			IADC Drill Hrs	1.0h	Cumul. IADC Drill Hrs	1.0h
Bit Model	RSX616M	SPP	2850psi			Total Revs		Cumul. Total Revs	0
Depth In	2271.0m	HSI				ROP(avg)	13.00 m/hr	ROP(avg)	13.00 m/hr
Depth Out		TFA	1.037						

Bit Comment

BHA # 4

Weight(Wet)	68340.00klb	Length	252.7m	Torque(max)	12000ft-lbs	D.C. (1) Ann Velocity	269fpm
Wt Below Jar(Wet)	36205.00klb	String	360000.00klb	Torque(Off.Btm)	6000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	350000.00klb	Torque(On.Btm)	4000ft-lbs	H.W.D.P. Ann Velocity	176fpm
		Slack-Off	360000.00klb			D.P. Ann Velocity	176fpm

BHA Run Description

BHA Run Comment: Hours on drilling jars = 118 hrs.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		222369	8x13 Jets
Mud Motor	9.22m	9.63in		963448	Ported float installed
String Stab	1.86m	12.25in	3.00in	701049	
LWD Tools	12.08m	8.00in			
NM Drill Collar	4.80m	8.00in		246906	
String Stab	1.88m	12.25in	3.00in	231931	
Drill Collar	84.74m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621339	
Drill Collar	18.63m	8.25in	2.88in		
X/Over Sub	1.09m	6.75in			
HWDP	141.54m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2253.19	0.6		2252.94	30.6	30.6	0.0	0.0	MWD
2281.35	0.8		2281.10	30.9	30.9	0.0	0.7	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10	0	360.0
Drill Water	m3	341	0	0	707.0
Pot Water	m3	17	27	0	189.0
Brine	m3	68	55	0	79.0
Barite	MT	61	0	0	152.0
Baradefoam-W300	can	0	0	9	9.0
Barolift	boxes	0	0	3	21.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	4	32	35.0
Lime	sx	0	0	-50	4.0
Soda Ash	sx	0	2	11	56.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	8	8.0

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Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	60	3000	300
2	Continental Emsco	6.50	1.09	97	60	3000	300
3	Continental Emsco	6.50	1.09	97	60	3000	300

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2331.0	30	200	150	40	260	200	50	320	250
2331.0	30	200	190	40	190	260	50	330	250
2331.0	30	180	150	40	260	200	50	330	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

Personnel On Board

Company	Pax
ADA	6
Maersk	44
GRN	4
OMS	15
Geoservices	4
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	3
Dril-Quip	2
Swaco	1
PCS	6
Others	3
Total	96

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2887.4bbl**
Active	98.0bbl
Mixing	305.0bbl
Hole	1171.4bbl
Slug	5.0bbl
Reserve	1308.0bbl
Kill	

Losses	**336.0bbl**
Downhole	4.0bbl
Surf+ Equip	327.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	5.0bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/80bottom
Shaker 1	Brandt VSM 300	20 top/80bottom
Shaker 2	Brandt VSM 300	20 top/80bottom
Shaker 2	Brandt VSM 300	20 top/80bottom
Shaker 3	Brandt VSM 300	20 top/80bottom
Shaker 3	Brandt VSM 300	20 top/80bottom
Shaker 4	Brandt VSM 300	20 top/80bottom
Shaker 4	Brandt VSM 300	20 top/80bottom

Comments: Electrician repaired shakers - all ok.

Marine

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Weather on 20 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	16kn	245.0deg	1014.0mbar	11C°	1.5m	245.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg	240000.00klb	157487.00klb	1.5m	245.0deg	5s	

Comments

Rig Support

Anchors	Tension (klb)
1	258.0
2	115.0
3	145.0
4	198.0
5	139.0
6	119.0
7	192.0
8	190.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	08:30 hrs 13/10/09	08:45 hrs 17/10/09	Enroute to rig.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		523
Potable Water	M3		530
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06:00 hrs 17/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		333
Pot Water	M3		466
Drill Water	M3		362
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		65

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 21
Trefoil-2

21 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	236.0m	Shoe TVDBRT	930.0m	Daily Cost	US$571,896
Rig	Kan Tan IV	Days from spud	15.67	Shoe MDBRT	930.0m	Cumul. Cost	US$16,955,458
Wtr Dpth(MSL)	69.0m	Days on well	20.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Pulling out of hole at 930m.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	POOH to surface and rack back BHA. Make up Dril-Quip multi-purpose retrieval tool. RIH. Jet wellhead and retrieve wear bushing. Rig up and run 9.625" casing.		

Summary of Period 0000 to 2400 Hrs

Drilled 12.25" hole from 2284m to 2520m.
Circulated well clean and conditioned mud.
Wiper trip to old hole at 2267m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Held abandon drill	
ER Exercises		4 Days	International Ship and Port Facility - Drill	
Fire Drill	1	9 Days	Main deck - Fire in rubbish container	
Permit To Work	21	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	3 Days	Held 2 x General Safety Meeting	
STOP Card	33	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 21 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	D2	0000	0600	6.00	2370.0m	Drilled 12.25" hole from 2284m to 2370m. Average Parameters: ROP 14.30m/hr, RPM 110, WOB - 10-20k, flow rate 950 gpm, SPP 3050 psi, Torque 7-25Klbs/ft.
P11	P	D2	0600	1200	6.00	2450.0m	Drilled 12.25" hole from 2370m to 2450m. Average Parameters: ROP 13.30m/hr, RPM 110, WOB - 6-10k, flow rate 950 gpm, SPP 3000 psi, Torque 4-12Klbs/ft.
P11	P	D2	1200	1900	7.00	2520.0m	Drilled 12.25" hole from 2450m to 2520m. Average Parameters: ROP 10.00m/hr, RPM 110, WOB - 5-10k, flow rate 950 gpm, SPP 2930 psi, Torque 4-15Klbs/ft.
P11	P	F4	1900	2130	2.50	2520.0m	Circulated well clean and conditioned mud.
P11	P	P3	2130	2200	0.50	2520.0m	Flushed kill and choke lines.
P11	P	G8	2200	2300	1.00	2520.0m	POOH on elevators from 2520m to 2267m. Max overpull 20k at 2512m, 2412m, 2383m, 2354m and 2235m.
P11	P	G8	2300	2400	1.00	2520.0m	RIH from 2267m to TD at 2520m. Max drag down 15klbs. No Fill.

Operations For Period 0000 Hrs to 0600 Hrs on 22 Oct 2009

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Printed on 21 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	F4	0000	0100	1.00	2520.0m	Circulated bottoms up.
P11	P	F3	0100	0130	0.50	2520.0m	Spotted 40 bbls hi-vis pill on bottom. Pumped slug. Flow checked well. Well static.
P11	P	G8	0130	0500	3.50	2520.0m	Pulled out of the hole dry from 2520m to 930m at 15 stands/hr.
P11	P	P3	0500	0600	1.00	2520.0m	Flow checked well at shoe. Well static. Concurrently serviced rig.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 21 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	164.5	15 Oct 2009	21 Oct 2009	483.00	20.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 21 Oct 2009

Operational Comments	Ditch Magnets: 24 hour metal recovery - 255 grams. Total for section - 830.0 grams.
Operational Comments	Flushed choke and kill lines.
Operational Comments	Flash Report 039 - While making up a double of 5" DP to the FOSV on top of the cement head (using TDS), the complete assembly slipped downwards approx one (1) metre.

WBM Data

Cost Today US$ 70119

Mud Type:	KCl POLYMER	API FL:	3.7cc/30min	Cl:	43500mg/l	Solids(%vol):	2%	Viscosity	53sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	94%	PV	14cp
Time:	2045	HTHP-FL:	7.6cc/30min	Hard/Ca:	320mg/l	Oil(%):		YP	28lb/100ft²
Weight:	9.30ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:		Gels 10s	10
Temp:	34C°			PM:	0.5	pH:	9.5	Gels 10m	15
				PF:	0.4	PHPA:	2ppb	Fann 003	10
								Fann 006	12
								Fann 100	28
								Fann 200	35
								Fann 300	42
								Fann 600	56

Comment — Note: Cost is in AUD

Bit # RR#3

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Size ("):	12.25in	IADC#	M432	No.	Size	Progress	236.0m	Cumul. Progress	249.0m
Mfr:	REED	WOB(avg)	15.00klb	8	13/32nd"	On Bottom Hrs	12.6h	Cumul. On Btm Hrs	13.6h
Type:	PDC	RPM(avg)	110			IADC Drill Hrs	19.0h	Cumul. IADC Drill Hrs	20.0h
Serial No.:	222369	F.Rate	900gpm			Total Revs		Cumul. Total Revs	0
Bit Model	RSX616M	SPP	2850psi			ROP(avg)	18.73 m/hr	ROP(avg)	18.31 m/hr
Depth In	2271.0m	HSI							
Depth Out		TFA	1.037						

Bit Comment

BHA # 4

Weight(Wet)	68340.00klb	Length	252.7m	Torque(max)	15000ft-lbs	D.C. (1) Ann Velocity	269fpm
Wt Below Jar(Wet)	36205.00klb	String	375000.00klb	Torque(Off.Btm)	6000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	370000.00klb	Torque(On.Btm)	12000ft-lbs	H.W.D.P. Ann Velocity	176fpm
		Slack-Off	380000.00klb			D.P. Ann Velocity	176fpm

BHA Run Description

BHA Run Comment — Hours on drilling jars = 139 hrs.

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Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		222369	8x13 Jets
Mud Motor	9.22m	9.63in		963448	Ported float installed
String Stab	1.86m	12.25in	3.00in	701049	
LWD Tools	12.08m	8.00in			
NM Drill Collar	4.80m	8.00in		246906	
String Stab	1.88m	12.25in	3.00in	231931	
Drill Collar	84.74m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621339	
Drill Collar	18.63m	8.25in	2.88in		
X/Over Sub	1.09m	6.75in			
HWDP	141.54m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2310.29	0.9		2310.03	31.3	31.3	0.0	0.3	MWD
2339.67	0.8		2339.41	31.8	31.8	0.0	0.3	MWD
2398.22	0.8		2397.96	32.6	32.6	0.0	0.0	MWD
2426.57	1.1		2426.30	33.1	33.1	0.0	1.1	MWD
2454.95	1.0		2454.68	33.6	33.6	0.0	0.4	MWD
2484.55	1.1		2484.27	34.1	34.1	0.0	0.3	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	33	0	327.0
Drill Water	m3	0	120	0	587.0
Pot Water	m3	34	34	0	189.0
Brine	m3	68	68	0	79.0
Barite	MT	0	2.3	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	21.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	35.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	56.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	60	3000	300
2	Continental Emsco	6.50	1.09	97	60	3000	300
3	Continental Emsco	6.50	1.09	97	60	3000	300

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2515.0	30	220	150	40	270	200	50	350	250
2515.0	30	240	190	40	290	260	50	350	250
2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

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Personnel On Board

Company	Pax
ADA	6
Maersk	43
GRN	4
OMS	15
Geoservices	4
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	3
Dril-Quip	2
Swaco	1
PCS	6
Others	3
Total	95

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2982.0bbl**	**Losses**	**539.0bbl**
Active	238.0bbl	Downhole	
Mixing	220.0bbl	Surf+ Equip	113.0bbl
Hole	1178.0bbl	Dumped	419.0bbl
Slug	31.0bbl	De-Gasser	
Reserve	1315.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	7.0bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom

Comments

Note:
Inadvertently dumped 419 bbls overboard, investigation in progress.

Marine

Weather on 21 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	13kn	222.0deg	1022.0mbar	12C°	1.2m	222.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg	240000.00klb	92460.00klb	1.5m	222.0deg	5s	

Comments

Rig Support

Anchors	Tension (klb)
1	264.0
2	119.0
3	148.0
4	198.0
5	142.0
6	117.0
7	189.0
8	200.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			Enroute to rig.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		520
Potable Water	M3		525
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06:00 hrs 17/10/09		Standby Rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		324
Pot Water	M3		463
Drill Water	M3		362
Bentonite	t		42
Barite	t		20
	t		130
Brine	M3		65

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Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:07 hrs / 09:15 hrs	3 / 4	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 22
Trefoil-2

22 Oct 2009

From: John Mcgarrity/ Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$613,578
Rig	Kan Tan IV	Days from spud	16.67	Shoe MDBRT	930.0m	Cumul. Cost	US$17,569,036
Wtr Dpth(MSL)	69.0m	Days on well	21.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Running 9.625" casing. Depth at 06:00 hrs 1744m.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Complete running 9.625" casing. Rig down 9.625" casing equipment. Rig up 5" drill pipe handling equipment. Run 9.625" casing hanger on 5" HWDP. Land the casing hanger in the 18.75" wellhead. Circulate 1.5 times casing volume. Cement and displace 9.625" casing.		

Summary of Period 0000 to 2400 Hrs

Circulated well clean.
POOH to surface and racked back BHA.
Made up Dril-Quip multi-purpose retrieval tool.
RIH. Jet wellhead and retrieved wear bushing.
Rigged up and run 9.625" casing.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	5 Days	Held abandon drill	
ER Exercises		5 Days	International Ship and Port Facility - Drill	
Fire Drill	1	10 Days	Main deck - Fire in rubbish container	
Flash Reports	1	1 Day	Dumping of sand traps.	
Permit To Work	15	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	4 Days	Held 2 x General Safety Meeting	
STOP Card	33	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 22 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P11	P	F4	0000	0100	1.00	2520.0m	Circulated bottoms up.
P11	P	P3	0100	0130	0.50	2520.0m	Spotted 40 bbls hi-vis pill on bottom. Pumped slug. Flow checked well. Well static.
P11	P	G8	0130	0500	3.50	2520.0m	POOH dry from 2520m to 930m at 15 stands/hr.
P11	P	P3	0500	0600	1.00	2520.0m	Flow checked well at shoe. Well static. Concurrently serviced rig.
P11	P	G8	0600	0630	0.50	2520.0m	Pulled out of hole from 930m to 355m at 20 stands/hr.
P11	P	P3	0630	0700	0.50	2520.0m	Flow checked well prior to pulling BHA through BOP. Well static
P11	P	G8	0700	0730	0.50	2520.0m	Pulled out of hole from 355m to 252m.
P11	P	G6	0730	0900	1.50	2520.0m	Removed diverter packer and drill pipe wiper. Pulled out of hole with BHA to surface.
P11	P	G6	0900	1000	1.00	2520.0m	Removed bit and drained motor. 12.125" motor sleeve was measured 1/16" under

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							gauge at surface. Checked mud motor - in spec. Checked 12.25" string stablisers, both in gauge. Down loaded MWD tools all data received. 2 plugged nozzles in bit, but still in good condition. IADC bit grade 1-1-CT-A-X-I-PN-TD.
P11	P	G12	1000	1200	2.00	2520.0m	Made up Dril-Quip MPT retrieval tool and RIH. Washed the wellhead with the jet sub at 800 gpm, 250 psi. Retrieved the wear bushing. POOH and laid down wear bushing and MPT. Dril-Quip obtained index measuremnet for casing hanger seat.
P13	P	G1	1200	1500	3.00	2520.0m	Held JSA. Rigged up to run 9.625" casing.
P13	TP (TP)	G1	1500	1730	2.50	2520.0m	Attempted to make up shoe track. Malfunction of casing equipment. Changed out 11.75" elevator inserts to 9.625" inserts.
P13	P	G9	1730	2400	6.50	2520.0m	Ran 9.625" casing to 830m. Filled pipe every 5 joints with mud.

Operations For Period 0000 Hrs to 0600 Hrs on 23 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	G9	0000	0600	6.00	2520.0m	Ran 9.625" casing from 830m to 1744m. Filled pipe every 5 joints with mud.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 22 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	12	22 Oct 2009	22 Oct 2009	507.00	21.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 22 Oct 2009

Operational Comments	Ditch Magnets: 24 hour metal recovery - 0 grams. Total for section - 830.0 grams.
Operational Comments	Flash Report 040. Dumping of sand traps

WBM Data

Cost Today US$ 13791

Mud Type:	KCl POLYMER	API FL:	3.2cc/30min	Cl:	44500mg/l	Solids(%vol):	4%	Viscosity	57sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	14cp
Time:	13:00 hrs	HTHP-FL:	9.0cc/30min	Hard/Ca:	380mg/l	Oil(%):		YP	32lb/100ft²
Weight:	9.45ppg	HTHP-cake:	2/32nd"	MBT:	12	Sand:		Gels 10s	11
Temp:				PM:	0.3	pH:	9	Gels 10m	15
				PF:	0.2	PHPA:	2ppb	Fann 003	11
								Fann 006	13
								Fann 100	31
								Fann 200	36
								Fann 300	46
								Fann 600	60

Comment — Note: Cost is in AUD

Bit # RR#3

Wear	I	O1	D	L	B	G	O2	R
	1	1	CT	A	X	I	PN	TD

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	12.25in	IADC#	M432	No.	Size	Progress	0.0m	Cumul. Progress	249.0m
Mfr:	REED	WOB(avg)	15.00klb	8	13/32nd"	On Bottom Hrs	0.0h	Cumul. On Btm Hrs	13.6h
Type:	PDC	RPM(avg)	110			IADC Drill Hrs	0.0h	Cumul. IADC Drill Hrs	20.0h
Serial No.:	222369	F.Rate	900gpm			Total Revs		Cumul. Total Revs	0
Bit Model	RSX616M	SPP	2850psi			ROP(avg)	N/A	ROP(avg)	18.31 m/hr
Depth In	2271.0m	HSI							
Depth Out	2520.0m	TFA	1.037						

Bit Comment

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BHA # 4

Weight(Wet)	68340.00klb	Length	252.7m	Torque(max)	15000ft-lbs	D.C. (1) Ann Velocity	269fpm
Wt Below Jar(Wet)	36205.00klb	String	375000.00klb	Torque(Off.Btm)	6000ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	370000.00klb	Torque(On.Btm)	12000ft-lbs	H.W.D.P. Ann Velocity	176fpm
		Slack-Off	380000.00klb			D.P. Ann Velocity	176fpm

BHA Run Description

BHA Run Comment: Hours on drilling jars = 139 hrs.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.30m	12.25in		222369	8x13 Jets
Mud Motor	9.22m	9.63in		963448	Ported float installed
String Stab	1.86m	12.25in	3.00in	701049	
LWD Tools	12.08m	8.00in			
NM Drill Collar	4.80m	8.00in		246906	
String Stab	1.88m	12.25in	3.00in	231931	
Drill Collar	84.74m	8.25in	2.88in		
Drilling Jars	9.68m	8.00in		17621339	
Drill Collar	18.63m	8.25in	2.88in		
X/Over Sub	1.09m	6.75in			
HWDP	141.54m	5.00in	3.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	20	0	307.0
Drill Water	m3	0	53	0	534.0
Pot Water	m3	45	36	0	198.0
Brine	m3	0	8	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	21.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	35.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	56.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	60	3000	300
2	Continental Emsco	6.50	1.09	97	60	3000	300
3	Continental Emsco	6.50	1.09	97	60	3000	300

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2515.0	30	220	150	40	270	200	50	350	250
2515.0	30	240	190	40	290	260	50	350	250
2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	/	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
13.38	/	930.00m / 930.00m	

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Personnel On Board

Company	Pax
ADA	6
Maersk	43
GRN	4
OMS	15
Geoservices	4
Halliburton Cementers	2
Haliburton Directional Drilling	1
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	3
Dril-Quip	2
Swaco	1
PCS	6
Others	3
Total	95

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2939.0bbl**	**Losses**	**0.0bbl**
Active	293.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1290.0bbl	Dumped	
Slug	25.0bbl	De-Gasser	
Reserve	1271.0bbl	De-Sander	
Kill	60.0bbl	De-Silter	
		Centrifuge	0.0bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom

Comments

Marine

Weather on 22 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	13kn	209.0deg	1022.0mbar	12C°	1.2m	209.0deg	3s

Rig Dir.	Ris. Tension	VDL	Swell Height	Swell Dir.	Swell Period	Weather Comments
317.0deg	240000.00klb	86363.00klb	1.5m	209.0deg	5s	

Comments

Rig Support

Anchors	Tension (klb)
1	268.0
2	119.0
3	137.0
4	205.0
5	139.0
6	116.0
7	189.0
8	197.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			On location KT4

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		508
Potable Water	M3		520
Drill Water	M3		196
	t		55
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna			South wharf port Melbourne

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		324
Pot Water	M3		463
Drill Water	M3		362
Bentonite	t		42
Barite	t		20
	t		130
Brine	M3		65

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 23
Trefoil-2

23 Oct 2009

From: John Mcgarrity/ Bryan Houston / Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$554,953
Rig	Kan Tan IV	Days from spud	17.67	Shoe MDBRT	930.0m	Cumul. Cost	US$18,123,989
Wtr Dpth(MSL)	69.0m	Days on well	22.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Fishing Operations.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Retrieve 9.625" running tool and seal assembly.		

Summary of Period 0000 to 2400 Hrs

Ran 9.625" casing to 2508m.
Casing stuck at 2508m.
String parted due to heave.
Conducted derrick survey.
POOH with landing string.
Prepared to slip and cut drill line.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	6 Days	Held abandon drill	
Fire Drill	1	11 Days	Main deck - Fire in rubbish container	
Permit To Work	26	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	5 Days	Held 2 x General Safety Meeting	
STOP Card	38	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 23 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	G9	0000	1230	12.50	2520.0m	Ran 9.625" casing from 830m to 2417m. Filled pipe every 5 joints with mud.
P13	P	G1	1230	1300	0.50	2520.0m	Rigged down and laid out 9.625" 500 ton casing elevators and fill up tool
P13	P	G9	1300	1330	0.50	2520.0m	Picked up 9.625" casing hanger assembly and made up same.
P13	P	G1	1330	1400	0.50	2520.0m	Rigged down 9.625" casing flush mounted slips.
P13	P	G9	1400	1430	0.50	2520.0m	RIH with 9.625" casing hanger and landing string to 2480m. Casing stood up with 20 - 35 kips.
P13	P	G9	1430	1800	3.50	2520.0m	Engaged TDS and washed down from 2480m to 2508m. Pumped 70 bbls hi-vis pill and circulated out of hole.
P13	TP (WB)	G9	1800	1930	1.50	2520.0m	Casing stuck at 2508m. Attempted to work free - no progress. Set slips and closed compensator.
P13	TP (WB)	G23	1930	2230	3.00	2520.0m	String parted due to heave. Conducted derrick survey.
P13	TP (WB)	G8	2230	2330	1.00	2520.0m	Pulled out of hole with landing string. Laid out pup joint, 1 x single HWDP and parted single (9.185m)
P13	P	G23	2330	2400	0.50	2520.0m	Held JSA prior to slip and cut drill line.

Operations For Period 0000 Hrs to 0600 Hrs on 24 Oct 2009

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	G1	0000	0130	1.50	2520.0m	Slipped and cut drill line.
P13	P	G4	0130	0230	1.00	2520.0m	Moved used HWDP from running string to port side of derrick.
P13	TP (WB)	G18	0230	0430	2.00	2520.0m	Made up Dril-Quip MPT and RIH and tagged top of fish at 81.5mRT with 5k. POOH and laid out MPT.
P13	TP (WB)	G18	0430	0600	1.50	2520.0m	(IN PROGRESS) Made up 8 3/8" overshot, dressed with 6 5/8" spiral grapple and RIH. Attempted to engage fish. No success. POOH.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 23 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	36	22 Oct 2009	23 Oct 2009	531.00	22.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 23 Oct 2009

Operational Comments	Ditch Magnets: 24 hour metal recovery - 0 grams. Total for section - 830.0 grams.

WBM Data

Cost Today US$ 13791

Mud Type:	KCl POLYMER	API FL:	3.2cc/30min	Cl:	44500mg/l	Solids(%vol):	4%	Viscosity	57sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	14cp
Time:	13:00 hrs	HTHP-FL:	9.0cc/30min	Hard/Ca:	380mg/l	Oil(%):		YP	32lb/100ft²
Weight:	9.45ppg	HTHP-cake:	2/32nd"	MBT:	12	Sand:		Gels 10s	11
Temp:				PM:	0.3	pH:	9	Gels 10m	15
				PF:	0.2	PHPA:	2ppb	Fann 003	11
								Fann 006	13
								Fann 100	31
								Fann 200	36
								Fann 300	46
								Fann 600	60

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	20	0	287.0
Drill Water	m3	34	6	0	562.0
Pot Water	m3	0	25	0	173.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	21.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	35.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	56.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental	6.50	1.09	97	60	3000	300

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2515.0	30	220	150	40	270	200	50	350	250

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
	Emsco																
2	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	240	190	40	290	260	50	350	250
3	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	7
Maersk	46
GRN	4
OMS	11
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Fugro ROV	3
Dril-Quip	2
Swaco	1
PCS	6
Others	1
Total	92

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2939.0bbl**
Active	293.0bbl
Mixing	0.0bbl
Hole	1290.0bbl
Slug	25.0bbl
Reserve	1271.0bbl
Kill	60.0bbl

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	0.0bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom

Comments

Marine

Weather on 23 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	17kn	234.0deg	1020.0mbar	12C°	1.2m	234.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
			317.0deg	240000.00klb	252000.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
1.5m	234.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	212.0
2	206.0
3	204.0
4	195.0
5	216.0
6	201.0
7	199.0
8	213.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			On location KT4

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		504

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				Item	Unit	Used	Quantity
				Potable Water	M3		515
				Drill Water	M3		196
					t		55
				Barite	t		0
				Bentonite	t		0
				Brine	M3		165

				Item	Unit	Used	Quantity
Far Fosna	06:00 hrs 17/10/09		Standby Rig	Rig Fuel	M3		324
				Pot Water	M3		463
				Drill Water	M3		362
				Bentonite	t		42
				Barite	t		20
					t		130
				Brine	M3		65

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:18 hrs / 09:32 hrs	10 / 13	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 24
Trefoil-2

24 Oct 2009

From: Bryan Houston / Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$555,027
Rig	Kan Tan IV	Days from spud	18.67	Shoe MDBRT	930.0m	Cumul. Cost	US$18,679,016
Wtr Dpth(MSL)	69.0m	Days on well	23.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Pressure testing surface equipment.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Complete pressure testing of surface equipment. Make up bullnose jetting assembly and RIH and jet above top of fish. Pump down choke and kill lines to boost riser. RIH with 8 3/8" overshot and attempt to retrieve Dril-Quip running tool.		

Summary of Period 0000 to 2400 Hrs

Slipped and cut drill line.
RIH and confirmed top of fish at 81.5m.
Investigated, inspected and repaired TDS.
RIH with 8 3/8" overshot and made several attempts to engage fish. No success.
Tested choke and kill manifold.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Held abandon drill	
Fire Drill	1	0 Days	Main deck - Fire in rubbish container	
Flash Reports	1	1 Day	Parting of landing string	
Permit To Work	18	0 Days	Permits administerd	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	6 Days	Held 2 x General Safety Meeting	
STOP Card	31	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 24 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	G1	0000	0130	1.50	2520.0m	Slipped and cut drill line.
P13	P	G4	0130	0230	1.00	2520.0m	Moved used HWDP from running string to port side of derrick.
P13	TP (WB)	G18	0230	0430	2.00	2520.0m	Made up Dril-Quip MPT and RIH and tagged top of fish at 81.5mRT with 5k. POOH and laid out MPT.
P13	TP (WB)	G18	0430	0700	2.50	2520.0m	Made up 8 3/8" overshot, dressed with 6 5/8" spiral grapple and RIH. Attempted to engage fish. No success. POOH.
P13	TP (RE)	G11	0700	1700	10.00	2520.0m	Investigated and inspected TDS. Changed out lube oil motor and secured junction box. Function tested gear change and sighted inside of gearbox through rear inspection plug while rotaing shaft by hand. All ok.
P13	TP (WB)	G18	1700	1900	2.00	2520.0m	Made up 8 3/8" overshot dressed with 6 5/8" spiral grapple. RIH and tagged top of fish at 81.5mRT with 5k.
P13	TP (WB)	G18	1900	2030	1.50	2520.0m	Slowly lowered the fishing string to the right and gradually lowered the overshot over the top of the fish with a max down weight of 15k and 2 turns to the right. Maximum torque 6-7 kft/lbs. Made several attempts to engage fish. No success.
P13	TP	G2	2030	2100	0.50	2520.0m	Cleaned out overshot. Laid out overshot, EMDPHOT, sub and pup joint assembly.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	(WB) P	P1	2100	2400	3.00	2520.0m	Held JSA. Pressure tested choke and kill manifold 250/5000psi. Concurrently repaired clamp/unclamp switch on iron roughneck.

Operations For Period 0000 Hrs to 0600 Hrs on 25 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	P1	0000	0300	3.00	2520.0m	Continued to pressure test choke and kill manifold to 250/5000 psi.
P13	P	P1	0300	0600	3.00	2520.0m	(IN PROGRESS) Pressure tested standpipe manifold, top drive and kelly cocks to 250/5000 psi.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 24 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	60	22 Oct 2009	24 Oct 2009	555.00	23.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 24 Oct 2009

WBM Data — Cost Today US$ 13791

Mud Type:	KCl POLYMER	API FL:	3.2cc/30min	Cl:	44500mg/l	Solids(%vol):	4%
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%
Time:	13:00 hrs	HTHP-FL:	9.0cc/30min	Hard/Ca:	380mg/l	Oil(%):	
Weight:	9.45ppg	HTHP-cake:	2/32nd"	MBT:	12	Sand:	
Temp:				PM:	0.3	pH:	9
				PF:	0.2	PHPA:	2ppb

Viscosity	57sec/qt
PV	14cp
YP	32lb/100ft²
Gels 10s	11
Gels 10m	15
Fann 003	11
Fann 006	13
Fann 100	31
Fann 200	36
Fann 300	46
Fann 600	60

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	118	14	0	391.0
Drill Water	m3	55	10	0	607.0
Pot Water	m3	0	33	0	140.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	21.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	35.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	56.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
1	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	220	150	40	270	200	50	350	250
2	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	240	190	40	290	260	50	350	250
3	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	6
Maersk	46
GRN	4
OMS	11
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Others	1
Total	88

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Kosta Georgiou

				Equipment	Description	Mesh Size	Comments
Available	**2939.0bbl**	**Losses**	**0.0bbl**				
Active	293.0bbl	Downhole					
Mixing	0.0bbl	Surf+ Equip	0.0bbl				
Hole	1290.0bbl	Dumped					
Slug	25.0bbl	De-Gasser					
Reserve	1271.0bbl	De-Sander					
Kill	60.0bbl	De-Silter Centrifuge	0.0bbl				

Marine

Weather on 24 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	17kn	236.0deg	1016.0mbar	12C°	1.2m	236.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
2.0m	0.8deg	1.2deg	317.0deg	240000.00klb	252000.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
1.5m	236.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	209.0
2	197.0
3	234.0
4	201.0
5	214.0
6	205.0
7	194.0
8	212.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks

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Far Scimitar			On location KT4	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		504
				Potable Water	M3		515
				Drill Water	M3		196
					t		55
				Barite	t		0
				Bentonite	t		0
				Brine	M3		165

Far Fosna	06:00 hrs 17/10/09		Standby Rig	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		324
				Pot Water	M3		463
				Drill Water	M3		362
				Bentonite	t		42
				Barite	t		20
					t		130
				Brine	M3		65

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	10:05 hrs / 10:15 hrs	4 / 8	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 25
Trefoil-2

25 Oct 2009

From: Bryan Houston / Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$551,497
Rig	Kan Tan IV	Days from spud	19.67	Shoe MDBRT	930.0m	Cumul. Cost	US$19,230,513
Wtr Dpth(MSL)	69.0m	Days on well	24.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Picking up 5" HWDP.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Continue picking up tubulars, whilst waiting on Schlumberger wireline to arrive. Rig up Schlumberger wireline. Prepare to make mechanical back off.		

Summary of Period 0000 to 2400 Hrs

Pressure tested surface equipment. Made up bullnose jetting assembly. Washed down slowly with jetting tool assembly to above top of fish. RIH with 8 3/8" overshot, attempted to engage fish. No success. Repaired damaged TDS alignment cylinder. POOH with 8 3/8" overshot assembly. RIH with 11 1/4" overshot assembly. Engaged fish and attempted to release 9.625" running tool. No success. POOH. RIH and lay down 12.25" BHA.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Held abandon drill	
Fire Drill	1	1 Day	Main deck - Fire in rubbish container	
Flash Reports	1	0 Days	Damage to TDS Alignment Cylinder	
Permit To Work	22	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	0 Days	Held 2 x General Safety Meeting	
STOP Card	33	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 25 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	P1	0000	0300	3.00	2520.0m	Continued to pressure test choke and kill manifold to 250/5000 psi.
P13	P	P1	0300	0630	3.50	2520.0m	Pressure tested standpipe manifold, top drive and kelly cocks to 250/5000 psi.
P13	TP (WB)	G16	0630	1030	4.00	2520.0m	Made up bullnose jetting tool assembly. RIH from surface to above top of fish washing slowly down with jetting tool assembly at 1250 gpm, 3000 psi. Pumped down choke and kill lines and boosted riser. No significant cuttings observed over shakers. POOH to surface.
P13	P	G11	1030	1130	1.00	2520.0m	Serviced rig equipment.
P13	TP (WB)	G18	1130	1230	1.00	2520.0m	RIH with 8 3/8" overshot assembly, dressed with 6 5/8" spiral grapple. Whilst attempting to engage fish, damaged TDS alignment cylinder.
P13	TP (RE)	G11	1230	1400	1.50	2520.0m	Inspected TDS. Changed out alignment cylinder clevis.
P13	TP (WB)	G18	1400	1430	0.50	2520.0m	POOH with 8 3/8" overshot assembly and laid out same. Inspected overshot at surface and confirmed that overshot had gone over fish as wear was obvious on inside top of bowl.
P13	TP (WB)	G18	1430	2000	5.50	2520.0m	RIH with 11 1/4" overshot assembly, dressed with 7 7/8" spiral grapple. Slowly rotated to the right 2 x turns with 15k down weight, 20,000 ft/lbs torque. Picked up and observed 80k overpull. Attempted to release 9 5/8" running tool with 20,000 ft/lbs

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							torque. Unable to release. No success. Picked up and observed only string weight. POOH to surface.
P13	P	G6	2000	2400	4.00	2520.0m	Laid down 12.25" BHA from derrick, mud motor, MWD tools, 2 x 12.25" stabilisers, 3 x 8.25" drill collars.

Operations For Period 0000 Hrs to 0600 Hrs on 26 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	G6	0000	0330	3.50	2520.0m	Laid down 12.25" BHA from derrick, 5 x 8.25" drill collars, 8" drilling jars.
P13	P	G6	0330	0600	2.50	0.0m	Laid down landing string that was used for 9.625" casing.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 25 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	84	22 Oct 2009	25 Oct 2009	579.00	24.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 25 Oct 2009

WBM Data

Mud Type:	KCl POLYMER	API FL:	3.2cc/30min	Cl:	44500mg/l	Solids(%vol):	4%
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%
Time:	13:00 hrs	HTHP-FL:	9.0cc/30min	Hard/Ca:	380mg/l	Oil(%):	
Weight:	9.45ppg	HTHP-cake:	2/32nd"	MBT:	12	Sand:	
Temp:				PM:	0.3	pH:	9
				PF:	0.2	PHPA:	2ppb

Comment: Note: Cost is in AUD

Cost Today

Viscosity	57sec/qt
PV	14cp
YP	32lb/100ft²
Gels 10s	11
Gels 10m	15
Fann 003	11
Fann 006	13
Fann 100	31
Fann 200	36
Fann 300	46
Fann 600	60

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	0	0	391.0
Drill Water	m3	0	0	0	607.0
Pot Water	m3	0	0	0	140.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	21.0
Bentonite	MT	0	0	0	48.2
Caustic Soda	pail	0	0	0	35.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	56.0
Sodium Bicarbonate	25kg sx	0	0	0	39.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
1	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	220	150	40	270	200	50	350	250
2	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	240	190	40	290	260	50	350	250
3	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	6
Maersk	46
GRN	4
OMS	11
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Others	1
Smith Services	1
Total	89

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2939.0bbl**	**Losses**	**0.0bbl**
Active	293.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1290.0bbl	Dumped	
Slug	25.0bbl	De-Gasser	
Reserve	1271.0bbl	De-Sander	
Kill	60.0bbl	De-Silter Centrifuge	0.0bbl

Equipment	Description	Mesh Size	Comments

Marine

Weather on 25 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	23kn	221.0deg	1023.0mbar	11C°	1.2m	221.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
2.6m	0.5deg	1.6deg	317.0deg	240000.00klb	184920.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
2.2m	221.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	209.0
2	203.0
3	218.0
4	197.0
5	218.0
6	215.0
7	205.0
8	220.0

Vessel Name	Arrived (Date/Time)	Departed	Status	Bulks

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(Date/Time)							
Far Scimitar			On location KT4	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		389
				Potable Water	M3		505
				Drill Water	M3		196
					t		0
				Barite	t		0
				Bentonite	t		0
				Brine	M3		165
Far Fosna	22:00 hrs 25/10/09	23:15 hrs 25/10/09	Enroute to Melbourne	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		324
				Pot Water	M3		463
				Drill Water	M3		362
				Bentonite	t		42
				Barite	t		20
					t		130
				Brine	M3		65

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	08:56 hrs / 08:58 hrs	1 / 0	Smith Fishing

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Printed on 26 Oct 2009

Australian Drilling Associates Pty Ltd

26 Oct 2009

From: Bryan Houston / Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 26
Trefoil-2

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$618,918
Rig	Kan Tan IV	Days from spud	20.67	Shoe MDBRT	930.0m	Cumul. Cost	US$19,849,431
Wtr Dpth(MSL)	69.0m	Days on well	25.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Prepare to make up 11 1/4" overshot assembly.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	RIH with 11 1/4" overshot assembly to top of fish at 81.5mRT and engage fish. Make a mechanical back off. POOH and lay out fish. Prepare to cut casing.		

Summary of Period 0000 to 2400 Hrs

Completed laying down 12.25" BHA. Laid down landing string that was used for 9.625" casing. Worked on TDS alignment. Made up 11 1/4" overshot assembly. RIH to 81.5mRT. Attempted to confirm injection test. No success. POOH to surface. Re-dressed 11 1/4" overshot. Worked on PH85 pipe handler counter balance. RIH with 11 1/4" overshot. Engaged fish and confirmed with 5k overpull. Attempted mechanical back-off of 9 5/8" casing. No success. POOH with fishing assembly. Pipe backed off below pup joint at 52.3m. RIH with 8 3/8" overshot and attempted to engage fish. No success. POOH to surface. Welder modifying 8 3/8" lip guide.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Held abandon drill	
Fire Drill	1	2 Days	Main deck - Fire in rubbish container	
Permit To Work	15	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	1 Day	Held 2 x General Safety Meeting	
STOP Card	25	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 26 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	G6	0000	0330	3.50	2520.0m	Laid down 12.25" BHA from derrick, 5 x 8.25" drill collars, 8" drilling jars.
P13	P	G6	0330	0530	2.00	2520.0m	Laid down landing string that was used for 9.625" casing.
P13	U	G11	0530	0600	0.50	2520.0m	Serviced break and checked TDS mud gooseneck top plug in readiness for Schlumberger wireline operations.
P13	TP (RE)	G11	0600	1130	5.50	2520.0m	Worked on TDS alignment. Removed top drive alignment cylinder. Installed spare alignment cylinder and adjusted as per set-up procedures. Investigated fault finding on the alignment hydraulic system - unsuccessful. Removed alignment cylinder and installed bracket.
P13	TP (WB)	G18	1130	1430	3.00	2520.0m	Made up 11 1/4" overshot assembly dressed with 7 7/8" basket grapple and RIH to above fish at 81.5m. Attempted to confirm injection test. Pumped 1.2 bbls to 3500psi. No success. Bled of pressure and POOH to surface.
P13	TP (WB)	G18	1430	1600	1.50	2520.0m	Re-dressed 11 1/4" overshot assembly with a new 7 7/8" basket grapple and RIH to 51mRT. Torqued each connection to 28,000 ft/lbs.
P13	TP (RE)	G11	1600	1900	3.00	2520.0m	Worked on PH85 pipe handler. Investigated problem with pipe handler counter balance. Set up and adjusted as per Varco torque wrench procedure - unsuccessful. Pipe handler still not operational.
P13	TP	G18	1900	2000	1.00	2520.0m	Held JSA. RIH with 11 1/4" overshot assembly from 51mRT to top of fish at 81.5mRT.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
	(WB)						Torqued each connection to 28,000 ft/lbs. Engaged fish and confirmed with 5klbs overpull. Applied 10,000 ft.lbs of left hand torque. Worked string between 5-10klbs overpull. Increased left hand torque in 2000 ft/lbs increments until torque reached 20,000 ft/lbs. Torque dropped off continued to rotate 4 1/2 turns to the left and weight dropped off.
P13	TP (WB)	G18	2000	2100	1.00	2520.0m	POOH with fishing assembly. Pipe backed off below pup joint. Top of fish #2 at 52.3mRT.
P13	TP (WB)	G18	2100	2230	1.50	2520.0m	Ran in hole with 8 3/8" overshot assembly, dressed with 6 5/8" spiral grapple to above top of fish #2 at 52.3mRT. Made several attempts to engage fish without success.
P13	TP (WB)	G18	2230	2300	0.50	2520.0m	POOH with 8 3/8" overshot assembly to surface.
P13	TP (WB)	G18	2300	2400	1.00	2520.0m	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.

Operations For Period 0000 Hrs to 0600 Hrs on 27 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0130	1.50	2520.0m	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.
P13	TP (WB)	G18	0130	0430	3.00	2520.0m	Ran in hole with 8 3/8" overshot assembly, dressed with modified 11 3/4" x 15" lip guide to top of fish #2 at 52.3mRT. Successfully engaged fish. Pulled out of hole to surface and released fish. Laid out 8 3/8" overshot assembly.
P13	TP (WB)	G18	0430	0600	1.50	2520.0m	Pulled out of hole with the 11 1/4" overshot assembly. Laid down the Dril-Quip EDPHT. Serviced break and laid down 11 1/4" overshot assembly.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 26 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	108	22 Oct 2009	26 Oct 2009	603.00	25.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 26 Oct 2009

WBM Data

Cost Today US$ 702

Mud Type:	KCl POLYMER	API FL:	4.5cc/30min	Cl:	43000mg/l	Solids(%vol):	4%	Viscosity	56sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	13cp
Time:	11:00 hrs	HTHP-FL:	11.5cc/30min	Hard/Ca:	360mg/l	Oil(%):		YP	21lb/100ft²
Weight:	9.45ppg	HTHP-cake:	2/32nd"	MBT:	11	Sand:	.3	Gels 10s	10
Temp:				PM:	0.4	pH:	9	Gels 10m	15
				PF:	0.25	PHPA:	2ppb	Fann 003	9
								Fann 006	11
								Fann 100	23
								Fann 200	30
								Fann 300	34
								Fann 600	47

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	15	0	376.0
Drill Water	m3	0	27	0	580.0
Pot Water	m3	46	25	20	181.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	-3	18.0
Bentonite	MT	0	0	33	81.2
Caustic Soda	pail	0	0	-3	32.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	-41	15.0
Sodium Bicarbonate	25kg sx	0	0	-1	38.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	60	3000	300
2	Continental Emsco	6.50	1.09	97	60	3000	300
3	Continental Emsco	6.50	1.09	97	60	3000	300

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2515.0	30	220	150	40	270	200	50	350	250
2515.0	30	240	190	40	290	260	50	350	250
2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	4
Maersk	47
GRN	3
OMS	11
Nopsa	2
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	1
Schlumberger	4
Others	1
Total	92

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	2874.0bbl
Active	663.0bbl
Mixing	0.0bbl
Hole	1151.0bbl
Slug	25.0bbl
Reserve	975.0bbl
Kill	60.0bbl

Losses	6.4bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	0.0bbl
trip	6.4bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom

Comments

Marine

Weather on 26 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	8kn	215.0deg	1028.0mbar	11C°	0.6m	200.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	0.5deg	1.2deg	317.0deg	240000.00klb	181872.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
1.8m	221.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	203.0
2	210.0
3	202.0
4	213.0
5	230.0
6	215.0
7	200.0
8	214.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			On location KT4

Item	Unit	Used	Quantity
Rig Fuel	M3		385
Potable Water	M3		500
Drill Water	M3		196
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	22:00 hrs 25/10/09	23:15 hrs 25/10/09	Enroute to Melbourne

Item	Unit	Used	Quantity
Rig Fuel	M3		324
Pot Water	M3		463
Drill Water	M3		362
Bentonite	t		42
Barite	t		20
	t		130
Brine	M3		65

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:12 hrs / 09:22 hrs	10 / 8	Crew change
2	Bristow Helicopters	13:02 hrs / 13:11 hrs	4 / 3	Crew change

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Printed on 26 Oct 2009

Australian Drilling Associates Pty Ltd ADA

27 Oct 2009

From: Bryan Houston / Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 27
Trefoil-2

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$567,343
Rig	Kan Tan IV	Days from spud	21.67	Shoe MDBRT	930.0m	Cumul. Cost	US$20,416,774
Wtr Dpth(MSL)	69.0m	Days on well	26.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Troubleshoot TDS hydraulic system.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Continue to troubleshoot TDS hydraulic system whilst waiting on fishing tools.		

Summary of Period 0000 to 2400 Hrs

Modified 8 3/8" lip guide. RIH with 8 3/8" overshot, engaged and retrieved fish at 52.3m. POOH to surface. Made up 11 1/4" overshot. Worked on TDS hydraulic system. RIH with 11 1/4" overshot, engaged fish and attempted to mechanically back off casing. No success. POOH to surface. RIH with reverse circulating junk basket. Washed top of fish. POOH to surface. Modified basket grapple. RIH with 11 1/4" overshot. Engaged fish with 20klbs to 25klbs overpull. Applied left hand torque, string jumped and overshot slipped free. Made several more attempts. No success. POOH to surface. Picked up 9 x 6.75" drill collars and racked in derrick.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	3 Days	Held abandon drill	
Fire Drill	1	3 Days	Main deck - Fire in rubbish container	
Permit To Work	12	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	2 Days	Held 2 x General Safety Meeting	
STOP Card	29	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 27 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0130	1.50	2520.0m	Modified 8 3/8" lip guide. Welder fabricated and welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide.
P13	TP (WB)	G18	0130	0430	3.00	2520.0m	RIH with 8 3/8" overshot assembly, dressed with modified 11 3/4" x 15" lip guide to top of fish #2 at 52.3mRT. Successfully engaged fish. POOH to surface and released fish. Laid out 8 3/8" overshot assembly.
P13	TP (WB)	G18	0430	0600	1.50	2520.0m	POOH with the 11 1/4" overshot assembly. Laid down the Dril-Quip EDPHT. Serviced break and laid down 11 1/4" overshot assembly.
P13	TP (RE)	G11	0600	0830	2.50	2520.0m	Made up 11 1/4" overshot assembly dressed with 7 7/8" basket grapple. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. RIH to above fish at 61m.
P13	TP (DH)	G18	0830	0930	1.00	2520.0m	Investigated and continued to trouble shoot problems with TDS hydraulic system. No success.
P13	TP (WB)	G18	0930	1230	3.00	2520.0m	RIH with 11 1/4" overshot assembly from 61m to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish and attempted to mechanically back off casing with 50klbs overpull and 24,000 ft/lbs left hand torque. Bowen overshot prematurely released from fish. Made several attempts without success. POOH to inspect overshot and grapple. Checked basket grapple, slight wear 3 inches of wickers were worn flat.
P13	TP	G18	1230	1630	4.00	2520.0m	Made up reverse circulating junk basket assembly. RIH to top of fish at 81.5m. Closed

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
	(WB)						lower annular 3 times, monitored flow meter, opened annular pumped 5 bbls hi-vis and circulated up riser and observed shakers. No excess cuttings observed. Performed injection test, pumped 3.2 bbls, 950 psi. Pressure dropped to 750 psi. Pumped 1.3 bbls at 950 psi. Bled off slowly to 900 psi. Pressure steady at 900 psi. Washed top of fish. Bleed of pressure and opened annular. POOH to surface.
P13	TP (WB)	G18	1630	1900	2.50	2520.0m	Modified basket grapple. Welded numerous beads on the outside of a new 7 7/8" basket grapple to reduce the size of the catch. Re-dressed 11 1/4" overshot assembly.
P13	TP (WB)	G18	1900	2100	2.00	2520.0m	RIH with 11 1/4" overshot assembly to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish with 20k to 25k overpull. Applied left hand torque, string jumped and overshot slipped free. Made several more attempts, without success. POOH to surface. Checked basket grapple, the first 2 to 3 inches of wickers were worn flat.
P12	P	G2	2100	2400	3.00	2520.0m	Held JSA. Picked up and racked back 9 x 6.75" drill collars in derrick.

Operations For Period 0000 Hrs to 0600 Hrs on 28 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P12	P	G2	0000	0100	1.00	2520.0m	Laid down Halliburton SSR cement head.
P12	P	G2	0100	0200	1.00	2520.0m	Picked up and made up 2 x 6.75" drill collars and 1 x 6.75" drilling jars and racked back in derrick.
P12	P	G2	0200	0530	3.50	2520.0m	Installed diverter and wiper rubber. Picked up 9 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift. Moved 2 x stands of 5" HWDP from port to starboard side of derrick.
P12	P	G11	0530	0600	0.50	2520.0m	Serviced TDS.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 27 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	129	22 Oct 2009	27 Oct 2009	624.00	26.000	2520.0m
Production Hole (2)(P12)	3	27 Oct 2009	27 Oct 2009	627.00	26.125	2520.0m

WBM Data — Cost Today US$ 396

Mud Type:	KCl POLYMER	API FL:	4.8cc/30min	Cl:	42500mg/l	Solids(%vol):	3%	Viscosity	57sec/qt
Sample-From:	4	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	94%	PV	12cp
Time:	11:00 hrs	HTHP-FL:	12.5cc/30min	Hard/Ca:	400mg/l	Oil(%):		YP	21lb/100ft²
Weight:	9.44ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:	.3	Gels 10s	11
Temp:				PM:	0.4	pH:	9	Gels 10m	15
				PF:	0.25	PHPA:	2ppb	Fann 003	10
								Fann 006	11
								Fann 100	23
								Fann 200	30
								Fann 300	33
								Fann 600	45

Comment — Note: Cost is in AUD

BHA # 8

Weight(Wet)		Length	93.4m	Torque(max)		D.C. (1) Ann Velocity	
Wt Below Jar(Wet)		String	165000.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	
		Pick-Up	165000.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	
		Slack-Off	170000.00klb			D.P. Ann Velocity	

BHA Run Description: 11 1/4" Overshot assembly, dressed with a 7 7/8" spiral grapple.

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Overshot	2.06m	11.25in	7.88in	62580G	
X/Over	1.09m	8.38in	3.00in	1792	
Bumper sub	1.89m	6.50in	2.25in	GK0267	

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Equipment	Length	OD	ID	Serial #	Comment
Pup Joint	1.56m	5.00in	3.00in		
HWDP	9.45m	5.00in	3.00in	986	
HWDP	9.47m	5.00in	3.00in	977	
HWDP	9.46m	5.00in	3.00in	968	
HWDP	9.43m	5.00in	3.00in	972	
HWDP	9.44m	5.00in	3.00in	975	
HWDP	9.47m	5.00in	3.00in	973	
HWDP	9.47m	5.00in	3.00in	989	
HWDP	9.43m	5.00in	3.00in	980	
HWDP	9.46m	5.00in	3.00in	966	

BHA # 9

Weight(Wet)	Length	89.7m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	165000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	165000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	170000.00klb		D.P. Ann Velocity

BHA Run Description	Reverse circulating junk basket assembly
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Rev Circ Junk Basket	1.90m	15.00in	13.63in	GK0136	
X/Over	1.09m	8.38in	3.00in	1792	
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		
Drill Pipe	9.64m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.63m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drillpipe	9.64m	5.00in	4.28in		

BHA # 10

Weight(Wet)	Length	93.4m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	165000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	165000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	170000.00klb		D.P. Ann Velocity

BHA Run Description	Modified basket grapple. Welded numerous beads on the outside of a new 7 7/8" basket grapple to reduce the size of the catch.
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Overshot	2.06m	11.25in	7.88in	62580G	
X/Over	1.09m	8.38in	3.00in	1792	
Bumper sub	1.89m	6.50in	2.25in	GK0267	
Pup Joint	1.56m	5.00in	3.00in		
HWDP	9.45m	5.00in	3.00in	986	
HWDP	9.47m	5.00in	3.00in	977	
HWDP	9.46m	5.00in	3.00in	968	
HWDP	9.43m	5.00in	3.00in	972	
HWDP	9.44m	5.00in	3.00in	975	
HWDP	9.47m	5.00in	3.00in	973	
HWDP	9.47m	5.00in	3.00in	989	
HWDP	9.43m	5.00in	3.00in	980	
HWDP	9.46m	5.00in	3.00in	966	

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10	0	366.0
Drill Water	m3	0	8	0	572.0
Pot Water	m3	26	28	0	179.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	0	0	32.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	15.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	60	3000	300
2	Continental Emsco	6.50	1.09	97	60	3000	300
3	Continental Emsco	6.50	1.09	97	60	3000	300

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2515.0	30	220	150	40	270	200	50	350	250
2515.0	30	240	190	40	290	260	50	350	250
2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	4
Maersk	47
GRN	3
OMS	12
Nopsa	2
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	1
Others	2
Total	90

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	2829.6bbl
Active	619.0bbl
Mixing	0.0bbl
Hole	1150.6bbl
Slug	25.0bbl
Reserve	975.0bbl
Kill	60.0bbl

Losses	45.1bbl
Downhole	
Surf+ Equip	4.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	41.1bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom

Comments

Marine

Weather on 27 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	3kn	175.0deg	1024.0mbar	15C°	0.3m	175.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.6m	0.7deg	1.4deg	317.0deg	240000.00klb	172728.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
0.9m	175.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	206.0
2	218.0
3	210.0
4	207.0
5	222.0
6	211.0
7	202.0
8	226.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			On location KT4

Item	Unit	Used	Quantity
Rig Fuel	M3		381
Potable Water	M3		495
Drill Water	M3		196
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna			Melbourne

Item	Unit	Used	Quantity
Rig Fuel	M3		324
Pot Water	M3		463
Drill Water	M3		362
Bentonite	t		42
Barite	t		20
	t		130
Brine	M3		65

Have not received a vessel daily report for several days.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	13:05 hrs / 13:15 hrs	2 / 4	Crew change

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Printed on 27 Oct 2009

Australian Drilling Associates Pty Ltd ADA

28 Oct 2009

From: Bryan Houston / Peter Dane
To: Texas Richards

DRILLING MORNING REPORT # 28
Trefoil-2

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$576,391
Rig	Kan Tan IV	Days from spud	22.67	Shoe MDBRT	930.0m	Cumul. Cost	US$20,993,165
Wtr Dpth(MSL)	69.0m	Days on well	27.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Making up 8 3/8" overshot, dressed with 6 3/4" spiral grapple.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Continue to fish 11-1/4" overshot, retrieve fish to surface. RIH and fish 11-3/4" overshot, POOH with fish. Make up 11-3/4" overshot and RIH, engage fish and shear casing and work running tool free.		

Summary of Period 0000 to 2400 Hrs

Laid down Halliburton SSR cement head. Picked up 8.5" BHA and racked back in derrick. Investigated problems with TDS hydraulic system. RIH with 11-1/4" overshot assembly. Engaged fish and attempted to back off casing. No success. POOH. RIH with 11-3/4" overshot assembly. Engaged fish and attempted to back off casing. POOH to surface. Left overshot, bumper sub and jars in hole. Fish #2 at 74.7mRT

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	4 Days	Held abandon drill	
Fire Drill	1	4 Days	Main deck - Fire in rubbish container	
Flash Reports	43	0 Days	Debris on helicopter rotor head	
Incident	1	0 Days	Flying Object Debris	
Permit To Work	11	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	3 Days	Held 2 x General Safety Meeting	
STOP Card	35	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 28 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	G2	0000	0100	1.00	2520.0m	Laid down Halliburton SSR cement head.
P13	P	G2	0100	0300	2.00	2520.0m	Picked up and made up 2 x 6.75" drill collars and 1 x 6.75" drilling jars and racked back in derrick.
P13	P	G2	0300	0630	3.50	2520.0m	Installed diverter and wiper rubber. Picked up 9 x 5" HWDP and racked back same in derrick. Drifted all tubulars with 3" drift. Moved 2 x stands of 5" HWDP from port to starboard side of derrick.
P13	P	G2	0630	0730	1.00	2520.0m	Picked up 9 joints of 5" drill pipe and racked back in derrick. Drifted all tubulars with 3" drift.
P13	TP (RE)	G11	0730	1030	3.00	2520.0m	Investigated problems with TDS hydraulic system.
P13	TP (WB)	G18	1030	1500	4.50	2520.0m	RIH with 11 1/4" overshot assembly to above fish at 81.5m. Cleaned all boxes and pins with diesel and made up each connection dry. Torqued each connection to 32,000 ft/lbs. Engaged fish with 50klb overpull. Applied 20,000 ft/lbs left hand torque, torque slipped. Attempted to engage grapple numerous times. No success. POOH to surface.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							Checked basket grapple, the first 2 to 3 inches of wickers were worn flat.
P13	TP (WB)	G18	1500	1930	4.50	2520.0m	Made up 11-3/4" overshot, dressed with 7-3/4" basket grapple, bumper sub, jars, 4 x 8" drill collars, accelerator, crossover. Changed out damaged 8" drill collar. Torqued each 6 5/8" connection to 56,000 ft/lbs
P13	TP (WB)	G18	1930	2400	4.50	2520.0m	RIH with 11-3/4" overshot assembly to above fish at 81.5m. Engaged fish, confirmed with 10k overpull. Began jarring lightly on fish. Slacked off to 160klb and picked up to 230klb - jars firing. Made several attempts, unsuccessful. Set torque limit to 30,000 ft/lbs. Applied 27,000 ft.lbs of left hand torque (23 turns). String jumped. POOH to surface. Observed top sub connection on Jars had backed off, leaving the 11 3-4" overshot, bumper sub and jars in the hole. Top of fish #2 at 74.7mRT

Operations For Period 0000 Hrs to 0600 Hrs on 29 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0230	2.50	2520.0m	RIH with 11-1/4" overshot, dressed with 8" basket grapple to top of fish at 74.7mRT (fish #2). Made several attempts to engage fish, without success. POOH to surface to change basket grapple. All connections were torqued to 32,000 ft/lbs on previous run.
P13	TP (WB)	G18	0230	0400	1.50	2520.0m	RIH with 11-1/4" overshot, dressed with 7-7/8" basket grapple to top of fish at 74.7mRT (fish #2.) Made several attempts to engage, without success. POOH to surface. Maximum left hand torque applied 6000 ft/lbs to attempt to engage fish. At surface observed the 11-1/4" overshot and crossover missing.
P13	TP (WB)	G18	0400	0600	2.00	2520.0m	Ran back in hole and attempted to screw back into the top of the 11-1/4" overshot at 73.3mRT (fish #3). No success. POOH to surface

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 28 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	156	22 Oct 2009	28 Oct 2009	651.00	27.125	2520.0m

WBM Data — Cost Today US$ 19204

Mud Type:	KCl POLYMER	API FL:	4.8cc/30min	Cl:	42000mg/l	Solids(%vol):	3%	Viscosity	59sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	11cp
Time:	11:00 hrs	HTHP-FL:	13.0cc/30min	Hard/Ca:	400mg/l	Oil(%):		YP	23lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:	.3	Gels 10s	11
Temp:				PM:	0.3	pH:	9	Gels 10m	16
				PF:	0.2	PHPA:	2ppb	Fann 003	10
								Fann 006	12
								Fann 100	24
								Fann 200	30
								Fann 300	34
								Fann 600	45

Comment — Note: Cost is in AUD

BHA # 12

Weight(Wet)		Length	90.0m	Torque(max)		D.C. (1) Ann Velocity	
Wt Below Jar(Wet)		String	175000.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	
		Pick-Up	175000.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	
		Slack-Off	180000.00klb			D.P. Ann Velocity	

BHA Run Description: 11-3/4" overshot, dressed with 7-3/4" basket grapple

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Overshot	1.90m	11.75in	7.75in		
Bumper sub	1.74m	6.63in	8.00in	26596	
Fishing Jar	3.71m	6.63in	3.00in	72978	
Drill Collar	9.30m	8.00in	2.88in		

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Equipment	Length	OD	ID	Serial #	Comment
Drill Collar	9.43m	8.00in	2.88in		
Drill Collar	9.43m	8.00in	2.88in	1168	
Drill Collar	9.39m	8.00in	2.88in	1162	
Accelerator	5.48m	6.63in	3.00in	802066	
X/Over Sub	1.11m	5.00in	2.75in		
Drill Pipe	9.57m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		

BHA # 11

Weight(Wet)	Length	93.4m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	175000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	175000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	180000.00klb		D.P. Ann Velocity

BHA Run Description: 11 1/4"" Overshot assembly, dressed with a 7 7/8" spiral grapple.

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Overshot	2.06m	11.25in	7.88in	62580G	
X/Over	1.09m	8.38in	3.00in	1792	
Bumper sub	1.89m	6.50in	2.25in	GK0267	
Pup Joint	1.56m	5.00in	3.00in		
HWDP	9.45m	5.00in	3.00in	986	
HWDP	9.47m	5.00in	3.00in	977	
HWDP	9.46m	5.00in	3.00in	968	
HWDP	9.43m	5.00in	3.00in	972	
HWDP	9.44m	5.00in	3.00in	975	
HWDP	9.47m	5.00in	3.00in	973	
HWDP	9.47m	5.00in	3.00in	989	
HWDP	9.43m	5.00in	3.00in	980	
HWDP	9.46m	5.00in	3.00in	966	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	13	0	353.0
Drill Water	m3	0	5	0	567.0
Pot Water	m3	21	27	0	173.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	0	0	32.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	15.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	60	3000	300

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2515.0	30	220	150	40	270	200	50	350	250

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
2	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	240	190	40	290	260	50	350	250
3	Continental Emsco	6.50	1.09	97	60	3000	300	2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	4
Maersk	47
GRN	3
OMS	12
Nopsa	2
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	1
Others	2
Total	90

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

				Equipment	Description	Mesh Size	Comments
Available	**2782.6bbl**	**Losses**	**0.0bbl**	Shaker 1	Brandt VSM 300	20 top/100bottom	
Active	617.0bbl	Downhole		Shaker 1	Brandt VSM 300	20 top/100bottom	
Mixing	0.0bbl	Surf+ Equip	0.0bbl	Shaker 2	Brandt VSM 300	20 top/100bottom	
Hole	1150.6bbl	Dumped		Shaker 2	Brandt VSM 300	20 top/100bottom	
Slug		De-Gasser		Shaker 3	Brandt VSM 300	20 top/100bottom	
Reserve	1015.0bbl	De-Sander		Shaker 3	Brandt VSM 300	20 top/100bottom	
Kill		De-Silter		Shaker 4	Brandt VSM 300	20 top/100bottom	
		Centrifuge		Shaker 4	Brandt VSM 300	20 top/100bottom	

Marine

Weather on 28 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	3kn	70.0deg	1025.0mbar	11C°	0.3m	120.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.2m	0.7deg	1.4deg	317.0deg	240000.00klb	215401.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
0.9m	120.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	178.0
2	192.0
3	196.0
4	213.0
5	235.0
6	213.0
7	191.0
8	210.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			On location KT4

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		375

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				Item	Unit	Used	Quantity
				Potable Water	M3		490
				Drill Water	M3		196
					t		0
				Barite	t		0
				Bentonite	t		0
				Brine	M3		165

				Item	Unit	Used	Quantity
Far Fosna			Enroute to rig	Rig Fuel	M3		565
				Pot Water	M3		595
				Drill Water	M3		362
				Bentonite	t		20
				Barite	t		20
					t		130
				Brine	M3		65

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:17 hrs / 09:46 hrs	10 / 10	Crew change
2	Bristow Helicopters	15:42 hrs / 16:24 hrs	0 / 0	Freight - Fishing Tools

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Printed on 28 Oct 2009

Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 29
Trefoil-2

29 Oct 2009

From: Bryan Houston / Peter Dane
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$557,193
Rig	Kan Tan IV	Days from spud	23.67	Shoe MDBRT	930.0m	Cumul. Cost	US$21,550,358
Wtr Dpth(MSL)	69.0m	Days on well	28.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Laying down excess fishing tools.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Make up 11-1/4" overshot assembly for the next fish run and continue with fishing program.		

Summary of Period 0000 to 2400 Hrs

RIH with BHA #13, 11-1/4" overshot assembly, dressed with 8" basket grapple. Attempted to engage fish #2 at 74.7m. No success. RIH with RRBHA #13. Made several attempts to engage fish #2, without success. POOH to surface. At surface observed the 11-1/4" overshot and crossover missing. Ran back in hole and attempted to screw in without success. POOH to surface. Modified 8 3/8" overshot. RIH with BHA#14, 8 3/8" overshot dressed with 6 3/4" spiral grapple to top of fish #3 at 73.3mRT. Made several attempts to engage fish without success. POOH to surface and re-dressed overshot. Re-ran BHA #14 and attempted to engage fish #3, without success. POOH to surface. Made up BHA #15, 11-3/4" overshot, dressed with 6-3/4" basket grapple. RIH and attempted to retrieve fish#3 without success.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	5 Days	Held abandon drill	
Fire Drill	1	5 Days	Main deck - Fire in rubbish container	
Permit To Work	11	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	4 Days	Held 2 x General Safety Meeting	
STOP Card	42	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 29 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0230	2.50	2520.0m	RIH with 11-1/4" overshot (BHA #13), dressed with 8" basket grapple to top of fish at 74.7mRT (fish #2). Made several attempts to engage fish, without success. POOH to surface to change basket grapple. All connections were torqued to 32,000 ft/lbs on previous run.
P13	TP (WB)	G18	0230	0400	1.50	2520.0m	RIH with 11-1/4" overshot (BHA #13), dressed with 7-7/8" basket grapple to top of fish at 74.7mRT (fish #2.) Made several attempts to engage, without success. POOH to surface. Maximum left hand torque applied 6000 ft/lbs to attempt to engage fish. At surface observed the 11-1/4" overshot and crossover missing.
P13	TP (WB)	G18	0400	0630	2.50	2520.0m	Ran back in hole and attempted to screw back into the top of the 11-1/4" overshot at 73.3mRT (fish #3). No success. POOH to surface
P13	TP (WB)	G18	0630	0800	1.50	2520.0m	Modified 8 3/8" overshot, and dressed with 6 3/4" spiral grapple.
P13	TP (WB)	G18	0800	1200	4.00	2520.0m	RIH with 8 3/8" overshot (BHA #14) dressed with a 6 3/4" spiral grapple to top of fish #3 at 73.3mRT. Made several attempts to engage fish #3 without success. POOH to surface.
P13	TP (RE)	G11	1200	1300	1.00	2520.0m	Changed out burst hose on compensator lock bar.
P13	TP	G18	1300	1530	2.50	2520.0m	Re-dressed overshot. Cleaned and painted same. RIH with 8 3/8" overshot (BHA #14)

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
	(WB)						dressed with a 6 3/4" spiral grapple, to top of fish #3 at 73.3mRT. Made several more attempts to engage fish #3, without success. POOH to surface.
P13	TP (WO)	G11	1530	1730	2.00	2520.0m	Waited on helicopter to arrive with fishing tools and NOV engineer to troubleshoot malfunction of PH85 pipe handler on TDS.
P13	TP (WB)	G18	1730	2000	2.50	2520.0m	Made up BHA #15, 11-3/4" overshot, dressed with a 6 3/4" basket grapple
P13	TP (WB)	G18	2000	2200	2.00	2520.0m	RIH with BHA #15 to top of fish #3 at 73.3m. Attempted to engage fish. POOH to surface. No success
P13	TP (WB)	G18	2200	2230	0.50	2520.0m	Changed out mill control from 6-3/4" to 8". Beveled mill control.
P13	TP (WB)	G18	2230	2330	1.00	2520.0m	RIH with BHA #15, 11 3/4" overshot, dressed with 6-3/4" basket grapple. Attempted to engage fish. POOH to surface. No success.
P13	TP (WB)	G18	2330	2400	0.50	2520.0m	Commenced changing out basket grapple.

Operations For Period 0000 Hrs to 0600 Hrs on 30 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0130	1.50	2520.0m	Dressed the 11-1/4" overshot with a 8-1/4" basket grapple.
P13	TP (WB)	G18	0130	0230	1.00	2520.0m	RIH with 11-1/4" overshot assembly dressed with 8-1/4" basket grapple (RR BHA #15). Pick up weight 160 klbs, slack off weight 170klbs. Rotated at 40 rpm and engaged fish with 5klbs, confirmed with 20klbs overpull, slacked off 5klbs, at 30 rpm string jumped, lost all weight, slacked back off with 10klbs, picked back up with 50klbs overpull. String jumped. Attempted to release the overshot, but the top one released first.
P13	TP (WB)	G18	0230	0400	1.50	2520.0m	POOH to surface. No fish. Inspected 11-1/4" overshot assembly. The markings on the overshot showed that the guide was bottoming out on the larger OD of the fish, before it was into the grapple enough to get a firm grip. The bottom two or three wickers of the grapple, had blue as well as green paint (the colors of the cross over and the overshot).
P13	TP (WB)	G18	0400	0600	2.00	2520.0m	Laid down excess fishing tools (11-3/4" overshot assembly, reverse circulating assembly). Made up 11-1/4" overshot assembly for the next fish run.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 29 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	180	22 Oct 2009	29 Oct 2009	675.00	28.125	2520.0m

WBM Data — Cost Today US$ 54

Mud Type:	KCl POLYMER	API FL:	4.8cc/30min	Cl:	42000mg/l	Solids(%vol):	3%
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%
Time:	11:00 hrs	HTHP-FL:	13.0cc/30min	Hard/Ca:	400mg/l	Oil(%):	
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	12	Sand:	.3
Temp:				PM:	0.4	pH:	9
				PF:	0.2	PHPA:	2ppb

Comment — Note: Cost is in AUD

Viscosity	60sec/qt
PV	12cp
YP	23lb/100ft²
Gels 10s	11
Gels 10m	15
Fann 003	11
Fann 006	12
Fann 100	25
Fann 200	31
Fann 300	35
Fann 600	47

BHA # 14F

Weight(Wet)		Length	88.2m	Torque(max)		D.C. (1) Ann Velocity	
Wt Below Jar(Wet)		String	175000.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	
		Pick-Up	175000.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	
		Slack-Off	180000.00klb			D.P. Ann Velocity	

BHA Run Description — 8-3/8" overshot, dressed with 6-3/4" SPIRAL grapple

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BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Overshot	1.47m	11.25in	7.88in	A390221	
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.67m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		
Drill Pipe	9.64m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.63m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		

BHA # 15F

Weight(Wet)	Length	92.4m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	175000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	175000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	180000.00klb		D.P. Ann Velocity

BHA Run Description: 11-3/4" overshot, dressed with 6-3/4" basket grapple

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Overshot	2.92m	11.75in	6.75in	89384	
X/Over Sub	1.22m				
Pup Joint	1.52m				
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.67m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		
Drill Pipe	9.64m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.63m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		

BHA # 13F

Weight(Wet)	Length	93.2m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	175000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	175000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	180000.00klb		D.P. Ann Velocity

BHA Run Description: 11-1/4" overshot, dressed with 7-7/8" basket grapple

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Overshot	1.86m	11.25in	7.88in	A30221-1	
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.67m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		
Drill Pipe	9.64m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.63m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10	0	343.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Drill Water	m3	0	0	0	567.0
Pot Water	m3	28	26	0	175.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	0	0	32.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	15.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97	60	3000	300
2	Continental Emsco	6.50	1.09	97	60	3000	300
3	Continental Emsco	6.50	1.09	97	60	3000	300

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2515.0	30	220	150	40	270	200	50	350	250
2515.0	30	240	190	40	290	260	50	350	250
2515.0	30	200	150	40	270	200	50	350	260

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	5
Maersk	47
GRN	3
OMS	12
Nopsa	2
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	1
Others	2
Total	91

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	2782.6bbl
Active	617.0bbl
Mixing	0.0bbl
Hole	1150.6bbl
Slug	
Reserve	1015.0bbl
Kill	

Losses	0.0bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom

Comments

Ez Spot Pill - Composition:
Amodrill1235 - 20.7bbl
Drill water - 10.2bbl
EZ SPOT - 4bbl
Barite to mud weight 9.4ppg

Pumped @ 1200 initial volume pumped 14bbls, thereafter 2-3bbls every half hour

Marine

Weather on 29 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	26kn	60.0deg	1019.0mbar	11C°	0.9m	60.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.7m	0.9deg	2.2deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
1.8m	60.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	173.0
2	194.0
3	200.0
4	224.0
5	252.0
6	222.0
7	195.0
8	191.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			Alongside No 27 South Wharf Melbourne.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		683
Potable Water	M3		485
Drill Water	M3		336
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna			Standby at rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		550
Pot Water	M3		587
Drill Water	M3		362
Bentonite	t		42
Barite	t		20
	t		130
Brine	M3		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	10:54 hrs / 11:04 hrs	4 / 4	Crew change
2	Bristow Helicopters	16:28 hrs / 16:37 hrs	1 / 0	Freight - Fishing Tools

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Australian Drilling Associates Pty Ltd ADA

30 Oct 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 30
Trefoil-2

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$559,803
Rig	Kan Tan IV	Days from spud	24.67	Shoe MDBRT	930.0m	Cumul. Cost	US$22,110,161
Wtr Dpth(MSL)	69.0m	Days on well	29.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Continue to troubleshoot top drive & Iron roughneck hydraulic unit.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Continue to troubleshoot top drive & Iron roughneck hydraulic unit. Continued to attempt to retrieve fish from hole with overshot & grapple coming from town.		

Summary of Period 0000 to 2400 Hrs

RIH with 11-1/4" overshot assembly dressed with 8-1/4" basket grapple. Rotated and engaged fish. Confirmed with overpull, slacked off weight and string jumped. Attempted to release the overshot, but the top one released first. POOH. RIH with 8 3/8" overshot with 6 3/4" grapple & modified overshot on 5" DP. Set down 10klbs with rotation - no success, POOH. RIH with modified pup joint and lip guide. Attempted to screw into fish - unsuccessful - POOH.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	6 Days	Held abandon drill	
Fire Drill	1	6 Days	Main deck - Fire in rubbish container	
Permit To Work	10	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	5 Days	Held 2 x General Safety Meeting	
STOP Card	30	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 30 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0130	1.50	2520.0m	Dressed the 11-1/4" overshot with a 8-1/4" basket grapple.
P13	TP (WB)	G18	0130	0230	1.00	2520.0m	RIH with 11-1/4" overshot assembly dressed with 8-1/4" basket grapple (RR BHA #15). Pick up weight 160 klbs, slack off weight 170klbs. Rotated at 40 rpm and engaged fish with 5klbs, confirmed with 20klbs overpull, slacked off 5klbs, at 30 rpm string jumped, lost all weight, slacked back off with 10klbs, picked back up with 50klbs overpull. String jumped. Attempted to release the overshot, but the top one released first.
P13	TP (WB)	G18	0230	0400	1.50	2520.0m	POOH to surface. No fish. Inspected 11-1/4" overshot assembly. The markings on the overshot showed that the guide was bottoming out on the larger OD of the fish, before it could engage the grapple enough to get a firm grip. The bottom two or three wickers of the grapple, had blue as well as green paint (the colors of the cross over and the overshot).
P13	TP (WB)	G18	0400	0900	5.00	2520.0m	Laid down excess fishing tools (11-3/4" overshot assembly, reverse circulating assembly). Made up 11-1/4" overshot assembly.
P13	TP (WB)	G18	0900	1030	1.50	2520.0m	Prepare and RIH with 8 3/8" overshot with 6 3/4" grapple and modified overshot on 5" DP. Set down 10klbs with rotation, no torque or overpull, POOH same.
P13	TP (WB)	G18	1030	1400	3.50	2520.0m	Prepare and RIH 11 1/4" overshot with 8 1/4" grapple on 5" DP. Set down 10klbs with rotation, pick up and set down with 15klbs with rotation with right hand torque

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Printed on 31 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							(7000ft/lbs), left hand torque (7000ft/lbs). POOH same.
P13	TP (WB)	G18	1400	1830	4.50	2520.0m	Trouble shoot problems with top drive & elmago brake while 8 3/8" overshot at welders for modifcation. Make top drive secure prepare 8 3/8" overshot with modified pup joint.
P13	TP (WB)	G18	1830	2030	2.00	2520.0m	Makeup modified pup joint & lip guide & RIH to top of fish at 73.7m. BHA #16F. Pump at 10spm and tag top of fish. Rotate & attempt to screw modified overshot & pupjoint into fish with no success. POOH same. Score marks inside overshot where top of fish had been rubbing indicated fish entered skirt but pin on pup joint failed to enter tool joint box of the fish.
P13	TP (WB)	G18	2030	2400	3.50	2520.0m	RIH with open ended single of DP to tag top of fish. Attempt to stab DP into 4 1/2" IF box of fish. Trimmed rig forward and aft, port & stbd and reciprocated string.

Operations For Period 0000 Hrs to 0600 Hrs on 31 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0100	1.00	2520.0m	POOH with open ended string. No visible marks on DP single.
P13	TP (WB)	G11	0100	0600	5.00	2520.0m	Troubleshooting topdrive and iron roughneck hydraulic unit.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 30 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	204	22 Oct 2009	30 Oct 2009	699.00	29.125	2520.0m

WBM Data — Cost Today US$ 1507

Mud Type:	KCl POLYMER	API FL:	4.8cc/30min	Cl:	42000mg/l	Solids(%vol):	3%	Viscosity	61sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	13cp
Time:	11:00 hrs	HTHP-FL:	13.0cc/30min	Hard/Ca:	400mg/l	Oil(%):		YP	24lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:	.3	Gels 10s	11
Temp:				PM:	0.3	pH:	9	Gels 10m	15
				PF:	0.2	PHPA:	2ppb	Fann 003	11
								Fann 006	12
								Fann 100	24
								Fann 200	31
								Fann 300	37
								Fann 600	50

Comment — Note: Cost is in AUD

BHA # 14F

Weight(Wet)		Length	88.2m	Torque(max)		D.C. (1) Ann Velocity	
Wt Below Jar(Wet)		String	175000.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	
		Pick-Up	175000.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	
		Slack-Off	180000.00klb			D.P. Ann Velocity	

BHA Run Description: 8-3/8" overshot, dressed with 6-3/4" SPIRAL grapple

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Overshot	1.47m	11.25in	7.88in	A390221	
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.67m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		
Drill Pipe	9.64m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.63m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		

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Equipment	Length	OD	ID	Serial #	Comment
Drill Pipe	9.66m	5.00in	4.28in		

BHA # 15F

Weight(Wet)	Length	92.4m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	175000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	175000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	180000.00klb		D.P. Ann Velocity

BHA Run Description	11-3/4" overshot, dressed with 6-3/4" basket grapple
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Overshot	2.92m	11.75in	6.75in	89384	
X/Over Sub	1.22m				
Pup Joint	1.52m				
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.67m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		
Drill Pipe	9.64m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.63m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		

BHA # 13F

Weight(Wet)	Length	93.2m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	175000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	175000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	180000.00klb		D.P. Ann Velocity

BHA Run Description	11-1/4" overshot, dressed with 7-7/8" basket grapple
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Overshot	1.86m	11.25in	7.88in	A30221-1	
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.67m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		
Drill Pipe	9.64m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.63m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		

BHA # 16F

Weight(Wet)	Length	87.0m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	175000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	175000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	185000.00klb		D.P. Ann Velocity

BHA Run Description	Modified pupjoint with lipguide
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Overshot	1.81m	15.00in	4.00in	GESL526/07	Pupjoint inside overshot.
HWDP	9.32m	5.00in	4.00in	968	
HWDP	9.34m	5.00in	4.00in	981	
HWDP	9.36m	5.00in	4.00in	996	

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Equipment	Length	OD	ID	Serial #	Comment
HWDP	9.43m	5.00in	4.00in	993	
HWDP	9.43m	5.00in	4.00in	984	
HWDP	9.41m	5.00in	4.00in	994	
Drill Pipe	9.64m	5.00in	4.00in		
Drill Pipe	9.64m	5.00in	4.00in		
Drill Pipe	9.64m	5.00in	4.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10	0	333.0
Drill Water	m3	0	0	0	567.0
Pot Water	m3	28	26	0	177.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	149.7
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	0	0	32.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	11	0	0	26.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Rig Fuel	m3	0	0	0	561.0
Drill Water	m3	0	0	0	266.0
Potable Water	m3	0	0	0	208.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	40	0	0	40.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97			
2	Continental Emsco	6.50	1.09	97			
3	Continental Emsco	6.50	1.09	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40			50		
	30			40			50		

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	5
Maersk	47
GRN	3
OMS	13
Nopsa	2
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1

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Personnel On Board

PCS	3
Smith Services	2
Others	3
Total	94

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	2781.6bbl
Active	631.0bbl
Mixing	0.0bbl
Hole	1150.6bbl
Slug	
Reserve	1000.0bbl
Kill	

Losses	1.7bbl
Downhole	
Surf+ Equip	1.7bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom

Comments

Marine

Weather on 30 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	18kn	50.0deg	1016.0mbar	12C°	2.0m	50.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.4m	0.4deg	1.5deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	60.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	183.0
2	205.0
3	154.0
4	208.0
5	237.0
6	222.0
7	193.0
8	205.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			Alongside No 27 South Wharf Melbourne.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		683
Potable Water	M3		485
Drill Water	M3		336
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna			Rig standby.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		539
Pot Water	M3		580
Drill Water	M3		362
Bentonite	t		42
Barite	t		20
	t		130
Brine	M3		0

0001 - 15.30 Standby at rig. 1530 - 1815 p/s cargo ops
1815 - 24.00 r/stby

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	11.40hrs / 12.15 hrs	3 / 5	Crew change & Fishing Tools
2	Bristow Helicopters	16:06 hrs / 16:20 hrs	9 / 4	Crew Change

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 31
Trefoil-2

31 Oct 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$559,803
Rig	Kan Tan IV	Days from spud	25.67	Shoe MDBRT	930.0m	Cumul. Cost	US$22,669,964
Wtr Dpth(MSL)	69.0m	Days on well	30.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Breaking out and laying out fish and fishing assembly.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Prepare for milling and cutting of 9 5/8" casing.		

Summary of Period 0000 to 2400 Hrs

Made 3 runs into the hole with fishing tools, with 11 3/4" overshot & 1st grapple size of 8 3/4". 2nd run with grapple size of 7 1/8" & the 3rd & successful run with grapple size of 7".
Fish #3 at surface.
RIH with fishing BHA #18F & apply right hand rotation. Overpull of 30klbs was taken when string released. POOH no fish. Marks on side of guide indicated tool had gone down beside fish.
Changed overshot guide from 11 3/4" to 15" & RIH same BHA. Latched onto fish with 20klbs weight down. Overpulled 40klbs & allowed jars to bleed off.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	7 Days	Held abandon drill	
Fire Drill	1	7 Days	Main deck - Fire in rubbish container	
Permit To Work	10	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	2	6 Days	Held 2 x General Safety Meeting	
STOP Card	62	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 31 Oct 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0100	1.00	2520.0m	POOH with open ended string. No visible marks on DP single.
P13	TP (WB)	G11	0100	1100	10.00	2520.0m	Trouble shot topdrive and iron roughneck hydraulic unit.
P13	TP (WB)	G18	1100	1230	1.50	2520.0m	Dressed and RIH with 11 1/4" overshot with 8 3/4" grapple on 5" drill pipe. Tagged fish at 75m. 170klbs up wt, 165klbs down wt, overpull of 40lbsk. POOH with same, No Success.
P13	TP (WB)	G18	1230	1500	2.50	2520.0m	Dressed 11 3/4" overshot with 7 1/8" grapple and 8 3/8" mill guide. RIH with same on 5" DP to top of fish at 75m. Unsuccessful attempt POOH.
P13	TP (WB)	G18	1500	1700	2.00	2520.0m	Dressed same 11 3/4" overshot but with 7 " grapple and 8 3/8" mill guide. RIH with same on 5" DP to top of fish at 75m. Applied right hand rotation with no indications. POOH fish #3. Fish on surface at 16.40hrs. Laid out same.
P13	TP (WB)	G18	1700	1800	1.00	2520.0m	Dressed fishing tool BHA #18 for fish #2 with 11 3/4" overshot with 7 3/4" basket grapple and mill control while rig crew rearranged derrick to allow access to 6 3/4" DCs.
P13	TP (WB)	G18	1800	2000	2.00	2520.0m	RIH with fishing tool BHA #18 for fish #2 with 11 3/4" overshot with 7 3/4" basket grapple and mill control. Tagged top of fish using rotation with 10klbs down. Overpull of 30klbs when string released. POOH. No luck. Marks on the side of the guide indicated

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	2000	2400	4.00	2520.0m	that tool had gone down beside the fish & not over it. Rerun BHA #18 with a 15" guide and same 7 3/4" grapple. Tag top of fish with rotation & 20klbs down. 40klbs overpull on fish & allowed time for jars to bleed down. Held 35klbs on fish while confirm with town operation. Held JSA on rig floor for shearing of pipe.

Operations For Period 0000 Hrs to 0600 Hrs on 01 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0500	5.00	2520.0m	Closed shear rams against 9 5/8" casing from koomey room. Observed flow meter count of 56bbls - correct volume. No loss of block wt observed. Press test seal of shear rams to 500psi through C&K lines. Held for 30 mins - good test. Began overpull & jarring to free stuck casing hanger. At 03.45hrs string came free with between 40 - 70klbs overpull. POOH with fish complete to surface.
P13	TP (WB)	G18	0500	0600	1.00	2520.0m	Break out and lay down fishing BHA and fish.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 31 Oct 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	228	22 Oct 2009	31 Oct 2009	723.00	30.125	2520.0m

WBM Data — Cost Today US$ 819

Mud Type:	KCl POLYMER	API FL:	4.5cc/30min	Cl:	42500mg/l	Solids(%vol):	3%
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%
Time:	11:00 hrs	HTHP-FL:	11.0cc/30min	Hard/Ca:	400mg/l	Oil(%):	
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:	.3
Temp:				PM:	0.4	pH:	9
				PF:	0.3	PHPA:	2ppb

Viscosity	62sec/qt
PV	11cp
YP	24lb/100ft²
Gels 10s	11
Gels 10m	15
Fann 003	10
Fann 006	11
Fann 100	23
Fann 200	29
Fann 300	35
Fann 600	46

Comment — Note: Cost is in AUD

BHA # 17F

Weight(Wet)		Length	92.4m	Torque(max)		D.C. (1) Ann Velocity	
Wt Below Jar(Wet)		String	175000.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	
		Pick-Up	175000.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	
		Slack-Off	180000.00klb			D.P. Ann Velocity	

BHA Run Description — 11-3/4" overshot, dressed with 6-3/4" basket grapple

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Overshot	2.92m	11.75in	6.75in	89384	
X/Over Sub	1.22m				
Pup Joint	1.52m				
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		
Drill Pipe	9.67m	5.00in	4.28in		
Drill Pipe	9.62m	5.00in	4.28in		
Drill Pipe	9.64m	5.00in	4.28in		
Drill Pipe	9.66m	5.00in	4.28in		
Drill Pipe	9.63m	5.00in	4.28in		
Drill Pipe	9.65m	5.00in	4.28in		

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Equipment	Length	OD	ID	Serial #	Comment
Drill Pipe	9.66m	5.00in	4.28in		

BHA # 18F

Weight(Wet)	Length	88.0m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String	170000.00klb	Torque(Off.Btm)	D.C. (2) Ann Velocity
	Pick-Up	170000.00klb	Torque(On.Btm)	H.W.D.P. Ann Velocity
	Slack-Off	175000.00klb		D.P. Ann Velocity

BHA Run Description: 11 3/4 overshot dressed with 7 3/4 grapple

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
6 3/4" DC	9.26m	6.75in	2.87in	1185	
6 1/2in DC	9.47m	6.75in	2.87in	1764	
6 3/4" DC	9.20m	6.75in	2.87in	1180	
Accelerator	3.86m	6.25in	2.18in	5590562071	
Drill Pipe	9.64m	5.00in	4.00in		
Drill Pipe	9.64m	5.00in	4.00in		
Drill Pipe	9.64m	5.00in	4.00in		
Drill Pipe	9.64m	5.00in	4.00in		
Overshot	1.26m	11.75in	3.26in	21046G	with 7.75 grapple
X/O	1.22m	8.25in	2.26in	1793	
Bumper sub	1.89m	6.25in	2.25in	626	
Fishing Jar	3.84m	6.25in	2.18in	15256462034	
6 3/4" DC	9.43m	6.75in	2.87in	1178	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	7	0	326.0
Drill Water	m3	33	5	0	595.0
Pot Water	m3	0	24	0	153.0
Brine	m3	0	0	0	71.0
Barite	MT	17.3	0	0	167.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	18.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	0	0	32.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	11	0	0	37.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	40	0	0	80.0

Pumps

Pump Data - Last 24 Hrs | **Slow Pump Data**

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	Continental Emsco	6.50	1.09	97					30			40			50		
2	Continental Emsco	6.50	1.09	97					30			40			50		
3	Continental Emsco	6.50	1.09	97					30			40			50		

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
			bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	5
Maersk	47
GRN	3
OMS	13
Nopsa	2
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	2
Others	3
Total	94

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	**2782.0bbl**
Active	631.4bbl
Mixing	0.0bbl
Hole	1150.6bbl
Slug	
Reserve	1000.0bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 1	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 2	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 3	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom
Shaker 4	Brandt VSM 300	20 top/100bottom

Comments

Marine

Weather on 31 Oct 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	15kn	225.0deg	1017.0mbar	12C°	1.0m	50.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.4m	0.3deg	1.0deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	60.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	177.0
2	197.0
3	166.0
4	202.0
5	231.0
6	224.0
7	191.0
8	203.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			En-route to KT4

Item	Unit	Used	Quantity
Rig Fuel	M3		676
Potable Water	M3		515
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Alongside No 27 South Wharf Melbourne untill 20.36hrs Then depart for KT4.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna			Rig standby.

Item	Unit	Used	Quantity
Rig Fuel	M3		530
Pot Water	M3		572
Drill Water	M3		362
Bentonite	t		42
Barite	t		0

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				Item	Unit	Used	Quantity
					t		130
				Brine	M3		0
0001 - 19.15 Standby at rig. 19.15 - 21.50 p/s cargo ops 21.50 - 24.00 r/stby							

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 32
Trefoil-2

01 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$550,470
Rig	Kan Tan IV	Days from spud	26.67	Shoe MDBRT	930.0m	Cumul. Cost	US$23,220,434
Wtr Dpth(MSL)	69.0m	Days on well	31.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	POOH with wellhead mill and jetting tool.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Make up 9 5/8" casing hanger and & running tool & rack in derrick. RIH with casing spear & attempt to retrieve 9 5/8" casing.		

Summary of Period 0000 to 2400 Hrs

Closed shear rams against 9 5/8" casing. Began overpull and jarring to free stuck casing hanger. At 03.45hrs String came free. Performed post jarring derrick inspection. Held time out for derrickmans back injury. Laid out 5 stands of DP from derrick. Ran 17 1/2" mill assy but fish was lower than the 13 3/8" casing swedge. M/U 12 1/4" mill RIH and milled top of casing from 102m to 103m. POOH.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	8 Days	Held abandon Drill	
Fire Drill	1	8 Days	Main deck - Fire in rubbish container	
First Aid Case	1	0 Days	Cut to finger. Flash Report #045	IP had picked up part of a fishing tool and as he lifted the tool he struck his finger against sharp edge of another fishing tool that was beside it. IP not wearing gloves and tool stored with sharp edge facing up. Synergi No. 396588 Flash Report #045
LTI	1	0 Days	Back Injury. Flash Report #044	At time of incident IP was changing out jaw on break out tong. As he crouched down to pick up jaw piece he got the item off the ground approx. 10cm when he suffered an acute back spasm. Synergi No. 396501 Flash Report #044
Permit To Work	12	0 Days	Permits administerd.	
Pre-tour Meeting	2	1 Day	Shift change meetings	
Safety Meeting	2	7 Days	Held 2 x General Safety Meeting	
STOP Card	45	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 01 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G18	0000	0500	5.00	2520.0m	Closed shear rams against 9 5/8" casing from koomey room. Observed flow meter count of 56 bbls - correct volume. No loss of block weight observed. Pressure tested seal of shear rams to 500 psi through C&K lines and held for 30 min - good test. Began overpull and jarring to free stuck casing hanger. At 03.45hrs string came free with between 40 - 70klbs overpull. POOH with fish complete to surface.
P13	TP (WB)	G18	0500	0700	2.00	2520.0m	Broke out and & laid down fishing BHA and fish.
P13	TP (WB)	G18	0700	0930	2.50	2520.0m	Performed post jarring inspection while fishing tools were being dismantled on deck. Serviced top drive and inspected same.
P13	TP (WB)	P1	0930	1030	1.00	2520.0m	Service break connections & laid out fishing tools. Simops - tested 9 5/8" annulus against shear rams 500 psi/10 min - ok.

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Printed on 01 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WO)	G23	1030	1130	1.00	2520.0m	Time out for safety due to Derrickman hurting his back on rigfloor. IP had to be strechered from rig floor. Flash Report #44.
P13	TP (WB)	G18	1130	1230	1.00	2520.0m	Continued to service break connections and lay out fishing tools.
P13	TP (WB)	G18	1230	1530	3.00	2520.0m	Laid out 5 stands of DP from derrick that had been dry torqued for fishing job.
P13	TP (WB)	G19	1530	1600	0.50	2520.0m	Opened shear rams and pumped 5 bbls of HiVis mud & circulated bottoms up @ 160 strokes = 650 psi, while preparing 17 1/2" mill BHA.
P13	TP (WB)	G19	1600	1700	1.00	2520.0m	Make up 17 1/2" mill assembly and BHA run #19F
P13	TP (WB)	G19	1700	1800	1.00	2520.0m	RIH with 17 1/2" mill assembly and BHA run #19F. Tagged out at the 13 3/8" x 20" casing swedge at 98.97m. Indicated top of fish is inside the 13 3/8" casing.
P13	TP (WB)	G19	1800	1930	1.50	2520.0m	POOH and laid out 17 1/2" mill.
P13	TP (WB)	G19	1930	2030	1.00	2520.0m	Made up 12 1/4" mill plus 2 x junk subs on BHA.
P13	TP (WB)	G19	2030	2130	1.00	2520.0m	RIH with 12 1/4" mill on BHA Run#19F. Tagged top of 9 5/8" casing at 102m.
P13	TP (WB)	G19	2130	2300	1.50	2520.0m	Began milling top of sheared casing from 102m - 103m at 70 spm, 350gpm/50psi. 5k WOB.
P13	TP (WB)	G19	2300	2330	0.50	2520.0m	Pumped 10 bbls hivis and circulated shakers clean. 425 grams returned from magnets down stream from shakers.
P13	TP (WB)	G19	2330	2400	0.50	2520.0m	POOH with 12 1/4" milling tool from 103m.

Operations For Period 0000 Hrs to 0600 Hrs on 02 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G19	0000	0030	0.50	2520.0m	Continued to POOH with 12 1/4" milling BHA from 103m to surface.
P13	TP (WB)	G19	0030	0100	0.50	2520.0m	Broke out & Laid out 12 1/4" mill and junk baskets.
P13	TP (WB)	G19	0100	0200	1.00	2520.0m	Made up 8 1/2" casing mill.
P13	TP (WB)	G19	0200	0230	0.50	2520.0m	RIH with mill to 103m
P13	TP (WB)	G19	0230	0300	0.50	2520.0m	Mill inside casing from 103m - 106m at 50rpm, 70spm.
P13	TP (WB)	G19	0300	0330	0.50	2520.0m	POOH with mill from 106m to surface.
P13	TP (WB)	G19	0330	0400	0.50	2520.0m	Laid down mill and components.
P13	TP (WB)	G16	0400	0430	0.50	2520.0m	Picked up and made up wellhead mill and flush tool.
P13	TP (WB)	G16	0430	0500	0.50	2520.0m	RIH to 92.5m - well head depth.
P13	TP (WB)	G16	0500	0530	0.50	2520.0m	Washed and jetted wellhead and BOPs with 200spm, 220psi.
P13	TP (WB)	G16	0530	0600	0.50	2520.0m	POOH to surface with mill and jetting tool.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 01 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	252	22 Oct 2009	01 Nov 2009	747.00	31.125	2520.0m

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WBM Data

Cost Today US$ 1449

Mud Type:	KCl POLYMER	API FL:	4.2cc/30min	Cl:	43000mg/l	Solids(%vol):	3%	Viscosity	63sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	11cp
Time:	11:00 hrs	HTHP-FL:	11.0cc/30min	Hard/Ca:	380mg/l	Oil(%):		YP	25lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:	.3	Gels 10s	11
Temp:				PM:	0.35	pH:	9	Gels 10m	15
				PF:	0.2	PHPA:	2ppb	Fann 003	10
								Fann 006	11
								Fann 100	24
								Fann 200	29
								Fann 300	36
								Fann 600	47

Comment — Note: Cost is in AUD

BHA # 19F

Weight(Wet)		Length	35.7m	Torque(max)		D.C. (1) Ann Velocity	
Wt Below Jar(Wet)		String		Torque(Off.Btm)		D.C. (2) Ann Velocity	
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	
		Slack-Off				D.P. Ann Velocity	

BHA Run Description

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Mill	0.63m	12.25in	2.87in	GK0133	
junk subs	1.45m	9.63in	3.00in	80139G	
Junk Sub	1.45m	9.63in	3.00in	80140G	
Bit Sub	1.21m	8.25in	2.75in	KT37	
12 1/4in stab	1.87m	12.25in	2.75in	647080D	
X/O	1.11m	8.25in	2.87in	1103	
6 3/4" DC	9.26m	6.75in	2.87in	1185	
6 3/4" DC	9.47m	6.75in	2.87in	1764	
6 3/4" DC	9.20m	6.75in	2.87in	1180	

BHA # 18F

Weight(Wet)		Length	88.0m	Torque(max)		D.C. (1) Ann Velocity	
Wt Below Jar(Wet)		String	170000.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	
		Pick-Up	170000.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	
		Slack-Off	175000.00klb			D.P. Ann Velocity	

BHA Run Description — 11 3/4 overshot dressed with 7 3/4 grapple

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Drill Pipe	9.64m	5.00in	4.00in		
Drill Pipe	9.64m	5.00in	4.00in		
Drill Pipe	9.64m	5.00in	4.00in		
Accelerator	3.86m	6.25in	2.18in	5590562071	
6 3/4" DC	9.20m	6.75in	2.87in	1180	
6 1/2in DC	9.47m	6.75in	2.87in	1764	
6 3/4" DC	9.26m	6.75in	2.87in	1185	
Drill Pipe	9.64m	5.00in	4.00in		
Overshot	1.26m	11.75in	3.26in	21046G	with 7.75 grapple
X/O	1.22m	8.25in	2.26in	1793	
Bumper sub	1.89m	6.25in	2.25in	626	
Fishing Jar	3.84m	6.25in	2.18in	15256462034	
6 3/4" DC	9.43m	6.75in	2.87in	1178	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10	0	316.0
Drill Water	m3	0	10	0	585.0
Pot Water	m3	69	26	0	196.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	167.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	1	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	2	0	30.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	37.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97			
2	Continental Emsco	6.50	1.09	97			
3	Continental Emsco	6.50	1.09	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40			50		
	30			40			50		

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	5
Maersk	47
GRN	3
OMS	13
Nopsa	2
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	2
Others	3
Total	94

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	**2782.6bbl**	**Losses**	**0.0bbl**
Active	631.4bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	1000.6bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/100bottom	
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/100bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/100bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/100bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

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Marine

Weather on 01 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	14kn	235.0deg	1019.0mbar	12C°	1.0m	250.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.8m	0.8deg	1.6deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
5.0m	260.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	197.0
2	202.0
3	156.0
4	192.0
5	213.0
6	215.0
7	194.0
8	206.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	0930		Rig standby.

Item	Unit	Used	Quantity
Rig Fuel	M3		658
Potable Water	M3		510
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Far Scimitar on location 09:15hrs 01/11/09 assumes standby duties from Far Fosna.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		0915	Steaming for Melbourne

Item	Unit	Used	Quantity
Rig Fuel	M3		511
Pot Water	M3		564
Drill Water	M3		362
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

Far Fosna off location 09:15hrs 01/11/09

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 33
Trefoil-2

02 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$559,804
Rig	Kan Tan IV	Days from spud	27.67	Shoe MDBRT	930.0m	Cumul. Cost	US$23,780,238
Wtr Dpth(MSL)	69.0m	Days on well	32.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Laid out 9 5/8" casing fish.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	RIH with dress mill & dress top of casing. Run casing patch. RIH with spear BHA & energize the casing patch.		

Summary of Period 0000 to 2400 Hrs

RIH with tapered mill & cleaned & milled inside casing from 103m - 106m. Jetted wellhead & BOPs with jetting tool. M/Up 9 5/8" hanger assy on HWDP & racked back in mast. M/Up cement stand & racked in mast.
RIH with casing spear to retrieve casing fish. Pulled 580klbs - no success. POOH Spear. M/Up & ran casing cutter & spear. Cut & speared casing at 157m. POOH. Dropped fish near surface. Laid out casing cutting tools.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	9 Days	Held abandon drill	
Fire Drill	1	9 Days	Main deck - Fire in rubbish container	
Permit To Work	9	0 Days	Permits administered	
Pre-tour Meeting	2	2 Days	Shift change meetings	
Safety Meeting	2	1 Day	Held 2 x General Safety Meeting	
STOP Card	41	1 Day	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 02 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G19	0000	0030	0.50	2520.0m	Continued to POOH with 12 1/4" milling BHA from 103m to surface.
P13	TP (WB)	G19	0030	0100	0.50	2520.0m	Broke out & laid out 12 1/4" mill and junk baskets.
P13	TP (WB)	G19	0100	0200	1.00	2520.0m	Made up 8 1/2" tapered casing mill.
P13	TP (WB)	G19	0200	0230	0.50	2520.0m	RIH with tapered mill to 103m
P13	TP (WB)	G19	0230	0300	0.50	2520.0m	Milled inside casing from 103m - 106m at 50rpm, 70spm.
P13	TP (WB)	G19	0300	0330	0.50	2520.0m	POOH with tapered mill from 106m to surface.
P13	TP (WB)	G19	0330	0400	0.50	2520.0m	Laid down tapered mill and components.
P13	TP (WB)	G16	0400	0430	0.50	2520.0m	Picked up and made up wellhead mill and flush tool.
P13	TP (WB)	G16	0430	0500	0.50	2520.0m	RIH to 92.5m - well head depth.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G16	0500	0530	0.50	2520.0m	Washed and jetted wellhead and BOPs with 200spm, 220psi.
P13	TP (WB)	G16	0530	0630	1.00	2520.0m	POOH to surface with mill and jetting tool.
P13	TP (WB)	G16	0630	0700	0.50	2520.0m	Cleaned and cleared rig floor.
P13	TP (WB)	G12	0700	0900	2.00	2520.0m	M/Up 9 5/8" hanger assy on HWDP & racked back in mast.
P13	TP (WB)	G1	0900	1030	1.50	2520.0m	M/Up cement head & racked back same.
P13	TP (WB)	G1	1030	1130	1.00	2520.0m	P/Up & M/Up spear assy.
P13	TP (WB)	G18	1130	1300	1.50	2520.0m	RIH with spear assy on BHA #21 to top of casing fish.
P13	TP (WB)	G18	1300	1400	1.00	2520.0m	Pumped @ 60spm/ 300gpm/ 40psi. Inserted spear into fish and picked-up - no overpull observed. Slacked off string and applied 1 LH turn - confirmed latch with overpull of 350klbs. Circulate 60spm/300gpm. Took overpull to 400klbs and increased circulation to 100spm/500gpm/ 250psi.
P13	TP (WB)	G11	1400	1430	0.50	2520.0m	Pressured up compensator bottle to required pressure while reinstalling index line.
P13	TP (WB)	G18	1430	1530	1.00	2520.0m	Pulled 580klbs and applied 10klbs torque & held same. Circulated at 180spm/900gpm/530psi. Stopped pumps, released torque, slacked off all weight to release spear.
P13	TP (WB)	G18	1530	1600	0.50	2520.0m	POOH with spear assembly to surface.
P13	TP (WB)	G18	1600	1630	0.50	2520.0m	Broke out and laid out spear and accelerator.
P13	TP (WB)	G1	1630	1800	1.50	2520.0m	Cleaned and cleared rig floor and pipe deck of fishing tools while preparing BHA for casing cutting run.
P13	TP (WB)	G1	1800	1930	1.50	2520.0m	P/Up & M/Up casing cutting BHA # 22F.
P13	TP (WB)	G8	1930	2130	2.00	2520.0m	RIH with casing cutting BHA to top of fish. BHA hung up while entering top of fish. Made up top drive and rotated slowly while lowering string into 9 5/8" casing fish. Continued to RIH.
P13	TP (WB)	G17	2130	2230	1.00	2520.0m	Landed out swivel on top of fish at 103m. Began cutting casing at 157m with 30spm/150gpm/380psi/60rpm/6-8000ft/lbs torque.
P13	TP (WB)	G8	2230	2330	1.00	2520.0m	POOH to the swivel at 61m. Lost weight near surface. No Fish.
P13	TP (WB)	G2	2330	2400	0.50	2520.0m	Broke out spearand casing cutting BHA & laid out out.

Operations For Period 0000 Hrs to 0600 Hrs on 03 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G1	0000	0100	1.00	2520.0m	Continued to break out spear and casing cutting BHA & laid out.
P13	TP (WB)	G18	0100	0200	1.00	2520.0m	Picked up & made up back up casing grapple, bumper sub & jars.
P13	TP (WB)	G18	0200	0300	1.00	2520.0m	RIH to top of fish at 103m. Latched into fish with 10klbs down weight. Confirmed fish caught with 7klbs overpull.
P13	TP (WB)	G18	0300	0330	0.50	2520.0m	POOH with fish to surface.
P13	TP (WB)	G1	0330	0430	1.00	2520.0m	Held toolbox talk on rigging up casing. Rigged up casing 500ton elevators, tongs and equipment.
P13	TP (WB)	G2	0430	0600	1.50	2520.0m	Held toolbox talk on laying out casing. Laid out 9 5/8" casing fish.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 02 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m

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Phase Data to 2400hrs, 02 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	276	22 Oct 2009	02 Nov 2009	771.00	32.125	2520.0m

WBM Data

Cost Today US$ 1449

Mud Type:	KCl POLYMER	API FL:	4.5cc/30min	Cl:	42500mg/l	Solids(%vol):	3%	Viscosity	62sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	12cp
Time:	11:00 hrs	HTHP-FL:	12.0cc/30min	Hard/Ca:	380mg/l	Oil(%):		YP	25lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:	.3	Gels 10s	12
Temp:				PM:	0.35	pH:	9	Gels 10m	16
				PF:	0.2	PHPA:	2ppb	Fann 003	11
								Fann 006	12
								Fann 100	26
								Fann 200	31
								Fann 300	37
								Fann 600	49

Comment — Note: Cost is in AUD

BHA # 21F

Weight(Wt)	Length 32.5m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wt)	String Pick-Up Slack-Off	Torque(Off.Btm) Torque(On.Btm)	D.C. (2) Ann Velocity H.W.D.P. Ann Velocity D.P. Ann Velocity
BHA Run Description	Casing retrieval Spear		
BHA Run Comment			

Equipment	Length	OD	ID	Serial #	Comment
Spear	1.20m	8.25in	2.75in	311335-02	
12 1/4in stab	1.88m	12.25in	2.25in	55215G	
Bumper sub	1.89m	6.25in	2.25in	GK0267	
X/O	1.11m	8.25in	2.75in	1103	
Jar	3.84m	6.25in	2.75in	15256462034	
6 3/4" DC	18.73m	6.75in	2.88in	1185/1764	
Accelerator	3.86m	6.25in	2.19in	559056207	

BHA # 20F

Weight(Wt)	Length 31.7m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wt)	String Pick-Up Slack-Off	Torque(Off.Btm) Torque(On.Btm)	D.C. (2) Ann Velocity H.W.D.P. Ann Velocity D.P. Ann Velocity
BHA Run Description			
BHA Run Comment			

Equipment	Length	OD	ID	Serial #	Comment
8.5 Mill Assy	1.21m	8.50in	2.25in	GL0325	
8.5 Mill Assy	1.36m	8.50in	2.25in		
Bit Sub	1.19m	6.88in	2.88in		
6 3/4" DC	9.26m	6.75in	2.88in		
6 3/4" DC	9.47m	6.75in	2.88in		
6 3/4" DC	9.20m	6.75in	2.88in		

BHA # 22F

Weight(Wt)	Length 58.2m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wt)	String Pick-Up Slack-Off	Torque(Off.Btm) Torque(On.Btm)	D.C. (2) Ann Velocity H.W.D.P. Ann Velocity D.P. Ann Velocity
BHA Run Description			
BHA Run Comment			

Equipment	Length	OD	ID	Serial #	Comment
Casing Cutter	2.85m	8.25in	2.25in	6509013	
Drill Pipe	48.17m	5.00in	4.00in		
5" pup joint	1.53m	5.00in	4.00in	1103	
Top Assembly	4.44m	12.00in	2.25in	967102	
X/O	1.22m	8.25in	2.63in	1793	

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	306	22	0	600.0
Drill Water	m3	0	0	0	585.0
Pot Water	m3	31	8	0	219.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	167.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	2	0	28.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	37.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97			
2	Continental Emsco	6.50	1.09	97			
3	Continental Emsco	6.50	1.09	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40			50		
	30			40			50		

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	5
Maersk	48
GRN	3
OMS	11
Nopsa	2
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	2
Others	3
Total	93

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	2780.6bbl
Active	722.0bbl
Mixing	0.0bbl
Hole	1150.6bbl
Slug	
Reserve	908.0bbl
Kill	

Losses	2.4bbl
Downhole	
Surf+ Equip	2.4bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 02 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	19kn	90.0deg	1007.0mbar	13C°	1.0m	90.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.8m	0.7deg	1.4deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
4.0m	235.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	191.0
2	211.0
3	154.0
4	202.0
5	217.0
6	222.0
7	192.0
8	203.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	0930		Standby At the rig

Item	Unit	Used	Quantity
Rig Fuel	M3		351
Potable Water	M3		505
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Transferred 256LT of fuel oil to KT4

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		0915 hrs 01/10/09	On route to rig from Melbourne.

Item	Unit	Used	Quantity
Rig Fuel	M3		504
Pot Water	M3		556
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

Departed from Melbourne for the rig at 1715hrs

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09.11 / 09.13	10 / 11	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 34
Trefoil-2

03 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$562,284
Rig	Kan Tan IV	Days from spud	28.67	Shoe MDBRT	930.0m	Cumul. Cost	US$24,342,522
Wtr Dpth(MSL)	69.0m	Days on well	33.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Making up casing spear & BHA to energize the casing patch.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Run casing spear& energize casing patch. Set seal assy. Press test BOPs. Run RTTS packer & Test casing.		

Summary of Period 0000 to 2400 Hrs

Picked up & made up back up casing grapple. RIH to top of fish at 103m. Latched into fish and POOH with fish to surface. Laid out 9 5/8" casing fish. Made up wear bushing, RIH and landed out. Dressed 12 1/4" milling assy & RIH. Milled top of casing & POOH. Retrieved wear bushing. P/Up 9 5/8" casing hanger from the derrick & removed 9 5/8" pup joint from below hanger. M/Up casing patch & RIH 9 5/8" casing.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	0 Days	Held abandon drill	
Fire Drill	1	0 Days	Main deck - Fire in rubbish container	
Permit To Work	16	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	2 Days	Held 2 x General Safety Meeting	
STOP Card	51	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 03 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G1	0000	0100	1.00	2520.0m	Continued to break out spear and casing cutting BHA and laid out same.
P13	TP (WB)	G18	0100	0200	1.00	2520.0m	Picked up & made up back up casing grapple, bumper sub & jars.
P13	TP (WB)	G18	0200	0300	1.00	2520.0m	RIH to top of fish at 103m. Latched into fish with 10klbs down weight. Confirmed fish caught with 7klbs overpull.
P13	TP (WB)	G18	0300	0330	0.50	2520.0m	POOH with fish to surface.
P13	TP (WB)	G1	0330	0430	1.00	2520.0m	Held toolbox talk on rigging up casing. Rigged up casing 500ton elevators, tongs and equipment.
P13	TP (WB)	G2	0430	0630	2.00	2520.0m	Held toolbox talk on laying out casing. Laid out 9 5/8" casing fish.
P13	TP (WB)	G2	0630	0700	0.50	2520.0m	Rigged down & laid out 9 5/8" casing equipment.
P13	TP (WB)	G2	0700	0900	2.00	2520.0m	Made up wear bushing, RIH & landed out. Confirmed index mark. POOH & retrieved running tool.
P13	TP (WB)	G19	0900	1130	2.50	2520.0m	Dressed 12 1/4" milling assy & RIH under controlled conditions due to weather. Tagged top of casing @ 157m.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G19	1130	1300	1.50	2520.0m	Took parameters and started milling 9 5/8" casing at 100rpm/100spm/500gpm/ 250psi. Pumped HiVis pill and circulated 2 x bottoms up.
P13	TP (WB)	G19	1300	1500	2.00	2520.0m	POOH with 12 1/4" milling assy and laid out same.
P13	TP (WB)	G12	1500	1730	2.50	2520.0m	RIH with wearbushing retrieval tool. Applied overpull of 60klbs to confirm latch. POOH same and attempt to remove wearbushing from running tool with no success. Laid out R/T & wearbushing as one.
P13	TP (WB)	G2	1730	1930	2.00	2520.0m	Picked up 9 5/8" casing hanger from the derrick. Backed out 9 5/8" pup joint from below hanger then racked back in derrick.
P13	TP (WB)	G2	1930	2300	3.50	2520.0m	Held pre job safety meeting on running casing patch on 9 5/8" casing. Made up casing patch to first joint of casing & RIH with 9 5/8" casing to 66m.
P13	TP (WB)	G2	2300	2400	1.00	2520.0m	Pick up casing hanger and running tool from mast & make up to 9 5/8" casing patch string.

Operations For Period 0000 Hrs to 0600 Hrs on 04 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G9	0000	0130	1.50	2520.0m	RIH 9 5/8" casing patch on landing string and landed out in well head. No indication of patch latching into casing string. Worked string & rotated string to the left in an attempt to engage casing patch grapple.
P13	TP (WB)	G9	0130	0200	0.50	2520.0m	Discussed with Smith Services representive and ADA Drilling Supervisor in town the way ahead. Checked all calculations & discussed possible scenarios. Decision made to continue as planned.
P13	TP (WB)	G9	0200	0430	2.50	2520.0m	Released casing running tool & POOH. Racked back running tool in the mast.
P13	TP (WB)	G2	0430	0600	1.50	2520.0m	Picked up and made up spear assy.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 03 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	300	22 Oct 2009	03 Nov 2009	795.00	33.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 03 Nov 2009

WBM Data — Cost Today US$ 227

Mud Type:	KCl POLYMER	API FL:	4.5cc/30min	Cl:	42500mg/l	Solids(%vol):	3%	Viscosity	60sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	11cp
Time:	11:00 hrs	HTHP-FL:	10.5cc/30min	Hard/Ca:	400mg/l	Oil(%):		YP	23lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:	.3	Gels 10s	11
Temp:				PM:	0.25	pH:	9	Gels 10m	15
				PF:	0.2	PHPA:	2ppb	Fann 003	10
								Fann 006	11
								Fann 100	23
								Fann 200	29
								Fann 300	34
								Fann 600	45

Comment — Note: Cost is in AUD

BHA # 21F

Weight(Wet)	Length 32.5m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String Pick-Up Slack-Off	Torque(Off.Btm) Torque(On.Btm)	D.C. (2) Ann Velocity H.W.D.P. Ann Velocity D.P. Ann Velocity
BHA Run Description	Casing retrieval Spear		
BHA Run Comment			

Equipment	Length	OD	ID	Serial #	Comment
Spear	1.20m	8.25in	2.75in	311335-02	

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Equipment	Length	OD	ID	Serial #	Comment
12 1/4in stab	1.88m	12.25in	2.25in	55215G	
Bumper sub	1.89m	6.25in	2.25in	GK0267	
X/O	1.11m	8.25in	2.75in	1103	
Jar	3.84m	6.25in	2.75in	15256462034	
6 3/4" DC	18.73m	6.75in	2.88in	1185/1764	
Accelerator	3.86m	6.25in	2.19in	559056207	

BHA # 22F

Weight(Wet)	Length 28.7m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String Pick-Up Slack-Off	Torque(Off.Btm) Torque(On.Btm)	D.C. (2) Ann Velocity H.W.D.P. Ann Velocity D.P. Ann Velocity
BHA Run Description	Casing spear run		
BHA Run Comment			

Equipment	Length	OD	ID	Serial #	Comment
Spear	1.20m	8.25in	2.75in	31135-02	
Stab	1.88m	8.00in	2.25in	55215G	
Bumper sub	1.89m	6.25in	2.25in	GK0267	
X/O	1.11m	8.25in	2.75in	1103	
Fishing Jar	3.84m	6.25in	2.75in	15256462034	
6 3/4" DC	18.73m	6.75in	2.88in	1185/1764	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	14	0	586.0
Drill Water	m3	41	6	0	620.0
Pot Water	m3	0	22	0	197.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	167.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	1	0	27.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	37.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97			
2	Continental Emsco	6.50	1.09	97			
3	Continental Emsco	6.50	1.09	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40			50		
	30			40			50		

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	5

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Personnel On Board

Maersk	48
GRN	4
OMS	11
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	2
Others	3
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	**2775.6bbl**	**Losses**	**5.2bbl**
Active	734.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	891.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	5.2bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 03 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	21kn	240.0deg	1014.0mbar	10C°	4.1m	240.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.6m	1.6deg	2.1deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
8.0m	270.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	218.0
2	199.0
3	154.0
4	178.0
5	201.0
6	182.0
7	183.0
8	205.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	0930		At the rig

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		658
Potable Water	M3		510
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	0630 hrs 3/10/09	0915 hrs 01/10/09	Rig Standby.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		489
Pot Water	M3		548
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

Departed from Melbourne for the rig at 1715hrs 02/10/09 Arrived 0630 hrs 03/10/09

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment

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Helicopter Movement				
1	Bristow Helicopters	08.45 / 08.48	1 / 1	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 35

Trefoil-2

04 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$561,915
Rig	Kan Tan IV	Days from spud	29.67	Shoe MDBRT	930.0m	Cumul. Cost	US$24,904,437
Wtr Dpth(MSL)	69.0m	Days on well	34.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Troubleshooting top drive problems.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Troubleshooting top drive problems.		

Summary of Period 0000 to 2400 Hrs

RIH 9 5/8" casing patch on landing string.
Worked string and rotated string to the left in an attempt to engage casing patch grapple.
Released casing running tool and POOH. Picked up and made up spear assy and RIH. Engaged grapple and performed overpull to pull casing into casing patch. Picked up to verify casing patch engaged. Not engaged. Repeat same procedures.
Continued to work casing string to get casing patch to engage and to energize the seals. Confirmed casing patch seals energized. POOH casing spear.
RIH with seal assy & set with 3000psi.
Pressure tested BOPs and C&K manifold.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	1 Day	Held abandon drill	
Emergency Drill	1	0 Days	Full Emergency drill performed.	
Fire Drill	1	1 Day	Main deck - Fire in rubbish container	
Permit To Work	12	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	7	0 Days	Prejob safety meetings	
STOP Card	75	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 04 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (WB)	G9	0000	0200	2.00	2520.0m	RIH 9 5/8" casing patch on landing string and landed out in well head. No indication of patch latching into casing string. Worked string and rotated string to the left in an attempt to engage casing patch grapple. Discussed with Smith Services representive and ADA Drilling Supervisor in town the way ahead. Checked all calculations and discussed possible scenarios. Decision made to continue as planned.
P13	TP (WB)	G9	0200	0430	2.50	2520.0m	Released casing running tool and POOH. Racked back running tool in the mast.
P13	TP (WB)	G2	0430	0630	2.00	2520.0m	Picked up and made up spear assy and RIH.
P13	TP (WB)	G9	0630	0830	2.00	2520.0m	Tagged at 158m. Engaged grapple at 160m. Performed overpull to 280klbs to pull casing into casing patch. Slacked off 180klbs and picked up 172klbs. Released spear and picked up to 150m (above patch). Picked up to verify casing patch engaged - not engaged. Repeated same procedures as above in an attempt to engage casing patch.
P13	TP (WO)	P4	0830	0900	0.50	2520.0m	Stopped operation to build up air in compensator bottles.
P13	TP	G9	0900	1200	3.00	2520.0m	Held string in tension @ 450klbs and pressured up to 50psi to confirm casing stump

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
	(WB)						inside casing patch. Continued to work casing string to get casing patch to engage to energize the seals. Confirmed casing patch seals energized by pick up to 115m. Engaged spear with overpull of 40klbs.
P13	TP (WB)	G8	1200	1500	3.00	2520.0m	POOH casing spear. Had problems with top drive and elevators.
P13	P (WB)	G2	1500	1600	1.00	2520.0m	Broke down casing hanger and laid down same.
P13	P (WB)	G12	1600	1900	3.00	2520.0m	Made up hanger seal assy and RIH to top of well head @ 92.5m.
P13	P (WB)	P1	1900	1930	0.50	2520.0m	Set seal assy and pressure tested to 3000/5000psi for 5/10 mins - good test.
P13	P (WB)	P1	1930	2400	4.50	2520.0m	Tested BOPs and C&K manifold (250psi Low / 5000psi high).

Operations For Period 0000 Hrs to 0600 Hrs on 05 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	P1	0000	0130	1.50	2520.0m	Continued to test BOPs and C&K manifold (250 psi low/ 5000psi high).
P13	TP (WB)	G8	0130	0300	1.50	2520.0m	Released running tool with 60klbs overpull & POOH.
P13	P	G2	0300	0600	3.00	2520.0m	Broke out and laid down casing spear, cement head and one stand of DC from mast.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 04 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	324	22 Oct 2009	04 Nov 2009	819.00	34.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 04 Nov 2009

WBM Data

Cost Today US$ 490

Mud Type:	KCl POLYMER	API FL:	4.8cc/30min	Cl:	42500mg/l	Solids(%vol):	3%	Viscosity	62sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	12cp
Time:	11:00 hrs	HTHP-FL:	10.5cc/30min	Hard/Ca:	400mg/l	Oil(%):		YP	21lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	10	Sand:	.3	Gels 10s	11
Temp:				PM:	0.3	pH:	9	Gels 10m	14
				PF:	0.25	PHPA:	2ppb	Fann 003	10
								Fann 006	11
								Fann 100	22
								Fann 200	28
								Fann 300	33
								Fann 600	45
Comment		Note: Cost is in AUD							

BHA # 23F

Weight(Wet)	Length 38.4m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String Pick-Up Slack-Off	Torque(Off.Btm) Torque(On.Btm)	D.C. (2) Ann Velocity H.W.D.P. Ann Velocity D.P. Ann Velocity
BHA Run Description	Casing spear run to pull casing inside casing patch.		
BHA Run Comment			

Equipment	Length	OD	ID	Serial #	Comment
6 3/4" DC	9.20m	6.75in	2.88in	1188	
Taper Mill	1.21m	8.50in	2.25in	GL0325	
Bit Sub	1.19m	6.88in	2.75in	87	
Spear	1.20m	8.25in	2.75in	311335-02	
X/O	1.11m	8.25in	2.75in	1103	

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Equipment	Length	OD	ID	Serial #	Comment
Bumper sub	1.89m	6.50in	2.25in	GK0267	
Jar	3.84m	6.75in	2.75in	15256462034	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	

BHA # 22F

Weight(Wet)	Length 28.7m	Torque(max)	D.C. (1) Ann Velocity
Wt Below Jar(Wet)	String Pick-Up Slack-Off	Torque(Off.Btm) Torque(On.Btm)	D.C. (2) Ann Velocity H.W.D.P. Ann Velocity D.P. Ann Velocity
BHA Run Description	Casing spear run		
BHA Run Comment			

Equipment	Length	OD	ID	Serial #	Comment
Spear	1.20m	8.25in	2.75in	31135-02	
Stab	1.88m	8.00in	2.25in	55215G	
Bumper sub	1.89m	6.25in	2.25in	GK0267	
X/O	1.11m	8.25in	2.75in	1103	
Fishing Jar	3.84m	6.25in	2.75in	15256462034	
6 3/4" DC	18.73m	6.75in	2.88in	1185/1764	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	14	0	572.0
Drill Water	m3	0	16	0	604.0
Pot Water	m3	51	24	0	224.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	167.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	2	0	25.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	37.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97			
2	Continental Emsco	6.50	1.09	97			
3	Continental Emsco	6.50	1.09	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40			50		
	30			40			50		

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	5
Maersk	50
GRN	4

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Personnel On Board

OMS	12
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
PCS	3
Smith Services	1
Others	3
Origin Energy	2
Total	97

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	**2775.8bbl**	**Losses**	**0.0bbl**
Active	734.2bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	891.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 04 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	18kn	230.0deg	1019.0mbar	10C°	2.0m	240.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	1.3deg	2.6deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
6.0m	250.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	214.0
2	202.0
3	145.0
4	190.0
5	202.0
6	193.0
7	184.0
8	210.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		0930 03/10/09	In Melbourne

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		658
Potable Water	M3		510
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	0630 hrs 3/10/09		Rig Standby.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		479
Pot Water	M3		540
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

0740 - 0815 Cargo operations.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	10.45 / 10.54	10 / 6	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 36
Trefoil-2

05 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$981,063
Rig	Kan Tan IV	Days from spud	30.67	Shoe MDBRT	930.0m	Cumul. Cost	US$25,885,500
Wtr Dpth(MSL)	69.0m	Days on well	35.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m				
RT-ML	95.0m	Planned TD TVDRT	3221.0m				

Current Op @ 0600	Continue to troubleshoot top drive hydraulic system, pipe handler and alignment problems. Preparing 8 1/2" BHA.
Planned Op	Continue to troubleshoot top drive hydraulic system, pipe handler and alignment problems. Prepare 8 1/2" BHA. Run wear bushing. Pick up 8 1/2" BHA. Run RTTS packer and test casing patch.

Summary of Period 0000 to 2400 Hrs

Continued to test BOPs and C&K manifold (250 psi low/ 5000psi high). Laid out excess BHA from mast. Troubleshoot top drive problems.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Abandon Drill	1	2 Days	Held abandon drill	
Emergency Drill	1	1 Day	Full Emergency drill performed.	
Fire Drill	1	2 Days	Main deck - Fire in rubbish container	
Flash Reports	1	0 Days	Container door swings open during transfer.	While backloading a double door mini container from the rig to the offshore supply vessel (OSV), at approximately 1 metre above the ship's deck, the container was seen to impact other containers that were on the OSV's deck causing the doors to swing open. The internal security net was in place to prevent anything falling from the container. Synergi No. 397311 Flash Report # 47.
Permit To Work	16	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	6	0 Days	Prejob safety meetings	
STOP Card	75	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 05 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	P	P1	0000	0130	1.50	2520.0m	Continued to test BOPs and C&K manifold (250psi low/ 5000psi high).
P13	P	G8	0130	0300	1.50	2520.0m	Released running tool with 60klbs overpull and POOH.
P13	P	G2	0300	0600	3.00	2520.0m	Broke out and laid down casing spear, cement head and one stand of DC from mast.
P27	TP (RE)	G11	0600	2400	18.00	2520.0m	Troubleshot top drive hydraulic system, pipe handler and alignment problems. Repaired oil leak on manipulator arm. Replaced lindal brake on elmago and tested same - OK. Installed new Martin Decker weight indicator gauge and pumped up deadman sensor. Tested SPP gauges and calibrated same. Replaced lube oil cooler fan and motor assy. TDS pipehandler clamp piston bolts renewed. Shim plates removed from stbd lower dolly roller carriage. Shim plates added to port lower dolly roller carriage.

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Operations For Period 0000 Hrs to 0600 Hrs on 06 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P27	TP (RE)	G11	0000	0600	6.00	2520.0m	Cont to troubleshoot top drive hydraulic system, pipe handler and alignment problems. Prepared 8 1/2" BHA.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 05 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	330	22 Oct 2009	05 Nov 2009	825.00	34.375	2520.0m
Maintenance / Service(P27)	18	05 Nov 2009	05 Nov 2009	843.00	35.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 05 Nov 2009

WBM Data — Cost Today US$ 604

Mud Type:	KCl POLYMER	API FL:	4.2cc/30min	Cl:	42500mg/l	Solids(%vol):	3%	Viscosity	62sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	11cp
Time:	11:00 hrs	HTHP-FL:	10.5cc/30min	Hard/Ca:	380mg/l	Oil(%):		YP	21lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	11	Sand:	.3	Gels 10s	11
Temp:				PM:	0.5	pH:	9	Gels 10m	15
				PF:	0.35	PHPA:	2ppb	Fann 003	10
								Fann 006	11
								Fann 100	23
								Fann 200	28
								Fann 300	32
								Fann 600	43

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	17	0	555.0
Drill Water	m3	0	0	0	604.0
Pot Water	m3	49	26	0	247.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	167.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	0	0	25.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	37.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs | **Slow Pump Data**

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	Continental Emsco	6.50	1.09	97					30			40			50		
2	Continental Emsco	6.50	1.09	97					30			40			50		
3	Continental Emsco	6.50	1.09	97					30			40			50		

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

Personnel On Board

Company	Pax
ADA	6
Maersk	50
GRN	4
OMS	12
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
Others	3
Origin Energy	2
Total	94

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	**2776.1bbl**	**Losses**	**0.0bbl**
Active	734.5bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	891.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 05 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	13kn	230.0deg	1024.0mbar	10C°	1.0m	240.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	1.3deg	2.6deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
4.0m	260.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	200.0
2	190.0
3	154.0
4	190.0
5	205.0
6	191.0
7	186.0
8	199.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			Alongside Melbourne

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		630
Potable Water	M3		495
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

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Far Fosna	0630 hrs 3/10/09		Rig Standby.	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		479
				Pot Water	M3		540
				Drill Water	M3		600
				Bentonite	t		42
				Barite	t		0
					t		130
				Brine	M3		0
0740 - 0815 Cargo operations.							

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0923 / 0934	5 / 8	Crew Change

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Printed on 05 Nov 2009

Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 37
Trefoil-2

06 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Well Data

Country	Australia	MDBRT	2520.0m	Cur. Hole Size	12.250in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2520.0m	Last Casing OD	13.375in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	930.0m	Daily Cost	US$484,636
Rig	Kan Tan IV	Days from spud	31.67	Shoe MDBRT	930.0m	Cumul. Cost	US$26,370,136
Wtr Dpth(MSL)	69.0m	Days on well	36.13	FIT/LOT:	/ 15.15ppg		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Continued to RIH filling every 20 stands. Controlled tripping speed.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Drill out 9 5/8" casing float and shoe. Drill 3m of new hole. Perform FIT. POOH change BHA.		

Summary of Period 0000 to 2400 Hrs

Continued to troubleshoot top drive hydraulic system, pipe handler and alignment problems. Changed out saver sub. Performed alignment test and checked hook position indicator on compensator. Picked up and RIH wear bushing. Made up emergency hang off tool and racked back in mast. Made up 8 1/2" drillout BHA and RIH. Made up RTTS packer and RIH to 190m (packer depth, 445m bit depth). Set RTTS Packer. Broke circulation. Pressure tested lines to 4000psi/5 min. Pressure tested casing patch to 4000psi. Unseated packer and POOH to 255m. Laid out RTTS packer and picked up drill pipe from deck and RIH .

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	1	3 Days	Held abandon drill	
Emergency Drill	1	2 Days	Full Emergency drill performed.	
Fire Drill	1	3 Days	Main deck - Fire in rubbish container	
Permit To Work	14	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	6	0 Days	Prejob safety meetings	
STOP Card	60	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 06 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P13	TP (RE)	G11	0000	1100	11.00	2520.0m	Continued to troubleshoot top drive hydraulic system, pipe handler and alignment problems. Prepared 8 1/2" drillout BHA. Changed out saver sub. Tested TDS and pipe handler. Perform alignment test and checked hook position indicator on compenstor. ADA Drilling Supervisor witnessed and excepted repairs and improvements.
P17	TP (WB)	G12	1100	1400	3.00	2520.0m	Picked up wear bushing running tool and made up wear bushing. RIH and landed out in wellhead @ 92.5m. 25klbs down weight applied and overpulled 30klbs - bushing set. POOH running tool.
P17	TP (WB)	G21	1400	1430	0.50	2520.0m	Picked up jammed wear bushing running tool with bushing attached from deck and attempted to free from running tool - no success. Laid out same.
P17	TP (WB)	G5	1430	1530	1.00	2520.0m	Made up emergency hang off tool and racked in mast.
P17	TP (WB)	G6	1530	1900	3.50	2520.0m	Made up 8 1/2" drillout BHA and RIH to 255m while checking serial numbers on all components.
P17	TP (WB)	G2	1900	2000	1.00	2520.0m	Made up RTTS packer to string and RIH packer to 190m packer depth (445m bit depth).
P17	TP	F4	2000	2030	0.50	2520.0m	Broke circulation and held prejob toolbox talk.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	(WB) TP (WB)	P1	2030	2130	1.00	2520.0m	Set RTTS Packer. Lined up cement pump to pump down choke line. Broke circulation with 5bbls. Pressure tested lines to 4000psi/5 min. Closed lower annular and performed pressure test on casing patch to 4000psi in 500psi increments, held for 10 min - good test. Total amount of bbls pumped = 1.75bbls. Volume returned 1.5bbls.
P17	TP (WB)	G8	2130	2300	1.50	2520.0m	Unseat packer & POOH to 255m. Laid out RTTS packer.
P17	U	G8	2300	2400	1.00	2520.0m	Picked up drill pipe from deck and RIH from 255m to 402m.

Operations For Period 0000 Hrs to 0600 Hrs on 07 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	U	G8	0000	0300	3.00	2520.0m	Continued to pick up drill pipe from deck and RIH from 402m to 900m. Filled pipe. 75 joints total picked up.
P17	U	G8	0300	0600	3.00	2520.0m	(IN PROGRESS) Continued to RIH with stands from 900m to 2402m. Filled pipe every 20 stands.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 06 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	13	06 Nov 2009	06 Nov 2009	867.00	36.125	2520.0m

General Comments

00:00 TO 24:00 Hrs ON 06 Nov 2009

WBM Data — Cost Today US$ 227

Mud Type:	KCl POLYMER	API FL:	4.0cc/30min	Cl:	42500mg/l	Solids(%vol):	3%
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%
Time:	11:00 hrs	HTHP-FL:	9.8cc/30min	Hard/Ca:	380mg/l	Oil(%):	
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	11	Sand:	.3
Temp:				PM:	0.3	pH:	9.5
				PF:	0.2	PHPA:	2ppb
Comment		Note: Cost is in AUD					

Viscosity	65sec/qt
PV	11cp
YP	26lb/100ft²
Gels 10s	11
Gels 10m	15
Fann 003	10
Fann 006	12
Fann 100	26
Fann 200	32
Fann 300	37
Fann 600	48

Bit # 4

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles	Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	8.50in	IADC#	117	No. Size	Progress		Cumul. Progress	0.0m
Mfr:	Baker Huhes Chistensen	WOB(avg)			On Bottom Hrs		Cumul. On Btm Hrs	0.0h
Type:	Rock	RPM(avg)			IADC Drill Hrs		Cumul. IADC Drill Hrs	0.0h
Serial No.:	6076381	F.Rate			Total Revs		Cumul. Total Revs	0
Bit Model	8 1/2 GT-1	SPP			ROP(avg)	N/A	ROP(avg)	0.00 m/hr
Depth In	2520.0m	HSI						
Depth Out		TFA	0.000					

Bit Comment

BHA # 24

Weight(Wet)	50000.00klb	Length	255.7m	Torque(max)		D.C. (1) Ann Velocity	0fpm

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Wt Below Jar(Wet)	25000.00klb	String		Torque(Off.Btm)	D.C. (2) Ann Velocity 0fpm
		Pick-Up		Torque(On.Btm)	H.W.D.P. Ann Velocity 0fpm
		Slack-Off			D.P. Ann Velocity 0fpm

BHA Run Description	Drill out 9 5/8 casing shoe BHA.
BHA Run Comment	Note/ No jets installed in bit incase cmt squeeze job is required.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.25m	8.50in	2.25in	6076381	
Bit Sub	1.19m	6.88in	2.38in	87	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	13	0	542.0
Drill Water	m3	0	0	0	604.0
Pot Water	m3	46	27	0	266.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	167.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	1	0	24.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	37.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.09	97			
2	Continental Emsco	6.50	1.09	97			
3	Continental Emsco	6.50	1.09	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40			50		
	30			40			50		

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	48
GRN	4
OMS	14
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
Sperry Sun	3
Origin Energy	2
Other Contractor	1
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford / Fergus Spencer

Available	**2776.1bbl**	**Losses**	**0.0bbl**
Active	734.5bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	891.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 06 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	12kn	65.0deg	1026.0mbar	10C°	1.0m	60.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.9m	0.4deg	1.0deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	260.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	182.0
2	195.0
3	150.0
4	197.0
5	209.0
6	196.0
7	180.0
8	195.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			Alongside Melbourne

Item	Unit	Used	Quantity
Rig Fuel	M3		630
Potable Water	M3		495
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	0630 hrs 3/10/09		Rig Standby.

Item	Unit	Used	Quantity
Rig Fuel	M3		463
Pot Water	M3		524

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Item	Unit	Used	Quantity
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

1310 - 1515 hrs, Cargo operations.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0859 / 0914	11 / 12	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 38
Trefoil-2

07 Nov 2009

From: Bryan Houston / Paul Leathem
To: Phil Stratford

Well Data

Country	Australia	MDBRT	2523.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2523.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	3.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$594,231
Rig	Kan Tan IV	Days from spud	32.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$26,964,367
Wtr Dpth(MSL)	69.0m	Days on well	37.13	FIT/LOT:	11.00ppg /		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	RIH 8 1/2" BHA on 5" DP.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Continue to RIH. Drill ahead 8 1/2" hole to CP #1.		

Summary of Period 0000 to 2400 Hrs

Continued to pick up drill pipe from deck and RIH. 75 joints total picked up. Continued to RIH to 2402m. Washed and reamed from 2402m to 2494m. Tagged float collar. Took SCRs & CLF. Performed well control exercise with drill crew. Drilled out shoe track. Shoe depth 2520m. Drilled 3m of new formation from 2520m to 2523m. Pumped 25bbls Hi Vis pill and circulated hole clean. Performed FIT to 740psi with 9.4ppg mud = 11 ppg EMW. Pumped slug and POOH. Held time out for safety.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	1	0 Days	Held abandon drill	
Emergency Drill	1	3 Days	Full Emergency drill performed	
Fire Drill	1	0 Days	Main deck - Fire in Control room	
Flash Reports	1	0 Days	Flash Report #047	Pin from shackle dropped from derrickmans pull back tugger.
Permit To Work	16	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	6	0 Days	Prejob safety meetings	
STOP Card	60	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Perform well control exercise with drill crew	Performed well control exercise with drill crew.

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 07 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	U	G8	0000	0300	3.00	2520.0m	Continued to pick up drill pipe from deck and RIH from 402m to 900m. Filled pipe. 75 joints total picked up.
P17	U	G8	0300	0800	5.00	2520.0m	Continued to RIH with stands from 900m to 2402m. Filled pipe every 20 stands.
P17	U	F1	0800	0930	1.50	2520.0m	Washed and reamed from 2402m to 2494m. Tagged float collar.
P17	U	G23	0930	1030	1.00	2520.0m	Took SCRs and CLF. Performed well control exercise with drill crew.
P17	P	D8	1030	1200	1.50	2523.0m	Drilled out shoe track with 5-10klbs WOB (70rpm, 140spm=700gpm @ 1550psi). Shoe depth 2520m. Drilled 3m of new formation from 2520m to 2523m.
P17	P	F4	1200	1300	1.00	2523.0m	Pumped 25bbls Hi Vis pill and circulated hole clean with 140spm=700gpm @ 1550psi. Installed Geoservices bracket.
P17	P	E1	1300	1530	2.50	2523.0m	Pulled back inside casing shoe to rig up and perform FIT to 710psi = 11.0 ppg EMW.
P17	U	G8	1530	2000	4.50	2523.0m	Pumped slug and POOH from 2520m to 257m.
P17	U	G14	2000	2130	1.50	2523.0m	Performed flow check prior to pulling BHA through the BOPs. POOH and racked back

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							BHA from 257m - 54m.
P17	U	G23	2130	2230	1.00	2523.0m	Time out for safety. Roughnecks heard something land on the rig floor which had dropped from out of the derrick. Inspection found that the pin of a shackle used by the derrickman on a sheave on his pull back tugger at the monkey board level had fallen out. Performed mast inspection and checked all other similar shackles and sheaves in the mast prior to continuing operations. Flash Report #047
P17	U	G8	2230	2300	0.50	2523.0m	Continued to POOH BHA from 54m to surface. Dull bit (#4) grade 1-1-WT-A-E-I-NO-BHA.
P17	P	G6	2300	2400	1.00	2523.0m	Picked up and made up 8 1/2" PDC bit and BHA.

Operations For Period 0000 Hrs to 0600 Hrs on 08 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G6	0000	0100	1.00	2523.0m	Picked up and RIH 8 1/2" BHA to 31m.
P17	P	G7	0100	0230	1.50	2523.0m	Downloaded MWD tools and installed radio active source.
P17	P	G6	0230	0330	1.00	2523.0m	Continued to pick up BHA and RIH from 31m to 180m.
P17	P	G7	0330	0430	1.00	2523.0m	Performed shallow water test of MWD tools (127spm/635gpm/1150psi).
P17	P	G6	0430	0500	0.50	2523.0m	Continued to RIH BHA from 180m to 287m.
P17	P	G8	0500	0600	1.00	2523.0m	(IN PROGRESS) RIH 8 1/2" BHA on 5" DP from 287m to 2457m. Filled every 15 stands.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 07 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	37	06 Nov 2009	07 Nov 2009	891.00	37.125	2523.0m

General Comments

00:00 TO 24:00 Hrs ON 07 Nov 2009

WBM Data

Cost Today US$ 3216

Mud Type:	KCl POLYMER	API FL:	4.0cc/30min	Cl:	42500mg/l	Solids(%vol):	3%	Viscosity	66sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	11cp
Time:	07:30 hrs	HTHP-FL:	10.5cc/30min	Hard/Ca:	400mg/l	Oil(%):		YP	25lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	12	Sand:	.3	Gels 10s	9
Temp:				PM:	0.2	pH:	9	Gels 10m	15
				PF:	0.15	PHPA:	2ppb	Fann 003	9
								Fann 006	10
								Fann 100	26
								Fann 200	32
								Fann 300	36
								Fann 600	47

Comment — Note: Cost is in AUD

Bit # 4

Wear	I	O1	D	L	B	G	O2	R
	1	1	WT	A	1	I		BHA

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	8.50in	IADC#	117	No.	Size	Progress	3.0m	Cumul. Progress	3.0m
Mfr:	Baker Huhes Chistensen	WOB(avg)	3.30klb			On Bottom Hrs	0.5h	Cumul. On Btm Hrs	0.5h
Type:	Rock	RPM(avg)	72			IADC Drill Hrs	0.2h	Cumul. IADC Drill Hrs	0.2h
Serial No.:	6076381	F.Rate	729gpm			Total Revs		Cumul. Total Revs	0
Bit Model	8 1/2 GT-1	SPP	1617psi			ROP(avg)	6.00 m/hr	ROP(avg)	6.00 m/hr
Depth In	2520.0m	HSI							
Depth Out	2523.0m	TFA	0.000						

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Bit Comment

BHA # 24

Weight(Wet)	50000.00klb	Length	255.7m	Torque(max)		D.C. (1) Ann Velocity	670fpm
Wt Below Jar(Wet)	25000.00klb	String	330.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up	340.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	378fpm
		Slack-Off	320.00klb			D.P. Ann Velocity	378fpm

BHA Run Description	Drill out 9 5/8 casing shoe BHA.
BHA Run Comment	Note/ No jets installed in bit incase cmt squeeze job is required.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.25m	8.50in	2.25in	6076381	
Bit Sub	1.19m	6.88in	2.38in	87	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10	0	532.0
Drill Water	m3	30	0	0	634.0
Pot Water	m3	14	25	0	255.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	167.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	8	0	16.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	3	0	34.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs | **Slow Pump Data**

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	Continental Emsco	6.50	1.12	97	85	1617	729	2520.0	30	320	252	40	360	336	50	450	420
2	Continental Emsco	6.50	1.12	97	85	1617	729	2520.0	30	310	252	40	360	336	50	460	420
3	Continental Emsco	6.50	1.12	97	85	1617	729	2520.0	30	300	252	40	350	336	50	440	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
13.38	15.15ppg /	930.00m / 930.00m	cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater. 13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	48
GRN	4
OMS	14
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
Sperry Sun	3
Origin Energy	2
Other Contractor	1
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**2306.9bbl**
Active	750.0bbl
Mixing	0.0bbl
Hole	695.9bbl
Slug	
Reserve	861.0bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 07 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	18kn	50.0deg	1025.0mbar	13C°	1.0m	60.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.9m	0.4deg	1.0deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	160.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	183.0
2	188.0
3	158.0
4	194.0
5	210.0
6	195.0
7	181.0
8	194.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	1920 hrs 7/10/09		Rig standby

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		629
Potable Water	M3		490
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

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Arrived from Melbourne @ 1920hrs.

Far Fosna	0630 hrs 3/10/09		Rig Standby.

Item	Unit	Used	Quantity
Rig Fuel	M3		456
Pot Water	M3		516
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

1330 - 1515 hrs, Cargo operations.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	/	/	

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Australian Drilling Associates Pty Ltd ADA

08 Nov 2009

From: Bryan Houston / Paul Leathem
To: Phil Stratford

DRILLING MORNING REPORT # 39
Trefoil-2

Well Data

Country	Australia	MDBRT	2629.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2629.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$567,646
Rig	Kan Tan IV	Days from spud	33.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$27,532,013
Wtr Dpth(MSL)	69.0m	Days on well	38.13	FIT/LOT:	11.00ppg /		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	POOH with 8 1/2" BHA.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Continue to POOH BHA. Troubleshoot MWD problems. RIH BHA.		

Summary of Period 0000 to 2400 Hrs

Downloaded MWD tools and installed radio active source. Performed shallow water test of MWD tools. Circulated and monitored well while rig had safety stand down. Reamed through float and shoe collar area 2 or 3 times due to new stiffer BHA. POOH to shoe for Geoservices to troubleshoot their systems. Continued to drill ahead 8 1/2" hole.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	1	1 Day	Held abandon drill	
Emergency Drill	1	4 Days	Full emergency drill performed	
Fire Drill	1	1 Day	Main deck - Fire in Control room	
Permit To Work	18	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	11	0 Days	Prejob safety meetings	
Safety Stand Down Meeting	1	0 Days	Time out due to dropped object	Time out for safety meeting called - dropped objects 2 x marine dept safety meetings 1x drilling dept safety meeting 1 x catering dept safety meeting
STOP Card	50	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 08 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G6	0000	0100	1.00	2523.0m	Picked up and RIH 8 1/2" BHA to 31m.
P17	P	G7	0100	0230	1.50	2523.0m	Downloaded MWD tools and installed radio active source.
P17	P	G6	0230	0330	1.00	2523.0m	Continued to pick up BHA and RIH from 31m to 180m.
P17	P	G7	0330	0430	1.00	2523.0m	Performed shallow water test of MWD tools (127spm/635gpm/1150psi).
P17	P	G6	0430	0500	0.50	2523.0m	Continued to RIH BHA from 180m to 287m.
P17	P	G8	0500	0930	4.50	2523.0m	RIH 8 1/2" BHA on 5" DP from 287m to 2457m. Filled every 15 stands.
P17	U	G23	0930	1030	1.00	2523.0m	Circulated and monitored well while rig has safety stand down.
P17	P	G11	1030	1100	0.50	2523.0m	Serviced TDS and inspected dolly rollers.
P17	P	F1	1100	1400	3.00	2523.0m	Reamed down from 2457m to 2523m. Reamed through float and shoe collar area 2 or 3 times due to new stiffer BHA.
P17	P	D2	1400	1430	0.50	2540.0m	Drilled new 8 1/2" hole from 2523m to 2540m (141spm/721gpm/2450psi/110rpm/3-10 torque/10klbs WOB, MW=9.3ppg).
P17	TP	G8	1430	1530	1.00	2540.0m	POOH to shoe for Geoservice to troubleshoot their systems.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	(TP) P	D2	1530	2400	8.50	2629.0m	Continued to drill ahead from 2540m - 2629m. Encountered high vibration and stick slip on down hole MWD tools at 2670m. Adjusted parameters to suit (141spm/700gpm/2470psi/110rpm/3-10 torque/10-15klbs WOB, MW=9.3ppg). Drilled from 2610m to 2629m with no depth reference for MWD as MWD geolograph cable parted in mast. Drill crew installed new cable to spool during this period.

Operations For Period 0000 Hrs to 0600 Hrs on 09 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	TP (TP)	G15	0000	0100	1.00	2520.0m	Re-log from 2610m to 2629m due to MWD and Geoservices geolograph cables in the mast getting tangled and parting during the making of the previous connection.
P17	TP (TP)	G15	0100	0200	1.00	2520.0m	Made up connection at 2629m. MWD tools failed to return any signal. Attempted to recycle pumps and performed mode switch to reset tools.
P17	P	D2	0200	0230	0.50	2633.0m	Drilled from 2629m to 2633m while continuing to troubleshoot MWD problems. All attempts failed.
P17	TP (TP)	F4	0230	0330	1.00	2633.0m	Circulated bottoms up to clean well and allowed Geoservices to gather samples.
P17	TP (TP)	D7	0330	0430	1.00	2633.0m	Pumped out of hole to shoe from 2633m - 2520m.
P17	TP (TP)	G14	0430	0500	0.50	2633.0m	Performed flow check and pumped slug.
P17	TP (TP)	G8	0500	0600	1.00	2633.0m	Continued to POOH from 2520m to 2100m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 08 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	61	06 Nov 2009	08 Nov 2009	915.00	38.125	2629.0m

General Comments

00:00 TO 24:00 Hrs ON 08 Nov 2009

WBM Data

Cost Today US$ 20923

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	41000mg/l	Solids(%vol):	3%	Viscosity	46sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	13cp
Time:	21:30	HTHP-FL:	10.2cc/30min	Hard/Ca:	375mg/l	Oil(%):		YP	26lb/100ft²
Weight:	9.35ppg	HTHP-cake:	1/32nd"	MBT:	11	Sand:	.25	Gels 10s	11
Temp:				PM:	0.1	pH:	9	Gels 10m	15
				PF:	0.15	PHPA:	2ppb	Fann 003	11
								Fann 006	14
								Fann 100	27
								Fann 200	35
								Fann 300	39
								Fann 600	52

Comment — Note: Cost is in AUD

Bit # 4

Wear	I	O1	D	L	B	G	O2	R
	1	1	WT	A	1	I		BHA

Bitwear Comments:

Size ("):	8.50in	IADC#	117	Nozzles	Drilled over last 24 hrs	Calculated over Bit Run

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Mfr:	Baker Huhes Chistensen	WOB(avg)	3.30klb	No. Size	Progress	0.0m	Cumul. Progress	3.0m
Type:	Rock	RPM(avg)	72		On Bottom Hrs	0.0h	Cumul. On Btm Hrs	0.5h
Serial No.:	6076381	F.Rate	729gpm		IADC Drill Hrs	0.0h	Cumul. IADC Drill Hrs	0.2h
Bit Model	8 1/2 GT-1	SPP	1617psi		Total Revs		Cumul. Total Revs	0
Depth In	2520.0m	HSI			ROP(avg)	N/A	ROP(avg)	6.00 m/hr
Depth Out	2523.0m	TFA	0.000					
Bit Comment								

Bit # 5

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

Size ("):	8.50in	IADC#	M223	**Nozzles**	**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	SMITH	WOB(avg)		No. Size	Progress		Cumul. Progress	0.0m
Type:	PDC	RPM(avg)			On Bottom Hrs		Cumul. On Btm Hrs	0.0h
Serial No.:	TX2104	F.Rate			IADC Drill Hrs		Cumul. IADC Drill Hrs	0.0h
Bit Model	MI 616	SPP			Total Revs		Cumul. Total Revs	0
Depth In	2503.0m	HSI			ROP(avg)	N/A	ROP(avg)	0.00 m/hr
Depth Out		TFA	0.000					
Bit Comment		6x14/32 jets.						

BHA # 25

Weight(Wet)	50000.00klb	Length	287.6m	Torque(max)	18000ft-lbs	D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)	25000.00klb	String	330.00klb	Torque(Off.Btm)	4500ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	340.00klb	Torque(On.Btm)	9000ft-lbs	H.W.D.P. Ann Velocity	0fpm
		Slack-Off	320.00klb			D.P. Ann Velocity	0fpm
BHA Run Description		8 1/2 Drilling BHA					
BHA Run Comment							

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.78m	6.88in	3.25in	700172	
Gamma-Ray	7.03m	8.25in	3.00in	90222557	
DM sub	2.79m	6.63in	2.88in	194443	
MWD	8.45m	8.25in	3.25in	90219755n212	
Sonic 6	6.72m	7.38in	3.00in	90227156-06	
Pulser	3.05m	6.81in	2.88in	203846-hoc	
MWD	1.83m	7.13in	1.88in	90223655B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

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Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2524.75	1.0	97.2	2524.47				0.1	
2557.55	1.1		2557.26				0.2	MWD
2588.20	1.3		2587.91				0.2	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	14	0	518.0
Drill Water	m3	38	5	0	667.0
Pot Water	m3	13	22	0	246.0
Brine	m3	0	0	0	71.0
Barite	MT	0	0	0	167.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	3	0	13.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	34.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97	71	2543	703
2	Continental Emsco	6.50	1.12	97	73	2543	703
3	Continental Emsco	6.50	1.12	97	85	1617	729

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2520.0	30	310	252	40	340	336	50	550	420
2520.0	30	330	252	40	440	336	50	530	420
2520.0	30	300	252	40	350	336	50	440	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	48
GRN	4
OMS	14
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton	3
Halliburton (Baroid)	2
Dril-Quip	1
Fugro ROV	3
Swaco	1
Sperry Sun	3
Origin Energy	2

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Personnel On Board

Other Contractor	1
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**2225.7bbl**	**Losses**	**112.0bbl**
Active	715.0bbl	Downhole	
Mixing		Surf+ Equip	64.0bbl
Hole	576.7bbl	Dumped	
Slug		De-Gasser	
Reserve	934.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge Evaporation	48.0bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 08 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	15kn	45.0deg	1024.0mbar	15C°	2.0m	50.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.4m	1.0deg	1.1deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	240.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	183.0
2	188.0
3	162.0
4	191.0
5	210.0
6	195.0
7	181.0
8	202.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	1920 hrs 7/10/09		Rig standby

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		610
Potable Water	M3		525
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

#1 Main engine out of service due to fly wheel problem.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		1135hrs 7 Nov 09	Rig Standby.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		440
Pot Water	M3		508
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

1125 - 1135 hrs, Cargo operations.
1135hrs En route to Melbourne.

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	/	/	

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 40
Trefoil-2

09 Nov 2009

From: Bryan Houston / Paul Leathem
To: Phil Stratford

Well Data

Country	Australia	MDBRT	2633.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2633.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	100.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$611,990
Rig	Kan Tan IV	Days from spud	34.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$28,144,003
Wtr Dpth(MSL)	69.0m	Days on well	39.13	FIT/LOT:	11.00ppg /		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	RIH with 8 1/2" drilling BHA #26.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Slipped and cut drill line. Performed SCRs. Flushed C&K lines. Drilled ahead 8 1/2" new hole.		

Summary of Period 0000 to 2400 Hrs

Re-log from 2610m to 2629m. Drilled to 2633m. MWD tools failed to return any signal. Circulated bottoms up. Pumped out of hole to shoe. Performed flow check and pumped slug. Continued to POOH to surface. Downloaded tools and radio active source and racked back in mast. Drill floor maintenance taking place. Installed bracket for Geoservice and MWD line. Performed mast inspection. Fixed oil leak on top drive. Checked dolly rollers. Cleaned discharge strainers on mud pumps. Repaired drillers Totco readout panel. Laid out MWD tools from the mast. Picked up and made up MWD tools from the deck and RIH. Downloaded and tested MWD tools. Installed radioactive sources. Continued to make up and RIH 8 1/2" BHA to 89m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	2 Days	Held abandon Drill	
Emergency Drill	0	5 Days	Full Emergency drill performed.	
Fire Drill	0	2 Days	Main deck - Fire in Control room	
Flash Reports	1	0 Days	Dropped object from RBS	At the time of the incident the drill crew was folding back the Raised Back-up System (RBS) when a roughneck observed a spring loaded button drop approximately 15 ft off the RBS to the drill floor. The button dropped to the red zone of the drill floor which was clear of personnel as per procedure. Joule Energy = 9 joules. Synergi No. 398109 Flash Report #49
Permit To Work	11	0 Days	Permits administerd.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	9	0 Days	Prejob safety meetings	1x Drilling dept safety meeting 1 x 3rd party safety meeting
STOP Card	41	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill. 36 sec	Held while POOH

FORMATION

Name	Top
Upper Angahook	1162.00m
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m

Operations For Period 0000 Hrs to 2400 Hrs on 09 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	TP (TP)	G15	0000	0100	1.00	2629.0m	Re-logged from 2610m to 2629m due to the MWD and Geoservices geolograph cables in the mast getting tangled and parting during the making of the previous connection.
P17	TP (TP)	G15	0100	0200	1.00	2629.0m	Made up connection at 2629m. MWD tools failed to return any signal. Attempted to recycle pumps and performed mode switch to reset tools.
P17	P	D2	0200	0230	0.50	2633.0m	Drilled from 2629m to 2633m while continuing to troubleshoot MWD problems. All attempts failed.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	TP (TP)	F4	0230	0330	1.00	2633.0m	Circulated bottoms up to clean well and allowed Geoservices to gather samples.
P17	TP (TP)	D7	0330	0430	1.00	2633.0m	Pumped out of hole to shoe from 2633m to 2520m.
P17	TP (TP)	G14	0430	0500	0.50	2633.0m	Performed flow check and pumped slug.
P17	TP (TP)	G8	0500	0930	4.50	2633.0m	Continued to POOH from 2520m to 403m.
P17	TP (TP)	G8	0930	1230	3.00	2633.0m	Flowchecked and POOH BHA to surface. Downloaded radio active source and racked back in mast.
P17	TP (RE)	G11	1230	1730	5.00	2633.0m	Performed drill floor maintenance. Performed mast inspection. Fixed oil leak on top drive. Checked dolly rollers. Cleaned discharge strainers on the mud pumps. Repaired drillers Totco readout panel. Installed bracket for Geoservices and MWD line.
P17	TP (TP)	G7	1730	2000	2.50	2633.0m	Laid out MWD tools from the mast. Dull bit grade = 0-1-WT-G-X-I-No-DTF.
P17	TP (TP)	G7	2000	2200	2.00	2633.0m	Picked up and made up MWD tools form the deck and RIH to 31m (Bit #5RR).
P17	TP (TP)	G7	2200	2300	1.00	2633.0m	Downloaded and tested MWD Tools. Installed radioactive sources.
P17	TP (TP)	G8	2300	2400	1.00	2633.0m	Continued to make up and RIH 8 1/2" BHA # 26 from 31m to 89m.

Operations For Period 0000 Hrs to 0600 Hrs on 10 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	TP (TP)	G8	0000	0100	1.00	2633.0m	Continud to pick up BHA and RIH to 175m.
P17	TP (TP)	G15	0100	0130	0.50	2633.0m	Performed shallow test on MWD tools @ 600gpm/1020psi - ok.
P17	TP (TP)	G8	0130	0200	0.50	2633.0m	Continued to make up and RIH BHA from 175m to 288m.
P17	TP (TP)	G8	0200	0600	4.00	2633.0m	RIH 8 1/2" BHA #26 on 5" DP. Monitored well on trip tank. Stopped and filled every 25 stands from 288m - 2520m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 09 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	85	06 Nov 2009	09 Nov 2009	939.00	39.125	2633.0m

General Comments

00:00 TO 24:00 Hrs ON 09 Nov 2009

WBM Data — Cost Today US$ 16592

Mud Type:	KCl POLYMER	API FL:	4.7cc/30min	Cl:	41000mg/l	Solids(%vol):	3%	Viscosity	68sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%	PV	11cp
Time:	21:30 hrs	HTHP-FL:	10.5cc/30min	Hard/Ca:	375mg/l	Oil(%):		YP	26lb/100ft²
Weight:	9.40ppg	HTHP-cake:	2/32nd"	MBT:	11	Sand:	.3	Gels 10s	10
Temp:				PM:	0.3	pH:	9	Gels 10m	12
				PF:	0.25	PHPA:	2ppb	Fann 003	9
								Fann 006	11
								Fann 100	25
								Fann 200	32
								Fann 300	37
								Fann 600	48

Comment — Note: Cost is in AUD

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Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles	Drilled over last 24 hrs		Calculated over Bit Run	
Size (''):	8.50in	IADC#	M223		Progress		Cumul. Progress	0.0m
Mfr:	SMITH	WOB(avg)		No. Size	On Bottom Hrs		Cumul. On Btm Hrs	0.0h
Type:	PDC	RPM(avg)		6 14/32nd"	IADC Drill Hrs		Cumul. IADC Drill Hrs	0.0h
Serial No.:	TX2104	F.Rate			Total Revs		Cumul. Total Revs	0
Bit Model	MI616	SPP			ROP(avg)	N/A	ROP(avg)	0.00 m/hr
Depth In	2633.0m	HSI						
Depth Out		TFA	0.902					
Bit Comment		Re Run Bit # 5						

Bit # 5

Wear	I	O1	D	L	B	G	O2	R
	0	1	WT	G1	X	I	NO	DTF

Bitwear Comments:

				Nozzles	Drilled over last 24 hrs		Calculated over Bit Run	
Size (''):	8.50in	IADC#	M223		Progress	100.0m	Cumul. Progress	100.0m
Mfr:	SMITH	WOB(avg)	6.60klb	No. Size	On Bottom Hrs	5.5h	Cumul. On Btm Hrs	5.5h
Type:	PDC	RPM(avg)	100		IADC Drill Hrs		Cumul. IADC Drill Hrs	0.0h
Serial No.:	TX2104	F.Rate	712gpm		Total Revs		Cumul. Total Revs	0
Bit Model	MI 616	SPP	2500psi		ROP(avg)	18.18 m/hr	ROP(avg)	18.18 m/hr
Depth In	2503.0m	HSI						
Depth Out	2633.0m	TFA	0.000					
Bit Comment		6x14/32 jets.						

BHA # 26

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)		D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)	25000.00klb	String		Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	0fpm
		Slack-Off				D.P. Ann Velocity	0fpm
BHA Run Description		8 1/2 Drilling BHA					
BHA Run Comment							

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	

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Equipment	Length	OD	ID	Serial #	Comment
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

BHA # 25

Weight(Wet)	50000.00klb	Length	287.6m	Torque(max)	18000ft-lbs	D.C. (1) Ann Velocity	
Wt Below Jar(Wet)	25000.00klb	String	330.00klb	Torque(Off.Btm)	4500ft-lbs	D.C. (2) Ann Velocity	
		Pick-Up	340.00klb	Torque(On.Btm)	9000ft-lbs	H.W.D.P. Ann Velocity	
		Slack-Off	320.00klb			D.P. Ann Velocity	

BHA Run Description: 8 1/2 Drilling BHA

BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.78m	6.88in	3.25in	700172	
Gamma-Ray	7.03m	8.25in	3.00in	90222557	
DM sub	2.79m	6.63in	2.88in	194443	
MWD	8.45m	8.25in	3.25in	90219755n212	
Sonic 6	6.72m	7.38in	3.00in	90227156-06	
Pulser	3.05m	6.81in	2.88in	203846-hoc	
MWD	1.83m	7.13in	1.88in	90223655B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10	0	508.0
Drill Water	m3	39	15	0	691.0
Pot Water	m3	0	23	0	223.0
Brine	m3	90	0	0	161.0
Barite	MT	0	22	0	145.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	1	0	12.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	0	0	34.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner	MW	Eff (%)	SPM	SPP	Flow

Slow Pump Data

Depth	SPM1	SPP1	Flow1(gpm)	SPM2	SPP2	Flow2	SPM3	SPP3	Flow3

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
		(in)	(sg)		(SPM)	(psi)	(gpm)	(m)	(SPM)	(psi)		(SPM)	(psi)	(gpm)	(SPM)	(psi)	(gpm)
1	Continental Emsco	6.50	1.12	97	71	2543	703	2520.0	30	310	252	40	340	336	50	550	420
2	Continental Emsco	6.50	1.12	97	73	2543	703	2520.0	30	330	252	40	440	336	50	530	420
3	Continental Emsco	6.50	1.12	97	85	1617	729	2520.0	30	300	252	40	350	336	50	440	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	6
Maersk	48
GRN	2
OMS	16
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	1
Dril-Quip	1
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / James Munford

Available	**2250.0bbl**	**Losses**	**0.0bbl**	Equipment	Description	Mesh Size	Comments
Active	697.0bbl	Downhole		Shaker 1	Brandt VSM 300	20 top/50 bottom	
Mixing	0.0bbl	Surf+ Equip	0.0bbl	Shaker 2	Brandt VSM 300	20 top/50 bottom	
Hole	709.0bbl	Dumped		Shaker 3	Brandt VSM 300	20 top/50 bottom	
Slug		De-Gasser		Shaker 4	Brandt VSM 300	20 top/50 bottom	
Reserve	844.0bbl	De-Sander					
Kill		De-Silter					
		Centrifuge					

Marine

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Weather on 09 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	3kn	25.0deg	1020.0mbar	17C°	0.0m	25.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.2m	0.8deg	1.2deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
1.5m	260.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	183.0
2	188.0
3	156.0
4	188.0
5	205.0
6	190.0
7	181.0
8	205.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	1920 hrs 7/10/09		Rig standby

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		610
Potable Water	M3		525
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

1030 - 1130 alongside offloading Brine to rig.

#1 Main engine out of service due to fly wheel problem.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		1135hrs 7 Nov 09	Melbourne

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		440
Pot Water	M3		508
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0945 / 0954	10 / 10	Crew Change

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Australian Drilling Associates Pty Ltd ADA

10 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 41
Trefoil-2

Well Data

Country	Australia	MDBRT	2774.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2774.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	141.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$562,791
Rig	Kan Tan IV	Days from spud	35.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$28,706,794
Wtr Dpth(MSL)	69.0m	Days on well	40.13	FIT/LOT:	11.00ppg /		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Drilling ahead 8 1/2" hole at 2881m.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Drill ahead 8 1/2" hole to core point #1. POOH.		

Summary of Period 0000 to 2400 Hrs

Continued to pick up BHA and RIH. Performed shallow test on MWD tools. Continued to make up and RIH. Slipped and cut drilling line. Attached Geoservices and Sperry geolograph line. Drilled 8 1/2" hole from 2633m to 2644m. Monitored 40bbls losses. Flow checked on trip tank. Checked mud tanks and shale shaker areas and found that there was a blockage from sand traps to mud pit. Cleared blockage and circulated at 700gpm. Continued to drill ahead 8 1/2" hole to 2774m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	3 Days	Held abandon Drill	
Emergency Drill	0	6 Days	Full Emergency drill performed.	
Fire Drill	0	3 Days	Main deck - Fire in Control room	
Flash Reports	1	0 Days	Back strain	While loading 25 Kg sacks of product (Baroid Pac-LE) from a pallet into the Mixing Hopper the IP suffered a soft tissue strain injury to his lower back as he rotated sideways to place the full sack on the mixing hopper table. Flash Report #40
Permit To Work	14	0 Days	Permits administerd.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	7	0 Days	Prejob safety meetings	ADA conference call today
STOP Card	40	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill. 33 sec	Held while RIH

FORMATION

Name	Top
Angahook Volcanics Equiv	1331.00m
Lower Angahook	1569.00m
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m
Eocene Unconformity	2701.50m

Operations For Period 0000 Hrs to 2400 Hrs on 10 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	TP (TP)	G8	0000	0100	1.00	2633.0m	Continued to pick up BHA and RIH to 175m.
P17	TP (TP)	G15	0100	0130	0.50	2633.0m	Performed shallow test on MWD tools at 600gpm/1020psi - ok.
P17	TP (TP)	G8	0130	0200	0.50	2633.0m	Continued to make up and RIH BHA from 175m to 288m.
P17	TP (TP)	G8	0200	0630	4.50	2633.0m	RIH 8 1/2" BHA #26 on 5" DP. Monitored well on trip tank. Stopped and filled every 25 stands from 288m to 2520m.
P17	P	G11	0630	0930	3.00	2633.0m	Slipped and cut drilling line, 1/2 hour for crew handover, 1/2 hour PMS Top Drive.
P17	TP (TP)	F1	0930	1030	1.00	2633.0m	Attached Geoservices and Sperry geolograph line. RIH from 2520m to 2577m. Made up the top drive and light reamed to 2,633m. Recorded parameters: hook load 380kips/700gpm/2400psi/125rpm/10k torque/mud weight 9.4ppg.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	D2	1030	1100	0.50	2644.0m	Drilled 8-1/2" hole from 2633m to 2644m with 700gpm/2500psi/10klbs WOB/ 140rpm/10k torque/mud weight 9.4ppg
P17	TP (RE)	G14	1100	1200	1.00	2644.0m	Monitored 40bbls losses. Flow checked on trip tank - ok. Checked mud tanks and shale shaker areas and found that there was a blockage from sand traps to mud pit. Cleared blockage and circulated at 700gpm. No mud lost downhole or to the sea.
P17	P	D2	1200	2400	12.00	2774.0m	Continued to drill ahead 8 1/2" hole from 2644m to 2774m with 700gpm/2500psi/10klbs WOB/140rpm/10k torque/mud weight 9.4ppg. Took surveys on each connection.

Operations For Period 0000 Hrs to 0600 Hrs on 11 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	D2	0000	0600	6.00	2881.0m	Continued to drill ahead 8 1/2" hole from 2774m to 2881m with 700gpm/2500psi/10 - 15klbs WOB/140rpm/10k torque/ mud weight 9.4ppg. Took surveys on each connection.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 10 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	46.5	04 Oct 2009	06 Oct 2009	116.00	4.833	155.0m
Conductor Casing(P3)	37	06 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	109	06 Nov 2009	10 Nov 2009	963.00	40.125	2774.0m

General Comments

00:00 TO 24:00 Hrs ON 10 Nov 2009

WBM Data

Cost Today US$ 12874

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	41000mg/l	Solids(%vol):	4%
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	9%	H2O:	93%
Time:	21:30 hrs	HTHP-FL:	10.5cc/30min	Hard/Ca:	220mg/l	Oil(%):	
Weight:	9.40ppg	HTHP-cake:	1/32nd"	MBT:	11	Sand:	.3
Temp:				PM:	0.3	pH:	9
				PF:	0.25	PHPA:	2ppb

Viscosity	46sec/qt
PV	10cp
YP	28lb/100ft²
Gels 10s	10
Gels 10m	12
Fann 003	8
Fann 006	10
Fann 100	25
Fann 200	32
Fann 300	38
Fann 600	48

Comment — Note: Cost is in AUD

Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	8.50in	IADC#	M223	No.	Size	Progress	141.0m	Cumul. Progress	141.0m
Mfr:	SMITH	WOB(avg)	12.50klb	6	14/32nd"	On Bottom Hrs	8.8h	Cumul. On Btm Hrs	8.8h
Type:	PDC	RPM(avg)	123			IADC Drill Hrs	12.5h	Cumul. IADC Drill Hrs	12.5h
Serial No.:	TX2104	F.Rate	714gpm			Total Revs		Cumul. Total Revs	0
Bit Model	MI616	SPP	2485psi			ROP(avg)	16.02 m/hr	ROP(avg)	16.02 m/hr
Depth In	2633.0m	HSI							
Depth Out		TFA	0.902						

Bit Comment — Re Run Bit # 5

BHA # 26

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)		D.C. (1) Ann Velocity	656fpm
Wt Below Jar(Wet)	25000.00klb	String		Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	370fpm

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	Slack-Off		D.P. Ann Velocity 370fpm

BHA Run Description	8 1/2 Drilling BHA
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2646.63	1.4	86.4	2646.32	28.1	28.1	9.8	0.2	MWD
2674.00	1.5	91.3	2673.68	28.1	28.1	10.5	0.6	MWD
2702.98	1.6	88.3	2702.65	28.1	28.1	11.3	0.4	MWD
2732.91	1.7	88.5	2732.56	28.1	28.1	12.1	0.3	MWD
2762.56	1.9	89.9	2762.20	28.2	28.2	13.1	0.7	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	13	0	495.0
Drill Water	m3	56	9	0	738.0
Pot Water	m3	0	22	0	201.0
Brine	m3	0	0	0	161.0
Barite	MT	0	1	0	144.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	81.2
Caustic Soda	pail	0	4	0	8.0
Lime	sx	0	0	0	4.0
Soda Ash	sx	0	1	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
1	Continental Emsco	6.50	1.12	97	71	2543	703	2520.0	30	340	252	40	440	336	50	560	420
2	Continental Emsco	6.50	1.12	97	73	2543	703	2520.0	30	340	252	40	440	336	50	560	420
3	Continental Emsco	6.50	1.12	97	85	1617	729	2774.0	30	330	252	40	430	336	50	550	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	48
GRN	2
OMS	16
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	1
Dril-Quip	1
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Origin Energy	2
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Fergus Spencer

				Equipment	Description	Mesh Size	Comments
Available	**2103.0bbl**	**Losses**	**0.0bbl**	Shaker 1	Brandt VSM 300	20 top/50 bottom	
Active	685.0bbl	Downhole		Shaker 1	Brandt VSM 300	20 top/50 bottom	
Mixing	0.0bbl	Surf+ Equip	0.0bbl	Shaker 2	Brandt VSM 300	20 top/50 bottom	
Hole	597.0bbl	Dumped		Shaker 2	Brandt VSM 300	20 top/50 bottom	
Slug		De-Gasser		Shaker 3	Brandt VSM 300	20 top/50 bottom	
Reserve	821.0bbl	De-Sander		Shaker 3	Brandt VSM 300	20 top/50 bottom	
Kill		De-Silter		Shaker 4	Brandt VSM 300	20 top/50 bottom	
		Centrifuge		Shaker 4	Brandt VSM 300	20 top/50 bottom	

Marine

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Weather on 10 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	10kn	0.0deg	1019.0mbar	17C°	0.5m	25.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.2m	0.8deg	0.7deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
2.0m	235.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	187.0
2	192.0
3	172.0
4	191.0
5	210.0
6	198.0
7	183.0
8	211.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	1920 hrs 7/10/09		Rig standby

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		600
Potable Water	M3		510
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

#1 Main engine out of service due to fly wheel problem.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		1135hrs 7 Nov 09	Lorrimer Dock, stand-by for material.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		440
Pot Water	M3		508
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

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Australian Drilling Associates Pty Ltd ADA

11 Nov 2009

From: Bryan Houston / Paul Leathem
To: Paul Barrett

DRILLING MORNING REPORT # 42
Trefoil-2

Well Data

Country	Australia	MDBRT	2983.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2983.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	349.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$572,125
Rig	Kan Tan IV	Days from spud	36.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$29,278,919
Wtr Dpth(MSL)	69.0m	Days on well	41.13	FIT/LOT:	11.00ppg /		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Continue to POOH BHA.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Continue to POOH. Make up coring BHA and RIH.		

Summary of Period 0000 to 2400 Hrs

Continued to drill ahead 8 1/2" hole from 2774m to 2950m. Circulated hole clean @ 700gpm/2700psi. Continued to drill ahead 8 1/2" hole from to 2968m. Circulated for geological sample @ 700gpm/2700psi. Took SCRs and continued to drill ahead 8 1/2" hole to 2983m. Circulated for geological sample. Geologist confirmed core point depth @ 2983m. Flow checked and continued to circulate hole clean. Pumped out of the hole from 2983m to 2871m. POOH on elevators monitoring trip tank. Hole in excellent condition.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	4 Days	Held abandon drill	
Emergency Drill	0	7 Days	Full Emergency drill performed.	
Fire Drill	0	4 Days	Main deck - Fire in Control room	
Permit To Work	8	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	10	0 Days	Prejob safety meetings	
STOP Card	45	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	0	1 Day	Trip Drill 36sec	Held while RIH

FORMATION

Name	Top
Demons Bluff	1850.00m
Eastern View Coal Measures	2105.00m
Eocene Unconformity	2701.50m
2973 Seismic Marker	2827.50m
TL40 Sand	2977.00m

Operations For Period 0000 Hrs to 2400 Hrs on 11 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	D2	0000	1230	12.50	2950.0m	Continued to drill ahead 8 1/2" hole from 2774m to 2950m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Took surveys on each connection. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
P17	P	F4	1230	1400	1.50	2950.0m	Racked back stand #93 to enable Driller to work full stand of pipe and circulate hole clean @ 700gpm/2700psi.
P17	P	D2	1400	1730	3.50	2968.0m	Continued to drill ahead 8 1/2" hole from 2950m to 2968m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
P17	P	F4	1730	1900	1.50	2968.0m	Circulated for geological sample @ 700gpm/2700psi. Took SCRs @ 30/40/50 spm.
P17	P	D2	1900	2000	1.00	2983.0m	Continued to drill ahead 8 1/2" hole from 2968m to 2983m with 700gpm/2700psi/10 - 15klbs WOB/140rpm/10-18k torque/ mud weight 9.4ppg. Monitored MWD stick slip, whirl and vibration. Adjusted parameters to suit.
P17	P	F4	2000	2100	1.00	2983.0m	Circulated hole clean @ 700gpm/2700psi.
P17	P	F4	2100	2200	1.00	2983.0m	Geologist confirmed core point depth @ 2983m. Flow check continued to circulate hole clean @ 700gpm/2700psi.
P17	P	D7	2200	2300	1.00	2983.0m	Pumped out of the hole from 2983m - 2871m 350gpm/1400psi

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G8	2300	2400	1.00	2983.0m	POOH on elevators monitoring trip tank from 2871m - 2669m. Hole in good shape. No tight spots observed

Operations For Period 0000 Hrs to 0600 Hrs on 12 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G8	0000	0100	1.00	2983.0m	Continued to POOH on elevators monitoring well on trip tank from 2669m - 2520m (9 5/8" casing shoe). Hole in good condition. No Tight spots observed.
P17	P	G14	0100	0130	0.50	2983.0m	Perform 15 min flow check. Serviced top drive. Removed MWD and Geoservices geolograph lines.
P17	P	G8	0130	0530	4.00	2983.0m	Pumped slug and POOH in casing from 2520m - 380m.
P17	P	G8	0530	0600	0.50	2983.0m	Performed 15 min flow check and continued to POOH from 380m - 288m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 11 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	133	06 Nov 2009	11 Nov 2009	987.00	41.125	2983.0m

General Comments

00:00 TO 24:00 Hrs ON 11 Nov 2009

WBM Data — Cost Today US$ 10739

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	40000mg/l	Solids(%vol):	3%	Viscosity	46sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	8%	H2O:	93%	PV	14cp
Time:	21:30 hrs	HTHP-FL:	10.5cc/30min	Hard/Ca:	350mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.45ppg	HTHP-cake:	1/32nd"	MBT:	12	Sand:	.3	Gels 10s	9
Temp:				PM:	0.3	pH:	9	Gels 10m	12
				PF:	0.25	PHPA:	2ppb	Fann 003	9
								Fann 006	11
								Fann 100	28
								Fann 200	37
								Fann 300	43
								Fann 600	57

Comment — Note: Cost is in AUD

Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	8.50in	IADC#	M223	No.	Size	Progress	349.0m	Cumul. Progress	490.0m
Mfr:	SMITH	WOB(avg)	12.30klb	6	14/32nd"	On Bottom Hrs	22.1h	Cumul. On Btm Hrs	30.9h
Type:	PDC	RPM(avg)	123			IADC Drill Hrs	0.0h	Cumul. IADC Drill Hrs	12.5h
Serial No.:	TX2104	F.Rate	714gpm			Total Revs		Cumul. Total Revs	0
Bit Model	MI616	SPP	2520psi			ROP(avg)	15.79 m/hr	ROP(avg)	15.86 m/hr
Depth In	2633.0m	HSI							
Depth Out	2982.0m	TFA	0.902						

Bit Comment — Re Run Bit # 5

BHA # 26

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)	24ft-lbs	D.C. (1) Ann Velocity	656fpm
Wt Below Jar(Wet)	25000.00klb	String	380.00klb	Torque(Off.Btm)	14ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	395.00klb	Torque(On.Btm)	14ft-lbs	H.W.D.P. Ann Velocity	370fpm

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	Slack-Off	370.00klb		D.P. Ann Velocity	370fpm

BHA Run Description	8 1/2 Drilling BHA
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2791.49	1.8	85.3	2791.12	-23.5	-23.5	8.1	0.6	MWD
2819.89	1.9	85.2	2819.50	-23.4	-23.4	9.0	0.4	MWD
2847.72	2.1	83.7	2847.32	-23.3	-23.3	10.0	0.7	MWD
2876.19	2.2	81.9	2875.77	-23.2	-23.2	11.1	0.4	MWD
2905.64	2.5	85.8	2905.19	-23.0	-23.0	12.3	1.2	MWD
2935.67	2.6	82.7	2935.19	-22.9	-22.9	13.6	0.6	MWD
2963.22	2.9	85.2	2962.71	-22.8	-22.8	14.9	1.2	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	8	0	487.0
Drill Water	m3	0	4	0	734.0
Pot Water	m3	58	14	0	245.0
Brine	m3	0	0	0	161.0
Barite	MT	0	0	0	100.0
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	33.0
Caustic Soda	pail	0	8	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs								Slow Pump Data								
No.	Type	Liner	MW	Eff (%)	SPM	SPP	Flow	Depth	SPM1	SPP1	Flow1(gpm)	SPM2	SPP2	Flow2	SPM3	SPP3	Flow3

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
		(in)	(sg)		(SPM)	(psi)	(gpm)	(m)	(SPM)	(psi)		(SPM)	(psi)	(gpm)	(SPM)	(psi)	(gpm)
1	Continental Emsco	6.50	1.12	97	71	2700	703	2520.0	30	400	252	40	500	336	50	650	420
2	Continental Emsco	6.50	1.12	97	73	2700	703	2520.0	30	340	252	40	440	336	50	560	420
3	Continental Emsco	6.50	1.12	97	85	2700	729	2850.0	30	400	252	40	500	336	50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	46
GRN	1
OMS	16
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	1
Dril-Quip	1
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Origin Energy	2
Total	90

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1911.8bbl**
Active	640.0bbl
Mixing	0.0bbl
Hole	608.2bbl
Slug	
Reserve	663.6bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Marine

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Weather on 11 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	10kn	0.0deg	1019.0mbar	17C°	0.5m	25.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.2m	0.8deg	0.7deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
2.0m	235.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	187.0
2	192.0
3	172.0
4	191.0
5	210.0
6	198.0
7	183.0
8	211.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	1920 hrs 7/10/09		Rig standby

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		600
Potable Water	M3		510
Drill Water	M3		530
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

#1 Main engine out of service due to fly wheel problem.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna		1135hrs 7 Nov 09	Lorrimer Dock, stand-by for material.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		440
Pot Water	M3		508
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:02 / 09:15	9 / 12	Crew Change

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Printed on 12 Nov 2009

Australian Drilling Associates Pty Ltd ADA

12 Nov 2009

From: Bryan Houston / Paul Leathem
To: Paul Barrett

DRILLING MORNING REPORT # 43
Trefoil-2

Well Data

Country	Australia	MDBRT	2988.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	2988.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	5.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$545,281
Rig	Kan Tan IV	Days from spud	37.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$30,190,537
Wtr Dpth(MSL)	69.0m	Days on well	42.13	FIT/LOT:	11.00ppg /		
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m	Current Op @ 0600	Continued to POOH at controlled rate, 3min per stand.		
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Planned Op	Continue to POOH. Lay out core #1. RIH with 8 1/2" drilling BHA.		

Summary of Period 0000 to 2400 Hrs

Continued to POOH on elevators to 2520m Hole in good condition. No tight spots observed. Performed flow check. Pumped slug and POOH. Removed sources and down loaded Halliburton tools. POOH and broke off 8-1/2" PDC bit and racked back stand. Bit dull grading =1-2-CT-S-X-I-WT-CP. Picked up outer core barrel and made up 8-1/2" core bit MCP 572. Picked up inner core barrels and spaced out inner barrel to core bit. Made up 6-3/4" BHA and RIH. Broke circulation and recorded parameters. Took SCR's. Continued to RIH at a controlled speed to 2983m. Picked up a DP single and 3m pup to space out for a continuous 30m core. Dropped the ball. Took SCRs. Began cutting core #1.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	5 Days	Held abandon drill	
Emergency Drill	0	8 Days	Full Emergency drill performed.	
Fire Drill	0	5 Days	Main deck - Fire in control room	
Permit To Work	9	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	10	0 Days	Prejob safety meetings	
STOP Card	47	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill 36sec	Held while POOH

FORMATION

Name	Top
Eastern View Coal Measures	2105.00m
Eocene Unconformity	2701.50m
2973 Seismic Marker	2858.80m
Base Low A1 Zone	2937.80m
TL40 Sand	2977.00m

Operations For Period 0000 Hrs to 2400 Hrs on 12 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G8	0000	0100	1.00	2983.0m	Continued to POOH on elevators monitoring well on trip tank from 2669m to 2520m (9 5/8" casing shoe). Hole in good condition. No Tight spots observed.
P17	P	G14	0100	0130	0.50	2983.0m	Perform 15 min flow check. Serviced top drive. Removed MWD and Geoservices geolograph lines.
P17	P	G8	0130	0530	4.00	2983.0m	Pumped slug and POOH in casing from 2520m to 380m.
P17	P	G8	0530	0800	2.50	2983.0m	Performed 15 min flow check and continued to POOH from 380m to 30m.
P17	P	G7	0800	0900	1.00	2983.0m	Removed sources and down loaded Halliburton tools.
P17	P	G6	0900	0930	0.50	2983.0m	POOH and broke off 8-1/2" PDC bit and racked back stand. Bit dull grading = 1-2-CT-S-X-I-WT-CP.
P17	P	G23	0930	1000	0.50	2983.0m	Held JSA with drill crews, crane operator and roustabouts. Discussed procedures on picking up outer core barrel.
P17	P	E7	1000	1130	1.50	2983.0m	Picked up 1st joint of outer core barrel and made up 8-1/2" core bit MCP 572. Continued to pick up outer barrels.
P17	P	E7	1130	1230	1.00	2983.0m	Picked up inner core barrels and spaced out inner barrel to core bit.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G6	1230	1400	1.50	2983.0m	Made up 6-3/4" BHA and RIH to 288m.
P17	P	G8	1400	1830	4.50	2983.0m	Function tested diverter. Continued to RIH coring BHA on 5" DP to 9-5/8" Shoe at 2520m.
P17	P	G8	1830	1900	0.50	2983.0m	Broke circulation and recorded parameters - hook Load, drag up and down, 280gpm and torque. Took SCR's.
P17	P	G8	1900	2100	2.00	2983.0m	Continued to RIH at a controlled speed from 2520m to 2946m.
P17	P	F1	2130	2200	0.50	2983.0m	Washed and reamed from 2946m to 2983m. Picked up a DP single and 3m pup to space out for a continuous 30m core.
P17	P	E7	2130	2200	0.50	2983.0m	Dropped the ball. Pressure increased from 540 to 730psi. Took SCRs. Set coring parameters: 210gpm/555psi/70rpm/5-7 torque.
P17	P	E7	2200	2400	2.00	2988.0m	Began coring run #1: 210gpm/560psi/70rpm/10klbs WOB/Torq 5-7. Cut core from 2983m to 2988m.

Operations For Period 0000 Hrs to 0600 Hrs on 13 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E7	0000	0230	2.50	3013.0m	Continued to cut core #1 from 2988m to 3013m : 210gpm/560psi/70rpm/10klbs WOB/ Torq 5-7.
P17	P	E7	0230	0300	0.50	3013.0m	Picked up off bottom. POOH 2 stands to 2850m. 20-30klbs overpull on 1st stand. Flow checked while laying down pup joint. Pumped 25bbl slug.
P17	P	G8	0300	0500	2.00	3013.0m	Continued to POOH at controlled rate at 3min per stand from 2850m - 2520m (shoe depth).
P17	P	G8	0500	0600	1.00	3013.0m	Flow checked at shoe. Continued to POOH at controlled rate at 3min per stand from 2520m to 2142m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 12 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	157	06 Nov 2009	12 Nov 2009	1,011.00	42.125	2988.0m

General Comments

00:00 TO 24:00 Hrs ON 12 Nov 2009

WBM Data

Cost Today US$ 1823

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	40000mg/l	Solids(%vol):	3%	Viscosity	52sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	8%	H2O:	93%	PV	14cp
Time:	21:30 hrs	HTHP-FL:	10.5cc/30min	Hard/Ca:	350mg/l	Oil(%):		YP	30lb/100ft²
Weight:	9.45ppg	HTHP-cake:	1/32nd"	MBT:	12	Sand:	.3	Gels 10s	9
Temp:				PM:	0.3	pH:	9	Gels 10m	12
				PF:	0.25	PHPA:	2ppb	Fann 003	9
								Fann 006	11
								Fann 100	28
								Fann 200	37
								Fann 300	43
								Fann 600	57

Comment — Note: Cost is in AUD

Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R
	1	2	CT	S	X	I	WT	CP

Bitwear Comments:

Size (")	8.50in	IADC#	M223	Nozzles	Drilled over last 24 hrs	Calculated over Bit Run

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Mfr:	SMITH	WOB(avg)	12.30klb	No.	Size	Progress 0.0m	Cumul. Progress 490.0m
Type:	PDC	RPM(avg)	123	6	14/32nd"	On Bottom Hrs 0.0h	Cumul. On Btm Hrs 30.9h
Serial No.:	TX2104	F.Rate	714gpm			IADC Drill Hrs 0.0h	Cumul. IADC Drill Hrs 12.5h
Bit Model	MI616	SPP	2520psi			Total Revs	Cumul. Total Revs 0
Depth In	2633.0m	HSI				ROP(avg) N/A	ROP(avg) 15.86 m/hr
Depth Out	2983.0m	TFA	0.902				
Bit Comment		Re Run Bit # 5					

Bit # 6

Wear	I	O1	D	L	B	G	O2	R

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	8.50in	IADC#	M 233	No.	Size	Progress	5.0m	Cumul. Progress	5.0m
Mfr:	CORPRO	WOB(avg)	10.00klb			On Bottom Hrs	2.0h	Cumul. On Btm Hrs	2.0h
Type:	ch	RPM(avg)	70			IADC Drill Hrs		Cumul. IADC Drill Hrs	0.0h
Serial No.:	083691	F.Rate	210gpm			Total Revs		Cumul. Total Revs	0
Bit Model	MCP572	SPP	555psi			ROP(avg)	2.50 m/hr	ROP(avg)	2.50 m/hr
Depth In	2983.0m	HSI							
Depth Out		TFA	0.000						
Bit Comment		Coring Run #1							

BHA # 26

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)	24ft-lbs	D.C. (1) Ann Velocity	656fpm
Wt Below Jar(Wet)	25000.00klb	String	380.00klb	Torque(Off.Btm)	14ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	395.00klb	Torque(On.Btm)	14ft-lbs	H.W.D.P. Ann Velocity	370fpm
		Slack-Off	370.00klb			D.P. Ann Velocity	370fpm
BHA Run Description		8 1/2 Drilling BHA					
BHA Run Comment							

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

BHA # 27

Weight(Wet)	65.00klb	Length	286.4m	Torque(max)		D.C. (1) Ann Velocity	88fpm

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Wt Below Jar(Wet)	22.00klb	String	375.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up	385.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	109fpm
		Slack-Off	360.00klb			D.P. Ann Velocity	109fpm

BHA Run Description	Coring BHA Run #1
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Core Bit	0.37m	8.50in	4.00in	83691	
stabilizer	0.76m	8.44in	5.63in	W0137319	
Core Barrel	5.33m	7.13in	5.63in	W0135110	
stabilizer	0.76m	8.44in	5.63in	W0137237	
Core Barrel	5.33m	7.13in	5.63in	W0135194	
stabilizer	0.76m	8.44in	5.63in	W0137312	
Core Barrel	5.33m	7.13in	5.63in	S8413	
stabilizer	0.76m	8.44in	5.63in	W0137258	
Core Barrel	5.33m	7.13in	5.63in	723189	
Stabiliser	0.76m	8.44in	5.63in	W0137219	
Core Barrel	5.33m	7.13in	5.63in	SBO6	
stabilizer	0.76m	8.44in	5.63in	W0137014	
Top Head	0.61m	7.13in	5.63in	W1856027	
6 3/4" DC	75.42m	6.75in	2.88in	MAERSK	
Jars	9.91m	6.50in	2.75in	17602018	
6 3/4" DC	28.21m	6.75in	2.88in	MAERSK	
HWDP	141.13m	5.00in	3.00in	MAERSK	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	6	0	481.0
Drill Water	m3	20	0	0	754.0
Pot Water	m3	34	15	0	264.0
Brine	m3	0	0	19	180.0
Barite	MT	0	1.5	0	98.5
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	33.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	80.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97	71	2700	703
2	Continental Emsco	6.50	1.12	97	73	2700	703
3	Continental Emsco	6.50	1.12	97	85	2700	729

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2520.0	30	400	252	40	500	336	50	650	420
2520.0	30	340	252	40	440	336	50	560	420
2850.0	30	400	252	40	500	336	50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
9.63	/ 11.00ppg	2520.00m / 2520.00m	lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater. No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	46
GRN	1
OMS	16
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Origin Energy	2
Total	90

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1957.0bbl**
Active	666.0bbl
Mixing	0.0bbl
Hole	642.0bbl
Slug	
Reserve	649.0bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 12 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	17kn	48.0deg	1019.0mbar	13C°	3.0m	48.0deg	3s
Heave	**Pitch**	**Roll**	**Rig Dir.**	**Ris. Tension**	**VDL**	**Weather Comments**	
1.0m	0.2deg	1.2deg	317.0deg	240000.00klb	116684.00klb		
Swell Height	**Swell Dir.**	**Swell Period**	**Comments**				
4.0m	48.0deg	5s					

Rig Support

Anchors	Tension (klb)
1	192.0
2	191.0
3	149.0
4	196.0
5	211.0
6	206.0
7	194.0
8	201.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	1920 hrs 7/10/09		Rig standby

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		591
Potable Water	M3		125
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		165

#1 Main engine out of service due to fly wheel problem.

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Far Fosna		1135hrs 7 Nov 09	En route to KT4	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		723
				Pot Water	M3		476
				Drill Water	M3		600
				Bentonite	t		42
				Barite	t		0
					t		130
				Brine	M3		0
Departed Melbourne for KT4 @ 1530hrs 12/11/09							

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:02 / 09:15	9 / 12	Crew Change

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Australian Drilling Associates Pty Ltd ADA

13 Nov 2009

From: Bryan Houston / Paul Leathem
To: Paul Barrett

DRILLING MORNING REPORT # 44
Trefoil-2

Trefoil-2

Date:	13 Nov 2009	**Well Site Representative:**	Bryan Houston	**Rig Manager:**	
Report Number:	44	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3013.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	3013.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	31.2m	Shoe TVDBRT	2520.0m	Daily Cost	US$521,536
Rig	Kan Tan IV	Days from spud	38.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$30,739,948
Wtr Dpth(MSL)	69.0m	Days on well	43.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	12
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Reaming and relogging with MWD from 2960m to 3013m.		
Datum	GDA 94	Last BOP Date	05 Nov 2009	Planned Op	Drilled ahead 8 1/2" hole to core point #2. POOH		

Summary of Period 0000 to 2400 Hrs

Continued to cut core #1 to 3013m. POOH two stands. Flow checked and pumped slug. Continued to POOH at controlled rate at 3min per stand to 600m. Flow checked @ shoe. Continued to POOH at controlled rate at 6min per stand from 600m to 150m then 150m - 32m @ 8 min per stand. Recovered cores as per Corpro instructions.
31.2m of core retrieved 104%. Racked core barrel in mast. Made up MWD tools from mast and installed radio active sources and load tools. Continued to make up BHA and RIH to 147m. Shallow tested MWD tools. Continued to RIH to 1215m. Performed trip drill 32 sec.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	6 Days	Held abandon drill	
Emergency Drill	0	9 Days	Full Emergency drill performed.	
Fire Drill	0	6 Days	Main deck - Fire in Control room	
Permit To Work	9	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	10	0 Days	Prejob safety meetings	
STOP Card	41	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill 35sec	Held while RIH

FORMATION

Name	Top
2973 Seismic Marker	2858.80m
Base Low A1 Zone	2937.80m
TL40 Sand	2976.50m
TL50 Sand	2985.00m
TL60 Sand	2994.50m

Operations For Period 0000 Hrs to 2400 Hrs on 13 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E7	0000	0230	2.50	3013.0m	Continued to cut core #1 from 2988m to 3013m (210gpm/560psi/70rpm/10klbs WOB/Torq 5-7).
P17	P	E7	0230	0300	0.50	3013.0m	Picked up off bottom. POOH 2 stands to 2850m. 20-30klbs overpull on 1st stand. Flow checked while laying down pup joint. Pumped 25bbl slug.
P17	P	G8	0300	0500	2.00	3013.0m	Continued to POOH at controlled rate at 3min per stand from 2850m to 2520m (shoe depth).
P17	P	G8	0500	1200	7.00	3013.0m	Flow checked at shoe. Continued to POOH at controlled rate at 3min per stand from

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							2520m to 600m.
P17	P	G8	1200	1500	3.00	3013.0m	Continued to POOH at controlled rate at 6min per stand from 600m to 150m then 150m to 32m @ 8 min per stand.
P17	P	E7	1500	1800	3.00	3013.0m	Held pre job safety meeting and recovered cores as per Corpro instructions. 31.2m of core retrieved 104%. Broke off bit and racked back core barrrel in the mast.
P17	P	G15	1800	1930	1.50	3013.0m	Made up MWD tools from mast. Installed radio active sources and loaded tools.
P17	P	G6	1930	2100	1.50	3013.0m	Continued to make up BHA and RIH to 147m.
P17	P	G15	2100	2130	0.50	3013.0m	Shallow tested MWD tools at @ 120spm/ 600gpm/ 1050psi.
P17	P	G6	2130	2200	0.50	3013.0m	Continued to RIH on HWDP from 147m to 288m.
P17	P	G8	2200	2400	2.00	3013.0m	Continued to RIH 8 1/2" BHA on 5" DP from 288m to 1215m. Performed trip drill (32 sec). Filled pipe every 25 stands. Performed 10 min flow check due to closed end displacement on pipe. Well static.

Operations For Period 0000 Hrs to 0600 Hrs on 14 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G8	0000	0230	2.50	3013.0m	Continued to RIH 8 1/2" BHA on 5" DP from 1215m to 2520m. Filled pipe every 25 stands.
P17	P	P3	0230	0330	1.00	3013.0m	Performed flow check at the shoe. Serviced top drive. Installed MWD and Geoservices bracket for their wire line sheaves. Performed trip drill (38 sec).
P17	P	G8	0330	0500	1.50	3013.0m	Continued to RIH in open hole from 2520m to 2927m.
P17	P	F1	0500	0600	1.00	3013.0m	(IN PROGRESS) Washed and light reamed from 2927m to 2960m @ 700 gpm. Took SCRs at 30/40/50 strokes.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 13 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	181	06 Nov 2009	13 Nov 2009	1,035.00	43.125	3013.0m

General Comments

00:00 TO 24:00 Hrs ON 13 Nov 2009

WBM Data

Cost Today US$ 10739

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	40000mg/l	Solids(%vol):	3%	Viscosity	50sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	8%	H2O:	93%	PV	12cp
Time:	20:00 hrs	HTHP-FL:	11.0cc/30min	Hard/Ca:	250mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	11	Sand:	.25	Gels 10s	9
Temp:				PM:	0.25	pH:	9	Gels 10m	12
				PF:	0.2	PHPA:	2ppb	Fann 003	9
								Fann 006	11
								Fann 100	25
								Fann 200	35
								Fann 300	41
								Fann 600	53

Comment — Note: Cost is in AUD

Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R
	1	2	CT	S	X	I	NO	CP

Bitwear Comments:

Size ("):	8.50in	IADC#	M223	Nozzles	Drilled over last 24 hrs	Calculated over Bit Run

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Mfr:	SMITH	WOB(avg)	12.30klb	No.	Size	Progress 0.0m	Cumul. Progress 141.0m
Type:	PDC	RPM(avg)	123	6	14/32nd"	On Bottom Hrs 0.0h	Cumul. On Btm Hrs 8.8h
Serial No.:	TX2104	F.Rate	714gpm			IADC Drill Hrs 0.0h	Cumul. IADC Drill Hrs 12.5h
Bit Model	MI616	SPP	2520psi			Total Revs	Cumul. Total Revs 0
Depth In	2633.0m	HSI				ROP(avg) N/A	ROP(avg) 16.02 m/hr
Depth Out	2983.0m	TFA	0.902				
Bit Comment		Re Runx3 Bit # 5					

Bit # 6

Wear	I	O1	D	L	B	G	O2	R
	1	1	NO	FC	X	I	NO	CP

Bitwear Comments:

				Nozzles		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Size ("):	8.50in	IADC#	M 233	No.	Size	Progress	31.2m	Cumul. Progress	36.2m
Mfr:	CORPRO	WOB(avg)	10.00klb			On Bottom Hrs	4.0h	Cumul. On Btm Hrs	6.0h
Type:	ch	RPM(avg)	63			IADC Drill Hrs		Cumul. IADC Drill Hrs	0.0h
Serial No.:	083691	F.Rate	202gpm			Total Revs		Cumul. Total Revs	0
Bit Model	MCP572	SPP	620psi			ROP(avg)	7.80 m/hr	ROP(avg)	6.03 m/hr
Depth In	2983.0m	HSI							
Depth Out	3013.0m	TFA	0.000						
Bit Comment		Coring Run #1							

BHA # 28

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)	24ft-lbs	D.C. (1) Ann Velocity	656fpm
Wt Below Jar(Wet)	25000.00klb	String	380.00klb	Torque(Off.Btm)	14ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	395.00klb	Torque(On.Btm)	14ft-lbs	H.W.D.P. Ann Velocity	370fpm
		Slack-Off	370.00klb			D.P. Ann Velocity	370fpm
BHA Run Description		8 1/2 Drilling BHA					
BHA Run Comment		3rd ReRun Bit #5					

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

BHA # 27

Weight(Wet)	65.00klb	Length	286.4m	Torque(max)		D.C. (1) Ann Velocity	85fpm

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Wt Below Jar(Wet)	22.00klb	String	375.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up	385.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	105fpm
		Slack-Off	360.00klb			D.P. Ann Velocity	105fpm

BHA Run Description	Coring BHA Run #1
BHA Run Comment	

Equipment	Length	OD	ID	Serial #	Comment
Core Bit	0.37m	8.50in	4.00in	83691	
stabilizer	0.76m	8.44in	5.63in	W0137319	
Core Barrel	5.33m	7.13in	5.63in	W0135110	
stabilizer	0.76m	8.44in	5.63in	W0137237	
Core Barrel	5.33m	7.13in	5.63in	W0135194	
stabilizer	0.76m	8.44in	5.63in	W0137312	
Core Barrel	5.33m	7.13in	5.63in	S8413	
stabilizer	0.76m	8.44in	5.63in	W0137258	
Core Barrel	5.33m	7.13in	5.63in	723189	
Stabiliser	0.76m	8.44in	5.63in	W0137219	
Core Barrel	5.33m	7.13in	5.63in	SBO6	
stabilizer	0.76m	8.44in	5.63in	W0137014	
Top Head	0.61m	7.13in	5.63in	W1856027	
6 3/4" DC	75.42m	6.75in	2.88in	MAERSK	
Jars	9.91m	6.50in	2.75in	17602018	
6 3/4" DC	28.21m	6.75in	2.88in	MAERSK	
HWDP	141.13m	5.00in	3.00in	MAERSK	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	6	0	475.0
Drill Water	m3	20	5	0	769.0
Pot Water	m3	51	14	0	301.0
Brine	m3	0	0	0	180.0
Barite	MT	0	1	0	97.5
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	33.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	1	0	79.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97	71	2700	703
2	Continental Emsco	6.50	1.12	97	73	2700	703
3	Continental Emsco	6.50	1.12	97	85	2700	729

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2520.0	30	400	252	40	500	336	50	650	420
2520.0	30	340	252	40	440	336	50	560	420
2850.0	30	400	252	40	500	336	50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
9.63	/ 11.00ppg	2520.00m / 2520.00m	lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater. No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	49
GRN	2
OMS	13
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Origin Energy	2
Total	91

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1948.0bbl**
Active	661.0bbl
Mixing	0.0bbl
Hole	732.0bbl
Slug	
Reserve	555.0bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 13 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	12kn	54.0deg	1015.0mbar	14C°	2.0m	60.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	1.1deg	0.9deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	60.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	192.0
2	191.0
3	156.0
4	194.0
5	214.0
6	206.0
7	194.0
8	209.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		11:05 hours 13/11/09	In Melbourne for repairs.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		574
Potable Water	M3		120
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

#1 Main engine out of service due to fly wheel problem.

Departed rig for Melbourne @ 1105 hrs Arrived 2332hrs.

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Far Fosna	06.20 13/		Stand-By at KT4	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		708
				Pot Water	M3		468
				Drill Water	M3		600
				Bentonite	t		42
				Barite	t		0
					t		130
				Brine	M3		0

7.30 - 9.50
13.00 - 14.20 Cargo operations @ KT4

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:10 / 09:25	12 / 11	Crew Change

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Australian Drilling Associates Pty Ltd ADA

14 Nov 2009

From: Bryan Houston / Paul Leathem
To: Phil Stratford

DRILLING MORNING REPORT # 45
Trefoil-2

Trefoil-2

Date:	14 Nov 2009	**Well Site Representative:**	Bryan Houston	**Rig Manager:**	
Report Number:	45	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3139.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	3139.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	132.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$570,386
Rig	Kan Tan IV	Days from spud	39.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$31,310,334
Wtr Dpth(MSL)	69.0m	Days on well	44.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	13
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Cont/ to POOH.		
Datum	GDA 94	Last BOP Date	05 Nov 2009	Planned Op	Cont/ to POOH. P/Up & M/Up Core barrell assy & RIH.		

Summary of Period 0000 to 2400 Hrs

Continued to RIH 8 1/2" BHA on 5" DP to 2520m. Flow check at the shoe. Serviced top drive. Performed trip drill (38 sec). Continued to RIH - 2927m. Washed and light reamed to 2960m @ 700 gpm. Took SCRs. Relogged hole, F/ 2960m - 3013m @ controlled rate of 30mph. Drill 8-1/2" hole from 3013m to 3130m, Circulate bottoms up to clean well & allow geologist to collect sample. Drill ahead 8-1/2" hole from 3130m to 3139m,

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	1	0 Days	Held abandon Drill	
Emergency Drill	0	10 Days	Full Emergency drill performed	
Fire Drill	1	0 Days	Main deck - Fire in Control room	
Permit To Work	10	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	10	0 Days	Prejob safety meetings	
STOP Card	33	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill 35sec	Held while RIH

FORMATION

Name	Top
TL40 Sand	2976.50m
TL50 Sand	2985.00m
TL60 Sand	2994.50m
Cretaceous	3068.00m
TF50 Sand	3130.50m

Operations For Period 0000 Hrs to 2400 Hrs on 14 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G8	0000	0230	2.50	3013.0m	Continued to RIH 8 1/2" BHA on 5" DP from 1215m to 2520m. Filled pipe every 25 stands.
P17	P	P3	0230	0330	1.00	3013.0m	Performed flow check at the shoe. Serviced top drive. Installed MWD and Geoservices bracket for their wire line sheaves. Performed trip drill (38 sec).
P17	P	G8	0330	0500	1.50	3013.0m	Continued to RIH in open hole from 2520m to 2927m.
P17	P	F1	0500	0630	1.50	3013.0m	Washed and light reamed from 2927m to 2960m @ 700 gpm. Took SCRs at 30/40/50 strokes.
P17	P	F1	0630	0900	2.50	3013.0m	Relogged hole from 2960m - 3013m at controlled rate with 700gpm/ 2800psi/70rpm.
P17	P	D2	0900	2200	13.00	3130.0m	Drilled 8-1/2" hole from 3013m to 3130m (700gpm/2800psi/130 rpm/ 5-10klbs

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							WOB/Mud weight 9.4ppg).
P17	P	F4	2200	2230	0.50	3130.0m	Circulated bottoms up to clean well and allow geologist to collect sample at 700gpm/ 2800psi/ 70rpm.
P17	P	D2	2230	2400	1.50	3130.0m	Drilled 8-1/2" hole from 3030m to 3139m (700gpm/ 2800psi /130 rpm/ 5-10klbs WOB/Mud weight 9.4ppg) as per Geologist request.

Operations For Period 0000 Hrs to 0600 Hrs on 15 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	D2	0000	0130	1.50	3145.0m	Continued to drill 8-1/2" hole from 3139m to 3145m (700gpm/ 2800psi /130 rpm/5-10klbs WOB/Mud weight 9.4ppg) as per geologist request. Adjusted parameters to reduce vibration and whirl on down hole tools when required.
P17	P	F4	0130	0200	0.50	3145.0m	Circulated bottoms up to allow geologist to collect sample at 700gpm/2800psi/70rpm. Continued to circulate untill shakers are clean.
P17	P	P3	0200	0230	0.50	3145.0m	Flow checked - OK. Pumped slug.
P17	P	G8	0230	0500	2.50	3145.0m	POOH from 3145m to 2520m. No overpull or tight spots observed.
P17	P	G8	0500	0600	1.00	3145.0m	(IN PROGRESS) Performed trip drill (30 sec). Flow checked at the shoe and filled trip tank. Continued to POOH in casing from 2520m - 895m.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 14 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	205	06 Nov 2009	14 Nov 2009	1,059.00	44.125	3130.0m

General Comments

00:00 TO 24:00 Hrs ON 14 Nov 2009

WBM Data — Cost Today US$ 1796

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	40000mg/l	Solids(%vol):	3%
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	8%	H2O:	93%
Time:	22:00 hrs	HTHP-FL:	11.0cc/30min	Hard/Ca:	400mg/l	Oil(%):	
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	11	Sand:	.25
Temp:				PM:	0.3	pH:	9
				PF:	0.15	PHPA:	2ppb

Viscosity	50sec/qt
PV	14cp
YP	30lb/100ft²
Gels 10s	9
Gels 10m	13
Fann 003	9
Fann 006	11
Fann 100	28
Fann 200	37
Fann 300	44
Fann 600	58

Comment — Note: Cost is in AUD

Bit # 5 RRx3

Wear	I	O1	D	L	B	G	O2 WT	R CP

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	8.50in	IADC#	M223	No.	Size	Progress	132.0m	Cumul. Progress	132.0m
Mfr:	SMITH	WOB(avg)	17.00klb	6	14/32nd"	On Bottom Hrs	10.5h	Cumul. On Btm Hrs	10.5h
Type:	PDC	RPM(avg)	123			IADC Drill Hrs	0.0h	Cumul. IADC Drill Hrs	0.0h
Serial No.:	TX2104	F.Rate	700gpm			Total Revs	53	Cumul. Total Revs	53
Bit Model	MI616	SPP	3020psi			ROP(avg)	12.57 m/hr	ROP(avg)	12.57 m/hr
Depth In	3013.0m	HSI							
Depth Out	3145.0m	TFA	0.902						

Bit Comment — Re Run Bit # 5 / 3rd time rerun.

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BHA # 28

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)	24ft-lbs	D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)	25000.00klb	String	380.00klb	Torque(Off.Btm)	14ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	395.00klb	Torque(On.Btm)	14ft-lbs	H.W.D.P. Ann Velocity	0fpm
		Slack-Off	370.00klb			D.P. Ann Velocity	0fpm

BHA Run Description	8 1/2 Drilling BHA
BHA Run Comment	3rd ReRun Bit #5

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
2992.32	2.9	83.6	2991.77	27.4			0.1	MWD
3021.53	3.0	83.2	3020.94	28.4			0.1	MWD
3051.62	3.1	82.2	3050.99	29.5			0.1	MWD
3080.66	3.2	81.3	3079.99	30.5			0.2	MWD
3101.98	3.5	82.5	3101.27	31.3			0.4	MWD
3130.21	3.8	81.6	3129.44	32.4			0.3	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	14	0	461.0
Drill Water	m3	63	5	0	827.0
Pot Water	m3	0	41	0	260.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	97.5
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	33.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Citric Acid	Sacks	0	0	0	79.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97	71	2700	703
2	Continental Emsco	6.50	1.12	97	73	2700	703
3	Continental Emsco	6.50	1.12	97	85	2700	729

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2520.0	30	400	252	40	500	336	50	650	420
2520.0	30	340	252	40	440	336	50	560	420
2850.0	30	400	252	40	500	336	50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	49
GRN	2
OMS	13
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Origin Energy	2
Total	91

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / Fergus Spencer

Available	**1743.0bbl**
Active	640.0bbl
Mixing	0.0bbl
Hole	669.0bbl
Slug	
Reserve	434.0bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Marine

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Weather on 14 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	23kn	223.0deg	1010.0mbar	12C°	3.0m	200.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	0.9deg	1.7deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
4.0m	200.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	214.0
2	193.0
3	174.0
4	176.0
5	206.0
6	201.0
7	191.0
8	233.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		11:05 hours 13/11/09	Alongside Melbourne.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		573
Potable Water	M3		115
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

#1 Main engine out of service due to fly wheel problem.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06.20 13/		Stand-By at KT4

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		699
Pot Water	M3		460
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

0100- 0230 hrs Cargo ops
0900- 1205 hrs Cargo ops

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:10 / 09:25	12 / 11	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 46
Trefoil-2

15 Nov 2009

From: Bryan Houston / Paul Leathem
To: Phil Stratford

Trefoil-2

Date:	15 Nov 2009	**Well Site Representative:**	Bryan Houston	**Rig Manager:**	
Report Number:	46	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3153.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	3153.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	132.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$564,034
Rig	Kan Tan IV	Days from spud	40.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$31,874,368
Wtr Dpth(MSL)	69.0m	Days on well	45.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	14
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	POOH with core barrel at controlled rate..		
Datum	GDA 94	Last BOP Date	05 Nov 2009	Planned Op	Continue to POOH with core barrel. Lay out same. Slip & cut drill line. RIH with 8 1/2 bit & drilling BHA.		

Summary of Period 0000 to 2400 Hrs

Continued to drill 8-1/2" to 3145m Core Point. Circulated bottoms up to allow geologist to collect sample & until shakers are clean. Flow checked - OK. Pumped slug. POOH from 3145m to 2520m. No overpull or tight spots observed. Performed trip drill (30 sec). Flow checked. Continued to POOH in casing - 288m BHA. Flow checked prior to pulling BHA through BOPs. POOH BHA to 32m. Removed sources, down loaded MWD tools & broke off bit. Prepared & ran core barrel to 32m. M/Up BHA & RIH - 288m. RIH BHA on 5" DP - 2050m, shoe depth. Flow checked at shoe. Serviced top drive. Took SCRs & drilling parameters. Cont'd to RIH in open hole - 3089m M/Up top drive, wash & light ream - 3145m Tagged bottom @ 3245m, dropped the ball & observed a 60psi increase on landing out. Drilled core F/ 3145m - 3153m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	1 Day	Held abandon Drill	
Emergency Drill	0	11 Days	Full Emergency drill performed.	
Fire Drill	0	1 Day	Main deck - Fire in Control room	
Permit To Work	12	0 Days	Permits administerd.	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	12	0 Days	Prejob safety meetings	
Safety Meeting	2	0 Days	General safety meetings	Dropped object awareness presentation.
STOP Card	58	1 Day	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill 35sec	Held while RIH

FORMATION

Name	Top
Base Low A1 Zone	2937.80m
TL40 Sand	2976.50m
TL50 Sand	2985.00m
TL60 Sand	2994.50m
Cretaceous	3068.00m

Operations For Period 0000 Hrs to 2400 Hrs on 15 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	D2	0000	0130	1.50	3145.0m	Continued to drill 8-1/2" hole from 3139m to 3145m (700gpm/ 2800psi /130 rpm/5-10klbs WOB/Mud weight 9.4ppg) as per geologist request. Adjusted parameters to reduce vibration and whirl on down hole tools when required.
P17	P	F4	0130	0200	0.50	3145.0m	Circulated bottoms up to allow geologist to collect sample at 700gpm/2800psi/70rpm.

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Printed on 15 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							Continued to circulate untill shakers are clean.
P17	P	P3	0200	0230	0.50	3145.0m	Flow checked - OK. Pumped slug.
P17	P	G8	0230	0500	2.50	3145.0m	POOH from 3145m to 2520m. No overpull or tight spots observed.
P17	P	G8	0500	0730	2.50	3145.0m	Performed trip drill (30 sec). Flow checked at the shoe and filled trip tank. Continued to POOH in casing from 2520m - 895m.
P17	TP (RE)	G8	0730	0800	0.50	3145.0m	Secured indicator hose for compensator due to it hanging up in derrick.
P17	P	G8	0800	0930	1.50	3145.0m	Cont/ to POOH F/895m - 288m BHA. Flow checked prior to pulling BHA through BOPs.
P17	P	G8	0930	1100	1.50	3145.0m	POOH BHA F/288m - 32m
P17	P	G7	1100	1300	2.00	3145.0m	Removed sources, down loaded MWD tools & broke off bit.
P17	P	G7	1300	1400	1.00	3145.0m	Prepared & ran core barrel to 32m.
P17	P	G7	1400	1500	1.00	3145.0m	M/Up BHA to core barrel & RIH F/ 32m - 288m.
P17	P	G8	1500	2000	5.00	3145.0m	RIH BHA on 5" DP F/288m - 2520m, shoe depth.
P17	P	G14	2000	2030	0.50	3145.0m	Flow checked at shoe. Serviced top drive. Took SCRs & drilling parameters.
P17	P	G8	2030	2200	1.50	3145.0m	Cont/ to RIH in open hole F/2520m - 3089m
P17	P	F1	2200	2230	0.50	3145.0m	M/Up top drive, washed & light reamed F/3089m - 3145m W/ 60spm/ 300gpm/ 650psi.
P17	P	E7	2230	2300	0.50	3145.0m	Tagged bottom @ 3245m, Took parameters, spaced out & made connection. Dropped the ball & observed a 60psi increase on landing out. F/550psi - 610psi. Took SCRs @ 30-40 & 50 spm. Take new parameters
P17	P	E7	2300	2400	1.00	3153.0m	Drilled core F/ 3145m - 3153m, W/42spm/ 210gpm/ 644psi.70rpm/ 5k torque.

Operations For Period 0000 Hrs to 0600 Hrs on 16 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E7	0000	0300	3.00	3175.0m	Cont/ to drill core F/ 3153m - 3175m, W/42spm/ 210gpm/ 644psi.70rpm/ 5k torque.
P17	P	E7	0300	0330	0.50	3175.0m	Pulled 1 stand of DP F/ 3175 - 3145m. Performed flow check, OK. Removed Geoservice geolograph line & pumped slug.
P17	P	G8	0330	0600	2.50	3175.0m	POOH at controlled rate of 3 mins per stand, monitoring well on trip tank. POOH F/3145m - 2520m, shoe depth.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 15 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	229	06 Nov 2009	15 Nov 2009	1,083.00	45.125	3153.0m

General Comments

00:00 TO 24:00 Hrs ON 15 Nov 2009

WBM Data

Cost Today US$ 10739

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	40000mg/l	Solids(%vol):	3%	Viscosity	64sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	8%	H2O:	93%	PV	14cp
Time:	22:00 hrs	HTHP-FL:	11.0cc/30min	Hard/Ca:	375mg/l	Oil(%):		YP	27lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	11	Sand:	.25	Gels 10s	9
Temp:				PM:	0.2	pH:	9	Gels 10m	12
				PF:	0.2	PHPA:	2ppb	Fann 003	8
								Fann 006	10
								Fann 100	27
								Fann 200	35
								Fann 300	41
								Fann 600	55

Comment — Note: Cost is in AUD

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Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R
	1	2	CT	S	X	I	NO	CP

Bitwear Comments:

Size ("):	8.50in	IADC#	M223	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	SMITH	WOB(avg)	11.00klb	No.	Size	Progress	132.0m	Cumul. Progress	273.0m
Type:	PDC	RPM(avg)	100	6	14/32nd"	On Bottom Hrs	11.6h	Cumul. On Btm Hrs	20.4h
Serial No.:	TX2104	F.Rate	679gpm			IADC Drill Hrs	0.0h	Cumul. IADC Drill Hrs	12.5h
Bit Model	MI616	SPP	2860psi			Total Revs	59	Cumul. Total Revs	59
Depth In	2633.0m	HSI				ROP(avg)	11.38 m/hr	ROP(avg)	13.38 m/hr
Depth Out	2983.0m	TFA	0.902						

Bit Comment: Re Runx3 Bit # 5

Bit # 6 RRx1

Wear	I	O1	D	L	B	G	O2	R
	1	1	NO	FC	X	I	NO	CP

Bitwear Comments:

Size ("):	8.50in	IADC#	M 233	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	CORPRO	WOB(avg)		No.	Size	Progress		Cumul. Progress	0.0m
Type:	ch	RPM(avg)				On Bottom Hrs		Cumul. On Btm Hrs	0.0h
Serial No.:	083691	F.Rate				IADC Drill Hrs		Cumul. IADC Drill Hrs	0.0h
Bit Model	MCP572	SPP				Total Revs		Cumul. Total Revs	0
Depth In	3145.0m	HSI				ROP(avg)	N/A	ROP(avg)	0.00 m/hr
Depth Out	3013.0m	TFA	0.000						

Bit Comment: Coring Run #1

BHA # 28

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)	24ft-lbs	D.C. (1) Ann Velocity	623fpm
Wt Below Jar(Wet)	25000.00klb	String	380.00klb	Torque(Off.Btm)	14ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	395.00klb	Torque(On.Btm)	14ft-lbs	H.W.D.P. Ann Velocity	352fpm
		Slack-Off	370.00klb			D.P. Ann Velocity	352fpm

BHA Run Description: 8 1/2 Drilling BHA

BHA Run Comment: 3rd ReRun Bit #5

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	

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Equipment	Length	OD	ID	Serial #	Comment
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	22	0	439.0
Drill Water	m3	23	5	0	845.0
Pot Water	m3	39	39	0	260.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	97.5
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	17.0
Bentonite	MT	0	0	0	33.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	1	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97	71	2726	678
2	Continental Emsco	6.50	1.12	97	73	2726	678
3	Continental Emsco	6.50	1.12	97	85	2726	678

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2520.0	30	400	252	40	500	336	50	650	420
2520.0	30	340	252	40	440	336	50	560	420
2850.0	30	400	252	40	500	336	50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	49
GRN	2
OMS	13
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	1
Dril-Quip	1
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Origin Energy	2
Total	91

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / Fergus Spencer

Available	1706.0bbl
Active	650.0bbl
Mixing	0.0bbl
Hole	689.0bbl
Slug	
Reserve	367.0bbl
Kill	

Losses	0.0bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 15 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	17kn	58.0deg	1005.0mbar	15C°	2.0m	240.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	0.5deg	1.1deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	240.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	192.0
2	191.0
3	186.0
4	194.0
5	217.0
6	206.0
7	201.0
8	209.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		11:05 hours 13/11/09	Alongside Melbourne.

Item	Unit	Used	Quantity
Rig Fuel	M3		572
Potable Water	M3		110
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

#1 Main engine out of service due to fly wheel problem.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06.20 13/		Stand-By at KT4

Item	Unit	Used	Quantity
Rig Fuel	M3		690
Pot Water	M3		452
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	09:10 / 09:25	12 / 11	Crew Change

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Australian Drilling Associates Pty Ltd ADA

16 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 47
Trefoil-2

Trefoil-2

Date:	16 Nov 2009	**Well Site Representative:**	Bryan Houston	**Rig Manager:**	
Report Number:	47	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3175.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	3175.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	30.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$570,732
Rig	Kan Tan IV	Days from spud	41.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$32,481,066
Wtr Dpth(MSL)	69.0m	Days on well	46.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	15
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Troubleshoot and attempt to repair draworks gearing problem.		
Datum	GDA 94	Last BOP Date	05 Nov 2009	Planned Op	Repaired draworks. Continued to RIH and drill ahead 8 1/2" hole.		

Summary of Period 0000 to 2400 Hrs

Continued to cut core #2 from 3153m to 3175m. Performed flow check - ok. POOH at controlled rate of 3 mins per stand to 2050m. Flow checked - ok. Slipped and cut drilling line. Continued to POOH to 32m. At 12:00 hours rig held a 15 minutes remembrance for Mr. Flower. Recovered core and inner barrel and laid out same. Laid out outer barrel. Break off bit and made up 8 1/2" bit to MWD tools. Installed radio active sources and loaded tools. Continued to RIH with 8 1/2" drilling assy to 147m. Shallow tested MWD.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	2 Days	Held abandon drill	
Emergency Drill	0	12 Days	Full Emergency drill performed	
Fire Drill	0	2 Days	Main deck - Fire in Control room	
Permit To Work	15	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	1 Day	General safety meetings	Dropped object awareness presentation.
Safety Meeting	15	0 Days	Prejob safety meetings	
STOP Card	40	0 Days	Number of STOP cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill 35sec	Held while POOH

FORMATION

Name	Top
TL40 Sand	2976.50m
TL50 Sand	2985.00m
TL60 Sand	2994.50m
Cretaceous	3068.00m
TF50 Sand	3130.50m

Operations For Period 0000 Hrs to 2400 Hrs on 16 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E7	0000	0300	3.00	3175.0m	Continued to cut core #2 from 3153m to 3175m with 42spm/210gpm/644psi/70rpm/5k torque.
P17	P	G8	0300	0330	0.50	3175.0m	Pulled back 1 stand of DP from 3175m to 3145m. Performed flow check - OK. Removed Geoservice geolograph line and pumped slug.
P17	P	G8	0330	0730	4.00	3175.0m	POOH at controlled rate of 3 mins per stand monitoring well on trip tank. POOH from 3145m to 2050m.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G11	0730	0930	2.00	3175.0m	Performed trip drill. Flow checked - ok. Slipped and cut drilling line.
P17	P	G8	0930	1700	7.50	3175.0m	POOH from 2050m to 32m as per Copro trip speed procedures. At 12:00 hours rig held a 15 minutes remembrance for Mr. Flower.
P17	P	E7	1700	2030	3.50	3175.0m	Recovered core and inner barrel and lay out same. A total of 29.25m of core recovered (97.5%). Service broke and laid out outer barrel. Broke off bit - no additional wear to bit (1-1-NO-A-X-I-NO-BHA).
P17	P	G7	2030	2200	1.50	3175.0m	Made up 8 1/2" bit to MWD tools from mast. Installed radio active sources and loaded tools.
P17	P	G8	2200	2330	1.50	3175.0m	Continued to RIH with 8 1/2" drilling assy to 147m.
P17	P	G7	2330	2400	0.50	3175.0m	Shallow tested MWD at 120 spm/600gpm/1020psi.

Operations For Period 0000 Hrs to 0600 Hrs on 17 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G8	0000	0400	4.00	3175.0m	Continued to RIH from 147m - 1908m. Filled pipe every 25 stands.
P17	TP (RE)	G11	0400	0600	2.00	3175.0m	Troubleshot draworks problems. Draworks jumped out of gear while driller was running blocks up the mast. Could not get draworks back into gear.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 16 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	253	06 Nov 2009	16 Nov 2009	1,107.00	46.125	3175.0m

General Comments

00:00 TO 24:00 Hrs ON 16 Nov 2009

WBM Data — Cost Today US$ 318

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	38000mg/l	Solids(%vol):	3%
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	8%	H2O:	93%
Time:	20:00 hrs	HTHP-FL:	11.0cc/30min	Hard/Ca:	375mg/l	Oil(%):	
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	11	Sand:	.25
Temp:				PM:	0.3	pH:	9
				PF:	0.25	PHPA:	2ppb

Viscosity	58sec/qt
PV	29cp
YP	29lb/100ft²
Gels 10s	7
Gels 10m	12
Fann 003	8
Fann 006	9
Fann 100	25
Fann 200	32
Fann 300	41
Fann 600	53

Comment — Note: Cost is in AUD

Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R
	1	2	CT	S	X	I	NO	CP

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	8.50in	IADC#	M223	No.	Size	Progress	0.0m	Cumul. Progress	273.0m
Mfr:	SMITH	WOB(avg)	12.30klb	6	14/32nd"	On Bottom Hrs	0.0h	Cumul. On Btm Hrs	20.4h
Type:	PDC	RPM(avg)	123			IADC Drill Hrs	0.0h	Cumul. IADC Drill Hrs	12.5h
Serial No.:	TX2104	F.Rate	714gpm			Total Revs		Cumul. Total Revs	59
Bit Model	MI616	SPP	2520psi			ROP(avg)	N/A	ROP(avg)	13.38 m/hr
Depth In	3175.0m	HSI							
Depth Out		TFA	0.902						

Bit Comment — Re Run x4 Bit # 5

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Bit # 6 RRx1

Wear	I	O1	D	L	B	G	O2	R
	1	1	NO	FC	X	I	NO	CP

Bitwear Comments:

Size (''):	8.50in	IADC#	M 233	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	CORPRO	WOB(avg)	11.00klb	No.	Size	Progress	30.0m	Cumul. Progress	30.0m
Type:	ch	RPM(avg)	70			On Bottom Hrs	3.3h	Cumul. On Btm Hrs	3.3h
Serial No.:	083691	F.Rate	205gpm			IADC Drill Hrs		Cumul. IADC Drill Hrs	0.0h
Bit Model	MCP572	SPP	203psi			Total Revs		Cumul. Total Revs	0
Depth In	3145.0m	HSI				ROP(avg)	9.09 m/hr	ROP(avg)	9.09 m/hr
Depth Out	3175.0m	TFA	0.000						

Bit Comment: Coring Run #2

BHA # 31

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)	24ft-lbs	D.C. (1) Ann Velocity	656fpm
Wt Below Jar(Wet)	25000.00klb	String	380.00klb	Torque(Off.Btm)	14ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	395.00klb	Torque(On.Btm)	14ft-lbs	H.W.D.P. Ann Velocity	370fpm
		Slack-Off	370.00klb			D.P. Ann Velocity	370fpm

BHA Run Description: 8 1/2 Drilling BHA

BHA Run Comment: 4th ReRun Bit #5

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

BHA # 30

Weight(Wet)	65.00klb	Length	286.4m	Torque(max)		D.C. (1) Ann Velocity	0fpm
Wt Below Jar(Wet)	22.00klb	String	375.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	0fpm
		Pick-Up	385.00klb	Torque(On.Btm)		H.W.D.P. Ann Velocity	0fpm
		Slack-Off	360.00klb			D.P. Ann Velocity	0fpm

BHA Run Description: Coring BHA Run #2
Bit#6 RRx2

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BHA Run Comment

Equipment	Length	OD	ID	Serial #	Comment
Core Bit	0.37m	8.50in	4.00in	83691	
stabilizer	0.76m	8.44in	5.63in	W0137319	
Core Barrel	5.33m	7.13in	5.63in	W0135110	
stabilizer	0.76m	8.44in	5.63in	W0137237	
Core Barrel	5.33m	7.13in	5.63in	W0135194	
stabilizer	0.76m	8.44in	5.63in	W0137312	
Core Barrel	5.33m	7.13in	5.63in	S8413	
stabilizer	0.76m	8.44in	5.63in	W0137258	
Core Barrel	5.33m	7.13in	5.63in	723189	
Stabiliser	0.76m	8.44in	5.63in	W0137219	
Core Barrel	5.33m	7.13in	5.63in	SBO6	
stabilizer	0.76m	8.44in	5.63in	W0137014	
Top Head	0.61m	7.13in	5.63in	W1856027	
6 3/4" DC	75.42m	6.75in	2.88in	MAERSK	
Jars	9.91m	6.50in	2.75in	17602018	
6 3/4" DC	28.21m	6.75in	2.88in	MAERSK	
HWDP	141.13m	5.00in	3.00in	MAERSK	

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	20	0	419.0
Drill Water	m3	20	6	0	859.0
Pot Water	m3	19	33	0	246.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	97.5
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	1	0	16.0
Bentonite	MT	0	0	0	33.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97	71	2700	703
2	Continental Emsco	6.50	1.12	97	73	2700	703
3	Continental Emsco	6.50	1.12	97	85	2700	729

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
2520.0	30	400	252	40	500	336	50	650	420
2520.0	30	340	252	40	440	336	50	560	420
2850.0	30	400	252	40	500	336	50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4

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Personnel On Board

Maersk	46
GRN	3
OMS	14
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Origin Energy	2
Schlumberger (Wireline)	7
Total	97

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1674.0bbl**	**Losses**	**0.0bbl**
Active	590.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	823.0bbl	Dumped	
Slug		De-Gasser	
Reserve	261.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 16 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	17kn	58.0deg	1006.0mbar	22C°	4.0m	210.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	0.5deg	2.5deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
5.0m	210.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	201.0
2	192.0
3	188.0
4	176.0
5	190.0
6	199.0
7	183.0
8	215.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		11:05 hours 13/11/09	Alongside Melbourne.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		572
Potable Water	M3		110
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

#1 Main engine out of service due to fly wheel problem.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06.20 13/		Stand-By at KT4

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		683
Pot Water	M3		444
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment

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Helicopter Movement				
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	09:05 / 09:25	6 / 7	Crew Change
2	Bristow Helicopters	13:00 / 13:15	7 / 0	Crew Change

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Australian Drilling Associates Pty Ltd ADA

17 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 48
Trefoil-2

Trefoil-2

Date:	17 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	
Report Number:	48	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3208.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3208.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	33.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$622,117
Rig	Kan Tan IV	Days from spud	42.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$33,104,296
Wtr Dpth(MSL)	69.0m	Days on well	47.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	16
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	POOH with BHA at 3000m.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	POOH BHA and rig up Schlumberger wire line.		

Summary of Period 0000 to 2400 Hrs

Continued to RIH from 147m to 1908m. Troubleshot draw works problems. Draw works jumped out of gear while driller was running blocks up the mast. Could not get draw works back into gear. Coupling on A motor was found to be stripped. Perfomed pull test on draw works prior to putting back in service. RIH from 1908m to 2520m. Broke circulation and continued to RIH in open hole to 2937m. Washed and reamed tight spot 2937m to 3120m. Re-logged with Sperry Sun from 3120m to 3175m. Drilled 8 1/2" hole from 3175m to 3208m.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	3 Days	Held abandon drill	
Emergency Drill	0	13 Days	Full Emergency drill performed	
Fire Drill	0	3 Days	Main deck - Fire in Control room	
Permit To Work	12	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	2 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	7	0 Days	Prejob safety meetings	
STOP Card	43	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill 37sec	Held while RIH

FORMATION

Name	Top
TL60 Sand	2994.50m
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m

Operations For Period 0000 Hrs to 2400 Hrs on 17 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G8	0000	0400	4.00	3175.0m	Continued to RIH from 147m to 1908m. Filled pipe every 25 stands.
P17	TP (RE)	G11	0400	1430	10.50	3175.0m	Troubleshot draw works problems. Draw works jumped out of gear while driller was running blocks up the mast. Could not get draw works back into gear. Coupling on A motor was found to be stripped. Performed pull test on draw works prior to putting back in service.
P17	P	G8	1430	1530	1.00	3175.0m	RIH from 1908m to 2520m (9-5/8" shoe).
P17	P	G8	1530	1630	1.00	3175.0m	Made up top drive and broke circulation. Continued to RIH in open hole from 2520m to 2937m.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	D6	1630	1700	0.50	3175.0m	Washed and reamed tight spot from 2937m to 3120m with 700gpm/ 2900psi/ 70rpm.
P17	P	G8	1700	1930	2.50	3175.0m	Re-logged with Sperry Sun from 3120m to 3175m with 700gpm/ 2900psi/ 70rpm.
P17	P	D2	1930	2400	4.50	3208.0m	Drilled 8 1/2" hole from 3175m - 3208 with 700gpm/ 2900psi/ 100rpm/15 WOB/ 10k torque.

Operations For Period 0000 Hrs to 0600 Hrs on 18 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	D2	0000	0300	3.00	3235.0m	Continued to drill ahead 8 1/2" hole with 700gpm/ 2900psi/ 100rpm/ 15 WOB/ 10k torque to TD at 3235m.
P17	P	F4	0300	0430	1.50	3235.0m	Circulated 2x bottoms up with 700gpm/ 2900psi to allow Geoservices to retrieve sample. No gas on bottoms up recorded. Shakers clean.
P17	P	D7	0430	0530	1.00	3235.0m	Pumped out of the hole from 3235m to 3151m.
P17	P	G8	0530	0600	0.50	3235.0m	Pumped slug and continued to POOH on elevators from 3151m to 3000m. Monitored well on the trip tank.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 17 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	277	06 Nov 2009	17 Nov 2009	1,131.00	47.125	3208.0m

General Comments

00:00 TO 24:00 Hrs ON 17 Nov 2009

WBM Data — Cost Today US$ 3677

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	38000mg/l	Solids(%vol):	3%	Viscosity	56sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	8%	H2O:	93%	PV	14cp
Time:	22:00 hrs	HTHP-FL:	11.0cc/30min	Hard/Ca:	400mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	11	Sand:	.25	Gels 10s	8
Temp:				PM:	0.3	pH:	9	Gels 10m	12
				PF:	0.25	PHPA:	2ppb	Fann 003	9
								Fann 006	10
								Fann 100	28
								Fann 200	37
								Fann 300	43
								Fann 600	57

Comment — Note: Cost is in AUD

Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R
							NO	

Bitwear Comments:

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size ("):	8.50in	IADC#	M223	No.	Size	Progress	33.0m	Cumul. Progress	306.0m
Mfr:	SMITH	WOB(avg)	12.00klb	6	14/32nd"	On Bottom Hrs	3.5h	Cumul. On Btm Hrs	23.9h
Type:	PDC	RPM(avg)	100			IADC Drill Hrs	0.0h	Cumul. IADC Drill Hrs	12.5h
Serial No.:	TX2104	F.Rate	683gpm			Total Revs		Cumul. Total Revs	59
Bit Model	MI616	SPP	2788psi			ROP(avg)	9.43 m/hr	ROP(avg)	12.80 m/hr
Depth In	3175.0m	HSI							
Depth Out		TFA	0.902						

Bit Comment — Re Run x4 Bit # 5

BHA # 31

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)	24ft-lbs	D.C. (1) Ann Velocity	627fpm
Wt Below Jar(Wet)	25000.00klb	String	380.00klb	Torque(Off.Btm)	14ft-lbs	D.C. (2) Ann Velocity	0fpm

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Printed on 17 Nov 2009

	Pick-Up	395.00klb	Torque(On.Btm)	14ft-lbs	H.W.D.P. Ann Velocity	354fpm
	Slack-Off	370.00klb			D.P. Ann Velocity	354fpm

BHA Run Description	8 1/2 Drilling BHA
BHA Run Comment	4th ReRun Bit #5

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Survey

MD (m)	Incl (deg)	Azim (deg)	TVD (m)	Vsec (deg)	N/-S (m)	E/-W (m)	DLS (deg/30m)	Tool Type
3167.65	3.8	84.1	3166.80	34.0			0.1	MWD
3194.79	3.9	83.3	3193.88	35.4			0.1	MWD
3223.60	4.3	83.4	3222.62	36.9			0.5	MWD
3235.00	4.3	83.4	3233.99	37.6			0.0	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	23	0	396.0
Drill Water	m3	0	5	0	854.0
Pot Water	m3	0	26	0	220.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	-2.1	95.4
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	33.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
1	Continental Emsco	6.50	1.12	97	71	2700	703	2520.0	30	400	252	40	500	336	50	650	420
2	Continental Emsco	6.50	1.12	97	73	2700	703	2520.0	30	340	252	40	440	336	50	560	420
3	Continental Emsco	6.50	1.12	97	85	2700	729	2850.0	30	400	252	40	500	336	50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	46
GRN	3
OMS	14
Reach	1
Geoservices	6
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Swaco	1
Sperry Sun	3
CORPRO	2
Other Contractor	1
Origin Energy	2
Schlumberger (Wireline)	7
Total	97

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Mike Lawrance / Fergus Spencer

Available	1601.0bbl
Active	680.0bbl
Mixing	0.0bbl
Hole	683.0bbl
Slug	
Reserve	238.0bbl
Kill	

Losses	0.0bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Marine

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Weather on 17 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	8kn	50.0deg	1009.0mbar	17C°	0.0m	90.0deg	3s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.0m	0.9deg	0.9deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	90.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	201.0
2	197.0
3	188.0
4	193.0
5	210.0
6	210.0
7	188.0
8	198.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		11:05 hours 13/11/09	Alongside Melbourne.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		570
Potable Water	M3		160
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

#1 Main engine out of service due to fly wheel problem.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06.20 13/		Stand-By at KT4

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		675
Pot Water	M3		436
Drill Water	M3		600
Bentonite	t		42
Barite	t		0
	t		130
Brine	M3		0

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Printed on 17 Nov 2009

Australian Drilling Associates Pty Ltd

18 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 49
Trefoil-2

Trefoil-2

Date:	18 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	49	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	27.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$641,877
Rig	Kan Tan IV	Days from spud	43.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$33,696,113
Wtr Dpth(MSL)	69.0m	Days on well	48.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	17
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Continue with wireline logging run # 1.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Continue wireline logging operations.		

Summary of Period 0000 to 2400 Hrs

Continued to drill ahead 8 1/2" hole to TD at 3235m. Pumped out of the hole to 3054m. Pumped slug and continued to POOH to 288m. POOH BHA and downloaded MWD and removed sources. Broke off bit and laid down MWD tools. Held Pre job safety meeting and rigged up Schlumberger wireline. RIH run #1 to 3230m and commenced logging up. Mechanics worked on draw works shaft and HPU pump. 440 grams of steel recovered from the ditch magnets.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	4 Days	Held abandon drill	
Emergency Drill	0	14 Days	Full Emergency drill performed	
Fire Drill	0	4 Days	Main deck - Fire in Control room	
Permit To Work	13	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	3 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	6	0 Days	Prejob safety meetings	
STOP Card	52	0 Days	Number of STOP Cards submitted	
Trip / Kick Drill	1	0 Days	Trip Drill 31sec	Held while POOH

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 18 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	D2	0000	0300	3.00	3235.0m	Continued to drill ahead 8 1/2" hole with 700gpm/ 2900psi/ 100rpm/ 15 WOB/ 10k torque to TD at 3235m.
P17	P	F4	0300	0430	1.50	3235.0m	Circulated 2x bottoms up with 700gpm/ 2900psi to allow Geoservices to retrieve sample. No gas on bottoms up recorded. Shakers clean.
P17	P	D7	0430	0530	1.00	3235.0m	Pumped out of the hole from 3235m to 3151m.
P17	P	G8	0530	0730	2.00	3235.0m	Pumped slug and continued to POOH on elevators from 3151m to 2514m. Monitored well on the trip tank.
P17	P	P3	0730	0800	0.50	3235.0m	Performed flow check at shoe - static. Serviced top drive.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G8	0800	1230	4.50	3235.0m	Continued to POOH in casing from 2514m to 288m. Performed flow check prior to pulling BHA into BOPs.
P17	P	G6	1230	1400	1.50	3235.0m	POOH BHA from 288m to 32m.
P17	P	G7	1400	1430	0.50	3235.0m	Downloaded MWD and removed sources from same.
P17	P	G7	1430	1600	1.50	3235.0m	Broke off bit and laid down MWD tools. Bit grade 1-2-CT-S-X-I-NO-TD. A total of 440 grams of steel recovered from the ditch magnets.
P17	P	G1	1600	1700	1.00	3235.0m	Held pre job safety meeting and rigged up Schlumberger wire line.
P17	P	E3	1700	2030	3.50	3235.0m	Picked up and made up Schlumberger wire line tools for logging run#1 (CMR+/ Pex/ HRLA/ HNGS).
P17	P	E3	2030	2300	2.50	3235.0m	RIH with Schlumberger tools @ 6000 ft/hr.
P17	P	E3	2300	2400	1.00	3235.0m	Schlumberger tools at 3230m. Commenced logging up. Mechanics worked on draw works shaft and HPU pump.

Operations For Period 0000 Hrs to 0600 Hrs on 19 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E3	0000	0600	6.00	3235.0m	Continued with wireline run #1.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 18 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	301	06 Nov 2009	18 Nov 2009	1,155.00	48.125	3235.0m

General Comments

00:00 TO 24:00 Hrs ON 18 Nov 2009

WBM Data

Cost Today US$ 11572

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	38000mg/l	Solids(%vol):	4%
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	7%	H2O:	93%
Time:	22:00 hrs	HTHP-FL:	10.3cc/30min	Hard/Ca:	360mg/l	Oil(%):	
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	10	Sand:	.3
Temp:				PM:	0.2	pH:	9
				PF:	0.1	PHPA:	2ppb

Viscosity	61sec/qt
PV	14cp
YP	29lb/100ft²
Gels 10s	8
Gels 10m	12
Fann 003	9
Fann 006	10
Fann 100	28
Fann 200	37
Fann 300	43
Fann 600	57

Comment — Note: Cost is in AUD

Bit # 5 RR

Wear	I	O1	D	L	B	G	O2	R
	1	2	CT	S	X	I	NO	TD

Bitwear Comments:

Size ("):	8.50in	IADC#	M223	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	SMITH	WOB(avg)	12.00klb	No.	Size	Progress	27.0m	Cumul. Progress	333.0m
Type:	PDC	RPM(avg)	100	6	14/32nd"	On Bottom Hrs	6.1h	Cumul. On Btm Hrs	30.0h
Serial No.:	TX2104	F.Rate	683gpm			IADC Drill Hrs	0.0h	Cumul. IADC Drill Hrs	12.5h
Bit Model	MI616	SPP	2788psi			Total Revs	33	Cumul. Total Revs	92
Depth In	3175.0m	HSI				ROP(avg)	4.43 m/hr	ROP(avg)	11.10 m/hr
Depth Out	3235.0m	TFA	0.902						

Bit Comment — Re Run x4 Bit # 5

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BHA # 31

Weight(Wet)	50000.00klb	Length	288.4m	Torque(max)	19ft-lbs	D.C. (1) Ann Velocity	627fpm
Wt Below Jar(Wet)	25000.00klb	String	380.00klb	Torque(Off.Btm)	8ft-lbs	D.C. (2) Ann Velocity	0fpm
		Pick-Up	395.00klb	Torque(On.Btm)	10ft-lbs	H.W.D.P. Ann Velocity	354fpm
		Slack-Off	370.00klb			D.P. Ann Velocity	354fpm

BHA Run Description	8 1/2 Drilling BHA
BHA Run Comment	4th ReRun Bit #5

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.28m	8.50in	2.25in	TX2104	
NB Stab	1.50m	6.88in	3.25in	700172	
Gamma-Ray	7.07m	8.25in	3.00in	90222505	
DM sub	2.81m	6.63in	2.88in	1025744	
MWD	9.20m	8.25in	3.25in	922683	
Sonic 6	6.76m	7.38in	3.00in	922755-06	
Pulser	3.03m	6.81in	2.88in	302842	
MWD	1.81m	7.13in	1.88in	92223063B6	
8-1/2" String Stab	1.70m	8.38in	2.81in	700802	
6 3/4" DC	9.32m	6.75in	2.88in	1185	
6 3/4" DC	9.45m	6.75in	2.88in	1764	
6 3/4" DC	9.44m	6.75in	2.88in	1180	
6 3/4" DC	9.26m	6.75in	2.88in	1191	
6 3/4" DC	9.47m	6.75in	2.88in	1761	
6 3/4" DC	9.20m	6.75in	2.88in	1188	
6 3/4" DC	9.45m	6.75in	2.88in	1759	
6 3/4" DC	9.38m	6.75in	2.88in	1760	
Jar	9.91m	6.50in	2.88in	17602018	
6 3/4" DC	9.47m	6.75in	2.88in	1190	
6 3/4" DC	9.29m	6.75in	2.88in	1766	
6 3/4" DC	9.45m	6.75in	2.88in	1183	
HWDP	141.13m	5.00in	3.00in		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	0	0	396.0
Drill Water	m3	0	0	0	854.0
Pot Water	m3	0	0	0	220.0
Brine	m3	0	0	0	180.0
Barite	MT	0	13.8	0	81.6
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	33.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs | **Slow Pump Data**

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)	Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
1	Continental Emsco	6.50	1.12	97	71	2700	703	2520.0	30	400	252	40	500	336	50	650	420
2	Continental Emsco	6.50	1.12	97	73	2700	703	2520.0	30	340	252	40	440	336	50	560	420

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Pumps

Pump Data - Last 24 Hrs								Slow Pump Data									
3	Continental Emsco	6.50	1.12	97	85	2700	729	2850.0	30	400	252	40	500	336	50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	44
GRN	4
OMS	15
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Swaco	1
Sperry Sun	2
Other Contractor	1
Origin Energy	2
Schlumberger (Wireline)	7
Total	92

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	**1585.7bbl**
Active	598.0bbl
Mixing	0.0bbl
Hole	860.0bbl
Slug	
Reserve	127.7bbl
Kill	

Losses	**66.4bbl**
Downhole	
Surf+ Equip	58.8bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge evaporation	7.6bbl

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Marine

Weather on 18 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	16kn	210.0deg	1001.0mbar	14C°	0.0m	210.0deg	2s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.0m	0.8deg	1.1deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	200.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	198.0
2	201.0
3	201.0
4	191.0
5	169.0
6	204.0
7	209.0
8	204.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks

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Far Scimitar		11:05 hours 13/11/09	Alongside Melbourne.	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		569
				Potable Water	M3		157
				Drill Water	M3		817
					t		0
				Barite	t		0
				Bentonite	t		0
				Brine	M3		112
#1 Main engine out of service due to fly wheel problem.							
Far Fosna	06.20 13/11/09		Stand-By at KT4	**Item**	**Unit**	**Used**	**Quantity**
				Rig Fuel	M3		667
				Pot Water	M3		428
				Drill Water	M3		600
				Bentonite	t		42
				Barite	t		40
					t		130
				Brine	M3		0
1935 - 2025hrs, servicing rig.							

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	08.56 / 09:08	4 / 9	Crew Change

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 50
Trefoil-2

19 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Trefoil-2

Date:	19 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	50	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$1,226,410
Rig	Kan Tan IV	Days from spud	44.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$35,354,902
Wtr Dpth(MSL)	69.0m	Days on well	49.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	18
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Continued with Schlumberger wire line run #2 (MDT/ XPT).		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Continue with Schlumberger wire line run #2 (MDT/ XPT).		

Summary of Period 0000 to 2400 Hrs

Completed wireline run #1. RIH and logged with wireline run #2 (MDT/XPT). Rig crews installed new camera bracket in the mast. Serviced the fluid ends on all 3 mud pumps. Installed covers to draw works. General rig maintenance and housekeeping.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	5 Days	Held abandon drill	
Emergency Drill	0	15 Days	Full Emergency drill performed	
Fire Drill	0	5 Days	Main deck - Fire in Control room	
Permit To Work	19	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	4 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	19	0 Days	Prejob safety meetings	
STOP Card	44	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 19 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E3	0000	1100	11.00	3235.0m	Continued with wireline run #1 (CMR+/ Pex/ HRLA/ HNGS). Monitored well on trip tank.
P17	P	E3	1100	1200	1.00	3235.0m	POOH with run #1 and removed sources. Laid down run #1 tools. Filled trip tank (35.8bbls).
P17	P	E3	1200	1300	1.00	3235.0m	Picked up and made up tools for run #2.
P17	P	E3	1300	2400	11.00	3235.0m	RIH and logged with run #2 (MDT/XPT). Monitoring well on Trip Tank. Completed 35 pretests between 2560.1m and 3055m. Rig crews installed new camera bracket in the mast. Serviced the fluid ends on all 3 mud pumps. Installed covers to draw works. General rig maintenance and

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							housekeeping.

Operations For Period 0000 Hrs to 0600 Hrs on 20 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E3	0000	0600	6.00	3235.0m	Continued with wire line run #2 (MDT/XPT). Completed 4 correlation runs and 65 pretests from 2560.1m to 3208.3m (50 valid, 14 tight, 1 super charged). Monitored well on trip tank. Continued to PMS drilling equipment.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 19 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	325	06 Nov 2009	19 Nov 2009	1,179.00	49.125	3235.0m

General Comments

00:00 TO 24:00 Hrs ON 19 Nov 2009

WBM Data — Cost Today US$ 0

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	37000mg/l	Solids(%vol):	4%	Viscosity	58sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	7%	H2O:	93%	PV	12cp
Time:	22:00 hrs	HTHP-FL:	10.0cc/30min	Hard/Ca:	320mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	10	Sand:	.3	Gels 10s	8
Temp:				PM:	0.2	pH:	9	Gels 10m	11
				PF:	0.1	PHPA:	2ppb	Fann 003	7
								Fann 006	8
								Fann 100	26
								Fann 200	34
								Fann 300	41
								Fann 600	53

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	34	0	362.0
Drill Water	m3	0	102	0	752.0
Pot Water	m3	0	40	0	180.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
9.63	/ 11.00ppg	2520.00m / 2520.00m	lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater. No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	44
GRN	4
OMS	15
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Swaco	1
Sperry Sun	2
Other Contractor	1
Origin Energy	2
Schlumberger (Wireline)	7
Total	92

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	**1570.7bbl**
Active	583.0bbl
Mixing	0.0bbl
Hole	860.0bbl
Slug	
Reserve	127.7bbl
Kill	

Losses	**15.0bbl**
Downhole	
Surf+ Equip	15.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge evaporation	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 19 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	5kn	214.0deg	1005.0mbar	15C°	0.0m	210.0deg	2s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
0.0m	0.6deg	2.0deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	200.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	198.0
2	192.0
3	162.0
4	191.0
5	200.0
6	198.0
7	190.0
8	207.0

Vessel Name	**Arrived (Date/Time)**	**Departed (Date/Time)**	**Status**
Far Scimitar	12.45 19th Nov 09		Rig stby.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		550
Potable Water	M3		154
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

0000 - 0040 Alongside Melbourne
0040 - 1245 On route Melb to KT4
1245 - 1545 Dischaqrge deck cargo
1545 - 2105 Running stby

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2105 - 2255 Cargo transfer from Fosna to Scimitar
2255 - 2400 Running stby

Far Fosna	06.20 13/11/09		Stand-By at KT4

Item	Unit	Used	Quantity
Rig Fuel	M3		658
Pot Water	M3		420
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0

0001 - 0210 r/stby
0210 - 0510 s/s rig
0510 - 2040 r/stby
2040 - 2250 Transfer cargo F/ Fosna - Scimitar
2250 - 2400 r/stby

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Printed on 19 Nov 2009

Australian Drilling Associates Pty Ltd ADA

20 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 51
Trefoil-2

Trefoil-2

Date:	20 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	51	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$673,925
Rig	Kan Tan IV	Days from spud	45.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$36,010,328
Wtr Dpth(MSL)	69.0m	Days on well	50.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	19
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Running wireline run #3 (SMI/DSI/GR/LEHQT).		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Continue with wireline run #3. RIH with cement stinger and pump cement plugs for P&A.		

Summary of Period 0000 to 2400 Hrs

Continued with wireline run #2 (MDT/XPT). Installed new camera and bracket in the mast.
Drill crews continued with maintenance and house keeping.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	6 Days	Held abandon drill	
Emergency Drill	0	16 Days	Full Emergency drill performed.	
Fire Drill	0	6 Days	Main deck - Fire in Control room	
Permit To Work	15	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	5 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	15	0 Days	Prejob safety meetings	
STOP Card	53	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 20 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E3	0000	2300	23.00	3235.0m	Continued with wire line run #2 (MDT/XPT). Completed 4 correlation runs and 65 pretests from 2560.1m to 3208.3m (50 valid, 14 tight, 1 super charged). - 14 attempted sampling points - 7 pump outs - 3 sampling stations - 6 samples taken Volume of hydrocarbons pumped into the borehole at each pumpout station: 3181.2 m MDRT = 34.345 litres; fluid type = water 3171.2 m MDRT = 26.675 litres; fluid type = gas/water 3175 m MDRT = 38.315 litres; fluid type = water 3155.1 m MDRT = 35.89 litres; fluid type = gas/condensate

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							3149.0 m MDRT = 17.945 litres; fluid type = gas/condensate 2994.8 m MDRT = 20.370 litres; fluid type = water 2830.3 m MDRT = 51.158 litres; fluid type = gas/condensate Total volume: 224.698 litres. Monitored well on trip tank. Drill crew continued PMS on drilling equipment.
P17	P	E3	2300	2400	1.00	3235.0m	POOH wire line run # 2 to surface.

Operations For Period 0000 Hrs to 0600 Hrs on 21 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E3	0000	0100	1.00	3235.0m	Lay down wireline tools for run #2.
P17	P	E3	0100	0200	1.00	3235.0m	Picked up and made up wire line tools for run #3 (SMI/DSI/GR/LEHQT).
P17	P	E3	0200	0600	4.00	3235.0m	RIH and logged with wireline tools SMI/DSI/GR/LEHQT.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 20 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	349	06 Nov 2009	20 Nov 2009	1,203.00	50.125	3235.0m

General Comments

00:00 TO 24:00 Hrs ON 20 Nov 2009

WBM Data — Cost Today US$ 604

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	36000mg/l	Solids(%vol):	4%	Viscosity	57sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	7%	H2O:	93%	PV	13cp
Time:	20:00 hrs	HTHP-FL:	10.0cc/30min	Hard/Ca:	320mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	10	Sand:	.3	Gels 10s	8
Temp:				PM:	0.2	pH:	9	Gels 10m	11
				PF:	0.1	PHPA:	2ppb	Fann 003	8
								Fann 006	9
								Fann 100	26
								Fann 200	35
								Fann 300	42
								Fann 600	55

Comment: Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	17	0	0	379.0
Drill Water	m3	123	0	0	875.0
Pot Water	m3	24	0	0	204.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

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Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97			
2	Continental Emsco	6.50	1.12	97			
3	Continental Emsco	6.50	1.12	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40		336	50	560	420
	30			40			50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	43
GRN	5
OMS	16
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Swaco	1
Sperry Sun	2
Other Contractor	1
Origin Energy	2
Schlumberger (Wireline)	7
Total	93

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	**1571.0bbl**
Active	652.0bbl
Mixing	0.0bbl
Hole	860.0bbl
Slug	
Reserve	59.0bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge evaporation	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Marine

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Printed on 22 Nov 2009

Weather on 20 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	16kn	276.0deg	1005.0mbar	16C°	3.0m	230.0deg	2s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	1.0deg	1.1deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
4.0m	230.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	195.0
2	183.0
3	147.0
4	195.0
5	203.0
6	198.0
7	182.0
8	202.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		14.30 19th Nov 09	Enroute to Melbourne.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		537
Potable Water	M3		151
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

0000 - 1400 Running standby KT4
1400 - 1430 Backload cargo
1430 - 2400 Transit KT4 to Melbourne

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06.20 13/11/09		Stand-By at KT4

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		651
Pot Water	M3		412
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0

0001 - 2400 r/stby

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	BRISTOW HELICOPTERS AUSTRALIA PTY LTD	09.28 / 09.41	11 / 11	Crew Change

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Australian Drilling Associates Pty Ltd ADA

DRILLING MORNING REPORT # 52
Trefoil-2

21 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

Trefoil-2

Date:	21 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	52	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$557,732
Rig	Kan Tan IV	Days from spud	46.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$36,568,060
Wtr Dpth(MSL)	69.0m	Days on well	51.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	20
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Laying down 5" DP while wait on cement.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	RIH and tag cement. POOH and pump cement plug #2. Wait on cement 6 hrs. RIH tag cement. POOH laying down pipe. Press test cement plug. Continue to POOH laying down DP.		

Summary of Period 0000 to 2400 Hrs

Completed wireline logging operations. Laid out 8 1/2" stabiliser, jars and 2 x 6 3/4" DCs. Rigged up and ran 2 7/8" tubing on 5" DP to 3235m. Circulated bottoms up. Pumped Cmt plug #1A. POOH from 3235m to 3085m. Circulated bottoms up. Pumped cement plug #1B.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	7 Days	Held abandon drill	
Emergency Drill	0	17 Days	Full Emergency drill performed	
Fire Drill	0	7 Days	Main deck - Fire in Control room	
Permit To Work	14	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	6 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	14	0 Days	Prejob safety meetings	
Safety Meeting	8	0 Days	Departmental Safety Meetings	Bi-weekly Departmental Safety Meetings.
STOP Card	45	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 21 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	E3	0000	0100	1.00	3235.0m	Lay down wireline tools for run #2.
P17	P	E3	0100	0200	1.00	3235.0m	Picked up and made up wire line tools for run #3 (SMI/DSI/GR/LEHQT).
P17	P	E3	0200	0600	4.00	3235.0m	RIH and logged with wireline tools SMI/DSI/GR/LEHQT.
P17	P	E3	0600	0700	1.00	3235.0m	POOH with wireline run #3.
P17	P	E3	0700	0800	1.00	3235.0m	Held PJSM and laid out wireline tools from run #3 (SMI/DSI/GR/LEHQT).
P17	P	G1	0800	0900	1.00	3235.0m	Rigged down wireline equipment.

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Printed on 24 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P17	P	G6	0900	1030	1.50	3235.0m	Laid out 8 1/2" stabiliser, jars and 2 x 6 3/4" DCs.
P21	P	G23	1030	1100	0.50	3235.0m	Held PJSM and rigged up to run 2 7/8" tubing.
P21	P	G8	1100	1230	1.50	3235.0m	Picked up and RIH 2 7/8" tubing to 101m.
P21	P	G8	1230	1900	6.50	3235.0m	RIH 2 7/8" tubing on 5" DP from 101m - 3235m.
P21	P	F4	1900	2030	1.50	3235.0m	Circulated bottoms up @ 400gpm/ 1800psi. Max gas on bottoms up 20%.
P21	P	F3	2030	2200	1.50	3235.0m	Cement plug #1A: Made up cement head. Broke circulation and pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water, followed by 43.2bbls of 15.8ppg cement (3085m to 3235m). Cement in place at 21.50hrs. Displaced cement with 165 bbls of 9.4ppg mud.
P21	P	G8	2200	2230	0.50	3235.0m	Broke off cement head and POOH from 3235m to 3085m on the elevators.
P21	P	F4	2230	2330	1.00	3235.0m	Circulated bottoms up at 3085m with 700gpm/1800psi. No cement returns seen at shakers.
P21	P	F3	2330	2400	0.50	3235.0m	Cement plug #1B: Made up cement head. Broke circulation and pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2935m to 3085m).

Operations For Period 0000 Hrs to 0600 Hrs on 22 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	F3	0000	0030	0.50	3235.0m	Continued with cement plug #1B. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement. Displaced with 156bbls of 9.4ppg mud.
P21	P	G8	0030	0100	0.50	3235.0m	POOH from 3085m to 2935m.
P21	P	F4	0100	0200	1.00	3235.0m	Circulated bottoms up @ 700gpm/ 1800psi. Diverted and treated 35bbls of cement contaminated mud.
P21	P	F3	0200	0300	1.00	3235.0m	Cement plug 1C: Made up cement head and pumped 5 bbls of mud. Pressure tested surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement. Displaced with 148 bbls of 9.4ppg mud. Plug set in place 0300hrs.
P21	P	G8	0300	0400	1.00	3235.0m	POOH from 2935m to 2520m.
P21	P	F4	0400	0500	1.00	3235.0m	Circulated bottoms up at 700gpm/1800psi.
P21	P	G4	0500	0600	1.00	3235.0m	(IN PROGRESS) Laid out 5" DP while wait on cement.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 21 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,213.50	50.563	3235.0m
Suspend and Abandon(P21)	13.5	21 Nov 2009	21 Nov 2009	1,227.00	51.125	3235.0m

General Comments

00:00 TO 24:00 Hrs ON 21 Nov 2009

WBM Data — Cost Today US$ 173

Mud Type:	KCl POLYMER	API FL:	5.0cc/30min	Cl:	37000mg/l	Solids(%vol):	4%	Viscosity	56sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	7%	H2O:	93%	PV	11cp
Time:	19:00 hrs	HTHP-FL:	10.2cc/30min	Hard/Ca:	320mg/l	Oil(%):		YP	31lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	10	Sand:	.3	Gels 10s	7
Temp:				PM:	0.2	pH:	9	Gels 10m	11
				PF:	0.1	PHPA:	2ppb	Fann 003	8
								Fann 006	9
								Fann 100	26
								Fann 200	35
								Fann 300	42
								Fann 600	53

Comment — Note: Cost is in AUD

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	14	0	365.0
Drill Water	m3	0	51	0	824.0
Pot Water	m3	0	17	0	187.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	9.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97			
2	Continental Emsco	6.50	1.12	97			
3	Continental Emsco	6.50	1.12	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40		336	50	560	420
	30			40			50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	43
GRN	5
OMS	16
Reach	1
Geoservices	4
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro ROV	3
Sperry Sun	2
Other Contractor	1
Origin Energy	2
Schlumberger (Wireline)	7
Total	92

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	1558.6bbl
Active	792.9bbl
Mixing	0.0bbl
Hole	670.7bbl
Slug	
Reserve	95.0bbl
Kill	

Losses	12.3bbl
Downhole	
Surf+ Equip	12.3bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge evaporation	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 21 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	5kn	240.0deg	1005.0mbar	14C°	2.0m	230.0deg	2s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	0.4deg	1.0deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	230.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	194.0
2	174.0
3	147.0
4	195.0
5	203.0
6	206.0
7	187.0
8	206.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		14.30 19th Nov 09	KT4 Standby.

Item	Unit	Used	Quantity
Rig Fuel	M3		515
Potable Water	M3		148
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

0000 - 0250 Transit KT4 to Melb
0250 - 1300 Alongside 28 South Wharf
1300 - 2315 Transit Melb to KT4
2315 - 2400 KT4

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06.20 13/11/09		Stand-By at KT4

Item	Unit	Used	Quantity
Rig Fuel	M3		643
Pot Water	M3		404
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0

0001 - 1400 r/stby
1400 - 1700 s/s cargo ops
1700 - 2100 r/stby
2100 - 2215 s/s cargo ops
2215 - 2400 r/stby

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Australian Drilling Associates Pty Ltd ADA

22 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 53
Trefoil-2

Trefoil-2

Date:	22 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	53	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	Dennis Archer

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$580,181
Rig	Kan Tan IV	Days from spud	47.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$37,148,241
Wtr Dpth(MSL)	69.0m	Days on well	52.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	21
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Waiting on weather		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Continue to lay out DP. Jet well head and BOPs. Run bridg plug. RIH and cut 9 5/8" casing and retrieve same. Pull BOPs.		

Summary of Period 0000 to 2400 Hrs

Continued with cement plug #1B. POOH to 2935m. Circulated bottoms up. Pumped cement plug #1C. POOH to 2520m. Circulated bottoms up. Laid out 5" DP while wait on cement. RIH and tagged cement plug at 2,749m. POOH to 2,620m and broke circulation. Spotted 12bbl Hi-Vis pill. POOH to 2,570m and mixed and pumped cement plug #2. Circulated bottoms up. RIH and tagged top of cement @ 2337m. Performed line test to 2000psi and pressure tested cement plug against pipe rams to 2000psi @ 500psi intervals.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	1	0 Days	Held abandon drill	
Emergency Drill	0	18 Days	Full Emergency drill performed	
Fire Drill	0	8 Days	Main deck - Fire in Control room	
Permit To Work	13	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	7 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	13	0 Days	Prejob safety meetings	
Safety Meeting	6	0 Days	Safety Meetings	
STOP Card	40	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 22 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	F3	0000	0030	0.50	3235.0m	Continued with cement plug #1B. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2935m to 3085m). Displaced with 156bbls of 9.4ppg mud.
P21	P	G8	0030	0100	0.50	3235.0m	POOH from 3085m to 2935m.
P21	P	F4	0100	0200	1.00	3235.0m	Circulated bottoms up @ 700gpm/ 1800psi. Diverted and treated 35bbls of cement contaminated mud.
P21	P	F3	0200	0300	1.00	3235.0m	Cement plug 1C: Made up cement head and pumped 5 bbls of mud. Pressure tested

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							surface lines to 3000psi (5min) - ok. Pumped 15bbls of drill water followed by 43.2bbls of 15.8ppg cement (2785m to 2749m). Displaced with 148 bbls of 9.4ppg mud. Plug set in place 0300hrs.
P21	P	G8	0300	0400	1.00	3235.0m	POOH from 2935m to 2520m.
P21	P	F4	0400	0500	1.00	3235.0m	Circulated bottoms up at 700gpm/1800psi.
P21	P	G4	0500	0730	2.50	3235.0m	Laid out 5" DP while wait on cement.
P21	P	G8	0730	0900	1.50	3235.0m	RIH from 2241m to 2702m.
P21	P	G8	0900	1000	1.00	3235.0m	Made up top drive and washed from 2702m and tagged cement plug at 2749m with 5klbs.
P21	P	G8	1000	1030	0.50	3235.0m	POOH from 2749m to 2620m.
P21	P	F3	1030	1100	0.50	3235.0m	Make up top drive and broke circulation. Spotted 12 blls of Hi-Vis pill at 2620m.
P21	P	G8	1100	1130	0.50	3235.0m	POOH from 2620m to 2570m.
P21	P	F3	1130	1230	1.00	3235.0m	Cement plug #2: Made up cement assembly and installed hose. Tested to 3,000psi - ok. Pumped 15bbls of fresh water ahead. Mixed and pumped 35bbls of 15.8ppg slurry (2337m to 2570m). Displaced with 125bbls of 9.5ppg WBM. Checked back flow - ok.
P21	P	G8	1230	1300	0.50	3235.0m	Laid down cement assembly. POOH from 2570m to 2412m.
P21	P	F4	1300	1500	2.00	3235.0m	Circulated bottoms up. No cement contaminated WBM observed.
P21	P	G4	1500	1700	2.00	3235.0m	Laid down 2 stands of DP. Picked up and racked back 1 stand of 8 1/4" DCs while waiting on cement.
P21	P	G11	1700	1730	0.50	3235.0m	Carried out rig service while waiting on cement.
P21	P	G4	1730	1930	2.00	3235.0m	Continued to lay out 6 stands of 5" DP while waiting on cement.
P21	P	G4	1930	2030	1.00	3235.0m	Laid down 1 stand of 6 3/4" DC. Cranes shut down due to weather conditions during this operation. Held toolbox talk to discuss change of plans for the laying out of the DCs while waiting on cement.
P21	P	G8	2030	2130	1.00	3235.0m	RIH and tagged top of cement at 2337m with 5 - 10klbs down weight.
P21	P	P1	2130	2230	1.00	3235.0m	Performed line test to 2000psi and pressure tested cement plug against pipe rams to 2000psi @ 500psi intervals - ok.
P21	P	G8	2230	2400	1.50	3235.0m	Racked back 1 stand of DP. Pumped slug and POOH laying down DP from 2307m to 2100m.

Operations For Period 0000 Hrs to 0600 Hrs on 23 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	0000	0330	3.50	3235.0m	Continued to POOH laying out drill pipe from 2100m to 1596m. Cranes shut down at 0200 hrs. Continued to lay out pipe until pipe bay was full.
P21	TP (WOW)	G25	0330	0600	2.50	3235.0m	(IN PROGRESS) Waited on weather. Wind speed: 30+ Knots Roll: 3.2 deg Heave: 4m Pitch: 1.1 deg

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 22 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,213.50	50.563	3235.0m
Suspend and Abandon(P21)	37.5	21 Nov 2009	22 Nov 2009	1,251.00	52.125	3235.0m

General Comments

00:00 TO 24:00 Hrs ON 22 Nov 2009

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WBM Data

Cost Today US$ 126

Mud Type:	KCl POLYMER	API FL:	5.2cc/30min	Cl:	39000mg/l	Solids(%vol):	4%	Viscosity	55sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	7%	H2O:	93%	PV	14cp
Time:	19:00 hrs	HTHP-FL:	11.2cc/30min	Hard/Ca:	800mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	9	Sand:	.3	Gels 10s	9
Temp:				PM:	0.2	pH:	8.5	Gels 10m	11
				PF:	0.1	PHPA:	2ppb	Fann 003	8
								Fann 006	10
								Fann 100	26
								Fann 200	37
								Fann 300	43
								Fann 600	57

Comment: Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	18	0	347.0
Drill Water	m3	0	10	0	814.0
Pot Water	m3	10	29	0	168.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	1	0	8.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97			
2	Continental Emsco	6.50	1.12	97			
3	Continental Emsco	6.50	1.12	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40		336	50	560	420
	30			40			50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	43
GRN	5
OMS	20
Dril-Quip	1
Geoservices	2
Halliburton Cementers	2
Halliburton (Baroid)	2
PCS	3
Fugro ROV	3

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Personnel On Board

Smith Services	2
Other Contractor	1
Total	88

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	1458.2bbl
Active	764.8bbl
Mixing	0.0bbl
Hole	548.4bbl
Slug	
Reserve	145.0bbl
Kill	

Losses	100.6bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	35.0bbl
De-Gasser	
De-Sander	
De-Silter	
Centrifuge Left Behind	65.6bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 22 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	26kn	254.0deg	1005.0mbar	12C°	3.0m	230.0deg	2s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	0.9deg	2.0deg	317.0deg	240000.00klb	116684.00klb	Fine

Swell Height	Swell Dir.	Swell Period	Comments
4.0m	230.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	207.0
2	187.0
3	149.0
4	185.0
5	197.0
6	192.0
7	185.0
8	210.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		14.30 19th Nov 09	KT4 Standby.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		504
Potable Water	M3		145
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

0000- 0200 Discharge deck cargo KT4
0200 - 2400 Running stby

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06.20 13/11/09	22/11/09	Melbourne

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		635
Pot Water	M3		396
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0

0001 - 0810 r/stby
0810 - 0815 s/s rig
0820 - 2130 En route to Melb.
2130 - 2400 28 south wharf

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	17.10 / 17.30	12 / 8	Crew Change for Geologist, Schlumberger, Geo-Service, Reach.

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Australian Drilling Associates Pty Ltd ADA

23 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 54
Trefoil-2

Trefoil-2

Date:	23 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	54	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$558,543
Rig	Kan Tan IV	Days from spud	48.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$37,706,784
Wtr Dpth(MSL)	69.0m	Days on well	53.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	22
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	RIH with spear to retrieve cut 9 5/8" casing while displacing riser to seawater.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Retrieve 9 5/8" casing and lay out same. Rig up and pull BOPs and riser.		

Summary of Period 0000 to 2400 Hrs

Continued to POOH laying out drill pipe from 2100m to 1596m. Cranes shut down at 0200 hrs. Continued to lay out pipe until pipe bay was full. Waited on weather. Continued to lay out pipe. Made up jetting tool and wear bushing retrieval tool and RIH. Jetted well head and BOPs. Latched into wear bushing and POOH with same. Made up and RIH Halliburton EZSV packer. Set packer at 203m. RIH and tagged top of packer with 10klbs down to confirm set. Picked up and made up 9 5/8" casing cutting tools and RIH.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	1	1 Day	Held abandon drill	
Emergency Drill	0	19 Days	Full Emergency drill performed	
Fire Drill	0	9 Days	Main deck - Fire in Control room	
Permit To Work	16	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	8 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	16	0 Days	Prejob safety meetings	
Safety Meeting	6	0 Days	Safety Meetings	
STOP Card	31	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 23 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	0000	0330	3.50	3235.0m	Continued to POOH laying out drill pipe from 2100m to 1596m. Cranes shut down at 0200 hrs. Continued to lay out pipe until pipe bay was full.
P21	TP (WOW)	G25	0330	1030	7.00	3235.0m	Waited on weather. Wind speed: 30+ Knots Roll: 3.2 deg Heave: 4m Pitch: 1.1 deg

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	1030	1630	6.00	3235.0m	Continued to lay down DP from 1596m to 101m.
P21	P	G4	1630	1800	1.50	3235.0m	Laid down 101m of 2-7/8" stinger.
P21	P	G1	1800	1830	0.50	3235.0m	Cleaned rig floor and pulled diverter element.
P21	P	G12	1830	2030	2.00	3235.0m	Made up Drillquip jetting tool and wear bushing retrieval tool and RIH. Jetted well head and BOPs. Latched into wear bushing and POOH with same.
P21	P	G15	2030	2130	1.00	3235.0m	Cleared rig floor and held PJSM. Made up Halliburton EZSV packer.
P21	P	G8	2130	2230	1.00	3235.0m	RIH to 203m with Halliburton EZSV packer. Set packer with 35 turns to the right. 50klbs overpull performed at 10k intervals. RIH and tagged top of packer with 10klbs down to confirm set - ok.
P21	P	G8	2230	2330	1.00	3235.0m	POOH with packer running tool and laid out same.
P21	P	G8	2330	2400	0.50	3235.0m	Picked up and made up 9 5/8" casing cutting tools and RIH same.

Operations For Period 0000 Hrs to 0600 Hrs on 24 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	0000	0100	1.00	3235.0m	Continued to pick up and make up 9 5/8" casing cutting tools and RIH same.
P21	P	G17	0100	0130	0.50	3235.0m	Cut 9 5/8" at 145m with 90gpm/745psi/85rpm/3k torque.
P21	P	G8	0130	0230	1.00	3235.0m	Flow checked. POOH casing cutter and laid out same.
P21	P	G8	0230	0330	1.00	3235.0m	Picked up and made up spear assembly and RIH.
P21	P	G8	0330	0430	1.00	3235.0m	Tagged top of 9 5/8" casing hanger and applied 10klbs down weight Applied 50klbs over pull to release hanger and 9 5/8" casing. POOH, released spear and racked back in the mast. Fish at surface at 04.10 hrs.
P21	P	G1	0430	0530	1.00	3235.0m	Rigged up casing tongs and laid out 9 5/8" casing hanger and casing joint. Casing backed out 1 joint below hanger while being cut.
P21	TP (WB)	G18	0530	0600	0.50	3235.0m	Made up casing spear and RIH to spear remainder of 9 5/8" casing while displacing riser and C&K lines from mud to seawater.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 23 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,213.50	50.563	3235.0m
Suspend and Abandon(P21)	61.5	21 Nov 2009	23 Nov 2009	1,275.00	53.125	3235.0m

WBM Data — Cost Today US$ 126

Mud Type:	KCl POLYMER	API FL:	5.2cc/30min	Cl:	39000mg/l	Solids(%vol):	4%	Viscosity	55sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	7%	H2O:	93%	PV	14cp
Time:	19:00 hrs	HTHP-FL:	11.2cc/30min	Hard/Ca:	800mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	9	Sand:	.3	Gels 10s	9
Temp:				PM:	0.2	pH:	8.5	Gels 10m	11
				PF:	0.1	PHPA:	2ppb	Fann 003	8
								Fann 006	10
								Fann 100	26
								Fann 200	37
								Fann 300	43
								Fann 600	57

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	8	0	339.0
Drill Water	m3	0	141	0	673.0
Pot Water	m3	39	13	0	194.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	8.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97			
2	Continental Emsco	6.50	1.12	97			
3	Continental Emsco	6.50	1.12	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1 (gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40		336	50	560	420
	30			40			50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	40
GRN	5
OMS	20
Dril-Quip	1
Geoservices	2
Halliburton Cementers	2
Halliburton (Baroid)	2
PCS	3
Fugro ROV	3
Smith Services	2
Other Contractor	4
Reach	1
Total	89

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	1458.2bbl
Active	764.8bbl
Mixing	0.0bbl
Hole	548.4bbl
Slug	
Reserve	145.0bbl
Kill	

Losses	100.6bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	35.0bbl
De-Gasser	
De-Sander	
De-Silter	
Centrifuge Left Behind	65.6bbl

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

Weather on 23 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	15kn	241.0deg	1022.0mbar	13C°	5.0m	210.0deg	2s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
5.0m	1.0deg	1.7deg	317.0deg	240000.00klb	116684.00klb	Rough weather through the early morning.

Swell Height	Swell Dir.	Swell Period	Comments
6.0m	210.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	207.0
2	196.0
3	145.0
4	188.0
5	202.0
6	208.0
7	194.0
8	210.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar		14.30 19th Nov 09	KT4 Standby.

Item	Unit	Used	Quantity
Rig Fuel	M3		493
Potable Water	M3		142
Drill Water	M3		817
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

0000- 2400 Rig Stby

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	06.20 13/11/09	22/11/09	Melbourne 28 South wharf

Item	Unit	Used	Quantity
Rig Fuel	M3		624
Pot Water	M3		388
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0903 / 0916	11 / 10	Crew Change

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Printed on 23 Nov 2009

Australian Drilling Associates Pty Ltd ADA

24 Nov 2009

From: Bryan Houston / Paul Leathem
To: Texas Richards

DRILLING MORNING REPORT # 55
Trefoil-2

Trefoil-2

Date:	24 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	55	**Night Representative:**	Paul Leathem	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$578,833
Rig	Kan Tan IV	Days from spud	49.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$38,285,617
Wtr Dpth(MSL)	69.0m	Days on well	54.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	23
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Rigging down riser pulling equipment.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	RIH and cut 20/30" casing. Retrieve cut casing and PGB to surface. RIH and set cement plug. Prepare sea fastening for tow.		

Summary of Period 0000 to 2400 Hrs

Continued to pick up and make up 9 5/8" casing cutting tools and RIH same. Cut 9 5/8" at 145m. POOH casing cutter and laid out same. Picked up and made up spear assembly and RIH. Tagged top of 9 5/8" casing hanger. Applied 50klbs over pull. POOH, released spear and racked back in the mast. Laid out 9 5/8" casing hanger and casing joint. Casing backed out 1 joint below hanger while being cut. Made up casing spear and RIH to spear remainder of 9 5/8" casing while displacing riser and C&K lines from mud to seawater. POOH with casing to surface. Rigged up and laid out out 3 1/2" joints of 9 5/8" casing. Rigged down casing equipment and laid out spear assembly. Prepared to pull riser and BOPs. Pulled diverter and laid out same. Picked up and made up riser landing joint . Unlatched BOP from well head. Moved rig 25ft off of location. Disconnected MRT cables and C&K lines. Pulled landing joint. Disconnected and laid out same.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	1	2 Days	Held abandon drill	
Emergency Drill	0	20 Days	Full Emergency drill performed	
Fire Drill	0	10 Days	Main deck - Fire in Control room	
Permit To Work	16	1 Day	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	9 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	16	0 Days	Prejob safety meetings	
Safety Meeting	7	0 Days	Safety meetings	
STOP Card	32	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 24 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	0000	0100	1.00	3235.0m	Continued to pick up and make up 9 5/8" casing cutting tools and RIH same.
P21	P	G17	0100	0130	0.50	3235.0m	Cut 9 5/8" at 145m with 90gpm/745psi/85rpm/3k torque.
P21	P	G8	0130	0230	1.00	3235.0m	Flow checked. POOH casing cutter and laid out same.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	0230	0330	1.00	3235.0m	Picked up and made up spear assembly and RIH.
P21	P	G8	0330	0430	1.00	3235.0m	Tagged top of 9 5/8" casing hanger and applied 10klbs down weight. Applied 50klbs over pull to release hanger and 9 5/8" casing. POOH, released spear and racked back in the mast. Fish at surface at 04.10 hrs.
P21	P	G1	0430	0530	1.00	3235.0m	Rigged up casing tongs and laid out 9 5/8" casing hanger and casing joint. Casing backed out 1 joint below hanger while being cut.
P21	TP (WB)	G18	0530	0700	1.50	3235.0m	Made up casing spear and RIH to spear remainder of 9 5/8" casing while displacing riser and C&K lines from mud to seawater. POOH with casing to surface.
P21	P	G9	0700	0800	1.00	3235.0m	Hold PJSM. Rigged up casing handling equipment and laid out 9 5/8" casing.
P21	P	G1	0800	0900	1.00	3235.0m	Rigged down casing equipment and laid out spear assembly.
P21	P	G13	0900	1130	2.50	3235.0m	Prepared to pull riser and BOPs.
P21	P	G13	1130	1300	1.50	3235.0m	Pulled diverter and laid out same.
P21	P	G13	1300	1700	4.00	3235.0m	Held PJSM. Picked up riser landing joint and connected to slip joint.
P21	P	G13	1700	1730	0.50	3235.0m	Unlatched BOP from well head (360klbs MRTs/ 264klbs DSC).
P21	P	M2	1730	1800	0.50	3235.0m	Moved rig 25ft off location.
P21	P	G13	1800	2230	4.50	3235.0m	Disconnected MRT cables and C&K lines from the slip joint in the moon pool.
P21	P	G13	2230	2400	1.50	3235.0m	Pulled landing joint. Disconnected and laid out same.

Operations For Period 0000 Hrs to 0600 Hrs on 25 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G13	0000	0100	1.00	3235.0m	Pulled slip joint. Disconnected and laid out same.
P21	P	G13	0100	0230	1.50	3235.0m	Continued to pull riser and BOPs
P21	P	G13	0230	0600	3.50	3235.0m	BOP at surface. Secured BOP on Nomar carrier. Disconnected riser from BOP and laid out same while moving BOP to aft of moon pool area.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 24 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,213.50	50.563	3235.0m
Suspend and Abandon(P21)	85.5	21 Nov 2009	24 Nov 2009	1,299.00	54.125	3235.0m

WBM Data

Cost Today US$ 1811

Mud Type:	KCl POLYMER	API FL:	5.2cc/30min	Cl:	38000mg/l	Solids(%vol):	4%	Viscosity	55sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	6%	H2O:	93%	PV	10cp
Time:	22:00 hrs	HTHP-FL:	11.0cc/30min	Hard/Ca:	720mg/l	Oil(%):		YP	40lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	8	Sand:	.3	Gels 10s	11
Temp:				PM:	0.1	pH:	8.5	Gels 10m	17
				PF:	0.1	PHPA:	2ppb	Fann 003	10
								Fann 006	12
								Fann 100	29
								Fann 200	39
								Fann 300	50
								Fann 600	60

Comment — Note: Cost is in AUD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	12	0	327.0
Drill Water	m3	0	51	0	622.0
Pot Water	m3	52	18	0	228.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	8.0
Barolift	boxes	0	0	0	16.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97			
2	Continental Emsco	6.50	1.12	97			
3	Continental Emsco	6.50	1.12	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40		336	50	560	420
	30			40			50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	4
Maersk	40
GRN	5
OMS	20
Dril-Quip	1
Geoservices	2
Halliburton Cementers	2
Halliburton (Baroid)	2
PCS	3
Fugro ROV	3
Smith Services	2
Other Contractor	4
Reach	1
Total	89

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	**1524.9bbl**	**Losses**	**0.0bbl**
Active	360.8bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	859.9bbl	Dumped	
Slug		De-Gasser	
Reserve	304.2bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	
		Left Behind	

Equipment	Description	Mesh Size	Comments
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

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Printed on 24 Nov 2009

Marine

Weather on 24 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	13kn	288.0deg	1020.0mbar	14C°	4.0m	240.0deg	2s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
5.0m	0.8deg	2.4deg	317.0deg	240000.00klb	116684.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
5.0m	240.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	232.0
2	77.0
3	55.0
4	297.0
5	116.0
6	197.0
7	225.0
8	152.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			KT4 Standby.

Item	Unit	Used	Quantity
Rig Fuel	M3		481
Potable Water	M3		139
Drill Water	M3		637
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

0000- 2400 Rig Stby
Dumped 180m3 of drill water for stability.

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	23.30 24/11/09	22/11/09	Rig Stby

Item	Unit	Used	Quantity
Rig Fuel	M3		624
Pot Water	M3		388
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0

Arrived F/Melbourne @ 23.30hrs

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Australian Drilling Associates Pty Ltd ADA

25 Nov 2009

From: Bryan Houston / Kevin Monkhouse
To: Texas Richards

DRILLING MORNING REPORT # 56
Trefoil-2

Trefoil-2

Date:	25 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	56	**Night Representative:**	Kevin Monkhouse	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$1
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$569,244
Rig	Kan Tan IV	Days from spud	50.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$38,854,861
Wtr Dpth(MSL)	69.0m	Days on well	55.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	24
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	RIH with 18 3/4" collet spear and jarring BHA.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Recover 18 3/4" wellhead and PGB. Lay out remaining tubulars from mast. Deballast rig and recover anchors.		

Summary of Period 0000 to 2400 Hrs

Laid out slip joint, riser pup joints, one joint of bouyancy riser. Pulled BOP into moonpool and landed same on Nomar carrier. Removed guide lines and double of riser and set BOP back at aft station. Laid out double and rigged down riser handling equipment and rigged up to handle pipe. Serviced rig. Made up 20"x30" casing cutter and shallow tested same. RIH and landed out in wellhead. Took 30klbs overpull and commenced to cut 20"/30" casing. Attempted to pull casing free with 200klbs and 300klbs overpulls.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	3 Days	Held abandon drill	
Emergency Drill	0	21 Days	Full Emergency drill performed.	
Fire Drill	0	11 Days	Main deck - Fire in Control room	
Permit To Work	12	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	10 Days	General safety meetings	Dropped object awareness presentation.
Safety Meeting	7	1 Day	Safety Meetings	
Safety Meeting	12	0 Days	Prejob safety meetings	
STOP Card	31	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 25 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G13	0000	0100	1.00	3235.0m	Pulled slip joint. Disconnected and laid out same.
P21	P	G13	0100	0230	1.50	3235.0m	Continued to pull riser and BOPs
P21	P	G13	0230	0700	4.50	3235.0m	BOP at surface. Secured BOP on Nomar carrier. Disconnected riser from BOP and laid out same while moving BOP to aft of moon pool area.
P21	P	G1	0700	0930	2.50	3235.0m	Rigged down riser handling equipment and rigged up to handle DP
P21	P	G11	0930	1000	0.50	3235.0m	Serviced rig.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G7	1000	1230	2.50	3235.0m	Made up Smith casing cutting assembly. Shallow tested cutter assmbly with 196gpm, 500psi - ok.
P21	P	G7	1230	1300	0.50	3235.0m	Made up centralising ropes from cutting assembly to guide lines in moonpool.
P21	P	G8	1300	1400	1.00	3235.0m	RIH with casing cutting assembly. Stabbed into wellhead and landed out rotating spear with 15klbs down weight. Picked up to 220klbs to test latch. Reduced to 200klbs (30klbs overpull).
P21	P	G17	1400	1630	2.50	3235.0m	Commenced cutting 20"/30" casing at 99.4m, 4.5m below mud line (80rpm, 2/3k ft-lbs, 160gpm, 780psi).
P21	P	G17	1630	1700	0.50	3235.0m	Stopped cutting casing. Attempted to pull casing free with 200klbs overpull - unsuccessful.
P21	P	G17	1700	2400	7.00	3235.0m	Continued to cut 20"/30" casing (100rpm, 185gpm, 1200psi, 3/5k ft-lbs.). Obsered 18 3/4" wellhead turning at intermittent intervals.

Operations For Period 0000 Hrs to 0600 Hrs on 26 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G17	0000	0030	0.50	3235.0m	Stopped cutting casing. Attempted to pull casing free with 300klbs overpull - unsuccessful.
P21	P	G7	0030	0100	0.50	3235.0m	Released Smith collet spear from 18 3/4" wellhead.
P21	P	G8	0100	0130	0.50	3235.0m	POOH with 20"x 30" cutting BHA.
P21	P	G7	0130	0330	2.00	3235.0m	Checked condition of casing cutter assembly. Knives confirmed that 20" and 30" casing had been cut. Laid out cutting BHA.
P21	P	G7	0330	0600	2.50	3235.0m	Made up grapple, fishing jar and accelerator BHA and RIH to seabed.

Operations For Period Hrs to Hrs on

Phase Data to 2400hrs, 25 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,213.50	50.563	3235.0m
Suspend and Abandon(P21)	109.5	21 Nov 2009	25 Nov 2009	1,323.00	55.125	3235.0m

General Comments

00:00 TO 24:00 Hrs ON 25 Nov 2009

Operational Comments	Port Ballast Pump electric motor burned out. Pump out of service

WBM Data

Cost Today US$ 126

Mud Type:	KCl POLYMER	API FL:	5.2cc/30min	Cl:	39000mg/l	Solids(%vol):	4%	Viscosity	55sec/qt
Sample-From:	2	Filter-Cake:	1/32nd"	K+C*1000:	7%	H2O:	93%	PV	14cp
Time:	19:00 hrs	HTHP-FL:	11.2cc/30min	Hard/Ca:	800mg/l	Oil(%):		YP	29lb/100ft²
Weight:	9.50ppg	HTHP-cake:	1/32nd"	MBT:	9	Sand:	.3	Gels 10s	9
Temp:				PM:	0.2	pH:	8.5	Gels 10m	11
				PF:	0.1	PHPA:	2ppb	Fann 003	8
								Fann 006	10
								Fann 100	26
								Fann 200	37
								Fann 300	43
								Fann 600	57

Comment — Note: Cost is in AUD

BHA # 32

Weight(Wet)	Length	37.0m	Torque(max)		D.C. (1) Ann Velocity	
Wt Below Jar(Wet)	String	175.00klb	Torque(Off.Btm)		D.C. (2) Ann Velocity	
	Pick-Up	170.00klb	Torque(On.Btm)	5000ft-lbs	H.W.D.P. Ann Velocity	
	Slack-Off	180.00klb			D.P. Ann Velocity	

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Printed on 25 Nov 2009

BHA Run Description	20" x 30" casing cut and 18 3/8" well head retrieval assembly				
BHA Run Comment					
Equipment	Length	OD	ID	Serial #	Comment
Casing Cutter	7.95m				
8in DC	28.19m	8.00in			
X/O	0.90m				

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	8.27	-4.5	314.2
Drill Water	m3	0	183.9	-245.1	193.0
Pot Water	m3	44.7	42.674	-42.1	187.9
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	8.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50	1.12	97			
2	Continental Emsco	6.50	1.12	97			
3	Continental Emsco	6.50	1.12	97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40		336	50	560	420
	30			40			50	600	420

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	5
Maersk	46
GRN	5
OMS	20
Dril-Quip	1
Geoservices	2
Halliburton Cementers	2
Halliburton (Baroid)	2
PCS	3
Fugro ROV	3
Smith Services	2
Other Contractor	1
Reach	1
Total	93

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Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	1458.2bbl	Losses	100.6bbl
Active	764.8bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	548.4bbl	Dumped	35.0bbl
Slug		De-Gasser	
Reserve	145.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge Left Behind	65.6bbl

Equipment	Description	Mesh Size

Comments

Marine

Weather on 25 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	7kn	277.0deg	1020.0mbar	14C°	2.0m	290.0deg	2s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
4.0m	0.5deg	1.3deg	317.0deg	240.00klb	947.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
3.0m	290.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	150.0
2	162.0
3	289.0
4	150.0
5	204.0
6	210.0
7	172.0
8	196.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			KT4 Standby.

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		467
Potable Water	M3		136
Drill Water	M3		637
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112

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Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	23.30 24/11/09	22/11/09	Rig Stby

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		624
Pot Water	M3		388
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0909 / 0926	12 / 9	Crew Change. 1 x PAX out was a medical case from the Far Fosna

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Printed on 25 Nov 2009

Australian Drilling Associates Pty Ltd ADA

26 Nov 2009

From: Bryan Houston / Kevin Monkhouse
To: Texas Richards

DRILLING MORNING REPORT # 57
Trefoil-2

Trefoil-2

Date:	26 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	57	**Night Representative:**	Kevin Monkhouse	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$545,973
Rig	Kan Tan IV	Days from spud	51.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$39,400,834
Wtr Dpth(MSL)	69.0m	Days on well	56.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	25
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Cutting 30" casing.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Cut 30" casing and recover PGB and 30" housing. Set cement plug at top of well. Conduct seabed survey. Lay out excess tubulars from mast. Deballast rig and commence recovery of anchors.		

Summary of Period 0000 to 2400 Hrs

Attempted to pull PGB and surface casing free with 300k overpulll. Released collet spear and POOH. Made up grapple and jarring BHA and engaged 20" casing with same. Jarred on casing to attempt to free 30" casing and PGB. POOH with jarring assembly. Conducted post jarring check on mast and TDS. Made up casing cutting assembly and RIH. Engaged 18 3/4" housing with spear and commenced cutting casing at 96.88m. 18 3/4" housing inner came free. POOH with 18 3/4" wellhead inner and 20" casing stub and laid out same. Ran in with 20" grapple spear to recover 3m cut section in well.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	0	4 Days	Held abandon drill	
Emergency Drill	0	22 Days	Full Emergency drill performed	
Fire Drill	0	12 Days	Main deck - Fire in Control room	
Permit To Work	16	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	11 Days	General safety meetings	
Safety Meeting	16	0 Days	Prejob safety meetings	
Safety Meeting	7	0 Days	Safety Meetings	
STOP Card	33	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 26 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G17	0000	0030	0.50	3235.0m	Stopped cutting casing. Attempted to pull casing free with 300klbs overpull - unsuccessful.
P21	P	G7	0030	0100	0.50	3235.0m	Released Smith collet spear from 18 3/4" wellhead.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G8	0100	0130	0.50	3235.0m	POOH with 20"x 30" cutting BHA.
P21	P	G7	0130	0330	2.00	3235.0m	Checked condition of casing cutter assembly. Knives confirmed that 20" and 30" casing had been cut. Laid out cutting BHA.
P21	P	G7	0330	0630	3.00	3235.0m	Made up grapple, fishing jar and accelerator BHA
P21	P	G18	0630	0730	1.00	3235.0m	RIH to seabed with jarring assembly and attempted to stab into 18 3/4" wellhead - unsuccessful.
P21	P	G18	0730	0830	1.00	3235.0m	POOH. Re-secured guide line ropes to BHA and RIH. Stabbed into 18 3/4" wellhead and engaged with casing spear.
P21	P	G18	0830	1130	3.00	3235.0m	Worked jar. Jar fired at 300klbs and attempted to free with 200klbs overpull - unsuccessful. Continued jarring with static overpulls up to 280klbs. No movement in casing.
P21	P	G18	1130	1200	0.50	3235.0m	Disengaged spear and pulled assembly clear of wellhead.
P21	P	G11	1200	1300	1.00	3235.0m	Performed post jarring mast and TDS check.
P21	P	G22	1300	1430	1.50	3235.0m	POOH and laid out jarring BHA.
P21	P	G8	1430	1730	3.00	3235.0m	Made up 20/30" casing cutting assembly and shallow tested same (140gpm/600psi). RIH to sea bed.
P21	P	G11	1730	1800	0.50	3235.0m	Serviced top drive. Tightened and tie wired loose bolts observed on TDS link tilt.
P21	P	G17	1800	1830	0.50	3235.0m	Stabbed into well and engaged 18 3/4" wellhead with spear. Applied 25klbs overpull (200klbs MD) to confirm latch.
P21	P	G17	1830	1900	0.50	3235.0m	Reduced weight to 190klbs and commenced cutting casing at 96.88m with 15klbs overpull (100rpm/150gpm/800psi/2-6 ft-lbs). Compensator closed as 18 3/4" housing inner came free.
P21	P	G8	1900	1930	0.50	3235.0m	Visually checked fish with ROV. POOH with fish.
P21	P	G5	1930	2100	1.50	3235.0m	Laid out 18 3/4" inner wellhead housing and 20" casing stub (18 3/4" landing ring and reaction ring left in the 30" housing).
P21	P	G7	2100	2300	2.00	3235.0m	Made up 20" grapple fishing BHA.
P21	P	G8	2300	2400	1.00	3235.0m	RIH with 20" grapple BHA to seabed and stabbed into wellhead.

Operations For Period 0000 Hrs to 0600 Hrs on 27 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G18	0000	0030	0.50	3235.0m	Engaged 20" casing fish with spear and confirmed with ROV.
P21	P	G8	0030	0100	0.50	3235.0m	POOH with spear assembly and 20" casing stub.
P21	P	G5	0100	0230	1.50	3235.0m	Laid out spear assembly with fished casing stub attached.
P21	P	G7	0230	0330	1.00	3235.0m	Made up 30" casing cutting assembly.
P21	P	G8	0330	0500	1.50	3235.0m	Made up DCs to cutting assembly and secured ropes to guide lines. RIH with casing cutter assembly and stabbed into wellhead.
P21	P	G17	0500	0600	1.00	3235.0m	Landed stop collar on wellhead with 10klbs down weight and commenced cutting 30" casing at 97.88m while maintaining 18,400lbs tension on the PGB with the guide lines. (80rpm, 150gpm, 800psi, 10k weight down, 5k ft-lbs torque.)

Phase Data to 2400hrs, 26 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Mob/Demob(P1)	69.5	21 Sep 2009	04 Oct 2009	69.50	2.896	0.0m
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	123.00	5.125	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	153.00	6.375	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	221.00	9.208	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	257.00	10.708	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	318.50	13.271	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	495.00	20.625	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	854.00	35.583	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,213.50	50.563	3235.0m
Suspend and Abandon(P21)	133.5	21 Nov 2009	26 Nov 2009	1,347.00	56.125	3235.0m

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	5.9	0	308.3
Drill Water	m3	0	40.6	0	152.4
Pot Water	m3	36.5	25.4	0	199.0
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	8.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Lime	sx	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Pumps

Pump Data - Last 24 Hrs

No.	Type	Liner (in)	MW (sg)	Eff (%)	SPM (SPM)	SPP (psi)	Flow (gpm)
1	Continental Emsco	6.50		97			
2	Continental Emsco	6.50		97			
3	Continental Emsco	6.50		97			

Slow Pump Data

Depth (m)	SPM1 (SPM)	SPP1 (psi)	Flow1(gpm)	SPM2 (SPM)	SPP2 (psi)	Flow2 (gpm)	SPM3 (SPM)	SPP3 (psi)	Flow3 (gpm)
	30			40			50		
	30			40			50		
	30			40			50		

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	5
Maersk	48
GRN	5
OMS	20
Dril-Quip	1
Geoservices	2
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro Survey	2
Fugro ROV	6
Smith Services	2
Other Contractor	1
Reach	1
Total	97

Mud Volumes, Mud Losses and Shale Shaker Data

Engineer : Jay Wan / James Munford

Available	**0.0bbl**
Active Mixing	0.0bbl
Hole Slug	
Reserve Kill	

Losses	**0.0bbl**
Downhole Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equipment	Description	Mesh Size
Shaker 1	Brandt VSM 300	20 top/50 bottom
Shaker 2	Brandt VSM 300	20 top/50 bottom
Shaker 3	Brandt VSM 300	20 top/50 bottom
Shaker 4	Brandt VSM 300	20 top/50 bottom

Comments

Marine

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Weather on 26 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	10kn	60.0deg	1020.0mbar	14C°	1.0m	60.0deg	9s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.3m	0.8deg	1.5deg	317.0deg	240000.00klb	1046.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
1.3m	60.0deg	11s	

Rig Support

Anchors	Tension (klb)
1	148.0
2	152.0
3	267.0
4	152.0
5	211.0
6	222.0
7	175.0
8	197.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Far Scimitar			KT4 Standby.	

Item	Unit	Used	Quantity
Rig Fuel	M3		454
Potable Water	M3		133
Drill Water	M3		637
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112
Mud	bbl		145

0000- 2400 Rig Stby

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status	Bulks
Far Fosna			KT4 Stby	

Item	Unit	Used	Quantity
Rig Fuel	M3		592
Pot Water	M3		364
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0
Mud	bbl		880

Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
1	Bristow Helicopters	0900 / 0912	9 / 4	

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Australian Drilling Associates Pty Ltd ADA

27 Nov 2009

From: Bryan Houston / Kevin Monkhouse
To: Texas Richards

DRILLING MORNING REPORT # 58
Trefoil-2

Trefoil-2

Date:	27 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	58	**Night Representative:**	Kevin Monkhouse	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$544,060
Rig	Kan Tan IV	Days from spud	52.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$39,944,894
Wtr Dpth(MSL)	69.0m	Days on well	57.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	26
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Laying down excess tubulars from mast.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Lay down excess tubulars from mast. Sea fasten equipment. Deballast rig to transit draft. Recover anchors.		

Summary of Period 0000 to 2400 Hrs

Engaged 20" casing stub with spear and recovered to surface. Made up and RIH with 30" casing cutter assembly. Landed stop ring on well head and cut 30" casing at 97.88m. Unable to pull PGB and 30" housing with guideline tensioners (11klbs pull on tensioner). POOH with casing cutter. Ran PGB retrieval tool and latched onto PGB and commenced pulling PGB to surface. PGB RT disengaged and continued to pull PGB to surface with guideline winches. RIH with cement stinger to 203m and cemented as per program. POOH to top of 30" conductor and flushed drill string. ROV completed seabed survey. Laid down excess tubulars. At 22:00 hrs commenced recovery of anchors #5 and #8.

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 27 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P21	P	G18	0000	0030	0.50	3235.0m	Engaged 20" casing fish with spear and confirmed with ROV.
P21	P	G8	0030	0100	0.50	3235.0m	POOH with spear assembly and 20" casing stub.
P21	P	G5	0100	0230	1.50	3235.0m	Laid out spear assembly with fished casing stub attached.
P21	P	G7	0230	0330	1.00	3235.0m	Made up 30" casing cutting assembly.
P21	P	G8	0330	0500	1.50	3235.0m	Made up DCs to cutting assembly and secured ropes to guide lines. RIH with casing cutter assembly and stabbed into wellhead.
P21	P	G17	0500	0830	3.50	3235.0m	Landed stop collar on wellhead with 10klbs down weight and commenced cutting 30" casing at 97.88m while maintaining 18.4klbs tension on the PGB with the guide lines (80rpm, 150gpm, 800psi, 10k weight down, 5k ft-lbs torque.)
P21	P	G7	0830	1130	3.00	3235.0m	Picked up PGB running tool and attached guide bridles to guide wires.
P21	P	G10	1130	1630	5.00	3235.0m	RIH and latched onto PGB with ROV assistance and pulled to surface. PGB running tool disengaged. Pulled PGB to surface with guide wires.
P21	P	G8	1630	1730	1.00	3235.0m	Made up 5" cement mule shoe and RIH to 203m.
P21	P	F3	1730	1930	2.00	3235.0m	Cemented as per program. Tested lines to 1000psi. Cement slurry: 70bbl, 15.9ppg, 341sx of G cement. Observed cement returns at seabed.
P21	P	G8	1930	2000	0.50	3235.0m	Rigged down cement assembly. POOH to above seabed and flushed drill string.
P1	P	G2	2000	2200	2.00	3235.0m	Laid down excess tubulars in mast.
P1	P	M4	2200	2400	2.00	3235.0m	Commenced pulling anchor #8 at 22:00hrs and anchor #5 at 22:29hrs.

Operations For Period 0000 Hrs to 0600 Hrs on 28 Nov 2009

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M4	0000	0130	1.50	3235.0m	00:40 Anchor #8 suspended at cow catcher. 01:10 Anchor #5 suspended at cow catcher.
P1	P	G2	0130	0600	4.50	3235.0m	(IN PROGRESS) Waited on weather. Winds gusting 40knts, heave 3m to 4m. Pitched max 4.5deg, rolled max 3.5deg. Continued to lay down tubulars from mast.

Phase Data to 2400hrs, 27 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	53.50	2.229	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	83.50	3.479	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	151.50	6.313	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	187.50	7.813	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	249.00	10.375	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	425.50	17.729	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	784.50	32.688	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,144.00	47.667	3235.0m
Mob/Demob(P1)	73.5	21 Sep 2009	27 Nov 2009	1,217.50	50.729	3235.0m
Suspend and Abandon(P21)	153.5	21 Nov 2009	27 Nov 2009	1,371.00	57.125	3235.0m

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 59
Trefoil-2

28 Nov 2009

From: Bryan Houston / Kevin Monkhouse
To: Texas Richards

Trefoil-2

Date:	28 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	59	**Night Representative:**	Kevin Monkhouse	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$552,313
Rig	Kan Tan IV	Days from spud	53.67	Shoe MDBRT	2520.0m	Cumul. Cost	US$40,497,207
Wtr Dpth(MSL)	69.0m	Days on well	58.13	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	27
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600	Running Anchor #2. Fosna on tow Bridle.		
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op	Recover #6 anchor and move rig from Trefoil-2 location to Rockhopper-1 location. Deploy anchors.		

Summary of Period 0000 to 2400 Hrs

Recovered anchors #5 and #8. Cranes out of limit due to weather. Laid out tubulars from mast and sea fastened. Deballasted rig to transit draft. Recovered anchors #1, #4, #3, #7. Far Fosna connected to tow bridle. Far Scimitar recovered anchor #2.

HSE Summary

Events	Num. Events	Days Since	Descr.	Remarks
Last BOP Test	05 Nov 2009			
Abandon Drill	1	0 Days	Held abandon drill	Held full muster and abandonment drill at aft lifeboat station.
Emergency Drill	0	24 Days	Full Emergency drill performed	
Fire Drill	0	14 Days	Main deck - Fire in Control room	
First Aid Case	1	0 Days	Minor strain to left Trapezius muscle. IP was treated and returned to work.	
Permit To Work	13	0 Days	Permits administered	
Pre-tour Meeting	2	0 Days	Shift change meetings	
Safety Meeting	0	13 Days	General safety meetings	
Safety Meeting	13	0 Days	Prejob safety meetings	
Safety Meeting	7	0 Days	Safety Meetings	
STOP Card	36	0 Days	Number of STOP Cards submitted	

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 28 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M4	0000	0130	1.50	3235.0m	00:40 Anchor #8 suspended at cow catcher. 01:10 Anchor #5 suspended at cow catcher.
P1	P	G2	0130	0800	6.50	3235.0m	Waited on weather. Winds gusting 40knts, heave 3m to 4m.

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Printed on 29 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							Pitched max 4.5deg, rolled max 3.5deg. Continued to lay down tubulars from mast.
P1	P	M7	0800	1000	2.00	3235.0m	Sea fastenings completed.
P1	P	M3	1000	1430	4.50	3235.0m	Deballasted rig to transit draft.
P1	P	M4	1430	2400	9.50	3235.0m	Recovered Anchors. #5 anchor racked back at 14:35. #8 anchor racked at back 14:55. #1 anchor commenced at 15:52 and racked back at 18:45 (Far Scimitar). #4 anchor commenced at 16:15 and racked back at 18:07 (Far Fosna). #3 anchor commenced at 18:30 and racked back at 19:58 (Far Fosna). 20:50 Far Fosna connected to tow bridle. #7 anchor commenced at 19:12 and completed at 21:51 (Far Scimitar). #2 anchor commenced at 22:15 (Far Scimitar).

Operations For Period 0000 Hrs to 0600 Hrs on 29 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M4	0000	0100	1.00	3235.0m	Recovered anchors 00:04 #2 anchoring completed. 00:30 rig hauled in on #6 anchor to bring rig over anchor for pick up. Rig 500m from Trefoil-2 location to mark end of well at 01:00hrs. Rig transfer to Rockhopper-1 AFE

Phase Data to 2400hrs, 28 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	53.50	2.229	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	83.50	3.479	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	151.50	6.313	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	187.50	7.813	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	249.00	10.375	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	425.50	17.729	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	784.50	32.688	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,144.00	47.667	3235.0m
Suspend and Abandon(P21)	153.5	21 Nov 2009	27 Nov 2009	1,297.50	54.063	3235.0m
Mob/Demob(P1)	97.5	21 Sep 2009	28 Nov 2009	1,395.00	58.125	3235.0m

General Comments

00:00 TO 24:00 Hrs ON 28 Nov 2009

Operational Comments	End of well with rig 500m from Trefoil-2 location was at 01:00hrs on the 29th Nov 2009. SOFs taken from Kan Tan IV, Far Fosna and Far Scimitar

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	10.633	-53.14	244.6
Drill Water	m3	71.123	10.16	-20.4	193.0
Pot Water	m3	37.594	40.642	19.4	215.4
Brine	m3	0	0	0	180.0
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	8.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

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Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	5
Maersk	43
GRN	5
OMS	24
Dril-Quip	1
Geoservices	2
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro Survey	2
Fugro ROV	6
Other Contractor	1
Reach	1
Total	94

Marine

Weather on 28 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	8kn	84.0deg	997.0mbar	13C°	1.0m	25.0deg	4s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	1.8deg	2.0deg	317.0deg	0.00klb	745.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
1.3m	25.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar	23:15 - 21/11/09		Anchor handling

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		424
Potable Water	M3		127
Drill Water	M3		523
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112
Mud	bbl		145

00:00 - 00:48 Anchor handling
00:48 - 15:00 Stand by
15:00 - 24:00 Anchor handling

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna	23:30 - 24/11/2009		On tow bridle

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		570
Pot Water	M3		348
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0
Mud	bbl		880

00:00-01:20 Anchor handling
01:20-14:55 Standby
14:55-20:55 Anchor handling
20:55-24:00 On static tow

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Helicopter Movement

Flight #	Company	Arr/Dep. Time	Pax In/Out	Comment
KT01	-	0924 / 0941	10 / 13	Crew Change

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Australian Drilling Associates Pty Ltd

DRILLING MORNING REPORT # 60
Trefoil-2

29 Nov 2009

From: Bryan Houston / Kevin Monkhouse
To: Texas Richards

Trefoil-2

Date:	29 Nov 2009	**Well Site Representative:**	Bryan Houston	**OIM:**	Brian Meechan
Report Number:	60	**Night Representative:**	Kevin Monkhouse	**Drilling Company:**	Maersk
Latitude (South):	39 ° 53 ' 07.89 "	**Longitude (East):**	145 ° 22 ' 14.87 "	**Geologist:**	

Well Data

Country	Australia	MDBRT	3235.0m	Cur. Hole Size	8.500in	AFE Cost	US$33,167,745
Field	Trefoil	TVDBRT	3235.0m	Last Casing OD	9.625in	AFE No.	Trefoil-2
Drill Co.	Maersk	Progress	0.0m	Shoe TVDBRT	2520.0m	Daily Cost	US$22,624
Rig	Kan Tan IV	Days from spud	53.71	Shoe MDBRT	2520.0m	Cumul. Cost	US$40,519,831
Wtr Dpth(MSL)	69.0m	Days on well	58.17	FIT/LOT:	11.00ppg /	Last LTI Date	01 Nov 2009
RT-ASL(MSL)	26.0m	Planned TD MD	3221.0m			Days Since Last LTI	28
RT-ML	95.0m	Planned TD TVDRT	3221.0m	Current Op @ 0600			
Datum	GDA 94	Last BOP Test	05 Nov 2009	Planned Op			

Summary of Period 0000 to 2400 Hrs

FORMATION

Name	Top
Cretaceous	3068.00m
TF50 Sand	3130.50m
TF80 Sand	3149.80m
Base TF110 Sand	3180.00m
Total Depth (TD)	3235.00m

Operations For Period 0000 Hrs to 2400 Hrs on 29 Nov 2009

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
P1	P	M4	0000	0100	1.00	3235.0m	Recovered anchors 00:04 #2 anchoring completed. 00:30 rig hauled in on #6 anchor to bring rig over anchor for pick up. Rig 500m from Trefoil-2 location to mark end of well at 01:00hrs. Rig transfer to Rockhopper-1 AFE

Phase Data to 2400hrs, 29 Nov 2009

Phase	Phase Hrs	Start On	Finish On	Cumul. Hrs	Cumul. Days	Max Depth
Conductor Hole(P2)	53.5	04 Oct 2009	06 Oct 2009	53.50	2.229	155.0m
Conductor Casing(P3)	30	07 Oct 2009	08 Oct 2009	83.50	3.479	155.0m
Surface Hole(P4)	68	08 Oct 2009	11 Oct 2009	151.50	6.313	935.0m
Surface Casing(P5)	36	11 Oct 2009	12 Oct 2009	187.50	7.813	935.0m
BOPs/Risers(P6)	61.5	12 Oct 2009	15 Oct 2009	249.00	10.375	935.0m
Production Hole (1)(P11)	176.5	15 Oct 2009	22 Oct 2009	425.50	17.729	2520.0m
Production Casing(1)(P13)	359	22 Oct 2009	06 Nov 2009	784.50	32.688	2520.0m
Liner Hole (1)(P17)	359.5	06 Nov 2009	21 Nov 2009	1,144.00	47.667	3235.0m
Suspend and Abandon(P21)	153.5	21 Nov 2009	27 Nov 2009	1,297.50	54.063	3235.0m
Mob/Demob(P1)	98.5	21 Sep 2009	29 Nov 2009	1,396.00	58.167	3235.0m

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Rig Fuel	m3	0	0	0	244.6
Drill Water	m3	0	0	0	193.0
Pot Water	m3	0	0	0	215.4
Brine	m3	0	0	0	180.0

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	MT	0	0	0	81.6
Baradefoam-W300	can	0	0	0	8.0
Barolift	boxes	0	0	0	16.0
Bentonite	MT	0	0	0	46.0
Caustic Soda	pail	0	0	0	0.0
Soda Ash	sx	0	0	0	33.0
Sodium Bicarbonate	25kg sx	0	0	0	38.0
Shaker Screen 50	Screens	0	0	0	8.0
Citric Acid	Sacks	0	0	0	78.0

Casing

OD	LOT / FIT	Csg Shoe (MD/TVD)	Cementing
30 "	/	153.00m / 153.00m	30" Cement Job: Pumped 50 bbls spacer ahead. Mixed 260 bbls of 15.8ppg (53 MT) class G cement with 155 bbls of seawater. Displaced with 72.4 bbls of seawater.
13.38	15.15ppg /	930.00m / 930.00m	13 3/8" Cement Job: Pumped 50 bbls of spacer ahead. Mixed 436 bbls (35 MT) of 11.5 ppg lead cement with 368 bbls of mix water. Mixed 67 bbls (14 MT) of 15.8 ppg tail cement with 40 bbls of mix water. Displaced with 412 bbls of seawater.
9.63	/ 11.00ppg	2520.00m / 2520.00m	No Cmt

Personnel On Board

Company	Pax
ADA	5
Maersk	43
GRN	5
OMS	24
Dril-Quip	1
Geoservices	2
Halliburton Cementers	2
Halliburton (Baroid)	2
Fugro Survey	2
Fugro ROV	6
Other Contractor	1
Reach	1
Total	94

Marine

Weather on 29 Nov 2009

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
10.0nm	8kn	84.0deg	997.0mbar	13C°	1.0m	25.0deg	4s

Heave	Pitch	Roll	Rig Dir.	Ris. Tension	VDL	Weather Comments
1.0m	1.8deg	2.0deg	317.0deg	0.00klb	745.00klb	

Swell Height	Swell Dir.	Swell Period	Comments
1.3m	25.0deg	5s	

Rig Support

Anchors	Tension (klb)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Scimitar			Standby

Bulks

Item	Unit	Used	Quantity
Rig Fuel	M3		424
Potable Water	M3		127
Drill Water	M3		523
	t		0
Barite	t		0
Bentonite	t		0
Brine	M3		112
Mud	bbl		145

Vessel Name	Arrived (Date/Time)	Departed (Date/Time)	Status
Far Fosna			On tow bridle

Item	Unit	Used	Quantity
Rig Fuel	M3		592

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Item	Unit	Used	Quantity
Pot Water	M3		364
Drill Water	M3		600
Bentonite	t		42
Barite	t		40
	t		130
Brine	M3		0
Mud	bbl		880

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Printed on 29 Nov 2009

APPENDIX 17: DAILY GEOLOGICAL REPORTS

Trefoil-2

Date : 07 Oct 2009 | **Geology Report Number : 1** | (associated DDR # 7)

Well Details

Depth MDBRT:	155.0m	Rig:	Kan Tan IV	Date:	07 Oct 2009
Depth TVDBRT:	155.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	129.0m	RTE agl:		Report End:	2400
Hole Size:	36.000in	GLE amsl:	0 (m)	Days On Location:	6.13
Hole Size Carbide:		Last Csg Size:	30.000in	Days since Spud:	1.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	0.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/		

Operations Summary

24hr Summary:	Completed running and cementing 30" casing. Waited on cement. Laid out cementing string.
Forward Plan:	PU 445 mm (17-1/2") BHA, RIH, drill ahead in 445 mm (17-1/2") hole section.

General Comments

00:00 TO 24:00 Hrs ON 07 Oct 2009

Operational Comments	This is the first DGR for Trefoil-2
Operational Comments	Trefoil-2 spud at 0800 hrs 6 Oct 09
Operational Comments	Geoservices: 2 Data engineers, 1 technician on board. Connecting up data communication networks. Sperry: 2 MWD engineers, 1 technician on board. 445 mm (17-1/2") tools: main and back up checked OK. SLB: 1 IT technician on board, trouble shooting and installing phones.

WBM Data

Mud Type:	PHB Gel	Flowline Temp:		Cl:		Low Gravity Solids:	
Sample From:		MWD Circ Temp:		Hard/Ca:		High Gravity Solids:	
Time:		Glycol CP Temp:		MBT:		Solids (corrected):	
Weight:		Glycol:		PM:		H2O:	98%
ECD TD:		Nitrates:		PF:		Oil:	
ECD Shoe:		Sulphites:		MF:		Sand:	%
ECD Cuttings:		API FL:		pH:	9	Barite:	
KCl Equiv:		API Cake:		PHPA Excess:			

Viscosity	126sec/qt
PV	45cp
YP	25lb/100ft²
Gels 10s	
Gels 10m	
Fann 003	13
Fann 006	15
Fann 100	32
Fann 200	44
Fann 300	68
Fann 600	115

Shakers, Volumes and Losses Data

Engineer : Jay Wan / James Munford

Available	**1551.8bbl**	**Losses**	**0.0bbl**
Active	50.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	140.8bbl	Dumped	
Slug		De-Gasser	
Reserve	1361.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours

Comment

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Printed on 09 Oct 2009

06:00 Hrs Update	
Time:	06:00 Hrs on 08 Oct 2009
Depth:	155
Progress Since Midnight (m):	0
Status @ 0600hrs:	Make up 17.5" BHA
Formation:	No drilling
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)
(Days) - Dennis Archer (Nights) -

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 08 Oct 2009 | **Geology Report Number : 2** | (associated DDR # 8)

Well Details

Depth MDBRT:	245.0m	Rig:	Kan Tan IV	Date:	08 Oct 2009
Depth TVDBRT:	245.0m	Progress:	90.0m	Report Start:	0000
Depth TVDSS:	219.0m	RTE agl:		Report End:	2400
Hole Size:	17.500in	GLE amsl:	0 (m)	Days On Location:	7.13
Hole Size Carbide:		Last Csg Size:	30.000in	Days since Spud:	2.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	153.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/		

Operations Summary

24hr Summary:	Completed lay out of cementing string. Laid out 914 mm (36") bit and BHA. Picked up 445 mm(17-1/2") BHA and RIH. Shallow tested MWD - OK. Drilled out cement. Drilled ahead from 155 mMDRT in 445 mm (17-1/2") hole section.
Forward Plan:	Drill ahead in 445 mm (17-1/2") hole section

General Comments

00:00 TO 24:00 Hrs ON 08 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 1 technician on board. Data communication networks connected and tested OK. Gas traps installed. Sperry: 2 MWD engineers on board. 445 mm (17-1/2") tools: Back up checked OK. Data communications connected and tested OK. Shallow test OK. SLB: 1 IT technician on board, completed installing and trouble shooting phones.
Operational Comments	MWD tool distances from bit: GR (PCG) 5.62 m Directional (PCD) 7.76 m

WBM Data

Mud Type:	PHB Gel	Flowline Temp:		Cl:		Low Gravity Solids:	
Sample From:		MWD Circ Temp:		Hard/Ca:		High Gravity Solids:	
Time:		Glycol CP Temp:		MBT:		Solids (corrected):	
Weight:		Glycol:		PM:		H2O:	98%
ECD TD:		Nitrates:		PF:		Oil:	
ECD Shoe:		Sulphites:		MF:		Sand:	%
ECD Cuttings:		API FL:		pH:	9	Barite:	
KCl Equiv:		API Cake:		PHPA Excess:			

Viscosity	120sec/qt
PV	45cp
YP	21lb/100ft²
Gels 10s	
Gels 10m	
Fann 003	13
Fann 006	15
Fann 100	31
Fann 200	44
Fann 300	66
Fann 600	111

Shakers, Volumes and Losses Data

Engineer : Jay Wan / James Munford

Available	**1822.2bbl**	**Losses**	**92.9bbl**
Active	50.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	487.2bbl	Dumped	92.9bbl
Slug		De-Gasser	
Reserve	1285.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours

Comment

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06:00 Hrs Update	
Time:	06:00 Hrs on 09 Oct 2009
Depth:	390/390
Progress Since Midnight (m):	145
Status @ 0600hrs:	Drilling 17.5" hole. Depth at 06:00 hrs 390m.
Formation:	Torquay Group
Lithology:	No returns to surface
ROP:	Ave ROP 35-40 m/hr
Gas:	No returns to surface.

Wellsite Geologist(s)
(Days) - Dennis Archer (Nights) -

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Trefoil-2

Date : 09 Oct 2009 | **Geology Report Number : 3** | (associated DDR # 9)

Well Details

Depth MDBRT:	849.0m	Rig:	Kan Tan IV	Date:	09 Oct 2009
Depth TVDBRT:	849.0m	Progress:	609.0m	Report Start:	0000
Depth TVDSS:	823.0m	RTE agl:		Report End:	2400
Hole Size:	17.500in	GLE amsl:	0 (m)	Days On Location:	8.13
Hole Size Carbide:		Last Csg Size:	30.000in	Days since Spud:	3.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	153.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/		

Operations Summary

24hr Summary:	Drilled ahead in 445 mm (17-1/2") hole section to 849 mMDRT.
Forward Plan:	Completed drilling the 445 mm (17-1/2") hole section to TD at 935 mMDRT, circulate hole clean, POOH, rig up and run 340 mm (13-3/8") casing.

General Comments

00:00 TO 24:00 Hrs ON 09 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 1 technician on board. Technician monitoring RT data transmissions. Sperry: 2 MWD engineers on board. 445 mm (17-1/2") tools: Back up checked OK.
Operational Comments	MWD tool distances from bit: GR (PCG) 5.62 m Directional (PCD) 7.76 m

WBM Data

Mud Type:	PHB Gel	Flowline Temp:	Cl:	Low Gravity Solids:		Viscosity	120sec/qt
Sample From:		MWD Circ Temp:	Hard/Ca:	High Gravity Solids:		PV	45cp
Time:		Glycol CP Temp:	MBT:	Solids (corrected):		YP	21lb/100ft²
Weight:		Glycol:	PM:	H2O:	98%	Gels 10s	
ECD TD:		Nitrates:	PF:	Oil:		Gels 10m	
ECD Shoe:		Sulphites:	MF:	Sand:	%	Fann 003	13
ECD Cuttings:		API FL:	pH: 9	Barite:		Fann 006	15
KCl Equiv:		API Cake:	PHPA Excess:			Fann 100	31
						Fann 200	44
						Fann 300	66
						Fann 600	111

Shakers, Volumes and Losses Data

Engineer : Jay Wan / Kosta Georgiou

Available	**5499.2bbl**	**Losses**	**92.9bbl**
Active	1822.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	1772.2bbl	Dumped	92.9bbl
Slug		De-Gasser	
Reserve	1285.0bbl	De-Sander	
Kill	620.0bbl	De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	775.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	870.00	844.00	34.00	0.00	GR increase

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Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
								MWD
0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.0	MWD
95.00	0.0		95.00	0.0	0.0	0.0	0.0	MWD
204.92	0.6		204.92	0.6	0.5	0.6	0.0	MWD
289.50	0.6		289.49	1.5	0.0	1.5	0.0	MWD
376.49	0.3		376.48	2.1	0.3	2.1	0.0	MWD
435.08	0.4		435.07	2.5	0.2	2.5	0.0	MWD
521.95	0.7		521.94	3.3	0.3	3.3	0.0	MWD
547.83	0.7		547.81	3.7	0.0	3.7	0.0	MWD
579.00	0.7		578.98	4.0	0.0	4.0	0.0	MWD
665.44	0.4		665.42	4.9	0.3	4.9	0.0	MWD
782.28	0.7		782.25	6.0	0.3	6.0	0.0	MWD

06:00 Hrs Update

Time:	06:00 Hrs on 10 Oct 2009
Depth:	929 mMDRT/929 mTVDRT
Progress Since Midnight (m):	80
Status @ 0600hrs:	Drilling ahead 17.5" hole. Depth at 06:00 hrs 929m.
Formation:	Torquay Group
Lithology:	No returns to surface
ROP:	Ave ROP 20.5 m/hr
Gas:	No returns to surface

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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Trefoil-2

Date : 10 Oct 2009 | **Geology Report Number : 4** | (associated DDR # 10)

Well Details

Depth MDBRT:	935.0m	Rig:	Kan Tan IV	Date:	10 Oct 2009
Depth TVDBRT:	935.0m	Progress:	86.0m	Report Start:	0000
Depth TVDSS:	909.0m	RTE agl:		Report End:	2400
Hole Size:	17.500in	GLE amsl:	0 (m)	Days On Location:	9.13
Hole Size Carbide:		Last Csg Size:	30.000in	Days since Spud:	4.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	153.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/		

Operations Summary

24hr Summary:	Completed drilling 445 m (17-1/2") hole section. Circulated hole clean. Pulled out of hole to 762 mm (30") shoe. Ran in hole. Washed and reamed down from 582 mMDRT to TD. Circulated hole clean. POOH. Racked back LWD tools.
Forward Plan:	Complete POOH, rig up an drun 340 mm (13-3/8") casing.

General Comments

00:00 TO 24:00 Hrs ON 10 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 1 technician on board. Technician monitoring RT data transmissions. Sperry: 2 MWD engineers on board. 445 mm (17-1/2") tools: Back up checked OK.
Operational Comments	MWD tool distances from bit: GR (PCG) 5.62 m Directional (PCD) 7.76 m

WBM Data

Mud Type:	PAD mud	Flowline Temp:		Cl:		Low Gravity Solids:	
Sample From:	4	MWD Circ Temp:		Hard/Ca:		High Gravity Solids:	
Time:	1700	Glycol CP Temp:		MBT:		Solids (corrected):	
Weight:	9.00ppg	Glycol:		PM:		H2O:	98%
ECD TD:		Nitrates:		PF:		Oil:	
ECD Shoe:		Sulphites:		MF:		Sand:	%
ECD Cuttings:		API FL:		pH:	9	Barite:	
KCl Equiv:		API Cake:		PHPA Excess:			

Viscosity	58sec/qt
PV	11cp
YP	18lb/100ft²
Gels 10s	6
Gels 10m	8
Fann 003	6
Fann 006	8
Fann 100	18
Fann 200	24
Fann 300	29
Fann 600	40

Shakers, Volumes and Losses Data

Engineer : Jay Wan / Kosta Georgiou

Available	**4176.0bbl**	**Losses**	**0.0bbl**
Active	2059.5bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	896.5bbl	Dumped	
Slug		De-Gasser	
Reserve	1110.0bbl	De-Sander	
Kill	110.0bbl	De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	0.00	GR increase

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Survey								
MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
812.12	0.7		812.09	6.3	0.0	6.3	0.0	MWD
868.19	0.3		868.16	6.8	0.7	6.8	0.0	MWD
896.77	1.0		896.74	7.2	2.4	7.2	0.0	MWD
925.97	0.7		925.93	7.6	1.0	7.6	0.0	MWD

06:00 Hrs Update	
Time:	06:00 Hrs on 11 Oct 2009
Depth:	935 mMDRT/935 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Running 13 3/8" casing
Formation:	Torquay Group
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)
(Days) - Dennis Archer (Nights) - Brenton Richards

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Trefoil-2

Date : 11 Oct 2009 | **Geology Report Number : 5** | (associated DDR # 11)

Well Details

Depth MDBRT:	935.0m	Rig:	Kan Tan IV	Date:	11 Oct 2009
Depth TVDBRT:	935.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	909.0m	RTE agl:		Report End:	2400
Hole Size:	17.500in	GLE amsl:	0 (m)	Days On Location:	10.13
Hole Size Carbide:		Last Csg Size:	30.000in	Days since Spud:	5.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	153.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/		

Operations Summary

24hr Summary:	Run in 340mm (13 - 3/8") casing
Forward Plan:	Finish running in and cement 340mm (13 - 3/8") casing, Run BOP

General Comments

00:00 TO 24:00 Hrs ON 11 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 1 technician on board. Technician monitoring RT data transmissions.Sperry: 2 MWD engineers on board at present.

WBM Data

Mud Type:	PAD mud	Flowline Temp:		Cl:		Low Gravity Solids:	
Sample From:	3	MWD Circ Temp:		Hard/Ca:		High Gravity Solids:	
Time:	1730	Glycol CP Temp:		MBT:		Solids (corrected):	
Weight:	9.00ppg	Glycol:		PM:		H2O:	98%
ECD TD:		Nitrates:		PF:		Oil:	
ECD Shoe:		Sulphites:		MF:		Sand:	%
ECD Cuttings:		API FL:		pH:	9	Barite:	
KCl Equiv:		API Cake:		PHPA Excess:			

Viscosity	58sec/qt
PV	11cp
YP	19lb/100ft²
Gels 10s	7
Gels 10m	9
Fann 003	7
Fann 006	9
Fann 100	14
Fann 200	24
Fann 300	30
Fann 600	41

Shakers, Volumes and Losses Data

Engineer : Jay Wan / Kosta Georgiou

Available	**1741.3bbl**	**Losses**	**374.5bbl**
Active	220.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	895.8bbl	Dumped	374.5bbl
Slug		De-Gasser	
Reserve	515.5bbl	De-Sander	
Kill	110.0bbl	De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	0.00	GR increase

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06:00 Hrs Update	
Time:	06:00 Hrs on 12 Oct 2009
Depth:	935m MDRT / 935m TVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Circulating 13 3/8" casing.
Formation:	Torquay Group
Lithology:	No Drilling
ROP:	No Drilling
Gas:	No Drilling

Wellsite Geologist(s)	
(Days) - Dennis Archer	(Nights) - Brenton Richards

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 12 Oct 2009 | **Geology Report Number : 6** | (associated DDR # 12)

Well Details

Depth MDBRT:	935.0m	Rig:	Kan Tan IV	Date:	12 Oct 2009
Depth TVDBRT:	935.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	909.0m	RTE agl:		Report End:	2400
Hole Size:	17.500in	GLE amsl:	0 (m)	Days On Location:	11.13
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	6.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/		

Operations Summary

24hr Summary:	Completed running and cementing 340 mm (13-3/8") casing. Laid out casing running string. Commenced rigging up and running BOP and marine riser.
Forward Plan:	Complete running BOP and riser.

General Comments

00:00 TO 24:00 Hrs ON 12 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Sperry: 3 MWD engineers, 1 DD on board. Op checking 3 tool strings for 311 mm (12-1/4") hole section.

WBM Data

Mud Type:	PAD mud	Flowline Temp:		Cl:		Low Gravity Solids:		Viscosity	58sec/qt
Sample From:	3	MWD Circ Temp:		Hard/Ca:		High Gravity Solids:		PV	11cp
Time:	1730	Glycol CP Temp:		MBT:		Solids (corrected):		YP	19lb/100ft²
Weight:	9.00ppg	Glycol:		PM:		H2O:	98%	Gels 10s	7
ECD TD:		Nitrates:		PF:		Oil:		Gels 10m	9
ECD Shoe:		Sulphites:		MF:		Sand:	%	Fann 003	7
ECD Cuttings:		API FL:		pH:	9	Barite:		Fann 006	9
KCl Equiv:		API Cake:		PHPA Excess:				Fann 100	14
								Fann 200	24
								Fann 300	30
								Fann 600	41

Shakers, Volumes and Losses Data

Engineer : Jay Wan / Kosta Georgiou

Available	**1741.3bbl**	**Losses**	**374.5bbl**
Active	220.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	895.8bbl	Dumped	374.5bbl
Slug		De-Gasser	
Reserve	515.5bbl	De-Sander	
Kill	110.0bbl	De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	
Shaker 2	Brandt VSM 300	20 top/50bottom	
Shaker 3	Brandt VSM 300	20 top/50bottom	
Shaker 4	Brandt VSM 300	20 top/50bottom	

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	0.00	GR increase

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06:00 Hrs Update	
Time:	06:00 Hrs on 13 Oct 2009
Depth:	935 mMDRT/935 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Prepare to run 18 3/4" BOP on marine riser.
Formation:	Torquay Group
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)	
(Days) - Dennis Archer	(Nights) - Brenton Richards

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Trefoil-2

Date : 13 Oct 2009 | **Geology Report Number : 7** | (associated DDR # 13)

Well Details

Depth MDBRT:	935.0m	Rig:	Kan Tan IV	Date:	13 Oct 2009
Depth TVDBRT:	935.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	909.0m	RTE agl:		Report End:	2400
Hole Size:	17.500in	GLE amsl:	0 (m)	Days On Location:	12.13
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	7.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/		

Operations Summary

24hr Summary:	Continued running BOP on marine riser. Waited on weather.
Forward Plan:	WOW. Complete running BOP on marine riser, pressure test BOPs.

General Comments

00:00 TO 24:00 Hrs ON 13 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Sperry: 3 MWD engineers, 1 DD on board. Main and 2 back up tool strings for 311 mm (12-1/4") hole section ready to go.

WBM Data

Mud Type:	PAD mud	Flowline Temp:		Cl:		Low Gravity Solids:		Viscosity	58sec/qt
Sample From:	3	MWD Circ Temp:		Hard/Ca:		High Gravity Solids:		PV	11cp
Time:	1730	Glycol CP Temp:		MBT:		Solids (corrected):		YP	19lb/100ft²
Weight:	9.00ppg	Glycol:		PM:		H2O:	98%	Gels 10s	7
ECD TD:		Nitrates:		PF:		Oil:		Gels 10m	9
ECD Shoe:		Sulphites:		MF:		Sand:	%	Fann 003	7
ECD Cuttings:		API FL:		pH:	9	Barite:		Fann 006	9
KCl Equiv:		API Cake:		PHPA Excess:				Fann 100	14
								Fann 200	24
								Fann 300	30
								Fann 600	41

Shakers, Volumes and Losses Data

Engineer : Jay Wan / Kosta Georgiou

Available	**1741.3bbl**	**Losses**	**374.5bbl**
Active	220.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	895.8bbl	Dumped	374.5bbl
Slug		De-Gasser	
Reserve	515.5bbl	De-Sander	
Kill	110.0bbl	De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	
Shaker 2	Brandt VSM 300	20 top/50bottom	
Shaker 3	Brandt VSM 300	20 top/50bottom	
Shaker 4	Brandt VSM 300	20 top/50bottom	

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	0.00	GR increase

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06:00 Hrs Update	
Time:	06:00 Hrs on 14 Oct 2009
Depth:	935 mMDRT/935 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Install marine riser tensioner lines
Formation:	Torquay Group
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)	
(Days) - Dennis Archer	(Nights) - Brenton Richards

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Trefoil-2

Date : 14 Oct 2009 | **Geology Report Number : 8** | (associated DDR # 14)

Well Details

Depth MDBRT:	935.0m	Rig:	Kan Tan IV	Date:	14 Oct 2009
Depth TVDBRT:	935.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	909.0m	RTE agl:		Report End:	2400
Hole Size:	17.500in	GLE amsl:	0 (m)	Days On Location:	13.13
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	8.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/		

Operations Summary

24hr Summary:	Waited on weather. Completed running BOP and marine riser. Pressure tested casing and connector. Stroked out slip joint. Installed diverter. Rigged down BOP and riser running tools.
Forward Plan:	Lay out 445 mm (17-1/2") BHA, make up 311mm (12-1/4") BHA, RIH, drill out shoe track, perform LOT, drill ahead in 311mm (12-1/4") hole section.

General Comments

00:00 TO 24:00 Hrs ON 14 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 12.34 m Resistivity (EWR-P4) 14.81 m Directional (PCD) 19.76 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	38000mg/l	Low Gravity Solids:		Viscosity	49sec/qt
Sample From:	3	MWD Circ Temp:		Hard/Ca:	320mg/l	High Gravity Solids:		PV	10cp
Time:	2110	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	14lb/100ft²
Weight:	9.00ppg	Glycol:		PM:	2.2	H2O:	95%	Gels 10s	8
ECD TD:		Nitrates:		PF:	1.5	Oil:		Gels 10m	10
ECD Shoe:		Sulphites:		MF:	2.6	Sand:	%	Fann 003	8
ECD Cuttings:		API FL:	5.6cc/30min	pH:	8	Barite:		Fann 006	10
KCl Equiv:		API Cake:	1/32nd"	PHPA Excess:				Fann 100	17
								Fann 200	23
								Fann 300	27
								Fann 600	37

Shakers, Volumes and Losses Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**1741.3bbl**	**Losses**	**374.5bbl**
Active	220.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	895.8bbl	Dumped	374.5bbl
Slug		De-Gasser	
Reserve	515.5bbl	De-Sander	
Kill	110.0bbl	De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	
Shaker 2	Brandt VSM 300	20 top/50bottom	
Shaker 3	Brandt VSM 300	20 top/50bottom	
Shaker 4	Brandt VSM 300	20 top/50bottom	

Comment: Correct Mud volumes will be entered tomorrow when we start drilling, all chemicals will be charged off as well.

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	0.00	GR increase

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06:00 Hrs Update	
Time:	06:00 Hrs on 15 Oct 2009
Depth:	935 mMDRT/935 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Picking up 12.25" BHA.
Formation:	Torquay Group
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)	
(Days) - Dennis Archer	(Nights) - Brenton Richards

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 15 Oct 2009 | **Geology Report Number : 9** | (associated DDR # 15)

Well Details

Depth MDBRT:	938.0m	Rig:	Kan Tan IV	Date:	15 Oct 2009
Depth TVDBRT:	938.0m	Progress:	3.0m	Report Start:	0000
Depth TVDSS:	912.0m	RTE agl:		Report End:	2400
Hole Size:	17.500in	GLE amsl:	0 (m)	Days On Location:	14.13
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	9.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Laid out 445 mm (17-1/2") BHA. Picked up 311 mm (12-1/4") BHA. Ran in Hole. Conducted FEWD shallow hole test - OK. RIH to top cement at 916 mMDRT. Drilled out shoe track and new formation to 938 mMDRT. Displaced hole to KCl mud. Conducted LOT. Drilled ahead in 311 mm (12-1/4") hole section.
Forward Plan:	Drill ahead in 311 mm (12-1/4") hole section.

General Comments

00:00 TO 24:00 Hrs ON 15 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 15 Oct 09. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 12.34 m Resistivity (EWR-P4) 14.81 m Directional (PCD) 19.76 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	41000mg/l	Low Gravity Solids:		Viscosity	46sec/qt
Sample From:	1	MWD Circ Temp:		Hard/Ca:	280mg/l	High Gravity Solids:		PV	10cp
Time:	2135	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	20lb/100ft²
Weight:	9.00ppg	Glycol:	5.0%vol	PM:	2.2	H2O:	95%	Gels 10s	8
ECD TD:		Nitrates:		PF:	1.1	Oil:		Gels 10m	10
ECD Shoe:		Sulphites:		MF:	1.5	Sand:	%	Fann 003	9
ECD Cuttings:		API FL:	5.8cc/30min	pH:	9.5	Barite:		Fann 006	11
KCl Equiv:		API Cake:	1/32nd"	PHPA Excess:				Fann 100	18
								Fann 200	23
								Fann 300	30
								Fann 600	40

Shakers, Volumes and Losses Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**1762.5bbl**	**Losses**	**431.8bbl**
Active	168.0bbl	Downhole	
Mixing		Surf+ Equip	0.0bbl
Hole	471.5bbl	Dumped	431.8bbl
Slug		De-Gasser	
Reserve	1123.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	12
Shaker 2	Brandt VSM 300	20 top/50bottom	12
Shaker 3	Brandt VSM 300	20 top/50bottom	12
Shaker 4	Brandt VSM 300	20 top/50bottom	12

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	0.00	GR increase

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Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
935.00	938.00	Min:15 Avg:36 Max:61	CALCAREOUS CLAYSTONE CALCAREOUS CLAYSTONE: medium dark grey, very soft to soft, sticky, traces bryozoa, traces fine grained pyrite aggregates, 35% calcareous clay.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
935.00 - 938.00	Drilled	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000

Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
981.35	0.7		981.31	8.3	0.3	8.3	0.0	MWD

06:00 Hrs Update

Time:	06:00 Hrs on 16 Oct 2009
Depth:	1062 mMDRT/1062 mTVDRT
Progress Since Midnight (m):	124
Status @ 0600hrs:	Drilling ahead with 12.25" hole. Depth at 06:00 hrs 1062m.
Formation:	Torquay Group
Lithology:	CALCAREOUS CLAYSTONE
ROP:	Average ROP: 104m/h
Gas:	Ave Background gas - 0.13%, C1 0.06%.

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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Trefoil-2

Date : 16 Oct 2009 | **Geology Report Number : 10** | (associated DDR # 16)

Well Details

Depth MDBRT:	1540.0m	Rig:	Kan Tan IV	Date:	16 Oct 2009
Depth TVDBRT:	1540.0m	Progress:	602.0m	Report Start:	0000
Depth TVDSS:	1514.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	15.13
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	10.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Drilled ahead in 311 mm (12-1/4") hole section.
Forward Plan:	Drill ahead in 311 mm (12-1/4") hole section.

General Comments

00:00 TO 24:00 Hrs ON 16 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 15 Oct 09. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 12.34 m Resistivity (EWR-P4) 14.81 m Directional (PCD) 19.76 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	40000mg/l	Low Gravity Solids:		Viscosity	56sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	240mg/l	High Gravity Solids:		PV	13cp
Time:	2020	Glycol CP Temp:		MBT:	5	Solids (corrected):		YP	22lb/100ft²
Weight:	9.00ppg	Glycol:		PM:	0.78	H2O:	95%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.7	Oil:		Gels 10m	14
ECD Shoe:		Sulphites:		MF:	1.5	Sand:	%	Fann 003	10
ECD Cuttings:		API FL:	5.1cc/30min	pH:	9	Barite:		Fann 006	12
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	23
								Fann 200	30
								Fann 300	35
								Fann 600	48

Shakers, Volumes and Losses Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**4058.6bbl**	**Losses**	**131.0bbl**
Active	1200.0bbl	Downhole	
Mixing	450.0bbl	Surf+ Equip	131.0bbl
Hole	722.6bbl	Dumped	
Slug	53.0bbl	De-Gasser	
Reserve	1633.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	24
Shaker 2	Brandt VSM 300	20 top/50bottom	8
Shaker 3	Brandt VSM 300	20 top/50bottom	24
Shaker 4	Brandt VSM 300	20 top/50bottom	24

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Vocanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	0.00	GR decrease, res increase

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
938.00	1062.00	Min:38 Avg:71 Max:174	CALCAREOUS CLAYSTONE CALCAREOUS CLAYSTONE (100%): medium dark grey, soft to firm, angular to sub blocky, trace bryozoa, shell fragments, foraminifera and micromicas, 20-35% calcareous clay.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
1062.00	1162.00	Min:9 Avg:19 Max:155	CLAYSTONE CLAYSTONE (100%): medium dark grey, traces subfissile dark greenish grey at base of interval, soft to firm, subblocky to blocky, traces micromicas, shell fragments, corals, pyrite as fine grained aggregates, 10% calcareous clay.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
1162.00	1331.00	Min:16 Avg:65 Max:173	Interbedded CLAYSTONE and SILTSTONE, minor SANDSTONE beds. CLAYSTONE (0-100%): medium dark grey, olive grey, soft to firm, subblocky to blocky, traces micromicas and shell fragments, 5% calcareous clay. SILTSTONE (0-100%): medium grey, medium light grey, soft, subblocky, traces carbonaceous laminae, trace lithic fragments, trace calcareous clay. SANDSTONE (10-20%): light olive grey, medium grey, very soft to friable, very fine grained, subangular to subrounded, well sorted, spherical to subspherical, traces lithic fragments, 10% poor calcareous cement, good visual porosity, no hydrocarbon indications.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
1331.00	1540.00	Min:3 Avg:37 Max:341	SILTSTONE, minor CLAYSTONE and SANDSTONE beds SILTSTONE (80-100%): olive grey, medium dark grey, medium grey, soft to firm, subblocky to blocky, traces altered lithic fragments, traces carbonaceous specks, trace very fine disseminated pyrite, trace glauconite grains, 5% calcareous clay, 15% clay, grading locally to argillaceous siltstone. CLAYSTONE (0-20%): dark greenish grey, trace greenish grey, medium dark grey, soft to firm , subblocky, in part subfissile, micromicaceous, 5% calcareous clay. SANDSTONE (0-20%): medium dark grey, dark grey, very fine grained, subrounded, well sorted, sub spherical to spherical quartz grains with 10 to 15% lithic components, firm to moderately hard, angular to sub blocky, trace micro mica, shell fragments, dolomite, lithic fragments, 10% calcareous clay cement, poor visual porosity, no hydrocarbon indications.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
938.00 - 1062.00	Drilled	0.150	0.1400	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
1062.00 - 1162.00	Drilled	0.230	0.1900	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
1162.00 - 1331.00	Drilled	0.330	0.3200	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
1331.00 - 1540.00	Drilled	0.360	0.3400	0.0000	0.0000	0.0000	0.0000	0.0000	0.000
1483.00 -	Peak	0.670	0.6500	0.0000	0.0000	0.0000	0.0000	0.0000	0.000

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Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
1010.20	0.8		1010.15	8.7	0.3	8.7	0.0	MWD
1067.21	0.9		1067.16	9.5	0.2	9.5	0.0	MWD
1095.87	0.8		1095.82	10.0	0.3	10.0	0.0	MWD
1153.51	1.1		1153.45	10.9	0.5	10.9	0.0	MWD
1182.36	1.3		1182.29	11.5	0.7	11.5	0.0	MWD
1211.30	1.0		1211.22	12.1	1.0	12.1	0.0	MWD
1240.32	1.0		1240.24	12.6	0.0	12.6	0.0	MWD
1269.44	1.0		1269.36	13.1	0.0	13.1	0.0	MWD
1298.71	1.1		1298.62	13.7	0.3	13.7	0.0	MWD
1327.95	1.3		1327.85	14.3	0.7	14.3	0.0	MWD
1357.12	1.3		1357.02	14.9	0.0	14.9	0.0	MWD
1385.95	1.4		1385.84	15.6	0.3	15.6	0.0	MWD
1414.80	1.3		1414.68	16.3	0.3	16.3	0.0	MWD
1443.26	1.4		1443.13	17.0	0.4	17.0	0.0	MWD
1471.76	1.4		1471.62	17.7	0.0	17.7	0.0	MWD
1500.56	1.4		1500.42	18.4	0.0	18.4	0.0	MWD
1529.74	1.0		1529.59	19.0	1.4	19.0	0.0	MWD

06:00 Hrs Update

Time:	06:00 Hrs on 17 Oct 2009
Depth:	1540 mMDRT/1540 mMDRT
Progress Since Midnight (m):	156
Status @ 0600hrs:	Drilling ahead with 12.25" Bit Depth at 06:00 hrs 1696m. RPM 100, WOB -10k, flow rate 1000 gpm, SPP
Formation:	Lower Angahook Formation
Lithology:	SILTSTONE, minor CLAYSTONE and SANDSTONE beds.
ROP:	Ave 40.7 m/hr (7.3-140 m/hr)
Gas:	Ave BG 0.52%, C1 0.49%

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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Trefoil-2

Date : 17 Oct 2009 | **Geology Report Number : 11** | (associated DDR # 17)

Well Details

Depth MDBRT:	2004.0m	Rig:	Kan Tan IV	Date:	17 Oct 2009
Depth TVDBRT:	2004.0m	Progress:	464.0m	Report Start:	0000
Depth TVDSS:	1978.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	16.06
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	11.58
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Drilled ahead in 311 mm (12-1/4") hole section.
Forward Plan:	Drill ahead in 311 mm (12-1/4") hole section to section TD.

General Comments

00:00 TO 24:00 Hrs ON 17 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 15 Oct 09. Carbide lag check - hole 4.2% overgauge. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 12.34 m Resistivity (EWR-P4) 14.81 m Directional (PCD) 19.76 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	39000mg/l	Low Gravity Solids:		Viscosity	54sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	380mg/l	High Gravity Solids:		PV	16cp
Time:	2115	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	29lb/100ft²
Weight:	9.00ppg	Glycol:		PM:	0.3	H2O:	94%	Gels 10s	12
ECD TD:		Nitrates:		PF:	0.3	Oil:		Gels 10m	18
ECD Shoe:		Sulphites:		MF:	0.5	Sand:	%	Fann 003	10
ECD Cuttings:		API FL:	5.6cc/30min	pH:	9	Barite:		Fann 006	12
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	29
								Fann 200	36
								Fann 300	45
								Fann 600	61

Shakers, Volumes and Losses Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**2655.0bbl**	**Losses**	**326.3bbl**
Active	178.0bbl	Downhole	
Mixing	350.0bbl	Surf+ Equip	309.3bbl
Hole	945.0bbl	Dumped	
Slug	4.0bbl	De-Gasser	
Reserve	1178.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	17.0bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	24
Shaker 2	Brandt VSM 300	20 top/50bottom	5
Shaker 3	Brandt VSM 300	20 top/50bottom	24
Shaker 4	Brandt VSM 300	20 top/50bottom	13

Comment Centrifuge #2 down due to electrical fan motor failure. New motor orderd.

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Vocanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	0.00	Res increase

Lithology Summary

Interval MDBRT (m) From To	ROP (m/hr)	Lithology
1540.00 - 1569.00	Min:15 Avg:44 Max:86	SILTSTONE SILTSTONE (100%) : olive grey, medium grey, soft to firm, subblocky, trace very fine disseminated pyrite, trace glauconite, trace micro micas, 5% calcareous clay, 15% clay,10% very fine quartz grains, grading locally to argillaceous siltstone.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
1569.00 - 1697.00	Min:9 Avg:45 Max:90	SILTSTONE grading in part to SANDY SILTSTONE, thin SANDSTONE at top of interval SILTSTONE (0-100%): olive grey, soft to firm, subblocky, trace carbonaceous specks, glauconite, lithic fragments, 5% calcareous clay, 10% clay, 5% very fine quartz sand. SANDY SILTSTONE (0-100%): olive grey, medium dark grey, soft to firm, angular to subblocky, trace carbonaceous specks, glauconite, lithic fragments, micro micas, shell fragments 5% calcareous clay, 10% clay, 20% very fine quartz sand. SANDSTONE (0-20%): medium bluish gray, medium grey, very fine grained, subrounded, wellsorted to very well sorted, sub spherical quartz grains with 10% lithic components, moderately hard to hard, angular to sub blocky, trace micro mica, highly cemented, 10% calcareous cement, 10% clay component, no visual porosity, no hydrocarbon indications.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
1697.00 - 1850.00	Min:14 Avg:33 Max:88	ARGILLACEOUS SILTSTONE, interbeds of CLAYSTONE and DOLOMITE ARGILLACEOUS SILTSTONE (0-100%): olive grey, in part dark yellowish brown, olive black, soft to firm, subblocky, trace micromicas, trace glauconite, trace pyrite as burrow infill, trace carbonaceous specks, 5% calcareous clay, 25% clay. CLAYSTONE (0-60%): dusky brown, brownish grey, soft, subblocky to sticky, traces micromica, in part medium bluish grey, soft, subblocky, 10% calcareous clay. DOLOMITE (0-70%): pale yellowish brown, dark yellowish brown, soft to very hard, splintery to subconchoidal fracture, crystalline to earthy in part.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
1850.00 - 1955.00	Min:3 Avg:26 Max:85	ARGILLACEOUS SILTSTONE and CLAYSTONE interbeds, rare DOLOMITE BEDS ARGILLACEOUS SILTSTONE (0-100%): brownish black, soft to firm, occasionally friable, subblocky, traces micromicas, lithic fragments, glauconite grains, pyrite, 5% very fine quartz grains, 25% clay. CLAYSTONE (0-90%): olive black, olive grey, trace dark yellowish brown, soft to firm, subblocky to blocky, trace micromicas, lithic fragements, 10% silt sized fraction. DOLOMITE (0-5%): pale yellowish brown, dark yellowish brown, firm to hard, splintery fracture, crystalline to microcrystaline in places.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
1955.00 - 1980.00	Min:10 Avg:19 Max:57	ARGILLACEOUS SILTSTONE and CALCAREOUS CLAYSTONE interbeds ARGILLACEOUS SILTSTONE (0-100%): brownish black, soft to firm, occasionally friable, subblocky, traces micromicas, lithic fragments, glauconite grains, pyrite, 5% very fine quartz grains, 25% clay. CALCAREOUS CLAYSTONE (0-35%) medium grey, medium dark grey, light bluish grey, very soft to moderately hard, angular to subblocky, trace micromicas, shell fragments, calcite veining, 10% silt.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
1980.00 - 2004.00	Min:8 Avg:30 Max:54	Interbedded ARGILLACEOUS SILTSTONE grading in part to SILTY SANDSTONE and CLAYSTONE grading in part to SANDY CLAYSTONE ARGILLACEOUS SILTSTONE (0-90%): brownish black, olive black, soft to firm, subblocky, trace shell fragments, lithic fragments, glauconite, 20% clay, 5% very fine quartz sand. SILTY SANDSTONE (0-15%): brownish black, olive black, very fine grained, subrounded, well to very wellsorted, subspherical quartz grains, soft to friable, subblocky, trace lithic fragments, 15% clay, 25% silt, poor visual porosity, no hydrocarbon indications. CLAYSTONE (0-20): brownish black, olive black, medium grey, soft to firm, subblocky, trace shell fragments, lithic fragments, 5% very fine quartz sand. SANDY CLAYSTONE (0-25%): medium grey, medium dark grey, firm to moderately hard, subblocky, trace shell fragments, micromicas, 5% calcareous clay, 10% silt, 20% very fine quartz sand.

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Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
1540.00 - 1569.00	Drilled	0.417	0.3953	0.0021	0.0012	0.0006	0.0003	0.0006	
1569.00 - 1697.00	Drilled	0.517	0.4978	0.0027	0.0016	0.0007	0.0004	0.0008	
1697.00 - 1850.00	Drilled	0.453	0.4188	0.0040	0.0018	0.0007	0.0002	0.0006	
1780.00 - 1780.00	Peak	0.760	0.6924	0.0057	0.0028	0.0010	0.0004	0.0005	
1850.00 - 1955.00	Drilled	0.520	0.4474	0.0052	0.0026	0.0013	0.0003	0.0005	
1865.00 - 1865.00	Peak	0.880	0.7478	0.0088	0.0041	0.0018	0.0004	0.0005	
1955.00 - 1980.00	Drilled	0.490	0.4295	0.0074	0.0033	0.0019	0.0004	0.0006	
1977.00 - 1977.00	Peak	0.700	0.6368	0.0114	0.0050	0.0026	0.0005	0.0008	
1980.00 - 2004.00	Drilled	0.640	0.5645	0.0104	0.0046	0.0025	0.0005	0.0008	

Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
1559.00	1.1		1558.84	19.5	0.3	19.5	0.0	MWD
1588.15	1.1		1587.99	20.1	0.0	20.1	0.0	MWD
1617.27	1.1		1617.10	20.6	0.0	20.6	0.0	MWD
1646.32	1.2		1646.15	21.2	0.3	21.2	0.0	MWD
1675.15	1.3		1674.97	21.8	0.3	21.8	0.0	MWD
1703.61	1.0		1703.43	22.4	1.1	22.4	0.0	MWD
1731.98	1.1		1731.79	22.9	0.4	22.9	0.0	MWD
1760.71	1.2		1760.52	23.5	0.3	23.5	0.0	MWD
1790.08	1.1		1789.88	24.1	0.3	24.1	0.0	MWD
1819.45	1.2		1819.24	24.7	0.3	24.7	0.0	MWD
1848.52	1.2		1848.31	25.3	0.0	25.3	0.0	MWD
1877.80	1.1		1877.58	25.9	0.3	25.9	0.0	MWD
1906.65	1.2		1906.43	26.5	0.3	26.5	0.0	MWD
1934.67	1.1		1934.44	27.0	0.4	27.0	0.0	MWD
1963.22	0.5		1962.99	27.4	2.1	27.4	0.0	MWD
1992.33	0.6		1992.10	27.7	0.3	27.7	0.0	MWD
2021.46	0.6		2021.22	28.0	0.0	28.0	0.0	MWD

06:00 Hrs Update

Time:	06:00 Hrs on 18 Oct 2009
Depth:	2104 mMDRT/2104 mMDRT
Progress Since Midnight (m):	100
Status @ 0600hrs:	Drilling 12.25" hole. Depth at 06:00 hrs 2104m
Formation:	Demons Bluff Formation
Lithology:	Interbedded ARGILLACEOUS SILTSTONE and CLAYSTONE
ROP:	Ave 29.7 m/hr (12.1 - 73.5 m/hr)
Gas:	Ave BG 0.536%, C1 0.4642, C2 0.0107, C3 0.0060, iC4 0.0009, nC4 0.0013, C5 0.0004

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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Trefoil-2

Date : 18 Oct 2009 | **Geology Report Number : 12** | (associated DDR # 18)

Well Details

Depth MDBRT:	2244.0m	Rig:	Kan Tan IV	Date:	18 Oct 2009
Depth TVDBRT:	2244.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2218.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	17.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	12.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Drilled ahead in 311mm (12 - 1/4") hole.
Forward Plan:	Drill ahead in 311mm (12 - 1/4") hole to section TD.

General Comments

00:00 TO 24:00 Hrs ON 18 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 15 Oct 09. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 12.34 m Resistivity (EWR-P4) 14.81 m Directional (PCD) 19.76 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	40000mg/l	Low Gravity Solids:		Viscosity	52sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	320mg/l	High Gravity Solids:		PV	14cp
Time:	2150	Glycol CP Temp:		MBT:	15	Solids (corrected):		YP	28lb/100ft²
Weight:	9.10ppg	Glycol:		PM:	0.6	H2O:	94%	Gels 10s	10
ECD TD:		Nitrates:		PF:	0.4	Oil:		Gels 10m	13
ECD Shoe:		Sulphites:		MF:	1.4	Sand:	%	Fann 003	9
ECD Cuttings:		API FL:	4.8cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	25
								Fann 200	34
								Fann 300	42
								Fann 600	56

Shakers, Volumes and Losses Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**2817.0bbl**	**Losses**	**173.0bbl**
Active	214.0bbl	Downhole	
Mixing	200.0bbl	Surf+ Equip	148.0bbl
Hole	1053.0bbl	Dumped	
Slug	53.0bbl	De-Gasser	
Reserve	1297.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	25.0bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	24
Shaker 2	Brandt VSM 300	20 top/50bottom	8
Shaker 3	Brandt VSM 300	20 top/50bottom	24
Shaker 4	Brandt VSM 300	20 top/50bottom	24

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2004.00	2105.00	Min:12 Avg:30 Max:74	ARGILLACEOUS SILTSTONE, interbeds of CLAYSTONE and thin SANDSTONE ARGILLACEOUS SILTSTONE (0-100%): brownish black, olive black, soft to friable, subblocky, trace coral fragments, lithic fragments, 20% clay, 5% calcareous clay, 5% very fine quartz sand, grading locally to SANDY SILTSTONE: brownish black, olive black, soft to friable, subblocky, trace lithic fragments, 10% clay, 30% very fine quartz sand and SILTSTONE: olive black, greyish black, soft to firm, subblocky, traces lithic fragments, in part altered, traces micromicas, traces carbonaceous material, 10% dispersed very fine grained clear subrounded quartz grains, 20% clay at base of section. CLAYSTONE (0-30%):medium grey, medium light grey, light bluish grey, olive black, brownish black, very soft to moderately hard, amorphous to subblocky, trace glauconite, shell fragments, lithic fragments, 5-10% calcareous clay, 5% silt. SILTY SANDSTONE (0-30%): olive grey, light olive grey, subrounded, well sorted, subspherical quartz gains with 10% lithic component, firm to moderately hard, trace shell fragments, micromicas, lithic fragments, 10% calcareous cement, poor to no visual porosity, no hydrocarbon indications.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2105.00	2150.00	Min:6 Avg:17 Max:46	SILTSTONE, interbedded SANDSTONE and thin CLAYSTONES SILTSTONE (0-100%): brownish grey, olive grey, soft, subblocky, trace lithic fragments, skeletal fragments, carbonaceous material, 10% clay, 10% very fine clear quartz grains. SANDSTONE (0-100%): mottled dusky yellow green and light grey, very fine grained, 10% fine grained, very soft to firm, subrounded to subangular, moderate to well sorted, 10% glauconite as grains and clay, 10% calcareous clay, 10% clay, poor visual porosity, no hydrocarbon indications. CLAYSTONE (0-30%): greyish olive green, firm, subblocky, traces very fine pyrite, altered lithic fragments.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2150.00	2200.00	Min:7 Avg:19 Max:52	CLAYSTONE grading to SILTSTONE and SANDSTONE CLAYSTONE (0-70%): medium bluish grey, olive grey, medium grey, brownish black, soft - firm, subblocky, trace micromicas, calcite veining, finely disseminated pyrite, 5% calcareous clay. SILTSTONE (0-100%): olive grey, dark yellowish brown, soft to friable, subblocky, trace carbonaceous laminae, lithic fragments, 15% clay, 5% very fine quartz sand, 5% rock flour SANDY SILTSTONE (0-60%): brownish black, brownish grey, olive grey, soft to firm, subblocky, trace fine carbonaceous laminations, lithic fragments, 25% very fine clear quartz sand SILTY SANDSTONE (0-80%): brownish black, olive grey, subrounded, well sorted, subspherical, very fine, clear, polished quartz grains, soft to friable, trace lithic fragments, 10% calcareous cement, 5% rock flour, poor visual porosity, no hydrocarbon indications. SANDSTONE (0-80%): clear, opaque, polished, frosted, loose quartz grains, 20% medium, 40% coarse, 30% very coarse, 10% granular, angular (shattered) to rounded, very poor to poorly sorted, subelongate to spherical, trace white clay matrix adhering to grain surfaces, fair visual porosity inferred, no hydrocarbon indications.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2200.00	2244.00	Min:6 Avg:20 Max:54	SILTSTONE, interbedded SANDSTONE and thin CLAYSTONES SILTSTONE (0-80%): brownish black, brownish grey, olive grey, soft to firm, subblocky, trace fine carbonaceous laminations, lithic fragments, 5% very fine clear quartz sand. SANDSTONE (0-80%): very light grey, olive grey, clear subrounded to subangular (shattered), well sorted, subspherical, very fine grained clear quartz grains, friable, trace lithic fragment, 80% rock flour, no hyrocarbon indications. CLAYSTONE (0-70%): olive grey, medium grey, firm moderately hard, subblocky, trace lithic fragments, angular carbonaceous fragments, micromicas, shell fragments, calcite veining, 20% silt content.

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Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2004.00 - 2105.00	Drilled	0.536	0.4642	0.0107	0.0060	0.0009	0.0013	0.0004	
2069.00 - 2069.00	Peak	0.575	0.4895	0.0125	0.0072	0.0040	0.0010	0.0014	
2093.00 - 2093.00	Peak	0.417	0.3456	0.0094	0.0065	0.0039	0.0016	0.0016	
2105.00 - 2105.00	Drilled	0.169	0.1124	0.0023	0.0020	0.0014	0.0008	0.0011	
2150.00 - 2200.00	Drilled	0.156	0.1104	0.0027	0.0020	0.0013	0.0008	0.0008	
2200.00 - 2244.00	Drilled	0.090	0.0406	0.0014	0.0014	0.0014	0.0007	0.0008	

Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2050.74	0.6		2050.50	28.3	0.0	28.3	0.0	MWD
2080.19	0.6		2079.95	28.6	0.0	28.6	0.0	MWD
2102.20	0.7		2101.96	28.9	0.5	28.9	0.0	MWD
2138.04	0.7		2137.80	29.3	0.0	29.3	0.0	MWD
2195.19	0.6		2194.94	30.0	0.2	30.0	0.0	MWD

06:00 Hrs Update

Time:	06:00 Hrs on 19 Oct 2009
Depth:	2271 mMDRT/2271 mTVDRT
Progress Since Midnight (m):	27
Status @ 0600hrs:	POOH for bit change. Depth at 06:00 hrs 2271m.
Formation:	Eastern View Coal Measures
Lithology:	Interbedded SILTSTONE, CLAYSTONE and SANDSTONE
ROP:	Ave. 12.4 m/hr (4.5 - 48.1 m/hr)
Gas:	Ave BG 0.0742%, C1 0.0352, C2 0.0011, C3 0.0009, iC4 0.0009, nC4 0.0004, C5 0.0007

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 19 Oct 2009 | **Geology Report Number : 13** | (associated DDR # 19)

Well Details

Depth MDBRT:	2271.0m	Rig:	Kan Tan IV	Date:	19 Oct 2009
Depth TVDBRT:	2271.0m	Progress:	27.0m	Report Start:	0000
Depth TVDSS:	2245.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	18.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	13.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Pulled out of hole for bit trip.
Forward Plan:	Trip in and drill 311mm (12-1/4") hole to section TD.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	44000mg/l	Low Gravity Solids:		Viscosity	56sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	320mg/l	High Gravity Solids:		PV	16cp
Time:	2045	Glycol CP Temp:		MBT:	15	Solids (corrected):		YP	28lb/100ft²
Weight:	9.20ppg	Glycol:		PM:	0.2	H2O:	94%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.3	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.2	Sand:	%	Fann 003	10
ECD Cuttings:		API FL:	4.2cc/30min	pH:	9	Barite:		Fann 006	12
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	28
								Fann 200	38
								Fann 300	44
								Fann 600	60

Shakers, Volumes and Losses Data

Engineer : MikeLawrance / Kosta Georgiou

Available	**2815.3bbl**	**Losses**	**161.6bbl**
Active	188.0bbl	Downhole	
Mixing	350.0bbl	Surf+ Equip	161.6bbl
Hole	1171.3bbl	Dumped	
Slug	30.0bbl	De-Gasser	
Reserve	1076.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	16
Shaker 2	Brandt VSM 300	20 top/50bottom	8
Shaker 3	Brandt VSM 300	20 top/50bottom	18
Shaker 4	Brandt VSM 300	20 top/50bottom	12

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

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Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2244.00 - 2271.00		Min:5 Avg:12 Max:48	Interbedded SANDSTONE and CLAYSTONE, thin coal bed at 2265 mMDRT. SANDSTONE (15-85%): very light grey, olive grey, predominantly very fine grained, at times 30% fine, 20% coarse, 10% very coarse clear quartz grains, subrounded to subangular (shattered), well to poorly sorted, subspherical, friable to loose, trace lithic fragments, 80% rock flour, poor visual porosity, no hyrocarbon indications. CLAYSTONE (15-75%): olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, dolomite, glauconite. COAL (0-10%): Black, firm, subblocky to blocky, trace finely disseminated pyrite.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2244.00 - 2271.00	Drilled	0.074	0.0352	0.0011	0.0009	0.0009	0.0004	0.0007	

06:00 Hrs Update

Time:	06:00 Hrs on 20 Oct 2009
Depth:	2271 mMDRT/ 2271 mMDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Prepare to make up 9 5/8" casing hanger and setback.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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Trefoil-2

Date : 20 Oct 2009 | **Geology Report Number : 14** | (associated DDR # 20)

Well Details

Depth MDBRT:	2284.0m	Rig:	Kan Tan IV	Date:	20 Oct 2009
Depth TVDBRT:	2284.0m	Progress:	13.0m	Report Start:	0000
Depth TVDSS:	2258.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	19.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	14.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Completed POOH. Made up cement head and casing hanger. RIH. Washed down through tight sections. Drilled ahead in 311 mm (12-1/4") hole section.
Forward Plan:	Drill ahead in 311mm (21-1/4") hole to section TD.

General Comments

00:00 TO 24:00 Hrs ON 20 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 15 Oct 09. Installed GFF gas traps further along possum belly. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go. Shallow test OK.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 12.34 m Resistivity (EWR-P4) 14.81 m Directional (PCD) 19.76 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	44000mg/l	Low Gravity Solids:		Viscosity	57sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	340mg/l	High Gravity Solids:		PV	16cp
Time:	2045	Glycol CP Temp:		MBT:	15	Solids (corrected):		YP	31lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.5	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.5	Oil:		Gels 10m	16
ECD Shoe:		Sulphites:		MF:	1.2	Sand:	%	Fann 003	10
ECD Cuttings:		API FL:	4.1cc/30min	pH:	9.5	Barite:		Fann 006	12
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	30
								Fann 200	38
								Fann 300	47
								Fann 600	63

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2887.4bbl**	**Losses**	**336.0bbl**
Active	98.0bbl	Downhole	4.0bbl
Mixing	305.0bbl	Surf+ Equip	327.0bbl
Hole	1171.4bbl	Dumped	
Slug	5.0bbl	De-Gasser	
Reserve	1308.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	5.0bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	18
Shaker 2	Brandt VSM 300	20 top/50bottom	18
Shaker 3	Brandt VSM 300	20 top/50bottom	18
Shaker 4	Brandt VSM 300	20 top/50bottom	18

Comment Electrician repaired shakers - all ok.

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2271.00 - 2284.00		Min:7 Avg:15 Max:91	Interbedded SANDSTONE, SILTSTONE and CLAYSTONE with minor DOLOMITE and COAL beds. SANDSTONE (40-85%): very light grey, 40% coarse, 50% very coarse, 10% granular, clear loose quartz grains, subrounded to subangular (shattered), poorly sorted, subspherical, trace lithic fragments, kaolinite clay matrix washing out, good inferred visual porosity, 5% rock flour, no hyrocarbon indications. SILTSTONE (0-20%): brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, pyrite, thin carbonaceous laminae. CLAYSTONE (15-30%): olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, shell fragments, glauconite. DOLOMITE (0-15%): pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery. COAL (0-5%): black, brownish black, soft to friable, subblocky, trace finely disseminated pyrite.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2271.00 -	Trip	2.206	2.0647	0.0753	0.0128	0.0047	0.0001	0.0012	0.000
2271.00 - 2284.00	Drilled	0.129	0.1026	0.0016	0.0011	0.0008	0.0003	0.0006	0.000

Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2253.19	0.6		2252.94	30.6	0.0	30.6	0.0	MWD
2281.35	0.8		2281.10	30.9	0.7	30.9	0.0	MWD

06:00 Hrs Update

Time:	06:00 Hrs on 21 Oct 2009
Depth:	2370 mMDRT/2370 mTVDRT
Progress Since Midnight (m):	86
Status @ 0600hrs:	Drilling 12.25" hole. Depth at 06:00 hrs, 2370m
Formation:	Eastern View Coal Measures
Lithology:	Interbedded SILTSTONE, CLAYSTONE and SANDSTONE.
ROP:	Ave 20.0 m/hr (4.7-42.4 m/hr)
Gas:	Ave BG 0.1027%, C1 0.0706%, C2 0.0028%, C3 0.0013%, iC4 0.0004%, nC4 0.0001%, C5 0.0001, CO2 0.0000%

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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origin

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Trefoil-2

Date : 21 Oct 2009 | **Geology Report Number : 15** | (associated DDR # 21)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	21 Oct 2009
Depth TVDBRT:	2520.0m	Progress:	236.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	20.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	15.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Drilled 311 mm (12-1/4") hole to section TD. Circulated hole clean. Conducted wiper trip to 2267 mMDRT.
Forward Plan:	POOH, run and cement 244mm (9-5/8") casing.

General Comments

00:00 TO 24:00 Hrs ON 21 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers. Gas equipment calibrated 15 Oct 09. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 12.34 m Resistivity (EWR-P4) 14.81 m Directional (PCD) 19.76 m
Operational Comments	311mm (12-1/4") hole section TD at 2520 mMDRT at 1900 21st Oct 09

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	43500mg/l	Low Gravity Solids:		Viscosity	53sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	320mg/l	High Gravity Solids:		PV	14cp
Time:	2045	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	28lb/100ft²
Weight:	9.30ppg	Glycol:		PM:	0.5	H2O:	94%	Gels 10s	10
ECD TD:		Nitrates:		PF:	0.4	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	0.9	Sand:	%	Fann 003	10
ECD Cuttings:		API FL:	3.7cc/30min	pH:	9.5	Barite:		Fann 006	12
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	28
								Fann 200	35
								Fann 300	42
								Fann 600	56

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2982.0bbl**	**Losses**	**539.0bbl**
Active	238.0bbl	Downhole	
Mixing	220.0bbl	Surf+ Equip	113.0bbl
Hole	1178.0bbl	Dumped	419.0bbl
Slug	31.0bbl	De-Gasser	
Reserve	1315.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	7.0bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	22
Shaker 2	Brandt VSM 300	20 top/50bottom	22
Shaker 3	Brandt VSM 300	20 top/50bottom	22
Shaker 4	Brandt VSM 300	20 top/50bottom	22

Comment Note:
Inadvertently dumped 419 bbls overboard, investigation in progress.

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2284.00	2373.00	Min:5 Avg:19 Max:82	Interbedded SANDSTONE, CLAYSTONE and SILTSTONE with minor DOLOMITE and COAL beds SANDSTONE (0-100%): clear, opaque, light olive grey, very light grey, loose and friable, predominantly fine grained, 10% very fine, 10% very coarse grained, poor to very poor sorted, subangular to subrounded, subspherical to subelongate, 15% white clay matrix, poor siliceous cement, traces lithic fragments, traces carbonaceous material, poor to fair visual porosity, no hydrocarbon indications. CLAYSTONE (0-60%): olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, micromicas. SILTSTONE (0-100%): brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads, laminae and specks. DOLOMITE (0-5%): pale yellowish orange, dark yellowish orange, greenish grey, moderately hard to hard, conchoidal to splintery. COAL (0-5%): black, brownish black, soft, woody to bright, in part as laminae.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2373.00	2520.00	Min:6 Avg:18 Max:80	SILTSTONE grading in parts to ARGILLACEOUS SILTSTONE, with minor SANDSTONE and CLAYSTONE beds. SILTSTONE (0-100%): brownish grey, brownish black, olive grey, soft to firm, subblocky, trace carbonaceous specks, thin coaly laminae, finely disseminated pyrite. ARGILLACEOUS SILTSTONE (0-90%): olive grey, light grey, brownish grey, soft, amorphous to sticky, traces coal and carbonaceous material, 30% clay. SANDSTONE (0-100%): bluish white, very light grey, clear, 10% very fine, 60% fine, 20% medium, 10% coarse clear quartz grains, coarse fraction occurs as loose grains, fine fraction occurs as friable poorly cemented aggregates, subrounded to subangular (shattered), poorly sorted, subspherical to subelongate, 5% white clay matrix, poor inferred visual porosity, no hydrocarbon indications. CLAYSTONE (0-60%): olive grey, dark greenish grey, firm to moderately hard, subblocky, trace micromicas, trace foraminifera, shell fragments.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2284.00 - 2373.00	Drilled	0.099	0.0664	0.0027	0.0013	0.0004	0.0002	0.0001	0.000
2350.00 - 2350.00	Peak	0.211	0.1442	0.0063	0.0034	0.0014	0.0007	0.0006	0.000
2373.00 - 2520.00	Drilled	0.147	0.0826	0.0049	0.0028	0.0017	0.0006	0.0010	0.000
2431.00 - 2431.00	Peak	0.213	0.1381	0.0083	0.0038	0.0024	0.0009	0.0016	0.000
2516.00 - 2516.00	Peak	0.214	0.1336	0.0079	0.0046	0.0024	0.0010	0.0011	0.000

Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2310.29	0.9		2310.03	31.3	0.3	31.3	0.0	MWD
2339.67	0.8		2339.41	31.8	0.3	31.8	0.0	MWD
2398.22	0.8		2397.96	32.6	0.0	32.6	0.0	MWD
2426.57	1.1		2426.30	33.1	1.1	33.1	0.0	MWD
2454.95	1.0		2454.68	33.6	0.4	33.6	0.0	MWD
2484.55	1.1		2484.27	34.1	0.3	34.1	0.0	MWD

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06:00 Hrs Update	
Time:	06:00 Hrs on 22 Oct 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Pulling out of hole at 930mRT.
Formation:	Eastern View Coal Measures
Lithology:	No Drilling
ROP:	No Drilling
Gas:	No Drilling

Wellsite Geologist(s)	
(Days) - Dennis Archer	(Nights) - Brenton Richards

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 22 Oct 2009 | **Geology Report Number : 16** | (associated DDR # 22)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	22 Oct 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	21.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	16.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Completed POOH. Downloaded LWD data. Retrieved wear bushing. Rigged up and commenced running 244 mm (9-5/8") casing.
Forward Plan:	Complete running and cement 244mm (9-5/8") casing.

General Comments

00:00 TO 24:00 Hrs ON 22 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 15 Oct 09. Calibrated CO2 detector, pit sensors. Sperry: 3 MWD engineers, 1 DD on board. Op checking tools for 216 mm (8-1/2") hole section.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	44500mg/l	Low Gravity Solids:		Viscosity	57sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	380mg/l	High Gravity Solids:		PV	14cp
Time:	13:00 hrs	Glycol CP Temp:		MBT:	12	Solids (corrected):		YP	32lb/100ft²
Weight:	9.45ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.2	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.1	Sand:	%	Fann 003	11
ECD Cuttings:		API FL:	3.2cc/30min	pH:	9	Barite:		Fann 006	13
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	31
								Fann 200	36
								Fann 300	46
								Fann 600	60

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2939.0bbl**	**Losses**	**0.0bbl**
Active	293.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1290.0bbl	Dumped	
Slug	25.0bbl	De-Gasser	
Reserve	1271.0bbl	De-Sander	
Kill		De-Silter	
	60.0bbl	Centrifuge	0.0bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	4
Shaker 2	Brandt VSM 300	20 top/50bottom	4
Shaker 3	Brandt VSM 300	20 top/50bottom	4
Shaker 4	Brandt VSM 300	20 top/50bottom	4

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 23 Oct 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Running 9 5/8" casing. Depth at 06:00 hrs 1744m.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 23 Oct 2009 | **Geology Report Number : 17** | (associated DDR # 23)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	23 Oct 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	22.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	17.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Ran 244mm (9-5/8") casing to 2508 mMDRT. Casing stuck at 2505 mMDRT. String parted. POOH with landing string. Prepared to slip and cut drill line.
Forward Plan:	Complete slip and cut, commence fishing operations to retrieve landing string running tool.

General Comments

00:00 TO 24:00 Hrs ON 23 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 23 Oct 09. Sperry: 3 MWD engineers on board. Main and back up tool strings for 216 mm (8-1/2") hole section ready to go. #2 backup op checked.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	44500mg/l	Low Gravity Solids:		Viscosity	57sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	380mg/l	High Gravity Solids:		PV	14cp
Time:	13:00 hrs	Glycol CP Temp:		MBT:	12	Solids (corrected):		YP	32lb/100ft²
Weight:	9.45ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.2	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.1	Sand:	%	Fann 003	11
ECD Cuttings:		API FL:	3.2cc/30min	pH:	9	Barite:		Fann 006	13
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	31
								Fann 200	36
								Fann 300	46
								Fann 600	60

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2939.0bbl**	**Losses**	**0.0bbl**
Active	293.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1290.0bbl	Dumped	
Slug	25.0bbl	De-Gasser	
Reserve	1271.0bbl	De-Sander	
Kill		De-Silter	
	60.0bbl	Centrifuge	0.0bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	4
Shaker 2	Brandt VSM 300	20 top/50bottom	4
Shaker 3	Brandt VSM 300	20 top/50bottom	4
Shaker 4	Brandt VSM 300	20 top/50bottom	4

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 24 Oct 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Fishing Operations.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 24 Oct 2009 | **Geology Report Number : 18** | (associated DDR # 24)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	24 Oct 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	23.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	18.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Slipped and cut drill line. Repaired TDS. Attempted unsuccessfully to retrieve fish. Pressure tested choke and kill manifold.
Forward Plan:	Complete surface equipment pressure testing. Continue fishing operations.

General Comments

00:00 TO 24:00 Hrs ON 24 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 23 Oct 09. Sperry: 3 MWD engineers on board. Main and 2 back up tool strings for 216 mm (8-1/2") hole section ready to go.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	44500mg/l	Low Gravity Solids:		Viscosity	57sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	380mg/l	High Gravity Solids:		PV	14cp
Time:	13:00 hrs	Glycol CP Temp:		MBT:	12	Solids (corrected):		YP	32lb/100ft²
Weight:	9.45ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.2	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.1	Sand:	%	Fann 003	11
ECD Cuttings:		API FL:	3.2cc/30min	pH:	9	Barite:		Fann 006	13
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	31
								Fann 200	36
								Fann 300	46
								Fann 600	60

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2939.0bbl**	**Losses**	**0.0bbl**
Active	293.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1290.0bbl	Dumped	
Slug	25.0bbl	De-Gasser	
Reserve	1271.0bbl	De-Sander	
Kill		De-Silter	
	60.0bbl	Centrifuge	0.0bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50bottom	4
Shaker 2	Brandt VSM 300	20 top/50bottom	4
Shaker 3	Brandt VSM 300	20 top/50bottom	4
Shaker 4	Brandt VSM 300	20 top/50bottom	4

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 25 Oct 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Pressure testing surface equipment.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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Trefoil-2

Date : 25 Oct 2009 | **Geology Report Number : 19** | (associated DDR # 25)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	25 Oct 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	24.13
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	19.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Completed presssure testing of surface equipment. Continued fishing operations with no success. Laid down 311mm (12-1/4") BHA.
Forward Plan:	Continue picking up 127mm (5") tubulars, rig up wireline, prepare to make mechanical back off.

General Comments

00:00 TO 24:00 Hrs ON 25 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 23 Oct 09. Sperry: 3 MWD engineers on board. Main and 2 back up tool strings for 216 mm (8-1/2") hole section ready to go.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	44500mg/l	Low Gravity Solids:		Viscosity	57sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	380mg/l	High Gravity Solids:		PV	14cp
Time:	13:00 hrs	Glycol CP Temp:		MBT:	12	Solids (corrected):		YP	32lb/100ft²
Weight:	9.45ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.2	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.1	Sand:	%	Fann 003	11
ECD Cuttings:		API FL:	3.2cc/30min	pH:	9	Barite:		Fann 006	13
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	31
								Fann 200	36
								Fann 300	46
								Fann 600	60

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	**2939.0bbl**	**Losses**	**0.0bbl**
Active	293.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1290.0bbl	Dumped	
Slug	25.0bbl	De-Gasser	
Reserve	1271.0bbl	De-Sander	
Kill		De-Silter	
	60.0bbl	Centrifuge	0.0bbl

Equip.	Descr.	Mesh Size	Hours

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 26 Oct 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Picking up 5" HWDP.
Formation:	Eastern View Coal Mesaures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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origin

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Trefoil-2

Date : 26 Oct 2009 | **Geology Report Number : 20** | (associated DDR # 26)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	26 Oct 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	25.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	20.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Laid out 311 mm (12-1/4") BHA. Laid out 244 mm (9-5/8") casing landing string. Continued with fishing operations.
Forward Plan:	Continue with fishing operations

General Comments

00:00 TO 24:00 Hrs ON 26 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 23 Oct 09. Sperry: 3 MWD engineers on board. Main and 2 back up tool strings for 216 mm (8-1/2") hole section ready to go.
Operational Comments	WSG x2 demobilised.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	43000mg/l	Low Gravity Solids:		Viscosity	56sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	360mg/l	High Gravity Solids:		PV	13cp
Time:	11:00 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	21lb/100ft²
Weight:	9.45ppg	Glycol:		PM:	0.4	H2O:	93%	Gels 10s	10
ECD TD:		Nitrates:		PF:	0.25	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.3	Sand:	.3 %	Fann 003	9
ECD Cuttings:		API FL:	4.5cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	23
								Fann 200	30
								Fann 300	34
								Fann 600	47

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / James Munford

Available	**2874.0bbl**	**Losses**	**6.4bbl**
Active	663.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1151.0bbl	Dumped	
Slug	25.0bbl	De-Gasser	
Reserve	975.0bbl	De-Sander	
Kill		De-Silter	
	60.0bbl	Centrifuge	0.0bbl
		trip	6.4bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/100bottom	2
Shaker 2	Brandt VSM 300	20 top/100bottom	2
Shaker 3	Brandt VSM 300	20 top/100bottom	2
Shaker 4	Brandt VSM 300	20 top/100bottom	2

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 27 Oct 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Prepare to make up 11 1/4" overshot assembly.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards

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Trefoil-2

Date : 03 Nov 2009 | **Geology Report Number : 21** | (associated DDR # 34)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	03 Nov 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	33.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	28.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Continued fishing program. Prepared to run casing patch.
Forward Plan:	Complete running and setting casing patch, pressure test BOPs, test casing.

General Comments

00:00 TO 24:00 Hrs ON 03 Nov 2009

Operational Comments	WSG x1 remobilised
Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 23 Oct 09, new calibration to be done prior to drill out with 216 mm (8-1/2") string. Sperry: 3 MWD engineers on board. Main and 1st back up tool string for 216 mm (8-1/2") hole section ready to go. CTN for 2nd back up string failed testing, undergoing trouble shooting.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	42500mg/l	Low Gravity Solids:		Viscosity	60sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	400mg/l	High Gravity Solids:		PV	11cp
Time:	11:00 hrs	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	23lb/100ft²
Weight:	9.40ppg	Glycol:		PM:	0.25	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.2	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1	Sand:	.3 %	Fann 003	10
ECD Cuttings:		API FL:	4.5cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	23
								Fann 200	29
								Fann 300	34
								Fann 600	45

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / James Munford

Available	**2775.6bbl**	**Losses**	**5.2bbl**
Active	734.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	891.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	5.2bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	3
Shaker 3	Brandt VSM 300	20 top/50 bottom	3
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 04 Nov 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Making up casing spear & BHA to energize the casing patch.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) -

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Trefoil-2

Date : 04 Nov 2009 | **Geology Report Number : 22** | (associated DDR # 35)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	04 Nov 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	34.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	29.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Successfully installed casing patch. Commenced pressure tested BOPs.
Forward Plan:	Complete pressure test on BOPs, trouble shooting Top Drive System (TDS) problems.

General Comments

00:00 TO 24:00 Hrs ON 04 Nov 2009

Operational Comments	2nd WSG on board
Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 23 Oct 09, new calibration to be done prior to drill out with 216 mm (8-1/2") string. Sperry: 3 MWD engineers on board. Main and 1st back up tool string for 216 mm (8-1/2") hole section ready to go. CTN for 2nd back up string failed testing, undergoing trouble shooting.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	42500mg/l	Low Gravity Solids:		Viscosity	62sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	400mg/l	High Gravity Solids:		PV	12cp
Time:	11:00 hrs	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	21lb/100ft²
Weight:	9.40ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.25	Oil:		Gels 10m	14
ECD Shoe:		Sulphites:		MF:	1.25	Sand:	.3 %	Fann 003	10
ECD Cuttings:		API FL:	4.8cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	22
								Fann 200	28
								Fann 300	33
								Fann 600	45

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / James Munford

Available	**2775.8bbl**	**Losses**	**0.0bbl**
Active	734.2bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	891.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	1
Shaker 2	Brandt VSM 300	20 top/50 bottom	1
Shaker 3	Brandt VSM 300	20 top/50 bottom	1
Shaker 4	Brandt VSM 300	20 top/50 bottom	1

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 05 Nov 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Troubleshooting top Drive problems.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 05 Nov 2009 | **Geology Report Number : 23** | (associated DDR # 36)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	05 Nov 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	35.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	30.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Continued trouble shooting on Top Drive System (TDS).
Forward Plan:	Continue trouble shooting on TDS, prepare 216 mm (8-1/2") Bottom Hole Assembly (BHA), run wear bushing, run RTTS and test casing patch.

General Comments

00:00 TO 24:00 Hrs ON 05 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 5 Nov 09. Sperry: 3 MWD engineers on board. Main and back up tool strings ready to go.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	42500mg/l	Low Gravity Solids:		Viscosity	62sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	380mg/l	High Gravity Solids:		PV	11cp
Time:	11:00 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	21lb/100ft²
Weight:	9.40ppg	Glycol:		PM:	0.5	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.35	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.4	Sand:	.3 %	Fann 003	10
ECD Cuttings:		API FL:	4.2cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	23
								Fann 200	28
								Fann 300	32
								Fann 600	43

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / James Munford

Available	**2776.1bbl**	**Losses**	**0.0bbl**
Active	734.5bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	891.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 06 Nov 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Cont to Troubleshoot top Drive hyd system & Pipe handler & alignment problems. Preparing 8 1/2 BHA.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 06 Nov 2009 | **Geology Report Number : 24** | (associated DDR # 37)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	06 Nov 2009
Depth TVDBRT:	2520.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	36.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	31.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Completed troubleshooting and repairs on Top Drive System (TDS) and pipe handler. Ran wear bushing. Ran RTTS packer. Successfully pressure tested casing patch.
Forward Plan:	POOH with RTTS, RIH with slick 216 mm (8-1/2") drilling assembly, drill out shoe track and 3 m new hole, perform LOT, POOH to change BHA.

General Comments

00:00 TO 24:00 Hrs ON 06 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 5 Nov 09. Sperry: 3 MWD engineers on board. Main and back up tool strings ready to go.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	42500mg/l	Low Gravity Solids:		Viscosity	65sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	380mg/l	High Gravity Solids:		PV	11cp
Time:	11:00 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	26lb/100ft²
Weight:	9.40ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.2	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.7	Sand:	.3 %	Fann 003	10
ECD Cuttings:		API FL:	4.0cc/30min	pH:	9.5	Barite:		Fann 006	12
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	26
								Fann 200	32
								Fann 300	37
								Fann 600	48

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / James Munford / Fergus Spencer

Available	**2776.1bbl**	**Losses**	**0.0bbl**
Active	734.5bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	1150.6bbl	Dumped	
Slug		De-Gasser	
Reserve	891.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	4
Shaker 2	Brandt VSM 300	20 top/50 bottom	4
Shaker 3	Brandt VSM 300	20 top/50 bottom	4
Shaker 4	Brandt VSM 300	20 top/50 bottom	4

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

06:00 Hrs Update

Time:	06:00 Hrs on 07 Nov 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Cont to RIH, Filling every 20 stands. Controlled tripping speed.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 07 Nov 2009 | **Geology Report Number : 25** | (associated DDR # 38)

Well Details

Depth MDBRT:	2523.0m	Rig:	Kan Tan IV	Date:	07 Nov 2009
Depth TVDBRT:	2523.0m	Progress:	3.0m	Report Start:	0000
Depth TVDSS:	2497.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	37.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	32.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Ran in Hole with slick 216 mm (8-1/2") drilling assembly. Washed down from 2402 mMDRT. Drilled out shoe track and 3 m new hole to 2523 mMDRT. Conducted Formation Integrity Test (FIT). Pulled out of hole. Commenced making up LWD BHA.
Forward Plan:	RIH, drill ahead in 216mm(8-1/2") hole section.

General Comments

00:00 TO 24:00 Hrs ON 07 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 5 Nov 09. Sperry: 3 MWD engineers on board. Back up tool string ready to go.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 2.81 m Resistivity (EWR-P4) 5.16 m Directional (PCD) 10.02 m Density (ALD) 14.82 m Porosity (CTN) 18.62 m Sonic (BAT) 23.37 m Caliper (ACAL) 31.20 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	42500mg/l	Low Gravity Solids:		Viscosity	66sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	400mg/l	High Gravity Solids:		PV	11cp
Time:	07:30 hrs	Glycol CP Temp:		MBT:	12	Solids (corrected):		YP	25lb/100ft²
Weight:	9.40ppg	Glycol:		PM:	0.2	H2O:	93%	Gels 10s	9
ECD TD:		Nitrates:		PF:	0.15	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.6	Sand:	.3 %	Fann 003	9
ECD Cuttings:		API FL:	4.0cc/30min	pH:	9	Barite:		Fann 006	10
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	26
								Fann 200	32
								Fann 300	36
								Fann 600	47

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**2306.9bbl**	**Losses**	**0.0bbl**
Active	750.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	695.9bbl	Dumped	
Slug		De-Gasser	
Reserve	861.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	4
Shaker 2	Brandt VSM 300	20 top/50 bottom	4
Shaker 3	Brandt VSM 300	20 top/50 bottom	4
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2520.00 - 2523.00		Min:4 Avg:22 Max:75	Interbedded SILTSTONE and SANDSTONE SILTSTONE (70%): brownish grey, brownish black, olive grey, soft to firm, subblocky, 5% medium grained dispersed quartz grains, trace carbonaceous specks. Contaminated with paint, rust, pipe scale. SANDSTONE (30%): bluish white, very light grey, 60% fine, 40% medium, clear quartz grains, fine fraction occurs as friable poorly calcareous cemented aggregates, subrounded to subangular, poorly sorted, subspherical to subelongate, 10% white clay matrix, poor inferred visual porosity, no hydrocarbon indications.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2520.00 -	Trip	0.066	0.0190	0.0012	0.0007	0.0005	0.0001	0.0006	0.000

06:00 Hrs Update

Time:	06:00 Hrs on 08 Nov 2009
Depth:	2523 mMDRT/2523 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	RIH 8 1/2 BHA on 5" DP.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 08 Nov 2009 | **Geology Report Number : 26** | (associated DDR # 39)

Well Details

Depth MDBRT:	2629.0m	Rig:	Kan Tan IV	Date:	08 Nov 2009
Depth TVDBRT:	2629.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	2603.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	38.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	33.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Ran in hole with 216 mm (8-1/2") LWD drilling assembly. Drilled ahead in 216 mm (8 1/2") hole section.
Forward Plan:	Drill ahead in 216 mm (8 1/2") hole section to core point 1.

General Comments

00:00 TO 24:00 Hrs ON 08 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 5 Nov 09. Data lost from 2523 - 2543 mMDRT due computer malfunction. Sperry: 3 MWD engineers on board. Back up tool string ready to go. ALD failed at 2523 mMDRT. Geolograph failure, no data between 2600 - 2629 mMDRT. Wiped missing section. Apparent total tool failure at 2627 mMDRT.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 2.81 m Resistivity (EWR-P4) 5.16 m Directional (PCD) 10.02 m Density (ALD) 14.82 m Porosity (CTN) 18.62 m Sonic (BAT) 23.37 m Caliper (ACAL) 31.20 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	41000mg/l	Low Gravity Solids:		Viscosity	46sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	375mg/l	High Gravity Solids:		PV	13cp
Time:	21:30	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	26lb/100ft²
Weight:	9.35ppg	Glycol:		PM:	0.1	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.15	Oil:		Gels 10m	15
ECD Shoe:		Sulphites:		MF:	1.95	Sand:	.25 %	Fann 003	11
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	14
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	27
								Fann 200	35
								Fann 300	39
								Fann 600	52

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**2225.7bbl**	**Losses**	**112.0bbl**
Active	715.0bbl	Downhole	
Mixing		Surf+ Equip	64.0bbl
Hole	576.7bbl	Dumped	
Slug		De-Gasser	
Reserve	934.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge Evaporation	48.0bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	8
Shaker 2	Brandt VSM 300	20 top/50 bottom	16
Shaker 3	Brandt VSM 300	20 top/50 bottom	16
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2523.00 - 2543.00		Min:3 Avg:13 Max:74 ROP Comments: Slow ROP at start of section until LWD sensors and stabilisers out of casing.	SILTSTONE, finely interbedded SANDSTONES. SILTSTONE (70-90%): brownish grey, brownish black, olive grey, soft to firm, subblocky, 5% coarse grained dispersed quartz grains, trace carbonaceous specks and thin laminae, trace lithic fragments, trace micromica and mica flakes. SANDSTONE (10-30%): yellowish grey, very light grey, olive grey, 20% very fine, 50% fine, 30% medium grained, trace coarse grained, clear quartz grains, friable to firm, poor to moderate sorting, subangular to subrounded, subspherical to subelongate, 10% siliceous cement, 10% white clay matrix, trace lithic fragments, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon indications.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2543.00 - 2587.00		Min:11 Avg:56 Max:103	SILTSTONE, finely interbedded SANDSTONES, thin bed of DOLOMITE. SILTSTONE (70-95%): predominantly brownish black, traces olive grey and brownish grey, soft to firm, blocky to subblocky, 5% loose very coarse quartz grains, 5% carbonaceous specks and laminae, trace lithic fragments, 5% micromica and laminated mica flakes. SANDSTONE (5-30%): very light grey, olive grey, trace yellowish grey, trace light olive grey, 20% very fine, 50% fine, 30% medium grained, clear quartz grains, friable to firm, poor to moderate sorting, subangular to subrounded, subspherical to subelongate, 10% siliceous cement, 10% white clay matrix, trace lithic fragments, trace carbonaceous material, trace pyrite, poor inferred visual porosity, no hydrocarbon indications. DOLOMITE (0-5%): brownish grey, firm to moderately hard, subblocky with conchoidal fracture in part.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2587.00 - 2629.00		Min:2 Avg:22 Max:52	SILTSTONE interbedded with SANDSTONE. SILTSTONE (40-95%): brownish grey, brownish black, olive black, olive grey, soft to firm to moderately hard, blocky to subblocky to subfissile, trace carbonaceous material, trace lithic fragments, trace coal, trace micromica. SANDSTONE (5-60%): very light grey to light grey to clear to opaque, olive grey, 20% very fine, 50% fine, 30% medium grained, loose to firm, poorly to moderately sorted, subrounded to subangular, subspherical to spherical to subelongate, trace silica cement, trace calcareous cement, trace pyrite cement, trace lithic fragments, trace carbonaceous material, trace coal, trace nodular pyrite, poor to good inferred visual porosity, no hydrocarbon indications.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2523.00 - 2543.00	Other								
Comment - Computer malfunction prevented accurate gas determination.									
2543.00 - 2633.00	Drilled	0.106	0.0640	0.0044	0.0025	0.0019	0.0006	0.0009	0.000
2556.00 -	Peak	0.206	0.1489	0.0101	0.0045	0.0025	0.0007	0.0010	0.000
2615.00 -	Peak	0.414	0.3107	0.0161	0.0080	0.0037	0.0018	0.0017	0.000

Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2524.75	1.0	97.2	2524.47		0.1			
2557.55	1.1		2557.26		0.2			MWD
2588.20	1.3		2587.91		0.2			MWD

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06:00 Hrs Update	
Time:	06:00 Hrs on 09 Nov 2009
Depth:	2633 mMDRT/2633 mTVDRT
Progress Since Midnight (m):	4
Status @ 0600hrs:	POOH
Formation:	Eastern View Coal Measures
Lithology:	Interbedded SILTSTONES and SANDSTONES.
ROP:	Average ROP: 24.8 m/hr (15.2 - 34.4 m/hr)
Gas:	Ave Background gas - 0.1186%, C1: 0.0421%, C2: 0.0026%, C3: 0.0015%, iC4: 0.0020%, nC4: 0.0007, C5: 0.0014, CO2: 0.0000

Wellsite Geologist(s)
(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 09 Nov 2009 | **Geology Report Number : 27** | (associated DDR # 40)

Well Details

Depth MDBRT:	2633.0m	Rig:	Kan Tan IV	Date:	09 Nov 2009
Depth TVDBRT:	2633.0m	Progress:	100.0m	Report Start:	0000
Depth TVDSS:	2607.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	39.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	34.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Drilled ahead in 216 mm (8 1/2") hole section to 2633 mMDRT while troubleshooting. LWD tool failed. Pulled out of hole. Replaced LWD string. RIH.
Forward Plan:	Continue to RIH, drill ahead in 216 mm (8 1/2") hole section.

General Comments

00:00 TO 24:00 Hrs ON 09 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 5 Nov 09. Sperry: 3 MWD engineers on board. Recorded data log quality OK.
Operational Comments	Sperry: Apparent total tool failure at 2627 mMDRT. No pulses from 2629 - 2633 mMDRT. Replaced entire LWD tool string due excessive vibration in previous run. No physical evidence for pulser failure apart from apparent mud gel.
Operational Comments	FEWD sensor distances from bit to 2633 mMDRT: Vibration 0.00 m Gamma (DGR) 2.81 m Resistivity (EWR-P4) 5.16 m Directional (PCD) 10.02 m Density (ALD) 14.82 m Porosity (CTN) 18.62 m Sonic (BAT) 23.37 m Caliper (ACAL) 31.20 m
Operational Comments	FEWD sensor distances from bit from 2633 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	41000mg/l	Low Gravity Solids:		Viscosity	68sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	375mg/l	High Gravity Solids:		PV	11cp
Time:	21:30 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	26lb/100ft²
Weight:	9.40ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	10
ECD TD:		Nitrates:		PF:	0.25	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	1.9	Sand:	.3 %	Fann 003	9
ECD Cuttings:		API FL:	4.7cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	25
								Fann 200	32
								Fann 300	37
								Fann 600	48

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Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / James Munford

Available	2250.0bbl
Active	697.0bbl
Mixing	0.0bbl
Hole	709.0bbl
Slug	
Reserve	844.0bbl
Kill	

Losses	0.0bbl
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	8
Shaker 3	Brandt VSM 300	20 top/50 bottom	8
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2629.00 - 2633.00		Min:15 Avg:25 Max:34	SILTSTONE interbedded with SANDSTONE. SILTSTONE (40-95%): brownish grey, brownish black, olive black, olive grey, soft to firm to moderately hard, blocky to subblocky to subfissile, trace carbonaceous material, trace lithic fragments, trace coal, trace micromica. SANDSTONE (5-60%): very light grey to light grey to clear to opaque, olive grey, 20% very fine, 50% fine, 30% medium grained, loose to firm, poorly to moderately sorted, subrounded to subangular, subspherical to spherical to subelongate, trace silica cement, trace calcareous cement, trace pyrite cement, trace lithic fragments, trace carbonaceous material, trace coal, trace nodular pyrite, poor to good inferred visual porosity, no hydrocarbon indications.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2629.00 - 2633.00	Drilled	0.119	0.0421	0.0026	0.0015	0.0020	0.0007	0.0014	0.000

06:00 Hrs Update

Time:	06:00 Hrs on 10 Nov 2009
Depth:	2633 mMDRT/2633 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	RIH W/ 81/2 Drilling assy #26.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 10 Nov 2009 | **Geology Report Number : 28** | (associated DDR # 41)

Well Details

Depth MDBRT:	2774.0m	Rig:	Kan Tan IV	Date:	10 Nov 2009
Depth TVDBRT:	2774.0m	Progress:	141.0m	Report Start:	0000
Depth TVDSS:	2748.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	40.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	35.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Ran in hole. Drilled ahead in 216 mm (8-1/2") hole section.
Forward Plan:	Drill ahead in 216 mm (8-1/2") hole section.

General Comments

00:00 TO 24:00 Hrs ON 10 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Reserval Gas equipment calibrated 5 Nov 09, standard gas equipment calibrated 10 Nov 09. Sperry: 3 MWD engineers on board.
Operational Comments	FEWD sensor distances from bit from 2633 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	41000mg/l	Low Gravity Solids:		Viscosity	46sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	220mg/l	High Gravity Solids:		PV	10cp
Time:	21:30 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	28lb/100ft²
Weight:	9.40ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	10
ECD TD:		Nitrates:		PF:	0.25	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	2.2	Sand:	.3 %	Fann 003	8
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	10
KCl Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	25
								Fann 200	32
								Fann 300	38
								Fann 600	48

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**2103.0bbl**	**Losses**	**0.0bbl**
Active	685.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	597.0bbl	Dumped	
Slug		De-Gasser	
Reserve	821.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	14
Shaker 3	Brandt VSM 300	20 top/50 bottom	14
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	126.00	GR decrease
2973 Seismic Marker	2841.00	2815.00	2827.50	2801.10	13.90	0.00	GR decr, res incr, porosity decr, density decr

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2633.00	2684.50	Min:2 Avg:12 Max:33	Interbedded SILTSTONE and SANDSTONE, minor thin CLAYSTONES SILTSTONE (10-90%): brownish black, olive black, soft to firm, blocky to subblocky, in part argillaceous, traces carbonaceous material, lithic fragments and micromicas. SANDSTONE (10-80%): clear, opaque, very light grey, loose quartz grains, medium grained, 20% fine, 20% coarse, angular (shattered) to subangular to subrounded, poor to moderately sorted, subspherical to subrounded, trace poor silica cement, traces white and brown mica flakes, fair visual porosity inferred, no hydrocarbon indications. CLAYSTONE (0-10%): olive black, firm, subblocky, trace micromicas, trace carbonaceous specks.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2684.50	2701.50	Min:2 Avg:17 Max:40	Interbedded CALCAREOUS SANDSTONE and CALCILUTITE with minor SANDSTONE, SILTSTONE and CLAYSTONE CALCAREOUS SANDSTONE (10-95%): very light grey, light grey, friable to moderately hard, fine grained, 40% very fine, subangular to subrounded, moderately sorted, subspherical, well calcareous cemented, traces altered lithic fragments, traces carbonaceous material, fair visual porosity, no hydrocarbon indications. CALCILUTITE (50-85%): light gray to medium light gray to medium gray, trace yellowish gray, very soft to firm, subblocky to blocky, grading to claystone in part, trace carbonaceous material. SANDSTONE (0-60%): very light grey, clear and opaque, predominantly loose to friable, quartzose, fine grained, 10% very fine grained, 40% medium, subangular to subrounded, subspherical to subelongate, poor siliceous cement when aggregates, traces pyrite cement, 5% clay matrix, traces brown mica flakes, fair visual porosity inferred, no hydrocarbon indications. SILTSTONE (5-40%): brownish black, olive black, olive grey, soft to firm, subblocky to blocky, grading to claystone in part, traces carbonaceous material, lithic fragments, micromicas. CLAYSTONE (0-35%): medium grey to medium dark grey to olive grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace micromica.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2701.50	2711.00	Min:5 Avg:13 Max:37	Interbedded SANDSTONE and SILTSTONE and CLAYSTONE, with minor DOLOMITE SANDSTONE (20-25%): very light grey, light grey, 40% very fine, 60% fine, friable to moderately hard, moderately to well sorted, subrounded to rounded, subspherical, trace pyrite cement, trace lithic fragments, trace carbonaceous material, trace nodular pyrite, fair inferred visual porosity, no hydrocarbon indications. SILTSTONE (33-40%): brownish black, olive black, olive grey, soft to firm, subblocky to blocky, grading to claystone in part, traces carbonaceous material, lithic fragments, micromicas. CLAYSTONE (0-40%): medium grey to medium dark grey to olive grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace micromica. DOLOMITE (0-2%): Brownish grey to moderate brown to pale brown, soft to firm, subblocky to blocky.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2711.00	2774.00	Min:4 Avg:23 Max:36	CLAYSTONE interbedded with SANDSTONE, SILTSTONE and ARGILLACEOUS SILTSTONE CLAYSTONE (30-95%): medium grey to medium dark grey, olive grey to light olive grey, very soft to soft to firm, amorphous to subblocky to blocky, trace carbonaceous material, trace micromica, trace nodular pyrite. ARGILLACEOUS SILTSTONE (5-50%): brownish black, olive black, olive grey to brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace lithic fragments, trace pyrite. SILTSTONE (5-40%): brownish black, olive black, olive grey, soft to firm, subblocky to blocky, grading to claystone in part, traces carbonaceous material, lithic fragments, micromicas. SANDSTONE (0-30%): white to very light grey to clear and opaque, trace yellowish grey, 10% very fine, 70% fine, 20% medium grains, loose to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, trace silica cement, trace micromica, good inferred visual porosity, no hydrocarboln indications.

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Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2633.00 -	Trip	0.204	0.0428	0.0401	0.0396	0.0375	0.0135	0.0114	0.000
2633.00 - 2774.00	Drilled	0.318	0.1534	0.0200	0.0130	0.0037	0.0021	0.0016	0.000

Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2646.63	1.4	86.4	2646.32		23.4			MWD
2674.00	1.5	91.3	2673.68		23.7			MWD
2702.98	1.6	88.3	2702.65		24.0			MWD
2732.91	1.7	88.5	2732.57		24.3			MWD
2762.56	1.9	89.9	2762.20		24.6			MWD

06:00 Hrs Update

Time:	06:00 Hrs on 11 Nov 2009
Depth:	2858 mMDRT/ 2858 mTVDRT
Progress Since Midnight (m):	84
Status @ 0600hrs:	Drilling ahead new 8 1/2 hole 2881m.
Formation:	Eastern View Coal Measures
Lithology:	CLAYSTONE interbedded with SILTSTONE and SANDSTONE
ROP:	Average ROP: 23.3 m/hr (8.47 - 30.9 m/hr)
Gas:	Average background gas - 0.2676%, C1: 0.0923%, C2: 0.0168%, C3: 0.0139%, iC4: 0.0036%, nC4: 0.0024%, C5: 0.0017%, CO2: 0.0000%. Peak at 2830 mMDRT: TG 2.2761%, C1 1.2091%, C2 0.1739%, C3 0.1596%, iC4 0.0442%, nC4 0.0427%, C5 0.0280%, CO2 0.0000%

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 11 Nov 2009 | **Geology Report Number : 29** | (associated DDR # 42)

Well Details

Depth MDBRT:	2983.0m	Rig:	Kan Tan IV	Date:	11 Nov 2009
Depth TVDBRT:	2983.0m	Progress:	349.0m	Report Start:	0000
Depth TVDSS:	2957.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	41.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	36.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Drilled ahead in 216 mm (8-1/2") hole section to core point at 2983 mMDRT.
Forward Plan:	POOH, pick up core barrel, RIH.

General Comments

00:00 TO 24:00 Hrs ON 11 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Reserval Gas equipment calibrated 5 Nov 09, standard gas equipment calibrated 10 Nov 09. Sperry: 3 MWD engineers on board.
Operational Comments	FEWD sensor distances from bit from 2633 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	40000mg/l	Low Gravity Solids:		Viscosity	46sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	350mg/l	High Gravity Solids:		PV	14cp
Time:	21:30 hrs	Glycol CP Temp:		MBT:	12	Solids (corrected):		YP	29lb/100ft²
Weight:	9.45ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	9
ECD TD:		Nitrates:		PF:	0.25	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	2.2	Sand:	.3 %	Fann 003	9
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	28
								Fann 200	37
								Fann 300	43
								Fann 600	57

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1911.8bbl**	**Losses**	**0.0bbl**
Active	640.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	608.2bbl	Dumped	
Slug		De-Gasser	
Reserve	663.6bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	24
Shaker 3	Brandt VSM 300	20 top/50 bottom	24
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	39.20	GR increase, res increase
TL40 Sand	2971.00	2945.00	2977.00	2950.60	-5.60	0.00	GR decrease

Lithology Summary

Interval MDBRT (m) From To	ROP (m/hr)	Lithology
2774.00 - 2827.50	Min:11 Avg:26 Max:31	CLAYSTONE with minor interbeds of ARGILLACEOUS SILTSTONE and SANDSTONE CLAYSTONE (90-100%): medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, subblocky to blocky, trace carbonaceous material. ARGILLACEOUS SILTSTONE (0-10%): brownish black, olive black, olive grey to brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace lithic fragments. SANDSTONE (0-5%): white to very light grey, clear to opaque, 10% fine, 20% medium, 70% coarse grains, loose to moderately hard, moderately to well sorted, rounded to angular, subspherical to spherical, trace silica cement, fair inferred visual porosity, no hydrocarbon fluorescence.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
2827.50 - 2914.00	Min:5 Avg:24 Max:36	SILTSTONE interbedded with SANDSTONE and CLAYSTONE with thin COAL beds SILTSTONE (5-100%): olive grey, brownish black, soft to firm, subblocky to blocky, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces. CLAYSTONE (0-65%): olive grey, olive black, soft to firm, subblocky to blocky, increase in carbonaceous material. SANDSTONE (0-80%): white to very light grey, 40% very fine, 60% fine, firm, moderately to well sorted, subrounded to subangular, subspherical, trace silica cement, trace carbonaceous material, trace dispersed coal pieces, fair inferred visual porosity, no hydrocarbon fluorescence. COAL (0-10%): brownish black to black, soft to firm, argillaceous and dull to sub-vitreous, bright in part, conchoidal fracture in part, traces amber.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
2914.00 - 2983.00	Min:1 Avg:10 Max:101	SILTSTONE interbedded with thick SANDSTONE and CLAYSTONE, minor COAL beds SILTSTONE (20-90%): olive grey, brownish black to olive black, soft to firm, subblocky to blocky, 5% argillaceous material, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace to 2% brown and clear mica flakes, trace black, bright coal pieces. SANDSTONE (10-90%): white to very light grey, clear and opaque when loose, in part multicoloured, light olive grey, mottled, lithofeldspathic in part, loose to friable quartzose, 5% very fine, 5% fine, 30% medium, 40% coarse, 20% very coarse, trace granular grains, rounded to subangular, poor to moderately sorted, subspherical to spherical, 5% clay matrix, 1% altered feldspars, trace to 2% carbonaceous material, trace to 1% mica flakes, fair to good inferred visual porosity, no hydrocarbon fluorescence. CLAYSTONE (0-65%): brownish grey, olive grey to olive black, soft to firm, blocky to subblocky, trace dark mica flakes trace carbonaceous material. COAL (0-5%): black, greyish black, soft, splintery.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2774.00 - 2827.50	Drilled	0.290	0.1121	0.0189	0.0154	0.0041	0.0030	0.0018	0.000
2827.50 - 2914.00	Drilled	0.370	0.1714	0.0246	0.0171	0.0041	0.0025	0.0018	0.000
2830.00 -	Peak	2.276	1.2091	0.1739	0.1596	0.0442	0.0427	0.0280	0.000
2914.00 - 2983.00	Drilled	0.178	0.0963	0.0091	0.0065	0.0038	0.0026	0.0027	0.000

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Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2791.49	1.8	85.3	2791.12		24.9			MWD
2819.89	1.9	85.2	2819.50		25.2			MWD
2847.72	2.1	83.7	2847.31	24.6	0.2			MWD
2876.19	2.2	81.9	2875.76	25.5	0.2			MWD
2905.64	2.5	85.8	2905.19	26.1	0.3			MWD
2935.67	2.6	82.7	2935.19	26.7	0.2			MWD
2963.22	2.9	85.2	2962.71	27.3	0.4			MWD

06:00 Hrs Update

Time:	06:00 Hrs on 12 Nov 2009
Depth:	2983 mMDRT/ 2983 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Cont to POOH BHA
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 12 Nov 2009 | **Geology Report Number : 30** | (associated DDR # 43)

Well Details

Depth MDBRT:	2988.0m	Rig:	Kan Tan IV	Date:	12 Nov 2009
Depth TVDBRT:	2988.0m	Progress:	5.0m	Report Start:	0000
Depth TVDSS:	2962.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	42.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	37.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Pulled out of hole. Downloaded LWD data. Picked up core barrel. Ran in hole. Commenced cutting Core #1.
Forward Plan:	Complete cutting Core #1, POOH, retrieve core, pick up 216 mm (8-1/2") LWD and drilling assembly, RIH.

General Comments

00:00 TO 24:00 Hrs ON 12 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 12 Nov 09. Reserval gas equipment inoperable from 2983 - 2988 mMDRT due to low mud flow in shaker box. Geolograph inoperable - unable to hook to TDS. ROP from drawworks sensor. Sperry: 3 MWD engineers on board.
Operational Comments	FEWD sensor distances from bit from 2633 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m
Operational Comments	Core Barrel Assembly: Outer barrel: OD x ID 7 1/4" x 5 5/8" Corehead: MCP572, 8 1/2" x 4" Inner tube type: Aluminium, OD x ID 5 x 4 1/2"

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	40000mg/l	Low Gravity Solids:		Viscosity	52sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	350mg/l	High Gravity Solids:		PV	14cp
Time:	21:30 hrs	Glycol CP Temp:		MBT:	12	Solids (corrected):		YP	30lb/100ft²
Weight:	9.45ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	9
ECD TD:		Nitrates:		PF:	0.25	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	1.9	Sand:	.3 %	Fann 003	9
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	28
								Fann 200	37
								Fann 300	43
								Fann 600	57

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1957.0bbl**	**Losses**	**0.0bbl**
Active	666.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	642.0bbl	Dumped	
Slug		De-Gasser	
Reserve	649.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	12
Shaker 3	Brandt VSM 300	20 top/50 bottom	12
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	39.20	GR increase, res increase
TL40 Sand	2971.00	2945.00	2977.00	2950.60	-5.60	0.00	GR decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2983.00 - 2988.00		Min:1 Avg:3 Max:5	From cuttings logged during core run 1: SILTSTONE interbedded with SANDSTONE and CLAYSTONE SILTSTONE (75-90%): medium light grey to medium dark grey, brownish grey to brownish black, olive black, trace light grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace lithic fragments, 1% mica flakes, traces of coal pieces. SANDSTONE (5-15%): white to very light grey, mottled, light grey, clear, opaque, 5% very fine, 5% fine, 10% medium, 40% coarse, 40% very coarse grains, loose to moderately hard, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, trace carbonaceous material, trace micromica, fair inferred visual porosity, no hydrocarbon fluorescence. CLAYSTONE (5-10%): brownish grey to dark yellowish brown, brownish black, olive black, soft to firm, subblocky, trace carbonaceous material, very smooth surfaces.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2983.00 - 2988.00	Drilled	0.074	0.0108	0.0010	0.0000	0.0000	0.0000	0.0000	0.000

Comment - Standard gas trap data only.

Core Run

Core Number	1	Start Depth (MD)	2983.0 (m)	Amount Recovered	
Formation	Eastern View Coal Measures	End Depth (MD)	2913.0 (m)	Sleeve Type	Aluminium
Contractor	CorePro	Core Diameter	102.0 (mm)	Encapsulation Type	Nil
Equipment	5x6 m barrels	Barrel Length	30.0 (m)		
Shipping		Comments			

Core Detail

Core Chip Depth (m)	Description

06:00 Hrs Update

Time:	06:00 Hrs on 13 Nov 2009
Depth:	2988 mMDRT/2988 mTVDRT
Progress Since Midnight (m):	25
Status @ 0600hrs:	Cont to POOH at controlled rate, 3min per stand.
Formation:	Eastern View Coal Measures
Lithology:	Logged during coring: SILSTONE interbedded with SANDSTONE and CLAYSTONE
ROP:	Average ROP: 2.5 m/hr (1.2 - 43 m/hr)
Gas:	From 2988 - 2993.5 mMDRT: Average background gas - 0.3005%, C1: 0.1630%, C2: 0.0072%, C3: 0.0022%, iC4: 0.0009%, nC4: 0.0006%, C5: 0.0007%, CO2: 0.0000%.

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 13 Nov 2009 | **Geology Report Number : 31** | (associated DDR # 44)

Well Details

Depth MDBRT:	3013.0m	Rig:	Kan Tan IV	Date:	13 Nov 2009
Depth TVDBRT:	3013.0m	Progress:	31.2m	Report Start:	0000
Depth TVDSS:	2987.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	43.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	38.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Cut Core #1. Pulled out of hole. Laid out core barrel. Picked up 216mm (8 1/2") LWD drilling assembly. Ran in hole.
Forward Plan:	RIH, drill ahead in 216mm (8 1/2") hole section to core point 2.

General Comments

00:00 TO 24:00 Hrs ON 13 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 12 Nov 09. Sperry: 3 MWD engineers on board.
Operational Comments	FEWD sensor distances from bit from 3013 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m
Operational Comments	Core Barrel Assembly: Outer barrel: OD x ID 7 1/4" x 5 5/8" Corehead: MCP572, 8 1/2" x 4" Inner tube type: Aluminium, OD x ID 5 x 4 1/2"

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	40000mg/l	Low Gravity Solids:		Viscosity	50sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	250mg/l	High Gravity Solids:		PV	12cp
Time:	20:00 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	29lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.25	H2O:	93%	Gels 10s	9
ECD TD:		Nitrates:		PF:	0.2	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	2.2	Sand:	.25 %	Fann 003	9
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	25
								Fann 200	35
								Fann 300	41
								Fann 600	53

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1948.0bbl**	**Losses**	**0.0bbl**
Active	661.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	732.0bbl	Dumped	
Slug		De-Gasser	
Reserve	555.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	24
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	39.20	GR increase, res increase
TL40 Sand	2971.00	2945.00	2977.00	2950.60	-5.60	0.00	GR decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
2988.00 - 3013.00		Min:1 Avg:3 Max:43	From core 1 chips: SANDSTONE interbedded with thin interbeds of CONGLOMERITIC SANDSTONE and SILTSTONE SANDSTONE: white to very light grey, yellowish grey, clear, very fine to very coarse grains, soft to hard, poor to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, 5% calcareous cement, trace to 2% mica flakes, trace to 1% green amber, fair to poor inferred visual porosity, no hydrocarbon fluorescence. SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 5-10% mica flakes. CONGLOMERITIC SANDSTONE: very light grey to light grey, clear, fine to granular, firm to hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace lithic fragments, good inferred visual porosity, no hydrocarbon fluorescence.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2988.00 - 2993.50	Drilled	0.301	0.1630	0.0072	0.0022	0.0009	0.0006	0.0007	0.000

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Core Run					
Core Number	1	Start Depth (MD)	2983.0 (m)	Amount Recovered	31.2
Formation	Eastern View Coal Measures	End Depth (MD)	3013.0 (m)	Sleeve Type	Aluminium
Contractor	CorePro	Core Diameter	102000.0 (mm)	Encapsulation Type	Nil
Equipment	5x6 m barrels	Barrel Length	30.0 (m)		
Shipping		Comments			

Core Detail	
Core Chip Depth (m)	Description
2983.00	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to very coarse grained, loose to moderately hard, poorly sorted, rounded to subangular, subspherical to spherical, common argillaceous cement, trace lithic fragments, common carbonaceous material, common mica flakes, good inferred visual porosity, no hydrocarbon fluorescence.
2984.00	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 7% mica flakes, quartzose bands throughout.
2985.00	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 20% mica flakes.
2986.00	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to fine grained, soft to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, common silica cement, some argillaceous cement, 3% mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
2987.00	SANDSTONE: white to very light grey, yellowish grey, clear, trace light greenish grey, very fine to fine grained, soft to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, common silica cement, some argillaceous cement, 5% mica flakes, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
2988.00	SANDSTONE: white to very light grey, yellowish grey, clear, trace pinkish grey, very fine to fine grained, soft to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, common silica cement, some argillaceous cement, 1% mica flakes, 2% green amber, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
2989.00	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 20% mica flakes.
2990.00	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to medium grained, trace granular quartz grains, firm to hard, moderately sorted, subrounded to angular, subspherical to spherical, 7-10% silica cement, 1% mica flakes, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
2991.00	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to medium grained, trace granular quartz grains, firm to hard, moderately sorted, subrounded to angular, subspherical to spherical, 5-10% calcareous cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
2992.00	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to very coarse grained, firm to hard, poorly sorted, subrounded to angular, subspherical to spherical, 7-10% silica cement, 1% mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
2993.00	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 15-25% mica flakes.
2994.00	SILTSTONE: medium grey to medium dark grey, dark grey, moderately hard to hard, blocky to subfissile, 5-10% mica flakes.
2995.00	CONGLOMERITIC SANDSTONE: very light grey to light grey, clear, fine to granular, firm to hard, poorly sorted, subrounded to angular, subspherical to spherical, 5-10% silica cement, trace lithic fragments, good inferred visual porosity, no hydrocarbon fluorescence.
2996.00	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 10% silica cement, trace mica flakes, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
2997.00	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, trace very coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 15% calcareous cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
2998.00	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, trace very coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 15% calcareous cement, trace mica flakes, trace coal, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.
2999.00	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, trace very coarse grains, firm to moderately hard, poorly to moderately sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
3000.00	CONGLOMERITIC SANDSTONE: very light grey to light grey, clear, fine to granular, firm to hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace lithic fragments, good inferred visual porosity, no hydrocarbon fluorescence.
3001.00	SANDSTONE: white to very light grey, yellowish grey, clear, fine to coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
3002.00	SANDSTONE: white to very light grey, yellowish grey, clear, fine to coarse grains, trace granular grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred visual porosity, no hydrocarbon fluorescence.
3003.00	SANDSTONE: white to very light grey, yellowish grey, clear, fine to very coarse grains, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, trace green amber, fair inferred visual porosity, no hydrocarbon fluorescence.

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Core Run	
3004.00	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to medium grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, 2% mica flakes, trace coal, poor inferred visual porosity, no hydrocarbon fluorescence.
3005.00	SANDSTONE: white to very light grey, yellowish grey, clear, very fine to medium grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, trace mica flakes, 1% green amber, poor inferred visual porosity, no hydrocarbon fluorescence.
3006.00	SANDSTONE: white to very light grey, yellowish grey, pinkish grey, clear, very fine to medium grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, trace mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence.
3007.00	SANDSTONE: white to very light grey, medium light grey to yellowish grey, clear, very fine to fine grained, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 15% silica cement, trace coal, 1% mica flakes, poor inferred porosity, no hydrocarbon fluorescence.
3008.00	SANDSTONE: white to very light grey, medium light grey to yellowish grey, clear, fine to granular grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica flakes, fair inferred porosity, no hydrocarbon fluorescence.
3009.00	CONGLOMERITIC SANDSTONE: very light grey to light grey, clear, fine to granular, firm to hard, very poorly sorted, subrounded to angular, subspherical to spherical, 15% silica cement, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence.
3010.00	SANDSTONE: white to very light grey, yellowish grey, clear, fine to medium grained, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 10% silica cement, 1% mica flakes, good inferred porosity, no hydrocarbon fluorescence.
3011.00	SANDSTONE: white to very light grey, yellowish grey to light greenish grey, clear, fine to medium grained, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 5% silica cement, 1% mica flakes, 1% green amber, good inferred porosity, no hydrocarbon fluorescence.
3012.00	SANDSTONE: white to very light grey, yellowish grey to light greenish grey, clear, fine to very coarse grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 5% silica cement, trace mica, fair inferred porosity, no hydrocarbon fluorescence.
3013.00	SANDSTONE: white to very light grey, yellowish grey to light greenish grey, clear, fine to very coarse grained, firm to moderately hard, poorly sorted, subrounded to angular, subspherical to spherical, 10% silica cement, trace mica, fair inferred porosity, no hydrocarbon fluorescence.

06:00 Hrs Update	
Time:	06:00 Hrs on 14 Nov 2009
Depth:	3013 mMDRT/3013 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Reaming & Relogging with MWD F 2960m - 3013m.
Formation:	Eastern View Coal Measures
Lithology:	From core 1 chips: SANDSTONE with occasional thin SILTSTONE interbeds
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)
(Days) - Dennis Archer (Nights) - Larissa Hansen

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 14 Nov 2009 | **Geology Report Number : 32** | (associated DDR # 45)

Well Details

Depth MDBRT:	3139.0m	Rig:	Kan Tan IV	Date:	14 Nov 2009
Depth TVDBRT:	3139.0m	Progress:	132.0m	Report Start:	0000
Depth TVDSS:	3113.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	44.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	39.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Ran in hole. LWD wiped from 2960 mMDRT over cored interval. Drilled ahead in 216 mm (8-1/2") hole section to core point 2.
Forward Plan:	POOH, pick up core barrel, RIH, commence cutting core #2.

General Comments

00:00 TO 24:00 Hrs ON 14 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 12 Nov 09. Sperry: 3 MWD engineers on board.
Operational Comments	FEWD sensor distances from bit from 3013 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	40000mg/l	Low Gravity Solids:		Viscosity	50sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	400mg/l	High Gravity Solids:		PV	14cp
Time:	22:00 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	30lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	9
ECD TD:		Nitrates:		PF:	0.15	Oil:		Gels 10m	13
ECD Shoe:		Sulphites:		MF:	2.2	Sand:	.25 %	Fann 003	9
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	11
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	28
								Fann 200	37
								Fann 300	44
								Fann 600	58

Shakers, Volumes and Losses Data

Engineer : Jay Wan / Fergus Spencer

Available	**1743.0bbl**	**Losses**	**0.0bbl**
Active	640.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	669.0bbl	Dumped	
Slug		De-Gasser	
Reserve	434.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	18
Shaker 2	Brandt VSM 300	20 top/50 bottom	18
Shaker 3	Brandt VSM 300	20 top/50 bottom	24
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.00	-5.00	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.40	-11.40	0.00	GR decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
3013.00	3068.00	Min:4 Avg:34 Max:45	Interbedded SILTSTONE and SANDSTONE, minor thin CLAYSTONES SILTSTONE (5-95%): olive black, olive grey, soft to firm, subblocky to subfissile, trace mica flakes, trace lithic fragments, trace carbonaceous material. SANDSTONE (5-75%): very light grey, greyish black, when loose, clear and opaque, quartzose, 20% very fine to 60% fine grained aggregates, 20% coarse grained loose, soft to friable aggregates, angular and shattered in loose fraction, subangular to subrounded, overall poorly sorted, subspherical to subelongate, aggregates have 10% white clay matrix, 10% silt and weak siliceous cement with trace mica flakes and carbonaceous specks, loose fraction has white clay matrix adhering to grains, overall fair visual porosity, no hydrocarbon fluorescence. CLAYSTONE (0-30%): olive black, firm, subblocky, traces mica flakes and micromicas.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
3068.00	3145.00	Min:3 Avg:19 Max:31	Interbedded SANDSTONE, ARGILLACEOUS SANDSTONE and SILTSTONE, minor thin CLAYSTONES beds SANDSTONE (10-90%): very light grey, greyish black, when loose, clear and opaque, medium dark grey to brownish grey, trace greyish orange pink, quartzose, 20% very fine, 60% fine grained aggregates, 20% coarse grained loose, some white (kaolinitic) clay matrix, soft to friable aggregates grading to firm disaggregated grains, overall poorly to moderately sorted, angular and shattered in loose fraction, subangular to rounded to subrounded, subspherical to subelongate, aggregates have 10% white clay matrix, 10% silt and weak siliceous cement with trace mica flakes and carbonaceous specks, trace calcareous cement, loose fraction has white clay matrix adhering to grains, trace nodular pyrite, trace lithic fragments, trace coal, fair to good inferred visual porosity, no hydrocarbon fluorescence, grading to ARGILLACEOUS SANDSTONE in part. ARGILLACEOUS SANDSTONE (5-70%): white to very light grey, clear, yellowish grey, trace light greenish grey, medium dark grey to brownish grey, 40% very fine, 30% fine, 15% medium, 10% coarse, 5% very coarse, 20% clay, soft to moderately hard, poorly sorted, subrounded to rounded to angular, subspherical to spherical to subelongate, trace carbonaceous material, trace lithic fragments, trace micromica, poor inferred visual porosity, no hydrocarbon fluorescence. SILTSTONE (10-75%): olive black, olive grey, light grey to medium light grey, medium dark grey, brownish grey, soft to firm, subblocky to blocky to subfissile, common carbonaceous laminae, trace mica flakes, trace micromica, trace lithic fragments, trace carbonaceous material, grading to ARGILLACEOUS SILTSTONE in part. CLAYSTONE (10-80%): light brownish grey to brownish grey, medium grey to olive grey, soft to firm, subblocky to blocky, trace micromicas, trace carbonaceous material as fine laminae.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
3013.00 - 3068.00	Drilled	0.219	0.0906	0.0065	0.0029	0.0012	0.0007	0.0012	0.000
3013.00 -	Trip	0.422	0.3512	0.1730	0.0058	0.0015	0.0011	0.0009	0.000
3053.00 -	Peak	0.367	0.1780	0.0089	0.0034	0.0014	0.0008	0.0007	0.000
3068.00 - 3145.00	Drilled	0.388	0.1836	0.0105	0.0048	0.0021	0.0012	0.0011	0.000
3077.00 -	Peak	0.781	0.4182	0.0214	0.0095	0.0031	0.0017	0.0012	0.000
3133.00 -	Peak	1.091	0.5154	0.0362	0.0161	0.0079	0.0047	0.0041	0.000

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Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2992.32	2.9	83.6	2991.77	27.4	0.1			MWD
3021.53	3.0	83.2	3020.94	28.4	0.1			MWD
3051.62	3.1	82.2	3050.99	29.5	0.1			MWD
3080.66	3.2	81.3	3079.99	30.5	0.2			MWD
3101.98	3.5	82.5	3101.27	31.3	0.4			MWD
3130.21	3.8	81.6	3129.44	32.4	0.3			MWD

06:00 Hrs Update

Time:	06:00 Hrs on 15 Nov 2009
Depth:	3145 mMDRT/3144.2 mTVDRT
Progress Since Midnight (m):	6
Status @ 0600hrs:	Cont/ to POOH.
Formation:	Eastern View Coal Measures
Lithology:	Interbedded SANDSTONE, ARGILLACEOUS SANDSTONE and SILTSTONE, minor thin CLAYSTONE beds
ROP:	Average ROP: 8.4 m/hr (1.5 - 18.5 m/hr)
Gas:	Average background gas - 0.3071%, C1: 0.1622%, C2: 0.0096%, C3: 0.0037%, iC4: 0.0022%, nC4: 0.0013%, C5: 0.0013%, CO2: 0.0000%.

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 15 Nov 2009 | **Geology Report Number : 33** | (associated DDR # 46)

Well Details

Depth MDBRT:	3153.0m	Rig:	Kan Tan IV	Date:	15 Nov 2009
Depth TVDBRT:	3153.0m	Progress:	132.0m	Report Start:	0000
Depth TVDSS:	3127.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	45.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	40.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Drilled ahead in 216 mm (8-1/2") hole section to core point #2 at 3145 mMDRT. Pulled out of hole. Downloaded LWD tools. Picked up core barrel. Ran in hole. Commenced cutting core # 2.
Forward Plan:	Complete cutting Core #2, POOH, retrieve core, pick up 216 mm (8-1/2") LWD and drilling assembly, RIH.

General Comments

00:00 TO 24:00 Hrs ON 15 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 12 Nov 09. Sperry: 3 MWD engineers on board.
Operational Comments	FEWD sensor distances from bit from 3013 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m
Operational Comments	Core Barrel Assembly: Outer barrel: OD x ID 7 1/4" x 5 5/8" Corehead: MCP572, 8 1/2" x 4" Inner tube type: Aluminium, OD x ID 5 x 4 1/2"

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	40000mg/l	Low Gravity Solids:		Viscosity	64sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	375mg/l	High Gravity Solids:		PV	14cp
Time:	22:00 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	27lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.2	H2O:	93%	Gels 10s	9
ECD TD:		Nitrates:		PF:	0.2	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	2	Sand:	.25 %	Fann 003	8
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	10
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	27
								Fann 200	35
								Fann 300	41
								Fann 600	55

Shakers, Volumes and Losses Data

Engineer : Jay Wan / Fergus Spencer

Available	**1706.0bbl**	**Losses**	**0.0bbl**
Active	650.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	689.0bbl	Dumped	
Slug		De-Gasser	
Reserve	367.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	12
Shaker 2	Brandt VSM 300	20 top/50 bottom	12
Shaker 3	Brandt VSM 300	20 top/50 bottom	24
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low AI Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	0.00	GR decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
3145.00 - 3153.00		Min:3 Avg:14 Max:29	From cuttings during core run 2: Interbedded SANDSTONE, ARGILLACEOUS SANDSTONE and SILTSTONE, with thin beds of CLAYSTONE SANDSTONE (15-60%): white to very light grey, medium dark grey, trace brownish grey, trace greenish grey, trace yellowish grey, clear, 20% very fine, 30% fine, 40% medium, 10% coarse grains, 10% clay, disaggregated clear quartz grains, soft to moderately hard, poorly to moderately sorted, subrounded to subangular, subspherical to spherical, trace carbonaceous material in part as laminae, trace coal pieces, trace lithic fragments, fair inferred visual porosity, no hydrocarbon fluorescence. ARGILLACEOUS SANDSTONE (15-70%): white to very light grey, medium dark grey to brownish grey, 50% very fine, 30% fine, 20% medium, 25% clay, trace disaggregated clear quartz grains, soft to firm, moderately sorted, subrounded to rounded, subspherical to spherical, trace carbonaceous material, trace coal pieces, trace lithic fragments, trace mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence. SILTSTONE (20-60%): light grey to medium light grey, medium dark grey to brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material. CLAYSTONE (0-10%): light brownish grey brownish grey, medium grey to olive grey, soft, subblocky to blocky, trace carbonaceous material.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
3145.00 -	Trip	1.991	1.1022	0.0672	0.0170	0.0035	0.0028	0.0015	0.000
3145.00 - 3153.00	Drilled	1.633	0.9221	0.0590	0.0149	0.0032	0.0026	0.0017	0.000
3150.00 -	Peak	2.746	1.5692	0.0941	0.0223	0.0045	0.0038	0.0023	0.000
3151.00 -	Peak	2.699	1.5272	0.0892	0.0213	0.0044	0.0037	0.0022	0.000

Core Run

Core Number	2	Start Depth (MD)	3145.0 (m)	Amount Recovered	
Formation	Eastern View Coal Measures	End Depth (MD)	3175.0 (m)	Sleeve Type	Aluminium
Contractor	CorePro	Core Diameter	102.0 (mm)	Encapsulation Type	Nil
Equipment	5x6 m barrels	Barrel Length	30.0 (m)		
Shipping		Comments			

Core Detail

Core Chip Depth (m)	Description

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06:00 Hrs Update	
Time:	06:00 Hrs on 16 Nov 2009
Depth:	3175 mMDRT/3174.2 mTVDRT
Progress Since Midnight (m):	22
Status @ 0600hrs:	POOH with core barrel at controled rate..
Formation:	Eastern View Coal Measures
Lithology:	Logged while coring: Interbedded SANDSTONE, ARGILLACEOUS SANDSTONE and SILTSTONE, with thin beds of CLAYSTONE
ROP:	Average ROP: 10.5 m/hr (3.7 - 27.2 m/hr)
Gas:	From 3153 - 3161 mMDRT: Average background gas - 1.6716%, C1: 1.0322%, C2: 0.0580%, C3: 0.0133%, iC4: 0.0029%, nC4: 0.0023%, C5: 0.0009%, CO2: 0.0000%.

Wellsite Geologist(s)
(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 16 Nov 2009 | **Geology Report Number : 34** | (associated DDR # 47)

Well Details

Depth MDBRT:	3175.0m	Rig:	Kan Tan IV	Date:	16 Nov 2009
Depth TVDBRT:	3175.0m	Progress:	30.0m	Report Start:	0000
Depth TVDSS:	3149.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	46.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	41.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Cut Core #2. Pulled out of hole. Laid out core #2. Commenced picking up 216 mm (8 1/2") LWD BHA.
Forward Plan:	RIH with 216 mm (8 1/2") LWD BHA, drill ahead to TD.

General Comments

00:00 TO 24:00 Hrs ON 16 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 12 Nov 09. Sperry: 3 MWD engineers on board. Schlumberger Wireline: 2 engineers, 4 operators, 1 technician on board.
Operational Comments	FEWD sensor distances from bit from 3175 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m
Operational Comments	Core Barrel Assembly: Outer barrel: OD x ID 7 1/4" x 5 5/8" Corehead: MCP572, 8 1/2" x 4" Inner tube type: Aluminium, OD x ID 5 x 4 1/2"

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	38000mg/l	Low Gravity Solids:		Viscosity	58sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	375mg/l	High Gravity Solids:		PV	29cp
Time:	20:00 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	29lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	7
ECD TD:		Nitrates:		PF:	0.25	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	2	Sand:	.25 %	Fann 003	8
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	9
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	25
								Fann 200	32
								Fann 300	41
								Fann 600	53

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1674.0bbl**	**Losses**	**0.0bbl**
Active	590.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	823.0bbl	Dumped	
Slug		De-Gasser	
Reserve	261.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	12
Shaker 2	Brandt VSM 300	20 top/50 bottom	12
Shaker 3	Brandt VSM 300	20 top/50 bottom	12
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	0.00	GR decrease

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
3153.00	3160.00	Min:5 Avg:9 Max:14	Logged from cuttings while coring: Interbedded ARGILLACEOUS SANDSTONE and SILTSTONE, with thin beds of CLAYSTONE ARGILLACEOUS SANDSTONE (40-60%): white to very light grey, medium dark grey to brownish grey, 50% very fine, 30% fine, 20% medium, 25% clay, trace disaggregated clear quartz grains, soft to firm, moderately sorted, subrounded to rounded, subspherical to spherical, trace carbonaceous material, trace coal pieces, trace lithic fragments, trace mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence. SILTSTONE (30-60%): light grey to medium light grey, medium dark grey to brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material. CLAYSTONE (0-10%): light brownish grey brownish grey, medium grey to olive grey, soft, subblocky to blocky, trace carbonaceous material.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
3153.00 - 3161.00	Drilled	1.672	1.0322	0.0580	0.0133	0.0029	0.0023	0.0009	0.000

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Core Run					
Core Number	2	Start Depth (MD)	3145.0 (m)	Amount Recovered	29.3
Formation	Eastern View Coal Measures	End Depth (MD)	3175.0 (m)	Sleeve Type	Aluminium
Contractor	CorePro	Core Diameter	102.0 (mm)	Encapsulation Type	Nil
Equipment	5x6 m barrels	Barrel Length	30.0 (m)		
Shipping		Comments	Full core description to follow when core cut.		

Core Detail	
Core Chip Depth (m)	Description
3149.28	Top of Barrel 2 SANDSTONE: white to very light grey, yellowish grey, 10% very fine, 90% fine grains, soft to firm, subrounded to subangular, subspherical to spherical, common silica cement, trace greenish grey to dark greenish grey amber, trace mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence.
3155.37	Top of Barrel 3 SANDSTONE: white to very light grey, light grey, trace yellowish grey, trace light greenish grey to greenish grey, very fine to coarse grains, firm to hard, subrounded to subangular, subspherical to spherical, common silica cement, trace coal pieces, trace dark greenish grey amber, trace mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence.
3161.45	Top of Barrel 4 SANDSTONE: white to very light grey, yellowish grey, 10% very fine, 90% fine grains, soft to moderately hard, subrounded to rounded, subspherical to spherical, common silica cement, trace greenish grey to dark greenish grey amber, common mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence.
3167.55	Top of Barrel 5 SANDSTONE: white to very light grey, yellowish grey, 10% very fine, 70% fine, 20% medium grains, soft to firm, subrounded to rounded, subspherical to spherical, common silica cement, trace greenish grey to dark greenish grey amber, common mica flakes, poor inferred visual porosity, no hydrocarbon fluorescence.

06:00 Hrs Update	
Time:	06:00 Hrs on 17 Nov 2009
Depth:	3175 mMDRT/3174.2 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Troubleshoot & attempt to repair D/Works gearing problem.
Formation:	Eastern View Coal Measures
Lithology:	From core chips: SANDSTONE minor interbedded SILTSTONE and CLAYSTONE
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)
(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 17 Nov 2009 | **Geology Report Number : 35** | (associated DDR # 48)

Well Details

Depth MDBRT:	3208.0m	Rig:	Kan Tan IV	Date:	17 Nov 2009
Depth TVDBRT:	3208.0m	Progress:	33.0m	Report Start:	0000
Depth TVDSS:	3182.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	47.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	42.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Ran in hole with 216 mm (8 1/2") LWD BHA. Troubleshot drawworks problems. Ran in hole to 2937 mMDRT. Washed down from 2937-3120 mMDRT. Wipe logged LWD tools from 3120-3175 mMDRT. Drilled ahead in 216 mm (8 1/2") hole section.
Forward Plan:	Continue drilling ahead in 216 mm (8 1/2") hole section to TD, POOH, run wiper trip to 245mm (9 5/8") casing shoe, POOH, rig up and run wireline logs.

General Comments

00:00 TO 24:00 Hrs ON 17 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 12 Nov 09. Sperry: 3 MWD engineers on board. Schlumberger Wireline: 2 engineers, 4 operators, 1 technician on board. Main tool strings for PEX-CMR, FMI-DSI and MDT/XPT runs checked OK.
Operational Comments	FEWD sensor distances from bit from 3175 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	38000mg/l	Low Gravity Solids:		Viscosity	56sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	400mg/l	High Gravity Solids:		PV	14cp
Time:	22:00 hrs	Glycol CP Temp:		MBT:	11	Solids (corrected):		YP	29lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	8
ECD TD:		Nitrates:		PF:	0.25	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	2.1	Sand:	.25 %	Fann 003	9
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	10
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	28
								Fann 200	37
								Fann 300	43
								Fann 600	57

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1601.0bbl**
Active	680.0bbl
Mixing	0.0bbl
Hole	683.0bbl
Slug	
Reserve	238.0bbl
Kill	

Losses	**0.0bbl**
Downhole	
Surf+ Equip	0.0bbl
Dumped	
De-Gasser	
De-Sander	
De-Silter	
Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	16
Shaker 2	Brandt VSM 300	20 top/50 bottom	16
Shaker 3	Brandt VSM 300	20 top/50 bottom	24
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	19.30	GR decrease
TF80 Sand	3142.00	3116.00	3149.80	3123.00	-7.00	30.20	GR decrease
Total Depth (TD)	3221.00	3195.00	3235.00	3208.00	-13.00	0.00	

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
3175.00	3180.00	Min:4 Avg:12 Max:26	Interbedded SANDSTONE and SILTSTONE, with minor thin CLAYSTONE beds SANDSTONE (15-95%): white to very light grey, clear, light grey, trace yellowish grey, trace pinkish grey, very disaggregated, 5% very fine, 60% coarse, 30% very coarse, 5% granular grains, firm to moderately hard, moderately sorted, subrounded to angular, subspherical to spherical, trace mica flakes, trace carbonaceous material, trace coal, good inferred visual porosity, no hydrocarbon fluorescence, traces of ARGILLACEOUS SANDSTONE. SILTSTONE (0-80%): medium grey to dark grey, olive black, soft to firm, subblocky to subfissile, trace micromica, trace carbonaceous material. CLAYSTONE (0-5%): light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, subblocky to blocky, trace carbonaceous material.
Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
3180.00	3208.00	Min:2 Avg:18 Max:30	SILTSTONE interbedded with SANDSTONE, with minor thin CLAYSTONE beds SILTSTONE (60-80%): medium light grey to medium grey, dark grey to olive black, soft to firm, subblocky to subfissile, trace micromica, trace carbonaceous material. SANDSTONE (15-40%): white to very light grey, light grey, clear, 10% very fine, 60% fine, 20% medium, 10% coarse, disaggregated quartz grains and very fine argillaceous aggregates, soft to moderately hard, poorly to moderately sorted, subrounded to rounded, subspherical to spherical, trace carbonaceous material, trace coal, fair to good inferred visual porosity, no hydrocarbon fluorescence, grading to ARGILLACEOUS SANDSTONE in part. CLAYSTONE (0-5%): light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, subblocky to blocky, trace carbonaceous material.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
3175.00 -	Trip	0.963	0.5436	0.0204	0.0102	0.0024	0.0019	0.0012	0.000
3175.00 - 3180.00	Drilled	0.178	0.1081	0.0041	0.0013	0.0008	0.0006	0.0007	0.000
3180.00 - 3208.00	Drilled	0.393	0.2647	0.0179	0.0067	0.0021	0.0015	0.0013	0.000

Hydrocarbon Shows

From (m)	To (m)	Formation	Lithology	Percentage	White Light			UV Light			Rating
					Stain	Cut	Residue	Fluor.	Cut Fluor.	Residue	
3146.00	3174.25	Eastern View Coal Measures	Sandstone	100				Dull yellow	Predominently slow diffuse yellow white	Predominently dull yellow film	Poor
Shows Description:			Based on core chips: Overall dull yellow fluorescence, slow diffuse to crush cut yellow white fluorescence, thin yellow white ring to film residue.								

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Hydrocarbon Shows

From (m)	To (m)	Formation	Lithology	Percentage	White Light			UV Light			Rating
					Stain	Cut	Residue	Fluor.	Cut Fluor.	Residue	
3155.00		Eastern View Coal Measures	Sandstone	100				Yellow green fluorescence	Slow blooming to streaming blue white cut	Blue yellow bright film residue	Poor to fair
Shows Description:			Core chip sample: Overall yellow green fluorescence, slow blooming to streaming blue white cut, blue yellow bright film residue.								

Survey

MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
3167.65	3.8	84.1	3166.80	34.0	0.1			MWD
3194.79	3.9	83.3	3193.88	35.4	0.1			MWD
3223.60	4.3	83.4	3222.62	36.9	0.5			MWD
3235.00	4.3	83.4	3233.99	37.6	0.0			MWD

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Core Run					
Core Number	2	Start Depth (MD)	3145.0 (m)	Amount Recovered	29.3
Formation	Eastern View Coal Measures	End Depth (MD)	3175.0 (m)	Sleeve Type	Aluminium
Contractor	CorePro	Core Diameter	102.0 (mm)	Encapsulation Type	Nil
Equipment	5x6m barrels	Barrel Length	30.0 (m)		
Shipping	Core 1 and 2 packed in 4 shocktagged transport boxes. ETD rig Friday the 20 Nov 09.	Comments			

Core Detail

Core Chip Depth (m)	Description
3145.00	SANDSTONE: light grey, mottled, quartzose, fine grained, firm to moderately hard, subangular to subrounded, moderately well sorted, subspherical, traces carbonaceous material, mica flakes, 5% white clay matrix, moderate siliceous cement, fair visual porosity, no hydrocarbon fluorescence.
3146.00	SANDSTONE: white to light grey, trace yellowish grey grains, quartzose, moderately hard, fine to coarse grained, angular to subrounded, poorly sorted, subspherical, 5% white clay matrix, moderately well siliceous cemented, fair visual porosity, dull yellow overall fluorescence, very slow diffuse pale green cut, pale yellow white film residue.
3147.00	SANDSTONE: medium light grey, quartzose, very fine to coarse grained, hard, subangular to subrounded, moderately to poorly sorted, subspherical, 10% grey clay matrix, well siliceous cemented, 10% muscovitic and biotitic mica flakes, trace carbonaceous material, poor visual porosity, no hydrocarbon fluorescence.
3148.00	MICACEOUS SILTSTONE: medium dark grey, hard, massive, 40% muscovitic and biotitic mica flakes.
3149.00	SANDSTONE: white, quartzose, friable, very fine to coarse grained, poorly sorted, subspherical, 5% white clay matrix, trace black to dark grey lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
3150.00	SANDSTONE: white, trace yellowish grey grains, quartzose, friable to firm, fine to medium grained, subangular to subrounded, poorly sorted, subspherical, traces biotitic mica flakes, traces carbonaceous material, fair visual porosity, no hydrocarbon fluorescence.
3151.00	CONGLOMERATIC SANDSTONE: light grey, quartzose, fine to very coarse grained, hard to moderately hard, angular to subrounded, very poorly sorted, subspherical to subelongate, 20% white clay matrix, moderate siliceous cement, 2% black, bright, coal caol fragments, fair visual porosity, no hydrocarbon fluorescence.
3152.00	SANDSTONE: white, quartzose, friable, very fine to coarse grained, poorly sorted, subspherical, 5% white clay matrix, trace black to dark grey lithic fragments, poor visual porosity, no hydrocarbon fluorescence.
3153.00	SANDSTONE: white, quartzose, firm to hard, fine to coarse grained, subangular to subrounded, poorly sorted, subspherical, traces biotitic and muscovitic mica flakes, traces medium grey lithic fragments, fair visual porosity, no hydrocarbon fluorescence.
3154.00	SANDSTONE: white, quartzose, firm to hard, fine to coarse grained, subangular to subrounded, poorly sorted, subspherical, traces biotitic mica flakes, traces medium grey lithic fragments, traces carbonaceous material, 15% white clay matrix, fair visual porosity, no hydrocarbon fluorescence.
3155.00	SANDSTONE: very light grey, trace yellowish grey grains, trace medium grey grains, quartzose, hard to moderately hard, fine to very coarse grained, rounded very coarse grains to sub angular to subrounded, poorly sorted, spherical to subspherical to subelongate, trace amber, trace carbonaceous material, trace biotitic mica flakes, fair visual porosity, overall yellow green fluorescence, slow blooming to streaming blue white cut, blue yellow bright film residue.
3156.00	SANDSTONE: very light grey, quartzose, fine to very coarse grained, firm to moderately hard, angular to subrounded, poor to moderately sorted, subspherical, trace red brown lithic fragments, trace black, bright coal fragments, poor visual porosity, dull yellow overall fluorescence, very slow diffuse pale green cut, pale yellow white film residue.
3157.00	SANDSTONE: white to very light grey, moderately hard, fine to very coarse grained, subangular to subrounded, poor visual porosity, subspherical, 2% muscovitic mica flakes, in part as books, trace biotitic mica flakes, moderate siliceous cement, 5% white clay matrix, poor visual porosity, dull yellow overall fluorescence, very slow diffuse pale green cut, pale yellow white film residue.
3158.00	SANDSTONE: white, quartzose, fine to very coarse grained, firm, subangular to subrounded, poorly sorted, subspherical, 15% white clay matrix, poor siliceous cement, trace amber, poor visual porosity, dull yellow overall fluorescence, very slow diffuse pale green cut, pale yellow white film residue.
3159.00	SANDSTONE: very light grey, trace yellowish grey grains, quartzose, moderately hard, fine to coarse grained, subangular to subrounded, moderately sorted, trace carbonaceous material, trace mica flakes, trace grey lithic fragments, trace amber, moderate siliceous cement, fair visual porosity, dull yellow overall fluorescence, very slow diffuse dull yellow cut, no residue.
3160.00	SANDSTONE: white, quartzose, fine to very coarse grained, firm, subangular to subrounded, poorly sorted, subspherical, 15% white clay matrix, poor siliceous cement, trace amber, poor visual porosity, dull yellow overall fluorescence, very slow diffuse dull yellow cut, no residue.
3161.00	SANDSTONE: white, quartzose, hard, fine to medium grained, subangular to subrounded, poorly sorted, subspherical, traces biotitic mica flakes, traces carbonaceous material, 10% white clay matrix, well siliceous cemented, fair visual porosity, no hydrocarbon fluorescence.
3162.00	SANDSTONE: white to medium light grey, quartzose, hard, fine grained, subangular to subrounded, well sorted, subspherical, 10% white clay matrix, well siliceous cemented, trace carbonaceous material, 3% mica flakes, poor visual porosity, dull yellow overall fluorescence, very slow diffuse dull pale green cut, pale yellow green thin ring to film residue.

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Core Run	
3163.00	SILTSTONE: olive black, hard, massive, 5% biotitic mica flakes.
3164.00	SANDSTONE: white to very light grey, quartzose, hard, very fine to fine grained, subangular to subrounded, moderately well sorted, 5% muscovitic mica flakes, trace carbonaceous material, 10% white clay matrix, well siliceous cemented, poor visual porosity, dull yellow overall fluorescence, very slow diffuse green yellow cut, dull yellow film residue.
3165.00	SANDSTONE: white to very light grey, quartzose, moderately hard, fine to very coarse grained, subangular to subrounded, poorly sorted, subspherical to subelongate, 10% white clay matrix, moderately well siliceous cemented, poor visual porosity, pale yellow overall fluorescence, slow diffuse yellow green fluorescence, dull yellow film residue.
3166.00	SANDSTONE: white, trace yellowish grey grains, quartzose, moderately hard, medium to very coarse grained, angular to subrounded, poorly sorted, subspherical, 10% white clay matrix, moderately siliceous cemented, trace amber, trace grey lithic fragments, dull yellow fluorescence, slow diffuse yellow white cut, dull blue white film residue.
3167.00	SANDSTONE: white, trace yellowish grey grains, quartzose, moderately hard, medium to very coarse grained, angular to subrounded, poorly sorted, subspherical, 10% white clay matrix, moderately siliceous cemented, trace amber, trace grey lithic fragments, dull yellow green fluorescence, slow diffuse yellow white crush cut, dull yellow white thick ring residue.
3168.00	SANDSTONE: very light grey, quartzose, hard, fine to coarse grained, subangular to subrounded, moderately sorted, subspherical, 10% white clay matrix, well siliceous cemented, 2% muscovitic mica flakes, traces lithic fragments, poor visual porosity, pale yellow green overall fluorescence, slow diffuse yellow green crush cut, yellow white ring residue.
3169.00	SANDSTONE: very light grey, quartzose, firm, fine to medium grained, subangular to subrounded, moderately sorted, subspherical, trace white clay matrix, moderate siliceous cement, fair visual porosity, very dull yellow fluorescence, slow blooming diffuse cut, very dull white yellow residue ring.
3170.00	SANDSTONE: white to very light grey, quartzose, friable, medium to very coarse grained, subangular to subrounded, moderately sorted, subspherical to spherical, 5% white clay matrix, poor siliceous cement, fair visual porosity, dull yellow overall fluorescence, no cut, no residue.
3171.00	SANDSTONE: white to very light grey, quartzose, loose quartz grains, disaggregated, medium to very coarse grained, subangular to subrounded, moderately sorted, subspherical to spherical, 5% white clay matrix, fair visual porosity inferred, no hydrocarbon fluorescence.
3172.00	SANDSTONE: white to very light grey, quartzose, loose quartz grains, disaggregated, medium to very coarse grained, subangular to subrounded, moderately sorted, subspherical to spherical, 5% white clay matrix, trace grey lithic fragments, fair visual porosity inferred, dull yellow fluorescence, no cut, dull white yellow residue ring.
3173.00	CONGLOMERATIC SANDSTONE: white, grey mottled, quartzose, friable, fine grained to granular, subangular to subrounded, very poorly sorted, subspherical, 10% white and medium grey clay matrix, poor siliceous cement, traces carbonaceous material, poor visual porosity, dull yellow fluorescence, no cut, blue white film residue.
3174.25	SANDSTONE: white, grey mottled, quartzose, friable, fine grained to granular, subangular to subrounded, very poorly sorted, subspherical, 10% white and medium grey clay matrix, poor siliceous cement, traces carbonaceous material, poor visual porosity, dull yellow fluorescence, no cut, blue white film residue.

06:00 Hrs Update	
Time:	06:00 Hrs on 18 Nov 2009
Depth:	3235 mMDRT/3234 mTVDRT
Progress Since Midnight (m):	27
Status @ 0600hrs:	POOH @ 3000m Wiper trip.
Formation:	Eastern View Coal Measures
Lithology:	Interbedded SILTSTONE and ARGILLACEOUS SANDSTONE, minor thin CLAYSTONE beds
ROP:	Average ROP: 14.74 m/hr (2.9 - 26.6 m/hr)
Gas:	Average background gas - 0.2490%, C1: 0.1281%, C2: 0.0097%, C3: 0.0048%, iC4: 0.0020%, nC4: 0.0013%, C5: 0.0011%

Wellsite Geologist(s)	
(Days) - Dennis Archer	(Nights) - Larissa Hansen

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Trefoil-2

Date : 18 Nov 2009 | **Geology Report Number : 36** | (associated DDR # 49)

Well Details

Depth MDBRT:	3235.0m	Rig:	Kan Tan IV	Date:	18 Nov 2009
Depth TVDBRT:	3235.0m	Progress:	27.0m	Report Start:	0000
Depth TVDSS:	3209.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	48.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	43.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Drilled 216 mm (8-1/2") hole to well TD of 3235 mMDRT. Circulated hole clean. Pulled out of hole. Rigged up and ran wireline log #1: PEX-HRLA-HNGS-CMR.
Forward Plan:	Continue to run wireline log #1: PEX-HRLA-HNGS-CMR. POOH. Rig up and run wireline log #2: MDT-GR-LEHQT

General Comments

00:00 TO 24:00 Hrs ON 18 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 12 Nov 09. Sperry: 3 MWD engineers on board. Schlumberger Wireline: 2 engineers, 4 operators, 1 technician on board. Main tool strings for FMI-DSI and MDT/XPT runs checked OK.
Operational Comments	FEWD sensor distances from bit from 3175 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	38000mg/l	Low Gravity Solids:		Viscosity	61sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	360mg/l	High Gravity Solids:		PV	14cp
Time:	22:00 hrs	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	29lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.2	H2O:	93%	Gels 10s	8
ECD TD:		Nitrates:		PF:	0.1	Oil:		Gels 10m	12
ECD Shoe:		Sulphites:		MF:	2.2	Sand:	.3 %	Fann 003	9
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	10
KCl Equiv:	7%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	28
								Fann 200	37
								Fann 300	43
								Fann 600	57

Shakers, Volumes and Losses Data

Engineer : Jay Wan / James Munford

Available	**1585.7bbl**	**Losses**	**66.4bbl**
Active	598.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	58.8bbl
Hole	860.0bbl	Dumped	
Slug		De-Gasser	
Reserve	127.7bbl	De-Sander	
Kill		De-Silter	
		Centrifuge evaporation	7.6bbl

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	16
Shaker 2	Brandt VSM 300	20 top/50 bottom	16
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	19.30	GR decrease
TF80 Sand	3142.00	3116.00	3149.80	3123.00	-7.00	30.20	GR decrease
Total Depth (TD)	3221.00	3195.00	3235.00	3208.00	-13.00	0.00	

Lithology Summary

Interval MDBRT (m) From	To	ROP (m/hr)	Lithology
3208.00 - 3235.00		Min:3 Avg:15 Max:27	Interbedded ARGILLACEOUS SANDSTONE and SILTSTONE, minor interbeds of SANDSTONE and CLAYSTONE ARGILLACEOUS SANDSTONE (15-70%): white to very light grey, light grey to medium light grey, clear, 15% clay, 40% very fine, 40% fine, 20% medium, trace very coarse grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 1% silica cement, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence. SILTSTONE (25-80%): medium light grey to medium grey, olive grey, brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material. SANDSTONE (0-20%): white to very light grey, light grey, clear, 30% very fine, 50% fine, 20% medium grains, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 1% silica cement, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence. CLAYSTONE (0-5%): light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, subblocky to blocky, trace carbonaceous material.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
3208.00 - 3235.00	Drilled	0.249	0.1281	0.0097	0.0048	0.0020	0.0013	0.0011	0.000

06:00 Hrs Update

Time:	06:00 Hrs on 19 Nov 2009
Depth:	3235 m/3234 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Cont/ W/ Wire line logging, Run # 1.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 19 Nov 2009 | **Geology Report Number : 37** | (associated DDR # 50)

Well Details

Depth MDBRT:	3235.0m	Rig:	Kan Tan IV	Date:	19 Nov 2009
Depth TVDBRT:	3235.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	3209.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	49.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	44.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Continued to run wireline log #1: PEX-HRLA-HNGS-CMR. POOH. Rigged up and commenced wireline log #2: MDT-GR
Forward Plan:	Continue to run wireline log #2: MDT-GR, rig up and run wireline log #3: FMI-DSI-GR

General Comments

00:00 TO 24:00 Hrs ON 19 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 12 Nov 09. Sperry: 3 MWD engineers on board. Schlumberger Wireline: 2 engineers, 4 operators, 1 technician on board. Main tool string for FMI-DSI run checked OK.
Operational Comments	Wireline logging run 2: XPT-MDT pretests: 35 tests attempted, 32 valid, 1 supercharged, 2 tight.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	37000mg/l	Low Gravity Solids:		Viscosity	58sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	320mg/l	High Gravity Solids:		PV	12cp
Time:	22:00 hrs	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	29lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.2	H2O:	93%	Gels 10s	8
ECD TD:		Nitrates:		PF:	0.1	Oil:		Gels 10m	11
ECD Shoe:		Sulphites:		MF:	2.2	Sand:	.3 %	Fann 003	7
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	8
KCl Equiv:	7%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	26
								Fann 200	34
								Fann 300	41
								Fann 600	53

Shakers, Volumes and Losses Data

Engineer : Jay Wan / James Munford

Available	**1570.7bbl**	**Losses**	**15.0bbl**
Active	583.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	15.0bbl
Hole	860.0bbl	Dumped	
Slug		De-Gasser	
Reserve	127.7bbl	De-Sander	
Kill		De-Silter	
		Centrifuge evaporation	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	19.30	GR decrease
TF80 Sand	3142.00	3116.00	3149.80	3123.00	-7.00	30.20	GR decrease
Total Depth (TD)	3221.00	3195.00	3235.00	3208.00	-13.00	0.00	

06:00 Hrs Update

Time:	06:00 Hrs on 20 Nov 2009
Depth:	3235 mMDRT/ 3234 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Cont/ with Schlumberger wire line run #2. MDT, XPT
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 20 Nov 2009 | **Geology Report Number : 38** | (associated DDR # 51)

Well Details

Depth MDBRT:	3235.0m	Rig:	Kan Tan IV	Date:	20 Nov 2009
Depth TVDBRT:	3235.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	3209.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	50.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	45.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Continued wireline logging Suite 1 Run 2: XPT-MDT.
Forward Plan:	Complete wireline logging, POOH, prepare to P&A.

General Comments

00:00 TO 24:00 Hrs ON 20 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Sperry: No engineers on board. Schlumberger Wireline: 2 engineers, 4 operators, 1 technician on board. Main tool string for FMI-DSI run checked OK.
Operational Comments	Wireline logging run 2: XPT-MDT pretests: 65 attempted, 50 valid, 1 supercharged, 14 tight. 14 attempted sampling points, 7 pump outs, 3 sampling stations, 6 samples collected: 2 from 3171.2 mMDRT, 2 from 3155.1 mMDRT, 2 from 2830.3 mMDRT.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	36000mg/l	Low Gravity Solids:		Viscosity	57sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	320mg/l	High Gravity Solids:		PV	13cp
Time:	20:00 hrs	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	29lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.2	H2O:	93%	Gels 10s	8
ECD TD:		Nitrates:		PF:	0.1	Oil:		Gels 10m	11
ECD Shoe:		Sulphites:		MF:	2.2	Sand:	.3 %	Fann 003	8
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	9
KCl Equiv:	7%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	26
								Fann 200	35
								Fann 300	42
								Fann 600	55

Shakers, Volumes and Losses Data

Engineer : Jay Wan / James Munford

Available	**1571.0bbl**	**Losses**	**0.0bbl**
Active	652.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	860.0bbl	Dumped	
Slug		De-Gasser	
Reserve	59.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge evaporation	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	
Shaker 3	Brandt VSM 300	20 top/50 bottom	
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	19.30	GR decrease
TF80 Sand	3142.00	3116.00	3149.80	3123.00	-7.00	30.20	GR decrease
Total Depth (TD)	3221.00	3195.00	3235.00	3208.00	-13.00	0.00	

06:00 Hrs Update

Time:	06:00 Hrs on 21 Nov 2009
Depth:	3235 mMDRT/3234 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Wire line Run #3, FMI-DSI-GR
Formation:	Earstern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling.

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 21 Nov 2009 | **Geology Report Number : 39** | (associated DDR # 52)

Well Details

Depth MDBRT:	3235.0m	Rig:	Kan Tan IV	Date:	21 Nov 2009
Depth TVDBRT:	3235.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	3209.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	51.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	46.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Completed wireline log #3: FMI-DSI-GR. Rigged down wireline. Ran in hole with cement stinger and commenced Plug and Abandon operations.
Forward Plan:	Continue P&A operations.

General Comments

00:00 TO 24:00 Hrs ON 21 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Monitoring well. Sperry: No crew on board. Schlumberger Wireline: 2 engineers, 4 operators, 1 technician on board. Backloading tools.
Operational Comments	Wireline logging run 3: FMI-DSI-GR. FMI from 3230-2800 mMDRT, DSI 3230-2520 mMDRT.

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	37000mg/l	Low Gravity Solids:		Viscosity	56sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	320mg/l	High Gravity Solids:		PV	11cp
Time:	19:00 hrs	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	31lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.2	H2O:	93%	Gels 10s	7
ECD TD:		Nitrates:		PF:	0.1	Oil:		Gels 10m	11
ECD Shoe:		Sulphites:		MF:	2	Sand:	.3 %	Fann 003	8
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	9
KCl Equiv:	7%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	26
								Fann 200	35
								Fann 300	42
								Fann 600	53

Shakers, Volumes and Losses Data

Engineer : Jay Wan / James Munford

Available	**1558.6bbl**	**Losses**	**12.3bbl**
Active	792.9bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	12.3bbl
Hole	670.7bbl	Dumped	
Slug		De-Gasser	
Reserve	95.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge evaporation	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	1
Shaker 2	Brandt VSM 300	20 top/50 bottom	6
Shaker 3	Brandt VSM 300	20 top/50 bottom	6
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	19.30	GR decrease
TF80 Sand	3142.00	3116.00	3149.80	3123.00	-7.00	30.20	GR decrease
Total Depth (TD)	3221.00	3195.00	3235.00	3208.00	-13.00	0.00	

06:00 Hrs Update

Time:	06:00 Hrs on 22 Nov 2009
Depth:	3235 mMDRT/3234 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Laying down 5" DP while Wait On Cmt.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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Trefoil-2

Date : 22 Nov 2009 | **Geology Report Number : 40** | (associated DDR # 53)

Well Details

Depth MDBRT:	3235.0m	Rig:	Kan Tan IV	Date:	22 Nov 2009
Depth TVDBRT:	3235.0m	Progress:	0.0m	Report Start:	0000
Depth TVDSS:	3209.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	51.63
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	46.92
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Continued with P&A operations.
Forward Plan:	

General Comments

00:00 TO 24:00 Hrs ON 22 Nov 2009

Operational Comments	Geoservices: 2 Data engineers on board. Monitoring well. Sperry: No crew on board. Schlumberger Wireline: No crew on board.
Operational Comments	2 WSG off rig
Operational Comments	This is the final DGR for Trefoil-2

WBM Data

Mud Type:	KCl POLYMER	Flowline Temp:		Cl:	37000mg/l	Low Gravity Solids:		Viscosity	56sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	320mg/l	High Gravity Solids:		PV	11cp
Time:	19:00 hrs	Glycol CP Temp:		MBT:	10	Solids (corrected):		YP	31lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.2	H2O:	93%	Gels 10s	7
ECD TD:		Nitrates:		PF:	0.1	Oil:		Gels 10m	11
ECD Shoe:		Sulphites:		MF:	2	Sand:	.3 %	Fann 003	8
ECD Cuttings:		API FL:	5.0cc/30min	pH:	9	Barite:		Fann 006	9
KCl Equiv:	7%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	26
								Fann 200	35
								Fann 300	42
								Fann 600	53

Shakers, Volumes and Losses Data

Engineer : Jay Wan / James Munford

Available	**1558.6bbl**	**Losses**	**12.3bbl**
Active	792.9bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	12.3bbl
Hole	670.7bbl	Dumped	
Slug		De-Gasser	
Reserve	95.0bbl	De-Sander	
Kill		De-Silter	
		Centrifuge evaporation	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	1
Shaker 2	Brandt VSM 300	20 top/50 bottom	6
Shaker 3	Brandt VSM 300	20 top/50 bottom	6
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

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Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	19.30	GR decrease
TF80 Sand	3142.00	3116.00	3149.80	3123.00	-7.00	30.20	GR decrease
Total Depth (TD)	3221.00	3195.00	3235.00	3208.00	-13.00	0.00	

06:00 Hrs Update

Time:	06:00 Hrs on 23 Nov 2009
Depth:	3235 mMDRT/3234 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen

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APPENDIX 18: MUD ENGINEERS REPORTS

HALLIBURTON

Fluid Systems

BAROID FLUID SERVICES RECAP

ADA/ORIGIN ENERGY RESOURCE LTD
TREFOIL-2
BASS STRAIT, TASMANIA

Prepared by: 'Jay' Tien Guan Wan, Mike Lawrence, James Munford, Fergus Spencer, Kostandinos Georgiou.

Date: November 29th, 2009

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12. DAILY MUD REPORTS

1. WELL SUMMARY

1.1 Well Data

Well Name	:	Trefoil-2
Operator	:	Origin Energy Ltd
Well Type	:	Vertical, Appraisal
Bottom Hole Temperature	:	85 °C (Dynamic), 126 °C (Static)
Maximum Inclination	:	4.33 deg
Location	:	T/18P, Bass Basin, Bass Strait, Tasmania
Contractor/Rig	:	ADA / KanTan IV
Start Date (Rig)	:	01/10/2009
Baroid On Location	:	27/09/2009
Drill Out Date	:	06/10/2009
RT to Mudline	:	95 m
Total Depth	:	3235 mMDRT, 3233.9 mTVDRT
Date TD Reached	:	18/11/2009
Total Days Actual Drilling	:	22 days
Date Released	:	29/11/2009
Total Days on Well	:	59 days
Drilling Cuttings Volume	:	1932 bbl

1.2 Formation Tops

Formation	PREDICTED TOP (mMDRT)	PREDICTED TOP (mTVDRT)	ACTUAL TOP (mMDRT)	ACTUAL TOP (mTVDRT)	HIGH/ LOW (mTVD)
Torquay Group	95 m	95 m	95 m	95 m	0 m Low
Upper Angahook	1168 m	1142 m	1162 m	1136 m	6 m High
Angahook Volcanics Equivalent	1323 m	1297 m	1331 m	1305 m	8 m Low
Lower Angahook	1564 m	1538 m	1569 m	1543 m	5 m Low
Demons Bluff Fm.	1839 m	1813 m	1850 m	1824 m	11 m Low
EVCM	2092 m	2066 m	2105 m	2079 m	13 m Low

1.3 Casing Program

30" X 20"	Conductor	@	153 mMDRT
13 ⅜"	Surface Casing	@	930 mMDRT
9 ⅝"	Casing	@	2520 mMDRT

1.4 Personnel

Drilling Supervisors	:	John McGarrity	Peter Dane
	:	Bryan Houston	Paul Leathem
	:	Kevin Monkhouse	
Baroid Field Service Reps.	:	"Jay" Tien Guan Wan	
	:	Mike Lawrance	Kostandinos Georgiou
	:	James Munford	Fergus Spencer

2. COST SUMMARY

2.1 Drilling Fluid Costs

	Drilling Fluid	Hole Size	MD From	MD To	Cost AUD $
1.	Seawater / Hi-Vis Gel Sweeps	36"	95 m	155 m	49,565.41
2.	Seawater / Hi-Vis Gel Sweeps	17 ½"	155 m	935 m	28,383.73
3.	KCl / PHPA / CLAYSEAL PLUS	12 ¼"	935 m	2520 m	275,394.67
4.	KCl / PHPA / CLAYSEAL PLUS	8 ½"	2520 m	3235 m	68,561.08
Total Mud Materials used for Drilling				AUD $	421,904.89
Mud Materials used for Cementing				AUD $	237.24
Contingency Chemicals i.e. spotting fluids				AUD $	20,049.05
Cost of Shaker Screens				AUD $	38,536.76
Mud Materials used for Completion				AUD $	0.00
Mud Materials lost or damaged				AUD $	0.00
				Total Mud Materials Cost AUD $	480,727.93

2.2 Engineering Costs

Service Representatives	From (date)	To (date)	Days
'Jay' Tien Guan Wan	27/09/09	13/10/09	17
	13/11/09	28/11/09	16
James Munford	4/10/09	8/10/09	5
	26/10/09	5/11/09	11
	18/11/09	28/11/09	11
Mike Lawrance	14/10/09	12/11/09	30
Kostandinos Georgiou	9/10/09	25/10/09	17
Fergus Spencer	6/11/09	17/11/09	12
Total Days:			119
Service Cost @ AUD $1,540/day		**AUD $**	**183,260.00**
		Total Actual Cost of Materials & Engineering AUD $:	**663,987.93**
		Predicted Cost of Materials & Engineering AUD $:	**619,661.37**
		Variance :	**7.2 % (higher)**

3. PERFORMANCE SUMMARY

3.1 Comments

Overall the drilling fluid systems performed well. The 36" and 17 ½" holes were drilled with Seawater and Hi-vis Bentonite Sweeps without any problems and the spud mud performed as planned. The KCL / PHPA / CLAYSEAL PLUS system was used in the 12 ¼" and 8 ½" intervals and was also very effective. Some operational problems were experienced, especially during the 12 ¼" interval but the actual drilling was problem free.
In the 12 ¼" interval some difficulty was experienced whilst running casing and an EZ-SPOT pill was required thus contributing to a higher mud cost. The 8 ½" interval was drilled to TD of 3235 mMDRT and an extensive wireline logging program successfully carried out. Three cement plugs were set for the plug and abandonment program and the rig was relocated to Rockhopper-1 on the 29th November 2009.

3.2 Performance Indicators

Interval 1. 36" Hole (95 m - 155 m)	**Program**	**Actual**	**Achieved (+/- 10 %)**
• Drilled, m	60	60	Yes
• Volume Built, bbl	1509	1940	No
• Mud Cost / bbl, AUD$	24.88	25.55	Yes
• Mud Cost / m, AUD$	625.82	826.09	No
• Interval Mud Cost, AUD$	$ 37,549.09	$ 49,565.41	No

Interval 2. 17 ½" Hole (155 m - 935 m)	**Program**	**Actual**	**Achieved (+/- 10 %)**
• Drilled, m	755	780	Yes
• Volume Built, bbl	4058	3127	No
• Mud Cost / bbl, AUD$	11.19	9.08	No
• Mud Cost / m, AUD$	60.17	36.38	No
• Net Interval Mud Cost, AUD$	$ 45,430.55	$ 28,383.73	No

Interval 3. 12 ¼" Hole (935 m - 2520 m)	**Program**	**Actual**	**Achieved (+/- 10 %)**
• Drilled, m	1600	1585	Yes
• Volume Built, bbl	3617	2813	No
• Dilution Rate, bbl/m	1.1	1.16	Yes
• Mud Cost / bbl, AUD$	75.42	97.95	No
• Mud Cost / m, AUD$	170.5	173.83	No
• Net Interval Mud Cost, AUD$	$ 272,797.25	$ 275,526.78	Yes

Interval 4. 8 ½" Hole (2520 m - 3235 m)	**Program**	**Actual**	**Achieved (+/- 10 %)**
• Drilled, m	711	715	Yes
• Volume Built, bbl	1791	219	No
• Dilution Rate, bbl/m	1.3	1.63	No
• Mud Cost / bbl, AUD$	76.83	313.78	No
• Mud Cost / m, AUD$	193.54	95.89	No
• Net Interval Mud Cost, AUD$	$ 137,604.48	$ 68,561.08	No

3.3 Explanation of Non-Conformance

Interval 1:
The total fluid volume built and interval mud cost exceeded programmed values. This was a result of the large volume of pre-hydrated gel charged to this interval but carried over for use in the following (17 ½" section). Blended PHG with seawater had to be further treated with Guar Gum due to insufficient hydration time, this also contributed to a higher cost for the section.

Interval 2:
Interval length was drilled 25 m deeper than programmed. The total mud cost for this section was lower due to left over mud from previous section. Hence all costs per bbl and costs per footage drilled were lower varied between 18-40% less than programmed. Sufficient time was allocated for the PHG hi-vis to hydrate and yield thus resulting in lesser quantities of viscosifier to be used on this section.
Note that the sum of the actual costs for the 36" and 17 ½" intervals, AUD$ 77,949.14 only varies from the sum of the programmed costs, AUD$ 82,979.64 by 6.4% (lower).

Interval 3:
The cost for this section was slightly higher than programmed. This can be traced to a number of factors. The inadvertent dumping of the complete sand-trap volume (400 bbl) meant that extra volume had to be built to compensate. This resulted from a miss-communication and as a consequence a more rigid procedure was put in place for future dumping of the sand-traps.
The cost for this section includes all the time that was spent fishing and retrieving the casing. During this time the surface volume had to be maintained. As part of the operation an EZ-SPOT Pill was prepared and pumped inflating the cost by a further AUD $19,204.28

Interval 4:
The cost for this section was much lower than programmed by around 50%. This was due to higher volume of 12 ¼" mud carried forward to be used in the 8 ½" section. Overall, the mud was in good condition and minimal treatment was required to achieve and maintain the desired mud properties.

4. INTERVAL - 1

4.1 SUMMARY

36" Hole From 95 m To 155 m In 1 Day

Drilling Fluid Seawater with PHB / Guar Sweeps
Formations Torquay Group

The well was spudded at 08:00 hrs on October 7th with a 26" bit and a 36" hole opener located 3 m behind the bit. Prior to spudding in, an initial volume of 748 bbl of 10 ppg hi-vis prehydrated bentonite "kill mud" was prepared. Bentonite gel and Guar Gum was mixed as necessary to ensure adequate volumes for sweeps as drilling commenced. The bentonite gel was mixed initially to 40 ppb and allowed to hydrate before cutting back to 20 ppg with seawater.

Drilling commenced from the seabed at 95 mRKB and was successfully drilled to 155 m using seawater and hi-vis sweeps. Three 50 bbl sweeps per stand were pumped every single. Lime and Caustic Soda was utilized to flocculate the sweeps prior to pumping.

At interval TD, the hole was swept with 100 bbl of hi-vis bentonite. The BHA was pulled to seabed with no drag before running back to bottom and the hole was displaced with 370 bbl (150% of open hole volume) of hi-vis pre-hydrated bentonite. The tapered 20"/30" casing was successfully run and cemented with the 20" shoe at 153 mRKB.

Properties	**Programmed**		**Actual (Typical Drilling)**		
	Min	**Max**	**Min**	**Max**	**Conformance** (10% variance)
Funnel Viscosity (sec/qt)	120	-	125	126	Yes
Calcium (mg/lt)		400		80	Yes
pH		9		9	Yes

Explanation of Non-Conformance

- All properties were maintained within the programmed range.

Solids Control Equipment

- All returns were to the seabed in this interval; hence no solids control equipment was utilized.

4.2 EVALUATION

Comments

This interval was drilled and cased trouble free.

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem None
   Cause
   Action

Drilling Fluid

1) Problem Insufficient yield from bentonite.
   Cause Insufficient time to hydrate bentonite properly.
   Action Supplement PHG sweeps with Guar Gum.

Solids Control and Mud Mixing Equipment

1) Problem Difficulty in ascertaining how much bentonite was being added via the surge tank
   Cause Accuracy of the digital weight scale is suspect.
   Action Requested that the scale be checked and calibrated.

4.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

- None.

Drilling Fluid

- None.

Solids Control and Mud Mixing Equipment

- None.

5. INTERVAL - 2

5.1 SUMMARY

17 ½" Hole From 155 m To 935 m In 3 Days

Drilling Fluid Seawater / Hi-Vis PHG Sweeps
Formations Torquay Group

The 17 ½" interval was drilled with Seawater / PHG / Guar Gum hi-vis sweeps. A 17 ½" BHA with Smith XR+VCPS bit with 3x22 and 1x13 nozzles was made up and ran in hole. The 30"/20" conductor shoe track and cement was drilled and 40 bbl of hi-vis pill was pumped to assist hole cleaning.

The 17 ½" hole was drilled and surveyed from 155 mMDRT to section TD at 935 mMDRT. 40 bbl Guar Gum/PHG hi-vis sweeps were pumped and circulated around every single. At TD, 50 bbl of hi-vis was pumped and the hole was circulated cleaned. A wiper trip was carried out and tight spot with 30k overpull was observed at 903 mMDRT. The hole was backreamed from 903 m to 832 m and after pulled out on elevators to the conductor shoe at 153 m. The BHA was run in to 582 m and subsequently washed down from 582 m to bottom. 100 bbl of hi-vis pill was pumped and circulated out with seawater. A check shot survey was done prior to displacing 1200 bbl of 9.0 ppg pad mud to the hole.

The 17 ½" BHA was pulled to surface without drag and racked back at the drill floor. Then, 13 ⅜" casing handling equipment was rigged up and 13 ⅜" casing was ran to bottom without hole problems. The 13 ⅜" casing was cemented with shoe at 930 m successfully.

Properties	**Programmed**		**Actual (Typical Drilling)**		
	Min	**Max**	**Min**	**Max**	**Conformance** (10% variance)
Funnel Viscosity (sec/qt)	120	-	125	126	Yes
Chlorides (mg/L)		1500	17000	19000	N
Calcium (mg/L)		400	80	2600	N
pH		9		9	Y

Explanation of Non-Conformance

- Chlorides and Calcium contents were above the programmed range because seawater was used instead of drill water to build the Pad mud. Generally the PHG sweeps are built with drill water to allow proper hydration of the bentonite. After full hydration has occurred the bentonite slurry can be cut back with seawater.

Solids Control Equipment

- In this interval, all returns were to the seabed; hence no solids control equipment was utilized.

5.2 EVALUATION

Comments

This interval was drilled and cased trouble free.

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem None
   Cause
   Action

Drilling Fluid

1) Problem None.
   Cause
   Action

Solids Control and Mud Mixing Equipment

1) Problem Difficulty in ascertaining how much bentonite was being added via the surge tank
   Cause Accuracy of the digital weight scale is suspect.
   Action Requested that the scale be checked and calibrated.

5.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

- None.

Drilling Fluid

- None.

Solids Control and Mud Mixing Equipment

- None.

6. INTERVAL - 3

6.1 SUMMARY

12 ¼" Hole From 935 m To 2520 m In 6 Days

Drilling Fluid KCl / Polymer / PHPA / CLAYSEAL PLUS
Formations Angahook, Demons Bluff, Eastern View Coal Measures

The 13 ⅜" casing shoe was drilled out with seawater. The hole was then displaced to KCl / Polymer mud and three meters of new formation drilled. A leak of test was performed, giving an EMW of 15.15 ppg. The 12 ¼" hole was then drilled to 2270 m, where due to increase in torque and decrease in ROP, the bit was pulled. The bit only had minimal wear and was re-run on the same BHA. The 12 ¼" hole was then drilled to a TD of 2520 m with no other issues. At TD a wiper trip was made. The hole was in good condition with a maximum overpull of 15,000 lbs between 2515 m and 2354 m.
Casing was run with no under-pull until 2480 m where casing fill was tagged. The casing was then circulated down until 2508 m, where a 70 bbl hi-vis pill was pumped. Following the hi-vis pill being circulated out, the hole packed off and the casing string became stuck. Attempts to free the string resulted in the running string parting. Fishing operations resulted in a total of three fish being lost in the riser section. A number of over-shot fishing tools were run but were unsuccessful. Attempts were then made to back the casing off – again without success. The decision was then taken to engage the shear rams and break the casing off. On running in with a 17 ½" milling assembly the swedge was encountered indicating that the casing had dropped following the shearing operation. A 12 ¼" milling assembly was run and the top of the casing dressed off. The top of the casing was then speared. Attempts to pull the entire casing string were unsuccessful. The casing was then cut at 157 m and this length of casing was pulled to surface. A casing patch was successfully run and tested. As the casing was on bottom, the 9 ⅝" shoe was unable to be cemented.

Properties	**Programmed**		**Actual (Typical Drilling)**		
	Min	**Max**	**Min**	**Max**	**Conformance** (10% variance)
Mud Weight (ppg)	8.8	9.5	9.0	9.5	Yes
6 Rpm	12	14	7	13	No
Pv (cp)	alap	-	10	17	Yes
KCl %	7	9	7	9	Yes
CLAYSEAL PLUS (%v/v)	2	2	2	2	Yes
LGS (% by vol)	-	5	0.52	3.19	Yes
Sand content (%)	-	1	0.1	0.3	Yes
API Fluid loss (ml/30 mins)	-	6	3.2	5.8	Yes
Cake (_/32nd)	-	1	1	1	Yes
HPHT FL (ml/30 mins)	-	15	6.8	14	Yes
MBT (ppb Eq)	-	25	5	15	Yes
Hardness (mg/l)	-	400	220	400	Yes

Explanation of Non-Conformance

The non conformance of the 6 rpm readings came from the beginning of the interval due to polymers in the active fluid set not being fully sheared. As drilling progressed the polymers fully yielded and the 6 rpm increased in line with programmed requirements.

Maintenance

- No CLAYSEAL PLUS or EZ-MUD was added into the system until the shoe had been drilled out to ensure no degradation of these products from cement contamination.
- Caustic Potash and Caustic Soda were added to the system to maintain the pH within the programmed range.
- Soda Ash was added directly into the system to control calcium levels.
- ALDACIDE-G was added to surface volume and active pits to inhibit bacterial growth.
- PAC-LE was added directly to the active system to maintain low filtration loss.
- CLAYSEAL PLUS and EZ-MUD were added directly to the active system and not to premixes to ensure maximum impact on inhibition and borehole integrity from the active fluid set. Allowances were made when adding these products of premix volume additions as well as losses retained on cuttings.
- Rheology was kept within programmed levels with the controlled addition of BARAZAN-D PLUS.
- The KCl concentration was maintained to the required levels by controlling the ratio of 21% brine to drillwater in the premix.
- To offset evaporation water was bled into the active fluid set.
- Hi-vis sweeps were pumped every 3 stands at the request of the company man to assist hole cleaning. These were built using active mud and BARAZAN-D PLUS.
- The mud weight was maintained within the target range by adding unweighted premix to the system. It should be noted that the principal reason the mud weight increased to 9.5 ppg from 9.1 ppg was the incorporation of slugs into the active system.
- Caustic Potash and ALDACIDE-G was required to keep the mud in spec during fishing operations.

Stuck Casing Fluid Requirements

- At the request of ADA a 40 bbl EZ-SPOT Pill was built. This incorporated 20 bbl of Amodril 1235 base oil, 3 drums of EZ-SPOT, water and barite to 9.4 ppg. Initially 20 bbl of the pill was pumped. The fluid was refreshed in the area of stuck casing/hangar by pumping in the region of 1 barrel every hour down the kill line.
- ADA were advised that the pill was designed to free differentially stuck pipe and that success was unrealistic in the methodology of its ultimate deployment.
- As it was suspected that the reason for the string becoming stuck was due to cuttings overload in the hangar area, a basic experiment was devised to assess the effectiveness of the pill on previously recovered cuttings. Cuttings were placed in a beaker containing the active fluid set (the control) and cuttings from the same source were placed in a beaker containing a sample of the EZ-SPOT Pill. The cuttings were assessed every 6 hours to ascertain whether there was any softening. It was observed that the pill softened the surface of the cuttings compared to the control fluid. The cuttings themselves remained hard and it was concluded that the use of EZ-SPOT would do little to assist freeing the pipe in a packed off situation.
- During the milling operation BAROLIFT sweeps were used to assist hole cleaning.

Solids Control Equipment

- Four newly installed Brandt VSM-300 shakers, were employed. These performed well and as drilling progressed and the rheology thinned with increasing temperature, the bottom screens were changed out from API 50 to API 100. TECHMESH screens were used and these performed well with good life-spans.

- Two MI Swaco 518 centrifuges were used to control the build up of solids in the system. One centrifuge was down for a significant proportion of this section. The 518 is a small machine with a typical feed rate of 30 gpm, so had only a small impact on solids control compared with

a pump rate whilst drilling of 950 - 1000 gpm. The centrifuges were also used during periods when there was no circulation to condition the fluid.

- The sand-traps were dumped regularly. This was often in response to the direction of the ADA company man as opposed to any fluid control necessity. On one occasion the full volume of the traps was dumped- in the region of 400 bbl. This was traced to the rig crew miscommunication error.

6.2 EVALUATION

Comments

This interval was drilled successfully – no issues with the drilling fluid were identified. The programmed concentrations mirrored well the expected fluid targets.

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem None.
   Cause
   Action

Drilling Fluid

1) Problem None.
   Cause
   Action

Solids Control and Mud Mixing Equipment

1) Problem Broken centrifuge feed motor – led to one centrifuge being down for 5 days due to no spare motor on board.
   Cause unknown
   Action New feed motor dispatched to rig and installed. Assurances from MI that a further spare motor will be on the rig at all times to negate re-occurrence.
1) Problem Newly installed flowline unable to cope with cuttings buildup from high ROP
   Cause Poor design/no header boxes
   Action Flowline above shaker unit regularly shoveled out to control flowline level.

6.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

- The hole was in excellent condition throughout. This is highlighted by the ease in which the 9 ⅝" casing went to bottom.
- The reason for packing off during casing circulation is believed to be due to poor hole cleaning in the annular section of the riser whilst circulating at a relatively low flowrate. This may have been avoided if the kill lines were utilized as a riser booster thereby increasing the annular velocity in this section. The pumping of a 70 bbl hi-vis sweep at this point of the operations would have created a high cuttings volume in an area of very poor cuttings transport efficiency.

Drilling Fluid

- The fluid system worked well. No recommendations are identified in terms of drilling fluid performance. The expectations of the EZ-SPOT pill pumped during the stuck casing string were unrealistic.

Solids Control and Mud Mixing Equipment

- Consideration should be given to the use of larger centrifuges which would be more efficient in controlling solids build up. Surety that sufficient spares are available to service the centrifuge to minimize downtime.
- The centrifuges are set up to suck and return to sandtrap 5. This is not the ideal setup as there is clearly potential for re-circulation
- The shakers were effective in controlling solids build up. One limitation noted was the fact there is no way of adjusting the angle, so the flow cannot be directed over the ideal screen area. It was typically restricted to the rear third of the shaker on the bottom screen.
- Even at an ROP of 100 m/hr and flow rates of 1000 gpm the shaker system could comfortably handle a finer bottom screen size. This recommendation is strengthened due to the restricted throughput of the centrifuges. Finer top and bottom shaker screens should be used for the next well.

7. INTERVAL - 4

8 ½" Hole From 2520 m To 3252 m In 12 Days

Drilling Fluid KCl / Polymer / PHPA / CLAYSEAL PLUS
Formations Eastern View Coal Measures

SUMMARY

Drilling in this section commenced on the 7th of November 2009. As part of the RTTS operation an 8 ½" bit was run to 2520 m and 3 m of new formation drilled out. An FIT to 11.0 ppg was performed and the RTTS BHA was pulled to surface. A new BHA was then made up and the 8 ½" hole was drilled from 2523 m to 2633 m. The Bit was then pulled to surface due to MWD failure. The same bit and BHA was rerun and the 8 ½" hole drilled to the first coring point of 2983 mMDRT. Two cores were cut over two different intervals with good recovery on both occasions. Trefoil-2 was drilled to a final TD of 3235 mMDRT / 3233.9 mTVDRT. Three wireline logging runs were made before the well was plugged and abandoned. Three cement plugs were pumped to isolate the movable hydrocarbon and freshwater zones. The mud weight was maintained around 9.5 ppg throughout the plug and abandonment to ensure no channeling of cement plugs and hence a smooth process.

Properties	**Programmed**		**Actual (Typical Drilling)**		
	Min	**Max**	**Min**	**Max**	**Conformance** (10% variance)
Mud Weight (ppg)	9	10	9.35	9.5	Yes
6 Rpm	9	13	8	15	Yes
Pv (cp)	alap	-	10	14	Yes
KCl %	4	6	6	8.5	No
CLAYSEAL Plus (%v/v)	2	2	2	2	Yes
LGS (% by vol)	-	5	1.1	2.5	Yes
Sand content (%)	-	1	.2	.5	Yes
API Fluid loss (ml/30 mins)	-	5	4	5.3	Yes
Cake (_/32nd)	-	1	-	1	Yes
HPHT FL (ml/30 mins)	-	13	10.2	11.6	Yes
MBT (ppb Eq)	-	25	10	14	Yes
Hardness (mg/l)	-	400	250	800	No

Explanation of Non-Conformance

The KCl percentage for this interval was higher than the planned percentage. This was due to a request from the ADA drilling engineer to make it 6 – 8 %. The initial concentration of KCl was already high due to the 12 ¼" mud having 10% KCl, this was allowed to drop naturally throughout the interval.

Maintenance

- 2308 bbl of drilling fluid was carried over from the 12 ¼" fluid set. At the end of the well, 700 bbl of 9.5 ppg KCl / PHPA / CLAYSEAL PLUS mud and 180 bbl of 9.9 ppg Gel mud was offloaded into MV Far Fosna. 170 bbl of 9.5 ppg KCl / PHPA / CLAYSEAL PLUS mud was offloaded to M.V. Far Scimitar. This mud was to be used during the start of the following Rockhopper-1 well.
- Initially on circulating initial bottom's up there were concerns on the quality of the returning fluid properties as it had remained static at bottom hole temperatures for over 2 weeks. About 80 bbl of poor quality fluid was identified. This had a very low pH and rheology. This was treated out and did not impact on the overall quality of the active fluid set. During initial circulation the sand-traps were by-passed to minimize the volume that the contamination could impact on. No fluid was dumped.
- Due to the high bottom hole temperature water was added directly to the active to compensate for that lost through evaporation.
- Just prior to the first coring point at 2983 m, N-DRILL HT PLUS was added to the active system to maintain tight filtration.
- Reserve fluid was bled into the active to maintain volume and properties.
- CLAYSEAL PLUS and EZ-MUD were added to the active to ensure programmed concentrations were maintained.
- Caustic Soda and potash were added to the active to maintain pH.
- ALDACIDE-G and OXYGON were added prior to tripping.

7.2 EVALUATION

Comments

This interval was drilled successfully.

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem None
   Cause
   Action

Drilling Fluid

1) Problem None.
   Cause
   Action

Solids Control and Mud Mixing Equipment

1) Problem None.
   Cause
   Action

7.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

No hole problems were identified during the drilling. The coring and subsequent tripping operations went smoothly and no wiper trip was required in the end prior to running wireline logs suggesting the hole was in good condition.

Drilling Fluid

The drilling fluid performed as expected. The mud properties were kept within the proposed parameters except KCl content. At the direction of the ADA company man the KCl percentage was increased from the programmed 4% to between 6 - 8%. Since the mud was rolled over from the previous interval where again the KCl percentage was raised above program to 10 % the fluid started out exceeding the target. The KCl content was allowed to drift lower naturally through attrition from 8% to below 6% towards the end of the well. Extended usage of the mud system required further treatments of ALDACIDE-G to prevent bacterial attacks. Although the wireline logs were carried out smoothly, it was in the opinion of the mud engineers that treatment to maintain or even lower the API fluids loss in the mud and good solid thin filter cake was essential to ensure safe and smooth logging operations. At the end of the plug and abandonment, the mud must be treated with viscosifier and biocide to avoid bacteria fermentation in the mud for future usage.

Solids Control and Mud Mixing Equipment

Only two or three of the four available shakers were run for this section. It was observed that when the shakers were run dry the solids on the lower screen were not progressive in their movement forward. It was found that by running only two shakers the cuttings movement off the screens was more efficient. Finer screens could be comfortably run on both upper and lower decks.

The shaker screen performance was commendable as no screens had to be discarded throughout this section. Only minor patches were done on 4 screens of a total of 21 screens. No new screen usage was required towards the end of this section. The shakers were turned off whenever possible to prolong the lifespan of the screens. The screens will be rolled over onto the next well Rockhopper-1.

Finer top screen for scalper deck up to 40 mesh is highly recommended and bottom screens such as 120 API RP 13C (210 mesh) can be used on 12 ¼" hole section and 200 API RP 13C (325 mesh) can be used on 8 ½" hole section to optimize solids removal efficiency.

Further improvements of the mud mixing area were discussed and will be implemented during the rig tow. An elevated platform to position the chemicals pallet while mixing will hopefully prevent potential man handling injuries and trip hazards.

Two weight indicators for the surge tanks in the sack store were repaired and tested. Further calibrations will be carried out on the next well to ascertain the actual amount of products each tank can hold. This will eventually help in capturing a more accurate assessment of bulk stock.

8. PILL & SWEEPS REPORT

Date-	Time	Hole Size (in)	Bit Depth (m MD)	Hole Angle (º)	Pill Volume (bbl)	Pill Weight (ppg)	Pill Composition & Key Properties	Remarks / Results (e.g. % incr cuttings at shakers)
16/10/09	1250	12.25	1295	0	20	9.0	5 ppb BARAZAN-D PLUS, FV - 133 sec	Estimated 200% increase in cuttings return over 3 mins
16/10/09	1630	12.25	1381	0	20	9.0	5 ppb BARAZAN-D PLUS, FV - 133 sec	Estimated 200% increase in cuttings return over 3 mins
16/10/09	2030	12.25	1496	0	30	9.0	5 ppb BARAZAN-D PLUS, FV - 133 sec	Estimated 200% increase in cuttings returns over 3 mins
17/10/09	0150	12.25	1584	0	30	9.0	5 ppb BARAZAN-D PLUS, FV - 133 sec	Estimated 200% increase in cuttings return over 3 mins
17/10/09	0525	12.25	1672	0	30	9.0	5 ppb BARAZAN-D PLUS, FV - 133 sec	Estimated 200% increase in cuttings return over 3 mins
17/10/09	1420	12.25	1843	1	20	9.0	5 ppb BARAZAN-D PLUS, FV - 128 sec	Estimated 100% increase in cuttings volume over 4 mins
17/10/09	1920	12.25	1931	0	20	9.0	5 ppb BARAZAN-D PLUS, FV - 128 sec	
18/10/09	0145	12.25	2026	0	20	9.1	5 ppb BARAZAN-D PLUS, FV - 128 sec	
18/10/09	0500	12.25	2100	0	20	9.1	5 ppb BARAZAN-D PLUS, FV - 128 sec	
18/10/09	2000	12.25	2180	0	20	9.1	5 ppb BARAZAN-D PLUS, FV - 128 sec	
19/10/09	0300	12.25	2266	0	20	9.1	5 ppb BARAZAN-D PLUS, FV - 128 sec	
21/10/09	1845	12.25	2520	0	50	9.3	5 ppb BARAZAN-D PLUS, FV - 128 sec	Pumped prior to wiper trip at TD of 12 ¼" section. No increase in cuttings observed at shakers
22/10/09	0110	12.25	2520	0	40	9.45	Active mud and 5 ppb BARAZAN-D PLUS , FV - 130	Pill spotted on bottom prior to POOH, following wiper trip. Pill was not displaced to the surface.
23/10/09	1615	12.25	n/a	.06	70	9.45	4.5 ppb BARAZAN-D PLUS , FV - 128	Pill pumped whilst circulating 9 5/8" casing down to bottom. Small increase in cuttings seen at shakers – principally fines. Casing came stuck – believed packed off at base of riser / casing running tool. Pumped on direction of CM.
27/10/09	1515	12.25	n/a	0	5	9.4	Active mud and 5 ppb BARAZAN-D PLUS , FV - 140	Pill pumped on top of fish and chased with active mud. No increase in cuttings seen at shakers.
27/10/09	1550	12.25	n/a	0	5	9.4	Active mud and 5 ppb BARAZAN-D PLUS, FV - 140	Pill pumped on top of fish and chased with active mud. No increase in cuttings seen at shakers.

28/10/09	tbc	12.25	n/a	0	20*	9.4	Recipe = 20 bbls Amodril 1235 Base Oil, 3 drums EZ-SPOT, 9 barrels water, Barite to 9.4 ppg.	40 bbl EZ-SPOT pill prepared as per the request of co man. 0.5 bbl pumped every hour after initial pill pumped. Pill prepared in response to stuck casing/running tool.
1/11/09	1600	12.25	n/a	0	5	9.8	BARAZAN-D PLUS and active mud	5 bbl pill pumped down choke/kill lines prior to running in with first milling assembly. No increase at shakers seen.
1/11/09	1800	12.25	103m	0	10	9.3	Active Mud + 0.3ppb BAROLIFT	Sweep pumped @350 gpm whilst milling 13 ⅜" casing 50% increase in cuttings over shakers
1/11/09	1800	12.25	103m	0	5	9.3	Active Mud + 0.3ppb BAROLIFT	Sweep pumped @350 gpm whilst milling 13 ⅜" casing 50% increase in cuttings over shakers
1/11/09	1800	12.25	103m	0	10	9.3	Active Mud + 0.3ppb BAROLIFT	Sweep pumped @350 gpm whilst milling 13 ⅜" casing 50% increase in cuttings over shakers
3/11/09	1220	12.25	157m	0	25	9.8	BARAZAN-D PLUS and active mud	Sweep pumped following milling top of casing. Part of casing patch operation. No increase in swarf observed at shakers.
7/11/09	1210	8.5	2523m	0	25	9.7	BARAZAN-D PLUS and active mud	Sweep pumped following drilling out 3m on new formation prior to FIT. No increase in cuttings.

HALLIBURTON

Origin Energy Resources Ltd

TREFOIL-2

BASS BASIN - AUSTRALIA

Well Blueprint

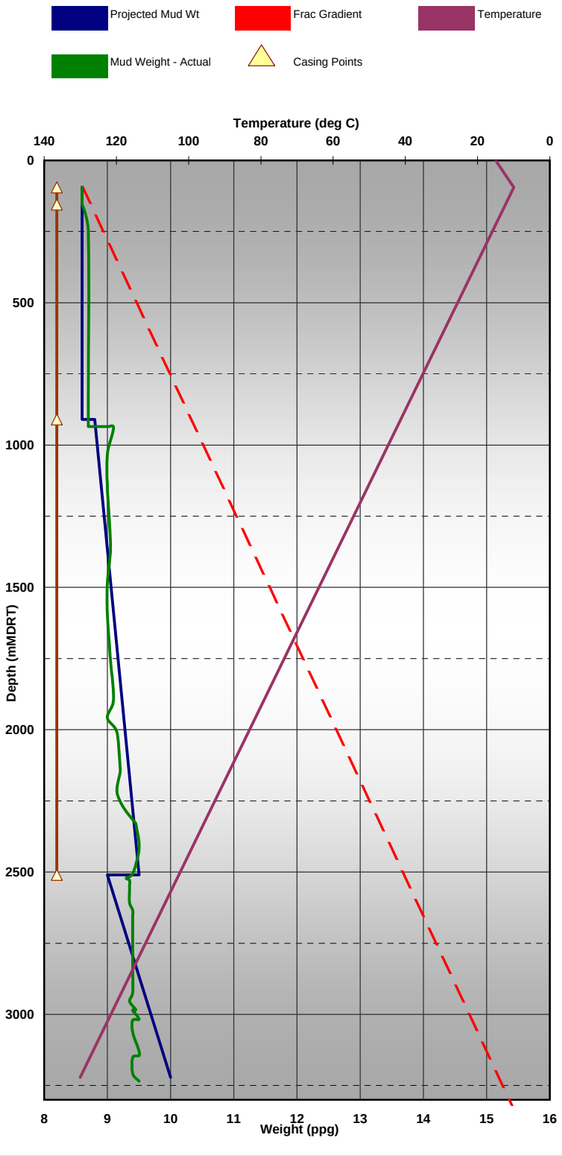
Version 1.0

PREPARED FOR: Mark Nasarczyk
ADA

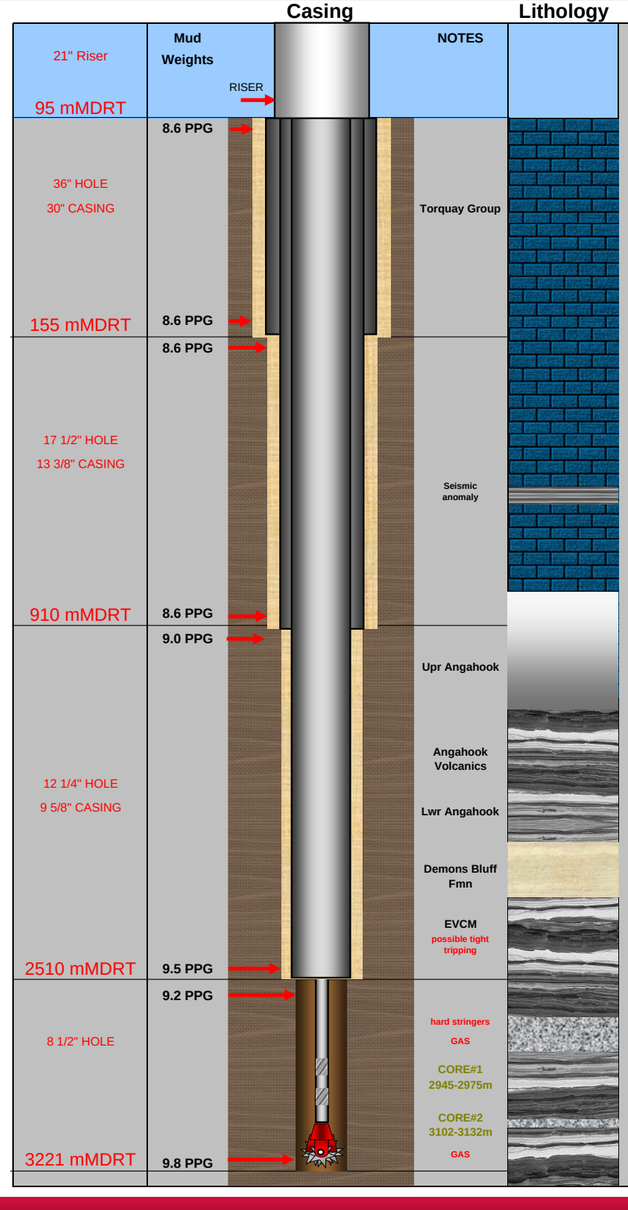
PREPARED BY: Dave Tofts
BAROID TECHNICAL PROFESSIONAL

BAROID

Mud Weight / Frac Gradient



Casing / Lithology



Interval 1: 95 -155 mMDRT

Seawater and Hivis PHG sweeps

DEPTH	MW	Funnel Vis	API	pH	MBT
95 -155	8.6	> 120 sec/qt	NC	9.0	15-30

Remarks: 20 ppb PHG mixed with fresh water (chlorides less than 1,500 mg/l)
Prepare 1 x 17 1/2" hole volume of Kill-Mud with 15-20 ppb PHG and Barite to 10.0 ppg.
Add Soda Ash to fresh water before adding Gel. Allow sufficient time for PHB to hydrate, >6 hrs is recommended. Mix PHG at 40 ppb initially & cut back with seawater.
0.5 ppb Caustic Soda + 0.5 ppb Lime should be added after hydration & imediatly prior to pumping sweeps. Guar Gum sweeps can be made up with straight seawater + 3 ppb Guar Gum if extra volume is required rapidly. **Shaker Screens:** N/a

Interval Cost (AUD)	$52,949.09	Cum Cost (AUD)	$52,949.09	Interval Days	5

Interval 2: 155 - 910 mMDRT

Seawater and Hivis PHG sweeps

DEPTH	MW	Funnel Vis	API	pH	MBT
155 - 910	8.6	> 120 sec/qt	NC	9.0	15-30

Remarks: 20 ppb PHG mixed with fresh water (chlorides less than 1,500 mg/l)
Add Soda Ash to fresh water before adding Gel. Allow sufficient time for PHB to hydrate, >6 hrs is recommended. Mix PHG at 40 ppb initially & cut back with seawater.
0.5 ppb Caustic Soda + 0.5 ppb Lime should be added after hydration & imediatly prior to pumping sweeps. Guar Gum sweeps can be made up with straight seawater + 3 ppb Guar Gum if extra volume is required rapidly. At TD displace 1.3 times open hole with neat PHB mixed with some Kill Mud to 9.0 ppg. **Shaker Screens:** N/a

Interval Cost (AUD)	$63,910.55	Cum Cost (AUD)	$116,859.64	Interval Days	6

Interval 3: 910 - 2510 mMDRT

7% KCL / PHPA / CLAYSEAL PLUS

DEPTH	MW	PV	pH	API FL	6rpm	MBT
910 - 2510	8.8 - 9.5	ALAP	8.5 - 9.5	< 6 ml/30min	12 - 14	< 25

Remarks: Displace with new 9.0 ppg KCL/PHPA/CLAYSEAL mud after drilling cement.
Add OXYGON after displacement while drilling. Use BARO-LIFT sweeps at no more than 0.25 ppb if required for hole cleaning. Monitor volumes closely for signs of losses & treat accordingly.
Watch for signs of hole instability throughout Angahook Formation.
Mudweight may need to be increased if hole instability persists.

Shaker Screens: Begin with 50-mesh fine screens & build up to 80-mesh ASAP

Interval Cost (AUD)	$294,357.25	Cum Cost (AUD)	$411,216.89	Interval Days	7

Interval 4: 2510 - 3221 mMDRT

4% KCL / PHPA / CLAYSEAL PLUS

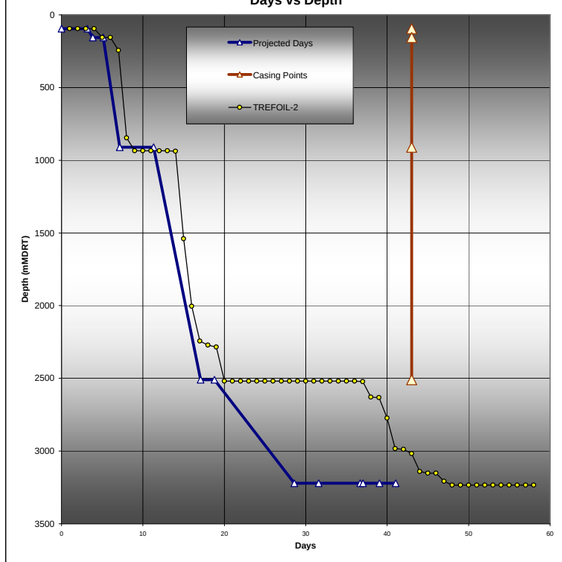
DEPTH	MW	PV	pH	API FL	6rpm	MBT
2510 - 3221	9.0 - 10	ALAP	8.5 - 9.5	< 5 ml/30min	9 - 13	< 25

Remarks: Cement will most likely be drilled out with active mud.
Any 'useable' mud from 12 1/4" should be carreid over to the 8 1/2" section and treated to specification. Add CLAYSEAL PLUS & EZ-MUD after cement has been drilled & any contamination treated out.
Aldacide should be maintained at 0.2 ppb throughout this interval with excess being added prior to trips.
At 3000 m start adding N-DRIL-HT PLUS to 2.0 ppb, increase PAC-LE to 2.0 ppb and OXYGON to 0.3 ppb.

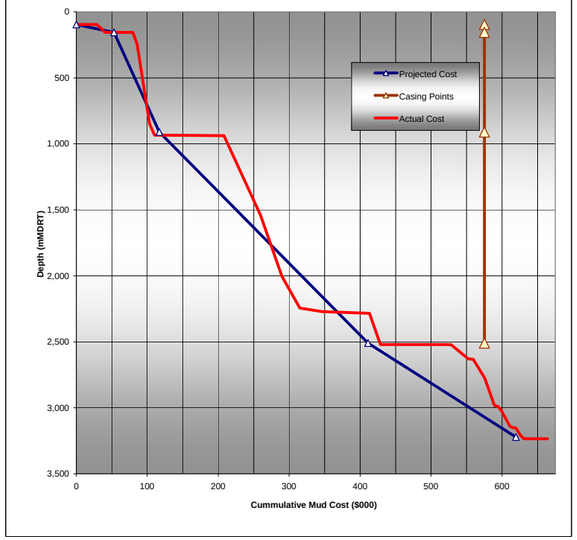
Shaker Screens: Begin with 50-mesh fine screens & build up to 100-mesh ASAP

Interval Cost (AUD)	$208,444.48	Cum Cost (AUD)	$619,661.37	Interval Days	23

Days vs Depth

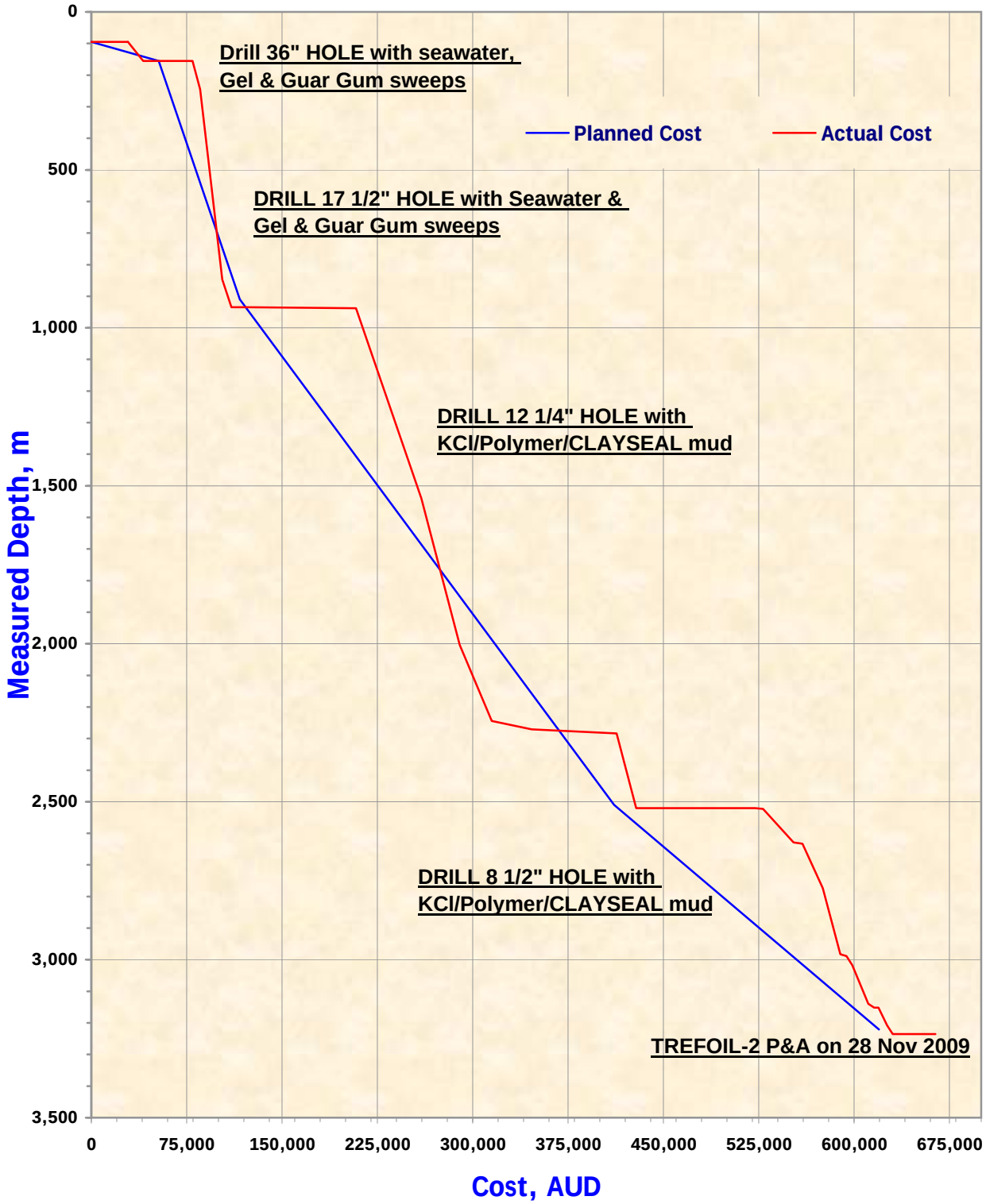


Cost vs Depth

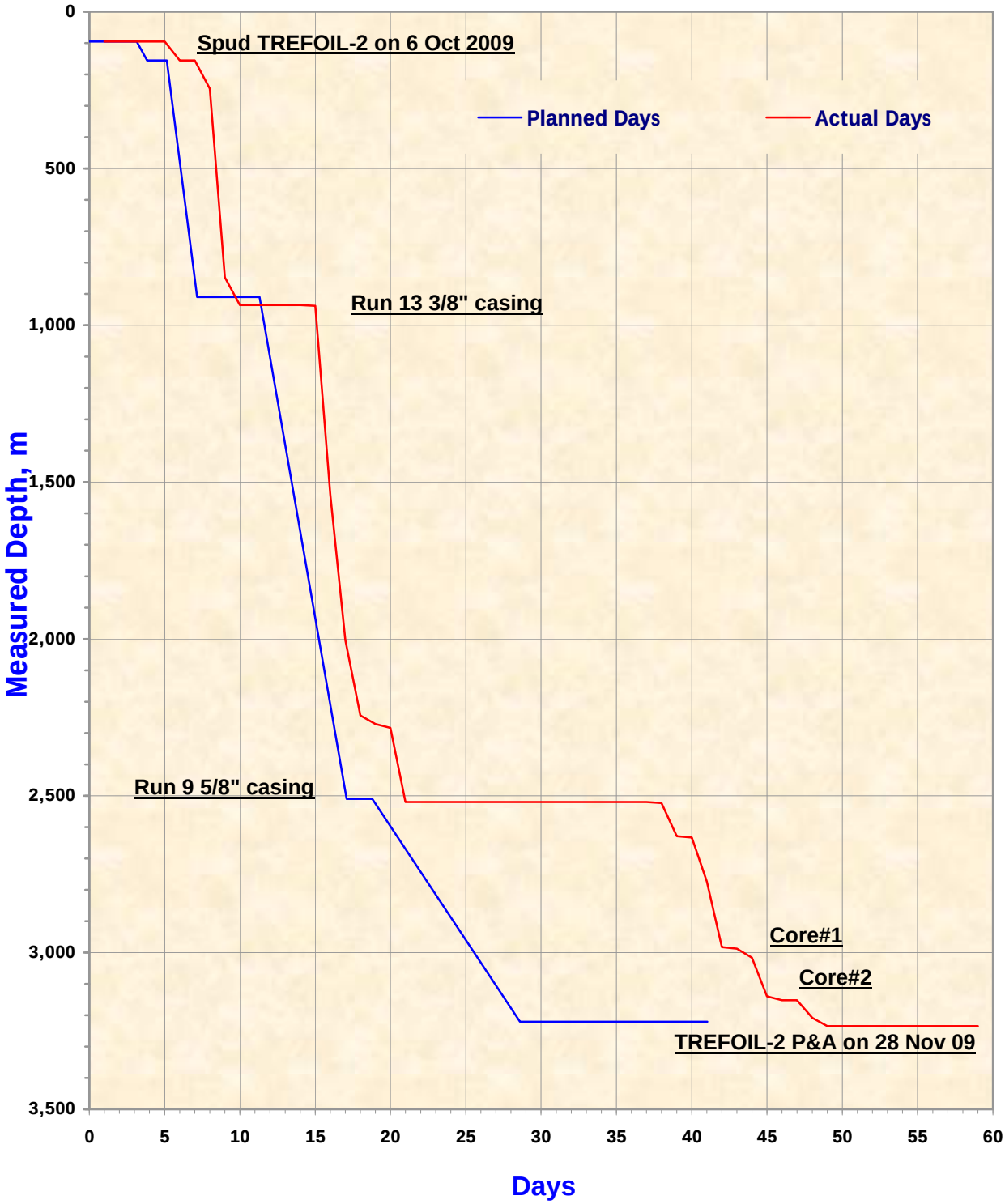


GRAPHS

Cost vs Depth



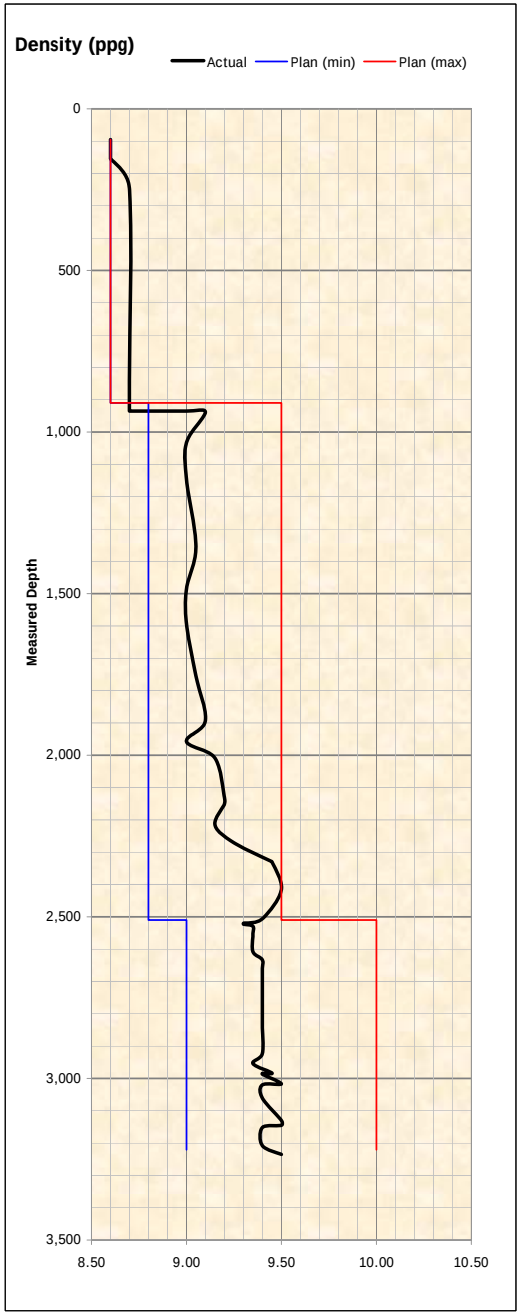
Days vs Depth

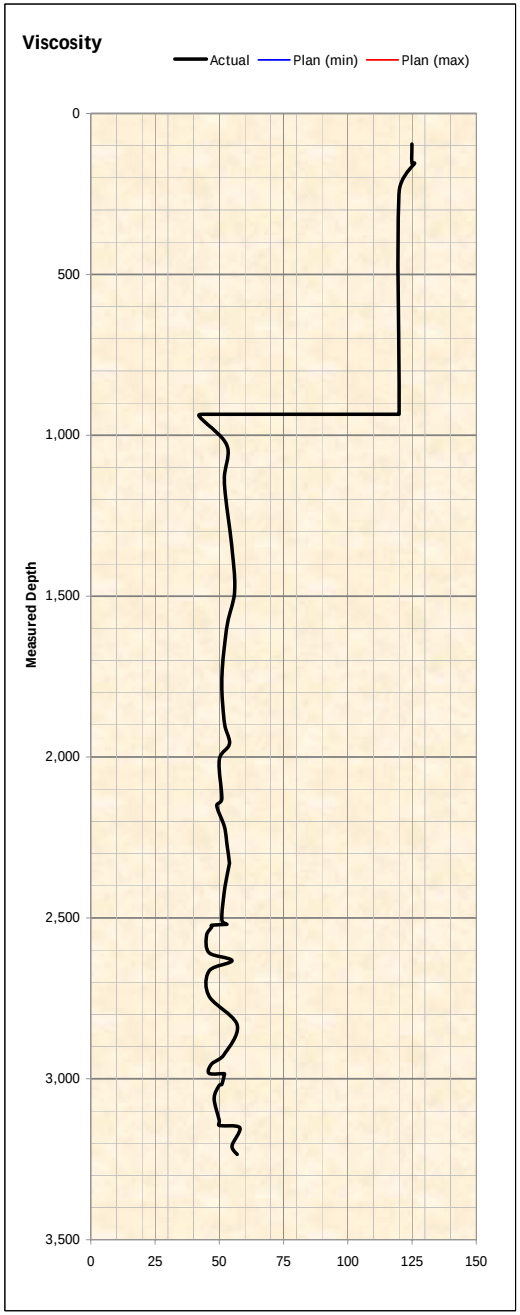


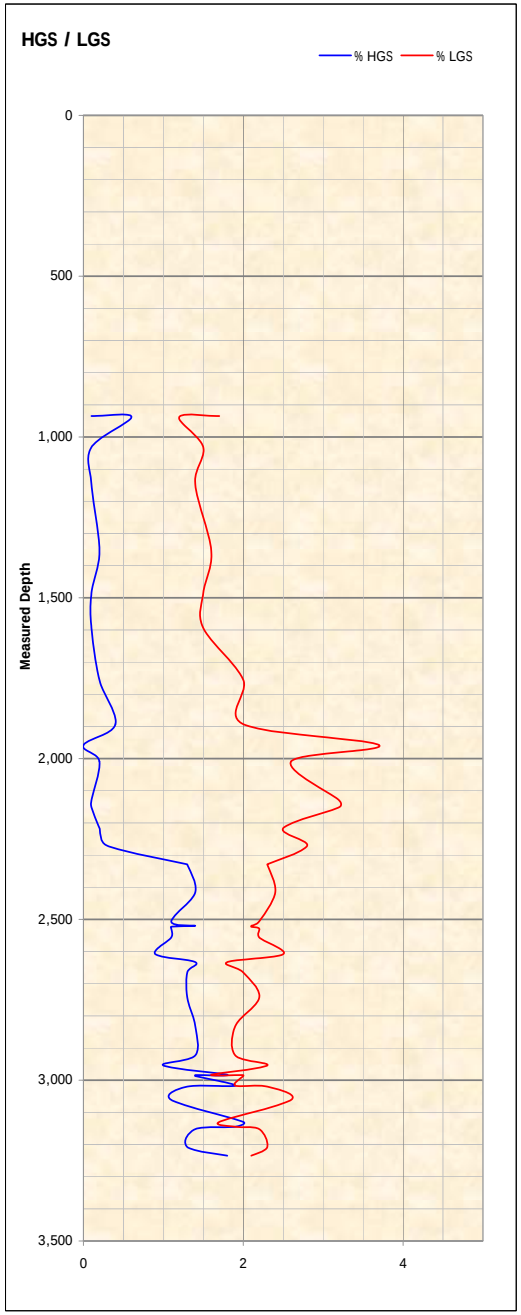
Origin Energy

TREFOIL-2

39o 53’07.9321”S Lat X 145o 22’14.6192”E Long







HALLIBURTON
Fluid Systems

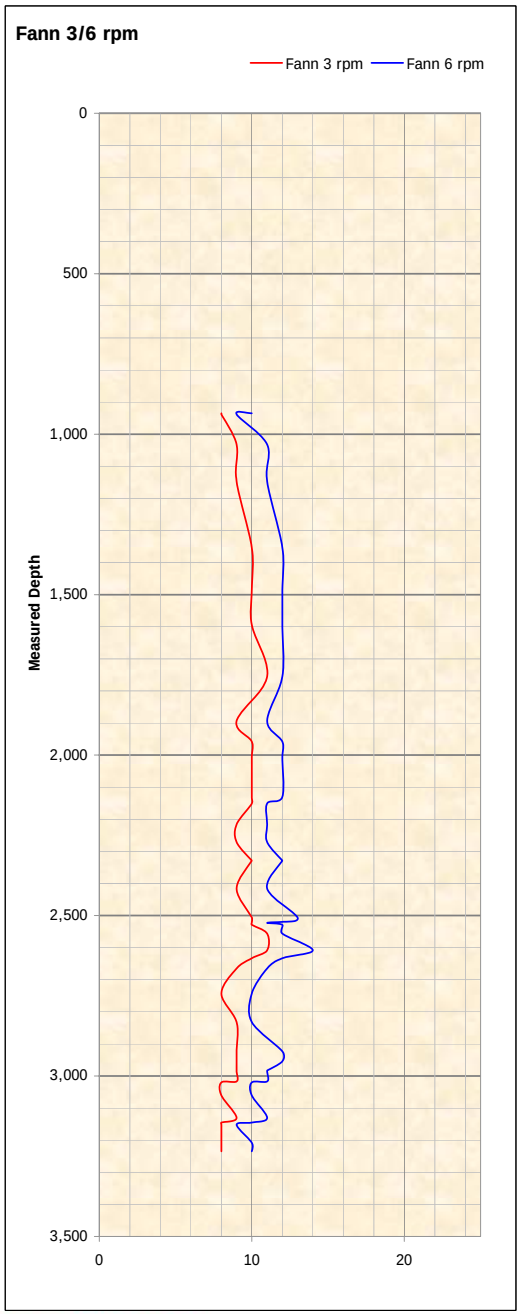
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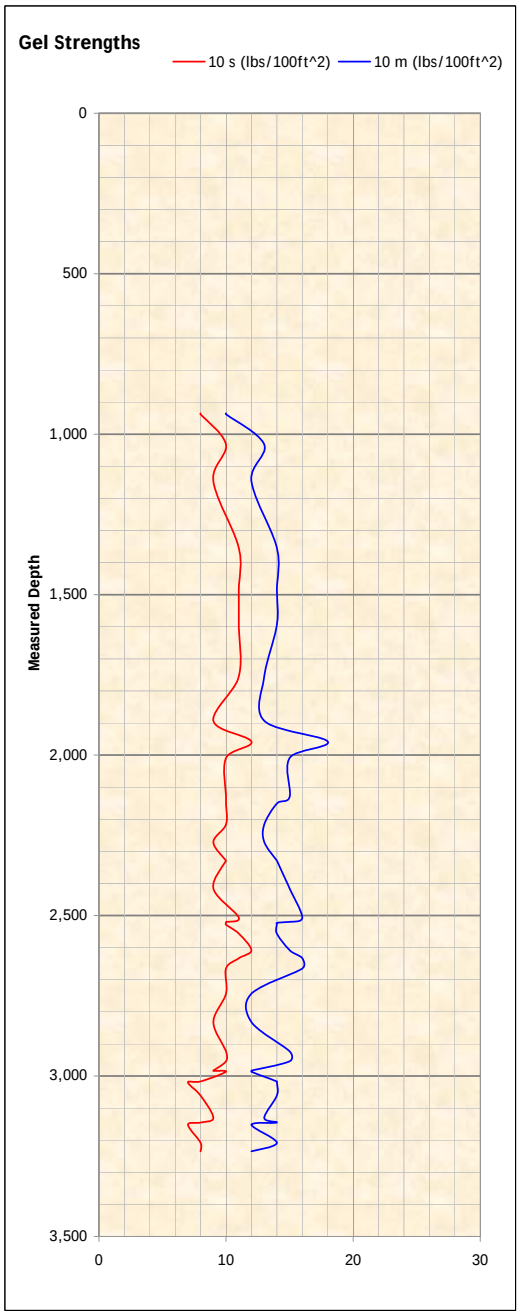
Baroid Fluid Services

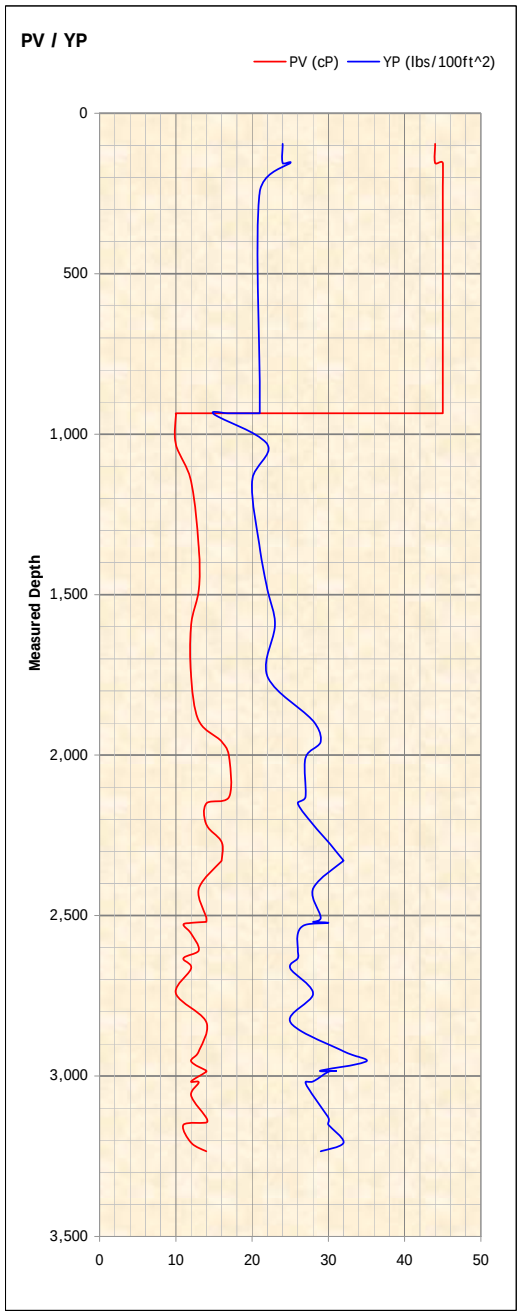
Origin Energy

TREFOIL-2

39o 53’07.9321”S Lat X 145o 22’14.6192”E Long







HALLIBURTON
Fluid Systems

Physical Properties

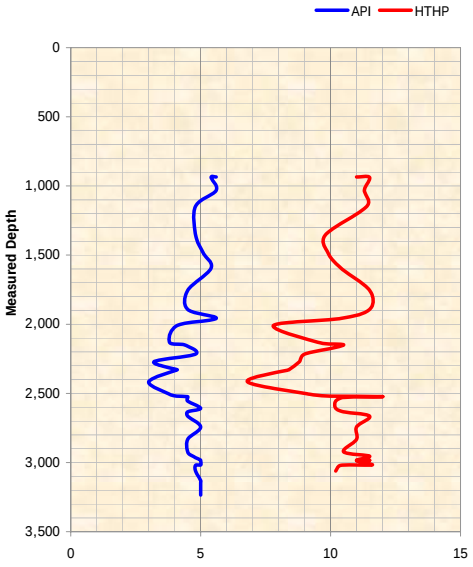
Baroid Fluid Services

Origin Energy

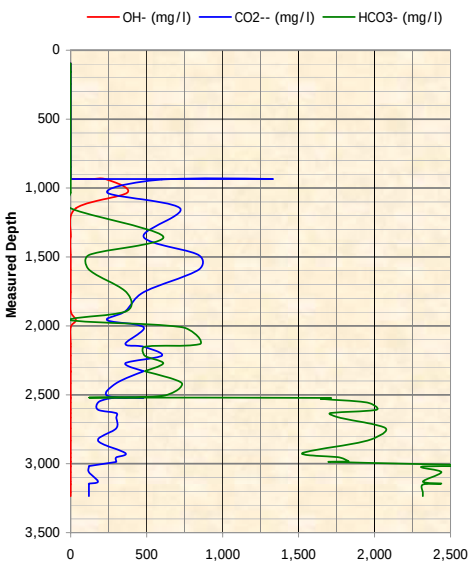
TREFOIL-2

39o 53’07.9321”S Lat X 145o 22’14.6192”E Long

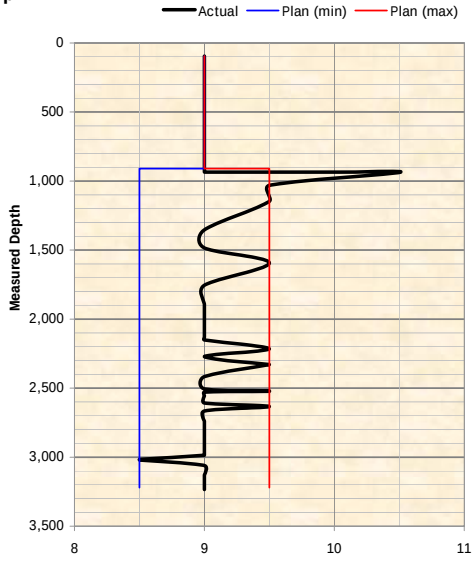
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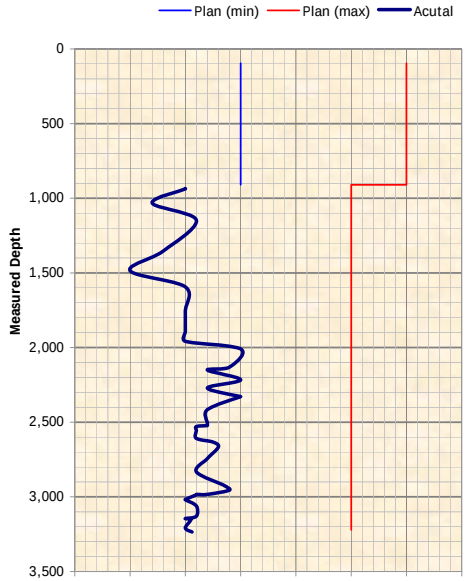
Alkalinity



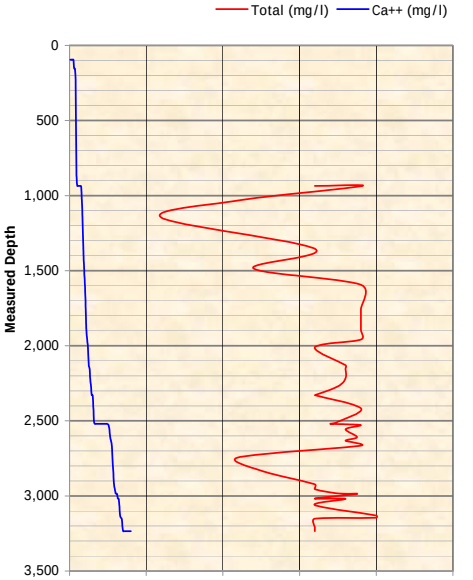
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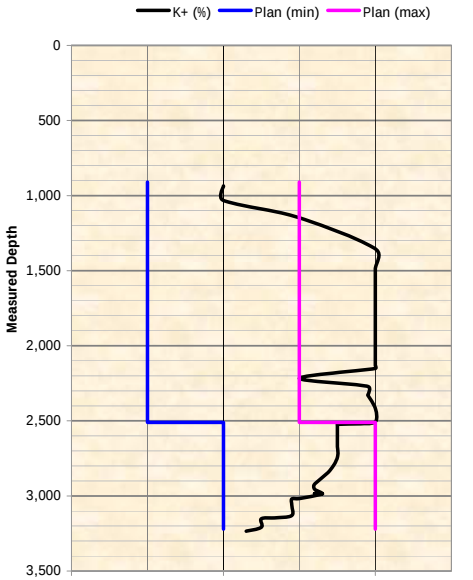
MBT



Hardness



Potassium Ion



HALLIBURTON
Fluid Systems

WBM Properties

Baroid Fluid Services

POSTWELL AUDIT

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Well Summary Report

Well Data

Spud Date		06/10/09	Fluids/Products: Drilling Cost	$A	421,904.88
TD Date		18/11/09	Fluids/Products: Completion Cost	$A	0.00
Project			Solids Control/Waste Management Cost	$A	38,536.76
Days on Well		55	Fluids/Products: Cementing Cost	$A	237.24
From Date		05/10/09	Prod Lost/Damaged Cost	$A	0.00
To Date		28/11/09	Engineer Services Cost	$A	183,260.00
Drilling Days		22	Equipment Cost	$A	0.00
Rotating / Drilling Hours		219.5/196.0	Transport/Packaging	$A	0.00
Average ROP	m/hr	16.0	Other Cost	$A	20,049.05
Maximum Density	ppg	9.50	Total Well Cost	$A	663,987.93
Total Measured Depth	m	3,235	Planned Cost	$A	619,661.03
True Vertical Depth	m	3,234	Fluid Cost Per Fluid Volume	$A/bbl	44.57
Distance Drilled	m	3,137	Fluid Cost Per Length Drilled	$A/m	134.49
Maximum Deviation	deg	4.33	Fluid Cost/Vol of Hole Drilled	$A/bbl	218.47
Max. Horz. Displacement	m	38	Total Additions/Hole Drilled	bbl/bbl	4.902
Bottom Hole Temp	Deg C	126	Total Additions/Length Drilled	bbl/m	3.017

Casing Design

Description	Set Date & Time	Top MD m	Top TVD m	End MD m	End TVD m	CSG OD in	CSG ID in	Max. Hole Size in	Hole MD m	Hole TVD m
30 X-52 312.0	07/10/09 23:59	95	95	144	144	30.000	28.000	36.0	144	144
20 X-70 169.0	07/10/09 23:59	144	144	153	153	20.000	18.750	36.0	153	153
13.375 K-55 61.0	12/10/09 23:59	95	95	930	930	13.375	12.515	17.500	935	935
9.625 L 80 55.0	07/11/09 23:59	95	95	2,520	2,520	9.625	8.728	12.25	2,520	2,520

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Well Summary Report

Fluid Program

Int #	Fluid Type	Interval Days	BHT Deg C	Max. Dens ppg	Whole fluid + Mix products	Other material charges	Other charges	Total Interval Cost $A		
								Plan	Actual	Variance
1	Seawater with PHB sweeps	2		8.60	49,565.41	0.00	20,020.00	52,949.00	69,585.41	16,636.41
2	Seawater with PHB sweeps	8		9.10	28,383.73	84.84	24,640.00	63,910.55	53,108.57	-10,801.99
3	Seawater with PHB sweeps 12 1/4" KCl/Polymer Brine	23	120	9.50	275,394.67	53,228.14	70,840.00	294,357.00	399,462.82	105,105.82
4	12 1/4" KCl/Polymer 8 1/2" KCl/Polymer	22	126	9.50	68,561.08	5,510.06	67,760.00	208,444.48	141,831.14	-66,613.34
Total Well Cost $A					**421,904.88**	**58,823.04**	**183,260.00**	**619,661.03**	**663,987.93**	**44,326.90**

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	ADA Drilling

Total Cost Breakdown

	Unit Size	Quantity	Total Cost
Engineering/Services			
Drilling Fluids Engineer	day(s)	63.00	97,020.00
Drilling Fluids Engineer 2	day(s)	56.00	86,240.00
		SubTotal **$A**	**183,260.00**
Fluids/Products: Cementing Cost			
citric acid	25 kg bag	2.00	152.40
mica	25 kg bag	2.00	84.84
		SubTotal **$A**	**237.24**
Other			
Amodrill 1235	1 bbl bulk	20.700	12,785.36
barite	1 tons bulk	2.100	1,534.22
BAROLIFT	15 lb box	2.00	636.04
EZ SPOT	55 gal drum	3.00	4,752.60
potassium hydroxide	20 kg pail	1.00	132.11
sapp	25 kg bag	1.00	208.72
		SubTotal **$A**	**20,049.05**
Solids Control/Waste Management Cost			
Generic mesh 24 (API 20)	1 each box	12.00	7,024.80
Techmesh 140 (API 80)	1 each box	24.00	13,439.04
Techmesh 175 (API 100)	1 each box	17.00	9,519.32
Techmesh 84 (API 50)	1 each box	16.00	8,553.60
		SubTotal **$A**	**38,536.76**
Fluids/Products: Drilling Cost			
ALDACIDE G	25 kg can	41.00	7,096.69
BARA-DEFOAM W300	25 l can	8.00	1,006.56
BARAZAN D PLUS	25 kg bag	205.00	44,144.70
barite	1 tons bulk	56.800	41,496.94
bentonite	1000 kg bulk	41.000	31,215.35
caustic soda	25 kg can	96.00	5,210.88
Circal 60/16	25 kg bag	139.00	1,762.52
Circal Y	25 kg bag	5.00	134.55
CLAYSEAL PLUS	55 gal drum	86.00	129,823.02
DEXTRID LTE	25 kg sack	302.00	15,999.96
EZ-MUD	25 kg pail	199.00	18,903.01
guar gum	25 kg bag	100.00	8,875.00
lime	25 kg bag	4.00	66.48
N-DRIL HT PLUS	50 lb bag	21.00	3,125.85
Omyacarb 5	25 kg bag	291.00	5,037.21
OXYGON	50 lb can	17.00	9,724.51
PAC-L	25 kg bag	149.00	23,887.68
potassium chloride	1000 kg bag	44.00	65,274.88

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	ADA Drilling

Total Cost Breakdown

potassium hydroxide	20 kg pail	51.00		6,737.61
soda ash	25 kg bag	69.00		2,098.98
sodium bicarbonate	25 kg bag	10.00		282.50
		SubTotal	**$A**	**421,904.88**
		Total Well Cost:	**$A**	**663,987.93**

Well	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Net Well Cost Breakdown

Cost Breakdown I $A	Interval 01	Interval 02	Interval 03	Interval 04	Total
Fluid/Product: Drilling	49,565.41	28,383.73	275,394.67	68,561.08	421,904.88
Fluid/Product: Comp/Filtration					
Solids Control/Waste Management Cost			33,497.12	5,039.64	38,536.76
Fluids/Products: Cementing Cost		84.84		152.40	237.24
Engineering Services	20,020.00	24,640.00	70,840.00	67,760.00	183,260.00
Fluid/Product: Lost Damage					
Other Cost			19,731.02	318.02	20,049.04
Equipment Cost					
Transport/Packaging Cost					
Total Cost	69,585.41	53,108.57	399,462.82	141,831.14	663,987.93

Cost Breakdown II $A	Interval 01	Interval 02	Interval 03	Interval 04	Total
Total Products Cost	49,565.41	28,468.57	328,622.82	74,071.14	480,727.93
Total Fluids Cost					
Total Charges Cost	20,020.00	24,640.00	70,840.00	67,760.00	183,260.00
Allocated To / From Other Interval				0.00	
Total Cost	69,585.41	53,108.57	399,462.82	141,831.14	663,987.93
Planned Cost	52,949.00	63,910.55	294,357.00	208,444.48	619,661.03
Variance	16,636.41	-10,801.98	105,105.82	-66,613.34	44,326.91

Volume Breakdown bbl	Interval 01	Interval 02	Interval 03	Interval 04	Total
Total Base Fluids Addition					
Total Chemical Addition	65.2	55.7	337.6	55.6	514.1
Total Barite Addition	55.4		16.9	12.7	85.1
Total Water Addition	1,819.4	3,071.1	2,458.5	150.2	7,499.1
Total Fluid Built	1,940.1	3,126.8	2,813.1	218.5	8,098.4
Total Fluid Received			1,367.4		1,367.4
Total Influx Addition					
Not Used In Interval				-132.5	
Total Fluid Volume	1,940.1	4,757.6	5,545.3	2,995.3	9,465.8

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Summary

Interval # 1	**Max Bit Size: 36.0 in**	**Hole Size Avg/Max**	**36.0 / 36.0 in**

Interval Start Date		05/10/09	Planned Cost	$A	52,949.00
Interval End Date		06/10/09	Total Interval Cost	$A	69,585.41
Interval TD Date		06/10/09	Program Variance	$A	16,636.41
Drilling Days		1.00	Other material charges	$A	0.00
Rotating/Hours		4.00 / 4.00	Total Fluids Cost	$A	49,565.41
Interval Top MD/TVD	m	95.0 / 95.0	Total Charges Cost	$A	20,020.00
Interval End MD/TVD	m	155.0 / 155.0	Total Cementing Cost	$A	0.00
Footage	m	60.0	Fluid Cost Per Vol Unit	$A/bbl	25.55
Average ROP	ft/hr	49	Fluid Cost/Hole Drilled	$A/m	826.09
Max Hole Angle	degrees	0.00	Fluid Cost/Vol Drilled	$A/bbl	200.00
Casing Size	in	0.000	Fluid Built	bbl	1,940.1
Casing Shoe MD	m	0.0	Total Additions/Vol Drilled	bbl/bbl	7.83
Casing Length	m	0.0	Total Additions/Hole Drilled	bbl/m	32.33
Bottom Hole Temp			Fluid Loss/Vol Drilled	bbl/bbl	1.25
Max Fluid Density	ppg	8.60	Fluid Loss/Hole Drilled	bbl/m	5.15

Interval Product and Base Fluids Usage and Cost

Product Function / Name	Drilling Fluid	Packaging	Quantity Used	Product Cost
Bactericides				
ALDACIDE G	Seawater	25 kg can	3.000	519.27
			Total	**$A 519.27**
Weighting Material				
barite	Seawater	1 tons bulk	37.000	27,031.46
			Total	**$A 27,031.46**
Viscosifier/Suspension Agent				
BARAZAN D PLUS	Seawater	25 kg bag	2.000	430.68
bentonite	Seawater	1000 kg bulk	24.100	18,348.54
guar gum	Seawater	25 kg bag	26.000	2,307.50
			Total	**$A 21,086.72**
Alkalinity Control				
caustic soda	Seawater	25 kg can	12.000	651.36
lime	Seawater	25 kg bag	2.000	33.24
soda ash	Seawater	25 kg bag	8.000	243.36
			Total	**$A 927.96**

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Summary

Interval # 2	**Max Bit Size: 17.5 in**	**Hole Size Avg/Max**	**17.5 / 17.5 in**

Interval Start Date		07/10/09	Planned Cost	$A	63,910.55
Interval End Date		14/10/09	Total Interval Cost	$A	53,108.57
Interval TD Date		10/10/09	Program Variance	$A	-10,801.98
Drilling Days		3.00	Other material charges	$A	84.84
Rotating/Hours		42.50 / 35.00	Total Fluids Cost	$A	28,383.73
Interval Top MD/TVD	m	155.0 / 155.0	Total Charges Cost	$A	24,640.00
Interval End MD/TVD	m	935.0 / 935.0	Total Cementing Cost	$A	84.84
Footage	m	780.0	Fluid Cost Per Vol Unit	$A/bbl	5.97
Average ROP	ft/hr	73	Fluid Cost/Hole Drilled	$A/m	36.39
Max Hole Angle	degrees	0.71	Fluid Cost/Vol Drilled	$A/bbl	37.28
Casing Size	in	13.375	Fluid Built	bbl	3,126.8
Casing Shoe MD	m	930.0	Total Additions/Vol Drilled	bbl/bbl	6.25
Casing Length	m	835.0	Total Additions/Hole Drilled	bbl/m	6.10
Bottom Hole Temp			Fluid Loss/Vol Drilled	bbl/bbl	4.46
Max Fluid Density	ppg	9.10	Fluid Loss/Hole Drilled	bbl/m	4.35

Interval Product and Base Fluids Usage and Cost

Product Function / Name	Drilling Fluid	Packaging	Quantity Used	Product Cost
Bactericides				
ALDACIDE G	Seawater	25 kg can	3.000	519.27
			Total	**$A 519.27**
Defoamer				
BARA-DEFOAM W300	Seawater	25 l can	2.000	251.64
			Total	**$A 251.64**
Viscosifier/Suspension Agent				
BARAZAN D PLUS	Seawater	25 kg bag	30.000	6,460.20
bentonite	Seawater	1000 kg bulk	16.900	12,866.82
guar gum	Seawater	25 kg bag	74.000	6,567.50
			Total	**$A 25,894.52**
Alkalinity Control				
caustic soda	Seawater	25 kg can	26.000	1,411.28
lime	Seawater	25 kg bag	2.000	33.24
soda ash	Seawater	25 kg bag	9.000	273.78
			Total	**$A 1,718.30**
Lost Circulation/Bridging Agent				
mica	No Fluid	25 kg bag	2.000	84.84
			Total	**$A 84.84**

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Summary

Interval # 3	**Max Bit Size: 12.25 in**	**Hole Size Avg/Max**	**12.25 / 12.25 in**

Interval Start Date		15/10/09	Planned Cost	$A	294,357.00
Interval End Date		06/11/09	Total Interval Cost	$A	399,462.82
Interval TD Date		21/10/09	Program Variance	$A	105,105.82
Drilling Days		6.00	Other material charges	$A	53,228.14
Rotating/Hours		87.00 / 81.00	Total Fluids Cost	$A	275,394.67
Interval Top MD/TVD	m	935.0 / 935.0	Total Charges Cost	$A	70,840.00
Interval End MD/TVD	m	2,520.0 / 2,519.7	Total Cementing Cost	$A	0.00
Footage	m	1,585.0	Fluid Cost Per Vol Unit	$A/bbl	50.88
Average ROP	ft/hr	64	Fluid Cost/Hole Drilled	$A/m	173.75
Max Hole Angle	degrees	0.00	Fluid Cost/Vol Drilled	$A/bbl	363.29
Casing Size	in	13.375	Fluid Built	bbl	2,813.1
Casing Shoe MD	m	930.0	Total Additions/Vol Drilled	bbl/bbl	7.14
Casing Length	m	835.0	Total Additions/Hole Drilled	bbl/m	3.42
Bottom Hole Temp	Deg C	120	Fluid Loss/Vol Drilled	bbl/bbl	3.48
Max Fluid Density	ppg	9.50	Fluid Loss/Hole Drilled	bbl/m	1.66

Interval Product and Base Fluids Usage and Cost

Product Function / Name	Drilling Fluid	Packaging	Quantity Used	Product Cost
Bactericides				
ALDACIDE G	KCl/Polymer	25 kg can	22.000	3,807.98
			Total	**$A 3,807.98**
Defoamer				
BARA-DEFOAM W300	KCl/Polymer	25 l can	5.000	629.10
			Total	**$A 629.10**
Weighting Material				
barite	KCl/Polymer	1 tons bulk	11.300	8,255.55
barite	No Fluid	1 tons bulk	2.100	1,534.22
			Total	**$A 9,789.77**
Viscosifier/Suspension Agent				
BARAZAN D PLUS	KCl/Polymer	25 kg bag	137.000	29,501.58
			Total	**$A 29,501.58**
Alkalinity Control				
caustic soda	KCl/Polymer	25 kg can	34.000	1,845.52
potassium hydroxide	KCl/Polymer	20 kg pail	31.000	4,095.41
potassium hydroxide	No Fluid	20 kg pail	1.000	132.11
soda ash	KCl/Polymer	25 kg bag	48.000	1,460.16
sodium bicarbonate	KCl/Polymer	25 kg bag	10.000	282.50
			Total	**$A 7,815.70**
Corrosion Inhibitor				
OXYGON	KCl/Polymer	50 lb can	10.000	5,720.30
			Total	**$A 5,720.30**
Shale Control				
EZ-MUD	KCl/Polymer	25 kg pail	131.000	12,443.69
potassium chloride	KCl/Polymer	1000 kg bag	44.000	65,274.88
CLAYSEAL PLUS	KCl/Polymer	55 gal drum	68.000	102,650.76
			Total	**$A 180,369.33**

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Summary

Pipe-Freeing Agent					
EZ SPOT	No Fluid	55 gal drum	3.000		4,752.60
			Total	**$A**	**4,752.60**
Lost Circulation/Bridging Agent					
Circal Y	KCl/Polymer	25 kg bag	5.000		134.55
Circal 60/16	KCl/Polymer	25 kg bag	107.000		1,356.76
Omyacarb 5	KCl/Polymer	25 kg bag	257.000		4,448.67
BAROLIFT	No Fluid	15 lb box	1.000		318.02
			Total	**$A**	**6,258.00**
Filtration Control					
DEXTRID LTE	KCl/Polymer	25 kg sack	275.000		14,569.50
PAC-L	KCl/Polymer	25 kg bag	118.000		18,917.76
			Total	**$A**	**33,487.26**
Thinner/Deflocculant					
sapp	No Fluid	25 kg bag	1.000		208.72
			Total	**$A**	**208.72**
Solids Control Equipment					
Techmesh 175 (API 100)	No Fluid	1 each box	8.000		4,479.68
Techmesh 140 (API 80)	No Fluid	1 each box	24.000		13,439.04
Techmesh 84 (API 50)	No Fluid	1 each box	16.000		8,553.60
Generic mesh 24 (API 20)	No Fluid	1 each box	12.000		7,024.80
			Total	**$A**	**33,497.12**
Base Fluid					
Amodrill 1235	No Fluid	1 bbl bulk	20.700		12,785.36
			Total	**$A**	**12,785.36**

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Summary

Interval # 4	**Max Bit Size: 8.5 in**	**Hole Size Avg/Max**	**8.5 / 8.5 in**

Interval Start Date		07/11/09	Planned Cost	$A	208,444.48
Interval End Date		28/11/09	Total Interval Cost	$A	141,831.14
Interval TD Date		18/11/09	Program Variance	$A	-66,613.34
Drilling Days		12.00	Other material charges	$A	5,510.06
Rotating/Hours		86.00 / 73.50	Total Fluids Cost	$A	68,561.08
Interval Top MD/TVD	m	2,523.0 / 2,522.7	Total Charges Cost	$A	67,760.00
Interval End MD/TVD	m	3,235.0 / 3,234.0	Total Cementing Cost	$A	152.40
Footage	m	712.0	Fluid Cost Per Vol Unit	$A/bbl	22.89
Average ROP	ft/hr	31	Fluid Cost/Hole Drilled	$A/m	96.29
Max Hole Angle	degrees	4.33	Fluid Cost/Vol Drilled	$A/bbl	418.18
Casing Size	in	9.625	Fluid Built	bbl	218.5
Casing Shoe MD	m	2,520.0	Total Additions/Vol Drilled	bbl/bbl	18.27
Casing Length	m	2,425.0	Total Additions/Hole Drilled	bbl/m	4.21
Bottom Hole Temp	Deg C	126	Fluid Loss/Vol Drilled	bbl/bbl	11.85
Max Fluid Density	ppg	9.50	Fluid Loss/Hole Drilled	bbl/m	2.73

Interval Product and Base Fluids Usage and Cost

Product Function / Name	Drilling Fluid	Packaging	Quantity Used	Product Cost
Bactericides				
ALDACIDE G	KCl/Polymer	25 kg can	13.000	2,250.17
			Total	**$A 2,250.17**
Defoamer				
BARA-DEFOAM W300	KCl/Polymer	25 l can	1.000	125.82
			Total	**$A 125.82**
Weighting Material				
barite	KCl/Polymer	1 tons bulk	8.500	6,209.93
			Total	**$A 6,209.93**
Viscosifier/Suspension Agent				
BARAZAN D PLUS	KCl/Polymer	25 kg bag	36.000	7,752.24
			Total	**$A 7,752.24**
Filtration Control				
N-DRIL HT PLUS	KCl/Polymer	50 lb bag	21.000	3,125.85
DEXTRID LTE	KCl/Polymer	25 kg sack	27.000	1,430.46
PAC-L	KCl/Polymer	25 kg bag	31.000	4,969.92
			Total	**$A 9,526.23**
Alkalinity Control				
caustic soda	KCl/Polymer	25 kg can	24.000	1,302.72
citric acid	No Fluid	25 kg bag	2.000	152.40
potassium hydroxide	KCl/Polymer	20 kg pail	20.000	2,642.20
soda ash	KCl/Polymer	25 kg bag	4.000	121.68
			Total	**$A 4,219.00**
Corrosion Inhibitor				
OXYGON	KCl/Polymer	50 lb can	7.000	4,004.21
			Total	**$A 4,004.21**
Shale Control				
EZ-MUD	KCl/Polymer	25 kg pail	68.000	6,459.32

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Summary

CLAYSEAL PLUS	KCl/Polymer	55 gal drum	18.000		27,172.26
			Total	**$A**	**33,631.58**
Lost Circulation/Bridging Agent					
Circal 60/16	KCl/Polymer	25 kg bag	32.000		405.76
Omyacarb 5	KCl/Polymer	25 kg bag	34.000		588.54
BAROLIFT	No Fluid	15 lb box	1.000		318.02
			Total	**$A**	**1,312.32**
Solids Control Equipment					
Techmesh 175 (API 100)	No Fluid	1 each box	9.000		5,039.64
			Total	**$A**	**5,039.64**

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Cost Breakdown

Interval # 01		**From Date**	**05/10/09**	**Top of Interval**	**95.0 m**
Max. Hole Size / Bit Size	**36.0 / 36.0 in**	**To Date**	**06/10/09**	**Bottom of Interval**	**155.0 m**

Material	Unit Size	Quantity		Total Cost
Engineering/Services				
Drilling Fluids Engineer	day(s)	10.00		15400.00
Drilling Fluids Engineer 2	day(s)	3.00		4620.00
		SubTotal	**$A**	**20,020.00**
Fluids/Products: Drilling Cost				
ALDACIDE G	25 kg can	3.00		519.27
BARAZAN D PLUS	25 kg bag	2.00		430.68
barite	1 tons bulk	37.000		27031.46
bentonite	1000 kg bulk	24.100		18348.54
caustic soda	25 kg can	12.00		651.36
guar gum	25 kg bag	26.00		2307.50
lime	25 kg bag	2.00		33.24
soda ash	25 kg bag	8.00		243.36
		SubTotal	**$A**	**49,565.41**
		Interval Total Cost	**$A**	**69,585.41**
	Charged To/From Other Interval		**$A**	
	Net Description Total Cost		**$A**	**69,585.41**
	Programmed Cost		**$A**	**52,949.00**
	Program Variance		**$A**	**16,636.41**

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Cost Breakdown

Interval # 02		**From Date**	**07/10/09**	**Top of Interval**	**155.0 m**
Max. Hole Size / Bit Size	**17.5 / 17.5 in**	**To Date**	**14/10/09**	**Bottom of Interval**	**935.0 m**

Material	Unit Size	Quantity		Total Cost
Engineering/Services				
Drilling Fluids Engineer	day(s)	8.00		12320.00
Drilling Fluids Engineer 2	day(s)	8.00		12320.00
		SubTotal	**$A**	**24,640.00**
Fluids/Products: Cementing Cost				
mica	25 kg bag	2.00		84.84
		SubTotal	**$A**	**84.84**
Fluids/Products: Drilling Cost				
ALDACIDE G	25 kg can	3.00		519.27
BARA-DEFOAM W300	25 l can	2.00		251.64
BARAZAN D PLUS	25 kg bag	30.00		6460.20
bentonite	1000 kg bulk	16.900		12866.82
caustic soda	25 kg can	26.00		1411.28
guar gum	25 kg bag	74.00		6567.50
lime	25 kg bag	2.00		33.24
soda ash	25 kg bag	9.00		273.78
		SubTotal	**$A**	**28,383.73**
		Interval Total Cost	**$A**	**53,108.57**
	Charged To/From Other Interval		**$A**	**0.00**
	Net Description Total Cost		**$A**	**53,108.57**
	Programmed Cost		**$A**	**63,910.55**
	Program Variance		**$A**	**-10,801.99**

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Cost Breakdown

Interval # 03		**From Date**	**15/10/09**	**Top of Interval**	**935.0 m**
Max. Hole Size / Bit Size	**12.25 / 12.25 in**	**To Date**	**06/11/09**	**Bottom of Interval**	**2,520.0 m**

Material	Unit Size	Quantity		Total Cost
Engineering/Services				
Drilling Fluids Engineer	day(s)	23.00		35420.00
Drilling Fluids Engineer 2	day(s)	23.00		35420.00
		SubTotal	**$A**	**70,840.00**
Other				
Amodrill 1235	1 bbl bulk	20.700		12785.36
barite	1 tons bulk	2.100		1534.22
BAROLIFT	15 lb box	1.00		318.02
EZ SPOT	55 gal drum	3.00		4752.60
potassium hydroxide	20 kg pail	1.00		132.11
sapp	25 kg bag	1.00		208.72
		SubTotal	**$A**	**19,731.03**
Solids Control/Waste Management Cost				
Generic mesh 24 (API 20)	1 each box	12.00		7024.80
Techmesh 140 (API 80)	1 each box	24.00		13439.04
Techmesh 175 (API 100)	1 each box	8.00		4479.68
Techmesh 84 (API 50)	1 each box	16.00		8553.60
		SubTotal	**$A**	**33,497.12**
Fluids/Products: Drilling Cost				
ALDACIDE G	25 kg can	22.00		3807.98
BARA-DEFOAM W300	25 l can	5.00		629.10
BARAZAN D PLUS	25 kg bag	137.00		29501.58
barite	1 tons bulk	11.300		8255.55
caustic soda	25 kg can	34.00		1845.52
Circal 60/16	25 kg bag	107.00		1356.76
Circal Y	25 kg bag	5.00		134.55
CLAYSEAL PLUS	55 gal drum	68.00		102650.76
DEXTRID LTE	25 kg sack	275.00		14569.50
EZ-MUD	25 kg pail	131.00		12443.69
Omyacarb 5	25 kg bag	257.00		4448.67
OXYGON	50 lb can	10.00		5720.30
PAC-L	25 kg bag	118.00		18917.76
potassium chloride	1000 kg bag	44.00		65274.88
potassium hydroxide	20 kg pail	31.00		4095.41
soda ash	25 kg bag	48.00		1460.16
sodium bicarbonate	25 kg bag	10.00		282.50
		SubTotal	**$A**	**275,394.67**
		Interval Total Cost	**$A**	**399,462.82**

Well Name	TREFOIL-2
Operator	ADA DRILLING
Contractor	MAERSK
Rig No	Kantan IV
Unit System	ADA Drilling

Interval Cost Breakdown

Charged To/From Other Interval	$A	-0.01
Net Description Total Cost	$A	399,462.82
Programmed Cost	$A	294,357.00
Program Variance	$A	105,105.82

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Cost Breakdown

Interval # 04		**From Date**	**07/11/09**	**Top of Interval**	**2,523.0 m**
Max. Hole Size / Bit Size	**8.5 / 8.5 in**	**To Date**	**28/11/09**	**Bottom of Interval**	**3,235.0 m**

Material	Unit Size	Quantity		Total Cost
Engineering/Services				
Drilling Fluids Engineer	day(s)	22.00		33880.00
Drilling Fluids Engineer 2	day(s)	22.00		33880.00
		SubTotal	**$A**	**67,760.00**
Fluids/Products: Cementing Cost				
citric acid	25 kg bag	2.00		152.40
		SubTotal	**$A**	**152.40**
Other				
BAROLIFT	15 lb box	1.00		318.02
		SubTotal	**$A**	**318.02**
Solids Control/Waste Management Cost				
Techmesh 175 (API 100)	1 each box	9.00		5039.64
		SubTotal	**$A**	**5,039.64**
Fluids/Products: Drilling Cost				
ALDACIDE G	25 kg can	13.00		2250.17
BARA-DEFOAM W300	25 l can	1.00		125.82
BARAZAN D PLUS	25 kg bag	36.00		7752.24
barite	1 tons bulk	8.500		6209.93
caustic soda	25 kg can	24.00		1302.72
Circal 60/16	25 kg bag	32.00		405.76
CLAYSEAL PLUS	55 gal drum	18.00		27172.26
DEXTRID LTE	25 kg sack	27.00		1430.46
EZ-MUD	25 kg pail	68.00		6459.32
N-DRIL HT PLUS	50 lb bag	21.00		3125.85
Omyacarb 5	25 kg bag	34.00		588.54
OXYGON	50 lb can	7.00		4004.21
PAC-L	25 kg bag	31.00		4969.92
potassium hydroxide	20 kg pail	20.00		2642.20
soda ash	25 kg bag	4.00		121.68
		SubTotal	**$A**	**68,561.08**
		Interval Total Cost	**$A**	**141,831.14**
	Charged To/From Other Interval		**$A**	
	Net Description Total Cost		**$A**	**141,831.14**
	Programmed Cost		**$A**	**208,444.48**
	Program Variance		**$A**	**-66,613.34**

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Inventory Report

Interval # 01		**From Date**	**05/10/09**	**Top of Interval**			**95.0 m**
Max. Hole Size / Bit Size	**36.0 / 36.0 in**	**To Date**	**06/10/09**	**Bottom of Interval**			**155.0 m**
Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**
ALDACIDE G	25 kg can		32.0	3.0		29.0	1,598.35
BARA-DEFOAM W300	25 l can		16.0			16.0	773.76
BARAZAN D PLUS	25 kg bag		80.0	2.0		78.0	4,299.01
barite	1 tons bulk		84.000	37.000		47.000	103,617.26
BAROLIFT	15 lb box		18.0			18.0	270.00
bentonite	1000 kg bulk		42.000	24.100		17.900	39,462.74
caustic soda	25 kg can		32.0	12.0		20.0	1,102.31
CON DET	5 gal can		32.0			32.0	1,367.76
DEXTRID LTE	25 kg sack		72.0			72.0	3,968.32
Generic mesh 24 (API 20)	1 each box		24.0			24.0	
guar gum	25 kg bag		80.0	26.0		54.0	2,976.24
lime	25 kg bag		54.0	2.0		52.0	2,866.01
mica	25 kg bag		40.0			40.0	2,204.62
Omyacarb 5	25 kg bag		96.0			96.0	5,291.09
PAC-L	25 kg bag		80.0			80.0	4,409.25
soda ash	25 kg bag		40.0	8.0		32.0	1,763.70
Techmesh 110 (API 60)	1 each box		24.0			24.0	
Techmesh 140 (API 80)	1 each box		40.0			40.0	
Techmesh 175 (API 100)	1 each box		24.0			24.0	
Techmesh 84 (API 50)	1 each box		24.0			24.0	
					Total Weight of Products in Stock lb		**175,970.42**
					Total Weight of Products in Stock, Metric Tons		**79.82**

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Inventory Report

Interval # 02		**From Date**	**07/10/09**	**Top of Interval**		**155.0 m**	
Max. Hole Size / Bit Size 17.5 / 17.5 in		**To Date**	**14/10/09**	**Bottom of Interval**		**935.0 m**	
Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**
ALDACIDE G	25 kg can	29.0		3.0		26.0	1,433.00
Amodrill 1235	1 bbl bulk		20.700			20.700	5,677.37
BARA-DEFOAM W300	25 l can	16.0		2.0		14.0	677.04
BARAZAN D PLUS	25 kg bag	78.0	160.0	30.0		208.0	11,464.04
barite	1 tons bulk	47.000	42.000			89.000	196,211.40
BAROLIFT	15 lb box	18.0				18.0	270.00
BARO-SEAL FINE	40 lb bag		40.0			40.0	1,600.00
BARO-SEAL MEDIUM	40 lb bag		40.0			40.0	1,600.00
bentonite	1000 kg bulk	17.900		16.900		1.000	2,204.62
caustic soda	25 kg can	20.0	64.0	26.0		58.0	3,196.70
Circal 60/16	25 kg bag		288.0			288.0	15,873.28
Circal Y	25 kg bag		96.0			96.0	5,291.09
CLAYSEAL PLUS	55 gal drum		132.0			132.0	62,970.33
CON DET	5 gal can	32.0				32.0	1,367.76
DEXTRID LTE	25 kg sack	72.0	356.0			428.0	23,589.46
EZ-MUD	25 kg pail		320.0			320.0	17,636.98
Generic mesh 24 (API 20)	1 each box	24.0				24.0	
guar gum	25 kg bag	54.0	120.0	74.0		100.0	5,511.56
lime	25 kg bag	52.0	40.0	2.0		90.0	4,960.40
mica	25 kg bag	40.0		2.0		38.0	2,094.39
N-DRIL HT PLUS	50 lb bag		126.0			126.0	6,300.00
Omyacarb 5	25 kg bag	96.0	184.0			280.0	15,432.36
OXYGON	50 lb can		50.0			50.0	2,500.00
PAC-L	25 kg bag	80.0	156.0			236.0	13,007.27
potassium chloride	1000 kg bag		43.0			43.0	94,798.77
potassium hydroxide	20 kg pail		64.0			64.0	2,821.92
soda ash	25 kg bag	32.0	40.0	9.0		63.0	3,472.28
sodium bicarbonate	25 kg bag		48.0			48.0	2,645.55
SOURSCAV	25 kg pail		32.0			32.0	1,763.70
STEELSEAL 100	50 lb sack		40.0			40.0	2,000.00
STEELSEAL 400	50 lb sack		40.0			40.0	2,000.00
Techmesh 110 (API 60)	1 each box	24.0				24.0	
Techmesh 140 (API 80)	1 each box	40.0				40.0	
Techmesh 175 (API 100)	1 each box	24.0				24.0	
Techmesh 84 (API 50)	1 each box	24.0				24.0	
					Total Weight of Products in Stock lb		**510,371.28**
					Total Weight of Products in Stock, Metric Tons		**231.50**

Baroid Fluid Services **Well Name** **TREFOIL-2**

Interval Inventory Report

Interval # 03		From Date	15/10/09		Top of Interval		935.0 m	
Max. Hole Size / Bit Size 12.25 / 12.25 in		To Date	06/11/09		Bottom of Interval		2,520.0 m	
Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**
ALDACIDE G	25 kg can	26.0	17.0	22.0		21.0	1,157.43
Amodrill 1235	1 bbl bulk	20.700	19.400	20.700		19.400	5,320.82
BARA-DEFOAM W300	25 l can	14.0		5.0		9.0	435.24
BARAZAN D PLUS	25 kg bag	208.0		137.0		71.0	3,913.20
barite	1 tons bulk	89.000	49.300	13.400		124.900	275,357.35
BAROLIFT	15 lb box	18.0		1.0		17.0	255.00
BARO-SEAL FINE	40 lb bag	40.0				40.0	1,600.00
BARO-SEAL MEDIUM	40 lb bag	40.0				40.0	1,600.00
bentonite	1000 kg bulk	1.000	32.000			33.000	72,752.54
caustic soda	25 kg can	58.0		34.0		24.0	1,322.77
Circal 60/16	25 kg bag	288.0		107.0		181.0	9,975.92
Circal Y	25 kg bag	96.0		5.0		91.0	5,015.52
citric acid	25 kg bag		40.0			40.0	2,204.62
CLAYSEAL PLUS	55 gal drum	132.0		68.0		64.0	30,531.07
CON DET	5 gal can	32.0				32.0	1,367.76
DEXTRID LTE	25 kg sack	428.0		275.0		153.0	8,432.68
EZ SPOT	55 gal drum		8.0	3.0		5.0	5,275.05
EZ-MUD	25 kg pail	320.0		131.0		189.0	10,416.84
Generic mesh 24 (API 20)	1 each box	24.0		12.0		12.0	
guar gum	25 kg bag	100.0				100.0	5,511.56
lime	25 kg bag	90.0			90.0		
mica	25 kg bag	38.0				38.0	2,094.39
N-DRIL HT PLUS	50 lb bag	126.0				126.0	6,300.00
Omyacarb 5	25 kg bag	280.0	17.0	257.0		40.0	2,204.62
OXYGON	50 lb can	50.0		10.0		40.0	2,000.00
PAC-L	25 kg bag	236.0		118.0		118.0	6,503.64
potassium chloride	1000 kg bag	43.0	16.0	44.0		15.0	33,069.34
potassium hydroxide	20 kg pail	64.0		32.0		32.0	1,410.96
sapp	25 kg bag		19.0	1.0		18.0	992.08
soda ash	25 kg bag	63.0	11.0	48.0		26.0	1,433.00
sodium bicarbonate	25 kg bag	48.0		10.0		38.0	2,094.39
SOURSCAV	25 kg pail	32.0				32.0	1,763.70
STEELSEAL 100	50 lb sack	40.0				40.0	2,000.00
STEELSEAL 400	50 lb sack	40.0				40.0	2,000.00
Techmesh 110 (API 60)	1 each box	24.0				24.0	
Techmesh 140 (API 80)	1 each box	40.0		24.0		16.0	
Techmesh 175 (API 100)	1 each box	24.0		8.0		16.0	
Techmesh 84 (API 50)	1 each box	24.0		16.0		8.0	
					Total Weight of Products in Stock lb		**506,311.50**
					Total Weight of Products in Stock, Metric Tons		**229.66**

Baroid Fluid Services

Well Name **TREFOIL-2**

Interval Inventory Report

Interval # 04		**From Date**	**07/11/09**	**Top of Interval**		**2,523.0 m**	
Max. Hole Size / Bit Size 8.5 / 8.5 in		**To Date**	**28/11/09**	**Bottom of Interval**		**3,235.0 m**	
Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**
ALDACIDE G	25 kg can	21.0		13.0	8.0		
Amodrill 1235	1 bbl bulk	19.400			19.400		
BARA-DEFOAM W300	25 l can	9.0		1.0	8.0		
BARAZAN D PLUS	25 kg bag	71.0		36.0	35.0		
barite	1 tons bulk	124.900		8.500	116.400	0.000	0.00
BAROLIFT	15 lb box	17.0		1.0	16.0		
BARO-SEAL FINE	40 lb bag	40.0			40.0		
BARO-SEAL MEDIUM	40 lb bag	40.0			40.0		
bentonite	1000 kg bulk	33.000	13.000		46.000		
caustic soda	25 kg can	24.0		24.0			
Circal 60/16	25 kg bag	181.0		32.0	149.0		
Circal Y	25 kg bag	91.0			91.0		
citric acid	25 kg bag	40.0		2.0	38.0		
CLAYSEAL PLUS	55 gal drum	64.0		18.0	46.0		
CON DET	5 gal can	32.0			32.0		
DEXTRID LTE	25 kg sack	153.0		27.0	126.0		
EZ SPOT	55 gal drum	5.0			5.0		
EZ-MUD	25 kg pail	189.0		68.0	121.0		
Generic mesh 24 (API 20)	1 each box	12.0			12.0		
guar gum	25 kg bag	100.0			100.0		
lime	25 kg bag						
mica	25 kg bag	38.0			38.0		
N-DRIL HT PLUS	50 lb bag	126.0		21.0	105.0		
Omyacarb 5	25 kg bag	40.0		34.0	6.0		
OXYGON	50 lb can	40.0		7.0	33.0		
PAC-L	25 kg bag	118.0		31.0	87.0		
potassium chloride	1000 kg bag	15.0	18.0		33.0		
potassium hydroxide	20 kg pail	32.0		20.0	12.0		
sapp	25 kg bag	18.0			18.0		
soda ash	25 kg bag	26.0		4.0	22.0		
sodium bicarbonate	25 kg bag	38.0			38.0		
SOURSCAV	25 kg pail	32.0			32.0		
STEELSEAL 100	50 lb sack	40.0			40.0		
STEELSEAL 400	50 lb sack	40.0			40.0		
Techmesh 110 (API 60)	1 each box	24.0			24.0		
Techmesh 140 (API 80)	1 each box	16.0			16.0		
Techmesh 175 (API 100)	1 each box	16.0		9.0	7.0		
Techmesh 84 (API 50)	1 each box	8.0			8.0		
				Total Weight of Products in Stock lb			**0.00**
				Total Weight of Products in Stock, Metric Tons			**0.00**

Company	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Volume Record Report

			Additions								Losses						Volumes			
Report No	Date	Initial Volume	Received	Mixed	Base	Water	Barite	Chemicals	Other	Daily Total	SCE	Downhole	Misc	Mixed	Returned	Daily Total	Hole Volume	Active Pit Volume	Reserve Volume	Final Volume
		bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl
Interval # 01																				
Fluid Name:	**Seawater with PHB sweeps**																			
005	5/10/2009					911.1	22.5	1.4		935.0									935.0	935.0
006	6/10/2009	935.0				669.3	33.0	63.8		766.1	309.3					309.3	247.8		1,144.0	1,391.8
Cumulative Volume						1,580.4	55.5	65.2		1,701.1	309.3					309.3				
Fluid Name:	**Seawater**																			
005	5/10/2009					220.0				220.0								55.0	165.0	220.0
006	6/10/2009	220.0				19.0				19.0								49.0	190.0	239.0
Cumulative Volume						239.0				239.0										

Company	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Volume Record Report

			Additions								Losses						Volumes			
Report No	Date	Initial Volume bbl	Received bbl	Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Mixed bbl	Returned bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 02																				
Fluid Name:	**Seawater with PHB sweeps**																			
007	7/10/2009	1,391.8				89.7		20.3		110.0							140.8		1,361.0	1,501.8
008	8/10/2009	1,501.8				360.0		3.3		363.3			383.1			383.1	197.0		1,285.0	1,482.0
009	9/10/2009	1,482.0				2,459.6		29.4		2,489.0			1,900.8			1,900.8	785.1		1,285.0	2,070.1
010	10/10/2009	2,070.1						2.8		2.8			66.4			66.4	764.0		1,110.0	1,874.0
011	11/10/2009	1,874.0				131.8				131.8			374.5			374.5	895.8	220.0	515.5	1,631.3
012	12/10/2009	1,631.3											451.9			451.9	421.7		757.7	1,179.4
Cumulative Volume						3,041.1		55.8		3,096.9			3,176.7			3,176.7				
Fluid Name:	**Seawater**																			
007	7/10/2009	239.0											176.0			176.0		50.0	13.0	63.0
010	10/10/2009	63.0				3.0				3.0								53.0	13.0	66.0
011	11/10/2009	66.0				27.0				27.0									93.0	93.0
012	12/10/2009	93.0											40.0			40.0		53.0		53.0
Cumulative Volume						30.0				30.0			216.0			216.0				

Company	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Volume Record Report

			Additions									Losses						Volumes			
Report No	Date	Initial Volume	Received	Mixed	Base	Water	Barite	Chemicals	Other	Daily Total	SCE	Downhole	Misc	Mixed	Returned	Daily Total	Hole Volume	Active Pit Volume	Reserve Volume	Final Volume
		bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl
Interval # 03																				
Fluid Name:	**Seawater with PHB sweeps**																			
15	15/10/2009	1,179.4											428.9	750.5		1,179.4				
Cumulative Volume													428.9	750.5		1,179.4				
Fluid Name:	**Seawater**																			
15	15/10/2009	53.0											53.0			53.0				
Cumulative Volume													53.0			53.0				
Fluid Name:	**12 1/4" KCl/Polymer**																			
15	15/10/2009			1,331.5		350.0		128.4	216.4	2,026.3			435.7			435.7	460.8		1,129.7	1,590.5
16	16/10/2009	1,590.5				920.0		37.3		957.3	114.0		65.1			179.1	729.0	613.0	1,026.8	2,368.8
17	17/10/2009	2,368.8	100.0			118.0		23.7		241.7	302.3		7.0			309.3	938.3	178.0	1,184.8	2,301.1
18	18/10/2009	2,301.1	150.0			244.0		17.6		411.6	129.3		19.0			148.3	1,046.6	214.0	1,303.8	2,564.4
19	19/10/2009	2,564.4					13.5	19.2		32.7	161.6					161.6	1,164.6	188.0	1,082.9	2,435.5
20	20/10/2009	2,435.5	100.0			200.0		78.7		378.7	173.6		163.0			336.6	1,064.7	98.0	1,315.0	2,477.7
21	21/10/2009	2,477.7	220.0			480.0	3.4	11.3		714.7	415.1		46.0			461.1	1,171.3	238.0	1,322.0	2,731.3
22	22/10/2009	2,731.3				108.5		14.9		123.4							1,283.7	293.0	1,278.0	2,854.7
23	23/10/2009	2,854.7						0.5		0.5	47.1	10.0				57.1	1,163.1	222.0	1,413.0	2,798.1
24	24/10/2009	2,798.1						0.2		0.2	0.7					0.7	1,151.5	222.0	1,424.2	2,797.7
25	25/10/2009	2,797.7						1.6		1.6	3.8					3.8	1,151.5	260.0	1,384.0	2,795.5
26	26/10/2009	2,795.5						0.4		0.4			6.4			6.4	1,151.5	663.0	975.0	2,789.5
27	27/10/2009	2,789.5						0.3		0.3	45.1					45.1	1,150.6	619.0	975.0	2,744.6
28	28/10/2009	2,744.6				38.0				38.0							1,150.6	617.0	1,015.0	2,782.6
29	29/10/2009	2,782.6						0.1		0.1							1,150.6	617.0	1,015.0	2,782.6
30	30/10/2009	2,782.6						0.7		0.7			1.7			1.7	1,150.6	631.0	1,000.0	2,781.6
31	31/10/2009	2,781.6						0.4		0.4							1,150.6	631.4	1,000.0	2,782.0

Company	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Volume Record Report

			Additions								Losses						Volumes			
Report No	Date	Initial Volume	Received	Mixed	Base	Water	Barite	Chemicals	Other	Daily Total	SCE	Downhole	Misc	Mixed	Returned	Daily Total	Hole Volume	Active Pit Volume	Reserve Volume	Final Volume
		bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl
32	1/11/2009	2,782.0						0.6		0.6							1,150.6	631.4	1,000.6	2,782.6
33	2/11/2009	2,782.6						0.4		0.4	2.4					2.4	1,150.6	722.0	908.0	2,780.6
34	3/11/2009	2,780.6						0.2		0.2	5.2					5.2	1,150.6	734.0	891.0	2,775.6
35	4/11/2009	2,775.6						0.2		0.2							1,150.6	734.2	891.0	2,775.8
36	5/11/2009	2,775.8						0.3		0.3							1,150.6	734.5	891.0	2,776.1
37	6/11/2009	2,776.1						0.2		0.2							1,150.6	734.7	891.0	2,776.3
Cumulative Volume			570.0	1,331.5		2,458.5	16.9	337.2	216.4	4,930.5	1,400.2	10.0	743.9			2,154.1				

Fluid Name: Brine

15	15/10/2009		581.0							581.0				581.0		581.0				
Cumulative Volume			581.0							581.0				581.0		581.0				

Baroid Fluid Services

Company	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Volume Record Report

			Additions								Losses						Volumes			
Report No	Date	Initial Volume	Received	Mixed	Base	Water	Barite	Chemicals	Other	Daily Total	SCE	Downhole	Misc	Mixed	Returned	Daily Total	Hole Volume	Active Pit Volume	Reserve Volume	Final Volume
		bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl	bbl
Interval # 04																				
Fluid Name: 12 1/4" KCl/Polymer																				
38	7/11/2009	2,776.3											468.0	2,308.4		2,776.4				
Cumulative Volume													468.0	2,308.4		2,776.4				
Fluid Name: 8 1/2" KCl/Polymer																				
38	7/11/2009			2,308.4				2.1		2,310.5	1.5		2.0			3.5	695.9	750.0	861.0	2,306.9
39	8/11/2009	2,306.9				15.9		15.1		31.0	64.0		48.0			112.0	575.4	715.0	934.0	2,224.4
40	9/11/2009	2,224.4				8.8	7.5	0.2		16.5	12.0		3.0			15.0	710.2	676.7	839.0	2,225.9
41	10/11/2009	2,225.9				20.0	1.5	12.2		33.7	115.0		35.0			150.0	603.3	685.0	821.3	2,109.6
42	11/11/2009	2,109.6				26.7		9.7		36.4	142.0		44.0			186.0	656.4	640.0	663.6	1,960.0
43	12/11/2009	1,960.0				5.4	2.2	0.5		8.1	8.0		2.0			10.0	642.5	666.0	649.6	1,958.1
44	13/11/2009	1,958.1				3.0	1.5			4.5	5.9		7.9			13.8	732.7	661.0	555.0	1,948.7
45	14/11/2009	1,948.7				20.4		8.9		29.3	188.0		38.7			226.7	670.3	640.0	441.0	1,751.3
46	15/11/2009	1,751.3				9.9		1.2		11.1	44.3		12.0			56.3	689.1	650.0	367.0	1,706.1
47	16/11/2009	1,706.1				8.1				8.1	35.0		5.0			40.0	823.3	590.0	261.0	1,674.3
48	17/11/2009	1,674.3				32.0		3.5		35.5	82.0		27.0			109.0	682.8	680.0	238.0	1,600.8
49	18/11/2009	1,600.8						0.5		0.5	15.7					15.7	859.9	598.0	127.7	1,585.6
50	19/11/2009	1,585.6										15.0				15.0	859.9	583.0	127.7	1,570.6
51	20/11/2009	1,570.6						0.3		0.3							859.9	652.0	59.0	1,570.9
52	21/11/2009	1,570.9						0.1		0.1	12.3					12.3	670.7	792.9	95.0	1,558.6
53	22/11/2009	1,558.6						0.2		0.2	35.0					35.0	713.0	760.8	50.0	1,523.8
55	24/11/2009	1,523.9						1.0		1.0							859.9	360.8	304.2	1,524.9
56	25/11/2009	1,524.9											474.9		1,050.0	1,524.9				
Cumulative Volume				2,308.4		150.2	12.7	55.5		2,526.8	760.7	15.0	699.5		1,050.0	2,525.2				

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Chemical Concentration

Interval # 01		**From Report Date**	**05/10/09**	**Top of Interval**	**95.0 m**
Max. Hole Size / Bit Size	**36.0 / 36.0 in**	**To Report Date**	**06/10/09**	**Bottom of Interval**	**155.0 m**

Fluid Name: **Seawater with PHB sweeps**

Material	Average ppb	Minimum ppb	Maximum ppb
ALDACIDE G	0.10	0.10	0.10
BARAZAN D PLUS	0.06	0.06	0.06
barite	43.95	35.37	52.53
bentonite	31.23	31.23	31.23
caustic soda	0.59	0.48	0.71
guar gum	0.84	0.84	0.84
lime	0.06	0.06	0.06
soda ash	0.40	0.32	0.47

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Chemical Concentration

Interval # 02		**From Report Date**	**07/10/09**	**Top of Interval**	**155.0 m**
Max. Hole Size / Bit Size	**17.5 / 17.5 in**	**To Report Date**	**14/10/09**	**Bottom of Interval**	**935.0 m**

Fluid Name: **Seawater with PHB sweeps**

Material	Average ppb	Minimum ppb	Maximum ppb
ALDACIDE G	0.07	0.06	0.09
BARA-DEFOAM W300	0.02	0.02	0.02
BARAZAN D PLUS	0.44	0.17	0.62
barite	22.66	15.21	48.68
bentonite	22.21	17.01	40.54
caustic soda	0.53	0.38	0.59
guar gum	1.14	0.78	1.46
lime	0.05	0.04	0.11
soda ash	0.28	0.10	0.34

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Chemical Concentration

Interval # 03		**From Report Date**	**15/10/09**	**Top of Interval**	**935.0 m**
Max. Hole Size / Bit Size	**12.25 / 12.25 in**	**To Report Date**	**06/11/09**	**Bottom of Interval**	**2,520.0 m**

Fluid Name: Seawater with PHB sweeps

Material	Average ppb	Minimum ppb	Maximum ppb
ALDACIDE G	0.06	0.06	0.06
BARA-DEFOAM W300	0.02	0.02	0.02
BARAZAN D PLUS	0.58	0.58	0.58
barite	15.21	15.21	15.21
bentonite	17.01	17.01	17.01
caustic soda	0.55	0.55	0.55
guar gum	1.12	1.12	1.12
lime	0.04	0.04	0.04
soda ash	0.32	0.32	0.32

Fluid Name: 12 1/4" KCl/Polymer

Material	Average ppb	Minimum ppb	Maximum ppb
ALDACIDE G	0.21	0.08	0.32
BARA-DEFOAM W300	0.06	0.00	0.09
BARAZAN D PLUS	1.54	0.98	1.96
barite	8.09	2.70	10.31
bentonite	2.37	1.87	6.30
caustic soda	0.42	0.12	0.55
Circal 60/16	1.21	0.97	1.47
Circal Y	0.07	0.07	0.10
CLAYSEAL PLUS	6.63	3.77	8.51
DEXTRID LTE	3.17	1.77	3.63
EZ SPOT	1.14	1.14	1.14
EZ-MUD	1.41	1.27	2.31
guar gum	0.16	0.12	0.41
lime	0.01	0.00	0.02
Omyacarb 5	3.00	1.77	3.35
OXYGON	0.12	0.04	0.14
PAC-L	1.41	0.24	1.63
potassium chloride	19.04	13.66	26.11
potassium hydroxide	0.28	0.05	0.43
soda ash	0.60	0.20	0.68
sodium bicarbonate	0.10	0.09	0.24
Techmesh (API 20)	0.00	0.00	0.00

Baroid Fluid Services

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Chemical Concentration

Interval # 04		**From Report Date**	**07/11/09**	**Top of Interval**	**2,523.0 m**
Max. Hole Size / Bit Size	**8.5 / 8.5 in**	**To Report Date**	**28/11/09**	**Bottom of Interval**	**3,235.0 m**

Fluid Name: 12 1/4" KCl/Polymer

Material	Average ppb	Minimum ppb	Maximum ppb
ALDACIDE G	0.32	0.32	0.32
BARA-DEFOAM W300	0.06	0.06	0.06
BARAZAN D PLUS	1.96	1.96	1.96
barite	9.63	9.63	9.63
bentonite	1.87	1.87	1.87
caustic soda	0.55	0.55	0.55
Circal 60/16	1.17	1.17	1.17
Circal Y	0.07	0.07	0.07
CLAYSEAL PLUS	6.74	6.74	6.74
DEXTRID LTE	3.39	3.39	3.39
EZ SPOT	1.14	1.14	1.14
EZ-MUD	1.27	1.27	1.27
guar gum	0.12	0.12	0.12
lime	0.00	0.00	0.00
Omyacarb 5	3.27	3.27	3.27
OXYGON	0.12	0.12	0.12
PAC-L	1.61	1.61	1.61
potassium chloride	18.91	18.91	18.91
potassium hydroxide	0.43	0.43	0.43
soda ash	0.66	0.66	0.66
sodium bicarbonate	0.09	0.09	0.09

Fluid Name: 8 1/2" KCl/Polymer

Material	Average ppb	Minimum ppb	Maximum ppb
ALDACIDE G	0.47	0.37	0.57
BARA-DEFOAM W300	0.06	0.05	0.08
BARAZAN D PLUS	2.36	2.03	2.52
barite	15.39	9.49	17.73
bentonite	1.70	1.38	1.87
caustic soda	0.98	0.74	1.11
Circal 60/16	1.63	1.15	1.87
Circal Y	0.06	0.05	0.07
CLAYSEAL PLUS	9.06	6.73	9.92
DEXTRID LTE	3.60	3.00	3.97
EZ SPOT	1.03	0.84	1.14

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval Chemical Concentration

EZ-MUD	2.42	1.27	2.83
guar gum	0.11	0.09	0.12
lime	0.00	0.00	0.00
N-DRIL HT PLUS	0.41	0.14	0.53
Omyacarb 5	3.56	3.12	3.86
OXYGON	0.22	0.14	0.27
PAC-L	2.02	1.68	2.25
potassium chloride	17.18	13.96	18.89
potassium hydroxide	0.66	0.43	0.83
soda ash	0.68	0.56	0.74
sodium bicarbonate	0.08	0.06	0.09

Baroid Fluid Services

Operator	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 49 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	lbs/100 ft2				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness	ppb Eq.	% by vol	% by vol				600	300	200	100	6	3
	m	Deg C	ppg	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l			Corr Solid	LGS	NAP Base	Water						
Interval # 01										**From Date**				**05/10/09**						**Top of Interval**			**95.0**		**m**							
Max. Hole Size / Bit Size 36.0 / 36.0 in										**To Date**				**06/10/09**						**Bottom of Interval**			**155.0**		**m**							
06/10/09	0		8.60	125	44	24									9.00											98	112.0	68.0	45.0	32.0	15.0	13.0
Interval # 02										**From Date**				**07/10/09**						**Top of Interval**			**155.0**		**m**							
Max. Hole Size / Bit Size 17.5 / 17.5 in										**To Date**				**14/10/09**						**Bottom of Interval**			**935.0**		**m**							
07/10/09	0		8.60	126	45	25									9.00											98	115.0	68.0	44.0	32.0	15.0	13.0
08/10/09	155		8.70	120	45	21									9.00											98	111.0	66.0	44.0	31.0	15.0	13.0
10/10/09	935		9.00	52	11	18	6	8	9						9.00											98	40.0	29.0	24.0	18.0	8.0	6.0
10/10/09	935		9.00	59	11	19	6	8	9						9.00											98	41.0	30.0	25.0	19.0	9.0	6.0
10/10/09	935		9.00	58	11	19	6	8	9						9.00											98	41.0	30.0	25.0	19.0	8.0	6.0
11/10/09	935		9.00	55	13	16	7	9	10						9.00				18,000	2,360						98	42.0	29.0	25.0	15.0	8.0	6.0
11/10/09	935		9.00	58	11	19	7	9	10						9.00				15,000	2,100						98	41.0	30.0	25.0	15.0	9.0	7.0
11/10/09	935		9.00	54	10	19	6	8	9						9.00				18,000	2,400						98	39.0	29.0	24.0	14.0	8.0	6.0
12/10/09	935		9.00	58	11	18	7	9	10						9.00				18,000	2,400						98	40.0	29.0	24.0	14.0	9.0	7.0
12/10/09	935		8.50	26	1	1									7.00				19,000	2,600						100	3.0	2.0				
14/10/09	935		9.10	45	11	14	6	8	9	5.8	12.0	1		121	10.00	2.40	1.70	3.00	39,000	380	12.0	0.10	2.07	1.5		94.7	36.0	25.0	21.0	15.0	7.0	6.0
14/10/09	935		9.00	49	10	17	8	10	11	5.6	11.0	1		121	8.00	2.20	1.50	2.60	38,000	320	10.0	0.10	1.84	1.729		95	37.0	27.0	23.0	17.0	10.0	8.0
Interval # 03										**From Date**				**15/10/09**						**Top of Interval**			**935.0**		**m**							
Max. Hole Size / Bit Size 12.25 / 12.25 in										**To Date**				**06/11/09**						**Bottom of Interval**			**2,520.0**		**m**							
15/10/09	935		9.10	44	11	15	6	8	9	5.8	12.0	2	1	121	10.50	3.20	1.80	3.20	39,000	380	12.0	0.10	2.07	1.5		94.7	37.0	26.0	21.0	15.0	7.0	6.0
15/10/09	938	17	9.10	42	12	15	8	10	11	5.4	11.5	1	2	121	10.50	2.20	1.20	1.70	42,000	380	10.0	0.10	1.81	1.225		94.7	39.0	27.0	22.0	17.0	9.0	8.0
15/10/09	938	25	9.10	46	10	20	8	10	11	5.8	11.2	1	2	121	9.50	2.00	1.10	1.50	41,000	280	10.0	0.10	2.1	1.725		94.5	40.0	30.0	23.0	18.0	11.0	9.0
15/10/09	938		9.10	47	10	19	8	10	11	5.6	11.8	1	2	121	10.50	2.30	1.30	1.70	43,000	300	10.0	0.10	1.41	0.52		95	39.0	29.0	23.0	17.0	10.0	9.0
16/10/09	1,032	30	9.00	53	10	22	10	13	15	5.6	11.3	1	2	121	9.50	1.90	1.30	1.50	40,000	220	7.0	0.10	1.67	1.547		95	42.0	32.0	25.0	20.0	11.0	9.0
16/10/09	1,147	22	9.00	52	12	20	9	12	15	4.8	11.4	1	2	121	9.50	0.95	0.70	1.30	42,000	120	11.0	0.25	1.5	1.362		95	44.0	32.0	27.0	20.0	11.0	9.0
16/10/09	1,354	25	9.05	55	13	21	11	14	17	4.8	9.8	1	2	121	9.00	0.75	0.40	1.30	42,000	320	8.0	0.25	1.81	1.599		94.7	47.0	34.0	29.0	22.0	12.0	10.0
16/10/09	1,485	25	9.00	56	13	22	11	14	17	5.1	9.9	1	2	121	9.00	0.78	0.70	1.50	40,000	240	5.0	0.27	1.67	1.547		95	48.0	35.0	30.0	23.0	12.0	10.0

Baroid Fluid Services

Operator	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 49 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	lbs/100 ft2				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness	ppb Eq.	% by vol	% by vol				600	300	200	100	6	3
	m	Deg C	ppg	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l			Corr Solid	LGS	NAP Base	Water						
17/10/09	1,594	30	9.00	53	12	23	11	14	17	5.4	10.4	1	2	121	9.50	0.45	0.70	1.50	40,000	380	10.0	0.25	1.67	1.547		95	47.0	35.0	30.0	24.0	12.0	10.0
17/10/09	1,755	33	9.05	51	12	22	11	13	16	4.5	11.5	1	2	121	9.00	0.20	0.40	1.10	38,000	380	10.0	0.25	2.15	1.966		94.7	46.0	34.0	29.0	22.0	12.0	11.0
17/10/09	1,893	38	9.10	52	13	28	9	13	17	4.5	11.5	1	2	121	9.00	0.40	0.30	0.90	38,000	380	10.0	0.25	2.36	1.998		94.5	54.0	41.0	35.0	27.0	11.0	9.0
17/10/09	1,958	40	9.00	54	16	29	12	18	19	5.6	10.4	1	2	121	9.00	0.30	0.30	0.50	39,000	380	10.0	0.30	1.76	1.638		95	61.0	45.0	36.0	29.0	12.0	10.0
18/10/09	2,130	42	9.20	51	17	27	10	15	19	3.8	9.5	1	2	121	9.00	0.40	0.30	1.30	39,000	360	14.0	0.25	3.31	3.195		93.5	61.0	44.0	37.0	30.0	12.0	10.0
18/10/09	2,151	46	9.20	49	14	26	10	14	19	4.4	10.5	1	2	121	9.00	0.60	0.40	1.20	38,500	360	12.0	0.25	3.35	3.24		93.5	54.0	40.0	33.0	26.0	11.0	10.0
18/10/09	2,009	40	9.15	50	17	27	10	15	19	4.1	7.8	1	2	121	9.00	0.50	0.40	1.40	38,000	320	15.0	0.20	2.88	2.641		94	61.0	44.0	37.0	31.0	12.0	10.0
18/10/09	2,216	43	9.15	52	14	28	10	13	15	4.8	9.0	1	2	121	9.50	0.60	0.50	1.40	40,000	360	15.0	0.25	2.71	2.461		94	56.0	42.0	34.0	25.0	11.0	9.0
19/10/09	2,271	32	9.10	54	14	28	10	14	18	5.7	11.2	1	2	121	9.00	0.60	0.50	1.30	43,500	360	15.0	0.30	1.89	1.494		94.5	56.0	42.0	34.0	25.0	11.0	9.0
19/10/09	2,271	32	9.25	53	16	30	9	13	18	3.2	8.8	1	2	121	9.00	0.40	0.30	1.10	43,500	350	12.0	0.25	3.14	2.819		93.3	62.0	46.0	39.0	29.0	11.0	9.0
19/10/09	2,271	33	9.25	55	16	28	11	15	19	3.8	9.5	1	2	121	9.00	0.30	0.20	1.00	44,000	380	13.0	0.25	3.09	2.773		93.3	60.0	44.0	38.0	28.0	12.0	10.0
19/10/09	2,271	30	9.25	56	16	28	11	15	18	4.2	9.9	1	2	121	9.00	0.20	0.30	1.20	44,000	360	15.0	0.25	2.88	2.365		93.5	60.0	44.0	38.0	28.0	12.0	10.0
20/10/09	2,271		9.50	56	16	31	11	16	19	3.2	8.5	1	2	121	9.00	0.35	0.30	1.20	43,500	320	14.0	0.25	3.97	2.579		92.5	63.0	47.0	40.0	31.0	11.0	10.0
20/10/09	2,271		9.50	57	16	32	11	16	18	3.8	9.5	1	2	121	9.00	0.40	0.30	1.00	43,000	340	15.0	0.25	4.01	2.625		92.5	64.0	48.0	39.0	31.0	11.0	10.0
20/10/09	2,271	31	9.50	56	16	31	11	16	19	4.1	8.3	1	2	121	9.50	0.50	0.50	1.20	44,000	340	15.0	0.25	3.4	1.513		93	63.0	47.0	38.0	30.0	12.0	10.0
21/10/09	2,329	39	9.45	54	16	32	10	14	16	4.1	8.4	1	2	121	9.50	0.30	0.40	1.20	43,500	320	15.0	0.20	3.65	2.342		92.8	64.0	48.0	39.0	31.0	12.0	10.0
21/10/09	2,416	44	9.50	52	13	28	9	15	19	3.0	6.8	1	2	121	9.00	0.30	0.25	1.10	45,000	380	12.0	0.30	3.84	2.442		92.5	54.0	41.0	34.0	26.0	11.0	9.0
21/10/09	2,506	46	9.40	51	14	29	11	16	21	3.8	9.2	1	2	121	9.00	0.30	0.20	0.90	45,000	350	12.0	0.30	3.32	2.17		93	57.0	43.0	36.0	29.0	13.0	10.0
21/10/09	2,520	34	9.30	53	14	28	10	15	19	3.7	7.6	1	2	121	9.50	0.50	0.40	0.90	43,500	340	10.0	0.15	2.41	1.016		94	56.0	42.0	35.0	28.0	12.0	10.0
22/10/09	2,520	25	9.45	58	14	30	11	16	19	3.7	7.1	1	2	121	9.00	0.40	0.30	1.10	43,000	300	10.0	0.20	3.49	1.979		93	58.0	44.0	37.0	30.0	13.0	11.0
22/10/09	2,520		9.45	57	14	32	11	15	19	3.2	9.0	1	2	121	9.00	0.30	0.20	1.10	44,500	380	12.0	0.40	3.57	2.25		92.8	60.0	46.0	36.0	31.0	13.0	11.0
23/10/09	2,520		9.45	48	12	24	11	15	18	3.5	9.7	1	2	121	9.00	0.30	0.20	1.10	44,000	380	10.0	0.30	3.4	1.888		93	48.0	36.0	30.0	24.0	11.0	9.0
23/10/09	2,520	35	9.45	47	12	25	10	16	19	3.5	9.3	1	2	121	9.00	0.30	0.25	0.90	44,500	380	10.0	0.40	3.36	1.841		93	49.0	37.0	30.0	24.0	11.0	9.0
23/10/09	2,520		9.45	49	11	27	11	15	18	3.7	8.1	1	2	121	9.00	0.40	0.30	1.00	44,000	340	10.0	0.25	3.4	1.888		93	49.0	38.0	31.0	25.0	12.0	10.0
24/10/09	2,520		9.45	50	13	23	10	15	19	3.5	9.5	1	2	121	9.00	0.45	0.30	1.10	44,500	380	9.0	0.30	3.47	2.046		92.9	49.0	36.0	30.0	24.0	11.0	9.0
24/10/09	2,520		9.45	53	13	24	10	16	19	3.8	8.1	1	2	121	9.00	0.40	0.30		44,000	340	10.0	0.30	3.4	1.888		93	50.0	37.0	31.0	24.0	12.0	10.0
25/10/09	2,520		9.45	52	13	23	10	14	17	4.2	10.5	1	2	121	9.00	0.30	0.25	0.90	44,000	380	12.0	0.30	3.4	1.888		93	49.0	36.0	30.0	24.0	11.0	9.0

Baroid Fluid Services

Operator	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 49 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	lbs/100 ft2				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness			% by vol				600	300	200	100	6	3
	m	Deg C	ppg	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l	ppb Eq.	% by vol	Corr Solid	LGS	NAP Base	Water						
25/10/09	2,520		9.45	55	14	31	10	16	19	4.2	8.8	1	2	121	9.00	0.30	0.30	0.90	41,000	380	10.0	0.30	2.62	0.123		94	59.0	45.0	36.0	31.0	12.0	10.0
26/10/09	2,520		9.45	56	13	21	10	15	18	4.5	11.5	1	2	121	9.00	0.40	0.25	1.30	43,000	360	11.0	0.30	3.49	1.979		93	47.0	34.0	30.0	23.0	11.0	9.0
26/10/09	2,520		9.45	55	12	22	11	16	20	4.5	11.0	1	2	121	9.00	0.30	0.30	1.40	42,000	400	11.0	0.30	3.57	2.07		93	46.0	34.0	30.0	24.0	12.0	10.0
27/10/09	2,520		9.40	57	12	21	11	15	19	4.8	12.5	1	2	121	9.00	0.40	0.25	1.40	42,500	400	10.0	0.25	2.81	0.971		93.7	45.0	33.0	30.0	23.0	11.0	10.0
27/10/09	2,520		9.40	58	12	22	11	15	20	4.9	12.5	1	2	121	9.00	0.40	0.30	1.40	42,000	400	10.0	0.30	2.54	0.406		94	46.0	34.0	30.0	24.0	12.0	10.0
28/10/09	2,520		9.40	59	11	23	11	16	20	4.8	13.0	1	2	121	9.00	0.30	0.20	1.10	42,000	400	10.0	0.25	3.37	2.037		93.2	45.0	34.0	30.0	24.0	12.0	10.0
28/10/09	2,520		9.40	57	12	22	11	15	20	4.8	12.5	1	2	121	9.00	0.30	0.20	1.30	42,000	400	10.0	0.30	3.06	1.425		93.5	46.0	34.0	30.0	24.0	12.0	10.0
29/10/09	2,520		9.40	60	12	23	11	15	19	4.8	13.0	1	2	121	9.00	0.40	0.20	1.00	42,000	400	12.0	0.25	3.26	1.833		93.3	47.0	35.0	31.0	25.0	12.0	11.0
29/10/09	2,520		9.40	60	13	21	11	16	20	5.0	13.0	1	2	121	9.00	0.30	0.20	1.10	42,000	400	10.0	0.30	3.26	1.833		93.3	47.0	34.0	30.0	25.0	12.0	11.0
30/10/09	2,520		9.40	61	13	24	11	15	20	4.8	14.0	1	2	121	9.00	0.30	0.15	0.90	42,500	400	10.0	0.25	3.32	1.991		93.2	50.0	37.0	31.0	24.0	12.0	11.0
30/10/09	2,520		9.40	59	16	19	11	16	20	4.9	14.0	1	2	121	9.00	0.30	0.10	1.20	42,000	400	10.0	0.30	3.37	2.037		93.2	51.0	35.0	30.0	23.0	12.0	10.0
31/10/09	2,520		9.40	62	11	24	11	15	19	4.5	11.0	1	2	121	9.00	0.40	0.30	1.20	42,500	400	10.0	0.25	3.32	1.991		93.2	46.0	35.0	29.0	23.0	11.0	10.0
31/10/09	2,520		9.40	59	11	24	12	15	20	4.5	11.0	1	2	121	9.00	0.40	0.34	1.30	42,500	400	10.0	0.30	3.32	1.991		93.2	46.0	35.0	30.0	24.0	11.0	10.0
01/11/09	2,520		9.40	63	11	25	11	15	20	4.2	11.0	1	2	121	9.00	0.35	0.20	1.20	43,000	380	10.0	0.25	3.28	1.946		93.2	47.0	36.0	29.0	24.0	11.0	10.0
01/11/09	2,520		9.40	59	10	26	11	15	20	4.5	11.5	1	2	121	9.00	0.40	0.20	1.20	42,000	400	10.0	0.30	3.57	2.445		93	46.0	36.0	31.0	25.0	12.0	10.0
02/11/09	2,520		9.40	62	12	25	12	16	20	4.5	12.0	1	2	121	9.00	0.35	0.30	1.10	42,500	380	10.0	0.30	3.32	1.991		93.2	49.0	37.0	31.0	26.0	12.0	11.0
02/11/09	2,520		9.30	50	10	22	11	14	18	4.3	11.5	1	2	121	9.00	0.20	0.20	2.10	44,000	380	10.0	0.30	2.37	0.97		94	42.0	32.0	26.0	19.0	10.0	9.0
03/11/09	2,520		9.40	63	11	23	11	15	19	4.5	10.5	1	2	121	9.00	0.25	0.20	1.00	42,500	400	11.0	0.25	3.32	1.991		93.2	45.0	34.0	29.0	23.0	11.0	10.0
03/11/09	2,520		9.40	60	10	26	12	15	20	4.4	11.0	1	2	121	9.00	0.20	0.20	1.50	43,000	400	11.0	0.30	3.07	1.538		93.4	46.0	36.0	31.0	25.0	12.0	10.0
04/11/09	2,520		9.40	62	12	21	11	14	17	4.8	12.0	1	2	121	9.00	0.30	0.25	1.25	42,500	400	10.5	0.25	3.32	1.991		93.2	45.0	33.0	28.0	22.0	11.0	10.0
04/11/09	2,520		9.40	60	10	25	11	15	17	4.5	11.2	1	2	121	9.00	0.20	0.20	1.50	43,000	400	10.0	0.30	3.07	1.538		93.4	45.0	35.0	30.0	24.0	11.0	10.0
05/11/09	2,520		9.40	62	11	21	11	15	19	4.2	10.5	1	2	121	9.00	0.50	0.35	1.40	42,500	380	11.0	0.25	3.32	1.991		93.2	43.0	32.0	28.0	23.0	11.0	10.0
05/11/09	2,520		9.40	61	10	26	12	15	19	4.4	11.0	1	2	121	9.00	0.20	0.20	1.60	44,000	400	11.0	0.30	3.09	1.65		93.3	46.0	36.0	31.0	25.0	11.0	10.0
06/11/09	2,520		9.40	65	11	26	10	15	19	4.0	9.8	1	2	121	9.50	0.30	0.20	1.70	42,500	380	11.0	0.25	3.32	1.991		93.2	48.0	37.0	32.0	26.0	12.0	10.0
06/11/09	2,520		9.40	62	12	23	11	15	19	4.0	9.7	1	2	121	9.50	0.30	0.20	1.60	43,000	400	11.0	0.25	3.49	2.354		93	47.0	35.0	30.0	25.0	12.0	10.0

Interval #	**04**	**From Date**	**07/11/09**	**Top of Interval**	**2,523.0 m**
Max. Hole Size / Bit Size	**8.5 / 8.5 in**	**To Date**	**28/11/09**	**Bottom of Interval**	**3,235.0 m**

Australia

T/18P
Tasmania

Baroid Fluid Services

HALLIBURTON | Fluid Systems

Baroid Fluid Services

Operator	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 49 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	lbs/100 ft2				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness			% by vol				600	300	200	100	6	3
	m	Deg C	ppg	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l	ppb Eq.	% by vol	Corr Solid	LGS	NAP Base	Water						
07/11/09	2,520		9.40	66	11	25	9	15	18	4.0	10.5	1	2	121	9.00	0.20	0.15	1.60	42,500	400	12.0	0.25	3.32	1.991		93.2	47.0	36.0	32.0	26.0	10.0	9.0
07/11/09	2,523	43	9.35	47	12	30	10	14	19	4.5	12.0	1	2	121	9.50	0.30	0.25	1.90	43,000	360	12.0	0.25	3.18	2.116		93.3	54.0	42.0	37.0	29.0	11.0	10.0
07/11/09	2,523		9.35	49	12	28	10	15	18	4.5	11.5	1	2	121	9.00	0.30	0.20	1.90	41,000	360	11.0	0.25	3.35	2.299		93.3	52.0	40.0	36.0	28.0	11.0	10.0
07/11/09	2,523		9.35	56	11	32	12	15	17	4.5	11.5	1	2	121	9.00	0.30	0.15	2.00	40,000	400	11.0	0.25	3.33	2.185		93.4	54.0	43.0	37.0	30.0	15.0	12.0
08/11/09	2,523	47	9.35	52	12	29	10	15	19	4.5	11.0	1	2	121	9.00	0.25	0.20	1.85	42,500	340	12.0	0.30	3.22	2.162		93.3	53.0	41.0	36.0	29.0	12.0	10.0
08/11/09	2,529	41	9.35	47	11	27	10	14	18	4.5	10.5	1	2	121	9.00	0.25	0.20	1.75	42,000	380	11.0	0.25	3.26	2.208		93.3	49.0	38.0	33.0	27.0	12.0	10.0
08/11/09	2,556	48	9.35	45	12	26	11	14	18	4.5	10.2	1	2	121	9.00	0.30	0.15	1.90	42,500	360	11.0	0.25	3.22	2.162		93.3	50.0	38.0	34.0	27.0	12.0	11.0
08/11/09	2,608	54	9.35	46	13	26	12	15	16	5.0	10.2	1	2	121	9.00	0.10	0.15	1.95	41,000	375	11.0	0.25	3.45	2.502		93.2	52.0	39.0	35.0	27.0	14.0	11.0
09/11/09	2,633		9.35	46	12	28	12	14	16	5.0	10.5	1	2	121	9.00	0.15	0.20	1.90	41,000	385	11.0	0.25	3.35	2.299		93.3	52.0	40.0	35.0	28.0	12.0	10.0
09/11/09	2,633		9.40	53	11	25	11	15	17	4.8	10.5	1	2	121	9.50	0.30	0.25	1.85	42,500	380	13.0	0.25	3.22	1.787		93.3	47.0	36.0	32.0	26.0	11.0	10.0
09/11/09	2,633		9.40	55	11	26	11	16	19	4.5	10.5	1	2	121	9.50	0.30	0.25	1.90	42,500	360	12.5	0.25	3.22	1.787		93.3	48.0	37.0	33.0	27.0	12.0	10.0
09/11/09	2,633		9.40	68	11	26	10	12	14	4.7	10.5	1	2	121	9.00	0.30	0.25	1.90	41,000	375	11.0	0.25	3.35	1.924		93.3	48.0	37.0	32.0	25.0	11.0	9.0
10/11/09	2,633		9.40	68	11	26	10	14	19	4.8	10.5	1	2	121	9.00	0.30	0.25	1.90	41,500	375	11.0	0.25	3.31	1.879		93.3	48.0	37.0	32.0	25.0	11.0	9.0
10/11/09	2,633		9.45	54	11	25	11	15	19	4.5	11.5	1	2	121	9.00	0.20	0.15	1.90	42,500	380	12.5	0.30	3.53	2.025		93	47.0	36.0	32.0	25.0	11.0	10.0
10/11/09	2,665	53	9.40	46	12	25	10	16	20	4.5	11.5	1	2	121	9.00	0.30	0.25	1.95	42,000	380	13.0	0.25	3.37	2.037		93.2	49.0	37.0	32.0	25.0	11.0	9.0
10/11/09	2,743	54	9.40	46	10	28	10	12	14	5.0	11.0	1	2	121	9.00	0.30	0.25	2.20	40,000	220	12.0	0.25	3.54	2.218		93.2	48.0	38.0	32.0	25.0	10.0	8.0
11/11/09	2,832	57	9.40	46	14	25	9	12	18	4.5	11.0	1	2	121	9.00	0.30	0.15	1.90	41,000	250	11.0	0.25	3.35	1.924		93.3	53.0	39.0	32.0	25.0	10.0	9.0
11/11/09	2,923	58	9.40	52	13	32	10	15	19	4.5	10.5	1	2	121	9.00	0.35	0.30	1.85	41,000	320	13.5	0.25	3.35	1.924		93.3	58.0	45.0	38.0	29.0	12.0	9.0
11/11/09	2,954	56	9.35	47	12	35	10	15	19	4.7	11.5	1	2	121	9.00	0.30	0.25	1.95	41,000	320	14.0	0.30	3.35	2.299		93.3	59.0	47.0	39.0	31.0	12.0	9.0
11/11/09	2,983	56	9.45	46	14	29	9	12	15	5.0	11.0	1	2	121	9.00	0.30	0.25	2.00	40,000	350	12.0	0.25	3.43	1.64		93.3	57.0	43.0	37.0	28.0	11.0	9.0
12/11/09	2,983		9.40	55	13	31	10	15	19	4.8	12.0	1	2	121	9.00	0.30	0.15	1.80	40,500	380	13.0	0.25	3.39	1.969		93.3	57.0	44.0	37.0	29.0	11.0	9.0
12/11/09	2,983		9.35	59	12	29	10	15	18	4.5	11.5	1	2	121	9.00	0.20	0.15	1.80	41,000	320	12.5	0.30	3.35	2.299		93.3	53.0	41.0	34.0	27.0	11.0	9.0
12/11/09	2,984		9.40	52	14	31	9	12	15	5.0	11.5	1	2	121	9.00	0.30	0.25	2.00	40,000	375	11.0	0.25	3.43	2.014		93.3	59.0	45.0	38.0	30.0	11.0	9.0
12/11/09	2,987		9.40	52	14	30	10	12	14	5.0	11.0	1	2	121	9.00	0.30	0.25	1.90	40,000	375	11.0	0.25	3.43	2.014		93.3	58.0	44.0	37.0	29.0	11.0	9.0
13/11/09	3,017		9.40	49	13	31	9	12	15	5.0	11.0	1	2	121	9.00	0.30	0.25	2.00	40,000	375	11.0	0.25	3.43	2.014		93.3	57.0	44.0	37.0	28.0	10.0	8.0
13/11/09	3,017		9.50	51	12	28	8	14	16	5.0	11.6	1	2	121	8.50	0.20	0.10	2.50	40,000	320	10.0	0.25	3.74	1.877		93	52.0	40.0	34.0	26.0	11.0	9.0
13/11/09	3,017		9.50	50	12	29	9	12	16	5.0	11.0	1	2	121	9.00	0.25	0.20	2.20	40,000	250	11.0	0.25	3.54	1.469		93.2	53.0	41.0	35.0	25.0	11.0	9.0

Baroid Fluid Services

Operator	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 49 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	lbs/100 ft2				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness			% by vol				600	300	200	100	6	3
	m	Deg C	ppg	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l	ppb Eq.	% by vol	Corr Solid	LGS	NAP Base	Water						
14/11/09	3,020	54	9.40	50	13	27	7	14	16	4.8	10.4	1	2	121	8.50	0.20	0.10	2.10	39,000	360	10.0	0.25	3.62	2.308		93.2	53.0	40.0	34.0	27.0	10.0	8.0
14/11/09	3,061	55	9.40	48	12	28	8	14	17	4.8	10.2	1	2	121	9.00	0.30	0.10	2.20	40,000	320	11.0	0.30	3.74	2.626		93	52.0	40.0	30.0	26.0	10.0	8.0
14/11/09	3,130	59	9.50	50	14	30	9	13	16	5.0	11.0	1	2	121	9.00	0.30	0.15	2.20	40,000	400	11.0	0.40	3.64	1.673		93.1	58.0	44.0	37.0	28.0	11.0	9.0
15/11/09	3,145	57	9.50	50	14	30	8	14	17	5.0	10.5	1	2	121	9.00	0.30	0.10	2.20	40,000	400	10.0	0.25	3.74	1.877		93	58.0	44.0	36.0	27.0	10.0	8.0
15/11/09	3,145		9.50	52	12	29	7	13	16	5.0	11.0	1	2	121	9.00	0.30	0.10	2.20	40,000	360	10.5	0.25	3.74	1.877		93	53.0	41.0	36.0	26.0	10.0	8.0
15/11/09	3,145	38	9.50	64	14	27	9	12	14	5.0	11.0	1	2	121	9.00	0.20	0.25	2.00	40,000	375	11.0	0.30	3.64	1.673		93.1	55.0	41.0	35.0	27.0	10.0	8.0
16/11/09	3,152		9.50	60	12	31	8	13	16	5.0	11.0	1	2	121	9.00	0.20	0.10	2.20	40,000	360	12.0	0.25	3.43	1.266		93.3	55.0	43.0	33.0	27.0	10.0	8.0
16/11/09	3,152		9.40	58	11	30	7	12	15	5.0	10.6	1	2	121	9.00	0.20	0.10	2.10	38,000	320	10.5	0.25	3.6	2.194		93.3	52.0	41.0	32.0	26.0	9.0	8.0
16/11/09	3,152		9.40	58	12	29	7	12	15	5.0	10.5	1	2	121	9.00	0.30	0.25	2.00	38,000	375	11.0	0.25	3.6	2.194		93.3	53.0	41.0	32.0	25.0	9.0	8.0
17/11/09	3,145	32	9.40	57	13	29	7	12	14	4.8	10.4	1	2	121	9.00	0.20	0.10	2.20	38,000	320	10.0	0.20	3.6	2.194		93.3	55.0	42.0	34.0	26.0	9.0	8.0
17/11/09	3,145	52	9.40	55	12	32	8	14	16	5.0	10.6	1	2	121	9.00	0.25	0.10	2.10	39,000	320	10.0	0.30	3.62	2.308		93.2	56.0	44.0	38.0	29.0	10.0	8.0
17/11/09	3,208	53	9.50	56	14	29	8	12	15	5.0	10.0	1	2	121	9.00	0.25	0.25	2.10	38,000	400	11.0	0.25	3.6	1.445		93.3	57.0	43.0	37.0	28.0	10.0	9.0
18/11/09	3,235		9.50	55	12	32	9	13	15	5.0	11.2	1	2	121	9.00	0.20	0.20	2.20	37,000	360	10.5	0.30	3.99	2.144		93	56.0	44.0	37.0	27.0	10.0	9.0
18/11/09	3,235		9.50	57	14	29	8	12	14	5.0	10.6	1	2	121	9.00	0.20	0.10	2.10	37,000	320	10.6	0.30	3.99	2.144		93	57.0	43.0	36.0	27.0	10.0	8.0
18/11/09	3,235		9.50	61	14	29	8	12	15	5.0	10.3	1	2	121	9.00	0.20	0.10	2.10	38,000	360	10.5	0.30	3.91	2.055		93	57.0	43.0	37.0	28.0	10.0	9.0
19/11/09	3,235		9.50	60	13	30	7	12	14	5.0	10.6	1	2	121	9.00	0.20	0.10	2.20	38,000	320	10.0	0.30	3.91	2.055		93	56.0	43.0	36.0	27.0	10.0	8.0
19/11/09	3,235		9.50	58	14	28	7	11	14	4.9	10.3	1	2	121	8.50	0.20	0.10	2.20	37,000	300	10.0	0.30	3.99	2.144		93	56.0	42.0	35.0	26.0	9.0	8.0
19/11/09	3,235		9.50	58	12	29	8	11	14	5.0	10.0	1	2	121	9.00	0.10	0.10	2.20	37,000	320	10.0	0.30	3.99	2.144		93	53.0	41.0	34.0	26.0	8.0	7.0
20/11/09	3,235		9.50	57	14	29	8	11	14	5.0	10.6	1	2	121	9.00	0.20	0.10	1.90	36,000	320	9.0	0.30	4.08	2.232		93	57.0	43.0	37.0	26.0	9.0	8.0
20/11/09	3,235		9.50	57	13	29	8	11	14	5.0	10.0	1	2	121	9.00	0.20	0.10	2.00	36,000	320	9.0	0.30	4.08	2.232		93	55.0	42.0	35.0	26.0	9.0	8.0
21/11/09	3,235		9.50	55	12	29	7	11	13	5.0	10.4	1	2	121	9.00	0.20	0.10	1.90	37,000	280	10.0	0.25	3.99	2.144		93	53.0	41.0	35.0	26.0	9.0	8.0
21/11/09	3,235		9.50	56	11	31	7	11	13	5.0	10.2	1	2	121	9.00	0.20	0.10	2.00	37,000	320	10.0	0.30	3.99	2.144		93	53.0	42.0	35.0	26.0	9.0	8.0
22/11/09	3,235		9.50	52	10	30	7	11	13	5.3	11.0	1	2	121	8.50	0.10	0.10	2.10	35,000	520	9.0	0.20	4.16	2.319		93	50.0	40.0	32.0	24.0	8.0	7.0
22/11/09	3,235		9.50	55	14	29	9	11	15	5.2	11.2	1	2	121	8.50	0.10	0.10	2.20	39,000	800	9.0	0.20	3.41	1.152		93.4	57.0	43.0	37.0	26.0	10.0	8.0
24/11/09	3,235		9.50	55	13	29	9	12	15	5.3	11.0	1	2	121	8.50	0.20	0.20	2.00	38,000	720	9.0	0.30	3.91	2.055		93	55.0	42.0	35.0	25.0	10.0	9.0
24/11/09	3,235		9.50	55	10	40	11	17	20	5.2	11.0	1	2	121	9.00	0.10	0.10	2.00	38,000	720	8.0	0.30	3.91	2.055		93	60.0	50.0	39.0	29.0	12.0	10.0

Company	**ADA DRILLING**
Well Name	**TREFOIL-2**
Contractor	**MAERSK**
Rig Name	**Kantan IV**
Unit System	**ADA Drilling**

Fluid Program Exception Report

Report No	Date	Time	Depth m	Property Name	Unit System	Actual Value	Exception	Program Min	Program Max
012	12/10/09	14:00	935	pH	-	7.00	Low	9.00	9.00
14	14/10/09	14:00	935	Density	ppg	9.10	High	8.50	9.00
14	14/10/09	21:10	935	pH	-	8.00	Low	9.00	9.00
14	14/10/09	14:00	935	pH	-	10.00	High	9.00	9.00
15	15/10/09	12:00	935	Density	ppg	9.10	High	8.50	9.00
15	15/10/09	12:00	935	pH	-	10.50	High	9.00	9.00
15	15/10/09	18:00	938	pH	-	10.50	High	8.50	9.50
15	15/10/09	3:15	938	pH	-	10.50	High	8.50	9.50

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**01**		**From Date**	**005**	**Top of Interval**	**95.0**	**m**
Max. Hole Size / Bit Size	**36.0 / 36.0**	**in**	**To Date**	**006**	**Bottom of Interval**	**155.0**	**m**

For Report	**# 005**	**On**	**05/10/09**	**Operation at Depth**	**95.0 m**
Rig Activity				Pick up HWDP and 5" DP, 80 stands racked in derrick. Toolbox talk, prepare for and Pick up BHA, 26" bit, 36" hole opener, bit sub and tools. Pre-Spud meeting with all personnel. Pick up drill collars.	
Activity				Make up BHA	
Fluid Treatment				Begin to make 750 bbl of 10ppg Kill mud for interval. Begin mixing pre hydrated bentonite gel mud (PHB) for sweeps Note: Bentonite used will be charged off in tomorrows report	

For Report	**# 006**	**On**	**06/10/09**	**Operation at Depth**	**155.0 m**
Rig Activity				M/U 36" BHA & RIH. Well Trefoil-2 spudded at 0800 hrs. 36" hole was drilled to section TD @ 155m (26" bit @ 156.5m). 50 bbls hivis sweeps were pumped every single drilled. At TD, 100 bbls hivis pill was swept around the hole. BHA was pulled to seabed, no drag. BHA was run to btm. Hole was displaced to 370 bbls PHG hivis. POOH and rack back BHA. Rig up and run 30" conductor as per ADA program.	
Activity				Run casing and cement	
Fluid Treatment				Cont. to mix and top up PHG for sweeps and next interval. 748 bbls 10.0 ppg Kill mud in pit # 2 & # 3.	

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**02**		**From Date**	**007**	**Top of Interval**	**155.0**	**m**
Max. Hole Size / Bit Size	**17.5 / 17.5**	**in**	**To Date**	**14**	**Bottom of Interval**	**935.0**	**m**

For Report # 007 On 07/10/09	**Operation at Depth 155.0 m**
Rig Activity	Lower conductor to water, remove air at 1000gpm. Lower shoe into hole with ROV sonar. Cont. to run 30" on 5" HWDP landing string. Make up cement stq, space out shoe at 153m w/3m stick up. ROV confirm 1/4 deg to port, 316heading, 3m PGB stick up. Observe twist in guide lines. Troubleshoot. Circ. with S/W @600gpm. Hold toolbox talk and prepare for cement job. Pump 30bbl spacer with cement unit. Pressure test surface lines to 1000psi. Pump 20 bbl mica. Mix & pump 260bbl, 15.9ppg class G cement. Displace with 74bbl seawater. Wait on cement.
Activity	Wait on cement
Fluid Treatment	Top up PHG in preparation for next interval. Mixed CaCl2 brine as per cementer. Received chemicals from Far Scimitar.
For Report # 008 On 08/10/09	**Operation at Depth 245.0 m**
Rig Activity	Lay out BHA. Pick up 17 1/2" BHA. Toolbox talk. Make up BHA. Iron roughneck = damaged, secured pipe spinner carrier, hydraulic motor broken. Cont. to make up BHA, attach stab in lines to NMHOC. RIH w/ 17 1/2" BHA with ROV assistance. Pick up 8 1/4" DC & RIH. Installed geolograph wires & test Halliburton MWD. Wash down from 140m to 30"/20" shoe @ 153m. Drilled out shoe & worked bit. Drill 17 1/2" hole f/ 155m to 245m.
Activity	Drilling
Fluid Treatment	Top up pre mix sweeps w/ seawater & guar gum as necessary to maintain volume and viscosity.
For Report # 009 On 09/10/09	**Operation at Depth 847.6 m**
Rig Activity	M/U 17 1/2" BHA & RIH. Function test MWD. Cont drilling f/ 155m to 847.6m.
Activity	Drilling
Fluid Treatment	Cont to mix & top up PHG & Guar Gum hi-vis sweeps.
For Report # 010 On 10/10/09	**Operation at Depth 935.0 m**
Rig Activity	Drilled f/ 847.6 to 935m, Circulated for 1.5 hrs. Tight hole f/ 903 to 832m cont. POOH to 153m. Reamed hole f/ 582 to 935m. Pumped hi-vis & displaced w/ sea water. Pumped PAD mud & POOH to 153m. Rigged up CMT head & continued pulling BHA f/102 to 25m.
Activity	Pull BHA
Fluid Treatment	Cont. to top up SW / Guar Gum hi-vis pill. 765 bbl of 10.0 ppg kill mud diluted w/ PHG hivis / SW to 1950 bbl 9.0 ppg pad mud. 1200 bbl used to displaced 1.5x annulus volume. Cont. to mix & top up 9.0 pad mud in progress. Rec'd 32 cans Caustic soda f/ Far Scimitar. Cont. making PAD mud in pit 3.
For Report # 011 On 11/10/09	**Operation at Depth 935.0 m**
Rig Activity	Continued to POOH f/ 25 to surface removing MWD probe. Made up & racked back Halliburton CMT head. Rig up for 13 3/8" CSG. Pick up shoe joint, float joint & cont. RIH to 146m. Pick up elevators & control lines. Continued RIH w/ 13 3/8" CSG to 826m (23:59 hrs).
Activity	Run 13 3/8" csg
Fluid Treatment	Mixed additional 367 bbl of 9.0 ppg Pad Mud for volume. Volume required for filling up casing & circulation. Chloride & total hardness in 9.0 Pad mud were higher because seawater was used instead of drill water.

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**02**		**From Date**	**007**	**Top of Interval**	**155.0**	**m**
Max. Hole Size / Bit Size	**17.5 / 17.5**	**in**	**To Date**	**14**	**Bottom of Interval**	**935.0**	**m**

	Drill water chloride - 1,000 mg/L and TH 80 mg/L. Casing displacement volumes will be entered into tomorrow nights report when casing is landed at 935m. Chemicals used to make fluid, will be charged off in next interval.
For Report # 012 On 12/10/09	**Operation at Depth 935.0 m**
Rig Activity	Run Casing & performed cement job. Skid rig off well centre - confirmed by ROV. Moved BOP under rotary & continued to make up BOP.
Activity	Make up BOP
Fluid Treatment	Continued mixing PAD fluid in pit 4. Transferred 189 bbl PHG hi-vis into Pill Tank. Rec'd 590 bbl 9.4 ppg KCl brine f/ Far Fosna. Mixing KCl Polymer mud in progress. Dressed Shakers w/ Baroid TECHMESH screens & will trial tomorrow. Have Rec'd chemicals, will charge off at next interval.
For Report # 013 On 13/10/09	**Operation at Depth 935.0 m**
Rig Activity	Complete platform installation, Bulls eye installation & Stab double riser into BOP. Held TBT & prepared to P/U floatation joint of riser. Port crane down and WOW to improve. Continued to RIH w/ BOP on riser. HIBI run slip joint. Picked up landing joint & lowered 18 3/4" BOP marine riser into position. Commenced installing choke & kill lines.
Activity	Commenced installing choke and kill lines
Fluid Treatment	Continue mixing KCl polymer for 12 1/4" interval. Will provide Fluid tests & pit volumes once all chemicals have been add & mixed in pits. Cementers used 2 sx of mica for cement jobs. Dressed all 4 VSM 300 shakers w/ 3x20 (top) 4x50 (btm) screens, & ran shakers, all tests were successful. Will charge off, all screens & chemical used at the start of 12 1/4" interval.
For Report # 14 On 14/10/09	**Operation at Depth 935.0 m**
Rig Activity	Complete choke & kill line installation, installed marine riser tension lines, POD umbilical lines & storm loops. Skidded rig back over location. Unlocked compensator & WOW for 2.5 hrs before continuing. Latch conductor & take 50K over pull, tested to 2000 psi. Unlocked slip joint & land spider. Lay out handling joint & stow away. Start to M/U BHA.
Activity	Make up BHA
Fluid Treatment	Continue mixing KCl/Polymer mud as per program. No EZ-MUD or CLAYSEAL PLUS has been added to initial displacement volume. Have added another 9 Sx of Bicarb into mix. All Chemicals will be charged off at the start of next interval. The pH target is not met because the system has been pre treated w/ Bicarb in preparation for cement contamination. 12 1/4" bit information = (RSR616M-A21 PDC S/N 222369 Dressed w/ 8 x 13's) BHA not yet run.

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**03**		**From Date**	**15**	**Top of Interval**	**935.0**	**m**
Max. Hole Size / Bit Size	**12.25 / 12.25**	**in**	**To Date**	**37**	**Bottom of Interval**	**2,520.0**	**m**

For Report # 15 On 15/10/09	**Operation at Depth 938.0 m**
Rig Activity	P/U 17 1/2" BHA, L/O bit, 9 1/2" spiral & morel DC. P/U 12 1/4" BHA Directional Driller checked bearing gap, orientation of motor, scribe motor pluged in tool & RIH. Shallow test MWD tools 800 gpm @ 1100 psi. Cont to M/U 12 1/4" BHA & RIH f/ 140-252 m & changed out damaged HWDP. Cont to RIH f/ 252-890 m & washed down to 917 m .Tagged cement. Drilled cement & shoe track f/ 917-938 m & displaced with 9.1 ppg KCl polymer Fluid & closed in. Circ & conditioned fluid. Diplaced choke & kill lines w/ fluid. Preesure test was conducted, 960 psi EQVT MW 6.05 ppg, Max MW 15.15 ppg Volume pumped 2.58 bbl. Cont. w/ installations.
Activity	Install Diverter Packer Screens.
Fluid Treatment	Pump 40 bbl hi-vis spacer & displace well to KCl/Polymer mud. Treat active w/ Bicarb to control hardness & pH. Add BARAZAN-D PLUS to active to increase low end rheology to ensure good hole cleaning. Add CLAYSEAL PLUS and EZ-MUD direct to active as per program. Add OXYGON - Corrosion inhibitor & ALDACIDE-G - bacteriacide as per program. Following displacement, continued to build 322 bbl of KCl fluid in pit 3. Cont. to maintain fluid properties to programmed requirements.
For Report # 16 On 16/10/09	**Operation at Depth 1,540.0 m**
Rig Activity	Drill 12 1/4" hole f/ 938-947 m. L/O 2x5" Drill pipe joint (damaged) & picked up 2 new joints. Cont. drilling f/ 12 1/4" f/ 947-1063 m. Circ while cleaning overloaded shakers, 4 running w/ correct mesh screens. Drilled f/ 1063-1352 m. Circ whilst trouble shooting elevators. Cont. drilling f/ 1352-1423 m. Slide f/ 1423-1432 m. Cont. drilling f/ 1432-1504 m. Slide f/ 1504-1514 m, continued drilling f/ 1514-1540 m.
Activity	Drilling 12.25" interval
Fluid Treatment	Charged off 12 x API 20 mesh & 16 x API 50 mesh screens. Fill all sand traps. Cont. to build reserve volume & bleed into active to maintain volume & properties. Increase KCl concentration to 9% on ADA direction. Add CLAYSEAL PLUS & EZ-MUD to maintain concentration. Add BARAZAN-D PLUS to increase low end rheology. Add Soda ash to active to reduce hardness & control pH. Run centrifuges to control LGS. Prepare 200 bbl Hi-vis fluid w/ BARAZAN-D PLUS. Pump 30 bbl every 3 stands as directed by driller. Shaker # 2 down for 8 hrs electrical fault & Shaker # 4 losing fluid f/ right lower section approximately 30 bbl.
For Report # 17 On 17/10/09	**Operation at Depth 2,004.0 m**
Rig Activity	Drill 12 1/4" hole f/ 1540-1780 m, pumped hi-vis every 3 stands. 5 bbl gain in active, space out, flow check result = static. Cause f/ Mud Pumps. Continued to drill f/ 1780-1790 m. Cont. drilling f/ 1790-1937 m. Slide f/ 1937-1948 m rotate f/ 1948-1951 m, continued to slide f/ 1951-1958 m. 9 bbl gain on cxn, space out, flow check result = static. Cause f/ Mud Pumps. Drilled f/ 1958-2004 m.
Activity	Drilling 12.25" Interval.
Fluid Treatment	Screened up all bottom shakers to 80 API. Changed top 20 API screens due ware. Cont. to build reserve volume. Add OXYGON - corrosion inhibitor & ALDACIDE-G bacteriacide. Treat out Calcium w/ soda ash & maintain pH w/ the addition of caustic. Add EZ-MUD & CLAYSEAL PLUS to compensate for new fluid additions & depletion f/ drilling. Cont. to build volume in pit 1. Run centrifuge to control LGS. One centrifuge not operating - new motor on order. Pump hi-vis sweep every 3 stands. Shaker 2 & 4 have had mechanical & electrical problems. Mud Pump 2 has had mechanical problems. Dumped 157 bbl f/ sand traps.
For Report # 18 On 18/10/09	**Operation at Depth 2,244.0 m**
Rig Activity	Drill 12 1/4" f/ 2004-2102 m. Drilling motor stalled out, 10 bbl pit gain flow check-static, problem f/ mud pumps. Drill f/ 2102-2130 m. Saver-sub backed out on top of stand number 65. Load out top single & attempted to make up new saver-sub. Not

Operations Log Recap

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Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**03**		**From Date**	**15**	**Top of Interval**	**935.0**	**m**
Max. Hole Size / Bit Size	**12.25 / 12.25**	**in**	**To Date**	**37**	**Bottom of Interval**	**2,520.0**	**m**

	possible due to problems w/ pipe handler. L/O single, rig up & circulate. Swedge & CMT hose, trouble shoot & repair pipe handler while circ & rotating string. Install new saver sub. Cont. drilling f/ 2130-2166 m. 5 bbl gain in active, space out, flow check = static. Cont. drill f/ 2166-2244 m.
Activity	Drillng 12.25 Interval.
Fluid Treatment	Add caustic to active to maintain pH. Add ALDACIDE-G - bacteriacide. Bleed Brine / water mix into active to ensure mud remains hydrated in response to evapoartation. Mix made up to ensure correct KCl concentration maintained. Build reserve volume. Run one centrifuge to control LGS. Number 4 shaker still down, cont. to lose mud f/ trough below Number 4 shaker. Cont. to have problems w/ mud pumps. Checked sand content multiple times & confirmed w/ geologist as to formation type.
For Report # 19 On 19/10/09	**Operation at Depth 2,271.0 m**
Rig Activity	Drilled 12 1/4 f/ 2244-2246 m, pop off valve on pump#2 & piston on pump#1 failed. Circulating on pump#3, whilst repairing 1 & 2. Drilled f/ 2246 -2271 m & observed pressure loss of 300 psi differential, whilst adding premix into system & pressuring all 3 mud pumps. Circ hole clean & flow check. POOH f/ 2271-2161 m. Observed 30 K over pull f/ 2148 - 2137 m. Cont. to POOH, back ream tight spot @ 1669 m. Back ream f/ 1669 - 13 3/8" shoe @ 930 m. 1st 10 ppg, 40 bbl slug failed. Pumped another 40 bbl, 10 ppg slug & Cont to POOH. Flow Check for 15 mins before cont to POOH & rack back BHA.
Activity	Rack Back 12.25" BHA.
Fluid Treatment	Treat active volume w/ CLAYSEAL PLUS to maintain conc'n & inhibition. Build slug for POOH. Pumped three x 10 ppg slugs approximately 40 bbl each which will effect Fluid Weight. Conduct full inventory check. Started new premix volume in pit # 3, will be charged off tomorrow. Currently bringing brine on board & Barite - will be charged off when job is complete.
For Report # 20 On 20/10/09	**Operation at Depth 2,284.0 m**
Rig Activity	POOH w/ BHA to surface. Tested mud motor @ 700 gpm, 500 psi = good. Bit in good condition, racked back in stand & down loaded MWD tools. Service top drive. M/U CMT head, casing hanger & racked back port side. RIH w/ 12 1/4" BHA to 24 m, scribe motor & program MWD tools. Cont to RIH 12 1/4" to 167 m & test MWD with 800 gpm @ 1000 psi. Cont. to RIH f/ 176-252 m installed diverter packer. RIH 5" Drill pipe f/ 252-2165 m top fill every 20 stands. Installed geolograph lines. Took weight 20K down @ 2165 washed f/ 2165-2245 m. Washed w/ 10K constant then clear f/ 2242-2271 m. Drill 12 1/4" hole f/ 2271-2284 m
Activity	Drill 12.25" Interval
Fluid Treatment	Change bottom screens on shaker 1 & 2 to 4 x 100 mesh to assist in controlling solids build up. Increase in mud weight attributable to the 3 slugs that have been incorporated into the fluid system, mud weight 9.5 ppg. Add caustic to reserve volume to maintain pH. Continued to add chemical to maintain properties. Build 304 bbl of 9 ppg KCl polymer fluid. Callibrate all mud balances.
For Report # 21 On 21/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Drill 12 1/4" hole f/ 2284-2501m, noticed a 5 bbl gain in active-space out & flow check-static. Cont. drilling f/ 2501-2520 m TD. Pump 50 bbl 9.3 ppg hi-vis Sweep & Circ hole & shakers clean. SCR's @ 2515 m w/ 9.3 ppg fluid. Pit drill circulated through choke & kill lines, recorded CLF's. Flow check, POOH to 2268 m on elevators up to 20 K over pull @ 2515, 2412, 2383 & 2354 m. RIH f/ 2271-2520 m TD, max drag 15 K SCR's @ 2515 m w/ 9.4 ppg KCl fluid.
Activity	Wiper Trip 12.25' interval

Operations Log Recap

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Interval	**03**		**From Date**	**15**	**Top of Interval**	**935.0**	**m**
Max. Hole Size / Bit Size	**12.25 / 12.25**	**in**	**To Date**	**37**	**Bottom of Interval**	**2,520.0**	**m**

Fluid Treatment	Dump sand traps & build reserve volume. Add water direct to active to compensate for losses through evaporation. Condition mud w/ CLAYSEAL PLUS and EZ-MUD prior to POOH. Add OXYGON - corrosion inhibitor & ALDACIDE-G prior to tripping. Maintain pH w/ addition of caustic potash. Mixed 80 bbl 9.3 ppg hi-vis Pill & 48 bbl 11.3 ppg Slug.
For Report # 22 On 22/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	CBU up till shakers are clean, spot 40 bbl Hi-Vis. Flow check-static, POOH to 13 3/8" shoe @ 935 m. Flow check-static & service top drive. Cont. to POOH w/ 12 1/4" assy to 352 m. Flow check prior to pulling BHA through BOP & cont to POOH to 252 m. Remove diverter packer & wiper, POOH to surface & break down BHA. M/U wear bushing retrieval tool & RIH on 5" HWDP, wash BOP & break off wear bushing retrieval tool. Rig up to run 9 5/8" casing, resolved elevator problem cont. to run 9 5/8" casing to 830 m.
Activity	.Run 9 5/8 Casing.
Fluid Treatment	Run centrifuges to condition mud whilst running in hole w/ casing. Cont. to treat pits w/ ALDACIDE-G.
For Report # 23 On 23/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Continue running 9 5/8" casing f/ 830-2020 m. Wait on chopper movements. Cont. running 9 5/8" csg f/ 2020-2417. L/O elevators & fill tool. P/U hanger, M/U same & rig down casing FMS. RIH hanger & landing string to 2480 m tag w/ 40 k under pull. Wash down f/ 2480-2508 m, pump 60 bbl hi-vis & circ out of hole. 9 5/8" casing stuck at 2505 m. Landing string parted, secured broken motor on TDS & conducted derrick survey = ok. POOH w/ landing string load out pup joint, 1x single HWDP & parted single. Slip & cut drill line.
Activity	Slip & Cut Drill Line.
Fluid Treatment	Conduct full inventory count. Run centrifuges to condition surface volume. Pump 70 barrel hi-vis sweep whilst circulating casing. No significant increase in returns observed.
For Report # 24 On 24/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Slip & cut drill line, derrick management, moved used HWDP f/ running string to port side derrick. M/U Dril-Quip MPT & RIH. Tag top of fish @ 81.5 m. POOH & L/O same. M/U 8 3/8" overshot, dressed w/ 6 5/8" spiral grapple & RIH. attempt to catch fish = unsuccessful, POOH. Inspect top drive gears & replace oil lube motor. M/U fishing assy & RIH tag fish @ 81.5 m, worked overshot over fish w/ max 15k DN, then 2 revs of string max torque 6-7k ft/Lb. P/U w/ 5K over-pull which fell away. POOH w/ fishing assy, zero recovery & cutting plugged over-shot. Clean out over-shot, load out-over shot EDPHOT assy & pressure test choke & kill manifold.
Activity	Pressure Test Choke & Kill Manifold.
Fluid Treatment	Add caustic potash to surface volume to maintain pH. Calibrate mud balances. Dip & check volumes in pit room.
For Report # 25 On 25/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Cont. testing choke, kill manifold, stand pipe manifold, lower & upper BOP @ 2500 psi /5 mins & 5000 psi /10 mins also tested FOSV, neg. M/U jetting tool on a stand of HWDP & RIH-jet w/ 1200 gpm 3000 psi, boost riser & POOH. Service travelling equipment. M/U fishing assey & RIH, attempt to latch onto fish, damaged alignment cylinder. Inspect TD-change out alignment cylinder clevis, POOH fishing assy. Change out over shot & grapple. RIH fishing assy-attempt to retrieve fish-POOH L/O over shot assy. P/U 12 1/4" BHA f/ derrick break down & L/O same, L/O 2 x 12 1/4" stabs, monel, mud motor & 3 x 8.25" D/Cs.

Operations Log Recap

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Interval	**03**		**From Date**	**15**	**Top of Interval**	**935.0**	**m**
Max. Hole Size / Bit Size	**12.25 / 12.25**	**in**	**To Date**	**37**	**Bottom of Interval**	**2,520.0**	**m**

Activity	Laying Out BHA
Fluid Treatment	Build 40 bbl pumpable Hi-Vis sweep using BARAZAN-D PLUS. Perform mud checks on all reserve pits & treat as necessary w/ the addition of caustic potash, BARAZAN-D PLUS & PAC -LE. Clean and check shaker screens = all good.
For Report # 26 On 26/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Torqued each connection to 28,000 ft.lbs. Engaged fish & confirmed w/ 5k overpull. Applied 10,000 ft/lbs left hand torque. Worked string between 5 - 10 k overpull. Increased left hand torque in 2000 ft.lbs increments until torque reached 20,000 ft/lbs. Torque dropped off continued to rotate 4 1/2 turns to the left & weight dropped off. POOH & RIH w/ 8 3/8" overshot assy, dressed w/6 5/8" spiral grapple, no go. Modify 8 3/8" lip guide. Welder fabricate & weld 11 3/4" x 15" over size guide onto 8 3/8" lip guide.
Activity	Fishing
Fluid Treatment	Add ALDACIDE-G to surface volume to inhibit bacterial growth. Add Potassium Hydroxide to maintain pH. Made up 11 1/4" overshot assembly, dressed w/ 7 7/8" basket grapple & RIH to above fish @ 82.5 m. Attempted to confirm injection test. Pumped 1.2 bbl to 3500 psi. No success. POOH. Re-dressed 11 1/4" overshot assy w/ 7 7/8" basket grapple & RIH. Troubleshoot TD hydraulic system. RIH w/ 11 1/4" overshot assembly to top of fish @81.5 m.
Issues	Issue 1 - Whilst circulating 9 5/8" casing and the pumping of a 70 bbl Hi vis, sweep the casing running string became packed off around the base of the riser.
For Report # 27 On 27/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Modified 8 3/8" lip guide. Welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide. RIH w/ 8 3/8" overshot assy, dressed w/ modified lip guide to top of fish #2 at 52.3 mRT. Successfully engaged fish. POOH & released fish. L/O 8 3/8" overshot assy. POOH w/ 11 1/4" overshot assembly. L/D same. Made up 11 1/4" overshot assy w/ 7 7/8" basket grapple. RIH to top of fish & attempt to engage, no success. POOH & RIH w/ reverse circulating junk basket assembly. Wash top of fish. POOH & RIH w/ modified 11 1/4" overshot assy, engaged fish w/ 20k overpull. Apply lefthand torque & slipped free. POOH. Toolbox talk, P/U DC & rack in derrick.
Activity	Fishing
Fluid Treatment	Add Potassium Hydroxide to maintain pH. Run centrifuges on active system to reduce mudweight in preparation for next section. Mud weight reduction from 9.45 ppg to 9.4 ppg achieved. Pump two 5 bbl hi-vis sweeps as part of fishing clean up operation.
For Report # 28 On 28/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Engaged fish w/ 50k overpull. Applied 20 k ft/lbs left hand torque, torque slipped. Attempted to re-engage, No go. POOH. Prepare new fishing assy. RIH w/ 11-3/4" overshot assy to fish @ 81.5 m. Engaged fish, confirmed w/ 10k overpull. Began jarring lightly on fish. Slacked off to 160k & picked up to 230k, jars firing. Set torque limit to 30 k ft.lbs. Applied 27 k ft.lbs of left hand torque (23 turns). String jumped. POOH to surface. At surface confirmed top sub connection on Bowen Super Fishing Jar had backed off leaving 11 3/4" overshot, bumper sub & jars in hole. Top of fish #2 at 73.5 m
Activity	Fishing

Operations Log Recap

Well Name	**TREFOIL-2**
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Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**03**		**From Date**	**15**	**Top of Interval**	**935.0**	**m**
Max. Hole Size / Bit Size	**12.25 / 12.25**	**in**	**To Date**	**37**	**Bottom of Interval**	**2,520.0**	**m**

Fluid Treatment	Build EZ-SPOT Pill as per ADA instruction. The pill includes EZ-SPOT, Amodril 1235 base oil, water & barite to 9.4 ppg. Pumped an initial 14 bbl @ 1200. Followed by 2-3 bbl every half hour thereafter. Total pumped 40 bbl Maintain properties in reserve pits w/ the addition of Potassium Hydroxide. Lay down cement head. Pick up 6 3/4" DCs & rack in derrick. Installed diverter & wiper rubber. Pick up 5" HWDP & DP & rack in derrick. Troubleshoot TDS. Make up fishing assy w/ 11 1/4" overshot & 7 7/8" basket grapple,
For Report # 29 On 29/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	RIH w/ 11-1/4" overshot (BHA #13), dressed w/ 8" basket grapple to top of fish @ 74.7 mRT (fish #2). Made several attempts to engage fish, without success. POOH. RIH w/ overshot & 7-7/8" basket. No success. POOH & observed the 11 1/4" overshot & crossover missing. RIH, attempt to engage, no success. POOH. RIH w/ modified 8-3/8" overshot w/ 6-3/4" spiral grapple. Made several attempts to engage fish, without success. Made 11-3/4" overshot w/ 6 3/4" basket grapple. RIH to top of fish #3 @ 73.3 m & attempt to engage fish, no success. POOH & change out basket grapple.
Activity	Fishing
Fluid Treatment	Add caustic soda to surface volume to maintain pH.
For Report # 30 On 30/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Dressed the 11-1/4" overshot w/ a 8-1/4" basket grapple. RIH & engage fish w/ 5klbs, confirmed w/ 20 klbs overpull. Slacked off 5klbs, rotate @40 rpm, String jumped. POOH, no fish. RIH w/ 8 3/8 overshot. w/ 6 3/4 grapple modified & overshot on 5" DP. Set down 10k w/ rotation, no torque or overpull, POOH same. RIH 11 1/4 overshot w/ 8 1/4 grapple on 5" DP, POOH. Makeup modified pupjoint & lip guide & RIH to top of fish at 81.5 m. Pump @ 10 spm tag top of fish, rotate & attempt to screw modified lipguide & pupjoint into fish w/ no success. POOH same.
Activity	Fishing
Fluid Treatment	Tidy / re-arrange sack room. Conduct full inventory check.
For Report # 31 On 31/10/09	**Operation at Depth 2,520.0 m**
Rig Activity	Troubleshooting topdrive & iron roughneck hydraulic unit. Made 3 runs into the hole w/ fishing tools, w/ 11 3/4 overshot & 1st grapple size of 8 3/4. 2nd run w/ grapple size of 7 1/8 & the 3rd & successful run w/ grapple size of 7". Fish #3 @ surface. RIH w/ fishing BHA #18F & apply right hand rotaion. Overpull of 30k was taken when string released. POOH no fish. Marks on side of guide indicated tool had gone down beside fish. Change overshot guide f/ 11 3/4 to 15" & RIH same BHA. Latch on to fish, allow jars to bleed off, Hold 35k on fish while confirm w/ town operation.
Activity	Fishing
Fluid Treatment	Add ALDACIDE-G to surface volume to inhibit bacterial growth. Maintain properties in reserve pits w/ the addition of BARAZAN-D PLUS.
For Report # 32 On 01/11/09	**Operation at Depth 2,520.0 m**
Rig Activity	Closed shear rams against 9 5/8" casing. Observed flow meter count of 56 bbl, correct volume. Begin overpull & Jarring to free stuck casing hanger. At 03.45 hrs String came free w/ between 40-70 k overpull, POOH w/ fish complete to surface. Inspect tools. Pick up excess tools & lay out. Open shear rams & pump 5 bbl hi-vis mud, CBU @ 160 stks. Make up & RIH w/ 17 1/2" mill assembly, tag @ 98.87 m casing swedge, indicating top of fish inside 13 3/8" casing. POOH & RIH w/ 12 1/4"

Operations Log Recap

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Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**03**		**From Date**	**15**	**Top of Interval**	**935.0**	**m**
Max. Hole Size / Bit Size	**12.25 / 12.25**	**in**	**To Date**	**37**	**Bottom of Interval**	**2,520.0**	**m**

	mill, tag top of 9 5/8" casing @ 102m, begin milling f/ 102 m to 103 m @ 350 gpm, 5k WOB. POOH & lay out milling assembly.
Activity	Fishing
Fluid Treatment	Dress all lower shaker screens w/ previously used Techmesh API 50 in anticipation of receiving cold viscous drilling fluid during milling operation. Pump 5 bbl of hi-vis sweep down choke/kill lines - no increase in returns seen at shakers. Prepare 45 bbl BAROLIFT sweep in slug pit. Pumped 3 X sweeps whilst milling casing, 10 bbl, 6 bbl, 11 bbl. Observed an estimate 50% increase in cuttings. Receive chemicals: 4 drums EZ-MUD, 3 IBC's Amodil 1235, 19 sacks SAPP. Mud rheology @16C, 14 PV, 24 YP
For Report # 33 On 02/11/09	**Operation at Depth 2,520.0 m**
Rig Activity	Continued to POOH w/ 12 1/4" milling BHA f/ 103 m to surface. Broke out & Laid out 12 1/4" mill & junk baskets. Made up & RIH w/ 8 1/2" Tapered casing mill to 103 m. Mill inside casing f/ 103 m - 106 m @ 50 rpm, 70 spm. POOH to surface & lay out mill. Pick up wellhead mill & jetting tool. RIH & wash & jet wellhead & BOPs w/ 200 spm, 220 psi. POOH to surface. Make up spear assembly & RIH to retrieve casing fish. Pulled 570 k w/ no luck. POOH Spear. M/U & Run casing cutter & spear. Cut & speared casing @ 157 m. POOH. Dropped fish near surface. Lay out casing cutting tools.
Activity	Fishing
Fluid Treatment	Add caustic soda to maintain pH of surface volume. Add ALDACIDE-G to inhibit bacterial growth. Transferred reserve mud into active to maintain volume whilst cutting casing. Maintain properties in active pit w/ the addition of BARAZAN-D PLUS.
For Report # 34 On 03/11/09	**Operation at Depth 2,520.0 m**
Rig Activity	Picked up & made up back up casing grapple RIH to top of fish at 103 m. Latched into fish POOH w/ fish to surface. Laid out 9 5/8" casing fish. Makeup wear bushing, RIH & land out, Dressed 12 1/4" milling assy & RIH & tag top casing @ 157 m. Start mill top of casing at 100 rpm/ 100 spm/ 500 gpm/ 250 psi. Pump hi-vis pill & circ 2 x bottoms up. POOH. Retrieve wear bushing. P/U 9 5/8" casing hanger f/ derrick. Backout 9 5/8" pup joint f/ below hanger. M/U casing patch to first joint of casing & RIH w/ same.
Activity	RIH w casing patch
Fluid Treatment	Add caustic soda to active & reserve fluid to maintain pH. Add ALDACIDE-G to inhibit bacterial growth. Pump 25 bbl hi-vis sweep following milling as part of casing patch operation. No increase in swarf observed at shakers. Run centrifuges on active fluid in preparation for 8.5" section.
For Report # 35 On 04/11/09	**Operation at Depth 2,520.0 m**
Rig Activity	RIH 9 5/8" casing patch on landing string. Worked string & rotated string to the left in an attempt to engage casing patch grapple. Released casing running tool & POOH. Picked up & made up spear assy & RIH. Tag at 158 m, engaged grapple @ 160 m, Performed overpull to pull casing into casing patch. P/U to verify casing patch engaged. Not engaged. Repeat same procedure. Cont. to work casing string to get casing patch to engage & to energize seals. Confirmed casing patch seals energized. POOH casing spear. RIH w/ seal assy & set w/ 3000psi. Press test BOPs & C&K Manifold.
Activity	Testing B.O.P.

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**03**		**From Date**	**15**	**Top of Interval**	**935.0**	**m**
Max. Hole Size / Bit Size	**12.25 / 12.25**	**in**	**To Date**	**37**	**Bottom of Interval**	**2,520.0**	**m**

Fluid Treatment	Add caustic soda to active & reserve fluid to maintain pH. Add ALDACIDE-G to inhibit bacterial growth. Callibrate all mud balances & cleaned out hoppers.
For Report # 36 On 05/11/09	**Operation at Depth 2,520.0 m**
Rig Activity	Cont. to test BOPs & C&K manifold (250 psi low/ 5000 psi high). Release running tool w/ 60klbs overpull & POOH. Lay out excess BHA f/ derrick. Troubleshoot top drive hydraulic system & pipe handler & alignment problems.
Activity	Repair rig
Fluid Treatment	Add ALDACIDE-G to inhibit bacterial growth. Add BARAZAN-D PLUS to maintain rheology of reserve volume. Perform mud lab stock check.
For Report # 37 On 06/11/09	**Operation at Depth 2,520.0 m**
Rig Activity	Cont. to troubleshoot TD hydraulic system & alignment problem. Change out saver sub, test TDS, Torque wrench, alignment test hook, position indicator on compensator. P/U & M/U near bushing & RIH same. M/U RTTS RT & RIH - circ 10mins. Set RTTS packer. POOH RTTS packer & L/O same. RIH 5" DP f/ deck.
Activity	Tripping
Fluid Treatment	Add caustic to surface volume to maintain pH. Add ALDACIDE-G to inhibit bacterial growth. Arrange flowline so sandtraps are by-passsed in anticipation of receiving poor quality fluid f/ bottom's up. This will ensure that the minimum volume of fluid is effected by any potential deterioration.

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**04**		**From Date**	**38**	**Top of Interval**	**2,523.0**	**m**
Max. Hole Size / Bit Size	**8.5 / 8.5**	**in**	**To Date**	**59**	**Bottom of Interval**	**3,235.0**	**m**

For Report	**# 38**	**On**	**07/11/09**	**Operation at Depth**	**2,523.0 m**
Rig Activity				RIH, wash & ream f/ 2402 - 2494 m, Drill out shoe track @ 2520 m to 2423 m, Pump 25 bbl hi-vis pill, circulate hole clean while installing geo services bracket, Rig up for LOT, Perform LOT, Rig down LOT, Pump slug, POOH, M/U 8 1/2" BHA#39.	
Activity				Tripping	
Fluid Treatment				Treat & condition mud following circulating bottoms up: Add caustic to increase pH, Soda ash to reduce Calcium concentration, ALDACIDE-G to inhibit bacterial growth, BARAZAN-D PLUS to maintain programmed rheology, PAC-LE for filtration control. Add OXYGON corrosion inhibitor as per program. Utilize sandtraps following fluid conditioning. CLAYSEAL PLUS & EZ-MUD to be added as soon as drilling commences. Pump 25 bbl hi-vis sweep following drilling formation - no increase in shaker discharge seen. Prepare slug. 2308 bbl of mud transferred f/ 12 1/4" fluid set to 8.5" fluid set.	
For Report	**# 39**	**On**	**08/11/09**	**Operation at Depth**	**2,629.0 m**
Rig Activity				Continue to M/U 8 1/2" BHA #39, Test downlaod MWD - install radioactive sources, Cont M/U 8 1/2" BHA & RIH, Shallow test MWD, Cont. to RIH. Ream down f/ 2457 to 2514, Ream through shoe @ 2520 m, POOH to shoe for geo services to trouble shoot systems, Continue to drill f/ 2540 to 2629 m.	
Activity				Drilling	
Fluid Treatment				Add CLAYSEAL PLUS & EZ-MUD to active fluid on the commencement of drilling. Add Caustic to maintain pH. Add water to offset loss through evaporation. Add OXYGON to programmed concentration. Adding a slow stream water to maintain active phase. Change lower shaker deck to API 100 mesh screens. Run Centrifuges to control solids.	
For Report	**# 40**	**On**	**09/11/09**	**Operation at Depth**	**2,633.0 m**
Rig Activity				Cont. drill 8.5" hole f/ 2629 m - 2633 m, No MWD signal - attempt to retrieve. CBU, POOH f/ 2633 to shoe @ 2520, Flow check static pump, pump 25 bbl slug, POOH 2633 m to 403 m, Flow check cont, POOH BHA 403 m to surface, Download radio active sources & rack back BHA in derrick, Rig repair - welder making bracket & install same for geo line, Make up BHA & start to RIH.	
Activity				Tripping	
Fluid Treatment				Add caustic to maintain pH. Add ALDACIDE-G to inhibit bacterial growth. Inspect & maintain shaker screens. Receive Brine f/ Far Scimitar.	
For Report	**# 41**	**On**	**10/11/09**	**Operation at Depth**	**2,774.0 m**
Rig Activity				Cont M/U 8 1/2" BHA#39 & RIH, Test MWD, Cont. RIH BHA & 5" DP, TBT hang off blocks spool off wire & cut same, shift handover - TBT w/ oncoming crew, cont to slip & cut drill line, service top drive & inspect same, Drill 8 1/2" hole f/ 2633 m to 2644 m, Taken losses w/ problems in shakers - unblock flowline, Back on botton drill 8 1/2" f/ 2644 m to 2774 m.	
Activity				Drilling	

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**04**		**From Date**	**38**	**Top of Interval**	**2,523.0**	**m**
Max. Hole Size / Bit Size	**8.5 / 8.5**	**in**	**To Date**	**59**	**Bottom of Interval**	**3,235.0**	**m**

Fluid Treatment	Add CLAYSEAL PLUS & EZ-MUD to maintain concentration as per program, Circal 60/16 and Omyacarb#5 bridging agents to offset losses from solids control equipment, DEXTRID LTE & PAC-LE to maintain low filtration & Caustic to maintain pH. Add water to active fluid set to offset loss f/ evaporation & to ensure hydration of polymer addition. Run centrifuges to control LGS build up. Run only 2 shakers so as to promote more efficient discharge of cuttings. Pre-build slug & hi-vis sweep in preparation for reaching first coring point.
For Report # 42 On 11/11/09	**Operation at Depth 2,983.0 m**
Rig Activity	Cont. drill 8 1/2" hole f/ 2774 to 2950 m, Rack back stand #93 & circulate well clean, Drill 2950 to 2968 m, Circulate well clean from 2968, Take SCR's at 2968 m, Drill 2968 to 2983 m TD, Circulate bottoms up core point - Flow check static circulate hole clean, POOH f/ 2870 to 2669 m.
Activity	Tripping
Fluid Treatment	Maintain properties w/ addition of reserve volume. Phase in N-DRILL HT PLUS Filtration control agent in response to increasing Bottom Hole Temperature. Add EZ-MUD & CLAYSEAL PLUS to maintain programmed concentration. Add OXYGON - corrosion inhibitor & ALDACIDE-G - bactericide prior to POOH. Run centrifuges to control solids. Note: the 13 Mt Bentonite received represents a correction that is consistent with an adjustment made by the Kan Tan IV control room.
For Report # 43 On 12/11/09	**Operation at Depth 2,988.0 m**
Rig Activity	Cont. POOH f/ 2669 to 2520 m w/ Sperry Sun 8 1/2", Flow check & service top drive, Pump 30 bbl slug POOH f/ 2520 to 404 m, Flow check static cont POOH f/ 404 to 30 m, Remove sources & download MWD tools, Break off bit & rack Sperry tools in derrick, Hold TBT to pick up core barrels, Pick up inner & outer core barrels, space out inner barrel for shoe, Run core assay on 6 1/2" DC's & HW out derrick 31 to 286 m, Function test diverter (good) cont RIH 5" DP to 2512 m, Flow check (good) establish coring parameters, Cont. RIH 2512 to 2946, wash down f/ 2946 to 2983 m pull back 1 stand spaced out P/U pup joint, commence core operations.
Activity	Core Operations
Fluid Treatment	Prepare Slug for POOH following coring. Perform inventory check. Calibrate mud balances.
For Report # 44 On 13/11/09	**Operation at Depth 3,017.0 m**
Rig Activity	Cont. to core f/ 2984 to 3017 TD, complete & break core, Flow check static, pump slug & POOH w/ core assy @ 3mins a stand, HTBT to recover cores & recover same, make space in derrick for outer core barrel & rack into derrick, load MWD & radio active sources, shallow test MWD, Cont. RIH f/ 147 m to 288 m, RIH 8 1/2" BHA on 5" DP f/ 288 m to 1215 m.
Activity	Tripping
Fluid Treatment	Cont. inventory check. Citric acid used by cementer & Barite used in Slug. Changed out damaged API 100 shaker screen w/ same.
For Report # 45 On 14/11/09	**Operation at Depth 3,140.0 m**
Rig Activity	Cont. RIH 8 1/2" BHA on 5" DP f/ 1214 to 2520 m filling every 25 stands, Service top drive, install new bracket, Cont. RIH f/ 2520 - 9 5/8" casing shoe to 2919 m, Wash

Operations Log Recap

Well Name	TREFOIL-2
Operator	ADA DRILLING
Contractor	MAERSK
Rig No	Kantan IV
Unit System	ADA Drilling

Interval	**04**		**From Date**	**38**	**Top of Interval**	**2,523.0**	**m**
Max. Hole Size / Bit Size	**8.5 / 8.5**	**in**	**To Date**	**59**	**Bottom of Interval**	**3,235.0**	**m**

	down f/ 2919 to 2960 m. Take SCRs relog mud tools f/ 2960 to 2013 m @ 30 m an hour, Drill 8 1/2" hole f/ 3013 to 3130 m core point, CBU, Cont. drill 8 1/2" hole f/ 3130 to 3140 m.
Activity	Drilling
Fluid Treatment	MW in 9.4 ppg & MW out 9.7 ppg. Running 2 centrifuges to manage higher MW due to slugs. Treated active w/ PAC-LE & N-Dril HT PLUS for fluid loss. Added KOH for pH. Added CLAYSEAL PLUS & EZ-MUD when 180 bbl of fresh mud was introduced to the Active. Bridging agents were added to compensate loss from centrifuging. BARAZAN-D PLUS to maintain mud rheology. Mixed additional 40 bbl 11.5 ppg slug using active mud.
For Report # 46 On 15/11/09	**Operation at Depth 3,152.0 m**
Rig Activity	Cont. drill 8 1/2" hole f/ 3140 - 3145 m new core point, Circulate hole clean, Flow check static, pump 30 bbl slug, POOH to casing shoe 2520 m, Flow check = static, Cont. POOH to Sperry tools, Remove sources & download LWD, Repair core barrel to run, Run Core barrel 32 m to 288 m on BHA, Run BHA on DP, Ream down f/ 3089 to 3145 m TD, Drop ball take SCR's & start core operations f/ 3145 to 3152 m.
Activity	Coring
Fluid Treatment	General housekeeping at sack store / mud pits area. Washed & calibrated mud balance. Citric acid to unbloak drain. Transfer 50 bbl reserve mud to active, chemicals added for same. New Slug made 11.5ppg. Centrifuges running.
For Report # 47 On 16/11/09	**Operation at Depth 3,152.0 m**
Rig Activity	Cont. core f/ 3152 to 3175 m, Rack back stand, Flow check static pump slug 30 bbl & POOH f/ 3175 TD to 2050 m @ 3 mins/stand, Cut & Slip drill line, Cont POOH f/ 2050 to 1096 m 3min/stand, POOH f/ 1096 to 288 m, HTBT & recover cores, L/O core assy, Make up bit & upload tool & install radioactive sources, Cont RIH with 8 1/2" drilling assy to 147 m, Shallow test MWD.
Activity	Tripping
Fluid Treatment	Lowered MW to 9.4 ppg in Pit # 2. Built BAROLIFT sweep in pill pit.
For Report # 48 On 17/11/09	**Operation at Depth 3,208.0 m**
Rig Activity	Cont. RIH w/ BHA f/ 147 to 288 m, RIH on 5" DP f/ 288 to 1908 m filling every 25 stands, Trouble shoot problems w/ draw works & start repairs, continue draw works repairs, pull test draw works raise to lower string, RIH f/ 1908 to 2937 m, Ream tight spot 2937 to 3120 m, Tight 2937 m, Logging with Sperry Sun 3120 to 3175 m, Drill 8 1/2" hole f/ 3175 to 3208 m.
Activity	Drilling
Fluid Treatment	Run centrifuge to maintain MW at 9.4 ppg while circulating @ 1909 m. Treat active w/ PAC-LE & N Dril HT PLUS to control fluid loss. Fresh premix added with CLAYSEAL PLUS & EZ MUD prior to addition into active. Bridging agents were added while drilling new formation to help compensate for centrifuge loss. Mixed 11.5 ppg slug in slug pit.

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval		**04**			**From Date**	**38**	**Top of Interval**	**2,523.0 m**
Max. Hole Size / Bit Size		**8.5 / 8.5**		**in**	**To Date**	**59**	**Bottom of Interval**	**3,235.0 m**
For Report	**# 49**	**On**	**18/11/09**		**Operation at Depth**		**3,235.0 m**	
Rig Activity					Cont. to drill ahead 8 1/2" hole w/ 700 gpm /2900 psi/ 100 rpm/ 15 WOB/ 10k torque to TD at 3235 m. CBU 2X @ 700 gpm, hole clean. Pumped out of hole f/ 3235 m to 3151m. Pumped slug & POOH on elevators f/ 3151 m to surface. Download MWD & remove source. Break off & lay down MWD tools. Rig up & RIH w/ wireline tools.			
Activity					Wire Line logs			
Fluid Treatment					Run both centrifuges to control MW. MW balanced in & out at 9.5 ppg. Added OXYGON & ALDACIDE-G into active mud prior to POOH.			
For Report	**# 50**	**On**	**19/11/09**		**Operation at Depth**		**3,235.0 m**	
Rig Activity					Cont. w/ wireline run #1. (CMR+/ Pex/ HRLA/ HNGS). Trip Tank showed 15 bbl loss during run #1. Tools at surface, remove sources, lay down Run #1 tools. Fill T/Tank to 35.8 bbl. P/U & M/U tools for run #2 RIH & Log with Schlunberger wire line run #2.			
Activity					Wire Line logs			
Fluid Treatment					General housekeeping at lab & sack store. Cleaned shakers area. Mechanic calibrating weight indicator on barite / bentonite surge tanks.			
For Report	**# 51**	**On**	**20/11/09**		**Operation at Depth**		**3,235.0 m**	
Rig Activity					Cont. w/ wire line run #2 (MDT/XPT). Completed 4 correlation runs & 65 pretests f/ 2560.1 m to 3208.3 m (50 valid, 14 tight, 1 super charged). Monitored well on trip tank. Continued to PMS drilling equipment. POOH wire line run # 2 to surface.			
Activity					Wire Line logs			
Fluid Treatment					Rearranged products in sack store. Did inventory check. Add ALDACIDE-G to inhibit bacterial growth. Working on scales on barite / bentonite surge tanks. Tested same. Conditioned active mud.			
For Report	**# 52**	**On**	**21/11/09**		**Operation at Depth**		**3,235.0 m**	
Rig Activity					Lay down wireline tools for run #2. Picked up & made up wire line tools for run #3. RIH & logged. POOH w/ wire line run #3. Hold PJSM & lay out wire line tools. Lay out DC. Hold PJSM & rig up & run 2 7/8" tubing to 101 m. RIH 2 7/8" tubing on 5" DP to bottom @ 3235 m. Circ. btms up @ 400 gpm/ 1800psi. M/U Cmt Head/ Press test surface lines to 3000 psi/ . Pump Cmt plug #1. Break off cmt head & POOH f/ 3235 m to 3085 m on the elevators. CBU. No cmt returns seen at shakers. Cmt plug #1B,- M/U cmt head & Pump 5 bbl of mud/ Press test surface lines to 3000 psi/ 5min. Pump 15 bbl of D/Water, followed by 43.2 bbl of 15.8 ppg cmt.			
Activity					Plug and Abandonment			
Fluid Treatment					Tested both weight indicators w/ 2200 lbs products. Gauges working ok. Add ALDACIDE-G to inhibit bacterial growth. MW balanced @ 9.5 ppg during circulation. Plug#1a - No cement found whilst circulating bottoms up. MW range f/ 9.2 ppg to 9.5 ppg due to water spacer contamination.			
For Report	**# 53**	**On**	**22/11/09**		**Operation at Depth**		**3,235.0 m**	
Rig Activity					Cont. to cement plug #1B. Pumped 15 bbl of DW followed by 43.2 bbl of 15.8 ppg cmt. Displaced w/ 156 bbl 9.4 ppg mud. POOH f/ 3085 m to 2935 m. CBU @700 gpm. Diverted 35 bbl of cement contaminated mud. Cement plug 1C: Pumped 15 bbl of DW followed by 43.2 bbl of 15.8 ppg cement. Displaced w/ 148 bbl of 9.4 ppg mud. Plug set in place 0300 hrs. POOH f/ 2935 m to 2520 m. CBU @ 700 gpm. WOC. Tag cement @ 2749 m w/5k. POOH to 2620 m, spot 12 bbl hi-vis pill, & POH to 2570 m.			

Operations Log Recap

Well Name	TREFOIL-2
Operator	ADA DRILLING
Contractor	MAERSK
Rig No	Kantan IV
Unit System	ADA Drilling

Interval	**04**		**From Date**	**38**	**Top of Interval**	**2,523.0**	**m**
Max. Hole Size / Bit Size	**8.5 / 8.5**	**in**	**To Date**	**59**	**Bottom of Interval**	**3,235.0**	**m**

	Mix & pumped 35 bbl of 15.8 ppg slurry, 3 bbl of DW behind, Displaced w/ 125 bbl of 9.5 ppg WBM. POOH to 2412 m. CBU, no cement contamination. Tag top of cement 2337 m. Pressure test plug against rams to 2000psi.
Activity	Plug and Abandon well
Fluid Treatment	Plug#1b - Trace amounts of cement found whilst circulating bottoms up. MW range from 9.3 ppg to 9.7 ppg. Diverted 35 bbl of cement contaminated mud. Plug#1c - No cement found whilst circulating bottoms up. MW range f/ 9.4 ppg to 9.5+ ppg during circulation. Plug#2 - No cement found whilst circulating bottoms up. MW range f/ 9.4+ ppg to 9.5+ ppg during circulation. Note: 99 bbl of mud loss behind cement Higher TH due to cement contamination.
For Report # 54 On 23/11/09	**Operation at Depth 3,235.0 m**
Rig Activity	Cont. to POOH laying out drill pipe f/ 2100 m to 1596 m. Cranes shut down at 0200 hrs due to weather. Cont. to L/D DP - 101 m. L/D 101 m of 2-7/8" stinger. M/up Drill Quip jetting tool & wear bushing retrieval tool & RIH, Jet well head & BOPs, latch into wear bushing & POOH w/ same. M/U Halliburton EZSV packer. RIH - 203 m. Set packer w/ 35 turns to the right, 50k overpull. RIH tag top of packer w/ 10 k down to confirm set. POOH w/ packer R/Tool & lay out same. P/U & M/U 9 5/8" casing cutting tools & RIH.
Activity	Plug and Abandon well
Fluid Treatment	Tranfered mud f/ sandtrap into pits. Container OPC 235 w/ 2 pallets Barazan D+ and 1 pallet KOH. Awaiting visual inspection of total sacks. Cleaning pill tank for cementer. Total mud left behind: 170.8 bbl + 99 bbl = 269.8 bbl
For Report # 55 On 24/11/09	**Operation at Depth 3,235.0 m**
Rig Activity	Cont. to P/U & M/U 9 5/8" casing cutting tools & RIH same. Cut 9 5/8" csg at 145 m. POOH. Pick up & make up spear assy & RIH. Retreive casing hanger & joint. Casing backed out 1 joint below hanger while being cut. Made up casing spear & RIH to spear remainder of 9 5/8" casing while displacing riser & C&K lines f/ mud to seawater. POOH w/ casing to surface. Pull diverter & layout same. P/U riser landing joint & connect to slip joint. Unlatch BOP from well head. Move rig 25 ft off of location. Dissconnect MRT cables & C&K lines form the slip joint in the moon pool. Pull landing joint, disconnect & Lay out same.
Activity	Plug and Abandon well
Fluid Treatment	Displaced riser to seawater Conditioned 9.5 ppg KCl mud. Note: Actual Surface volumes are 1016 bbl Total mud left behind: 507.9 bbl
For Report # 56 On 25/11/09	**Operation at Depth 3,235.0 m**
Rig Activity	Pulled slip joint. Disconnected & laid out same. Continued to pull riser & BOPs. Secured BOP on Nomar carrier. Disconnected riser from BOP & laid out same while moving BOP to aft of moon pool area. M/U smith casing cutting assy. RIH, stabbed wellhead & landed out rotating spear with 15 k. Picked up 220 k to test latch, reduced to 200 k. Commence cutting 20"/30" csg @ 99.4 m. Took 380 k pull test to check if

Operations Log Recap

Well Name	**TREFOIL-2**
Operator	**ADA DRILLING**
Contractor	**MAERSK**
Rig No	**Kantan IV**
Unit System	**ADA Drilling**

Interval	**04**		**From Date**	**38**	**Top of Interval**	**2,523.0**	**m**
Max. Hole Size / Bit Size	**8.5 / 8.5**	**in**	**To Date**	**59**	**Bottom of Interval**	**3,235.0**	**m**

	casing cut. No go. Cont. to cut 20"/30" casing. (100 rpm, 185 gpm, 1200 psi, 3/5 k ft-lbs.)
Activity	Plug and Abandonment
Fluid Treatment	Offloaded 700 bbls 9.5 ppg KCl mud & 180 bbls 9.9 ppg Gel mud to M.V. Far Fosna. Offloaded 170 bbls 9.5 ppg KCl mud to M.V. Far Scimitar.
For Report # 57 On 26/11/09	**Operation at Depth 3,235.0 m**
Rig Activity	Cont. jarring w/ static overpulls up to 280 k. No movement in casing. POOH & laid out Jar BHA. Made up 20" / 30" casing cutting assembly, Stabbed into well, engage 18 3/4" wellhead with spear. Overpull 20k (200k MD)to confirm latch. Compensator closed as 18 3/4" housing inner came free. Laid out 18 3/4" inner wellhead housing and 20" casing stub. Made up 20" grapple fishing BHA. RIH with 20" grapple BHA to seabed & stabbed into wellhead.
Activity	Plug and Abandoment
Fluid Treatment	474.9 bbl 9.5 ppg mud left in hole. Stopped cutting casing. Attempted to pull casing free. POOH with 20"x 30" cutting BHA. Made up grapple, fishing jar & accelerator BHA. POOH. Re secured guide line ropes to BHA & RIH. Stab into 18 3/4" wellhead & engage w/ casing spear. Worked jar 6 times & attempted to free w/ 200 k overpull. No go.
For Report # 58 On 27/11/09	**Operation at Depth 3,235.0 m**
Rig Activity	POOH w/ catter & rack in derrick. Ran PGB retrieval tool, latched onto PGB & commenced pulling PGB to surface. RT disengaged. Pulled RT to moonpool then recovered PGB to moonpool w/ guide lines. Removed PGB & RT f/ moonpool. RIH w/ cement stinger to 230 m. Mix, pump & displace 70 bbl of 15.9 ppg G cement slurry. Pull above well head, flush pipe & lay out cementing string. (ROV completed seabed survey) Laid out 12 jts of 5" DP from derrick. SCRs switched to anchor winches, Far Fosna & Far Scimitar begin recovering anchors #5 & #8.
Activity	Plug and Abandonment
Fluid Treatment	Engaged 20" casing stub w/ spear & recovered to surface. Made up & RIH with 30" casing cutting assembly. Land stop ring on wellhead & cut 30" casing at 97.88 m. Unable to pull PGB and wellhead free w/ guideline tensioners.
For Report # 59 On 28/11/09	**Operation at Depth 3,235.0 m**
Rig Activity	Recovered Secondary Anchors. Cranes outside limits due to weather, unable to cont. w/ anchor handling. Laid out 6 x 6 1/2" DCs, 2 x 8" DCs, 15 x 5" HWDP f/ derrick, laid out the hang off tool stand. Continued to lay out tubulars f/ derrick. Sea fasten rig floor. Deballast rig to 30'.
Activity	Prepare for Rig Move

Well Name	TREFOIL-2
Operator	ADA DRILLING
Contractor	MAERSK
Rig No	Kantan IV
Unit System	ADA Drilling

Deviation Actual

Survey Date	MD m	TVD m	Angle	Direction	Horiz Displ. m
10/10/09	95	95			
11/10/09	376	376	0.32	238.0	
11/10/09	665	665	0.36	203.2	
11/10/09	782	782	0.67	192.1	
11/10/09	868	868	0.30	224.9	
11/10/09	926	926	0.71	183.9	
18/10/09	1,992	1,992	0.86	59.7	5.6
19/10/09	2,236	2,235	0.63	82.8	5.7
21/10/09	2,253	2,253	0.62	89.2	
21/10/09	2,485	2,484	1.06	89.9	23.5
11/11/09	2,763	2,762	1.85	89.8	23.5
12/11/09	2,963	2,963	2.93	85.1	27.3
14/11/09	3,102	3,101	3.47	82.5	31.3
15/11/09	3,130	3,129	3.75	81.5	29.6
17/11/09	3,168	3,168	3.79	84.1	34.1
18/11/09	3,195	3,194	3.87	83.3	35.3
18/11/09	3,224	3,223	4.33	83.4	36.9
18/11/09	3,235	3,234	4.33	83.4	37.5

DAILY MUD REPORTS

Baroid Fluid Services

Report No 005

Daily Drilling Fluid Report

Date 05/10/09		**Depth** 95.0 m	
Spud Date 06/10/09		**Rig Activity** Make up BHA	
Operator ADA DRILLING	**Report For** John McGarrity / Peter Dane	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For**	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information		Drill String (in) / (m) OD	ID	Length	in Casing m OD	Set	MD	Circulation/Hydraulics Data			
Bit Size	in							Model			
Make/Type								Bore in			
Jets								Strokes in			
TFA	sq-in							Eff(%)			
Jets Velocity	ft/sec							bbl/strk			
Jet Impact Force	lbf							SPM			
Bit HHSI	hhp/in2							gpm|bbl/min			
Press Drop @ Bit	psi							Total GPM		AV, Riser	Circ Press psi
Bit Depth	m							Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	ppg							BU Time , min		AV max DC	Press Drop DP
ECD @ Bit	ppg							Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type Seawater with PHB swee

Begin to make 750 bbl of 10ppg Kill mud for interval.

Begin mixing pre hydrated bentonite gel mud (PHB) for sweeps

Note: Bentonite used will be charged off in tomorrows report

Rig Activity

Pick up HWDP and 5" DP, 80 stands racked in derrick. Toolbox talk, prepare for and Pick up BHA, 26" bit, 36" hole opener, bit sub and tools. Pre-Spud meeting with all personnel. Pick up drill collars.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer	day(s)			9		$A13,860.00
Drilling Fluids Engineer 2	day(s)			2		$A3,080.00
barite	1 tons bulk		84.000	15.000	69.000	$A10,958.70
caustic soda	25 kg can		32	12	20	$A651.36
soda ash	25 kg bag		40	8	32	$A243.36
ALDACIDE G	25 kg can		32		32	
BARA-DEFOAM W300	25 l can		16		16	
BARAZAN D PLUS	25 kg bag		80		80	
BAROLIFT	15 lb box		18		18	
bentonite	1000 kg bulk		42.000		42.000	
CON DET	5 gal can		32		32	
DEXTRID LTE	25 kg sack		72		72	
guar gum	25 kg bag		80		80	
lime	25 kg bag		54		54	
mica	25 kg bag		40		40	
Omyacarb 5	25 kg bag		96		96	
PAC-L	25 kg bag		80		80	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	23.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	1.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water	367.1	Transferred	
Active Pits	55.0	Dewatering		SCE	
Total Hole		Sea Water	544.0	Evaporation	
Total Circ	55.0	Whole Mud		Trips	
Reserve	935.0	Barite	22.5	Other	
Prev Vol		Chemicals	1.4	Total Surface	
Net Change	935.0	Other		Downhole	
Total Vol	990.0	Total	935.0	Total Losses	

Fluid Types	Vol bbl
Seawater	220.0

Deviation Information

Survey MD	95.0 m
Survey TVD	95.0 m
Angle	Deg
Direction	
Horiz Displ.	m

Daily Products Cost	$A11,853.42	Total Daily Cost	$A28,793.42
Cumulative Products Cost	$A11,853.42	Total Cumulative Cost	$A28,793.42

Baroid Representatives James Munford Jay Wan

Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555

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Baroid Fluid Services

Report No 006

Daily Drilling Fluid Report

Date 06/10/09		Depth 155.0 m	
Spud Date 06/10/09		Rig Activity Run casing and cement	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	in
Make/Type	
Jets	
TFA	sq-in
Jets Velocity	ft/sec
Jet Impact Force	lbf
Bit HHSI	hhp/in2
Press Drop @ Bit	psi
Bit Depth	m
ECD @ Csg Shoe	ppg
ECD @ Bit	ppg

Drill String (in) / (m)

	OD	ID	Length
Open Hole	36.000		60.0

in Casing m

OD	Set	MD

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	80	80	80
gpm|bbl/min	401 | 9.55	401 | 9.55	401 | 9.55
Total GPM	1,204	AV, Riser	Circ Press psi
Total Circ Time	2	AV min DP	Tot Pres Loss
BU Time , min		AV max DC	Press Drop DP
Total Strokes	410	BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source		Flow Line					
Time		23:59					
Depth	m	0					
FL Temp	Deg C						
Density @ Deg C	ppg	8.60 @ 20					8.50 9.00
FV @ Deg C	sec/qt	125 @ 20					
PV @ Deg C	cP	44 @ 20					
YP	lbs/100 ft2	24					
GELS	lbs/100 ft2						
600/300		112.0/68.0					
200/100		45.0/32.0					
6/3		15.0/13.0					
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol	-/98.0					
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C		9.00 @ 20					
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						

Additional Properties

Fluid Treatments

Fluid Type Seawater with PHB swee

Cont. to mix and top up PHG for sweeps and next interval.

748 bbls 10.0 ppg Kill mud in pit # 2 & # 3.

Rig Activity

M/U 36" BHA & RIH. Well Trefoil-2 spudded at 0800 hrs. 36" hole was drilled to section TD @ 155m (26" bit @ 156.5m). 50 bbls hivis sweeps were pumped every single drilled. At TD, 100 bbls hivis pill was swept around the hole. BHA was pulled to seabed, no drag. BHA was run to btm. Hole was displaced to 370 bbls PHG hivis. POOH and rack back BHA. Rig up and run 30" conductor as per ADA program.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
bentonite	1000 kg bulk	42.000		24.100	17.900	$A18,348.54
barite	1 tons bulk	69.000		22.000	47.000	$A16,072.76
guar gum	25 kg bag	80		26	54	$A2,307.50
ALDACIDE G	25 kg can	32		3	29	$A519.27
BARAZAN D PLUS	25 kg bag	80		2	78	$A430.68
lime	25 kg bag	54		2	52	$A33.24
BARA-DEFOAM W300	25 l can	16			16	
BAROLIFT	15 lb box	18			18	
caustic soda	25 kg can	20			20	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	72			72	
Generic mesh 24 (API 20)	1 each box		24		24	
mica	25 kg bag	40			40	
Omyacarb 5	25 kg bag	96			96	
PAC-L	25 kg bag	80			80	
soda ash	25 kg bag	32			32	
Techmesh 110 (API 60)	1 each box		24		24	
Techmesh 140 (API 80)	1 each box		40		40	
Techmesh 175 (API 100)	1 each box		24		24	
Techmesh 84 (API 50)	1 each box		24		24	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	4.0
Circulating	0.5
Trips	18.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	1.5
Total	24.0
Rotating	4.0
ROP	49.2
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water	549.3	Transferred	
Active Pits	49.0	Dewatering		SCE	-309.3
Total Hole	247.8	Sea Water	120.0	Evaporation	
Total Circ	49.0	Whole Mud		Trips	
Reserve	1144.0	Barite	33.0	Other	
Prev Vol	935.0	Chemicals	63.8	Total Surface	
Net Change	456.8	Other		Downhole	
Total Vol	1440.8	Total	766.1	Total Losses	-309.3

Fluid Types	Vol bbl
Seawater	239.0

Deviation Information

Survey MD	95.0 m
Survey TVD	95.0 m
Angle	Deg
Direction	
Horiz Displ.	m

Daily Products Cost	$A37,711.99	Total Daily Cost	$A40,791.99
Cumulative Products Cost	$A49,565.41	Total Cumulative Cost	$A69,585.41

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
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Baroid Fluid Services

Report No 007

Daily Drilling Fluid Report

Date 07/10/09		Depth 155.0 m	
Spud Date 06/10/09		Rig Activity Wait on cement	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	in
Make/Type	
Jets	
TFA	sq-in
Jets Velocity	ft/sec
Jet Impact Force	lbf
Bit HHSI	hhp/in2
Press Drop @ Bit	psi
Bit Depth	m
ECD @ Csg Shoe	ppg
ECD @ Bit	ppg

Drill String (in) / (m)

	OD	ID	Length
Open Hole	36.000		2.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Flow Line						
Time		23:59						
Depth	m	0						
FL Temp	Deg C							
Density @ Deg C	ppg	8.60 @ 20					8.50	9.00
FV @ Deg C	sec/qt	126 @ 20						
PV @ Deg C	cP	45 @ 20						
YP	lbs/100 ft2	25						
GELS	lbs/100 ft2							
600/300		115.0/68.0						
200/100		44.0/32.0						
6/3		15.0/13.0						
API Filt	ml/30 min							
HTHP @ Deg C	ml/30 min							
Cake API/HTHP	32nd in							
Corr Solid	% by Vol							
NAP/Water	% by Vol	-/98.0						
Sand	% by vol							
MBT	ppb Eq.							
pH @ Deg C		9.00 @ 20						
ALK Mud	Pm							
ALK Filt	Pf/Mf							
Chlorides	mg/l							
Tot. Hardness	mg/l							
LGS/HGS	% by Vol							
LGS/HGS	ppb							
ASG	SG							

Additional Properties

Fluid Treatments

Fluid Type Seawater with PHB swee

Top up PHG in preparation for next interval.
Mixed CaCl2 brine as per cementer.
Received chemicals from Far Scimitar.

Rig Activity

Lower conductor to water, remove air at 1000gpm. Lower shoe into hole with ROV sonar. Cont. to run 30" on 5" HWDP landing string. Make up cement stq, space out shoe at 153m w/3m stick up. ROV confirm 1/4 deg to port, 316heading, 3m PGB stick up. Observe twist in guide lines. Troubleshoot. Circ. with S/W @600gpm. Hold toolbox talk and prepare for cement job. Pump 30bbl spacer with cement unit. Pressure test surface lines to 1000psi. Pump 20 bbl mica. Mix & pump 260bbl, 15.9ppg class G cement. Displace with 74bbl seawater. Wait on cement.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
bentonite	1000 kg bulk	17.900		7.900	10.000	$A6,014.67
BARAZAN D PLUS	25 kg bag	78		4	74	$A861.36
ALDACIDE G	25 kg can	29			29	
BARA-DEFOAM W300	25 l can	16			16	
barite	1 tons bulk	47.000			47.000	
BAROLIFT	15 lb box	18			18	
caustic soda	25 kg can	20	32		52	
Circal 60/16	25 kg bag		144		144	
Circal Y	25 kg bag		96		96	
CLAYSEAL PLUS	55 gal drum		32		32	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	72	144		216	
EZ-MUD	25 kg pail		128		128	
Generic mesh 24 (API 20)	1 each box	24			24	
guar gum	25 kg bag	54	40		94	
lime	25 kg bag	52			52	
mica	25 kg bag	40			40	
Omyacarb 5	25 kg bag	96	144		240	
OXYGON	50 lb can		23		23	
PAC-L	25 kg bag	80	34		114	
potassium hydroxide	20 kg pail		64		64	
soda ash	25 kg bag	32	40		72	
sodium bicarbonate	25 kg bag		48		48	
SOURSCAV	25 kg pail		32		32	
STEELSEAL 100	50 lb sack		40		40	
STEELSEAL 400	50 lb sack		40		40	
Techmesh 110 (API 60)	1 each box	24			24	

Daily Products Cost	$A6,876.03	Total Daily Cost	$A9,956.03
Cumulative Products Cost	$A56,441.43	Total Cumulative Cost	$A79,541.43

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	9.5
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	14.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water	89.7	Transferred	
Active Pits	50.0	Dewatering		SCE	
Total Hole	140.8	Sea Water		Evaporation	
Total Circ	50.0	Whole Mud		Trips	
Reserve	1361.0	Barite		Other	
Prev Vol	1391.8	Chemicals	20.3	Total Surface	
Net Change	109.9	Other		Downhole	
Total Vol	1551.8	Total	109.9	Total Losses	

Fluid Types	Vol bbl
Seawater	63.0

Deviation Information

Survey MD	95.0 m
Survey TVD	95.0 m
Angle	Deg
Direction	
Horiz Displ.	m

Baroid Representatives James Munford Jay Wan
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Baroid Fluid Services

Report No 008

Daily Drilling Fluid Report

Date 08/10/09		Depth 245.0 m	
Spud Date 06/10/09		Rig Activity Drilling	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	17.500	in
Make/Type	SMITH/XR+VCPS	
Jets	3x22|1x13	
TFA	1.243	sq-in
Jets Velocity	305	ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	245.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	111.9
Drill Collar	8.250	2.875	106.6
Drill Collar	9.500	3.000	26.5
Open Hole	17.500		92.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	88	60	88
gpm|bbl/min	441 | 10.51	301 | 7.17	441 | 10.51
Total GPM	1,184	AV, Riser	Circ Press psi
Total Circ Time	9	AV min DP 38.2	Tot Pres Loss
BU Time , min	7	AV max DC 134.3	Press Drop DP
Total Strokes	2,068	BU Strokes 1,592	Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #1						
Time		15:00						
Depth	m	155						
FL Temp	Deg C							
Density @ Deg C	ppg	8.70 @ 20					8.50	9.00
FV @ Deg C	sec/qt	120 @ 20						
PV @ Deg C	cP	45 @ 20						
YP	lbs/100 ft2	21						
GELS	lbs/100 ft2							
600/300		111.0/66.0						
200/100		44.0/31.0						
6/3		15.0/13.0						
API Filt	ml/30 min							
HTHP @ Deg C	ml/30 min							
Cake API/HTHP	32nd in							
Corr Solid	% by Vol							
NAP/Water	% by Vol	-/98.0						
Sand	% by vol							
MBT	ppb Eq.							
pH @ Deg C		9.00 @ 20					9.00	9.00
ALK Mud	Pm							
ALK Filt	Pf/Mf							
Chlorides	mg/l							
Tot. Hardness	mg/l							
LGS/HGS	% by Vol							
LGS/HGS	ppb							
ASG	SG							

Additional Properties

Fluid Treatments

Fluid Type Seawater with PHB swee

Top up pre mix sweeps w/ seawater & guar gum as necessary to maintain volume and viscosity.

Rig Activity

Lay out BHA. Pick up 17 1/2" BHA. Toolbox talk. Make up BHA. Iron roughneck = damaged, secured pipe spinner carrier, hydraulic motor broken. Cont. to make up BHA, attach stab in lines to NMHOC. RIH w/ 17 1/2" BHA with ROV assistance. Pick up 8 1/4" DC & RIH. Installed geograph wires & test Halliburton MWD. Wash down from 140m to 30"/20" shoe @ 153m. Drilled out shoe & worked bit. Drill 17 1/2" hole f/ 155m to 245m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
guar gum	25 kg bag	94		28	66	$A2,485.00
caustic soda	25 kg can	52		8	44	$A434.24
lime	25 kg bag	52		2	50	$A33.24
ALDACIDE G	25 kg can	29			29	
BARA-DEFOAM W300	25 l can	16			16	
BARAZAN D PLUS	25 kg bag	74			74	
barite	1 tons bulk	47.000			47.000	
BAROLIFT	15 lb box	18			18	
bentonite	1000 kg bulk	10.000			10.000	
Circal 60/16	25 kg bag	144			144	
Circal Y	25 kg bag	96			96	
CLAYSEAL PLUS	55 gal drum	32			32	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	216			216	
EZ-MUD	25 kg pail	128			128	
Generic mesh 24 (API 20)	1 each box	24			24	
mica	25 kg bag	40			40	
Omyacarb 5	25 kg bag	240			240	
OXYGON	50 lb can	23			23	
PAC-L	25 kg bag	114	2		116	
potassium hydroxide	20 kg pail	64			64	
soda ash	25 kg bag	72			72	
sodium bicarbonate	25 kg bag	48			48	
SOURSCAV	25 kg pail	32			32	
STEELSEAL 100	50 lb sack	40			40	
STEELSEAL 400	50 lb sack	40			40	
Techmesh 110 (API 60)	1 each box	24			24	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	5.0
Circulating	
Trips	11.0
Rig	
Surveys	
Fishing	
Run Casing	2.5
Coring	
Reaming	3.0
Testing	
Logging	
Dir Work	
Repair	1.5
Other	1.0
Total	24.0
Rotating	8.0
ROP	59.1
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus	190.2	Base		Fluid Dumped	
Pipe Cap	6.8	Drill Water		Transferred	
Active Pits	50.0	Dewatering		SCE	
Total Hole	197.0	Sea Water	360.0	Evaporation	
Total Circ	247.0	Whole Mud		Trips	
Reserve	1285.0	Barite		Other	-383.1
Prev Vol	1501.8	Chemicals	3.3	Total Surface	
Net Change	-19.8	Other		Downhole	
Total Vol	1532.0	Total	363.3	Total Losses	-383.1

Fluid Types	Vol bbl
Seawater	63.0

Deviation Information

Survey MD	95.0	m
Survey TVD	95.0	m
Angle		Deg
Direction		
Horiz Displ.		m

Daily Products Cost	$A2,952.48	Total Daily Cost	$A6,032.48
Cumulative Products Cost	$A59,393.91	Total Cumulative Cost	$A85,573.91

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 009

Daily Drilling Fluid Report

Date 09/10/09		Depth 847.6 m	
Spud Date 06/10/09		Rig Activity Drilling	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	17.500	in
Make/Type	SMITH/XR+VCPS	
Jets	3x22|1x13	
TFA	1.243	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	245.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	111.9
Drill Collar	8.250	2.875	106.6
Drill Collar	9.500	3.000	26.5
Open Hole	17.500		694.6

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties	1	2	3	4	Targets	Program
Source						
Time						
Depth m						
FL Temp Deg C						
Density @ Deg C ppg						
FV @ Deg C sec/qt						
PV @ Deg C cP						
YP lbs/100 ft2						
GELS lbs/100 ft2						
600/300						
200/100						
6/3						
API Filt ml/30 min						
HTHP @ Deg C ml/30 min						
Cake API/HTHP 32nd in						
Corr Solid % by Vol						
NAP/Water % by Vol						
Sand % by vol						
MBT ppb Eq.						
pH @ Deg C						
ALK Mud Pm						
ALK Filt Pf/Mf						
Chlorides mg/l						
Tot. Hardness mg/l						
LGS/HGS % by Vol						
LGS/HGS ppb						
ASG SG						
Additional Properties						

Fluid Treatments

Fluid Type Seawater with PHB swee

Cont to mix & top up PHG & Guar Gum hi-vis sweeps.

Rig Activity

M/U 17 1/2" BHA & RIH. Function test MWD.
Cont drilling f/ 155m to 847.6m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
bentonite	1000 kg bulk	10.000		9.000	1.000	$A6,852.15
guar gum	25 kg bag	66		46	20	$A4,082.50
BARAZAN D PLUS	25 kg bag	74		10	64	$A2,153.40
caustic soda	25 kg can	44		10	34	$A542.80
ALDACIDE G	25 kg can	29		3	26	$A519.27
BARA-DEFOAM W300	25 l can	16		2	14	$A251.64
barite	1 tons bulk	47.000			47.000	
BAROLIFT	15 lb box	18			18	
Circal 60/16	25 kg bag	144			144	
Circal Y	25 kg bag	96			96	
CLAYSEAL PLUS	55 gal drum	32			32	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	216			216	
EZ-MUD	25 kg pail	128			128	
Generic mesh 24 (API 20)	1 each box	24			24	
lime	25 kg bag	50			50	
mica	25 kg bag	40			40	
Omyacarb 5	25 kg bag	240			240	
OXYGON	50 lb can	23			23	
PAC-L	25 kg bag	116			116	
potassium hydroxide	20 kg pail	64			64	
soda ash	25 kg bag	72			72	
sodium bicarbonate	25 kg bag	48			48	
SOURSCAV	25 kg pail	32			32	
STEELSEAL 100	50 lb sack	40			40	
STEELSEAL 400	50 lb sack	40			40	
Techmesh 110 (API 60)	1 each box	24			24	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	24.0
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	24.0
ROP	82.4
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus	190.2	Base		Fluid Dumped	
Pipe Cap	6.8	Drill Water		Transferred	
Active Pits	50.0	Dewatering		SCE	
Total Hole	785.1	Sea Water	2459.6	Evaporation	
Total Circ	247.0	Whole Mud		Trips	
Reserve	1285.0	Barite		Other	-1900.8
Prev Vol	1482.0	Chemicals	29.4	Total Surface	
Net Change	588.2	Other		Downhole	
Total Vol	2120.1	Total	2489.0	Total Losses	-1900.8

Fluid Types	Vol bbl
Seawater	63.0

Deviation Information

Survey MD	782.2 m
Survey TVD	782.2 m
Angle	0.67 Deg
Direction	192
Horiz Displ.	m

Daily Products Cost	$A14,401.76	Total Daily Cost	$A17,481.76
Cumulative Products Cost	$A73,795.67	Total Cumulative Cost	$A103,055.67

Baroid Representatives Kosta Georgiou Jay Wan
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Baroid Fluid Services

Report No 010

Daily Drilling Fluid Report

Date 10/10/09		Depth 935.0 m	
Spud Date 06/10/09		Rig Activity Pull BHA	
Operator: ADA DRILLING	Report For: John McGarrity / Peter Dane	Well Name: TREFOIL-2	
Contractor: MAERSK	Report For: Brian Meechan / Ole Andreasen	Rig Name: Kantan IV	Unit System: ADA Drilling
Country: Australia	State/Province/Region: Tasmania	Geographic Area/County: Bass Strait	Field or Block: T/18P

Bit Information

Bit Size	17.500	in
Make/Type	SMITH/XR+VCPS	
Jets	3x22|1x13	
TFA	1.243	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	25.0	m
ECD @ Csg Shoe	9.00	ppg
ECD @ Bit	9.00	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Collar	9.500	3.000	25.0
Open Hole	17.500		782.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties		1	Hyd 2	3	4	Targets	Program	
Source		Pit #4	Pit #4	Pit #4				
Time		17:00	19:00	22:10				
Depth	m	935	935	935				
FL Temp	Deg C							
Density @ Deg C	ppg	9.00 @ 20	9.00 @ 20	9.00 @ 20			8.50	9.00
FV @ Deg C	sec/qt	52 @ 20	59 @ 20	58 @ 20				
PV @ Deg C	cP	11 @ 20	11 @ 20	11 @ 20				
YP	lbs/100 ft2	18	19	19				
GELS	lbs/100 ft2	6/8/9	6/8/9	6/8/9				
600/300		40.0/29.0	41.0/30.0	41.0/30.0				
200/100		24.0/18.0	25.0/19.0	25.0/19.0				
6/3		8.0/6.0	9.0/6.0	8.0/6.0				
API Filt	ml/30 min							
HTHP @ Deg C	ml/30 min							
Cake API/HTHP	32nd in							
Corr Solid	% by Vol							
NAP/Water	% by Vol	-/98.0	-/98.0	-/98.0				
Sand	% by vol							
MBT	ppb Eq.							
pH @ Deg C		9.00 @ 20	9.00 @ 20	9.00 @ 20			9.00	9.00
ALK Mud	Pm							
ALK Filt	Pf/Mf							
Chlorides	mg/l							
Tot. Hardness	mg/l							
LGS/HGS	% by Vol							
LGS/HGS	ppb							
ASG	SG							
Additional Properties								

Fluid Treatments

Fluid Type Seawater with PHB swee

Cont. to top up SW / Guar Gum hi-vis pill. 765 bbl of 10.0 ppg kill mud diluted w/ PHG hivis / SW to 1950 bbl 9.0 ppg pad mud. 1200 bbl used to displaced 1.5x annulus volume. Cont. to mix & top up 9.0 pad mud in progress. Rec'd 32 cans Caustic soda f/ Far Scimitar.
Cont. making PAD mud in pit 3.

Rig Activity

Drilled f/ 847.6 to 935m, Circulated for 1.5 hrs. Tight hole f/ 903 to 832m cont. POOH to 153m. Reamed hole f/ 582 to 935m. Pumped hi-vis & displaced w/ sea water. Pumped PAD mud & POOH to 153m. Rigged up CMT head & continued pulling BHA f/102 to 25m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	64		16	48	$A3,445.44
caustic soda	25 kg can	34	32	8	58	$A434.24
soda ash	25 kg bag	72		9	63	$A273.78
ALDACIDE G	25 kg can	26			26	
BARA-DEFOAM W300	25 l can	14			14	
barite	1 tons bulk	47.000			47.000	
BAROLIFT	15 lb box	18			18	
bentonite	1000 kg bulk	1.000			1.000	
Circal 60/16	25 kg bag	144			144	
Circal Y	25 kg bag	96			96	
CLAYSEAL PLUS	55 gal drum	32			32	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	216			216	
EZ-MUD	25 kg pail	128			128	
Generic mesh 24 (API 20)	1 each box	24			24	
guar gum	25 kg bag	20			20	
lime	25 kg bag	50			50	
mica	25 kg bag	40			40	
Omyacarb 5	25 kg bag	240			240	
OXYGON	50 lb can	23			23	
PAC-L	25 kg bag	116			116	
potassium hydroxide	20 kg pail	64			64	
sodium bicarbonate	25 kg bag	48			48	
SOURSCAV	25 kg pail	32			32	
STEELSEAL 100	50 lb sack	40			40	
STEELSEAL 400	50 lb sack	40			40	
Techmesh 110 (API 60)	1 each box	24			24	

Daily Products Cost	$A4,153.46	Total Daily Cost	$A7,233.46
Cumulative Products Cost	$A77,949.13	Total Cumulative Cost	$A110,289.13

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	6.0
Circulating	1.5
Trips	5.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	4.5
Testing	
Logging	
Dir Work	
Repair	
Other	7.0
Total	24.0
Rotating	10.5
ROP	47.8
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus	-154.8	Base		Fluid Dumped	
Pipe Cap	0.7	Drill Water		Transferred	
Active Pits	53.0	Dewatering		SCE	
Total Hole	916.7	Sea Water		Evaporation	
Total Circ	-101.1	Whole Mud		Trips	
Reserve	1110.0	Barite		Other	-66.4
Prev Vol	2070.1	Chemicals	2.7	Total Surface	
Net Change	-63.7	Other		Downhole	
Total Vol	2079.7	Total	2.7	Total Losses	-66.4

Fluid Types	Vol bbl
Seawater	66.0

Deviation Information

Survey MD	925.9 m
Survey TVD	925.9 m
Angle	0.71 Deg
Direction	184
Horiz Displ.	m

Baroid Representatives: Kosta Georgiou, Jay Wan
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Baroid Fluid Services

Report No 011

Daily Drilling Fluid Report

Date 11/10/09	**Depth** 935.0 m		
Spud Date 06/10/09	**Rig Activity** Run 13 3/8" csg		
Operator ADA DRILLING	**Report For** John McGarrity / Peter Dane	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Brian Meechan / Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information		Drill String (in) / (m)			in Casing m			Circulation/Hydraulics Data			
		OD	ID	Length	OD	Set	MD				
Bit Size	in				30.000	@	144.0	Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Make/Type					20.000	@	153.0	Bore in	6.500	6.500	6.500
Jets								Strokes in	12.000	12.000	12.000
TFA	sq-in							Eff(%)	97	97	97
Jets Velocity	ft/sec							bbl/strk	0.119	0.119	0.119
Jet Impact Force	lbf							SPM	0	0	0
Bit HHSI	hhp/in2							gpm|bbl/min			
Press Drop @ Bit	psi							Total GPM		AV, Riser	Circ Press psi
Bit Depth	m	Open Hole	17.500	782.0				Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	ppg							BU Time , min		AV max DC	Press Drop DP
ECD @ Bit	ppg							Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program		Fluid Treatments
Source		Pit #2	Pit #3	Pit #2					**Fluid Type** Seawater with PHB swee
Time		12:00	19:30	21:40					Mixed additional 367 bbl of 9.0 ppg Pad Mud for volume. Volume required for filling up casing & circulation.
Depth	m	935	935	935					
FL Temp	Deg C								Chloride & total hardness in 9.0 Pad mud were higher because seawater was used instead of drill water.
Density @ Deg C	ppg	9.00 @ 20	9.00 @ 20	9.00 @ 20			8.50	9.00	
FV @ Deg C	sec/qt	55 @ 20	58 @ 20	54 @ 20					Drill water chloride - 1,000 mg/L and TH 80 mg/L.
PV @ Deg C	cP	13 @ 20	11 @ 20	10 @ 20					
YP	lbs/100 ft2	16	19	19					Casing displacement volumes will be entered into tomorrow nights report when casing is landed at 935m.
GELS	lbs/100 ft2	7/9/10	7/9/10	6/8/9					
600/300		42.0/29.0	41.0/30.0	39.0/29.0					
200/100		25.0/15.0	25.0/15.0	24.0/14.0					Chemicals used to make fluid, will be charged off in next interval.
6/3		8.0/6.0	9.0/7.0	8.0/6.0					
API Filt	ml/30 min								
HTHP @ Deg C	ml/30 min								
Cake API/HTHP	32nd in								
Corr Solid	% by Vol								
NAP/Water	% by Vol	-/98.0	-/98.0	-/98.0					
Sand	% by vol								
MBT	ppb Eq.								
pH @ Deg C		9.00 @ 20	9.00 @ 20	9.00 @ 20			9.00	9.00	
ALK Mud	Pm								
ALK Filt	Pf/Mf								
Chlorides	mg/l	18,000	15,000	18,000				45,000	
Tot. Hardness	mg/l	2,360	2,100	2,400				2,400	
LGS/HGS	% by Vol								
LGS/HGS	ppb								
ASG	SG								
Additional Properties									

Rig Activity

Continued to POOH f/ 25 to surface removing MWD probe. Made up & racked back Halliburton CMT head. Rig up for 13 3/8" CSG. Pick up shoe joint, float joint & cont. RIH to 146m. Pick up elevators & control lines. Continued RIH w/ 13 3/8" CSG to 826m (23:59 hrs).

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	26			26	
BARA-DEFOAM W300	25 l can	14			14	
BARAZAN D PLUS	25 kg bag	48			48	
barite	1 tons bulk	47.000			47.000	
BAROLIFT	15 lb box	18			18	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	58			58	
Circal 60/16	25 kg bag	144			144	
Circal Y	25 kg bag	96			96	
CLAYSEAL PLUS	55 gal drum	32			32	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	216			216	
EZ-MUD	25 kg pail	128			128	
Generic mesh 24 (API 20)	1 each box	24			24	
guar gum	25 kg bag	20			20	
lime	25 kg bag	50			50	
mica	25 kg bag	40			40	
Omyacarb 5	25 kg bag	240			240	
OXYGON	50 lb can	23			23	
PAC-L	25 kg bag	116			116	
potassium hydroxide	20 kg pail	64			64	
soda ash	25 kg bag	63			63	
sodium bicarbonate	25 kg bag	48			48	
SOURSCAV	25 kg pail	32			32	
STEELSEAL 100	50 lb sack	40			40	
STEELSEAL 400	50 lb sack	40			40	
Techmesh 110 (API 60)	1 each box	24			24	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	22.5
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	1.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	220.0	Dewatering		SCE	
Total Hole	895.8	Sea Water	131.8	Evaporation	
Total Circ	220.0	Whole Mud		Trips	
Reserve	515.5	Barite		Other	-374.5
Prev Vol	2026.7	Chemicals		Total Surface	
Net Change	-242.7	Other		Downhole	
Total Vol	1631.3	Total	131.8	Total Losses	-374.5

Fluid Types	Vol bbl
Seawater	93.0

Deviation Information

Survey MD	925.9 m
Survey TVD	925.9 m
Angle	0.71 Deg
Direction	184
Horiz Displ.	m

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A77,949.13	Total Cumulative Cost	$A113,369.13

Baroid Representatives	Kosta Georgiou	Jay Wan	
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Baroid Fluid Services

Report No 012

Daily Drilling Fluid Report

Date 12/10/09	**Depth** 935.0 m		
Spud Date 06/10/09	**Rig Activity** Make up BOP		
Operator ADA DRILLING	**Report For** John McGarrity / Peter Dane	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Brian Meechan / Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information

Bit Size		in
Make/Type		
Jets		
TFA		sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	935.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Open Hole	17.500		5.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program		Fluid Treatments
Source		Pit #2	Slug Pit						**Fluid Type** Seawater with PHB swee
Time		3:30	14:00						Continued mixing PAD fluid in pit 4. Transferred 189 bbl PHG hi-vis into Pill Tank.
Depth	m	935	935						
FL Temp	Deg C								Rec'd 590 bbl 9.4 ppg KCl brine f/ Far Fosna. Mixing KCl Polymer mud in progress.
Density @ Deg C	ppg	9.00 @ 20	8.50 @ 20				8.50	9.00	
FV @ Deg C	sec/qt	58 @ 20	26 @ 20						Dressed Shakers w/ Baroid TECHMESH screens & will trial tomorrow.
PV @ Deg C	cP	11 @ 20	1 @ 20						
YP	lbs/100 ft2	18	1						Have Rec'd chemicals, will charge off at next interval.
GELS	lbs/100 ft2	7/9/10							
600/300		40.0/29.0	3.0/2.0						
200/100		24.0/14.0							
6/3		9.0/7.0							
API Filt	ml/30 min								
HTHP @ Deg C	ml/30 min								
Cake API/HTHP	32nd in								
Corr Solid	% by Vol								
NAP/Water	% by Vol	-/98.0	-/100.0						
Sand	% by vol								
MBT	ppb Eq.								
pH @ Deg C		9.00 @ 20	7.00 @ 20			X	9.00	9.00	
ALK Mud	Pm								
ALK Filt	Pf/Mf								
Chlorides	mg/l	18,000	19,000					45,000	
Tot. Hardness	mg/l	2,400	2,600			X		2,400	
LGS/HGS	% by Vol								
LGS/HGS	ppb								
ASG	SG								

Additional Properties

Rig Activity

Run Casing & performed cement job. Skid rig off well centre - confirmed by ROV. Moved BOP under rotary & continued to make up BOP.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	26			26	
Amodrill 1235	1 bbl bulk		2.000		2.000	
BARA-DEFOAM W300	25 l can	14			14	
BARAZAN D PLUS	25 kg bag	48			48	
barite	1 tons bulk	47.000			47.000	
BAROLIFT	15 lb box	18			18	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	58			58	
Circal 60/16	25 kg bag	144			144	
Circal Y	25 kg bag	96			96	
CLAYSEAL PLUS	55 gal drum	32			32	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	216			216	
EZ-MUD	25 kg pail	128			128	
Generic mesh 24 (API 20)	1 each box	24			24	
guar gum	25 kg bag	20			20	
lime	25 kg bag	50			50	
mica	25 kg bag	40			40	
Omyacarb 5	25 kg bag	240			240	
OXYGON	50 lb can	23			23	
PAC-L	25 kg bag	116			116	
potassium hydroxide	20 kg pail	64			64	
soda ash	25 kg bag	63			63	
sodium bicarbonate	25 kg bag	48			48	
SOURSCAV	25 kg pail	32			32	
STEELSEAL 100	50 lb sack	40			40	
STEELSEAL 400	50 lb sack	40			40	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	0.5
Surveys	
Fishing	
Run Casing	16.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	7.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	53.0	Dewatering		SCE	
Total Hole	421.7	Sea Water		Evaporation	
Total Circ	53.0	Whole Mud		Trips	
Reserve	757.7	Barite		Other	-451.9
Prev Vol	1631.3	Chemicals		Total Surface	
Net Change	-451.9	Other		Downhole	
Total Vol	1232.4	Total		Total Losses	-451.9

Fluid Types	Vol bbl
Seawater	53.0

Deviation Information

Survey MD	925.9 m
Survey TVD	925.9 m
Angle	0.71 Deg
Direction	184
Horiz Displ.	m

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A77,949.13	Total Cumulative Cost	$A116,449.13
Baroid Representatives	Kosta Georgiou	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

HALLIBURTON | Fluid Systems

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Baroid Fluid Services

Report No 013

Daily Drilling Fluid Report

Date 13/10/09		Depth 935.0 m	
Spud Date 06/10/09		Rig Activity Commenced installing choke and kill lines	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size		in
Make/Type		
Jets		
TFA		sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	935.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Open Hole	17.500		5.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM	AV, Riser	Circ Press psi
Total Circ Time	AV min DP	Tot Pres Loss
BU Time , min	AV max DC	Press Drop DP
Total Strokes	BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type Seawater with PHB swee

Continue mixing KCl polymer for 12 1/4" interval.
Will provide Fluid tests & pit volumes once all chemicals have been add & mixed in pits.
Cementers used 2 sx of mica for cement jobs.
Dressed all 4 VSM 300 shakers w/ 3x20 (top) 4x50 (btm) screens, & ran shakers, all tests were successful. Will charge off, all screens & chemical used at the start of 12 1/4" interval.

Rig Activity

Complete platform installation, Bulls eye installation & Stab double riser into BOP. Held TBT & prepared to P/U floatation joint of riser. Port crane down and WOW to improve. Continued to RIH w/ BOP on riser. HIBI run slip joint. Picked up landing joint & lowered 18 3/4" BOP marine riser into position. Commenced installing choke & kill lines.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
mica	25 kg bag	40		2	38	$A84.84
ALDACIDE G	25 kg can	26			26	
Amodrill 1235	1 bbl bulk	2.000	1.000		3.000	
BARA-DEFOAM W300	25 l can	14			14	
BARAZAN D PLUS	25 kg bag	48	160		208	
barite	1 tons bulk	47.000	42.000		89.000	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag		40		40	
BARO-SEAL MEDIUM	40 lb bag		40		40	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	58			58	
Circal 60/16	25 kg bag	144	144		288	
Circal Y	25 kg bag	96			96	
CLAYSEAL PLUS	55 gal drum	32	100		132	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	216	212		428	
EZ-MUD	25 kg pail	128	192		320	
Generic mesh 24 (API 20)	1 each box	24			24	
guar gum	25 kg bag	20	80		100	
lime	25 kg bag	50	40		90	
N-DRIL HT PLUS	50 lb bag		126		126	
Omyacarb 5	25 kg bag	240	40		280	
OXYGON	50 lb can	23	27		50	
PAC-L	25 kg bag	116	120		236	
potassium chloride	1000 kg bag		43		43	
potassium hydroxide	20 kg pail	64			64	
soda ash	25 kg bag	63			63	

Daily Products Cost	$A84.84	Total Daily Cost	$A3,164.84
Cumulative Products Cost	$A78,033.97	Total Cumulative Cost	$A119,613.97

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	5.5
Rig	2.0
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	16.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole	421.7	Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve	757.7	Barite		Other	
Prev Vol	1179.4	Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol	1179.4	Total		Total Losses	

Fluid Types	Vol bbl
Seawater	53.0

Deviation Information

Survey MD	925.9 m
Survey TVD	925.9 m
Angle	0.71 Deg
Direction	184
Horiz Displ.	m

Baroid Representatives Kosta Georgiou Jay Wan
Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555
Warehouse c/o of Esso Australia Ltd Telephone 61-3-56-881-445

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Baroid Fluid Services

Report No 14

Daily Drilling Fluid Report

Date 14/10/09		Depth 935.0 m	
Spud Date 06/10/09		Rig Activity Make up BHA	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size		in
Make/Type		
Jets		
TFA		sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	935.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Open Hole	17.500		5.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #4	Pit #3					
Time		14:00	21:10					
Depth	m	935	935					
FL Temp	Deg C							
Density @ Deg C	ppg	9.10 @ 16	9.00 @ 20			X	8.50	9.00
FV @ Deg C	sec/qt	45 @ 16	49 @ 20					
PV @ Deg C	cP	11 @ 49	10 @ 49					
YP	lbs/100 ft2	14	17					
GELS	lbs/100 ft2	6/8/9	8/10/11					
600/300		36.0/25.0	37.0/27.0					
200/100		21.0/15.0	23.0/17.0					
6/3		7.0/6.0	10.0/8.0					
API Filt	ml/30 min	5.8	5.6					
HTHP @ Deg C	ml/30 min	12.0 @ 121	11.0 @ 121					
Cake API/HTHP	32nd in	1/-	1/-					
Corr Solid	% by Vol	2.1	1.8					
NAP/Water	% by Vol	-/94.7	-/95.0					
Sand	% by vol	0.10	0.10					
MBT	ppb Eq.	12.0	10.0					
pH @ Deg C		10.00 @ 16	8.00 @ 16			X X	9.00	9.00
ALK Mud	Pm	2.40	2.20					
ALK Filt	Pf/Mf	1.70/3.00	1.50/2.60					
Chlorides	mg/l	39,000	38,000					45,000
Tot. Hardness	mg/l	380	320					2,400
LGS/HGS	% by Vol	1.5/0.6	1.7/0.1					
LGS/HGS	ppb	13.67/8.36	15.76/1.68					
ASG	SG	3.039	2.699					

Additional Properties

Fluid Treatments

Fluid Type Seawater with PHB swee

Continue mixing KCl/Polymer mud as per program. No EZ-MUD or CLAYSEAL PLUS has been added to initial displacement volume. Have added another 9 Sx of Bicarb into mix. All Chemicals will be charged off at the start of next interval. The pH target is not met because the system has been pre treated w/ Bicarb in preparation for cement contamination.
12 1/4" bit information = (RSR616M-A21 PDC S/N 222369 Dressed w/ 8 x 13's) BHA not yet run.

Rig Activity

Complete choke & kill line installation, installed marine riser tension lines, POD umbilical lines & storm loops. Skidded rig back over location. Unlocked compensator & WOW for 2.5 hrs before continuing. Latch conductor & take 50K over pull, tested to 2000 psi. Unlocked slip joint & land spider. Lay out handling joint & stow away. Start to M/U BHA.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	26			26	
Amodrill 1235	1 bbl bulk	3.000	17.700		20.700	
BARA-DEFOAM W300	25 l can	14			14	
BARAZAN D PLUS	25 kg bag	208			208	
barite	1 tons bulk	89.000			89.000	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	58			58	
Circal 60/16	25 kg bag	288			288	
Circal Y	25 kg bag	96			96	
CLAYSEAL PLUS	55 gal drum	132			132	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	428			428	
EZ-MUD	25 kg pail	320			320	
Generic mesh 24 (API 20)	1 each box	24			24	
guar gum	25 kg bag	100			100	
lime	25 kg bag	90			90	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	280			280	
OXYGON	50 lb can	50			50	
PAC-L	25 kg bag	236			236	
potassium chloride	1000 kg bag	43			43	
potassium hydroxide	20 kg pail	64			64	
soda ash	25 kg bag	63			63	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — Seawater with PHB sweeps

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole	421.7	Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve	757.7	Barite		Other	
Prev Vol	1179.4	Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol	1179.4	Total		Total Losses	

Fluid Types	Vol bbl
Seawater	53.0

Deviation Information

Survey MD	925.9 m
Survey TVD	925.9 m
Angle	0.71 Deg
Direction	184
Horiz Displ.	m

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A78,033.97	Total Cumulative Cost	$A122,693.97

Baroid Representatives: Kosta Georgiou, Mike Lawrence

Office: 90 Talinga Rd Melbourne — Telephone 61-03-9581-7555

Warehouse: c/o of Esso Australia Ltd — Telephone 61-3-56-881-445

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Baroid Fluid Services

Report No 15

Daily Drilling Fluid Report

Date 15/10/09		**Depth** 938.0 m	
Spud Date 06/10/09		**Rig Activity** Install Diverter Packer Screens.	
Operator ADA DRILLING	**Report For** John McGarrity / Peter Dane	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Brian Meechan / Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information

Bit Size	12.250	in
Make/Type	REED-HYCALOG/RSR616M-B2	
Jets	8x13	
TFA	1.037	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	938.0	m
ECD @ Csg Shoe	9.10	ppg
ECD @ Bit	9.10	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	826.8
Drill Collar	8.250	2.875	111.2
Riser	18.750		95.0
Open Hole	12.250		8.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM		AV, Riser	Circ Press psi
Total Circ Time		AV min DP	Tot Pres Loss
BU Time , min		AV max DC	Press Drop DP
Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	Hyd 4	Targets				Program	
Source		Pit #4	Pit #1	Pit #4	Pit #4						
Time		18:00	21:35	3:15	12:00						
Depth	m	938	938	938	935						
FL Temp	Deg C	17	25								
Density @ Deg C	ppg	9.10 @ 16	9.10 @ 20	9.10 @ 20	9.10 @ 16					8.50	9.50
FV @ Deg C	sec/qt	42 @ 16	46 @ 20	47 @ 20	44 @ 16						
PV @ Deg C	cP	12 @ 49	10 @ 49	10 @ 49	11 @ 49						
YP	lbs/100 ft2	15	20	19	15						
GELS	lbs/100 ft2	8/10/11	8/10/11	8/10/11	6/8/9				*	8/-/-	14/-/-
600/300		39.0/27.0	40.0/30.0	39.0/29.0	37.0/26.0						
200/100		22.0/17.0	23.0/18.0	23.0/17.0	21.0/15.0						
6/3		9.0/8.0	11.0/9.0	10.0/9.0	7.0/6.0						
API Filt	ml/30 min	5.4	5.8	5.6	5.8						6.0
HTHP @ Deg C	ml/30 min	11.5 @ 121	11.2 @ 121	11.8 @ 121	12.0 @ 121						15.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	2/1						
Corr Solid	% by Vol	1.8	2.1	1.4	2.1						
NAP/Water	% by Vol	-/94.7	-/94.5	-/95.0	-/94.7						
Sand	% by vol	0.10	0.10	0.10	0.10						1.0
MBT	ppb Eq.	10.0	10.0	10.0	12.0						25.0
pH @ Deg C		10.50 @ 16	9.50 @ 16	10.50 @ 20	10.50 @ 16	X		X	X	8.50	9.50
ALK Mud	Pm	2.20	2.00	2.30	3.20						
ALK Filt	Pf/Mf	1.20/1.70	1.10/1.50	1.30/1.70	1.80/3.20						
Chlorides	mg/l	42,000	41,000	43,000	39,000						
Tot. Hardness	mg/l	380	280	300	380						400
LGS/HGS	% by Vol	1.2/0.6	1.7/0.4	0.5/0.9	1.5/0.6						
LGS/HGS	ppb	11.16/8.63	15.72/5.58	4.74/13.15	13.67/8.36						
ASG	SG	3.118	2.888	3.611	3.039						
Additional Properties											
KCl %	-	7.00	7.00	7.00	7.00						

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Pump 40 bbl hi-vis spacer & displace well to KCl/Polymer mud.
Treat active w/ Bicarb to control hardness & pH.
Add BARAZAN-D PLUS to active to increase low end rheology to ensure good hole cleaning. Add CLAYSEAL PLUS and EZ-MUD direct to active as per program. Add OXYGON - Corrosion inhibitor & ALDACIDE-G - bacteriacide as per program. Following displacement, continued to build 322 bbl of KCl fluid in pit 3. Cont. to maintain fluid properties to programmed requirements.

Rig Activity

P/U 17 1/2" BHA, L/O bit, 9 1/2" spiral & morel DC. P/U 12 1/4" BHA Directional Driller checked bearing gap, orientation of motor, scribe motor pluged in tool & RIH. Shallow test MWD tools 800 gpm @ 1100 psi. Cont to M/U 12 1/4" BHA & RIH f/ 140-252 m & changed out damaged HWDP. Cont to RIH f/ 252-890 m & washed down to 917 m .Tagged cement. Drilled cement & shoe track f/ 917-938 m & displaced with 9.1 ppg KCl polymer Fluid & closed in. Circ & conditioned fluid. Diplaced choke & kill lines w/ fluid. Preesure test was conducted, 960 psi EQVT MW 6.05 ppg, Max MW 15.15 ppg Volume pumped 2.58 bbl. Cont. w/ installations.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
potassium chloride	1000 kg bag	43		24	19	$A35,604.48
CLAYSEAL PLUS	55 gal drum	132		16	116	$A24,153.12
EZ-MUD	25 kg pail	320		85	235	$A8,074.15
BARAZAN D PLUS	25 kg bag	208		30	178	$A6,460.20
DEXTRID LTE	25 kg sack	428		65	363	$A3,443.70
PAC-L	25 kg bag	236		9	227	$A1,442.88
Omyacarb 5	25 kg bag	280		65	215	$A1,125.15
ALDACIDE G	25 kg can	26		4	22	$A692.36
potassium hydroxide	20 kg pail	64		4	60	$A528.44
Circal 60/16	25 kg bag	288		40	248	$A507.20
sodium bicarbonate	25 kg bag	48		9	39	$A254.25
soda ash	25 kg bag	63		5	58	$A152.10
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	14			14	
barite	1 tons bulk	89.000			89.000	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	58			58	
Circal Y	25 kg bag	96			96	
CON DET	5 gal can	32			32	
Generic mesh 24 (API 20)	1 each box	24			24	
guar gum	25 kg bag	100			100	
lime	25 kg bag	90			90	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		12.0
VSM-300		12.0
VSM-300		12.0
VSM-300		12.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	2.0
Trips	3.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	19.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	434.1	Base		Fluid Dumped	
Pipe Cap	26.8	Drill Water	350.0	Transferred	
Active Pits		Dewatering		SCE	
Total Hole	460.8	Sea Water		Evaporation	
Total Circ	460.8	Whole Mud	1331.5	Trips	
Reserve	1129.7	Barite		Other	
Prev Vol		Chemicals	128.5	Total Surface	-435.7
Net Change	1590.7	Other	216.4	Downhole	
Total Vol	1590.5	Total	2026.4	Total Losses	-435.7

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	925.9 m
Survey TVD	925.9 m
Angle	0.71 Deg
Direction	184
Horiz Displ.	m

Daily Products Cost	$A82,438.03	Total Daily Cost	$A85,518.03
Cumulative Products Cost	$A160,472.00	Total Cumulative Cost	$A208,212.00

Baroid Representatives	Kosta Georgiou	Mike Lawrance	Mike Lawrence
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 16

Daily Drilling Fluid Report

Date 16/10/09		**Depth** 1,540.0 m	
Spud Date 06/10/09		**Rig Activity** Drilling 12.25" interval	
Operator ADA DRILLING	**Report For** John McGarrity / Peter Dane	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Brian Meechan / Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information

Bit Size	12.250	in
Make/Type	REED-HYCALOG/RSR616M-B2	
Jets	8x13	
TFA	1.037	sq-in
Jets Velocity	464	ft/sec
Jet Impact Force	3255.5	lbf
Bit HHSI	12.91	hhp/in2
Press Drop @ Bit	1733	psi
Bit Depth	1,540.0	m
ECD @ Csg Shoe	9.17	ppg
ECD @ Bit	9.20	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	4.276	474.0
Drill Pipe	5.000	3.000	954.8
Drill Collar	8.250	2.875	111.2
Riser	18.750		95.0
Open Hole	12.250		610.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	100	100	100
gpm|bbl/min	502 | 11.94	502 | 11.94	502 | 11.94

Total GPM	1,505	AV, Riser	112.9
Total Circ Time	37	AV min DP	280.2
BU Time , min	19	AV max DC	449.8
Total Strokes	11,236	BU Strokes	5,624
Circ Press psi	3500		
Tot Pres Loss	8367		
Press Drop DP	5847		
Press Drop An	54		

Properties		1	2	Hyd 3	4	Targets	Program	
Source		Pit #4	Pit #4	Pit #4	Pit #4			
Time		8:45	14:45	5:03	20:20			
Depth	m	1,147	1,354	1,032	1,485			
FL Temp	Deg C	22	25	30	25			
Density @ Deg C	ppg	9.00 @ 23	9.05 @ 24	9.00 @ 20	9.00 @ 20		8.50	9.50
FV @ Deg C	sec/qt	52 @ 23	55 @ 24	53 @ 20	56 @ 20			
PV @ Deg C	cP	12 @ 49	13 @ 49	10 @ 49	13 @ 49			
YP	lbs/100 ft2	20	21	22	22			
GELS	lbs/100 ft2	9/12/15	11/14/17	10/13/15	11/14/17		8/-/-	14/-/-
600/300		44.0/32.0	47.0/34.0	42.0/32.0	48.0/35.0			
200/100		27.0/20.0	29.0/22.0	25.0/20.0	30.0/23.0			
6/3		11.0/9.0	12.0/10.0	11.0/9.0	12.0/10.0			
API Filt	ml/30 min	4.8	4.8	5.6	5.1			6.0
HTHP @ Deg C	ml/30 min	11.4 @ 121	9.8 @ 121	11.3 @ 121	9.9 @ 121			15.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	1.5	1.8	1.7	1.7			
NAP/Water	% by Vol	-/95.0	-/94.7	-/95.0	-/95.0			
Sand	% by vol	0.25	0.25	0.10	0.27			1.0
MBT	ppb Eq.	11.0	8.0	7.0	5.0			25.0
pH @ Deg C		9.50 @ 20	9.00 @ 22	9.50 @ 20	9.00 @ 22		8.50	9.50
ALK Mud	Pm	0.95	0.75	1.90	0.78			
ALK Filt	Pf/Mf	0.70/1.30	0.40/1.30	1.30/1.50	0.70/1.50			
Chlorides	mg/l	42,000	42,000	40,000	40,000			
Tot. Hardness	mg/l	120	320	220	240			400
LGS/HGS	% by Vol	1.4/0.1	1.6/0.2	1.5/0.1	1.5/0.1			
LGS/HGS	ppb	12.41/2.03	14.58/3.12	14.10/1.85	14.10/1.85			
ASG	SG	2.747	2.787	2.720	2.720			
Additional Properties								
KCl %	-	8.00	9.00	7.00	9.00			

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Charged off 12 x API 20 mesh & 16 x API 50 mesh screens. Fill all sand traps. Cont. to build reserve volume & bleed into active to maintain volume & properties. Increase KCl concentration to 9% on ADA direction. Add CLAYSEAL PLUS & EZ-MUD to maintain concentration. Add BARAZAN-D PLUS to increase low end rheology. Add Soda ash to active to reduce hardness & control pH. Run centrifuges to control LGS. Prepare 200 bbl Hi-vis fluid w/ BARAZAN-D PLUS. Pump 30 bbl every 3 stands as directed by driller. Shaker # 2 down for 8 hrs electrical fault & Shaker # 4 losing fluid f/ right lower section approximately 30 bbl.

Rig Activity

Drill 12 1/4" hole f/ 938-947 m. L/O 2x5" Drill pipe joint (damaged) & picked up 2 new joints. Cont. drilling f/ 12 1/4" f/ 947-1063 m. Circ while cleaning overloaded shakers, 4 running w/ correct mesh screens. Drilled f/ 1063-1352 m. Circ whilst trouble shooting elevators. Cont. drilling f/ 1352-1423 m. Slide f/ 1423-1432 m. Cont. drilling f/ 1432-1504 m. Slide f/ 1504-1514 m, continued drilling f/ 1514-1540 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	116		12	104	$A18,114.84
Techmesh 84 (API 50)	1 each box	24		16	8	$A8,553.60
Generic mesh 24 (API 20)	1 each box	24		12	12	$A7,024.80
BARAZAN D PLUS	25 kg bag	178		22	156	$A4,737.48
potassium chloride	1000 kg bag	19		2	17	$A2,967.04
DEXTRID LTE	25 kg sack	363		50	313	$A2,649.00
PAC-L	25 kg bag	227		16	211	$A2,565.12
EZ-MUD	25 kg pail	235		11	224	$A1,044.89
Omyacarb 5	25 kg bag	215		50	165	$A865.50
Circal 60/16	25 kg bag	248		30	218	$A380.40
soda ash	25 kg bag	58		2	56	$A60.84
ALDACIDE G	25 kg can	22			22	
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	14			14	
barite	1 tons bulk	89.000			89.000	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	58			58	
Circal Y	25 kg bag	96			96	
CON DET	5 gal can	32			32	
guar gum	25 kg bag	100			100	
lime	25 kg bag	90			90	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
OXYGON	50 lb can	50			50	

Daily Products Cost	$A48,963.51	Total Daily Cost	$A52,043.51
Cumulative Products Cost	$A209,435.51	Total Cumulative Cost	$A260,255.51

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		24.0
VSM-300		8.0
VSM-300		24.0
VSM-300		24.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	14.0
HS 2000	3,500	300.00	14.0
518	4,000	80.00	

Time

Drilling	20.0
Circulating	1.0
Trips	
Rig	2.0
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	1.0
Total	24.0
Rotating	20.0
ROP	98.8
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	671.7	Base		Fluid Dumped	
Pipe Cap	57.3	Drill Water	920.0	Transferred	
Active Pits	613.0	Dewatering		SCE	-114.0
Total Hole	729.0	Sea Water		Evaporation	-3.0
Total Circ	1342.0	Whole Mud		Trips	-30.0
Reserve	1026.8	Barite		Other	-32.1
Prev Vol	1590.5	Chemicals	37.5	Total Surface	
Net Change	778.4	Other		Downhole	
Total Vol	2368.8	Total	957.5	Total Losses	-179.1

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	925.9	m
Survey TVD	925.9	m
Angle	0.71	Deg
Direction	184	
Horiz Displ.		m

Baroid Representatives	Kosta Georgiou	Mike Lawrance	
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Baroid Fluid Services

Report No 17

Daily Drilling Fluid Report

Date 17/10/09		**Depth** 2,004.0 m	
Spud Date 06/10/09		**Rig Activity** Drilling 12.25" Interval.	
Operator ADA DRILLING	**Report For** John McGarrity / Peter Dane	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Brian Meechan / Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information

Bit Size	12.250	in
Make/Type	REED-HYCALOG/RSR616M-B2	
Jets	8x13	
TFA	1.037	sq-in
Jets Velocity	310	ft/sec
Jet Impact Force	1446.9	lbf
Bit HHSI	3.83	hhp/in2
Press Drop @ Bit	770	psi
Bit Depth	2,004.0	m
ECD @ Csg Shoe	9.19	ppg
ECD @ Bit	9.23	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	4.276	938.0
Drill Pipe	5.000	3.000	954.8
Drill Collar	8.250	2.875	111.2
Riser	18.750		95.0
Open Hole	12.250		1,074.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	101	0	99
gpm|bbl/min	507 | 12.06		497 | 11.82
Total GPM	1,003	AV, Riser	75.3	Circ Press psi	3500
Total Circ Time	47	AV min DP	186.8	Tot Pres Loss	4614
BU Time , min	36	AV max DC	299.9	Press Drop DP	3393
Total Strokes	9,347	BU Strokes	7,156	Press Drop An	77

Properties		1	2	3	Hyd 4	Targets	Program	
Source		Pit #4	Pit #4	Pit #4	Pit #4			
Time		9:30	16:45	2:30	21:15			
Depth	m	1,755	1,893	1,594	1,958			
FL Temp	Deg C	33	38	30	40			
Density @ Deg C	ppg	9.05 @ 29	9.10 @ 32	9.00 @ 20	9.00 @ 35		8.50	9.50
FV @ Deg C	sec/qt	51 @ 29	52 @ 32	53 @ 20	54 @ 35			
PV @ Deg C	cP	12 @ 49	13 @ 49	12 @ 49	16 @ 49			
YP	lbs/100 ft2	22	28	23	29			
GELS	lbs/100 ft2	11/13/16	9/13/17	11/14/17	12/18/19		8/-/-	14/-/-
600/300		46.0/34.0	54.0/41.0	47.0/35.0	61.0/45.0			
200/100		29.0/22.0	35.0/27.0	30.0/24.0	36.0/29.0			
6/3		12.0/11.0	11.0/9.0	12.0/10.0	12.0/10.0			
API Filt	ml/30 min	4.5	4.5	5.4	5.6			6.0
HTHP @ Deg C	ml/30 min	11.5 @ 121	11.5 @ 121	10.4 @ 121	10.4 @ 121			15.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	2.2	2.4	1.7	1.8			
NAP/Water	% by Vol	-/94.7	-/94.5	-/95.0	-/95.0			
Sand	% by vol	0.25	0.25	0.25	0.30			1.0
MBT	ppb Eq.	10.0	10.0	10.0	10.0			25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.50 @ 22	9.00 @ 22		8.50	9.50
ALK Mud	Pm	0.20	0.40	0.45	0.30			
ALK Filt	Pf/Mf	0.40/1.10	0.30/0.90	0.70/1.50	0.30/0.50			
Chlorides	mg/l	38,000	38,000	40,000	39,000			
Tot. Hardness	mg/l	380	380	380	380			400
LGS/HGS	% by Vol	2.0/0.2	2.0/0.4	1.5/0.1	1.6/0.1			
LGS/HGS	ppb	17.91/2.76	18.21/5.32	14.10/1.85	14.93/1.76			
ASG	SG	2.739	2.845	2.720	2.709			
Additional Properties								
KCl %	-	9.00	9.00	9.00	9.00			

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Screened up all bottom shakers to 80 API. Changed top 20 API screens due ware. Cont. to build reserve volume. Add OXYGON - corrosion inhibitor & ALDACIDE-G bacteriacide. Treat out Calcium w/ soda ash & maintain pH w/ the addition of caustic. Add EZ-MUD & CLAYSEAL PLUS to compensate for new fluid additions & depletion f/ drilling. Cont. to build volume in pit 1. Run centrifuge to control LGS. One centrifuge not operating - new motor on order. Pump hi-vis sweep every 3 stands. Shaker 2 & 4 have had mechanical & electrical problems. Mud Pump 2 has had mechanical problems. Dumped 157 bbl f/ sand traps.

Rig Activity

Drill 12 1/4" hole f/ 1540-1780 m, pumped hi-vis every 3 stands.
5 bbl gain in active, space out, flow check result = static. Cause f/ Mud Pumps. Continued to drill f/ 1780-1790 m. Cont. drilling f/ 1790-1937 m. Slide f/ 1937-1948 m rotate f/ 1948-1951 m, continued to slide f/ 1951-1958 m. 9 bbl gain on cxn, space out, flow check result = static. Cause f/ Mud Pumps. Drilled f/ 1958-2004 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	104		12	92	$A18,114.84
PAC-L	25 kg bag	211		14	197	$A2,244.48
EZ-MUD	25 kg pail	224		17	207	$A1,614.83
OXYGON	50 lb can	50		2	48	$A1,144.06
ALDACIDE G	25 kg can	22		4	18	$A692.36
DEXTRID LTE	25 kg sack	313		12	301	$A635.76
BARAZAN D PLUS	25 kg bag	156		2	154	$A430.68
soda ash	25 kg bag	56		9	47	$A273.78
Omyacarb 5	25 kg bag	165		12	153	$A207.72
Circal 60/16	25 kg bag	218		8	210	$A101.44
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	14			14	
barite	1 tons bulk	89.000			89.000	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	58			58	
Circal Y	25 kg bag	96			96	
CON DET	5 gal can	32			32	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
lime	25 kg bag	90				
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
potassium chloride	1000 kg bag	17			17	
potassium hydroxide	20 kg pail	60			60	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		24.0
VSM-300		5.0
VSM-300		24.0
VSM-300		13.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	16.0
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	21.0
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	3.0
Total	24.0
Rotating	21.0
ROP	72.5
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	854.7	Base		Fluid Dumped	
Pipe Cap	83.6	Drill Water	118.0	Transferred	
Active Pits	178.0	Dewatering		SCE	-302.3
Total Hole	938.3	Sea Water		Evaporation	-2.0
Total Circ	1116.3	Whole Mud	100.0	Trips	
Reserve	1184.8	Barite		Other	-5.0
Prev Vol	2368.8	Chemicals	23.6	Total Surface	
Net Change	-67.7	Other		Downhole	
Total Vol	2301.1	Total	241.6	Total Losses	-309.3

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	1,992.3	m
Survey TVD	1,992.1	m
Angle	0.86	Deg
Direction	60	
Horiz Displ.	5.6	m

Daily Products Cost	$A25,459.95	Total Daily Cost	$A28,539.95
Cumulative Products Cost	$A234,895.46	Total Cumulative Cost	$A288,795.46

Baroid Representatives	Kosta Georgiou	Mike Lawrance	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 18

Daily Drilling Fluid Report

Date 18/10/09		**Depth** 2,244.0 m	
Spud Date 06/10/09		**Rig Activity** Drillng 12.25 Interval.	
Operator ADA DRILLING	**Report For** John McGarrity / Peter Dane	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Brian Meechan / Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information

Bit Size	12.250	in
Make/Type	REED-HYCALOG/RSR616M-B28	
Jets	8x13	
TFA	1.037	sq-in
Jets Velocity	302	ft/sec
Jet Impact Force	1398.4	lbf
Bit HHSI	3.60	hhp/in2
Press Drop @ Bit	744	psi
Bit Depth	2,244.0	m
ECD @ Csg Shoe	9.33	ppg
ECD @ Bit	9.35	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	4.276	1,178.0
Drill Pipe	5.000	3.000	954.8
Drill Collar	8.250	2.875	111.2
Riser	18.750		95.0
Open Hole	12.250		1,314.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	67	61	67
gpm|bbl/min	336 | 8.00	306 | 7.29	336 | 8.00
Total GPM	978	AV, Riser	73.4	Circ Press psi	3500
Total Circ Time	54	AV min DP	182.1	Tot Pres Loss	4523
BU Time , min	41	AV max DC	292.4	Press Drop DP	3347
Total Strokes	10,555	BU Strokes	7,949	Press Drop An	78

Properties		1	Hyd 2	3	4	Targets		Program	
Source		Pit #4	Pit #4	Pit #4	Pit #4				
Time		15:50	21:50	3:15	9:00				
Depth	m	2,151	2,216	2,009	2,130				
FL Temp	Deg C	46	43	40	42				
Density @ Deg C	ppg	9.20 @ 39	9.15 @ 43	9.15 @ 40	9.20 @ 40			8.50	9.50
FV @ Deg C	sec/qt	49 @ 39	52 @ 43	50 @ 40	51 @ 40				
PV @ Deg C	cP	14 @ 49	14 @ 49	17 @ 49	17 @ 49				
YP	lbs/100 ft2	26	28	27	27				
GELS	lbs/100 ft2	10/14/19	10/13/15	10/15/19	10/15/19			8/-/-	14/-/-
600/300		54.0/40.0	56.0/42.0	61.0/44.0	61.0/44.0				
200/100		33.0/26.0	34.0/25.0	37.0/31.0	37.0/30.0				
6/3		11.0/10.0	11.0/9.0	12.0/10.0	12.0/10.0				
API Filt	ml/30 min	4.4	4.8	4.1	3.8				6.0
HTHP @ Deg C	ml/30 min	10.5 @ 121	9.0 @ 121	7.8 @ 121	9.5 @ 121				15.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2				
Corr Solid	% by Vol	3.4	2.7	2.9	3.3				
NAP/Water	% by Vol	-/93.5	-/94.0	-/94.0	-/93.5				
Sand	% by vol	0.25	0.25	0.20	0.25				1.0
MBT	ppb Eq.	12.0	15.0	15.0	14.0				25.0
pH @ Deg C		9.00 @ 22	9.50 @ 22	9.00 @ 22	9.00 @ 22			8.50	9.50
ALK Mud	Pm	0.60	0.60	0.50	0.40				
ALK Filt	Pf/Mf	0.40/1.20	0.50/1.40	0.40/1.40	0.30/1.30				
Chlorides	mg/l	38,500	40,000	38,000	39,000				
Tot. Hardness	mg/l	360	360	320	360				400
LGS/HGS	% by Vol	3.2/0.1	2.5/0.2	2.6/0.2	3.2/0.1				
LGS/HGS	ppb	29.53/1.64	22.42/3.63	24.07/3.46	29.12/1.68				
ASG	SG	2.653	2.746	2.731	2.655				
Additional Properties									
KCl %	-	9.00	8.00	9.00	9.00				

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add caustic to active to maintain pH. Add ALDACIDE-G - bacteriacide.
Bleed Brine / water mix into active to ensure mud remains hydrated in response to evapoartation. Mix made up to ensure correct KCl concentration maintained. Build reserve volume. Run one centrifuge to control LGS. Number 4 shaker still down, cont. to lose mud f/ trough below Number 4 shaker. Cont. to have problems w/ mud pumps. Checked sand content multiple times & confirmed w/ geologist as to formation type.

Rig Activity

Drill 12 1/4" f/ 2004-2102 m. Drilling motor stalled out, 10 bbl pit gain flow check-static, problem f/ mud pumps. Drill f/ 2102-2130 m. Saver-sub backed out on top of stand number 65. Load out top single & attempted to make up new saver-sub. Not possible due to problems w/ pipe handler. L/O single, rig up & circulate. Swedge & CMT hose, trouble shoot & repair pipe handler while circ & rotating string. Install new saver sub. Cont. drilling f/ 2130-2166 m. 5 bbl gain in active, space out, flow check = static. Cont. drill f/ 2166-2244 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	92		4	88	$A6,038.28
PAC-L	25 kg bag	197		23	174	$A3,687.36
OXYGON	50 lb can	48		6	42	$A3,432.18
Techmesh 140 (API 80)	1 each box	40		6	34	$A3,359.76
DEXTRID LTE	25 kg sack	301		25	276	$A1,324.50
caustic soda	25 kg can	58		19	39	$A1,031.32
BARAZAN D PLUS	25 kg bag	154		4	150	$A861.36
BARA-DEFOAM W300	25 l can	14		5	9	$A629.10
soda ash	25 kg bag	47		18	29	$A547.56
Omyacarb 5	25 kg bag	153		25	128	$A432.75
potassium hydroxide	20 kg pail	60		3	57	$A396.33
EZ-MUD	25 kg pail	207		3	204	$A284.97
Circal 60/16	25 kg bag	210		15	195	$A190.20
ALDACIDE G	25 kg can	18			18	
Amodrill 1235	1 bbl bulk	20.700			20.700	
barite	1 tons bulk	89.000			89.000	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
Circal Y	25 kg bag	96			96	
CON DET	5 gal can	32			32	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
potassium chloride	1000 kg bag	17			17	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 80 80 80 80	24.0
VSM-300	20 20 20 80 80 80 80	16.0
VSM-300	20 20 20 80 80 80 80	24.0
VSM-300	20 20 20 80 80 80 80	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	16.0
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	19.0
Circulating	
Trips	
Rig	3.5
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	1.5
Total	24.0
Rotating	19.0
ROP	41.4
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	949.4	Base		Fluid Dumped	
Pipe Cap	97.2	Drill Water	244.0	Transferred	
Active Pits	214.0	Dewatering		SCE	-129.3
Total Hole	1046.6	Sea Water		Evaporation	-4.0
Total Circ	1260.6	Whole Mud	150.0	Trips	
Reserve	1303.8	Barite		Other	-15.0
Prev Vol	2301.1	Chemicals	17.6	Total Surface	
Net Change	263.2	Other		Downhole	
Total Vol	2564.4	Total	411.6	Total Losses	-148.3

Fluid Types Vol bbl

Deviation Information

Survey MD	2,235.5	m
Survey TVD	2,234.9	m
Angle	0.63	Deg
Direction	83	
Horiz Displ.	5.7	m

Daily Products Cost	$A22,215.67	Total Daily Cost	$A25,295.67
Cumulative Products Cost	$A257,111.13	Total Cumulative Cost	$A314,091.13

Baroid Representatives	Kosta Georgiou	Mike Lawrance	
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Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 19

Daily Drilling Fluid Report

Date 19/10/09		Depth 2,271.0 m	
Spud Date 06/10/09		Rig Activity Rack Back 12.25" BHA.	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size		in
Make/Type		
Jets		
TFA		sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth		m
ECD @ Csg Shoe	9.25	ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Riser	18.750		95.0
Open Hole	12.250		1,341.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	Hyd 4	Targets	Program	
Source		Pit #4	Pit #4	Pit #4	Pit #4			
Time		5:25	12:40	16:30	20:45			
Depth	m	2,271	2,271	2,271	2,271			
FL Temp	Deg C	32	32	33	30			
Density @ Deg C	ppg	9.10 @ 32	9.25 @ 30	9.25 @ 28	9.25 @ 30		8.50	9.50
FV @ Deg C	sec/qt	54 @ 32	53 @ 30	55 @ 28	56 @ 30			
PV @ Deg C	cP	14 @ 49	16 @ 49	16 @ 49	16 @ 49			
YP	lbs/100 ft2	28	30	28	28			
GELS	lbs/100 ft2	10/14/18	9/13/18	11/15/19	11/15/18		8/-/-	14/-/-
600/300		56.0/42.0	62.0/46.0	60.0/44.0	60.0/44.0			
200/100		34.0/25.0	39.0/29.0	38.0/28.0	38.0/28.0			
6/3		11.0/9.0	11.0/9.0	12.0/10.0	12.0/10.0			
API Filt	ml/30 min	5.7	3.2	3.8	4.2			6.0
HTHP @ Deg C	ml/30 min	11.2 @ 121	8.8 @ 121	9.5 @ 121	9.9 @ 121			15.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	1.9	3.1	3.1	2.9			
NAP/Water	% by Vol	-/94.5	-/93.3	-/93.3	-/93.5			
Sand	% by vol	0.30	0.25	0.25	0.25			1.0
MBT	ppb Eq.	15.0	12.0	13.0	15.0			25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22	9.00 @ 22		8.50	9.50
ALK Mud	Pm	0.60	0.40	0.30	0.20			
ALK Filt	Pf/Mf	0.50/1.30	0.30/1.10	0.20/1.00	0.30/1.20			
Chlorides	mg/l	43,500	43,500	44,000	44,000			
Tot. Hardness	mg/l	360	350	380	360			400
LGS/HGS	% by Vol	1.5/0.4	2.8/0.3	2.8/0.3	2.4/0.5			
LGS/HGS	ppb	13.61/5.82	25.69/4.65	25.27/4.70	21.55/7.65			
ASG	SG	2.935	2.761	2.765	2.888			
Additional Properties								
KCl %	-	8.70	8.90	8.90	8.80			

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Treat active volume w/ CLAYSEAL PLUS to maintain conc'n & inhibition. Build slug for POOH. Pumped three x 10 ppg slugs approximately 40 bbl each which will effect Fluid Weight.
Conduct full inventory check. Started new premix volume in pit # 3, will be charged off tomorrow. Currently bringing brine on board & Barite - will be charged off when job is complete.

Rig Activity

Drilled 12 1/4 f/ 2244-2246 m, pop off valve on pump#2 & piston on pump#1 failed. Circulating on pump#3, whilst repairing 1 & 2. Drilled f/ 2246 -2271 m & observed pressure loss of 300 psi differential, whilst adding premix into system & pressuring all 3 mud pumps. Circ hole clean & flow check. POOH f/ 2271-2161 m. Observed 30 K over pull f/ 2148 - 2137 m. Cont. to POOH, back ream tight spot @ 1669 m. Back ream f/ 1669 - 13 3/8" shoe @ 930 m. 1st 10 ppg, 40 bbl slug failed. Pumped another 40 bbl, 10 ppg slug & Cont to POOH. Flow Check for 15 mins before cont to POOH & rack back BHA.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	88		8	80	$A12,076.56
barite	1 tons bulk	89.000		9.000	80.000	$A6,575.22
BARAZAN D PLUS	25 kg bag	150		22	128	$A4,737.48
PAC-L	25 kg bag	174		17	157	$A2,725.44
DEXTRID LTE	25 kg sack	276		35	241	$A1,854.30
Omyacarb 5	25 kg bag	128		19	109	$A328.89
ALDACIDE G	25 kg can	18			18	
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	39			39	
Circal 60/16	25 kg bag	195			195	
Circal Y	25 kg bag	96			96	
CON DET	5 gal can	32			32	
EZ SPOT	55 gal drum			4	4	
EZ-MUD	25 kg pail	204			204	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
OXYGON	50 lb can	42			42	
potassium chloride	1000 kg bag	17			17	
potassium hydroxide	20 kg pail	57			57	
soda ash	25 kg bag	29			29	

Daily Products Cost	$A28,297.89	Total Daily Cost	$A31,377.89
Cumulative Products Cost	$A285,409.02	Total Cumulative Cost	$A345,469.02

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 80 80 80 80	16.0
VSM-300	20 20 20 80 80 80 80	8.0
VSM-300	20 20 20 80 80 80 80	18.0
VSM-300	20 20 20 80 80 80 80	12.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	6.0
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	2.0
Circulating	1.5
Trips	10.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	6.0
Testing	
Logging	
Dir Work	
Repair	2.0
Other	2.5
Total	24.0
Rotating	8.0
ROP	44.3
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	188.0	Dewatering		SCE	-161.6
Total Hole	1164.6	Sea Water		Evaporation	
Total Circ	188.0	Whole Mud		Trips	
Reserve	1082.9	Barite	13.5	Other	
Prev Vol	2564.4	Chemicals	19.1	Total Surface	
Net Change	-129.0	Other		Downhole	
Total Vol	2435.5	Total	32.6	Total Losses	-161.6

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	2,253.1 m
Survey TVD	2,252.9 m
Angle	0.62 Deg
Direction	89
Horiz Displ.	m

Baroid Representatives Kosta Georgiou Mike Lawrance
Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555
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Baroid Fluid Services

Report No 20

Daily Drilling Fluid Report

Date	20/10/09	Depth	2,284.0 m
Spud Date	06/10/09	Rig Activity	Drill 12.25" Interval

Operator: ADA DRILLING	Report For: John McGarrity / Peter Dane	Well Name: TREFOIL-2	
Contractor: MAERSK	Report For: Brian Meechan / Ole Andreasen	Rig Name: Kantan IV	Unit System: ADA Drilling
Country: Australia	State/Province/Region: Tasmania	Geographic Area/County: Bass Strait	Field or Block: T/18P

Bit Information

Bit Size	12.250	in
Make/Type	REED-HYCALOG/RSR616M-B2B	
Jets	8x13	
TFA	1.037	sq-in
Jets Velocity	294	ft/sec
Jet Impact Force	1378.4	lbf
Bit HHSI	3.46	hhp/in2
Press Drop @ Bit	734	psi
Bit Depth	2,284.0	m
ECD @ Csg Shoe	9.70	ppg
ECD @ Bit	9.73	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	4.276	1,218.0
Drill Pipe	5.000	3.000	954.8
Drill Collar	8.250	2.875	111.2
Riser	18.750		95.0
Open Hole	12.250		1,354.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	95	95	0
gpm|bbl/min	477 | 11.35	477 | 11.35	
Total GPM	953	AV, Riser	71.5
Total Circ Time	51	AV min DP	177.5
BU Time , min	43	AV max DC	284.9
Total Strokes	9,735	BU Strokes	8,081
Circ Press psi	3500		
Tot Pres Loss	4485		
Press Drop DP	3319		
Press Drop An	90		

Properties		1	2	Hyd 3	4	Targets	Program
Source		Pit #4	Pit #4	Pit #4			
Time		9:00	17:00	20:45			
Depth	m	2,271	2,271	2,271			
FL Temp	Deg C			31			
Density @ Deg C	ppg	9.50 @ 21	9.50 @ 19	9.50 @ 31			8.50 9.50
FV @ Deg C	sec/qt	56 @ 23	57 @ 19	56 @ 31			
PV @ Deg C	cP	16 @ 49	16 @ 49	16 @ 49			
YP	lbs/100 ft2	31	32	31			
GELS	lbs/100 ft2	11/16/19	11/16/18	11/16/19			8/-/- 14/-/-
600/300		63.0/47.0	64.0/48.0	63.0/47.0			
200/100		40.0/31.0	39.0/31.0	38.0/30.0			
6/3		11.0/10.0	11.0/10.0	12.0/10.0			
API Filt	ml/30 min	3.2	3.8	4.1			6.0
HTHP @ Deg C	ml/30 min	8.5 @ 121	9.5 @ 121	8.3 @ 121			15.0
Cake API/HTHP	32nd in	1/2	1/2	1/2			
Corr Solid	% by Vol	4.0	4.0	3.4			
NAP/Water	% by Vol	-/92.5	-/92.5	-/93.0			
Sand	% by vol	0.25	0.25	0.25			1.0
MBT	ppb Eq.	14.0	15.0	15.0			25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.50 @ 22			8.50 9.50
ALK Mud	Pm	0.35	0.40	0.50			
ALK Filt	Pf/Mf	0.30/1.20	0.30/1.00	0.50/1.20			
Chlorides	mg/l	43,500	43,000	44,000			
Tot. Hardness	mg/l	320	340	340			400
LGS/HGS	% by Vol	2.6/1.4	2.6/1.4	1.5/1.9			
LGS/HGS	ppb	23.51/20.41	23.92/20.36	13.79/27.84			
ASG	SG	3.159	3.152	3.489			
Additional Properties							
KCl %	-	8.80	8.80	8.90			

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Change bottom screens on shaker 1 & 2 to 4 x 100 mesh to assist in controlling solids build up. Increase in mud weight attributable to the 3 slugs that have been incorporated into the fluid system, mud weight 9.5 ppg. Add caustic to reserve volume to maintain pH. Continued to add chemical to maintain properties. Build 304 bbl of 9 ppg KCl polymer fluid. Callibrate all mud balances.

Rig Activity

POOH w/ BHA to surface. Tested mud motor @ 700 gpm, 500 psi = good. Bit in good condition, racked back in stand & down loaded MWD tools. Service top drive. M/U CMT head, casing hanger & racked back port side. RIH w/ 12 1/4" BHA to 24 m, scribe motor & program MWD tools. Cont to RIH 12 1/4" to 167 m & test MWD with 800 gpm @ 1000 psi. Cont. to RIH f/ 176-252 m installed diverter packer. RIH 5" Drill pipe f/ 252-2165 m top fill every 20 stands. Installed geolograph lines. Took weight 20K down @ 2165 washed f/ 2165-2245 m. Washed w/ 10K constant then clear f/ 2242-2271 m. Drill 12 1/4" hole f/ 2271-2284 m

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
potassium chloride	1000 kg bag	17	16	17	16	$A25,219.84
CLAYSEAL PLUS	55 gal drum	80		12	68	$A18,114.84
Techmesh 140 (API 80)	1 each box	34		18	16	$A10,079.28
Techmesh 175 (API 100)	1 each box	24		8	16	$A4,479.68
DEXTRID LTE	25 kg sack	241		48	193	$A2,543.04
BARAZAN D PLUS	25 kg bag	128		7	121	$A1,507.38
PAC-L	25 kg bag	157		8	149	$A1,282.56
Omyacarb 5	25 kg bag	109		20	89	$A346.20
ALDACIDE G	25 kg can	18		2	16	$A346.18
potassium hydroxide	20 kg pail	57		2	55	$A264.22
caustic soda	25 kg can	39		4	35	$A217.12
Circal Y	25 kg bag	96		5	91	$A134.55
EZ-MUD	25 kg pail	204		1	203	$A94.99
soda ash	25 kg bag	29		2	27	$A60.84
sodium bicarbonate	25 kg bag	39		1	38	$A28.25
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	80.000	28.000		108.000	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
Circal 60/16	25 kg bag	195			195	
CON DET	5 gal can	32			32	
EZ SPOT	55 gal drum	4			4	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	

Daily Products Cost	$A64,718.97	Total Daily Cost	$A67,798.97
Cumulative Products Cost	$A350,127.99	Total Cumulative Cost	$A413,267.99

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	18.0
VSM-300	20 20 20 100 100 100 100	18.0
VSM-300	20 20 20 80 80 80 80	18.0
VSM-300	20 20 20 80 80 80 80	18.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	3.0
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	1.0
Circulating	
Trips	13.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	9.5
Total	24.0
Rotating	1.0
ROP	42.7
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	965.2	Base		Fluid Dumped	
Pipe Cap	99.5	Drill Water	200.0	Transferred	
Active Pits	98.0	Dewatering		SCE	-173.6
Total Hole	1064.7	Sea Water		Evaporation	-9.0
Total Circ	1162.7	Whole Mud	100.0	Trips	-97.0
Reserve	1315.0	Barite		Other	-57.0
Prev Vol	2435.5	Chemicals	78.7	Total Surface	
Net Change	42.1	Other		Downhole	
Total Vol	2477.7	Total	378.7	Total Losses	-336.6

Fluid Types — Vol bbl

Deviation Information

Survey MD	2,253.1	m
Survey TVD	2,252.9	m
Angle	0.62	Deg
Direction	89	
Horiz Displ.		m

Baroid Representatives: Kosta Georgiou, Mike Lawrance
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Baroid Fluid Services

Report No 21

Daily Drilling Fluid Report

Date 21/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Wiper Trip 12.25' interval	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	12.250	in
Make/Type	REED-HYCALOG/RSR616M-B2	
Jets	8x13	
TFA	1.037	sq-in
Jets Velocity	294	ft/sec
Jet Impact Force	1349.3	lbf
Bit HHSI	3.39	hhp/in2
Press Drop @ Bit	718	psi
Bit Depth	2,515.0	m
ECD @ Csg Shoe	9.49	ppg
ECD @ Bit	9.52	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	4.276	1,449.0
Drill Pipe	5.000	3.000	954.8
Drill Collar	8.250	2.875	111.2
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	95	95	0
gpm|bbl/min	477 | 11.35	477 | 11.35	
Total GPM	953	AV, Riser 71.5	Circ Press psi 3500
Total Circ Time	62	AV min DP 177.5	Tot Pres Loss 4330
BU Time , min	47	AV max DC 284.9	Press Drop DP 3201
Total Strokes	11,780	BU Strokes 8,845	Press Drop An 94

Properties		1	2	3	Hyd 4	Targets	Program	
Source		Pit #2	Pit #4	Pit #4	Pit #2			
Time		3:15	9:30	17:00	20:00			
Depth	m	2,329	2,416	2,506	2,520			
FL Temp	Deg C	39	44	46	34			
Density @ Deg C	ppg	9.45 @ 35	9.50 @ 37	9.40 @ 40	9.30 @ 34		8.50	9.50
FV @ Deg C	sec/qt	54 @ 35	52 @ 37	51 @ 40	53 @ 34			
PV @ Deg C	cP	16 @ 49	13 @ 49	14 @ 49	14 @ 49			
YP	lbs/100 ft2	32	28	29	28			
GELS	lbs/100 ft2	10/14/16	9/15/19	11/16/21	10/15/19		8/-/-	14/-/-
600/300		64.0/48.0	54.0/41.0	57.0/43.0	56.0/42.0			
200/100		39.0/31.0	34.0/26.0	36.0/29.0	35.0/28.0			
6/3		12.0/10.0	11.0/9.0	13.0/10.0	12.0/10.0			
API Filt	ml/30 min	4.1	3.0	3.8	3.7			6.0
HTHP @ Deg C	ml/30 min	8.4 @ 121	6.8 @ 121	9.2 @ 121	7.6 @ 121			15.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	3.7	3.8	3.3	2.4			
NAP/Water	% by Vol	-/92.8	-/92.5	-/93.0	-/94.0			
Sand	% by vol	0.20	0.30	0.30	0.15			1.0
MBT	ppb Eq.	15.0	12.0	12.0	10.0			25.0
pH @ Deg C		9.50 @ 22	9.00 @ 22	9.00 @ 22	9.50 @ 22		8.50	9.50
ALK Mud	Pm	0.30	0.30	0.30	0.50			
ALK Filt	Pf/Mf	0.40/1.20	0.25/1.10	0.20/0.90	0.40/0.90			
Chlorides	mg/l	43,500	45,000	45,000	43,500			
Tot. Hardness	mg/l	320	380	350	340			400
LGS/HGS	% by Vol	2.3/1.3	2.4/1.4	2.2/1.1	1.0/1.4			
LGS/HGS	ppb	21.34/19.32	22.25/20.56	19.77/16.91	9.26/20.49			
ASG	SG	3.175	3.182	3.154	3.525			
Additional Properties								
KCl %	-	8.90	9.00	9.00	8.80			

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Dump sand traps & build reserve volume. Add water direct to active to compensate for losses through evaporation. Condition mud w/ CLAYSEAL PLUS and EZ-MUD prior to POOH. Add OXYGON - corrosion inhibitor & ALDACIDE-G prior to tripping. Maintain pH w/ addition of caustic potash.
Mixed 80 bbl 9.3 ppg hi-vis Pill & 48 bbl 11.3 ppg Slug.

Rig Activity

Drill 12 1/4" hole f/ 2284-2501m, noticed a 5 bbl gain in active-space out & flow check-static. Cont. drilling f/ 2501-2520 m TD. Pump 50 bbl 9.3 ppg hi-vis Sweep & Circ hole & shakers clean. SCR's @ 2515 m w/ 9.3 ppg fluid. Pit drill circulated through choke & kill lines, recorded CLF's. Flow check, POOH to 2268 m on elevators up to 20 K over pull @ 2515, 2412, 2383 & 2354 m. RIH f/ 2271-2520 m TD, max drag 15 K SCR's @ 2515 m w/ 9.4 ppg KCl fluid.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	68		4	64	$A6,038.28
barite	1 tons bulk	108.000		2.300	105.700	$A1,680.33
potassium chloride	1000 kg bag	16		1	15	$A1,483.52
EZ-MUD	25 kg pail	203		13	190	$A1,234.87
OXYGON	50 lb can	42		2	40	$A1,144.06
potassium hydroxide	20 kg pail	55		2	53	$A264.22
soda ash	25 kg bag	27		8	19	$A243.36
ALDACIDE G	25 kg can	16		1	15	$A173.09
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	121			121	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
caustic soda	25 kg can	35			35	
Circal 60/16	25 kg bag	195			195	
Circal Y	25 kg bag	91			91	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	193			193	
EZ SPOT	55 gal drum	4			4	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	89			89	
PAC-L	25 kg bag	149			149	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	22.0
VSM-300	20 20 20 100 100 100 100	22.0
VSM-300	20 20 20 100 100 100 100	22.0
VSM-300	20 20 20 100 100 100 100	22.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	20.0
HS 2000	3,500	300.00	20.0
518	4,000	80.00	

Time

Drilling	18.0
Circulating	3.0
Trips	1.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	1.5
Total	24.0
Rotating	18.0
ROP	43.0
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	1056.4	Base		Fluid Dumped	
Pipe Cap	112.5	Drill Water	480.0	Transferred	
Active Pits	238.0	Dewatering		SCE	-415.1
Total Hole	1171.3	Sea Water		Evaporation	-7.0
Total Circ	1406.9	Whole Mud	220.0	Trips	
Reserve	1322.0	Barite	3.4	Other	-39.0
Prev Vol	2477.7	Chemicals	11.4	Total Surface	
Net Change	253.8	Other		Downhole	
Total Vol	2731.3	Total	714.9	Total Losses	-461.1

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A12,261.73	Total Daily Cost	$A15,341.73
Cumulative Products Cost	$A362,389.72	Total Cumulative Cost	$A428,609.72

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Baroid Fluid Services

Report No 22

Daily Drilling Fluid Report

Date 22/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity .Run 9 5/8 Casing.	
Operator ADA DRILLING	Report For John McGarrity / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	in	
Make/Type		
Jets		
TFA	sq-in	
Jets Velocity	ft/sec	
Jet Impact Force	lbf	
Bit HHSI	hhp/in2	
Press Drop @ Bit	psi	
Bit Depth	m	
ECD @ Csg Shoe	ppg	
ECD @ Bit	ppg	

Drill String (in) / (m)

	OD	ID	Length
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program	
Source		Pit #4	Pit #2					
Time		13:00	4:30					
Depth	m	2,520	2,520					
FL Temp	Deg C		25					
Density @ Deg C	ppg	9.45 @ 22	9.45 @ 25				8.50	9.50
FV @ Deg C	sec/qt	57 @ 22	58 @ 25					
PV @ Deg C	cP	14 @ 49	14 @ 49					
YP	lbs/100 ft2	32	30					
GELS	lbs/100 ft2	11/15/19	11/16/19				8/-/-	14/-/-
600/300		60.0/46.0	58.0/44.0					
200/100		36.0/31.0	37.0/30.0					
6/3		13.0/11.0	13.0/11.0					
API Filt	ml/30 min	3.2	3.7					6.0
HTHP @ Deg C	ml/30 min	9.0 @ 121	7.1 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.6	3.5					
NAP/Water	% by Vol	-/92.8	-/93.0					
Sand	% by vol	0.40	0.20					1.0
MBT	ppb Eq.	12.0	10.0					25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22				8.50	9.50
ALK Mud	Pm	0.30	0.40					
ALK Filt	Pf/Mf	0.20/1.10	0.30/1.10					
Chlorides	mg/l	44,500	43,000					
Tot. Hardness	mg/l	380	300					400
LGS/HGS	% by Vol	2.2/1.3	2.0/1.5					
LGS/HGS	ppb	20.50/19.42	18.04/22.23					
ASG	SG	3.191	3.292					
Additional Properties								
KCl %	-	8.90	8.80					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Run centrifuges to condition mud whilst running in hole w/ casing. Cont. to treat pits w/ ALDACIDE-G.

Rig Activity

CBU up till shakers are clean, spot 40 bbl Hi-Vis. Flow check-static, POOH to 13 3/8" shoe @ 935 m. Flow check-static & service top drive. Cont. to POOH w/ 12 1/4" assy to 352 m. Flow check prior to pulling BHA through BOP & cont to POOH to 252 m. Remove diverter packer & wiper, POOH to surface & break down BHA. M/U wear bushing retrieval tool & RIH on 5" HWDP, wash BOP & break off wear bushing retrieval tool. Rig up to run 9 5/8" casing, resolved elevator problem cont. to run 9 5/8" casing to 830 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
PAC-L	25 kg bag	149		29	120	$A4,649.28
BARAZAN D PLUS	25 kg bag	121		19	102	$A4,091.46
DEXTRID LTE	25 kg sack	193		40	153	$A2,119.20
Omyacarb 5	25 kg bag	89		66	23	$A1,142.46
ALDACIDE G	25 kg can	15		4	11	$A692.36
potassium hydroxide	20 kg pail	53		5	48	$A660.55
Circal 60/16	25 kg bag	195		14	181	$A177.52
caustic soda	25 kg can	35		3	32	$A162.84
EZ-MUD	25 kg pail	190		1	189	$A94.99
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	105.700			105.700	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000			1.000	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
EZ SPOT	55 gal drum	4			4	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
OXYGON	50 lb can	40			40	
potassium chloride	1000 kg bag	15			15	
soda ash	25 kg bag	19			19	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	4.0
VSM-300	20 20 20 100 100 100 100	4.0
VSM-300	20 20 20 100 100 100 100	4.0
VSM-300	20 20 20 100 100 100 100	4.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	4.0
HS 2000	3,500	300.00	4.0
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	6.0
Rig	
Surveys	
Fishing	
Run Casing	12.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	6.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water	108.5	Transferred	
Active Pits	293.0	Dewatering		SCE	
Total Hole	1283.7	Sea Water		Evaporation	
Total Circ	293.0	Whole Mud		Trips	
Reserve	1278.0	Barite		Other	
Prev Vol	2731.3	Chemicals	14.9	Total Surface	
Net Change	123.4	Other		Downhole	
Total Vol	2854.7	Total	123.4	Total Losses	

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A13,790.66	Total Daily Cost	$A16,870.66
Cumulative Products Cost	$A376,180.38	Total Cumulative Cost	$A445,480.38

Baroid Representatives	Kosta Georgiou	Mike Lawrance	
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Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 23

Daily Drilling Fluid Report

Date 23/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Slip & Cut Drill Line.	
Operator ADA DRILLING	Report For Bryan Houston / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt / Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,505.0	m
ECD @ Csg Shoe	9.45	ppg
ECD @ Bit	9.45	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	85.0
Drill Pipe	9.625	8.728	2,420.0
Riser	19.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	Hyd 3	4	Targets	Program	
Source		Pit #4	Pit #4	Pit #2				
Time		17:30	12:00	20:45				
Depth	m	2,520	2,520	2,520				
FL Temp	Deg C	35						
Density @ Deg C	ppg	9.45 @ 25	9.45 @ 22	9.45 @ 20			8.50	9.50
FV @ Deg C	sec/qt	47 @ 25	48 @ 22	49 @ 20				
PV @ Deg C	cP	12 @ 49	12 @ 49	11 @ 49				
YP	lbs/100 ft2	25	24	27				
GELS	lbs/100 ft2	10/16/19	11/15/18	11/15/18			8/-/-	14/-/-
600/300		49.0/37.0	48.0/36.0	49.0/38.0				
200/100		30.0/24.0	30.0/24.0	31.0/25.0				
6/3		11.0/9.0	11.0/9.0	12.0/10.0				
API Filt	ml/30 min	3.5	3.5	3.7				6.0
HTHP @ Deg C	ml/30 min	9.3 @ 121	9.7 @ 121	8.1 @ 121				15.0
Cake API/HTHP	32nd in	1/2	1/2	1/2				
Corr Solid	% by Vol	3.4	3.4	3.4				
NAP/Water	% by Vol	-/93.0	-/93.0	-/93.0				
Sand	% by vol	0.40	0.30	0.25				1.0
MBT	ppb Eq.	10.0	10.0	10.0				25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22			8.50	9.50
ALK Mud	Pm	0.30	0.30	0.40				
ALK Filt	Pf/Mf	0.25/0.90	0.20/1.10	0.30/1.00				
Chlorides	mg/l	44,500	44,000	44,000				
Tot. Hardness	mg/l	380	380	340				400
LGS/HGS	% by Vol	1.8/1.5	1.9/1.5	1.9/1.5				
LGS/HGS	ppb	16.78/22.37	17.20/22.32	17.20/22.32				
ASG	SG	3.323	3.313	3.313				
Additional Properties								
KCl %	-	8.90	8.90	8.90				

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Conduct full inventory count.

Run centrifuges to condition surface volume.

Pump 70 barrel hi-vis sweep whilst circulating casing. No significant increase in returns observed.

Rig Activity

Continue running 9 5/8" casing f/ 830-2020 m. Wait on chopper movements. Cont. running 9 5/8" csg f/ 2020-2417. L/O elevators & fill tool. P/U hanger, M/U same & rig down casing FMS. RIH hanger & landing string to 2480 m tag w/ 40 k under pull. Wash down f/ 2480-2508 m, pump 60 bbl hi-vis & circ out of hole. 9 5/8" casing stuck at 2505 m. Landing string parted, secured broken motor on TDS & conducted derrick survey = ok. POOH w/ landing string load out pup joint, 1x single HWDP & parted single. Slip & cut drill line.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	102		5	97	$A1,076.70
ALDACIDE G	25 kg can	11			11	
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	105.700			105.700	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	1.000	32.000		33.000	
caustic soda	25 kg can	32			32	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	4			4	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	23			23	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	120			120	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	48			48	
soda ash	25 kg bag	19			19	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	2.5
VSM-300	20 20 20 100 100 100 100	2.5
VSM-300	20 20 20 100 100 100 100	2.5
VSM-300	20 20 20 100 100 100 100	2.5

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	12.0
HS 2000	3,500	300.00	12.0
518	4,000	80.00	

Time

Drilling	
Circulating	3.5
Trips	1.5
Rig	
Surveys	
Fishing	
Run Casing	12.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	3.0
Other	4.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	565.9	Base		Fluid Dumped	
Pipe Cap	590.0	Drill Water		Transferred	
Active Pits	222.0	Dewatering		SCE	-47.1
Total Hole	1163.1	Sea Water		Evaporation	
Total Circ	1377.9	Whole Mud		Trips	
Reserve	1413.0	Barite		Other	
Prev Vol	2854.7	Chemicals	0.5	Total Surface	
Net Change	-56.6	Other		Downhole	-10.0
Total Vol	2798.1	Total	0.5	Total Losses	-57.1

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5	m
Survey TVD	2,484.2	m
Angle	1.06	Deg
Direction	90	
Horiz Displ.	23.5	m

Daily Products Cost	$A1,076.70	Total Daily Cost	$A4,156.70
Cumulative Products Cost	$A377,257.08	Total Cumulative Cost	$A449,637.08

Baroid Representatives	Kosta Georgiou	Mike Lawrance	
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Baroid Fluid Services

Report No 24

Daily Drilling Fluid Report

Date 24/10/09		**Depth** 2,520.0 m	
Spud Date 06/10/09		**Rig Activity** Pressure Test Choke & Kill Manifold.	
Operator ADA DRILLING	**Report For** Bryan Houston / Peter Dane	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Lars Lovenholdt/ Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,505.0	m
ECD @ Csg Shoe	9.45	ppg
ECD @ Bit	9.45	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	85.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	Hyd 2	3	4	Targets	Program	
Source		Pit #4	Pit #2					
Time		11:00	21:20					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.45 @ 18	9.45 @ 16				8.50	9.50
FV @ Deg C	sec/qt	50 @ 18	53 @ 16					
PV @ Deg C	cP	13 @ 49	13 @ 49					
YP	lbs/100 ft2	23	24					
GELS	lbs/100 ft2	10/15/19	10/16/19				8/-/-	14/-/-
600/300		49.0/36.0	50.0/37.0					
200/100		30.0/24.0	31.0/24.0					
6/3		11.0/9.0	12.0/10.0					
API Filt	ml/30 min	3.5	3.8					6.0
HTHP @ Deg C	ml/30 min	9.5 @ 121	8.1 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.5	3.4					
NAP/Water	% by Vol	-/92.9	-/93.0					
Sand	% by vol	0.30	0.30					1.0
MBT	ppb Eq.	9.0	10.0					25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22				8.50	9.50
ALK Mud	Pm	0.45	0.40					
ALK Filt	Pf/Mf	0.30/1.10	0.30/-					
Chlorides	mg/l	44,500	44,000					
Tot. Hardness	mg/l	380	340					400
LGS/HGS	% by Vol	2.0/1.4	1.9/1.5					
LGS/HGS	ppb	18.64/20.90	17.20/22.32					
ASG	SG	3.255	3.313					
Additional Properties								
KCl %	-	8.90	8.80					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add caustic potash to surface volume to maintain pH. Calibrate mud balances. Dip & check volumes in pit room.

Rig Activity

Slip & cut drill line, derrick management, moved used HWDP f/ running string to port side derrick. M/U Dril-Quip MPT & RIH. Tag top of fish @ 81.5 m. POOH & L/O same. M/U 8 3/8" overshot, dressed w/ 6 5/8" spiral grapple & RIH. attempt to catch fish = unsuccessful, POOH. Inspect top drive gears & replace oil lube motor. M/U fishing assy & RIH tag fish @ 81.5 m, worked overshot over fish w/ max 15k DN, then 2 revs of string max torque 6-7k ft/Lb. P/U w/ 5K over-pull which fell away. POOH w/ fishing assy, zero recovery & cutting plugged over-shot. Clean out over-shot, load out-over shot EDPHOT assy & pressure test choke & kill manifold.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
potassium hydroxide	20 kg pail	48		2	46	$A264.22
ALDACIDE G	25 kg can	11			11	
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	97			97	
barite	1 tons bulk	105.700			105.700	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
caustic soda	25 kg can	32			32	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	4			4	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	23			23	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	120			120	
potassium chloride	1000 kg bag	15			15	
soda ash	25 kg bag	19			19	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	1.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	22.0
Other	0.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	554.3	Base		Fluid Dumped	
Pipe Cap	590.0	Drill Water		Transferred	
Active Pits	222.0	Dewatering		SCE	-0.7
Total Hole	1151.5	Sea Water		Evaporation	
Total Circ	1366.3	Whole Mud		Trips	
Reserve	1424.2	Barite		Other	
Prev Vol	2798.1	Chemicals	0.2	Total Surface	
Net Change	-0.5	Other		Downhole	
Total Vol	2797.7	Total	0.2	Total Losses	-0.7

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	2,484.5	m
Survey TVD	2,484.2	m
Angle	1.06	Deg
Direction	90	
Horiz Displ.	23.5	m

Daily Products Cost	$A264.22	Total Daily Cost	$A3,344.22
Cumulative Products Cost	$A377,521.30	Total Cumulative Cost	$A452,981.30

Baroid Representatives: Kosta Georgiou, Mike Lawrance

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Warehouse: c/o of Esso Australia Ltd — Telephone 61-3-56-881-445

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Baroid Fluid Services

Report No 25

Daily Drilling Fluid Report

Date 25/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Laying Out BHA	
Operator ADA DRILLING	Report For Bryan Houston / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,505.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	85.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		15.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #4	Pit #2					
Time		11:00	21:30					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.45 @ 19	9.45 @ 16				8.50	9.50
FV @ Deg C	sec/qt	52 @ 19	55 @ 16					
PV @ Deg C	cP	13 @ 49	14 @ 49					
YP	lbs/100 ft2	23	31					
GELS	lbs/100 ft2	10/14/17	10/16/19				8/-/-	14/-/-
600/300		49.0/36.0	59.0/45.0					
200/100		30.0/24.0	36.0/31.0					
6/3		11.0/9.0	12.0/10.0					
API Filt	ml/30 min	4.2	4.2					6.0
HTHP @ Deg C	ml/30 min	10.5 @ 121	8.8 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.4	2.6					
NAP/Water	% by Vol	-/93.0	-/94.0					
Sand	% by vol	0.30	0.30					1.0
MBT	ppb Eq.	12.0	10.0					25.0
pH @ Deg C		9.00 @ 18	9.00 @ 18				8.50	9.50
ALK Mud	Pm	0.30	0.30					
ALK Filt	Pf/Mf	0.25/0.90	0.30/0.90					
Chlorides	mg/l	44,000	41,000					
Tot. Hardness	mg/l	380	380					400
LGS/HGS	% by Vol	1.9/1.5	0.1/2.5					
LGS/HGS	ppb	17.20/22.32	1.12/36.79					
ASG	SG	3.313	4.125					
Additional Properties								
KCl %	-	8.90	8.40					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Build 40 bbl pumpable Hi-Vis sweep using BARAZAN-D PLUS. Perform mud checks on all reserve pits & treat as necessary w/ the addition of caustic potash, BARAZAN-D PLUS & PAC - LE.
Clean and check shaker screens = all good.

Rig Activity

Cont. testing choke, kill manifold, stand pipe manifold, lower & upper BOP @ 2500 psi /5 mins & 5000 psi /10 mins also tested FOSV, neg. M/U jetting tool on a stand of HWDP & RIH-jet w/ 1200 gpm 3000 psi, boost riser & POOH. Service travelling equipment. M/U fishing assey & RIH, attempt to latch onto fish, damaged alignment cylinder. Inspect TD-change out alignment cylinder clevis, POOH fishing assy. Change out over shot & grapple. RIH fishing assy-attempt to retrieve fish-POOH L/O over shot assy. P/U 12 1/4" BHA f/ derrick break down & L/O same, L/O 2 x 12 1/4" stabs, monel, mud motor & 3 x 8.25" D/Cs.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	97		7	90	$A1,507.38
potassium hydroxide	20 kg pail	46		6	40	$A792.66
PAC-L	25 kg bag	120		2	118	$A320.64
soda ash	25 kg bag	19		4	15	$A121.68
ALDACIDE G	25 kg can	11			11	
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	105.700			105.700	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
caustic soda	25 kg can	32			32	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	4			4	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	23			23	
OXYGON	50 lb can	40			40	
potassium chloride	1000 kg bag	15			15	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	1.0
Rig	7.5
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	15.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	266.5	Base		Fluid Dumped	
Pipe Cap	590.0	Drill Water		Transferred	
Active Pits	260.0	Dewatering		SCE	-3.8
Total Hole	856.5	Sea Water		Evaporation	
Total Circ	1116.5	Whole Mud		Trips	
Reserve	1384.0	Barite		Other	
Prev Vol	2797.7	Chemicals	1.6	Total Surface	
Net Change	-2.2	Other		Downhole	
Total Vol	2500.5	Total	1.6	Total Losses	-3.8

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5	m
Survey TVD	2,484.2	m
Angle	1.06	Deg
Direction	90	
Horiz Displ.	23.5	m

Daily Products Cost	$A2,742.36	Total Daily Cost	$A5,822.36
Cumulative Products Cost	$A380,263.66	Total Cumulative Cost	$A458,803.66

Baroid Representatives	Kosta Georgiou	Mike Lawrance	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 26

Daily Drilling Fluid Report

Date 26/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Fishing	
Operator ADA DRILLING	Report For Bryan Houston / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,505.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	85.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #4	Pit #2					
Time		11:00	22:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.45 @ 17	9.45 @ 18				8.50	9.50
FV @ Deg C	sec/qt	56 @ 17	55 @ 18					
PV @ Deg C	cP	13 @ 49	12 @ 49					
YP	lbs/100 ft2	21	22					
GELS	lbs/100 ft2	10/15/18	11/16/20				8/-/-	14/-/-
600/300		47.0/34.0	46.0/34.0					
200/100		30.0/23.0	30.0/24.0					
6/3		11.0/9.0	12.0/10.0					
API Filt	ml/30 min	4.5	4.5					6.0
HTHP @ Deg C	ml/30 min	11.5 @ 121	11.0 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.5	3.6					
NAP/Water	% by Vol	-/93.0	-/93.0					
Sand	% by vol	0.30	0.30					1.0
MBT	ppb Eq.	11.0	11.0					25.0
pH @ Deg C		9.00 @ 18	9.00 @ 18				8.50	9.50
ALK Mud	Pm	0.40	0.30					
ALK Filt	Pf/Mf	0.25/1.30	0.30/1.40					
Chlorides	mg/l	43,000	42,000					
Tot. Hardness	mg/l	360	400					400
LGS/HGS	% by Vol	2.0/1.5	2.1/1.5					
LGS/HGS	ppb	18.04/22.23	18.87/22.13					
ASG	SG	3.292	3.273					
Additional Properties								
KCl %	-	8.60	8.60					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add ALDACIDE-G to surface volume to inhibit bacterial growth.

Add Potassium Hydroxide to maintain pH.

Made up 11 1/4" overshot assembly, dressed w/ 7 7/8" basket grapple & RIH to above fish @ 82.5 m. Attempted to confirm injection test. Pumped 1.2 bbl to 3500 psi. No success. POOH. Re-dressed 11 1/4" overshot assy w/ 7 7/8" basket grapple & RIH. Troubleshoot TD hydraulic system. RIH w/ 11 1/4" overshot assembly to top of fish @81.5 m.

Rig Activity

Torqued each connection to 28,000 ft.lbs. Engaged fish & confirmed w/ 5k overpull. Applied 10,000 ft/lbs left hand torque. Worked string between 5 - 10 k overpull. Increased left hand torque in 2000 ft.lbs increments until torque reached 20,000 ft/lbs. Torque dropped off continued to rotate 4 1/2 turns to the left & weight dropped off. POOH & RIH w/ 8 3/8" overshot assy, dressed w/6 5/8" spiral grapple, no go. Modify 8 3/8" lip guide. Welder fabricate & weld 11 3/4" x 15" over size guide onto 8 3/8" lip guide.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
potassium hydroxide	20 kg pail	40		4	36	$A528.44
ALDACIDE G	25 kg can	11		1	10	$A173.09
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	90			90	
barite	1 tons bulk	105.700			105.700	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
caustic soda	25 kg can	32			32	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	4			4	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	23			23	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
soda ash	25 kg bag	15			15	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	2.0
VSM-300	20 20 20 100 100 100 100	2.0
VSM-300	20 20 20 100 100 100 100	2.0
VSM-300	20 20 20 100 100 100 100	2.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	5.5
Rig	
Surveys	
Fishing	10.0
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	8.5
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	554.3	Base		Fluid Dumped	
Pipe Cap	590.0	Drill Water		Transferred	
Active Pits	663.0	Dewatering		SCE	
Total Hole	1151.5	Sea Water		Evaporation	
Total Circ	1807.3	Whole Mud		Trips	-6.4
Reserve	975.0	Barite		Other	
Prev Vol	2500.5	Chemicals	0.5	Total Surface	
Net Change	-5.9	Other		Downhole	
Total Vol	2789.5	Total	0.5	Total Losses	-6.4

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5	m
Survey TVD	2,484.2	m
Angle	1.06	Deg
Direction	90	
Horiz Displ.	23.5	m

Daily Products Cost	$A701.53	Total Daily Cost	$A3,781.53
Cumulative Products Cost	$A380,965.19	Total Cumulative Cost	$A462,585.19

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 27

Daily Drilling Fluid Report

Date	27/10/09	**Depth**	2,520.0 m
Spud Date	06/10/09	**Rig Activity**	Fishing

Operator	**Report For**	**Well Name**	
ADA DRILLING	Bryan Houston / Peter Dane	TREFOIL-2	
Contractor	**Report For**	**Rig Name**	**Unit System**
MAERSK	Lars Lovenholdt/ Ole Andreasen	Kantan IV	ADA Drilling
Country	**State/Province/Region**	**Geographic Area/County**	**Field or Block**
Australia	Tasmania	Bass Strait	T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #4	Pit #2					
Time		11:00	22:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 16	9.40 @ 16				8.50	9.50
FV @ Deg C	sec/qt	57 @ 16	58 @ 16					
PV @ Deg C	cP	12 @ 49	12 @ 49					
YP	lbs/100 ft2	21	22					
GELS	lbs/100 ft2	11/15/19	11/15/20				8/-/-	14/-/-
600/300		45.0/33.0	46.0/34.0					
200/100		30.0/23.0	30.0/24.0					
6/3		11.0/10.0	12.0/10.0					
API Filt	ml/30 min	4.8	4.9					6.0
HTHP @ Deg C	ml/30 min	12.5 @ 121	12.5 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	2.8	2.5					
NAP/Water	% by Vol	-/93.7	-/94.0					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	10.0	10.0					25.0
pH @ Deg C		9.00 @ 18	9.00 @ 18				8.50	9.50
ALK Mud	Pm	0.40	0.40					
ALK Filt	Pf/Mf	0.25/1.40	0.30/1.40					
Chlorides	mg/l	42,500	42,000					
Tot. Hardness	mg/l	400	400					400
LGS/HGS	% by Vol	1.0/1.8	0.4/2.1					
LGS/HGS	ppb	8.85/26.99	3.70/31.37					
ASG	SG	3.646	3.944					
Additional Properties								
KCl %	-	8.60	8.60					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add Potassium Hydroxide to maintain pH.

Run centrifuges on active system to reduce mudweight in preparation for next section. Mud weight reduction from 9.45 ppg to 9.4 ppg achieved.

Pump two 5 bbl hi-vis sweeps as part of fishing clean up operation.

Rig Activity

Modified 8 3/8" lip guide. Welded 11 3/4" x 15" over size guide onto 8 3/8" lip guide. RIH w/ 8 3/8" overshot assy, dressed w/ modified lip guide to top of fish #2 at 52.3 mRT. Successfully engaged fish. POOH & released fish. L/O 8 3/8" overshot assy. POOH w/ 11 1/4" overshot assembly. L/D same. Made up 11 1/4" overshot assy w/ 7 7/8" basket grapple. RIH to top of fish & attempt to engage, no success. POOH & RIH w/ reverse circulating junk basket assembly. Wash top of fish. POOH & RIH w/ modified 11 1/4" overshot assy, engaged fish w/ 20k overpull. Apply lefthand torque & slipped free. POOH. Toolbox talk, P/U DC & rack in derrick.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
potassium hydroxide	20 kg pail	36		3	33	$A396.33
ALDACIDE G	25 kg can	10			10	
Amodrill 1235	1 bbl bulk	20.700			20.700	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	90			90	
barite	1 tons bulk	105.700			105.700	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
caustic soda	25 kg can	32			32	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	4			4	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	23			23	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
soda ash	25 kg bag	15			15	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	2.0
VSM-300	20 20 20 100 100 100 100	2.0
VSM-300	20 20 20 100 100 100 100	2.0
VSM-300	20 20 20 100 100 100 100	2.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	11.0

Time

Drilling	
Circulating	
Trips	3.0
Rig	
Surveys	
Fishing	20.0
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	1.0
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	619.0	Dewatering		SCE	-45.1
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1769.6	Whole Mud		Trips	
Reserve	975.0	Barite		Other	
Prev Vol	2789.5	Chemicals	0.3	Total Surface	
Net Change	-44.9	Other		Downhole	
Total Vol	2744.6	Total	0.3	Total Losses	-45.1

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A396.33	Total Daily Cost	$A3,476.33
Cumulative Products Cost	$A381,361.52	Total Cumulative Cost	$A466,061.52

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 28

Daily Drilling Fluid Report

Date 28/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Fishing	
Operator ADA DRILLING	Report For Bryan Houston / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	20:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 16	9.40 @ 16				8.50	9.50
FV @ Deg C	sec/qt	59 @ 16	57 @ 16					
PV @ Deg C	cP	11 @ 49	12 @ 49					
YP	lbs/100 ft2	23	22					
GELS	lbs/100 ft2	11/16/20	11/15/20				8/-/-	14/-/-
600/300		45.0/34.0	46.0/34.0					
200/100		30.0/24.0	30.0/24.0					
6/3		12.0/10.0	12.0/10.0					
API Filt	ml/30 min	4.8	4.8					6.0
HTHP @ Deg C	ml/30 min	13.0 @ 121	12.5 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.4	3.1					
NAP/Water	% by Vol	-/93.2	-/93.5					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	10.0	10.0					25.0
pH @ Deg C		9.00 @ 18	9.00 @ 18				8.50	9.50
ALK Mud	Pm	0.30	0.30					
ALK Filt	Pf/Mf	0.20/1.10	0.20/1.30					
Chlorides	mg/l	42,000	42,000					
Tot. Hardness	mg/l	400	400					400
LGS/HGS	% by Vol	2.0/1.3	1.4/1.6					
LGS/HGS	ppb	18.56/19.57	12.99/24.00					
ASG	SG	3.232	3.454					
Additional Properties								
KCl %	-	8.60	8.60					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Build EZ-SPOT Pill as per ADA instruction. The pill includes EZ-SPOT, Amodril 1235 base oil, water & barite to 9.4 ppg.
Pumped an initial 14 bbl @ 1200. Followed by 2-3 bbl every half hour thereafter. Total pumped 40 bbl

Maintain properties in reserve pits w/ the addition of Potassium Hydroxide.

Lay down cement head. Pick up 6 3/4" DCs & rack in derrick. Installed diverter & wiper rubber. Pick up 5" HWDP & DP & rack in derrick. Troubleshoot TDS. Make up fishing assy w/ 11

Rig Activity

Engaged fish w/ 50k overpull. Applied 20 k ft/lbs left hand torque, torque slipped. Attempted to re-engage, No go. POOH. Prepare new fishing assy. RIH w/ 11-3/4" overshot assy to fish @ 81.5 m. Engaged fish, confirmed w/ 10k overpull. Began jarring lightly on fish. Slacked off to 160k & picked up to 230k, jars firing. Set torque limit to 30 k ft.lbs. Applied 27 k ft.lbs of left hand torque (23 turns). String jumped. POOH to surface. At surface confirmed top sub connection on Bowen Super Fishing Jar had backed off leaving 11 3/4" overshot, bumper sub & jars in hole. Top of fish #2 at 73.5 m

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
Amodrill 1235	1 bbl bulk	20.700		20.700		$A12,785.36
EZ SPOT	55 gal drum	4		3	1	$A4,752.60
barite	1 tons bulk	105.700		2.100	103.600	$A1,534.22
potassium hydroxide	20 kg pail	33		1	32	$A132.11
ALDACIDE G	25 kg can	10			10	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	90			90	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
caustic soda	25 kg can	32			32	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	23			23	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
soda ash	25 kg bag	15			15	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	1.0
VSM-300	20 20 20 100 100 100 100	1.0
VSM-300	20 20 20 100 100 100 100	1.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	7.0
Rig	
Surveys	
Fishing	12.5
Run Casing	1.0
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	3.0
Other	0.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water	38.0	Transferred	
Active Pits	617.0	Dewatering		SCE	
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1767.6	Whole Mud		Trips	
Reserve	1015.0	Barite		Other	
Prev Vol	2744.6	Chemicals		Total Surface	
Net Change	38.0	Other		Downhole	
Total Vol	2782.6	Total	38.0	Total Losses	

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A19,204.28	Total Daily Cost	$A22,284.28
Cumulative Products Cost	$A400,565.81	Total Cumulative Cost	$A488,345.81

Baroid Representatives Mike Lawrance James Munford
Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555
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HALLIBURTON | Fluid Systems

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Baroid Fluid Services

Report No 29

Daily Drilling Fluid Report

Date 29/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Fishing	
Operator ADA DRILLING	Report For Bryan Houston / Peter Dane	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	23:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 14	9.40 @ 15				8.50	9.50
FV @ Deg C	sec/qt	60 @ 14	60 @ 15					
PV @ Deg C	cP	12 @ 49	13 @ 49					
YP	lbs/100 ft2	23	21					
GELS	lbs/100 ft2	11/15/19	11/16/20				8/-/-	14/-/-
600/300		47.0/35.0	47.0/34.0					
200/100		31.0/25.0	30.0/25.0					
6/3		12.0/11.0	12.0/11.0					
API Filt	ml/30 min	4.8	5.0					6.0
HTHP @ Deg C	ml/30 min	13.0 @ 121	13.0 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	3.3					
NAP/Water	% by Vol	-/93.3	-/93.3					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	12.0	10.0					25.0
pH @ Deg C		9.00 @ 15	9.00 @ 15				8.50	9.50
ALK Mud	Pm	0.40	0.30					
ALK Filt	Pf/Mf	0.20/1.00	0.20/1.10					
Chlorides	mg/l	42,000	42,000					
Tot. Hardness	mg/l	400	400					400
LGS/HGS	% by Vol	1.8/1.4	1.8/1.4					
LGS/HGS	ppb	16.70/21.04	16.70/21.04					
ASG	SG	3.301	3.301					
Additional Properties								
KCl %	-	8.50	8.50					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add caustic soda to surface volume to maintain pH.

Rig Activity

RIH w/ 11-1/4" overshot (BHA #13), dressed w/ 8" basket grapple to top of fish @ 74.7 mRT (fish #2). Made several attempts to engage fish, without success. POOH. RIH w/ overshot & 7-7/8" basket. No success. POOH & observed the 11 1/4" overshot & crossover missing. RIH, attempt to engage, no success. POOH. RIH w/ modified 8-3/8" overshot w/ 6-3/4" spiral grapple. Made several attempts to engage fish, without success. Made 11-3/4" overshot w/ 6 3/4" basket grapple. RIH to top of fish #3 @ 73.3 m & attempt to engage fish, no success. POOH & change out basket grapple.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
caustic soda	25 kg can	32		1	31	$A54.28
ALDACIDE G	25 kg can	10			10	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	90			90	
barite	1 tons bulk	103.600			103.600	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	1			1	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	23			23	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	32			32	
soda ash	25 kg bag	15			15	
sodium bicarbonate	25 kg bag	38			38	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	22.0
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	2.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	617.0	Dewatering		SCE	
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1767.6	Whole Mud		Trips	
Reserve	1015.0	Barite		Other	
Prev Vol	2782.6	Chemicals	0.1	Total Surface	
Net Change	0.1	Other		Downhole	
Total Vol	2782.6	Total	0.1	Total Losses	

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A54.28	Total Daily Cost	$A3,134.28
Cumulative Products Cost	$A400,620.09	Total Cumulative Cost	$A491,480.09

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 30

Daily Drilling Fluid Report

Date 30/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Fishing	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	20:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 15	9.40 @ 16				8.50	9.50
FV @ Deg C	sec/qt	61 @ 15	59 @ 16					
PV @ Deg C	cP	13 @ 49	16 @ 49					
YP	lbs/100 ft2	24	19					
GELS	lbs/100 ft2	11/15/20	11/16/20				8/-/-	14/-/-
600/300		50.0/37.0	51.0/35.0					
200/100		31.0/24.0	30.0/23.0					
6/3		12.0/11.0	12.0/10.0					
API Filt	ml/30 min	4.8	4.9					6.0
HTHP @ Deg C	ml/30 min	14.0 @ 121	14.0 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	3.4					
NAP/Water	% by Vol	-/93.2	-/93.2					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	10.0	10.0					25.0
pH @ Deg C		9.00 @ 15	9.00 @ 15				8.50	9.50
ALK Mud	Pm	0.30	0.30					
ALK Filt	Pf/Mf	0.15/0.90	0.10/1.20					
Chlorides	mg/l	42,500	42,000					
Tot. Hardness	mg/l	400	400					400
LGS/HGS	% by Vol	2.0/1.3	2.0/1.3					
LGS/HGS	ppb	18.15/19.62	18.56/19.57					
ASG	SG	3.241	3.232					
Additional Properties								
KCl %	-	8.60	8.60					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Tidy / re-arrange sack room.

Conduct full inventory check.

Rig Activity

Dressed the 11-1/4" overshot w/ a 8-1/4" basket grapple. RIH & engage fish w/ 5klbs, confirmed w/ 20 klbs overpull. Slacked off 5klbs, rotate @40 rpm, String jumped. POOH, no fish. RIH w/ 8 3/8 overshot. w/ 6 3/4 grapple modified & overshot on 5" DP. Set down 10k w/ rotation, no torque or overpull, POOH same. RIH 11 1/4 overshot w/ 8 1/4 grapple on 5" DP, POOH. Makeup modified pupjoint & lip guide & RIH to top of fish at 81.5 m. Pump @ 10 spm tag top of fish, rotate & attempt to screw modified lipguide & pupjoint into fish w/ no success. POOH same.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	90		7	83	$A1,507.38
ALDACIDE G	25 kg can	10	17		27	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	103.600			103.600	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
caustic soda	25 kg can	31			31	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag		40		40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	1			1	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	23	17		40	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	32			32	
soda ash	25 kg bag	15	11		26	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	19.5
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	4.5
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	631.0	Dewatering		SCE	
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1781.6	Whole Mud		Trips	-1.7
Reserve	1000.0	Barite		Other	
Prev Vol	2782.6	Chemicals	0.7	Total Surface	
Net Change	-1.0	Other		Downhole	
Total Vol	2781.6	Total	0.7	Total Losses	-1.7

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A1,507.38	Total Daily Cost	$A4,587.38
Cumulative Products Cost	$A402,127.47	Total Cumulative Cost	$A496,067.47

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 31

Daily Drilling Fluid Report

Date 31/10/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Fishing	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	20:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 15	9.40 @ 16				8.50	9.50
FV @ Deg C	sec/qt	62 @ 16	59 @ 16					
PV @ Deg C	cP	11 @ 49	11 @ 49					
YP	lbs/100 ft2	24	24					
GELS	lbs/100 ft2	11/15/19	12/15/20				8/-/-	14/-/-
600/300		46.0/35.0	46.0/35.0					
200/100		29.0/23.0	30.0/24.0					
6/3		11.0/10.0	11.0/10.0					
API Filt	ml/30 min	4.5	4.5					6.0
HTHP @ Deg C	ml/30 min	11.0 @ 121	11.0 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	3.3					
NAP/Water	% by Vol	-/93.2	-/93.2					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	10.0	10.0					25.0
pH @ Deg C		9.00 @ 15	9.00 @ 15				8.50	9.50
ALK Mud	Pm	0.40	0.40					
ALK Filt	Pf/Mf	0.30/1.20	0.34/1.30					
Chlorides	mg/l	42,500	42,500					
Tot. Hardness	mg/l	400	400					400
LGS/HGS	% by Vol	2.0/1.3	2.0/1.3					
LGS/HGS	ppb	18.15/19.62	18.15/19.62					
ASG	SG	3.241	3.241					
Additional Properties								
KCl %	-	8.50	8.50					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add ALDACIDE-G to surface volume to inhibit bacterial growth.
Maintain properties in reserve pits w/ the addition of BARAZAN-D PLUS.

Rig Activity

Troubleshooting topdrive & iron roughneck hydraulic unit. Made 3 runs into the hole w/ fishing tools, w/ 11 3/4 overshot & 1st grapple size of 8 3/4. 2nd run w/ grapple size of 7 1/8 & the 3rd & successful run w/ grapple size of 7". Fish #3 @ surface. RIH w/ fishing BHA #18F & apply right hand rotaion. Overpull of 30k was taken when string released. POOH no fish. Marks on side of guide indicated tool had gone down beside fish.
Change overshot guide f/ 11 3/4 to 15" & RIH same BHA. Latch on to fish, allow jars to bleed off, Hold 35k on fish while confirm w/ town operation.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	83		3	80	$A646.02
ALDACIDE G	25 kg can	27		1	26	$A173.09
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	103.600	21.300		124.900	
BAROLIFT	15 lb box	18			18	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
caustic soda	25 kg can	31			31	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	1			1	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	32			32	
soda ash	25 kg bag	26			26	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	14.0
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	10.0
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	631.4	Dewatering		SCE	
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1782.0	Whole Mud		Trips	
Reserve	1000.0	Barite		Other	
Prev Vol	2781.6	Chemicals	0.4	Total Surface	
Net Change	0.4	Other		Downhole	
Total Vol	2782.0	Total	0.4	Total Losses	

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A819.11	Total Daily Cost	$A3,899.11
Cumulative Products Cost	$A402,946.58	Total Cumulative Cost	$A499,966.58

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

HALLIBURTON | Fluid Systems

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Baroid Fluid Services

Report No 32

Daily Drilling Fluid Report

Date 01/11/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Fishing	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	21:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 14	9.40 @ 15				8.50	9.50
FV @ Deg C	sec/qt	63 @ 14	59 @ 15					
PV @ Deg C	cP	11 @ 49	10 @ 49					
YP	lbs/100 ft2	25	26					
GELS	lbs/100 ft2	11/15/20	11/15/20				8/-/-	14/-/-
600/300		47.0/36.0	46.0/36.0					
200/100		29.0/24.0	31.0/25.0					
6/3		11.0/10.0	12.0/10.0					
API Filt	ml/30 min	4.2	4.5					6.0
HTHP @ Deg C	ml/30 min	11.0 @ 121	11.5 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	3.6					
NAP/Water	% by Vol	-/93.2	-/93.0					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	10.0	10.0					25.0
pH @ Deg C		9.00 @ 15	9.00 @ 15				8.50	9.50
ALK Mud	Pm	0.35	0.40					
ALK Filt	Pf/Mf	0.20/1.20	0.20/1.20					
Chlorides	mg/l	43,000	42,000					
Tot. Hardness	mg/l	380	400					400
LGS/HGS	% by Vol	1.9/1.3	2.4/1.1					
LGS/HGS	ppb	17.73/19.66	22.28/16.62					
ASG	SG	3.251	3.105					
Additional Properties								
KCl %	-	8.50	8.50					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Dress all lower shaker screens w/ previously used Techmesh API 50 in anticipation of receiving cold viscous drilling fluid during milling operation.
Pump 5 bbl of hi-vis sweep down choke/kill lines no increase in returns seen at shakers. Prepare 45 bbl BAROLIFT sweep in slug pit. Pumped 3 X sweeps whilst milling casing, 10 bbl, 6 bbl, 11 bbl. Observed an estimate 50% increase in cuttings.
Receive chemicals: 4 drums EZ-MUD, 3 IBC's Amodil 1235, 19 sacks SAPP.
Mud rheology @16C, 14 PV, 24 YP

Rig Activity

Closed shear rams against 9 5/8" casing. Observed flow meter count of 56 bbl, correct volume. Begin overpull & Jarring to free stuck casing hanger. At 03.45 hrs String came free w/ between 40-70 k overpull, POOH w/ fish complete to surface. Inspect tools. Pick up excess tools & lay out. Open shear rams & pump 5 bbl hi-vis mud, CBU @ 160 stks. Make up & RIH w/ 17 1/2" mill assembly, tag @ 98.87 m casing swedge, indicating top of fish inside 13 3/8" casing. POOH & RIH w/ 12 1/4" mill, tag top of 9 5/8" casing @ 102m, begin milling f/ 102 m to 103 m @ 350 gpm, 5k WOB. POOH & lay out milling assembly.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	80		5	75	$A1,076.70
BAROLIFT	15 lb box	18		1	17	$A318.02
caustic soda	25 kg can	31		1	30	$A54.28
ALDACIDE G	25 kg can	26			26	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	124.900			124.900	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	1			1	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	32			32	
soda ash	25 kg bag	26			26	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 50 50 50 50	1.0
VSM-300	20 20 20 50 50 50 50	2.0
VSM-300	20 20 20 50 50 50 50	6.0
VSM-300	20 20 20 50 50 50 50	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	0.5
Surveys	
Fishing	19.5
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	3.0
Other	1.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	631.4	Dewatering		SCE	
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1782.0	Whole Mud		Trips	
Reserve	1000.6	Barite		Other	
Prev Vol	2782.0	Chemicals	0.6	Total Surface	
Net Change	0.6	Other		Downhole	
Total Vol	2782.6	Total	0.6	Total Losses	

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A1,449.00	Total Daily Cost	$A4,529.00
Cumulative Products Cost	$A404,395.58	Total Cumulative Cost	$A504,495.58

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 33

Daily Drilling Fluid Report

Date 02/11/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Fishing	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity	2	ft/sec
Jet Impact Force	1.1	lbf
Bit HHSI	0.00	hhp/in2
Press Drop @ Bit	0	psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe	9.64	ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	30	0	0
gpm|bbl/min	150 | 3.58		
Total GPM	150	AV, Riser	11.3
Total Circ Time	523	AV min DP	28.0
BU Time , min	156	AV max DC	
Total Strokes	15,679	BU Strokes	4,690

Circ Press psi	380
Tot Pres Loss	233
Press Drop DP	46
Press Drop An	170

Properties		1	Hyd 2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	21:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 14	9.30 @ 18				8.50	9.50
FV @ Deg C	sec/qt	62 @ 14	50 @ 18					
PV @ Deg C	cP	12 @ 49	10 @ 49					
YP	lbs/100 ft2	25	22					
GELS	lbs/100 ft2	12/16/20	11/14/18				8/-/-	14/-/-
600/300		49.0/37.0	42.0/32.0					
200/100		31.0/26.0	26.0/19.0					
6/3		12.0/11.0	10.0/9.0					
API Filt	ml/30 min	4.5	4.3					6.0
HTHP @ Deg C	ml/30 min	12.0 @ 121	11.5 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	2.4					
NAP/Water	% by Vol	-/93.2	-/94.0					
Sand	% by vol	0.30	0.30					1.0
MBT	ppb Eq.	10.0	10.0					25.0
pH @ Deg C		9.00 @ 15	9.00 @ 15				8.50	9.50
ALK Mud	Pm	0.35	0.20					
ALK Filt	Pf/Mf	0.30/1.10	0.20/2.10					
Chlorides	mg/l	42,500	44,000					
Tot. Hardness	mg/l	380	380					400
LGS/HGS	% by Vol	2.0/1.3	1.0/1.4					
LGS/HGS	ppb	18.15/19.62	8.84/20.54					
ASG	SG	3.241	3.544					
Additional Properties								
KCl %	-	8.50	8.50					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add caustic soda to maintain pH of surface volume.
Add ALDACIDE-G to inhibit bacterial growth.
Transferred reserve mud into active to maintain volume whilst cutting casing. Maintain properties in active pit w/ the addition of BARAZAN-D PLUS.

Rig Activity

Continued to POOH w/ 12 1/4" milling BHA f/ 103 m to surface. Broke out & Laid out 12 1/4" mill & junk baskets. Made up & RIH w/ 8 1/2" Tapered casing mill to 103 m. Mill inside casing f/ 103 m - 106 m @ 50 rpm, 70 spm. POOH to surface & lay out mill. Pick up wellhead mill & jetting tool. RIH & wash & jet wellhead & BOPs w/ 200 spm, 220 psi. POOH to surface. Make up spear assembly & RIH to retrieve casing fish. Pulled 570 k w/ no luck. POOH Spear. M/U & Run casing cutter & spear. Cut & speared casing @ 157 m. POOH. Dropped fish near surface. Lay out casing cutting tools.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	75		2	73	$A430.68
ALDACIDE G	25 kg can	26		1	25	$A173.09
caustic soda	25 kg can	30		2	28	$A108.56
Amodrill 1235	1 bbl bulk		19.400		19.400	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	124.900			124.900	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	1	4		5	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	32			32	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 50 50 50 50	
VSM-300	20 20 20 50 50 50 50	6.0
VSM-300	20 20 20 50 50 50 50	6.0
VSM-300	20 20 20 50 50 50 50	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	24.0
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	722.0	Dewatering		SCE	-2.4
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1872.6	Whole Mud		Trips	
Reserve	908.0	Barite		Other	
Prev Vol	2782.6	Chemicals	0.5	Total Surface	
Net Change	-1.9	Other		Downhole	
Total Vol	2780.6	Total	0.5	Total Losses	-2.4

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A712.33	Total Daily Cost	$A3,792.33
Cumulative Products Cost	$A405,107.91	Total Cumulative Cost	$A508,287.91

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 34

Daily Drilling Fluid Report

Date 03/11/09		**Depth** 2,520.0 m	
Spud Date 06/10/09		**Rig Activity** RIH w casing patch	
Operator ADA DRILLING	**Report For** Bryan Houston / Paul Leathem	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Lars Lovenholdt/ Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	22:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 15	9.40 @ 15				8.50	9.50
FV @ Deg C	sec/qt	63 @ 15	60 @ 15					
PV @ Deg C	cP	11 @ 49	10 @ 49					
YP	lbs/100 ft2	23	26					
GELS	lbs/100 ft2	11/15/19	12/15/20				8/-/-	14/-/-
600/300		45.0/34.0	46.0/36.0					
200/100		29.0/23.0	31.0/25.0					
6/3		11.0/10.0	12.0/10.0					
API Filt	ml/30 min	4.5	4.4					6.0
HTHP @ Deg C	ml/30 min	10.5 @ 121	11.0 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	3.1					
NAP/Water	% by Vol	-/93.2	-/93.4					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	11.0	11.0					25.0
pH @ Deg C		9.00 @ 15	9.00 @ 15				8.50	9.50
ALK Mud	Pm	0.25	0.20					
ALK Filt	Pf/Mf	0.20/1.00	0.20/1.50					
Chlorides	mg/l	42,500	43,000					
Tot. Hardness	mg/l	400	400					400
LGS/HGS	% by Vol	2.0/1.3	1.5/1.5					
LGS/HGS	ppb	18.15/19.62	14.01/22.62					
ASG	SG	3.241	3.400					
Additional Properties								
KCl %	-	8.50	8.50					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add caustic soda to active & reserve fluid to maintain pH.

Add ALDACIDE-G to inhibit bacterial growth.

Pump 25 bbl hi-vis sweep following milling as part of casing patch operation. No increase in swarf observed at shakers.

Run centrifuges on active fluid in preparation for 8.5" section.

Rig Activity

Picked up & made up back up casing grapple RIH to top of fish at 103 m. Latched into fish POOH w/ fish to surface. Laid out 9 5/8" casing fish. Makeup wear bushing, RIH & land out, Dressed 12 1/4" milling assy & RIH & tag top casing @ 157 m. Start mill top of casing at 100 rpm/ 100 spm/ 500 gpm/ 250 psi. Pump hi-vis pill & circ 2 x bottoms up. POOH. Retrieve wear bushing. P/U 9 5/8" casing hanger f/ derrick. Backout 9 5/8" pup joint f/ below hanger. M/U casing patch to first joint of casing & RIH w/ same.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	25		1	24	$A173.09
caustic soda	25 kg can	28		1	27	$A54.28
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	73			73	
barite	1 tons bulk	124.900			124.900	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	32			32	

Daily Products Cost	$A227.37	Total Daily Cost	$A3,307.37
Cumulative Products Cost	$A405,335.28	Total Cumulative Cost	$A511,595.28

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 50 50 50	3.0
VSM-300	20 20 20 50 50 50	3.0
VSM-300	20 20 20 50 50 50	3.0
VSM-300	20 20 20 50 50 50	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	11.0

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	24.0
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	734.0	Dewatering		SCE	-5.2
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1884.6	Whole Mud		Trips	
Reserve	891.0	Barite		Other	
Prev Vol	2780.6	Chemicals	0.2	Total Surface	
Net Change	-5.0	Other		Downhole	
Total Vol	2775.6	Total	0.2	Total Losses	-5.2

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 35

Daily Drilling Fluid Report

Date 04/11/09		**Depth** 2,520.0 m	
Spud Date 06/10/09		**Rig Activity** Testing B.O.P.	
Operator ADA DRILLING	**Report For** Bryan Houston / Paul Leathem	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Lars Lovenholdt/ Ole Andreasen	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	22:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 14	9.40 @ 15				8.50	9.50
FV @ Deg C	sec/qt	62 @ 14	60 @ 15					
PV @ Deg C	cP	12 @ 49	10 @ 49					
YP	lbs/100 ft2	21	25					
GELS	lbs/100 ft2	11/14/17	11/15/17				8/-/-	14/-/-
600/300		45.0/33.0	45.0/35.0					
200/100		28.0/22.0	30.0/24.0					
6/3		11.0/10.0	11.0/10.0					
API Filt	ml/30 min	4.8	4.5					6.0
HTHP @ Deg C	ml/30 min	12.0 @ 121	11.2 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	3.1					
NAP/Water	% by Vol	-/93.2	-/93.4					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	10.5	10.0					25.0
pH @ Deg C		9.00 @ 15	9.00 @ 15				8.50	9.50
ALK Mud	Pm	0.30	0.20					
ALK Filt	Pf/Mf	0.25/1.25	0.20/1.50					
Chlorides	mg/l	42,500	43,000					
Tot. Hardness	mg/l	400	400					400
LGS/HGS	% by Vol	2.0/1.3	1.5/1.5					
LGS/HGS	ppb	18.15/19.62	14.01/22.62					
ASG	SG	3.241	3.400					
Additional Properties								
KCl %	-	8.50	8.50					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add caustic soda to active & reserve fluid to maintain pH.
Add ALDACIDE-G to inhibit bacterial growth.
Callibrate all mud balances & cleaned out hoppers.

Rig Activity

RIH 9 5/8" casing patch on landing string. Worked string & rotated string to the left in an attempt to engage casing patch grapple. Released casing running tool & POOH. Picked up & made up spear assy & RIH. Tag at 158 m, engaged grapple @ 160 m, Performed overpull to pull casing into casing patch. P/U to verify casing patch engaged. Not engaged. Repeat same procedure. Cont. to work casing string to get casing patch to engage & to energize seals. Confirmed casing patch seals energized. POOH casing spear. RIH w/ seal assy & set w/ 3000psi. Press test BOPs & C&K Manifold.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
sapp	25 kg bag	19		1	18	$A208.72
ALDACIDE G	25 kg can	24		1	23	$A173.09
caustic soda	25 kg can	27		2	25	$A108.56
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	73			73	
barite	1 tons bulk	124.900			124.900	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	

Daily Products Cost	$A490.37	Total Daily Cost	$A3,570.37
Cumulative Products Cost	$A405,825.65	Total Cumulative Cost	$A515,165.65

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 50 50 50 50	0.3
VSM-300	20 20 20 50 50 50 50	0.3
VSM-300	20 20 20 50 50 50 50	0.3
VSM-300	20 20 20 50 50 50 50	0.3

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	19.5
Run Casing	
Coring	
Reaming	
Testing	4.5
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	734.2	Dewatering		SCE	
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1884.8	Whole Mud		Trips	
Reserve	891.0	Barite		Other	
Prev Vol	2775.6	Chemicals	0.3	Total Surface	
Net Change	0.3	Other		Downhole	
Total Vol	2775.8	Total	0.3	Total Losses	

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 36

Daily Drilling Fluid Report

Date 05/11/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Repair rig	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:30	20:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 16	9.40 @ 15				8.50	9.50
FV @ Deg C	sec/qt	62 @ 16	61 @ 15					
PV @ Deg C	cP	11 @ 49	10 @ 49					
YP	lbs/100 ft2	21	26					
GELS	lbs/100 ft2	11/15/19	12/15/19				8/-/-	14/-/-
600/300		43.0/32.0	46.0/36.0					
200/100		28.0/23.0	31.0/25.0					
6/3		11.0/10.0	11.0/10.0					
API Filt	ml/30 min	4.2	4.4					6.0
HTHP @ Deg C	ml/30 min	10.5 @ 121	11.0 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	3.1					
NAP/Water	% by Vol	-/93.2	-/93.3					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	11.0	11.0					25.0
pH @ Deg C		9.00 @ 15	9.00 @ 15				8.50	9.50
ALK Mud	Pm	0.50	0.20					
ALK Filt	Pf/Mf	0.35/1.40	0.20/1.60					
Chlorides	mg/l	42,500	44,000					
Tot. Hardness	mg/l	380	400					400
LGS/HGS	% by Vol	2.0/1.3	1.6/1.4					
LGS/HGS	ppb	18.15/19.62	15.03/21.24					
ASG	SG	3.241	3.346					
Additional Properties								
KCl %	-	8.50	8.50					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add ALDACIDE-G to inhibit bacterial growth.

Add BARAZAN-D PLUS to maintain rheology of reserve volume.

Perform mud lab stock check.

Rig Activity

Cont. to test BOPs & C&K manifold (250 psi low/ 5000 psi high). Release running tool w/ 60klbs overpull & POOH. Lay out excess BHA f/ derrick. Troubleshoot top drive hydraulic system & pipe handler & alignment problems.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	73		2	71	$A430.68
ALDACIDE G	25 kg can	23		1	22	$A173.09
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	124.900			124.900	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
caustic soda	25 kg can	25			25	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	32			32	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	3.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	3.0
Logging	
Dir Work	
Repair	17.5
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	734.5	Dewatering		SCE	
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1885.1	Whole Mud		Trips	
Reserve	891.0	Barite		Other	
Prev Vol	2775.8	Chemicals	0.3	Total Surface	
Net Change	0.3	Other		Downhole	
Total Vol	2776.1	Total	0.3	Total Losses	

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A603.77	Total Daily Cost	$A3,683.77
Cumulative Products Cost	$A406,429.42	Total Cumulative Cost	$A518,849.42

Baroid Representatives	Mike Lawrance	James Munford	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 37

Daily Drilling Fluid Report

Date 06/11/09		Depth 2,520.0 m	
Spud Date 06/10/09		Rig Activity Tripping	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	9.625	in
Make/Type	SMITH/csg	
Jets		
TFA	32.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,520.0	m
ECD @ Csg Shoe	9.40	ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.000	100.0
Drill Pipe	9.625	8.728	2,420.0
Riser	18.750		95.0
Open Hole	12.250		1,590.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0

Leak Off ppg 15.15

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	Hyd 2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		11:00	20:00					
Depth	m	2,520	2,520					
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 15	9.40 @ 15				8.50	9.50
FV @ Deg C	sec/qt	65 @ 15	62 @ 15					
PV @ Deg C	cP	11 @ 49	12 @ 49					
YP	lbs/100 ft2	26	23					
GELS	lbs/100 ft2	10/15/19	11/15/19				8/-/-	14/-/-
600/300		48.0/37.0	47.0/35.0					
200/100		32.0/26.0	30.0/25.0					
6/3		12.0/10.0	12.0/10.0					
API Filt	ml/30 min	4.0	4.0					6.0
HTHP @ Deg C	ml/30 min	9.8 @ 121	9.7 @ 121					15.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.3	3.5					
NAP/Water	% by Vol	-/93.2	-/93.0					
Sand	% by vol	0.25	0.25					1.0
MBT	ppb Eq.	11.0	11.0					25.0
pH @ Deg C		9.50 @ 15	9.50 @ 15				8.50	9.50
ALK Mud	Pm	0.30	0.30					
ALK Filt	Pf/Mf	0.20/1.70	0.20/1.60					
Chlorides	mg/l	42,500	43,000					
Tot. Hardness	mg/l	380	400					400
LGS/HGS	% by Vol	2.0/1.3	2.4/1.1					
LGS/HGS	ppb	18.15/19.62	21.45/16.71					
ASG	SG	3.241	3.121					
Additional Properties								
KCl %	-	8.50	8.50					

Fluid Treatments

Fluid Type 12 1/4" KCl/Polymer

Add caustic to surface volume to maintain pH.

Add ALDACIDE-G to inhibit bacterial growth.

Arrange flowline so sandtraps are by-passsed in anticipation of receiving poor quality fluid f/ bottom's up. This will ensure that the minimum volume of fluid is effected by any potential deterioration.

Rig Activity

Cont. to troubleshoot TD hydraulic system & alignment problem. Change out saver sub, test TDS, Torque wrench, alignment test hook, position indicator on compensator. P/U & M/U near bushing & RIH same. M/U RTTS RT & RIH - circ 10mins. Set RTTS packer. POOH RTTS packer & L/O same. RIH 5" DP f/ deck.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	22		1	21	$A173.09
caustic soda	25 kg can	25		1	24	$A54.28
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	71			71	
barite	1 tons bulk	124.900			124.900	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
OXYGON	50 lb can	40			40	
PAC-L	25 kg bag	118			118	
potassium chloride	1000 kg bag	15			15	
potassium hydroxide	20 kg pail	32			32	

Daily Products Cost	$A227.37	Total Daily Cost	$A3,307.37
Cumulative Products Cost	$A406,656.79	Total Cumulative Cost	$A522,156.79

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 50 50 50 50	4.0
VSM-300	20 20 20 50 50 50 50	4.0
VSM-300	20 20 20 50 50 50 50	4.0
VSM-300	20 20 20 50 50 50 50	4.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	11.0
Rig	
Surveys	
Fishing	
Run Casing	1.5
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	11.0
Other	0.5
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 12 1/4" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	560.2	Base		Fluid Dumped	
Pipe Cap	590.4	Drill Water		Transferred	
Active Pits	734.7	Dewatering		SCE	
Total Hole	1150.6	Sea Water		Evaporation	
Total Circ	1885.3	Whole Mud		Trips	
Reserve	891.0	Barite		Other	
Prev Vol	2776.1	Chemicals	0.2	Total Surface	
Net Change	0.2	Other		Downhole	
Total Vol	2776.3	Total	0.2	Total Losses	

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Baroid Representatives	Mike Lawrance	Fergus Spencer	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 38

Daily Drilling Fluid Report

Date 07/11/09		Depth 2,523.0 m	
Spud Date 06/10/09		Rig Activity Tripping	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information		Drill String (in) / (m)			in Casing m			Circulation/Hydraulics Data			
		OD	ID	Length	OD	Set	MD				
Bit Size	in				30.000	@	144.0	Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Make/Type					20.000	@	153.0	Bore in	6.500	6.500	6.500
Jets					13.375	@	930.0	Strokes in	12.000	12.000	12.000
TFA	sq-in				9.625	@	2,520.0	Eff(%)	97	97	97
Jets Velocity	ft/sec							bbl/strk	0.119	0.119	0.119
Jet Impact Force	lbf							SPM	0	0	0
Bit HHSI	hhp/in2							gpm|bbl/min			
Press Drop @ Bit	psi							Total GPM		AV, Riser	Circ Press psi
Bit Depth	m	Riser	18.750	95.0				Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	ppg	Open Hole	8.500	3.0				BU Time , min		AV max DC	Press Drop DP
ECD @ Bit	ppg				Form Integrity ppg		11.00	Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	4	Targets		Program	
Source		Pit #2	Pit #2	Pit #2	Pit #2				
Time		7:30	13:00	15:30	22:00				
Depth	m	2,520	2,523	2,523	2,523				
FL Temp	Deg C		43						
Density @ Deg C	ppg	9.40 @ 14	9.35 @ 32	9.35 @ 27	9.35 @ 27			9.00	10.00
FV @ Deg C	sec/qt	66 @ 14	47 @ 32	49 @ 27	56 @ 27				
PV @ Deg C	cP	11 @ 49	12 @ 49	12 @ 49	11 @ 49				
YP	lbs/100 ft2	25	30	28	32				
GELS	lbs/100 ft2	9/15/18	10/14/19	10/15/18	12/15/17				
600/300		47.0/36.0	54.0/42.0	52.0/40.0	54.0/43.0				
200/100		32.0/26.0	37.0/29.0	36.0/28.0	37.0/30.0				
6/3		10.0/9.0	11.0/10.0	11.0/10.0	15.0/12.0				
API Filt	ml/30 min	4.0	4.5	4.5	4.5				
HTHP @ Deg C	ml/30 min	10.5 @ 121	12.0 @ 121	11.5 @ 121	11.5 @ 121				13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2				
Corr Solid	% by Vol	3.3	3.2	3.3	3.3				
NAP/Water	% by Vol	-/93.2	-/93.3	-/93.3	-/93.4				
Sand	% by vol	0.25	0.25	0.25	0.25				1.0
MBT	ppb Eq.	12.0	12.0	11.0	11.0				25.0
pH @ Deg C		9.00 @ 19	9.50 @ 22	9.00 @ 21	9.00 @ 21			8.50	9.50
ALK Mud	Pm	0.20	0.30	0.30	0.30				
ALK Filt	Pf/Mf	0.15/1.60	0.25/1.90	0.20/1.90	0.15/2.00				
Chlorides	mg/l	42,500	43,000	41,000	40,000				
Tot. Hardness	mg/l	400	360	360	400				
LGS/HGS	% by Vol	2.0/1.3	2.1/1.1	2.3/1.0	2.2/1.1				
LGS/HGS	ppb	18.15/19.62	19.28/15.63	20.95/15.44	19.91/16.83				
ASG	SG	3.241	3.135	3.101	3.149				
Additional Properties									
KCl %	-	8.50	8.50	8.20	8.20				

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Treat & condition mud following circulating bottoms up: Add caustic to increase pH, Soda ash to reduce Calcium concentration, ALDACIDE G to inhibit bacterial growth, BARAZAN-D PLUS to maintain programmed rheology, PAC-LE for filtration control. Add OXYGON corrosion inhibitor as per program. Utilize sandtraps following fluid conditioning. CLAYSEAL PLUS & EZ-MUD to be added as soon as drilling commences. Pump 25 bbl hi-vis sweep following drilling formation - no increase in shaker discharge seen. Prepare slug. 2308 bbl of mud transferred f/ 12 1/4" fluid set to 8.5" fluid set.

Rig Activity

RIH, wash & ream f/ 2402 - 2494 m, Drill out shoe track @ 2520 m to 2423 m, Pump 25 bbl hi-vis pill, circulate hole clean while installing geo services bracket, Rig up for LOT, Perform LOT, Rig down LOT, Pump slug, POOH, M/U 8 1/2" BHA#39.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	71		6	65	$A1,292.04
OXYGON	50 lb can	40		1	39	$A572.03
PAC-L	25 kg bag	118		3	115	$A480.96
caustic soda	25 kg can	24		8	16	$A434.24
ALDACIDE G	25 kg can	21		2	19	$A346.18
soda ash	25 kg bag	26		3	23	$A91.26
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	124.900			124.900	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	64			64	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	153			153	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	189			189	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
potassium chloride	1000 kg bag	15			15	

Daily Products Cost	$A3,216.71	Total Daily Cost	$A6,296.71
Cumulative Products Cost	$A409,873.50	Total Cumulative Cost	$A528,453.50

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 50 50 50 50	4.0
VSM-300	20 20 20 50 50 50 50	4.0
VSM-300	20 20 20 50 50 50 50	4.0
VSM-300	20 20 20 50 50 50 50	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	1.5
Circulating	
Trips	17.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	1.5
Testing	
Logging	
Dir Work	
Repair	
Other	3.5
Total	24.0
Rotating	3.0
ROP	6.6
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	750.0	Dewatering		SCE	-1.5
Total Hole	695.9	Sea Water		Evaporation	-2.0
Total Circ	750.0	Whole Mud	2308.4	Trips	
Reserve	861.0	Barite		Other	
Prev Vol		Chemicals	2.1	Total Surface	
Net Change	2307.0	Other		Downhole	
Total Vol	2306.9	Total	2310.5	Total Losses	-3.5

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Baroid Representatives	Mike Lawrance	Fergus Spencer	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 39

Daily Drilling Fluid Report

Date 08/11/09		Depth 2,629.0 m	
Spud Date 06/10/09		Rig Activity Drilling	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500	in
Make/Type	SMITH TOOL CO/Mi616VBPX	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity	251	ft/sec
Jet Impact Force	858.9	lbf
Bit HHSI	3.82	hhp/in2
Press Drop @ Bit	526	psi
Bit Depth	2,629.0	m
ECD @ Csg Shoe	10.12	ppg
ECD @ Bit	10.20	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.250	2,341.4
Drill Pipe	6.625	3.000	141.1
Drill Collar	6.750	2.875	146.4
Riser	18.750		95.0
Open Hole	8.500		109.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	78	63	0
gpm|bbl/min	391 | 9.32	316 | 7.52	
Total GPM	707	AV, Riser 53.1	Circ Press psi 2515
Total Circ Time	77	AV min DP 338.7	Tot Pres Loss 3748
BU Time , min	29	AV max DC 649.6	Press Drop DP 2649
Total Strokes	10,815	BU Strokes 4,099	Press Drop An 383

Properties

		1	2	3	Hyd 4	Targets	Program	
Source		Pit #2	Pit #2	Pit #2	Pit #2			
Time		13:40	16:50	4:30	21:30			
Depth	m	2,529	2,556	2,523	2,608			
FL Temp	Deg C	41	48	47	54			
Density @ Deg C	ppg	9.35 @ 37	9.35 @ 38	9.35 @ 27	9.35 @ 38		9.00	10.00
FV @ Deg C	sec/qt	47 @ 37	45 @ 38	52 @ 27	46 @ 38			
PV @ Deg C	cP	11 @ 49	12 @ 49	12 @ 49	13 @ 49			
YP	lbs/100 ft2	27	26	29	26			
GELS	lbs/100 ft2	10/14/18	11/14/18	10/15/19	12/15/16			
600/300		49.0/38.0	50.0/38.0	53.0/41.0	52.0/39.0			
200/100		33.0/27.0	34.0/27.0	36.0/29.0	35.0/27.0			
6/3		12.0/10.0	12.0/11.0	12.0/10.0	14.0/11.0			
API Filt	ml/30 min	4.5	4.5	4.5	5.0			
HTHP @ Deg C	ml/30 min	10.5 @ 121	10.2 @ 121	11.0 @ 121	10.2 @ 121			13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	3.3	3.2	3.2	3.5			
NAP/Water	% by Vol	-/93.3	-/93.3	-/93.3	-/93.2			
Sand	% by vol	0.25	0.25	0.30	0.25			1.0
MBT	ppb Eq.	11.0	11.0	12.0	11.0			25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 21	9.00 @ 22		8.50	9.50
ALK Mud	Pm	0.25	0.30	0.25	0.10			
ALK Filt	Pf/Mf	0.20/1.75	0.15/1.90	0.20/1.85	0.15/1.95			
Chlorides	mg/l	42,000	42,500	42,500	41,000			
Tot. Hardness	mg/l	380	360	340	375			
LGS/HGS	% by Vol	2.2/1.1	2.2/1.1	2.2/1.1	2.5/0.9			
LGS/HGS	ppb	20.12/15.53	19.70/15.58	19.70/15.58	22.80/13.96			
ASG	SG	3.117	3.126	3.126	3.040			
Additional Properties								
KCl %	-	8.50	8.50	8.50	8.50			

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Add CLAYSEAL PLUS & EZ-MUD to active fluid on the commencement of drilling.
Add Caustic to maintain pH.
Add water to offset loss through evaporation.
Add OXYGON to programmed concentration.
Adding a slow stream water to maintain active phase.
Change lower shaker deck to API 100 mesh screens.
Run Centrifuges to control solids.

Rig Activity

Continue to M/U 8 1/2" BHA #39, Test downlaod MWD - install radioactive sources, Cont M/U 8 1/2" BHA & RIH, Shallow test MWD, Cont. to RIH. Ream down f/ 2457 to 2514, Ream through shoe @ 2520 m, POOH to shoe for geo services to trouble shoot systems, Continue to drill f/ 2540 to 2629 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	64		8	56	$A12,076.56
Techmesh 175 (API 100)	1 each box	16		8	8	$A4,479.68
EZ-MUD	25 kg pail	189		23	166	$A2,184.77
OXYGON	50 lb can	39		2	37	$A1,144.06
potassium hydroxide	20 kg pail	32		3	29	$A396.33
PAC-L	25 kg bag	115		2	113	$A320.64
caustic soda	25 kg can	16		3	13	$A162.84
DEXTRID LTE	25 kg sack	153		3	150	$A158.94
ALDACIDE G	25 kg can	19			19	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	65			65	
barite	1 tons bulk	124.900			124.900	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CON DET	5 gal can	32			32	
EZ SPOT	55 gal drum	5			5	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	8.0
VSM-300	20 20 20 100 100 100 100	16.0
VSM-300	20 20 20 100 100 100 100	16.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	11.0

Time

Drilling	8.5
Circulating	
Trips	7.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	3.5
Testing	
Logging	
Dir Work	
Repair	
Other	5.0
Total	24.0
Rotating	12.0
ROP	40.9
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	489.5	Base		Fluid Dumped	
Pipe Cap	87.2	Drill Water	15.9	Transferred	
Active Pits	715.0	Dewatering		SCE	-64.0
Total Hole	576.7	Sea Water		Evaporation	-48.0
Total Circ	1291.7	Whole Mud		Trips	
Reserve	934.0	Barite		Other	
Prev Vol	2306.9	Chemicals	15.1	Total Surface	
Net Change	-81.0	Other		Downhole	
Total Vol	2225.7	Total	31.0	Total Losses	-112.0

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5 m
Survey TVD	2,484.2 m
Angle	1.06 Deg
Direction	90
Horiz Displ.	23.5 m

Daily Products Cost	$A20,923.82	Total Daily Cost	$A24,003.82
Cumulative Products Cost	$A430,797.32	Total Cumulative Cost	$A552,457.32

Baroid Representatives	Mike Lawrance	Fergus Spencer	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 40

Daily Drilling Fluid Report

Date 09/11/09		Depth 2,633.0 m	
Spud Date 06/10/09		Rig Activity Tripping	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500	in
Make/Type	SMITH TOOL CO/Mi616VBPX	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	93.0	m
ECD @ Csg Shoe	9.40	ppg
ECD @ Bit	9.40	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Collar	6.750	2.875	93.0
Riser	18.750		95.0
Open Hole	8.500		113.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	Hyd 4	Targets	Program	
Source		Pit #2	Pit #2	Pit #2	Pit #2			
Time		10:00	17:00	2:30	21:30			
Depth	m	2,633	2,633	2,633	2,633			
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 31	9.40 @ 27	9.35 @ 38	9.40 @ 30		9.00	10.00
FV @ Deg C	sec/qt	53 @ 31	55 @ 27	46 @ 38	68 @ 30			
PV @ Deg C	cP	11 @ 49	11 @ 49	12 @ 49	11 @ 49			
YP	lbs/100 ft2	25	26	28	26			
GELS	lbs/100 ft2	11/15/17	11/16/19	12/14/16	10/12/14			
600/300		47.0/36.0	48.0/37.0	52.0/40.0	48.0/37.0			
200/100		32.0/26.0	33.0/27.0	35.0/28.0	32.0/25.0			
6/3		11.0/10.0	12.0/10.0	12.0/10.0	11.0/9.0			
API Filt	ml/30 min	4.8	4.5	5.0	4.7			
HTHP @ Deg C	ml/30 min	10.5 @ 121	10.5 @ 121	10.5 @ 121	10.5 @ 121			13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	3.2	3.2	3.3	3.3			
NAP/Water	% by Vol	-/93.3	-/93.3	-/93.3	-/93.3			
Sand	% by vol	0.25	0.25	0.25	0.25			1.0
MBT	ppb Eq.	13.0	12.5	11.0	11.0			25.0
pH @ Deg C		9.50 @ 22	9.50 @ 22	9.00 @ 22	9.00 @ 22		8.50	9.50
ALK Mud	Pm	0.30	0.30	0.15	0.30			
ALK Filt	Pf/Mf	0.25/1.85	0.25/1.90	0.20/1.90	0.25/1.90			
Chlorides	mg/l	42,500	42,500	41,000	41,000			
Tot. Hardness	mg/l	380	360	385	375			
LGS/HGS	% by Vol	1.8/1.4	1.8/1.4	2.3/1.0	1.9/1.4			
LGS/HGS	ppb	16.29/21.09	16.29/21.09	20.95/15.44	17.53/20.95			
ASG	SG	3.312	3.312	3.101	3.280			
Additional Properties								
KCl %	-	8.50	8.50	8.40	8.50			

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Add caustic to maintain pH.

Add ALDACIDE-G to inhibit bacterial growth.

Inspect & maintain shaker screens.

Receive Brine f/ Far Scimitar.

Rig Activity

Cont. drill 8.5" hole f/ 2629 m - 2633 m, No MWD signal - attempt to retrieve. CBU, POOH f/ 2633 to shoe @ 2520, Flow check static pump, pump 25 bbl slug, POOH 2633 m to 403 m, Flow check cont, POOH BHA 403 m to surface, Download radio active sources & rack back BHA in derrick, Rig repair - welder making bracket & install same for geo line, Make up BHA & start to RIH.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
barite	1 tons bulk	124.900		5.000	119.900	$A3,652.90
ALDACIDE G	25 kg can	19		1	18	$A173.09
caustic soda	25 kg can	13		1	12	$A54.28
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	65			65	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal 60/16	25 kg bag	181			181	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	56			56	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	150			150	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	166			166	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
Omyacarb 5	25 kg bag	40			40	
OXYGON	50 lb can	37			37	
PAC-L	25 kg bag	113			113	
potassium chloride	1000 kg bag	15	18		33	
potassium hydroxide	20 kg pail	29			29	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	8.0
VSM-300	20 20 20 100 100 100 100	8.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	0.5
Circulating	
Trips	7.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	5.0
Other	11.5
Total	24.0
Rotating	0.5
ROP	26.2
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	90.7	Base		Fluid Dumped	
Pipe Cap	2.4	Drill Water	8.8	Transferred	
Active Pits	676.7	Dewatering		SCE	-12.0
Total Hole	710.2	Sea Water		Evaporation	-3.0
Total Circ	769.8	Whole Mud		Trips	
Reserve	839.0	Barite	7.5	Other	
Prev Vol	2225.7	Chemicals	0.2	Total Surface	
Net Change	1.5	Other		Downhole	
Total Vol	2225.9	Total	16.5	Total Losses	-15.0

Fluid Types Vol bbl

Deviation Information

Survey MD	2,484.5	m
Survey TVD	2,484.2	m
Angle	1.06	Deg
Direction	90	
Horiz Displ.	23.5	m

Daily Products Cost	$A3,880.27	Total Daily Cost	$A6,960.27
Cumulative Products Cost	$A434,677.59	Total Cumulative Cost	$A559,417.59

Baroid Representatives	Mike Lawrance	Fergus Spencer	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 41

Daily Drilling Fluid Report

Date 10/11/09		Depth 2,774.0 m	
Spud Date 06/10/09		Rig Activity Drilling	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500	in
Make/Type	SMITH TOOL CO/Mi616VBPX	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity	260	ft/sec
Jet Impact Force	925.8	lbf
Bit HHSI	4.27	hhp/in2
Press Drop @ Bit	567	psi
Bit Depth	2,774.0	m
ECD @ Csg Shoe	10.00	ppg
ECD @ Bit	10.34	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.250	2,486.4
Drill Pipe	6.625	3.000	141.1
Drill Collar	6.750	2.875	146.4
Riser	18.750		95.0
Open Hole	8.500		254.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	67	79
gpm|bbl/min		336 8.00	396 9.44
Total GPM	732	AV, Riser	55.0 Circ Press psi 2500
Total Circ Time	74	AV min DP	350.7 Tot Pres Loss 3665
BU Time , min	29	AV max DC	672.6 Press Drop DP 2492
Total Strokes	10,786	BU Strokes	4,280 Press Drop An 444

Properties		1	2	3	Hyd 4	Targets	Program	
Source		Pit #2	Pit #2	Pit #2	Pit #2			
Time		10:00	14:30	5:00	20:00			
Depth	m	2,633	2,665	2,633	2,743			
FL Temp	Deg C		53		54			
Density @ Deg C	ppg	9.45 @ 32	9.40 @ 42	9.40 @ 30	9.40 @ 45		9.00	10.00
FV @ Deg C	sec/qt	54 @ 32	46 @ 42	68 @ 30	46 @ 45			
PV @ Deg C	cP	11 @ 49	12 @ 49	11 @ 49	10 @ 49			
YP	lbs/100 ft2	25	25	26	28			
GELS	lbs/100 ft2	11/15/19	10/16/20	10/14/19	10/12/14			
600/300		47.0/36.0	49.0/37.0	48.0/37.0	48.0/38.0			
200/100		32.0/25.0	32.0/25.0	32.0/25.0	32.0/25.0			
6/3		11.0/10.0	11.0/9.0	11.0/9.0	10.0/8.0			
API Filt	ml/30 min	4.5	4.5	4.8	5.0			
HTHP @ Deg C	ml/30 min	11.5 @ 121	11.5 @ 121	10.5 @ 121	11.0 @ 121			13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	3.5	3.4	3.3	3.5			
NAP/Water	% by Vol	-/93.0	-/93.2	-/93.3	-/93.2			
Sand	% by vol	0.30	0.25	0.25	0.25			1.0
MBT	ppb Eq.	12.5	13.0	11.0	12.0			25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22	9.00 @ 22		8.50	9.50
ALK Mud	Pm	0.20	0.30	0.30	0.30			
ALK Filt	Pf/Mf	0.15/1.90	0.25/1.95	0.25/1.90	0.25/2.20			
Chlorides	mg/l	42,500	42,000	41,500	40,000			
Tot. Hardness	mg/l	380	380	375	220			
LGS/HGS	% by Vol	2.0/1.5	2.0/1.3	1.9/1.4	2.2/1.3			
LGS/HGS	ppb	18.45/22.18	18.56/19.57	17.12/21.00	20.21/19.39			
ASG	SG	3.283	3.232	3.291	3.196			
Additional Properties								
KCl %	-	8.50	8.50	8.50	8.50			

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Add CLAYSEAL PLUS & EZ-MUD to maintain concentration as per program, Circal 60/16 and Omyacarb#5 bridging agents to offset losses from solids control equipment, DEXTRID LTE & PAC-LE to maintain low filtration & Caustic to maintain pH.
Add water to active fluid set to offset loss f/ evaporation & to ensure hydration of polymer addition. Run centrifuges to control LGS build up.
Run only 2 shakers so as to promote more efficient discharge of cuttings. Pre-build slug & hi-vis sweep in preparation for reaching first coring point.

Rig Activity

Cont M/U 8 1/2" BHA#39 & RIH, Test MWD, Cont. RIH BHA & 5" DP, TBT hang off blocks spool off wire & cut same, shift handover - TBT w/ oncoming crew, cont to slip & cut drill line, service top drive & inspect same, Drill 8 1/2" hole f/ 2633 m to 2644 m, Taken losses w/ problems in shakers - unblock flowline, Back on botton drill 8 1/2" f/ 2644 m to 2774 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	65		18	47	$A3,876.12
CLAYSEAL PLUS	55 gal drum	56		2	54	$A3,019.14
PAC-L	25 kg bag	113		15	98	$A2,404.80
DEXTRID LTE	25 kg sack	150		24	126	$A1,271.52
EZ-MUD	25 kg pail	166		8	158	$A759.92
barite	1 tons bulk	119.900		1.000	118.900	$A730.58
Omyacarb 5	25 kg bag	40		18	22	$A311.58
Circal 60/16	25 kg bag	181		20	161	$A253.60
caustic soda	25 kg can	12		4	8	$A217.12
soda ash	25 kg bag	23		1	22	$A30.42
ALDACIDE G	25 kg can	18			18	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000			33.000	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CON DET	5 gal can	32			32	
EZ SPOT	55 gal drum	5			5	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	126			126	
OXYGON	50 lb can	37			37	
potassium chloride	1000 kg bag	33			33	

Daily Products Cost	$A12,874.80	Total Daily Cost	$A15,954.80
Cumulative Products Cost	$A447,552.39	Total Cumulative Cost	$A575,372.39

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	14.0
VSM-300	20 20 20 100 100 100 100	14.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	14.0

Time

Drilling	13.5
Circulating	
Trips	4.5
Rig	0.5
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	5.5
Total	24.0
Rotating	13.5
ROP	34.3
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	511.2	Base		Fluid Dumped	
Pipe Cap	92.1	Drill Water	20.0	Transferred	
Active Pits	685.0	Dewatering		SCE	-115.0
Total Hole	603.3	Sea Water		Evaporation	-35.0
Total Circ	1288.3	Whole Mud		Trips	
Reserve	821.3	Barite	1.5	Other	
Prev Vol	2225.9	Chemicals	12.2	Total Surface	
Net Change	-116.3	Other		Downhole	
Total Vol	2109.6	Total	33.7	Total Losses	-150.0

Fluid Types Vol bbl

Deviation Information

Survey MD	2,762.6	m
Survey TVD	2,762.2	m
Angle	1.85	Deg
Direction	90	
Horiz Displ.	23.5	m

Baroid Representatives	Mike Lawrance	Fergus Spencer	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

HALLIBURTON | Fluid Systems

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Baroid Fluid Services

Report No 42

Daily Drilling Fluid Report

Date 11/11/09		Depth 2,983.0 m	
Spud Date 06/10/09		Rig Activity Tripping	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500	in
Make/Type	SMITH TOOL CO/Mi616VBPX	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,669.0	m
ECD @ Csg Shoe	9.45	ppg
ECD @ Bit	9.45	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.250	2,381.4
Drill Pipe	6.625	3.000	141.1
Drill Collar	6.750	2.875	146.4
Riser	18.750		95.0
Open Hole	8.500		463.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	Hyd 4	Targets	Program	
Source		Pit #2	Pit #2	Pit #2	Pit #2			
Time		10:00	15:30	3:00	20:00			
Depth	m	2,923	2,954	2,832	2,983			
FL Temp	Deg C	58	56	57	56			
Density @ Deg C	ppg	9.40 @ 46	9.35 @ 51	9.40 @ 45	9.45 @ 52		9.00	10.00
FV @ Deg C	sec/qt	52 @ 46	47 @ 51	46 @ 45	46 @ 52			
PV @ Deg C	cP	13 @ 49	12 @ 49	14 @ 49	14 @ 49			
YP	lbs/100 ft2	32	35	25	29			
GELS	lbs/100 ft2	10/15/19	10/15/19	9/12/18	9/12/15			
600/300		58.0/45.0	59.0/47.0	53.0/39.0	57.0/43.0			
200/100		38.0/29.0	39.0/31.0	32.0/25.0	37.0/28.0			
6/3		12.0/9.0	12.0/9.0	10.0/9.0	11.0/9.0			
API Filt	ml/30 min	4.5	4.7	4.5	5.0			
HTHP @ Deg C	ml/30 min	10.5 @ 121	11.5 @ 121	11.0 @ 121	11.0 @ 121			13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	3.3	3.3	3.3	3.4			
NAP/Water	% by Vol	-/93.3	-/93.3	-/93.3	-/93.3			
Sand	% by vol	0.25	0.30	0.25	0.25			1.0
MBT	ppb Eq.	13.5	14.0	11.0	12.0			25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22	9.00 @ 22		8.50	9.50
ALK Mud	Pm	0.35	0.30	0.30	0.30			
ALK Filt	Pf/Mf	0.30/1.85	0.25/1.95	0.15/1.90	0.25/2.00			
Chlorides	mg/l	41,000	41,000	41,000	40,000			
Tot. Hardness	mg/l	320	320	250	350			
LGS/HGS	% by Vol	1.9/1.4	2.3/1.0	1.9/1.4	1.6/1.8			
LGS/HGS	ppb	17.53/20.95	20.95/15.44	17.53/20.95	14.95/26.38			
ASG	SG	3.280	3.101	3.280	3.435			
Additional Properties								
KCl %	-	8.20	8.20	8.40	8.30			

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Maintain properties w/ addition of reserve volume.
Phase in N-DRILL HT PLUS Filtration control agent in response to increasing Bottom Hole Temperature.
Add EZ-MUD & CLAYSEAL PLUS to maintain programmed concentration.
Add OXYGON - corrosion inhibitor & ALDACIDE-G - bactericide prior to POOH.
Run centrifuges to control solids.
Note: the 13 Mt Bentonite received represents a correction that is consistent with an adjustment made by the Kan Tan IV control room.

Rig Activity

Cont. drill 8 1/2" hole f/ 2774 to 2950 m, Rack back stand #93 & circulate well clean, Drill 2950 to 2968 m, Circulate well clean from 2968, Take SCR's at 2968 m, Drill 2968 to 2983 m TD, Circulate bottoms up core point - Flow check static circulate hole clean, POOH f/ 2870 to 2669 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	54		4	50	$A6,038.28
EZ-MUD	25 kg pail	158		18	140	$A1,709.82
OXYGON	50 lb can	37		2	35	$A1,144.06
N-DRIL HT PLUS	50 lb bag	126		6	120	$A893.10
ALDACIDE G	25 kg can	18		3	15	$A519.27
caustic soda	25 kg can	8		8		$A434.24
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	47			47	
barite	1 tons bulk	118.900			118.900	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	33.000	13.000		46.000	
Circal 60/16	25 kg bag	161			161	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
Omyacarb 5	25 kg bag	22			22	
PAC-L	25 kg bag	98			98	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	29			29	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	24.0
VSM-300	20 20 20 100 100 100 100	24.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	22.0

Time

Drilling	18.0
Circulating	2.0
Trips	0.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	3.5
Total	24.0
Rotating	18.0
ROP	38.1
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	495.5	Base		Fluid Dumped	
Pipe Cap	88.6	Drill Water	26.7	Transferred	
Active Pits	640.0	Dewatering		SCE	-142.0
Total Hole	656.4	Sea Water		Evaporation	-44.0
Total Circ	1224.1	Whole Mud		Trips	
Reserve	663.6	Barite		Other	
Prev Vol	2109.6	Chemicals	9.8	Total Surface	
Net Change	-149.5	Other		Downhole	
Total Vol	1960.0	Total	36.5	Total Losses	-186.0

Fluid Types Vol bbl

Deviation Information

Survey MD	2,963.2	m
Survey TVD	2,962.7	m
Angle	2.93	Deg
Direction	85	
Horiz Displ.	27.3	m

Daily Products Cost	$A10,738.77	Total Daily Cost	$A13,818.77
Cumulative Products Cost	$A458,291.16	Total Cumulative Cost	$A589,191.16

Baroid Representatives	Mike Lawrance	Fergus Spencer	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 43

Daily Drilling Fluid Report

Date 12/11/09		Depth 2,988.0 m	
Spud Date 06/10/09		Rig Activity Core Operations	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500 in
Make/Type	SMITH TOOL CO/Mi616VBPX
Jets	6x14
TFA	0.902 sq-in
Jets Velocity	73 ft/sec
Jet Impact Force	73.0 lbf
Bit HHSI	0.09 hhp/in2
Press Drop @ Bit	45 psi
Bit Depth	2,988.0 m
ECD @ Csg Shoe	9.81 ppg
ECD @ Bit	9.95 ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.250	2,700.4
Drill Pipe	6.625	3.000	141.1
Drill Collar	6.750	2.875	146.4
Riser	18.750		95.0
Open Hole	8.500		468.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	41	0	0
gpm|bbl/min	206 | 4.90		
Total GPM	206	AV, Riser	15.4
Total Circ Time	267	AV min DP	98.5
BU Time , min	111	AV max DC	188.9
Total Strokes	10,956	BU Strokes	4,548
Circ Press psi	620		
Tot Pres Loss	814		
Press Drop DP	463		
Press Drop An	280		

Properties		1	2	3	Hyd 4	Targets	Program	
Source		Pit #2	Pit #2	Pit #2	Pit #2			
Time		4:00	10:30	16:30	22:00			
Depth	m	2,983	2,983	2,984	2,987			
FL Temp	Deg C							
Density @ Deg C	ppg	9.40 @ 42	9.35 @ 35	9.40 @ 37	9.40 @ 38		9.00	10.00
FV @ Deg C	sec/qt	55 @ 42	59 @ 35	52 @ 37	52 @ 38			
PV @ Deg C	cP	13 @ 49	12 @ 49	14 @ 49	14 @ 49			
YP	lbs/100 ft2	31	29	31	30			
GELS	lbs/100 ft2	10/15/19	10/15/18	9/12/15	10/12/14			
600/300		57.0/44.0	53.0/41.0	59.0/45.0	58.0/44.0			
200/100		37.0/29.0	34.0/27.0	38.0/30.0	37.0/29.0			
6/3		11.0/9.0	11.0/9.0	11.0/9.0	11.0/9.0			
API Filt	ml/30 min	4.8	4.5	5.0	5.0			
HTHP @ Deg C	ml/30 min	12.0 @ 121	11.5 @ 121	11.5 @ 121	11.0 @ 121			13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2	1/2			
Corr Solid	% by Vol	3.4	3.3	3.4	3.4			
NAP/Water	% by Vol	-/93.3	-/93.3	-/93.3	-/93.3			
Sand	% by vol	0.25	0.30	0.25	0.25			1.0
MBT	ppb Eq.	13.0	12.5	11.0	11.0			25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22	9.00 @ 22		8.50	9.50
ALK Mud	Pm	0.30	0.20	0.30	0.30			
ALK Filt	Pf/Mf	0.15/1.80	0.15/1.80	0.25/2.00	0.25/1.90			
Chlorides	mg/l	40,500	41,000	40,000	40,000			
Tot. Hardness	mg/l	380	320	375	375			
LGS/HGS	% by Vol	2.0/1.4	2.3/1.0	2.0/1.4	2.0/1.4			
LGS/HGS	ppb	17.95/20.91	20.95/15.44	18.36/20.86	18.36/20.86			
ASG	SG	3.270	3.101	3.261	3.261			
Additional Properties								
KCl %	-	8.10	8.20	8.20	8.30			

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Prepare Slug for POOH following coring.

Perform inventory check.

Calibrate mud balances.

Rig Activity

Cont. POOH f/ 2669 to 2520 m w/ Sperry Sun 8 1/2", Flow check & service top drive, Pump 30 bbl slug POOH f/ 2520 to 404 m, Flow check static cont POOH f/ 404 to 30 m, Remove sources & download MWD tools, Break off bit & rack Sperry tools in derrick, Hold TBT to pick up core barrels, Pick up inner & outer core barrels, space out inner barrel for shoe, Run core assay on 6 1/2" DC's & HW out derrick 31 to 286 m, Function test diverter (good) cont RIH 5" DP to 2512 m, Flow check (good) establish coring parameters, Cont. RIH 2512 to 2946, wash down f/ 2946 to 2983 m pull back 1 stand spaced out P/U pup joint, commence core operations.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
barite	1 tons bulk	118.900		1.500	117.400	$A1,095.87
N-DRIL HT PLUS	50 lb bag	120		4	116	$A595.40
potassium hydroxide	20 kg pail	29		1	28	$A132.11
ALDACIDE G	25 kg can	15			15	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	47			47	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	161			161	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	40			40	
CLAYSEAL PLUS	55 gal drum	50			50	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	140			140	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
Omyacarb 5	25 kg bag	22			22	
OXYGON	50 lb can	35			35	
PAC-L	25 kg bag	98			98	
potassium chloride	1000 kg bag	33			33	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	12.0
VSM-300	20 20 20 100 100 100 100	12.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	2.0
Circulating	
Trips	11.0
Rig	1.0
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	10.0
Total	24.0
Rotating	2.0
ROP	8.2
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	543.2	Base		Fluid Dumped	
Pipe Cap	99.3	Drill Water	5.4	Transferred	
Active Pits	666.0	Dewatering		SCE	-8.0
Total Hole	642.5	Sea Water		Evaporation	-2.0
Total Circ	1308.5	Whole Mud		Trips	
Reserve	649.6	Barite	2.2	Other	
Prev Vol	1960.0	Chemicals	0.5	Total Surface	
Net Change	-1.9	Other		Downhole	
Total Vol	1958.1	Total	8.1	Total Losses	-10.0

Fluid Types Vol bbl

Deviation Information

Survey MD	2,963.2 m
Survey TVD	2,962.7 m
Angle	2.93 Deg
Direction	85
Horiz Displ.	27.3 m

Daily Products Cost	$A1,823.38	Total Daily Cost	$A4,903.38
Cumulative Products Cost	$A460,114.54	Total Cumulative Cost	$A594,094.54

Baroid Representatives	Mike Lawrance	Fergus Spencer	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 44

Daily Drilling Fluid Report

Date 13/11/09		Depth 3,017.0 m	
Spud Date 06/10/09		Rig Activity Tripping	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information		Drill String (in) / (m)	OD	ID	Length	in Casing m	OD	Set	MD	Circulation/Hydraulics Data			
Bit Size	8.500 in									Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Make/Type	SMITH TOOL CO/Mi616VBPX	Drill Pipe	5.000	3.250	927.4		30.000	@	144.0	Bore in	6.500	6.500	6.500
Jets	6x14	Drill Pipe	6.625	3.000	141.1		20.000	@	153.0	Strokes in	12.000	12.000	12.000
TFA	0.902 sq-in	Drill Collar	6.750	2.875	146.4		13.375	@	930.0	Eff(%)	97	97	97
Jets Velocity	ft/sec						9.625	@	2,520.0	bbl/strk	0.119	0.119	0.119
Jet Impact Force	lbf									SPM	0	0	0
Bit HHSI	hhp/in2									gpm|bbl/min			
Press Drop @ Bit	psi									Total GPM		AV, Riser	Circ Press psi
Bit Depth	1,215.0 m	Riser	18.750		95.0					Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	9.50 ppg	Open Hole	8.500		497.0					BU Time , min		AV max DC	Press Drop DP
ECD @ Bit	9.50 ppg					Form Integrity ppg			11.00	Total Strokes		BU Strokes	Press Drop An

Properties		1	2	Hyd 3	4	Targets		Program		Fluid Treatments
Source		Pit #2	Pit #2	Pit #2						Fluid Type 8 1/2" KCl/Polymer
Time		3:30	13:00	20:00						Cont. inventory check.
Depth	m	3,017	3,017	3,017						
FL Temp	Deg C									Citric acid used by cementer & Barite used in Slug.
Density @ Deg C	ppg	9.40 @ 38	9.50 @ 22	9.50 @ 22				9.00	10.00	
FV @ Deg C	sec/qt	49 @ 38	51 @ 22	50 @ 22						Changed out damaged API 100 shaker screen w/ same.
PV @ Deg C	cP	13 @ 49	12 @ 49	12 @ 49						
YP	lbs/100 ft2	31	28	29						
GELS	lbs/100 ft2	9/12/15	8/14/16	9/12/16						
600/300		57.0/44.0	52.0/40.0	53.0/41.0						
200/100		37.0/28.0	34.0/26.0	35.0/25.0						
6/3		10.0/8.0	11.0/9.0	11.0/9.0						
API Filt	ml/30 min	5.0	5.0	5.0						
HTHP @ Deg C	ml/30 min	11.0 @ 121	11.6 @ 121	11.0 @ 121					13.0	
Cake API/HTHP	32nd in	1/2	1/2	1/2						
Corr Solid	% by Vol	3.4	3.7	3.5						
NAP/Water	% by Vol	-/93.3	-/93.0	-/93.2						
Sand	% by vol	0.25	0.25	0.25					1.0	
MBT	ppb Eq.	11.0	10.0	11.0					25.0	
pH @ Deg C		9.00 @ 22	8.50 @ 22	9.00 @ 22				8.50	9.50	
ALK Mud	Pm	0.30	0.20	0.25						
ALK Filt	Pf/Mf	0.25/2.00	0.10/2.50	0.20/2.20						
Chlorides	mg/l	40,000	40,000	40,000						
Tot. Hardness	mg/l	375	320	250						
LGS/HGS	% by Vol	2.0/1.4	1.9/1.9	1.5/2.1						
LGS/HGS	ppb	18.36/20.86	17.10/27.46	13.39/30.41						
ASG	SG	3.261	3.398	3.535						
Additional Properties										
KCl %	-	8.30	8.00	8.00						

Rig Activity

Cont. to core f/ 2984 to 3017 TD, complete & break core, Flow check static, pump slug & POOH w/ core assy @ 3mins a stand, HTBT to recover cores & recover same, make space in derrick for outer core barrel & rack into derrick, load MWD & radio active sources, shallow test MWD, Cont. RIH f/ 147 m to 288 m, RIH 8 1/2" BHA on 5" DP f/ 288 m to 1215 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
barite	1 tons bulk	117.400		1.000	116.400	$A730.58
Techmesh 175 (API 100)	1 each box	8		1	7	$A559.96
citric acid	25 kg bag	40		1	39	$A76.20
ALDACIDE G	25 kg can	15			15	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	47			47	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	161			161	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	50			50	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	140			140	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	116			116	
Omyacarb 5	25 kg bag	22			22	
OXYGON	50 lb can	35			35	
PAC-L	25 kg bag	98			98	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	28			28	

Daily Products Cost	$A1,366.74	Total Daily Cost	$A4,446.74
Cumulative Products Cost	$A461,481.28	Total Cumulative Cost	$A598,541.28

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	24.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	2.5
Circulating	
Trips	10.5
Rig	1.0
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	10.0
Total	24.0
Rotating	2.5
ROP	38.1
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	261.8	Base		Fluid Dumped	
Pipe Cap	39.6	Drill Water	3.0	Transferred	
Active Pits	661.0	Dewatering		SCE	-5.9
Total Hole	732.7	Sea Water		Evaporation	-3.0
Total Circ	962.4	Whole Mud		Trips	-4.9
Reserve	555.0	Barite	1.5	Other	
Prev Vol	1958.1	Chemicals		Total Surface	
Net Change	-9.3	Other		Downhole	
Total Vol	1948.7	Total	4.5	Total Losses	-13.8

Fluid Types — Vol bbl

Deviation Information

Survey MD	2,963.2 m
Survey TVD	2,962.7 m
Angle	2.93 Deg
Direction	85
Horiz Displ.	27.3 m

Baroid Representatives	Fergus Spencer	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 45

Daily Drilling Fluid Report

Date 14/11/09		Depth 3,140.0 m	
Spud Date 06/10/09		Rig Activity Drilling	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Ole Andreasen	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500	in
Make/Type	SMITH TOOL CO/Mi616VBPX	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity	251	ft/sec
Jet Impact Force	872.7	lbf
Bit HHSI	3.88	hhp/in2
Press Drop @ Bit	534	psi
Bit Depth	3,140.0	m
ECD @ Csg Shoe	10.14	ppg
ECD @ Bit	10.55	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.250	2,852.4
Drill Pipe	6.625	3.000	141.1
Drill Collar	6.750	2.875	146.4
Riser	18.750		95.0
Open Hole	8.500		620.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	61	80
gpm|bbl/min		306 7.29	401 9.55
Total GPM	707	AV, Riser	53.1 Circ Press psi 2860
Total Circ Time	78	AV min DP	338.7 Tot Pres Loss 4462
BU Time , min	34	AV max DC	649.6 Press Drop DP 3178
Total Strokes	10,971	BU Strokes	4,738 Press Drop An 561

Properties		1	2	Hyd 3	4	Targets	Program	
Source		Pit #2	Pit #2	Pit #2				
Time		9:30	15:00	22:00				
Depth	m	3,020	3,061	3,130				
FL Temp	Deg C	54	55	59				
Density @ Deg C	ppg	9.40 @ 43	9.40 @ 43	9.50 @ 52			9.00	10.00
FV @ Deg C	sec/qt	50 @ 43	48 @ 43	50 @ 52				
PV @ Deg C	cP	13 @ 49	12 @ 49	14 @ 49				
YP	lbs/100 ft2	27	28	30				
GELS	lbs/100 ft2	7/14/16	8/14/17	9/13/16				
600/300		53.0/40.0	52.0/40.0	58.0/44.0				
200/100		34.0/27.0	30.0/26.0	37.0/28.0				
6/3		10.0/8.0	10.0/8.0	11.0/9.0				
API Filt	ml/30 min	4.8	4.8	5.0				
HTHP @ Deg C	ml/30 min	10.4 @ 121	10.2 @ 121	11.0 @ 121				13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2				
Corr Solid	% by Vol	3.6	3.7	3.6				
NAP/Water	% by Vol	-/93.2	-/93.0	-/93.1				
Sand	% by vol	0.25	0.30	0.40				1.0
MBT	ppb Eq.	10.0	11.0	11.0				25.0
pH @ Deg C		8.50 @ 22	9.00 @ 22	9.00 @ 22			8.50	9.50
ALK Mud	Pm	0.20	0.30	0.30				
ALK Filt	Pf/Mf	0.10/2.10	0.10/2.20	0.15/2.20				
Chlorides	mg/l	39,000	40,000	40,000				
Tot. Hardness	mg/l	360	320	400				
LGS/HGS	% by Vol	2.3/1.3	2.6/1.1	1.7/2.0				
LGS/HGS	ppb	21.03/19.30	23.93/16.44	15.25/28.94				
ASG	SG	3.180	3.077	3.464				
Additional Properties								
KCl %	-	7.90	7.90	7.90				

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

MW in 9.4 ppg & MW out 9.7 ppg. Running 2 centrifuges to manage higher MW due to slugs.

Treated active w/ PAC-LE & N-Dril HT PLUS for fluid loss. Added KOH for pH. Added CLAYSEAL PLUS & EZ-MUD when 180 bbl of fresh mud was introduced to the Active. Bridging agents were added to compensate loss from centrifuging. BARAZAN-D PLUS to maintain mud rheology.

Mixed additional 40 bbl 11.5 ppg slug using active mud.

Rig Activity

Cont. RIH 8 1/2" BHA on 5" DP f/ 1214 to 2520 m filling every 25 stands, Service top drive, install new bracket, Cont. RIH f/ 2520 - 9 5/8" casing shoe to 2919 m, Wash down f/ 2919 to 2960 m. Take SCRs relog mud tools f/ 2960 to 2013 m @ 30 m an hour, Drill 8 1/2" hole f/ 3013 to 3130 m core point, CBU, Cont. drill 8 1/2" hole f/ 3130 to 3140 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	50		3	47	$A4,528.71
potassium hydroxide	20 kg pail	28		11	17	$A1,453.21
EZ-MUD	25 kg pail	140		12	128	$A1,139.88
BARAZAN D PLUS	25 kg bag	47		4	43	$A861.36
PAC-L	25 kg bag	98		4	94	$A641.28
N-DRIL HT PLUS	50 lb bag	116		4	112	$A595.40
Omyacarb 5	25 kg bag	22		10	12	$A173.10
Circal 60/16	25 kg bag	161		8	153	$A101.44
ALDACIDE G	25 kg can	15			15	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	39			39	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
OXYGON	50 lb can	35			35	
potassium chloride	1000 kg bag	33			33	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	18.0
VSM-300	20 20 20 100 100 100 100	18.0
VSM-300	20 20 20 100 100 100 100	24.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	17.0

Time

Drilling	14.0
Circulating	2.0
Trips	4.5
Rig	0.5
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	3.0
Total	24.0
Rotating	14.0
ROP	28.8
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	565.9	Base		Fluid Dumped	
Pipe Cap	104.4	Drill Water	20.4	Transferred	
Active Pits	640.0	Dewatering		SCE	-188.0
Total Hole	670.3	Sea Water		Evaporation	-38.7
Total Circ	1310.3	Whole Mud		Trips	
Reserve	441.0	Barite		Other	
Prev Vol	1948.7	Chemicals	8.9	Total Surface	
Net Change	-197.4	Other		Downhole	
Total Vol	1751.3	Total	29.3	Total Losses	-226.7

Fluid Types Vol bbl

Deviation Information

Survey MD	3,130.2 m
Survey TVD	3,129.4 m
Angle	3.75 Deg
Direction	82
Horiz Displ.	29.6 m

Daily Products Cost	$A9,494.38	Total Daily Cost	$A12,574.38
Cumulative Products Cost	$A470,975.66	Total Cumulative Cost	$A611,115.66

Baroid Representatives	Fergus Spencer	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 46

Daily Drilling Fluid Report

Date 15/11/09		Depth 3,152.0 m	
Spud Date 06/10/09		Rig Activity Coring	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt/ Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500	in
Make/Type	CORPRO/core barrel	
Jets		
TFA	1.000	sq-in
Jets Velocity	226	ft/sec
Jet Impact Force	787.2	lbf
Bit HHSI	3.16	hhp/in2
Press Drop @ Bit	435	psi
Bit Depth	3,152.0	m
ECD @ Csg Shoe	10.10	ppg
ECD @ Bit	10.17	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.250	2,952.0
Drill Pipe	3.450	3.000	100.0
Drill Collar	6.625	2.875	100.0
Riser	18.750		95.0
Open Hole	8.500		632.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	141	0	0
gpm|bbl/min	707 | 16.84		
Total GPM	707	AV, Riser	53.1
Total Circ Time	80	AV min DP	287.3
BU Time , min	35	AV max DC	611.3
Total Strokes	11,212	BU Strokes	4,892
Circ Press psi	668		
Tot Pres Loss	4116		
Press Drop DP	3137		
Press Drop An	360		

Properties		1	2	Hyd 3	4	Targets	Program
Source		Pit #2	Pit #2	Pit #2			
Time		11:00	4:00	22:00			
Depth	m	3,145	3,145	3,145			
FL Temp	Deg C		57	38			
Density @ Deg C	ppg	9.50 @ 45	9.50 @ 52	9.50 @ 35			9.00 - 10.00
FV @ Deg C	sec/qt	52 @ 45	50 @ 52	64 @ 35			
PV @ Deg C	cP	12 @ 49	14 @ 49	14 @ 49			
YP	lbs/100 ft2	29	30	27			
GELS	lbs/100 ft2	7/13/16	8/14/17	9/12/14			
600/300		53.0/41.0	58.0/44.0	55.0/41.0			
200/100		36.0/26.0	36.0/27.0	35.0/27.0			
6/3		10.0/8.0	10.0/8.0	10.0/8.0			
API Filt	ml/30 min	5.0	5.0	5.0			
HTHP @ Deg C	ml/30 min	11.0 @ 121	10.5 @ 121	11.0 @ 121			13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2			
Corr Solid	% by Vol	3.7	3.7	3.6			
NAP/Water	% by Vol	-/93.0	-/93.0	-/93.1			
Sand	% by vol	0.25	0.25	0.30			1.0
MBT	ppb Eq.	10.5	10.0	11.0			25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22			8.50 - 9.50
ALK Mud	Pm	0.30	0.30	0.20			
ALK Filt	Pf/Mf	0.10/2.20	0.10/2.20	0.25/2.00			
Chlorides	mg/l	40,000	40,000	40,000			
Tot. Hardness	mg/l	360	400	375			
LGS/HGS	% by Vol	1.9/1.9	1.9/1.9	1.7/2.0			
LGS/HGS	ppb	17.10/27.46	17.10/27.46	15.25/28.94			
ASG	SG	3.398	3.398	3.464			
Additional Properties							
KCl %	-	7.70	7.70	7.70			

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

General housekeeping at sack store / mud pits area.

Washed & calibrated mud balance. Citric acid to unbloak drain.

Transfer 50 bbl reserve mud to active, chemicals added for same.

New Slug made 11.5ppg.

Centrifuges running.

Rig Activity

Cont. drill 8 1/2" hole f/ 3140 - 3145 m new core point, Circulate hole clean, Flow check static, pump 30 bbl slug, POOH to casing shoe 2520 m, Flow check = static, Cont. POOH to Sperry tools, Remove sources & download LWD, Repair core barrel to run, Run Core barrel 32 m to 288 m on BHA, Run BHA on DP, Ream down f/ 3089 to 3145 m TD, Drop ball take SCR's & start core operations f/ 3145 to 3152 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
PAC-L	25 kg bag	94		3	91	$A480.96
N-DRIL HT PLUS	50 lb bag	112		3	109	$A446.55
EZ-MUD	25 kg pail	128		3	125	$A284.97
potassium hydroxide	20 kg pail	17		2	15	$A264.22
citric acid	25 kg bag	39		1	38	$A76.20
ALDACIDE G	25 kg can	15			15	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	43			43	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	17			17	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	153			153	
Circal Y	25 kg bag	91			91	
CLAYSEAL PLUS	55 gal drum	47			47	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
Omyacarb 5	25 kg bag	12			12	
OXYGON	50 lb can	35			35	
potassium chloride	1000 kg bag	33			33	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	12.0
VSM-300	20 20 20 100 100 100 100	12.0
VSM-300	20 20 20 100 100 100 100	24.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	2.0

Time

Drilling	2.5
Circulating	1.0
Trips	12.0
Rig	1.0
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	1.5
Testing	
Logging	
Dir Work	
Repair	1.0
Other	5.0
Total	24.0
Rotating	4.0
ROP	15.7
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	584.3	Base		Fluid Dumped	
Pipe Cap	104.8	Drill Water	9.9	Transferred	
Active Pits	650.0	Dewatering		SCE	-44.3
Total Hole	689.1	Sea Water		Evaporation	-12.0
Total Circ	1339.1	Whole Mud		Trips	
Reserve	367.0	Barite		Other	
Prev Vol	1751.3	Chemicals	1.2	Total Surface	
Net Change	-45.2	Other		Downhole	
Total Vol	1706.1	Total	11.1	Total Losses	-56.3

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	3,130.2	m
Survey TVD	3,129.4	m
Angle	3.75	Deg
Direction	82	
Horiz Displ.	29.6	m

Daily Products Cost	$A1,552.90	Total Daily Cost	$A4,632.90
Cumulative Products Cost	$A472,528.56	Total Cumulative Cost	$A615,748.56

Baroid Representatives	Fergus Spencer	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 47

Daily Drilling Fluid Report

Date 16/11/09		Depth 3,152.0 m	
Spud Date 06/10/09		Rig Activity Tripping	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Lars Lovenholdt / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500	in
Make/Type	SMITH TOOL CO/Mi616VBPX	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	147.0	m
ECD @ Csg Shoe	9.50	ppg
ECD @ Bit	9.50	ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	6.625	3.000	0.6
Drill Collar	6.750	2.875	146.4
Riser	18.750		95.0
Open Hole	8.500		632.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		Hyd 1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2	Pit #2				
Time		9:00	15:00	20:00				
Depth	m	3,152	3,152	3,152				
FL Temp	Deg C							
Density @ Deg C	ppg	9.50 @ 38	9.40 @ 37	9.40 @ 37			9.00	10.00
FV @ Deg C	sec/qt	60 @ 38	58 @ 37	58 @ 37				
PV @ Deg C	cP	12 @ 49	11 @ 49	12 @ 49				
YP	lbs/100 ft2	31	30	29				
GELS	lbs/100 ft2	8/13/16	7/12/15	7/12/15				
600/300		55.0/43.0	52.0/41.0	53.0/41.0				
200/100		33.0/27.0	32.0/26.0	32.0/25.0				
6/3		10.0/8.0	9.0/8.0	9.0/8.0				
API Filt	ml/30 min	5.0	5.0	5.0				
HTHP @ Deg C	ml/30 min	11.0 @ 121	10.6 @ 121	10.5 @ 121				13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2				
Corr Solid	% by Vol	3.4	3.6	3.6				
NAP/Water	% by Vol	-/93.3	-/93.3	-/93.3				
Sand	% by vol	0.25	0.25	0.25				1.0
MBT	ppb Eq.	12.0	10.5	11.0				25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22			8.50	9.50
ALK Mud	Pm	0.20	0.20	0.30				
ALK Filt	Pf/Mf	0.10/2.20	0.10/2.10	0.25/2.00				
Chlorides	mg/l	40,000	38,000	38,000				
Tot. Hardness	mg/l	360	320	375				
LGS/HGS	% by Vol	1.3/2.2	2.2/1.4	2.2/1.4				
LGS/HGS	ppb	11.53/31.89	19.99/20.70	19.99/20.70				
ASG	SG	3.610	3.225	3.225				
Additional Properties								
KCl %	-	7.70	7.50	7.50				

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Lowered MW to 9.4 ppg in Pit # 2. Built BAROLIFT sweep in pill pit.

Rig Activity

Cont. core f/ 3152 to 3175 m, Rack back stand, Flow check static pump slug 30 bbl & POOH f/ 3175 TD to 2050 m @ 3 mins/stand, Cut & Slip drill line, Cont POOH f/ 2050 to 1096 m 3min/stand, POOH f/ 1096 to 288 m, HTBT & recover cores, L/O core assy, Make up bit & upload tool & install radioactive sources, Cont RIH with 8 1/2" drilling assy to 147 m, Shallow test MWD.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BAROLIFT	15 lb box	17		1	16	$A318.02
ALDACIDE G	25 kg can	15			15	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	43			43	
barite	1 tons bulk	116.400			116.400	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	153			153	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	47			47	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	125			125	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	109			109	
Omyacarb 5	25 kg bag	12			12	
OXYGON	50 lb can	35			35	
PAC-L	25 kg bag	91			91	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	15			15	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	12.0
VSM-300	20 20 20 100 100 100 100	12.0
VSM-300	20 20 20 100 100 100 100	12.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	4.0

Time

Drilling	2.5
Circulating	
Trips	8.5
Rig	
Surveys	
Fishing	
Run Casing	
Coring	2.5
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	10.5
Total	24.0
Rotating	5.0
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	97.7	Base		Fluid Dumped	
Pipe Cap	3.9	Drill Water	8.1	Transferred	
Active Pits	590.0	Dewatering		SCE	-35.0
Total Hole	823.3	Sea Water		Evaporation	-5.0
Total Circ	691.6	Whole Mud		Trips	
Reserve	261.0	Barite		Other	
Prev Vol	1706.1	Chemicals		Total Surface	
Net Change	-31.9	Other		Downhole	
Total Vol	1674.3	Total	8.1	Total Losses	-40.0

Fluid Types Vol bbl

Deviation Information

Survey MD	3,130.2 m
Survey TVD	3,129.4 m
Angle	3.75 Deg
Direction	82
Horiz Displ.	29.6 m

Daily Products Cost	$A318.02	Total Daily Cost	$A3,398.02
Cumulative Products Cost	$A472,846.58	Total Cumulative Cost	$A619,146.58

Baroid Representatives	Fergus Spencer	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 48

Daily Drilling Fluid Report

Date 17/11/09		Depth 3,208.0 m	
Spud Date 06/10/09		Rig Activity Drilling	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	8.500	in
Make/Type	SMITH TOOL CO/Mi616VBPX	
Jets	6x14	
TFA	0.902	sq-in
Jets Velocity	233	ft/sec
Jet Impact Force	753.3	lbf
Bit HHSI	3.11	hhp/in2
Press Drop @ Bit	461	psi
Bit Depth	3,208.0	m
ECD @ Csg Shoe	10.11	ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	3.250	2,920.4
Drill Pipe	6.625	3.000	141.1
Drill Collar	6.750	2.875	146.4
Riser	18.750		95.0
Open Hole	8.500		688.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	61	0	70
gpm|bbl/min	306 7.29		351 8.36
Total GPM	657	AV, Riser 49.3	Circ Press psi 2690
Total Circ Time	87	AV min DP 314.7	Tot Pres Loss 3931
BU Time , min	37	AV max DC 603.5	Press Drop DP 2793
Total Strokes	11,410	BU Strokes 4,823	Press Drop An 517

Properties		1	2	Hyd 3	4	Targets	Program	
Source		Pit #2	Pit #2	Pit #2				
Time		9:00	18:00	22:00				
Depth	m	3,145	3,145	3,208				
FL Temp	Deg C	32	52	53				
Density @ Deg C	ppg	9.40 @ 32	9.40 @ 49	9.50 @ 49			9.00	10.00
FV @ Deg C	sec/qt	57 @ 32	55 @ 49	56 @ 49				
PV @ Deg C	cP	13 @ 49	12 @ 49	14 @ 49				
YP	lbs/100 ft2	29	32	29				
GELS	lbs/100 ft2	7/12/14	8/14/16	8/12/15				
600/300		55.0/42.0	56.0/44.0	57.0/43.0				
200/100		34.0/26.0	38.0/29.0	37.0/28.0				
6/3		9.0/8.0	10.0/8.0	10.0/9.0				
API Filt	ml/30 min	4.8	5.0	5.0				
HTHP @ Deg C	ml/30 min	10.4 @ 121	10.6 @ 121	10.0 @ 121				13.0
Cake API/HTHP	32nd in	1/2	1/2	1/2				
Corr Solid	% by Vol	3.6	3.6	3.6				
NAP/Water	% by Vol	-/93.3	-/93.2	-/93.3				
Sand	% by vol	0.20	0.30	0.25				1.0
MBT	ppb Eq.	10.0	10.0	11.0				25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22			8.50	9.50
ALK Mud	Pm	0.20	0.25	0.25				
ALK Filt	Pf/Mf	0.10/2.20	0.10/2.10	0.25/2.10				
Chlorides	mg/l	38,000	39,000	38,000				
Tot. Hardness	mg/l	320	320	400				
LGS/HGS	% by Vol	2.2/1.4	2.3/1.3	1.4/2.2				
LGS/HGS	ppb	19.99/20.70	21.03/19.30	13.17/31.72				
ASG	SG	3.225	3.180	3.558				
Additional Properties								
KCl %	-	7.50	7.50	7.50				

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Run centrifuge to maintain MW at 9.4 ppg while circulating @ 1909 m.

Treat active w/ PAC-LE & N Dril HT PLUS to control fluid loss. Fresh premix added with CLAYSEAL PLUS & EZ MUD prior to addition into active. Bridging agents were added while drilling new formation to help compensate for centrifuge loss.

Mixed 11.5 ppg slug in slug pit.

Rig Activity

Cont. RIH w/ BHA f/ 147 to 288 m, RIH on 5" DP f/ 288 to 1908 m filling every 25 stands, Trouble shoot problems w/ draw works & start repairs, continue draw works repairs, pull test draw works raise to lower string, RIH f/ 1908 to 2937 m, Ream tight spot 2937 to 3120 m, Tight 2937 m, Logging with Sperry Sun 3120 to 3175 m, Drill 8 1/2" hole f/ 3175 to 3208 m.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
CLAYSEAL PLUS	55 gal drum	47		1	46	$A1,509.57
PAC-L	25 kg bag	91		4	87	$A641.28
N-DRIL HT PLUS	50 lb bag	109		4	105	$A595.40
potassium hydroxide	20 kg pail	15		3	12	$A396.33
EZ-MUD	25 kg pail	125		4	121	$A379.96
Omyacarb 5	25 kg bag	12		6	6	$A103.86
Circal 60/16	25 kg bag	153		4	149	$A50.72
ALDACIDE G	25 kg can	15			15	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	43			43	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
OXYGON	50 lb can	35			35	
potassium chloride	1000 kg bag	33			33	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	16.0
VSM-300	20 20 20 100 100 100 100	16.0
VSM-300	20 20 20 100 100 100 100	24.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	4.5

Time

Drilling	5.0
Circulating	
Trips	5.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	2.5
Testing	
Logging	
Dir Work	
Repair	10.5
Other	1.0
Total	24.0
Rotating	7.5
ROP	36.7
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	576.1	Base		Fluid Dumped	
Pipe Cap	106.7	Drill Water	32.0	Transferred	
Active Pits	680.0	Dewatering		SCE	-82.0
Total Hole	682.8	Sea Water		Evaporation	-27.0
Total Circ	1362.8	Whole Mud		Trips	
Reserve	238.0	Barite		Other	
Prev Vol	1674.3	Chemicals	3.5	Total Surface	
Net Change	-73.5	Other		Downhole	
Total Vol	1600.8	Total	35.5	Total Losses	-109.0

Fluid Types Vol bbl

Deviation Information

Survey MD	3,194.8 m
Survey TVD	3,193.8 m
Angle	3.87 Deg
Direction	83
Horiz Displ.	35.3 m

Daily Products Cost	$A3,677.12	Total Daily Cost	$A6,757.12
Cumulative Products Cost	$A476,523.70	Total Cumulative Cost	$A625,903.70

Baroid Representatives	Fergus Spencer	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 49

Daily Drilling Fluid Report

Date 18/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Wire Line logs	
Operator: ADA DRILLING	Report For: Bryan Houston / Paul Leathem	Well Name: TREFOIL-2	
Contractor: MAERSK	Report For: Brian Meechan / Geoff Chapman	Rig Name: Kantan IV	Unit System: ADA Drilling
Country: Australia	State/Province/Region: Tasmania	Geographic Area/County: Bass Strait	Field or Block: T/18P

Bit Information

Bit Size	in
Make/Type	
Jets	
TFA	sq-in
Jets Velocity	ft/sec
Jet Impact Force	lbf
Bit HHSI	hhp/in2
Press Drop @ Bit	psi
Bit Depth	m
ECD @ Csg Shoe	ppg
ECD @ Bit	ppg

Drill String (in) / (m)

	OD	ID	Length
Riser	18.750		95.0
Open Hole	8.500		715.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program		Fluid Treatments
Source		Pit #2	Pit #2	Pit #2					Fluid Type 8 1/2" KCl/Polymer
Time		9:00	15:00	22:00					Run both centrifuges to control MW. MW balanced in & out at 9.5 ppg.
Depth	m	3,235	3,235	3,235					
FL Temp	Deg C								Added OXYGON & ALDACIDE-G into active mud prior to POOH.
Density @ Deg C	ppg	9.50 @ 49	9.50 @ 42	9.50 @ 32			9.00	10.00	
FV @ Deg C	sec/qt	55 @ 49	57 @ 42	61 @ 32					
PV @ Deg C	cP	12 @ 49	14 @ 49	14 @ 49					
YP	lbs/100 ft2	32	29	29					
GELS	lbs/100 ft2	9/13/15	8/12/14	8/12/15					
600/300		56.0/44.0	57.0/43.0	57.0/43.0					
200/100		37.0/27.0	36.0/27.0	37.0/28.0					
6/3		10.0/9.0	10.0/8.0	10.0/9.0					
API Filt	ml/30 min	5.0	5.0	5.0					
HTHP @ Deg C	ml/30 min	11.2 @ 121	10.6 @ 121	10.3 @ 121				13.0	
Cake API/HTHP	32nd in	1/2	1/2	1/2					
Corr Solid	% by Vol	4.0	4.0	3.9					
NAP/Water	% by Vol	-/93.0	-/93.0	-/93.0					
Sand	% by vol	0.30	0.30	0.30				1.0	
MBT	ppb Eq.	10.5	10.6	10.5				25.0	
pH @ Deg C		9.00 @ 22	9.00 @ 22	9.00 @ 22			8.50	9.50	
ALK Mud	Pm	0.20	0.20	0.20					
ALK Filt	Pf/Mf	0.20/2.20	0.10/2.10	0.10/2.10					
Chlorides	mg/l	37,000	37,000	38,000					
Tot. Hardness	mg/l	360	320	360					
LGS/HGS	% by Vol	2.1/1.8	2.1/1.8	2.1/1.9					
LGS/HGS	ppb	19.54/27.22	19.54/27.22	18.73/27.30					
ASG	SG	3.341	3.341	3.359					
Additional Properties									
KCl %	-	7.30	7.30	7.30					

Rig Activity

Cont. to drill ahead 8 1/2" hole w/ 700 gpm /2900 psi/ 100 rpm/ 15 WOB/ 10k torque to TD at 3235 m. CBU 2X @ 700 gpm, hole clean. Pumped out of hole f/ 3235 m to 3151m. Pumped slug & POOH on elevators f/ 3151 m to surface. Download MWD & remove source. Break off & lay down MWD tools. Rig up & RIH w/ wireline tools.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
OXYGON	50 lb can	35		2	33	$A1,144.06
ALDACIDE G	25 kg can	15		2	13	$A346.18
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	43			43	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Daily Products Cost	$A1,490.24	Total Daily Cost	$A4,570.24
Cumulative Products Cost	$A478,013.94	Total Cumulative Cost	$A630,473.94

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	16.0
VSM-300	20 20 20 100 100 100 100	16.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	6.0

Time

Drilling	3.0
Circulating	2.5
Trips	9.0
Rig	0.5
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	1.0
Testing	
Logging	8.0
Dir Work	
Repair	
Other	
Total	24.0
Rotating	4.0
ROP	29.5
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	598.0	Dewatering		SCE	-15.7
Total Hole	859.9	Sea Water		Evaporation	
Total Circ	598.0	Whole Mud		Trips	
Reserve	127.7	Barite		Other	
Prev Vol	1600.8	Chemicals	0.5	Total Surface	
Net Change	-15.2	Other		Downhole	
Total Vol	1585.6	Total	0.5	Total Losses	-15.7

Fluid Types — Vol bbl

Deviation Information

Survey MD	3,223.6 m
Survey TVD	3,222.6 m
Angle	4.33 Deg
Direction	83
Horiz Displ.	36.9 m

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 50

Daily Drilling Fluid Report

Date 19/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Wire Line logs	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	in
Make/Type	
Jets	
TFA	sq-in
Jets Velocity	ft/sec
Jet Impact Force	lbf
Bit HHSI	hhp/in2
Press Drop @ Bit	psi
Bit Depth	m
ECD @ Csg Shoe	ppg
ECD @ Bit	ppg

Drill String (in) / (m)

	OD	ID	Length
Riser	18.750		95.0
Open Hole	8.500		715.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program		Fluid Treatments
Source		Pit #2	Pit #2	Pit #2					Fluid Type 8 1/2" KCl/Polymer
Time		9:00	16:00	21:00					General housekeeping at lab & sack store.
Depth	m	3,235	3,235	3,235					
FL Temp	Deg C								Cleaned shakers area. Mechanic calibrating
Density @ Deg C	ppg	9.50 @ 30	9.50 @ 30	9.50 @ 30			9.00	10.00	weight indicator on barite / bentonite surge tanks.
FV @ Deg C	sec/qt	60 @ 30	58 @ 30	58 @ 30					
PV @ Deg C	cP	13 @ 49	14 @ 49	12 @ 49					
YP	lbs/100 ft2	30	28	29					
GELS	lbs/100 ft2	7/12/14	7/11/14	8/11/14					
600/300		56.0/43.0	56.0/42.0	53.0/41.0					
200/100		36.0/27.0	35.0/26.0	34.0/26.0					
6/3		10.0/8.0	9.0/8.0	8.0/7.0					
API Filt	ml/30 min	5.0	4.9	5.0					
HTHP @ Deg C	ml/30 min	10.6 @ 121	10.3 @ 121	10.0 @ 121				13.0	
Cake API/HTHP	32nd in	1/2	1/2	1/2					
Corr Solid	% by Vol	3.9	4.0	4.0					
NAP/Water	% by Vol	-/93.0	-/93.0	-/93.0					
Sand	% by vol	0.30	0.30	0.30				1.0	
MBT	ppb Eq.	10.0	10.0	10.0				25.0	
pH @ Deg C		9.00 @ 22	8.50 @ 22	9.00 @ 22			8.50	9.50	
ALK Mud	Pm	0.20	0.20	0.10					
ALK Filt	Pf/Mf	0.10/2.20	0.10/2.20	0.10/2.20					
Chlorides	mg/l	38,000	37,000	37,000					
Tot. Hardness	mg/l	320	300	320					
LGS/HGS	% by Vol	2.1/1.9	2.1/1.8	2.1/1.8					
LGS/HGS	ppb	18.73/27.30	19.54/27.22	19.54/27.22					
ASG	SG	3.359	3.341	3.341					
Additional Properties									
KCl %	-	7.30	7.30	7.30					

Rig Activity

Cont. w/ wireline run #1. (CMR+/ Pex/ HRLA/ HNGS). Trip Tank showed 15 bbl loss during run #1. Tools at surface, remove sources, lay down Run #1 tools. Fill T/Tank to 35.8 bbl. P/U & M/U tools for run #2 RIH & Log with Schlunberger wire line run #2.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	13			13	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	43			43	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	24.0
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	583.0	Dewatering		SCE	
Total Hole	859.9	Sea Water		Evaporation	
Total Circ	583.0	Whole Mud		Trips	
Reserve	127.7	Barite		Other	
Prev Vol	1585.6	Chemicals		Total Surface	
Net Change	-15.0	Other		Downhole	-15.0
Total Vol	1570.6	Total		Total Losses	-15.0

Fluid Types Vol bbl

Deviation Information

Survey MD	3,223.6	m
Survey TVD	3,222.6	m
Angle	4.33	Deg
Direction	83	
Horiz Displ.	36.9	m

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A478,013.94	Total Cumulative Cost	$A633,553.94

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 51

Daily Drilling Fluid Report

Date 20/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Wire Line logs	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	in
Make/Type	
Jets	
TFA	sq-in
Jets Velocity	ft/sec
Jet Impact Force	lbf
Bit HHSI	hhp/in2
Press Drop @ Bit	psi
Bit Depth	m
ECD @ Csg Shoe	ppg
ECD @ Bit	ppg

Drill String (in) / (m)

	OD	ID	Length
Riser	18.750		95.0
Open Hole	8.500		715.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		10:00	20:00					
Depth	m	3,235	3,235					
FL Temp	Deg C							
Density @ Deg C	ppg	9.50 @ 30	9.50 @ 26				9.00	10.00
FV @ Deg C	sec/qt	57 @ 30	57 @ 26					
PV @ Deg C	cP	14 @ 49	13 @ 49					
YP	lbs/100 ft2	29	29					
GELS	lbs/100 ft2	8/11/14	8/11/14					
600/300		57.0/43.0	55.0/42.0					
200/100		37.0/26.0	35.0/26.0					
6/3		9.0/8.0	9.0/8.0					
API Filt	ml/30 min	5.0	5.0					
HTHP @ Deg C	ml/30 min	10.6 @ 121	10.0 @ 121					13.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	4.1	4.1					
NAP/Water	% by Vol	-/93.0	-/93.0					
Sand	% by vol	0.30	0.30					1.0
MBT	ppb Eq.	9.0	9.0					25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22				8.50	9.50
ALK Mud	Pm	0.20	0.20					
ALK Filt	Pf/Mf	0.10/1.90	0.10/2.00					
Chlorides	mg/l	36,000	36,000					
Tot. Hardness	mg/l	320	320					
LGS/HGS	% by Vol	2.2/1.8	2.2/1.8					
LGS/HGS	ppb	20.34/27.14	20.34/27.14					
ASG	SG	3.324	3.324					
Additional Properties								
KCl %	-	7.10	7.10					

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Rearranged products in sack store. Did inventory check.
Add ALDACIDE-G to inhibit bacterial growth.
Working on scales on barite / bentonite surge tanks. Tested same.
Conditioned active mud.

Rig Activity

Cont. w/ wire line run #2 (MDT/XPT). Completed 4 correlation runs & 65 pretests f/ 2560.1 m to 3208.3 m (50 valid, 14 tight, 1 super charged). Monitored well on trip tank. Continued to PMS drilling equipment. POOH wire line run # 2 to surface.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	43		2	41	$A430.68
ALDACIDE G	25 kg can	13		1	12	$A173.09
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	24.0
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	652.0	Dewatering		SCE	
Total Hole	859.9	Sea Water		Evaporation	
Total Circ	652.0	Whole Mud		Trips	
Reserve	59.0	Barite		Other	
Prev Vol	1570.6	Chemicals	0.3	Total Surface	
Net Change	0.3	Other		Downhole	
Total Vol	1570.9	Total	0.3	Total Losses	

Fluid Types Vol bbl

Deviation Information

Survey MD	3,223.6 m
Survey TVD	3,222.6 m
Angle	4.33 Deg
Direction	83
Horiz Displ.	36.9 m

Daily Products Cost	$A603.77	Total Daily Cost	$A3,683.77
Cumulative Products Cost	$A478,617.71	Total Cumulative Cost	$A637,237.71

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 52

Daily Drilling Fluid Report

Date 21/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Plug and Abandonment	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	2.000	in
Make/Type	REEVES/Mule shoe	
Jets		
TFA	1.000	sq-in
Jets Velocity	250	ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,935.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	2.250	2,833.5
Drill Pipe	1.750	1.374	101.5
Riser	18.750		95.0
Open Hole	8.500		715.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	78	78	0
gpm|bbl/min	391 | 9.32	391 | 9.32	
Total GPM	783	AV, Riser 58.7	Circ Press psi
Total Circ Time	75	AV min DP 277.2	Tot Pres Loss
BU Time , min	30	AV max DC	Press Drop DP
Total Strokes	11,676	BU Strokes 4,644	Press Drop An

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		9:00	19:00					
Depth	m	3,235	3,235					
FL Temp	Deg C							
Density @ Deg C	ppg	9.50 @ 26	9.50 @ 25				9.00	10.00
FV @ Deg C	sec/qt	55 @ 26	56 @ 25					
PV @ Deg C	cP	12 @ 49	11 @ 49					
YP	lbs/100 ft2	29	31					
GELS	lbs/100 ft2	7/11/13	7/11/13					
600/300		53.0/41.0	53.0/42.0					
200/100		35.0/26.0	35.0/26.0					
6/3		9.0/8.0	9.0/8.0					
API Filt	ml/30 min	5.0	5.0					
HTHP @ Deg C	ml/30 min	10.4 @ 121	10.2 @ 121					13.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	4.0	4.0					
NAP/Water	% by Vol	-/93.0	-/93.0					
Sand	% by vol	0.25	0.30					1.0
MBT	ppb Eq.	10.0	10.0					25.0
pH @ Deg C		9.00 @ 22	9.00 @ 22				8.50	9.50
ALK Mud	Pm	0.20	0.20					
ALK Filt	Pf/Mf	0.10/1.90	0.10/2.00					
Chlorides	mg/l	37,000	37,000					
Tot. Hardness	mg/l	280	320					
LGS/HGS	% by Vol	2.1/1.8	2.1/1.8					
LGS/HGS	ppb	19.54/27.22	19.54/27.22					
ASG	SG	3.341	3.341					
Additional Properties								
KCl %	-	7.00	7.00					

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Tested both weight indicators w/ 2200 lbs products. Gauges working ok.
Add ALDACIDE-G to inhibit bacterial growth.
MW balanced @ 9.5 ppg during circulation.

Plug#1a - No cement found whilst circulating bottoms up. MW range f/ 9.2 ppg to 9.5 ppg due to water spacer contamination.

Rig Activity

Lay down wireline tools for run #2. Picked up & made up wire line tools for run #3. RIH & logged. POOH w/ wire line run #3. Hold PJSM & lay out wire line tools. Lay out DC. Hold PJSM & rig up & run 2 7/8" tubing to 101 m. RIH 2 7/8" tubing on 5" DP to bottom @ 3235 m. Circ. btms up @ 400 gpm/ 1800psi. M/U Cmt Head/ Press test surface lines to 3000 psi/ . Pump Cmt plug #1. Break off cmt head & POOH f/ 3235 m to 3085 m on the elevators. CBU. No cmt returns seen at shakers. Cmt plug #1B,- M/U cmt head & Pump 5 bbl of mud/ Press test surface lines to 3000 psi/ 5min. Pump 15 bbl of D/Water, followed by 43.2 bbl of 15.8 ppg cmt.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	12		1	11	$A173.09
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	9			9	
BARAZAN D PLUS	25 kg bag	41			41	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	2.0
VSM-300	20 20 20 100 100 100 100	6.0
VSM-300	20 20 20 100 100 100 100	6.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	1.0
Trips	9.5
Rig	
Surveys	
Fishing	
Run Casing	4.5
Coring	
Reaming	
Testing	
Logging	9.0
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	554.6	Base		Fluid Dumped	
Pipe Cap	47.0	Drill Water		Transferred	
Active Pits	792.9	Dewatering		SCE	-12.3
Total Hole	670.7	Sea Water		Evaporation	
Total Circ	1394.5	Whole Mud		Trips	
Reserve	95.0	Barite		Other	
Prev Vol	1570.9	Chemicals	0.1	Total Surface	
Net Change	-12.2	Other		Downhole	
Total Vol	1558.6	Total	0.1	Total Losses	-12.3

Fluid Types Vol bbl

Deviation Information

Survey MD	3,223.6	m
Survey TVD	3,222.6	m
Angle	4.33	Deg
Direction	83	
Horiz Displ.	36.9	m

Daily Products Cost	$A173.09	Total Daily Cost	$A3,253.09
Cumulative Products Cost	$A478,790.80	Total Cumulative Cost	$A640,490.80

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 53

Daily Drilling Fluid Report

Date 22/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Plug and Abandon well	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	2.000	in
Make/Type	REEVES/Mule shoe	
Jets		
TFA	1.000	sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	2,300.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Drill Pipe	5.000	2.250	2,198.5
Drill Pipe	1.750	1.374	101.5
Riser	18.750		95.0
Open Hole	8.500		715.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program
Source		Pit #2	Pit #2				
Time		10:00	22:00				
Depth	m	3,235	3,235				
FL Temp	Deg C						
Density @ Deg C	ppg	9.50 @ 35	9.50 @ 35				9.00 10.00
FV @ Deg C	sec/qt	52 @ 35	55 @ 35				
PV @ Deg C	cP	10 @ 49	14 @ 49				
YP	lbs/100 ft2	30	29				
GELS	lbs/100 ft2	7/11/13	9/11/15				
600/300		50.0/40.0	57.0/43.0				
200/100		32.0/24.0	37.0/26.0				
6/3		8.0/7.0	10.0/8.0				
API Filt	ml/30 min	5.3	5.2				
HTHP @ Deg C	ml/30 min	11.0 @ 121	11.2 @ 121				13.0
Cake API/HTHP	32nd in	1/2	1/2				
Corr Solid	% by Vol	4.2	3.4				
NAP/Water	% by Vol	-/93.0	-/93.4				
Sand	% by vol	0.20	0.20				1.0
MBT	ppb Eq.	9.0	9.0				25.0
pH @ Deg C		8.50 @ 22	8.50 @ 22				8.50 9.50
ALK Mud	Pm	0.10	0.10				
ALK Filt	Pf/Mf	0.10/2.10	0.10/2.20				
Chlorides	mg/l	35,000	39,000				
Tot. Hardness	mg/l	520	800				
LGS/HGS	% by Vol	2.3/1.8	1.2/2.3				
LGS/HGS	ppb	21.14/27.07	10.50/33.28				
ASG	SG	3.308	3.660				
Additional Properties							
KCl %	-	6.50	6.50				

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Plug#1b - Trace amounts of cement found whilst circulating bottoms up. MW range from 9.3 ppg to 9.7 ppg. Diverted 35 bbl of cement contaminated mud.

Plug#1c - No cement found whilst circulating bottoms up. MW range f/ 9.4 ppg to 9.5+ ppg during circulation.

Plug#2 - No cement found whilst circulating bottoms up. MW range f/ 9.4+ ppg to 9.5+ ppg during circulation.
Note: 99 bbl of mud loss behind cement
Higher TH due to cement contamination.

Rig Activity

Cont. to cement plug #1B. Pumped 15 bbl of DW followed by 43.2 bbl of 15.8 ppg cmt. Displaced w/ 156 bbl 9.4 ppg mud. POOH f/ 3085 m to 2935 m. CBU @700 gpm. Diverted 35 bbl of cement contaminated mud. Cement plug 1C: Pumped 15 bbl of DW followed by 43.2 bbl of 15.8 ppg cement. Displaced w/ 148 bbl of 9.4 ppg mud. Plug set in place 0300 hrs. POOH f/ 2935 m to 2520 m. CBU @ 700 gpm. WOC. Tag cement @ 2749 m w/5k. POOH to 2620 m, spot 12 bbl hi-vis pill, & POH to 2570 m. Mix & pumped 35 bbl of 15.8 ppg slurry, 3 bbl of DW behind, Displaced w/ 125 bbl of 9.5 ppg WBM. POOH to 2412 m. CBU, no cement

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARA-DEFOAM W300	25 l can	9		1	8	$A125.82
ALDACIDE G	25 kg can	11			11	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARAZAN D PLUS	25 kg bag	41			41	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	11.0
VSM-300	20 20 20 100 100 100 100	11.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	5.5
Trips	14.5
Rig	0.5
Surveys	
Fishing	
Run Casing	3.5
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus	458.3	Base		Fluid Dumped	
Pipe Cap	36.6	Drill Water		Transferred	
Active Pits	760.8	Dewatering		SCE	-35.0
Total Hole	713.0	Sea Water		Evaporation	
Total Circ	1255.8	Whole Mud		Trips	
Reserve	50.0	Barite		Other	
Prev Vol	1558.6	Chemicals	0.2	Total Surface	
Net Change	-34.8	Other		Downhole	
Total Vol	1523.8	Total	0.2	Total Losses	-35.0

Fluid Types Vol bbl

Deviation Information

Survey MD	3,223.6	m
Survey TVD	3,222.6	m
Angle	4.33	Deg
Direction	83	
Horiz Displ.	36.9	m

Daily Products Cost	$A125.82	Total Daily Cost	$A3,205.82
Cumulative Products Cost	$A478,916.62	Total Cumulative Cost	$A643,696.62

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 54

Daily Drilling Fluid Report

Date 23/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Plug and Abandon well	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information		Drill String (in) / (m)	OD	ID	Length	in Casing m	OD	Set	MD	Circulation/Hydraulics Data			
Bit Size	in									Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Make/Type							30.000	@	144.0	Bore in	6.500	6.500	6.500
Jets							20.000	@	153.0	Strokes in	12.000	12.000	12.000
TFA	sq-in						13.375	@	930.0	Eff(%)	97	97	97
Jets Velocity	ft/sec						9.625	@	2,520.0	bbl/strk	0.119	0.119	0.119
Jet Impact Force	lbf									SPM	0	0	0
Bit HHSI	hhp/in2									gpm|bbl/min			
Press Drop @ Bit	psi									Total GPM		AV, Riser	Circ Press psi
Bit Depth	m	Riser	18.750		95.0					Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	ppg	Open Hole	8.500		715.0					BU Time , min		AV max DC	Press Drop DP
ECD @ Bit	ppg					Form Integrity ppg			11.00	Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Tranfered mud f/ sandtrap into pits.

Container OPC 235 w/ 2 pallets Barazan D+ and 1 pallet KOH. Awaiting visual inspection of total sacks.

Cleaning pill tank for cementer.

Total mud left behind: 170.8 bbl + 99 bbl = 269.8 bbl

Rig Activity

Cont. to POOH laying out drill pipe f/ 2100 m to 1596 m. Cranes shut down at 0200 hrs due to weather. Cont. to L/D DP - 101 m. L/D 101 m of 2-7/8" stinger. M/up Drill Quip jetting tool & wear bushing retrieval tool & RIH, Jet well head & BOPs, latch into wear bushing & POOH w/ same. M/U Halliburton EZSV packer. RIH - 203 m. Set packer w/ 35 turns to the right, 50k overpull. RIH tag top of packer w/ 10 k down to confirm set. POOH w/ packer R/Tool & lay out same. P/U & M/U 9 5/8" casing cutting tools & RIH.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	11			11	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	8			8	
BARAZAN D PLUS	25 kg bag	41			41	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	
VSM-300	20 20 20 100 100 100 100	3.0
VSM-300	20 20 20 100 100 100 100	3.0
VSM-300	20 20 20 100 100 100 100	

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	14.5
Rig	
Surveys	
Fishing	
Run Casing	2.5
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	7.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	289.8	Dewatering		SCE	
Total Hole	859.9	Sea Water		Evaporation	
Total Circ	289.8	Whole Mud		Trips	
Reserve	374.2	Barite		Other	
Prev Vol	1523.8	Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol	1523.9	Total		Total Losses	

Fluid Types Vol bbl

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A478,916.62	Total Cumulative Cost	$A646,776.62

Deviation Information

Survey MD	3,223.6 m
Survey TVD	3,222.6 m
Angle	4.33 Deg
Direction	83
Horiz Displ.	36.9 m

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 55

Daily Drilling Fluid Report

Date 24/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Plug and Abandon well	
Operator ADA DRILLING	Report For Bryan Houston / Paul Leathem	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size		in
Make/Type		
Jets		
TFA		sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	3,235.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Riser	18.750		95.0
Open Hole	8.500		715.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program	
Source		Pit #2	Pit #2					
Time		8:00	22:00					
Depth	m	3,235	3,235					
FL Temp	Deg C							
Density @ Deg C	ppg	9.50 @ 30	9.50 @ 25				9.00	10.00
FV @ Deg C	sec/qt	55 @ 30	55 @ 25					
PV @ Deg C	cP	13 @ 49	10 @ 49					
YP	lbs/100 ft2	29	40					
GELS	lbs/100 ft2	9/12/15	11/17/20					
600/300		55.0/42.0	60.0/50.0					
200/100		35.0/25.0	39.0/29.0					
6/3		10.0/9.0	12.0/10.0					
API Filt	ml/30 min	5.3	5.2					
HTHP @ Deg C	ml/30 min	11.0 @ 121	11.0 @ 121					13.0
Cake API/HTHP	32nd in	1/2	1/2					
Corr Solid	% by Vol	3.9	3.9					
NAP/Water	% by Vol	-/93.0	-/93.0					
Sand	% by vol	0.30	0.30					1.0
MBT	ppb Eq.	9.0	8.0					25.0
pH @ Deg C		8.50 @ 22	9.00 @ 22				8.50	9.50
ALK Mud	Pm	0.20	0.10					
ALK Filt	Pf/Mf	0.20/2.00	0.10/2.00					
Chlorides	mg/l	38,000	38,000					
Tot. Hardness	mg/l	720	720					
LGS/HGS	% by Vol	2.1/1.9	2.1/1.9					
LGS/HGS	ppb	18.73/27.30	18.73/27.30					
ASG	SG	3.359	3.359					
Additional Properties								
KCl %	-	6.00	6.00					

Fluid Treatments

Fluid Type 8 1/2" KCl/Polymer

Displaced riser to seawater

Conditioned 9.5 ppg KCl mud.

Note: Actual Surface volumes are 1016 bbl
Total mud left behind: 507.9 bbl

Rig Activity

Cont. to P/U & M/U 9 5/8" casing cutting tools & RIH same. Cut 9 5/8" csg at 145 m. POOH. Pick up & make up spear assy & RIH. Retreive casing hanger & joint. Casing backed out 1 joint below hanger while being cut. Made up casing spear & RIH to spear remainder of 9 5/8" casing while displacing riser & C&K lines f/ mud to seawater. POOH w/ casing to surface. Pull diverter & layout same. P/U riser landing joint & connect to slip joint. Unlatch BOP from well head. Move rig 25 ft off of location. Dissconnect MRT cables & C&K lines form the slip joint in the moon pool. Pull landing joint, disconnect & Lay out same.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
BARAZAN D PLUS	25 kg bag	41		6	35	$A1,292.04
ALDACIDE G	25 kg can	11		3	8	$A519.27
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	8			8	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300	20 20 20 100 100 100 100	3.0
VSM-300	20 20 20 100 100 100 100	5.0
VSM-300	20 20 20 100 100 100 100	5.0
VSM-300	20 20 20 100 100 100 100	3.0

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	9.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	15.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown — 8 1/2" KCl/Polymer

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits	360.8	Dewatering		SCE	
Total Hole	859.9	Sea Water		Evaporation	
Total Circ	360.8	Whole Mud		Trips	
Reserve	304.2	Barite		Other	
Prev Vol	1523.9	Chemicals	1.0	Total Surface	
Net Change	1.0	Other		Downhole	
Total Vol	1524.9	Total	1.0	Total Losses	

Fluid Types — **Vol bbl**

Deviation Information

Survey MD	3,223.6 m
Survey TVD	3,222.6 m
Angle	4.33 Deg
Direction	83
Horiz Displ.	36.9 m

Daily Products Cost	$A1,811.31	Total Daily Cost	$A4,891.31
Cumulative Products Cost	$A480,727.93	Total Cumulative Cost	$A651,667.93

Baroid Representatives James Munford Jay Wan
Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555
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Baroid Fluid Services

Report No 56

Daily Drilling Fluid Report

Date 25/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Plug and Abandonment	
Operator ADA DRILLING	Report For Bryan Houston / Kevin Monkhouse	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size		in
Make/Type		
Jets		
TFA		sq-in
Jets Velocity		ft/sec
Jet Impact Force		lbf
Bit HHSI		hhp/in2
Press Drop @ Bit		psi
Bit Depth	3,235.0	m
ECD @ Csg Shoe		ppg
ECD @ Bit		ppg

Drill String (in) / (m)

	OD	ID	Length
Riser	18.750		95.0
Open Hole	8.500		715.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			
Total GPM	AV, Riser	Circ Press psi	
Total Circ Time	AV min DP	Tot Pres Loss	
BU Time , min	AV max DC	Press Drop DP	
Total Strokes	BU Strokes	Press Drop An	

Properties		1	2	3	4	Targets	Program	
Source		Flow Line						
Time		10:00						
Depth	m	3,235						
FL Temp	Deg C							
Density @ Deg C	ppg	9.50 @ 25					9.00	10.00
FV @ Deg C	sec/qt	56 @ 25						
PV @ Deg C	cP	10 @ 49						
YP	lbs/100 ft2	40						
GELS	lbs/100 ft2	10/16/19						
600/300		60.0/50.0						
200/100		39.0/28.0						
6/3		10.0/8.0						
API Filt	ml/30 min	5.3						
HTHP @ Deg C	ml/30 min	10.5 @ 121						13.0
Cake API/HTHP	32nd in	1/2						
Corr Solid	% by Vol	3.9						
NAP/Water	% by Vol	-/93.0						
Sand	% by vol	0.20						1.0
MBT	ppb Eq.	9.0						25.0
pH @ Deg C		9.00 @ 22					8.50	9.50
ALK Mud	Pm	0.10						
ALK Filt	Pf/Mf	-/2.10						
Chlorides	mg/l	38,000						
Tot. Hardness	mg/l	720						
LGS/HGS	% by Vol	2.1/1.9						
LGS/HGS	ppb	18.73/27.30						
ASG	SG	3.359						
Additional Properties								
KCl %	-	6.00						

Fluid Treatments

Fluid Type

Offloaded 700 bbls 9.5 ppg KCl mud & 180 bbls 9.9 ppg Gel mud to M.V. Far Fosna.

Offloaded 170 bbls 9.5 ppg KCl mud to M.V. Far Scimitar.

Rig Activity

Pulled slip joint. Disconnected & laid out same. Continued to pull riser & BOPs. Secured BOP on Nomar carrier. Disconnected riser from BOP & laid out same while moving BOP to aft of moon pool area. M/U smith casing cutting assy. RIH, stabbed wellhead & landed out rotating spear with 15 k. Picked up 220 k to test latch, reduced to 200 k. Commence cutting 20"/30" csg @ 99.4 m. Took 380 k pull test to check if casing cut. No go. Cont. to cut 20"/30" casing. (100 rpm, 185 gpm, 1200 psi, 3/5 k ft-lbs.)

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	8			8	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	8			8	
BARAZAN D PLUS	25 kg bag	35			35	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol		Total		Total Losses	

Fluid Types Vol bbl

Deviation Information

Survey MD	3,223.6 m
Survey TVD	3,222.6 m
Angle	4.33 Deg
Direction	83
Horiz Displ.	36.9 m

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A480,727.93	Total Cumulative Cost	$A654,747.93

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 57

Daily Drilling Fluid Report

Date 26/11/09		**Depth** 3,235.0 m	
Spud Date 06/10/09		**Rig Activity** Plug and Abandoment	
Operator ADA DRILLING	**Report For** Bryan Houston / Kevin Monkhouse	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Brian Meechan / Geoff Chapman	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information		Drill String (in) / (m)			in Casing m			Circulation/Hydraulics Data			
		OD	ID	Length	OD	Set	MD				
Bit Size	in				30.000	@	144.0	Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Make/Type					20.000	@	153.0	Bore in	6.500	6.500	6.500
Jets					13.375	@	930.0	Strokes in	12.000	12.000	12.000
TFA	sq-in				9.625	@	2,520.0	Eff(%)	97	97	97
Jets Velocity	ft/sec							bbl/strk	0.119	0.119	0.119
Jet Impact Force	lbf							SPM	0	0	0
Bit HHSI	hhp/in2							gpm|bbl/min			
Press Drop @ Bit	psi							Total GPM		AV, Riser	Circ Press psi
Bit Depth	m	Riser	18.750	95.0				Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	ppg	Open Hole	8.500	715.0				BU Time , min		AV max DC	Press Drop DP
ECD @ Bit	ppg				Form Integrity ppg		11.00	Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type

474.9 bbl 9.5 ppg mud left in hole.

Stopped cutting casing. Attempted to pull casing free. POOH with 20"x 30" cutting BHA. Made up grapple, fishing jar & accelerator BHA. POOH. Re secured guide line ropes to BHA & RIH. Stab into 18 3/4" wellhead & engage w/ casing spear. Worked jar 6 times & attempted to free w/ 200 k overpull. No go.

Rig Activity

Cont. jarring w/ static overpulls up to 280 k. No movement in casing. POOH & laid out Jar BHA. Made up 20" / 30" casing cutting assembly, Stabbed into well, engage 18 3/4" wellhead with spear. Overpull 20k (200k MD)to confirm latch. Compensator closed as 18 3/4" housing inner came free. Laid out 18 3/4" inner wellhead housing and 20" casing stub. Made up 20" grapple fishing BHA. RIH with 20" grapple BHA to seabed & stabbed into wellhead.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	8			8	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	8			8	
BARAZAN D PLUS	25 kg bag	35			35	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol		Total		Total Losses	

Fluid Types	Vol bbl

Deviation Information

Survey MD	3,223.6 m
Survey TVD	3,222.6 m
Angle	4.33 Deg
Direction	83
Horiz Displ.	36.9 m

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A480,727.93	Total Cumulative Cost	$A657,827.93
Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 58

Daily Drilling Fluid Report

Date 27/11/09		**Depth** 3,235.0 m	
Spud Date 06/10/09		**Rig Activity** Plug and Abandonment	
Operator ADA DRILLING	**Report For** Bryan Houston / Kevin Monkhouse	**Well Name** TREFOIL-2	
Contractor MAERSK	**Report For** Brian Meechan / Geoff Chapman	**Rig Name** Kantan IV	**Unit System** ADA Drilling
Country Australia	**State/Province/Region** Tasmania	**Geographic Area/County** Bass Strait	**Field or Block** T/18P

Bit Information		Drill String (in) / (m)	OD	ID	Length	in Casing m	OD	Set	MD	Circulation/Hydraulics Data			
Bit Size	in									Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Make/Type							30.000	@	144.0	Bore in	6.500	6.500	6.500
Jets							20.000	@	153.0	Strokes in	12.000	12.000	12.000
TFA	sq-in						13.375	@	930.0	Eff(%)	97	97	97
Jets Velocity	ft/sec						9.625	@	2,520.0	bbl/strk	0.119	0.119	0.119
Jet Impact Force	lbf									SPM	0	0	0
Bit HHSI	hhp/in2									gpm|bbl/min			
Press Drop @ Bit	psi									Total GPM		AV, Riser	Circ Press psi
Bit Depth	m	Riser	18.750		95.0					Total Circ Time		AV min DP	Tot Pres Loss
ECD @ Csg Shoe	ppg	Open Hole	8.500		715.0					BU Time , min		AV max DC	Press Drop DP
ECD @ Bit	ppg					Form Integrity ppg			11.00	Total Strokes		BU Strokes	Press Drop An

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type

Engaged 20" casing stub w/ spear & recovered to surface. Made up & RIH with 30" casing cutting assembly. Land stop ring on wellhead & cut 30" casing at 97.88 m. Unable to pull PGB and wellhead free w/ guideline tensioners.

Rig Activity

POOH w/ catter & rack in derrick. Ran PGB retrieval tool, latched onto PGB & commenced pulling PGB to surface. RT disengaged. Pulled RT to moonpool then recovered PGB to moonpool w/ guide lines. Removed PGB & RT f/ moonpool. RIH w/ cement stinger to 230 m. Mix, pump & displace 70 bbl of 15.9 ppg G cement slurry. Pull above well head, flush pipe & lay out cementing string. (ROV completed seabed survey) Laid out 12 jts of 5" DP from derrick. SCRs switched to anchor winches, Far Fosna & Far Scimitar begin recovering anchors #5 & #8.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	8			8	
Amodrill 1235	1 bbl bulk	19.400			19.400	
BARA-DEFOAM W300	25 l can	8			8	
BARAZAN D PLUS	25 kg bag	35			35	
barite	1 tons bulk	116.400			116.400	
BAROLIFT	15 lb box	16			16	
BARO-SEAL FINE	40 lb bag	40			40	
BARO-SEAL MEDIUM	40 lb bag	40			40	
bentonite	1000 kg bulk	46.000			46.000	
Circal 60/16	25 kg bag	149			149	
Circal Y	25 kg bag	91			91	
citric acid	25 kg bag	38			38	
CLAYSEAL PLUS	55 gal drum	46			46	
CON DET	5 gal can	32			32	
DEXTRID LTE	25 kg sack	126			126	
EZ SPOT	55 gal drum	5			5	
EZ-MUD	25 kg pail	121			121	
Generic mesh 24 (API 20)	1 each box	12			12	
guar gum	25 kg bag	100			100	
mica	25 kg bag	38			38	
N-DRIL HT PLUS	50 lb bag	105			105	
Omyacarb 5	25 kg bag	6			6	
OXYGON	50 lb can	33			33	
PAC-L	25 kg bag	87			87	
potassium chloride	1000 kg bag	33			33	
potassium hydroxide	20 kg pail	12			12	
sapp	25 kg bag	18			18	

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	24.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol		Total		Total Losses	

Fluid Types	Vol bbl

Deviation Information

Survey MD	3,223.6 m
Survey TVD	3,222.6 m
Angle	4.33 Deg
Direction	83
Horiz Displ.	36.9 m

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A480,727.93	Total Cumulative Cost	$A660,907.93

Baroid Representatives	James Munford	Jay Wan	
Office	90 Talinga Rd Melbourne	Telephone	61-03-9581-7555
Warehouse	c/o of Esso Australia Ltd	Telephone	61-3-56-881-445

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Baroid Fluid Services

Report No 59

Daily Drilling Fluid Report

Date 28/11/09		Depth 3,235.0 m	
Spud Date 06/10/09		Rig Activity Prepare for Rig Move	
Operator ADA DRILLING	Report For Bryan Houston / Kevin Monkhouse	Well Name TREFOIL-2	
Contractor MAERSK	Report For Brian Meechan / Geoff Chapman	Rig Name Kantan IV	Unit System ADA Drilling
Country Australia	State/Province/Region Tasmania	Geographic Area/County Bass Strait	Field or Block T/18P

Bit Information

Bit Size	in
Make/Type	
Jets	
TFA	sq-in
Jets Velocity	ft/sec
Jet Impact Force	lbf
Bit HHSI	hhp/in2
Press Drop @ Bit	psi
Bit Depth	m
ECD @ Csg Shoe	ppg
ECD @ Bit	ppg

Drill String (in) / (m)

	OD	ID	Length
Riser	18.750		95.0
Open Hole	8.500		715.0

in Casing m

OD	Set	MD
30.000	@	144.0
20.000	@	153.0
13.375	@	930.0
9.625	@	2,520.0

Form Integrity ppg 11.00

Circulation/Hydraulics Data

Model	Emsco FB 1600	Emsco FB 1600	Emsco FB 1600
Bore in	6.500	6.500	6.500
Strokes in	12.000	12.000	12.000
Eff(%)	97	97	97
bbl/strk	0.119	0.119	0.119
SPM	0	0	0
gpm|bbl/min			

Total GPM | AV, Riser | Circ Press psi
Total Circ Time | AV min DP | Tot Pres Loss
BU Time , min | AV max DC | Press Drop DP
Total Strokes | BU Strokes | Press Drop An

Properties		1	2	3	4	Targets	Program
Source							
Time							
Depth	m						
FL Temp	Deg C						
Density @ Deg C	ppg						
FV @ Deg C	sec/qt						
PV @ Deg C	cP						
YP	lbs/100 ft2						
GELS	lbs/100 ft2						
600/300							
200/100							
6/3							
API Filt	ml/30 min						
HTHP @ Deg C	ml/30 min						
Cake API/HTHP	32nd in						
Corr Solid	% by Vol						
NAP/Water	% by Vol						
Sand	% by vol						
MBT	ppb Eq.						
pH @ Deg C							
ALK Mud	Pm						
ALK Filt	Pf/Mf						
Chlorides	mg/l						
Tot. Hardness	mg/l						
LGS/HGS	% by Vol						
LGS/HGS	ppb						
ASG	SG						
Additional Properties							

Fluid Treatments

Fluid Type

Rig Activity

Recovered Secondary Anchors. Cranes outside limits due to weather, unable to cont. w/ anchor handling. Laid out 6 x 6 1/2" DCs, 2 x 8" DCs, 15 x 5" HWDP f/ derrick, laid out the hang off tool stand. Continued to lay out tubulars f/ derrick. Sea fasten rig floor. Deballast rig to 30'.

Product Name	Units	Start	Rec	Used	End	Cost
Drilling Fluids Engineer 2	day(s)			1		$A1,540.00
Drilling Fluids Engineer	day(s)			1		$A1,540.00
ALDACIDE G	25 kg can	8				
Amodrill 1235	1 bbl bulk	19.400				
BARA-DEFOAM W300	25 l can	8				
BARAZAN D PLUS	25 kg bag	35				
barite	1 tons bulk	116.400			0.000	
BAROLIFT	15 lb box	16				
BARO-SEAL FINE	40 lb bag	40				
BARO-SEAL MEDIUM	40 lb bag	40				
bentonite	1000 kg bulk	46.000				
Circal 60/16	25 kg bag	149				
Circal Y	25 kg bag	91				
citric acid	25 kg bag	38				
CLAYSEAL PLUS	55 gal drum	46				
CON DET	5 gal can	32				
DEXTRID LTE	25 kg sack	126				
EZ SPOT	55 gal drum	5				
EZ-MUD	25 kg pail	121				
Generic mesh 24 (API 20)	1 each box	12				
guar gum	25 kg bag	100				
mica	25 kg bag	38				
N-DRIL HT PLUS	50 lb bag	105				
Omyacarb 5	25 kg bag	6				
OXYGON	50 lb can	33				
PAC-L	25 kg bag	87				
potassium chloride	1000 kg bag	33				
potassium hydroxide	20 kg pail	12				
sapp	25 kg bag	18				

Solids Control Equipment

Shaker	Screens	Hrs
VSM-300		
VSM-300		
VSM-300		
VSM-300		

Hydrocyclone	Cones	Screens	Hrs

Centrifuge	Speed	Feed Rate	Hrs
HS 2000	3,500	300.00	
HS 2000	3,500	300.00	
518	4,000	80.00	

Time

Drilling	
Circulating	
Trips	7.0
Rig	
Surveys	
Fishing	
Run Casing	
Coring	
Reaming	
Testing	
Logging	
Dir Work	
Repair	
Other	17.0
Total	24.0
Rotating	
ROP	
Dil Rate	0.00

Fluid Volume Breakdown

Active	bbl	Additions	bbl	Losses	bbl
Annulus		Base		Fluid Dumped	
Pipe Cap		Drill Water		Transferred	
Active Pits		Dewatering		SCE	
Total Hole		Sea Water		Evaporation	
Total Circ		Whole Mud		Trips	
Reserve		Barite		Other	
Prev Vol		Chemicals		Total Surface	
Net Change		Other		Downhole	
Total Vol		Total		Total Losses	

Fluid Types | **Vol bbl**

Deviation Information

Survey MD	3,223.6 m
Survey TVD	3,222.6 m
Angle	4.33 Deg
Direction	83
Horiz Displ.	36.9 m

Daily Products Cost	$A0.00	Total Daily Cost	$A3,080.00
Cumulative Products Cost	$A480,727.93	Total Cumulative Cost	$A663,987.93

Baroid Representatives James Munford Jay Wan
Office 90 Talinga Rd Melbourne Telephone 61-03-9581-7555
Warehouse c/o of Esso Australia Ltd Telephone 61-3-56-881-445

HALLIBURTON | Fluid Systems

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APPENDIX 19: PVT REPORT

45 Woodforde Road
PO Box 410
Magill SA 5072
Australia
ACN 008 130 667

PETROLAB

Reservoir Fluid and Core Services, Laboratory Consulting and Analysis

T: 61 8 8364 1500
M: 0419 788 522
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Adelaide, May 11, 2010
P. O. Box 410
Magill
S. A. 5072

Origin Energy Resources Limited
1 King William Street
PO Box 1199
Adelaide
S.A. 5000

Subject : Reservoir Fluid Study
Well: Trefoil # 2
File: O – 29100

Attention: Mr. Joe Parvar

Dear Sirs,

In November, 2009, 6 MDT bottom hole samples collected by Schlumberger, were received in our Adelaide laboratory where they were used in a reservoir fluid study. The results of the tests are presented in the following report.

compositional analyses were performed on all gas MDT samples. Two samples were selected for a Constant Composition Expansions and one of those was used for a complete Gas Condensate PVT study.

The reservoir fluid from 2830.3 m was charged to a visual P V T cell and thermally expanded to the reservoir temperature of 239 °F. During a constant composition expansion at this temperature, a dew point pressure of 6375 psig was observed.

Other data obtained during this Pressure - Volume relations' experiments, include relative volume versus pressure, gas compressibility, specific volume and gas expansion above the dew point and the distribution of retrograde liquid versus pressure below it.

The reservoir fluid from 3155.1 m was charged to a visual P V T cell and thermally expanded to the reservoir temperature of 261 °F. During a constant composition expansion at this temperature, a dew point pressure of 3910 psig was observed

Other data obtained during this Pressure - Volume relations' experiments, include relative volume versus pressure, gas compressibility, specific volume and gas expansion above the dew point and the distribution of retrograde liquid versus pressure below it.

The reservoir fluid was then produced by means of constant volume differential depletions. At

each depletion pressure, the amount and composition of the produced wellstream was determined and the retrograde liquid observed. Together with other measured gas properties this data allowed us to calculate the compositions of the retrograde liquid remaining in the cell.

The produced compositions and volumes from the depletion study were used in conjunction with published equilibrium constants to calculate cumulative surface recoveries resulting from conventional separation.

Routine water analyses were performed on 2 stock tank water samples recovered from two bottom hole samples.

Some other tests including BTX content were also performed on recovered stock tank liquid and flashed gas and trace metals and mercury in the flashed gas.

We thank Origin Energy Resources Limited for the opportunity to be of service. Please do not hesitate in contacting us should you require any further information or if we can assist you in any other way.

Yours Sincerely,

Jan G. Bon
Manager

PETROLAB

Company : Origin Energy Resources Ltd.
Well : Trefoil 2 File : O - 29100

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SUMMARY OF RESULTS

		Sample in Cylinder # 812257 EX MPSR 3513 Depth 2830.3m	Sample in Cylinder # 811110 EX MPSR 3376 Depth 3155.1m
SATURATED VAPOUR:			
Reservoir Temperature (°F)	:	239	261
Dew Point Pressure (psig)	:	6375	3910
Reservoir Pressure (Psig)		3995	4483
Gas Formation Volume Factor (Bg)	:	0.00420	0.00429
Gas Expansion Factor (E)	:	238.20	232.84
Gas Deviation Factor (Z)	:	0.853	0.948
Specific Volume (CFT/LB)	:	0.05842	0.07638
Density (gm/cc)	:	0.2742	0.2097
Viscosity (centipoise)	:	0.0329	0.0265
Molecular Weight	:	27.31	21.35
Gas Gravity (Air = 1.000)	:	0.936	0.741
Gross Heating Value (BTU/ft3)	:	1517	1183

Total Plant Products in Dew Point Fluid (GPMM):

Ethane	:	1761
Propane	:	488
Butanes	:	286
Pentanes Plus	:	786

FLASH DATA:

1st Separator Pressure (psig)	:	1000
1st Separator Temperature (°F)	:	100
2nd Separator Pressure (psig)	:	250
2nd Separator Temperature (°F)	:	70
Stock Tank Pressure (psig)	:	0
Stock Tank Temperature (°F)	:	60
1st Separator GOR (scf/bbl)	:	37320
2nd Separator GOR (scf/bbl)	:	222
Stock Tank GOR (scf/bbl)	:	158
Total GOR (scf/bbl)	:	37700
1st Sep.Gas / Prod. WS (mscf/mmscf)	:	972
2nd Sep.Gas / Prod. WS (mscf/mmscf)	:	6
STT Gas / Prod. WS (mscf/mmscf)	:	4
ST T Liq / Produced W/S (stb/mmscf)	:	26

Total Plant Products in Primary Separator Gas (GPMM):

Ethane	:	1708
Propane	:	454
Butanes	:	245
Pentanes Plus	:	264

Total Plant Products in Secondary Separator Gas (GPMM):

Ethane	:	16
Propane	:	4
Butanes	:	2
Pentanes Plus	:	1

Total Plant Products in Stock Tank Gas (GPMM):

Ethane	:	27
Propane	:	17
Butanes	:	12
Pentanes Plus	:	10

TRANSFER DETAILS

Transferred on November 26 to 27 , 2009 @ 6000 psig

Sample ID #	MDT MPSR #	Depth MDRT (metres)	ZONE	Opening Pressure (psig @ 23 °C)	Transferred to Petrolab Cylinder	Volume Transferred	Fluid Phase Transferred
1	2672	3171.2	TF90	3700	810826	345	Gas **
2	3337	3171.2	TF90	3700	812423	240*	Gas **
3	3350	3155.1	TF80	4280	80050	355	Gas
4	3376	3155.1	TF80	4900	811110	260*	Gas
5	3457	2830.3	2828.0	4000	81114	345	Gas
6	3513	2830.3	2828.0	3900	812257	265*	Gas

* ~ 100 cc bubbled through Nitric Acid for Trace Metals

** some free water / filtrate in sample

PETROLAB

Company : Origin Energy Resources Ltd.	Page : 3 of 57
Well : Trefoil 2	File : O - 29100

STOCK TANK WATER ANALYSIS

SAMPLE FROM CYLINDER NUMBER 810826 Ex MPSR 2672

Resistivity	:	0.091	Ohm.M @ 25 °C
Conductivity (E.C)	:	110000	micro-S/cm @ 25 °C
pH	:	6.2	
Density	:	1.0516	gm/cc @ 25 °C
Total alkalinity	:	2400	Each as CaCO3

Cations

		mg/l	meq/l
Calcium	(Ca):	270.0	13.47
Magnesium	(Mg):	84.0	6.91
Sodium	(Na):	7100.0	308.83
Potassium	(K):	37000.0	946.29

Anions

		mg/l	meq/l
Hydroxide	(OH):	0.0	0.00
Carbonate	(CO3):	0.0	0.00
Bi-Carbonate	(HCO3):	2926.3	47.96
Sulphate	(SO4):	260.0	5.41
Chloride	(Cl):	42000.0	1184.77
Nitrate	(NO3):	<0.1	0.00

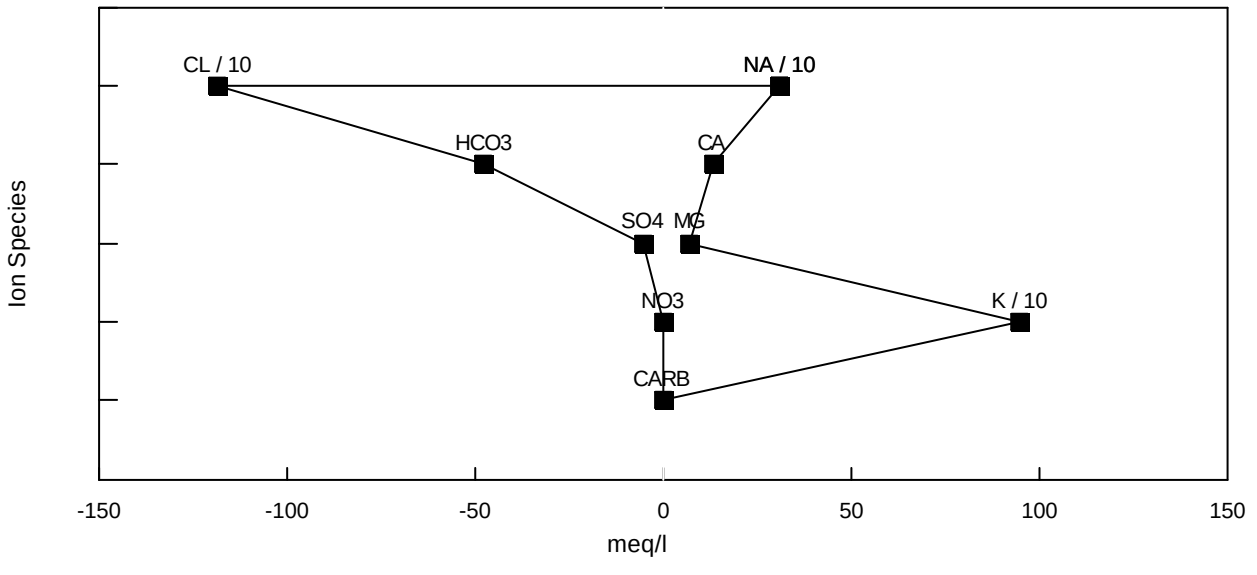
Total dissolved solids

		mg/l
Calculated (HCO3=CO3)	:	88153
From Conductivity	:	69630
Salinity	:	75810

Hardness

Carbonate	:	1020
Non-Carbonate	:	0
Total	:	1020

STIFF DIAGRAM



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 4 of 57
Well : Trefoil 2	File : O - 29100

STOCK TANK WATER ANALYSIS

SAMPLE FROM CYLINDER NUMBER 812423 Ex MPSR 3337

Resistivity	:	0.091	Ohm.M @ 25 °C
Conductivity (E.C)	:	110000	micro-S/cm @ 25 °C
pH	:	6.4	
Density	:	1.0516	gm/cc @ 25 °C
Total alkalinity	:	2600	Each as CaCO3

Cations

		mg/l	meq/l
Calcium	(Ca):	370.0	18.46
Magnesium	(Mg):	84.0	6.91
Sodium	(Na):	6900.0	300.13
Potassium	(K):	35000.0	895.14

Anions

		mg/l	meq/l
Hydroxide	(OH):	0.0	0.00
Carbonate	(CO3):	0.0	0.00
Bi-Carbonate	(HCO3):	3170.2	51.95
Sulphate	(SO4):	250.0	5.21
Chloride	(Cl):	40000.0	1128.35
Nitrate	(NO3):	<0.1	0.00

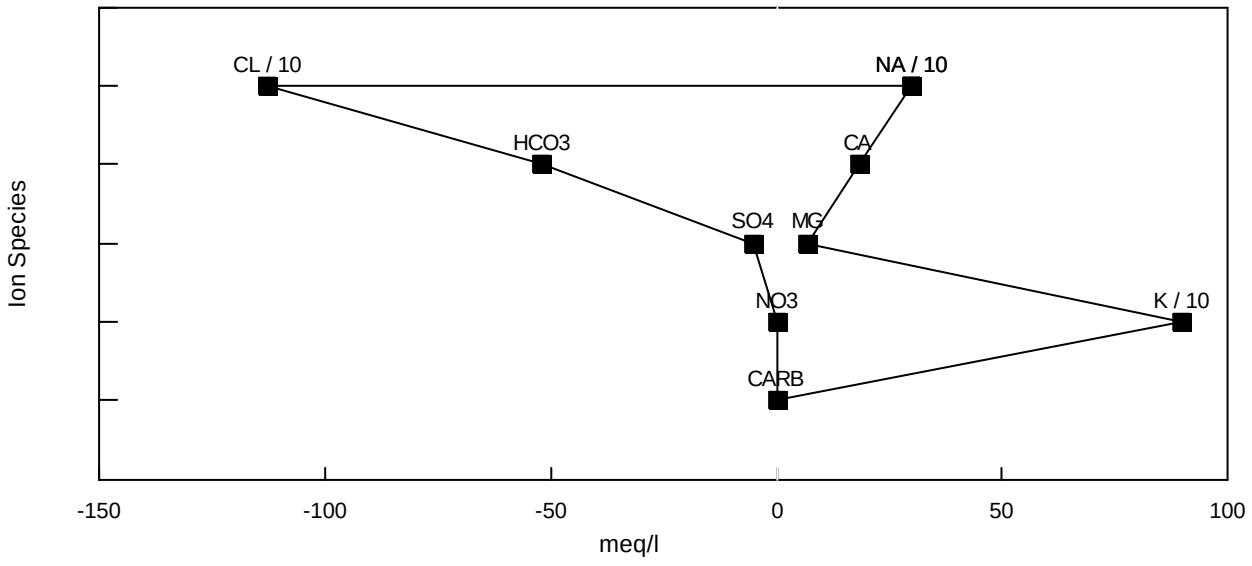
Total dissolved solids

		mg/l
Calculated (HCO3=CO3)	:	84163
From Conductivity	:	69630
Salinity	:	72200

Hardness

Carbonate	:	1270
Non-Carbonate	:	0
Total	:	1270

STIFF DIAGRAM



GAS CONTAMINANTS

Wet Chemistry Measurements

Sample No			2	4	6
MPSR No.			3337	3376	3513
Depth MDRT (m)			3171.2	3155.1	2830.3
Arsenic(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Cadmium(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Chromium(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Cobalt(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Copper(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Manganese(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Molybdenum(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Nickel(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Lead(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Antimony(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Selenium(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Tin(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Zinc(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Barium(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Beryllium(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Boron(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Vanadium(1)	mg/m^3		< 0.025	< 0.025	< 0.025
Mercury (2)	mg/m^3		0.054	0.106	0.078

(1) By ICP <0.005 mg/m^3 detection limit
(2) By Cold Vapour Atomic Absorption: <0.0001 mg/m3 detection limit.

BTEX ANALYSIS

Cylinder #	MPSR #	Depth (mMRT)	LIQUID MOL %					GAS MOL %					RECOMBINED MOL %			
			B	T	E	X	Molar Ratio	B	T	E	X	Molar Ratio	B	T	E	X
810826	2672	3171.2	0.419	2.852	0.562	7.109	0.003	0.062	0.106	0.000	0.103	0.997	0.063	0.115	0.002	0.127
812423	3337	3171.2	0.461	2.989	0.566	7.538	0.004	0.072	0.100	0.000	0.090	0.996	0.074	0.111	0.002	0.118
80050	3350	3155.1	0.445	2.913	0.492	5.898	0.004	0.023	0.026	0.000	0.012	0.996	0.025	0.038	0.002	0.036
811110	3376	3155.1	0.183	2.300	0.542	7.562	0.004	0.037	0.055	0.000	0.032	0.996	0.038	0.065	0.002	0.064
81114	3457	2830.3	1.119	0.748	0.354	3.776	0.022	0.006	0.009	0.000	0.005	0.978	0.031	0.025	0.008	0.089
812257	3513	2830.3	1.052	0.724	0.269	3.573	0.020	0.010	0.016	0.000	0.010	0.980	0.031	0.030	0.005	0.082

NOTE: Initials B, T, E, X are Benzene, Toluene, Ethyl-Benzene and Xylene respectively

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 810826 EX MPSR 2672 Depth 3171.2 m

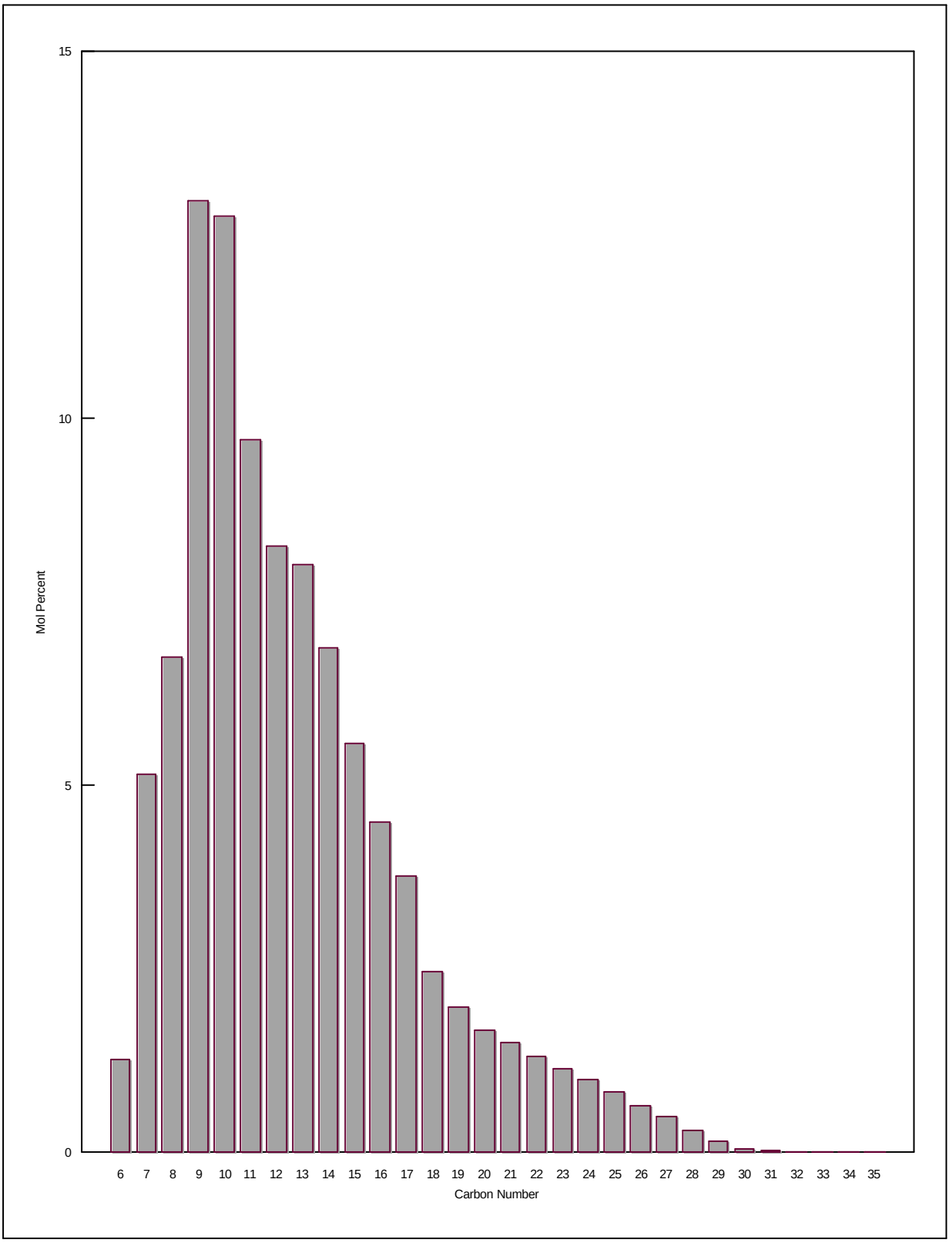
Component		Mol %
Hexanes minus	C6-	0.88
Hexanes	C6	1.26
Heptanes	C7	5.16
Octanes	C8	6.75
Nonanes	C9	12.97
Decanes	C10	12.75
Undecanes	C11	9.72
Dodecanes	C12	8.27
Tridecanes	C13	8.01
Tetradecanes	C14	6.87
Pentadecanes	C15	5.57
Hexadecanes	C16	4.49
Heptadecanes	C17	3.77
Octadecanes	C18	2.46
Nonadecanes	C19	1.98
Eicosanes	C20	1.67
Heneicosanes	C21	1.49
Docosanes	C22	1.31
Tricosanes	C23	1.14
Tetracosanes	C24	0.99
Pentacosanes	C25	0.83
Hexacosanes	C26	0.63
Heptacosanes	C27	0.48
Octacosanes	C28	0.29
Nonacosanes	C29	0.16
Triacontanes	C30	0.05
Hentriacontanes	C31	0.03
Dotriacontanes	C32	0.01
Tritriacontanes	C33	0.01
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	172.4
Density @ 60 °F Calculated *	:	0.8108
Molecular Weight Measured	:	--
Density @ 60 °F Measured	:	--

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 810826 EX MPSR 2672 Depth 3171.2 m



COMPOSITIONAL ANALYSIS OF RESERVOIR FLUID

Cylinder # 810826 EX MPSR 2672 Depth 3171.2 m

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.06	3.85	3.84
Nitrogen	N2	0.00	0.52	0.52
Methane	C1	0.49	84.55	84.26
Ethane	C2	0.23	6.93	6.91
Propane	C3	0.23	1.89	1.88
Iso-Butane	iC4	0.13	0.43	0.43
N-Butane	nC4	0.18	0.43	0.43
Iso-Pentane	iC5	0.24	0.21	0.21
N-Pentane	nC5	0.20	0.14	0.14
Hexanes	C6	1.25	0.27	0.27
Heptanes	C7	5.11	0.36	0.38
Octanes	C8	6.69	0.20	0.22
Nonanes	C9	12.86	0.16	0.20
Decanes	C10	12.64	0.05	0.09
Undecanes	C11	9.63	0.01	0.04
Dodecanes Plus	C12+	50.06	0.00	0.18
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0034	0.9966	1.0000
Mass Ratio	:	0.0284	0.9716	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	-- @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	182844 SCF	--
Stream Properties				
Molecular Weight	:	170.6	20.14	20.7
Density obs. (gm/cc)	:	0.8099 @ 60 °F	--	0.4620 @ PT*
Gravity (AIR = 1.000)	:	43.0 °API @ 60 °F	0.700	174.5
GHV (BTU/scf)	:	--	1131	--
Hexanes Plus Properties				
Mol %	:	98.24	1.05	1.38
Molecular Weight	:	172.9	101.1	118.6
Density (gm/cc @ 60 °F)	:	0.8120	0.6906	0.7294
Gravity (°API @ 60 °F)	:	42.6	73.2	62.3
Heptanes Plus Properties				
Mol %	:	96.99	0.78	1.11
Molecular Weight	:	174.1	107.0	127.2
Density (gm/cc @ 60 °F)	:	0.8130	0.6981	0.7411
Gravity (°API @ 60 °F)	:	42.4	71.0	59.2
Decanes Plus Properties				
Mol %	:	72.33	0.06	0.31
Molecular Weight	:	195.2	136.1	183.3
Density (gm/cc @ 60 °F)	:	0.8262	0.7299	0.8107
Gravity (°API @ 60 °F)	:	39.6	62.2	42.9
Undecanes Plus Properties				
Mol %	:	59.69	0.01	0.22
Molecular Weight	:	208.2	146.9	205.3
Density (gm/cc @ 60 °F)	:	0.8333	0.7399	0.8298
Gravity (°API @ 60 °F)	:	38.1	59.6	38.9
Dodecanes Plus Properties				
Mol %	:	50.06	0.00	0.18
Molecular Weight	:	219.9	--	219.9
Density (gm/cc @ 60 °F)	:	0.8393	--	0.8393
Gravity (°API @ 60 °F)	:	36.9	--	36.9

* (P)ressure : 6000 psig * (T)emperature : 77 °F

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 812423 EX MPSR 3337 Depth 3171.2m

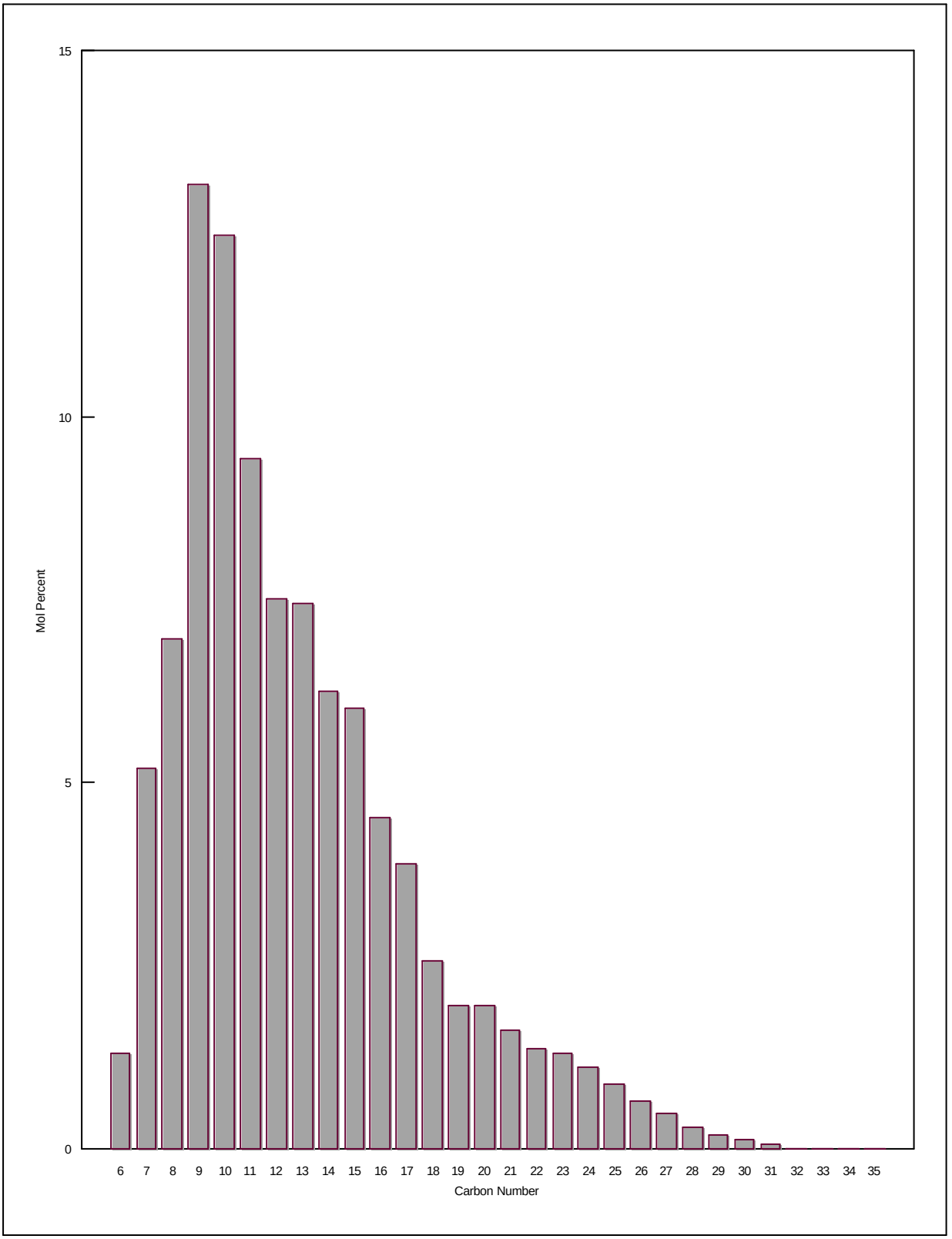
Component		Mol %
Hexanes minus	C6-	1.26
Hexanes	C6	1.30
Heptanes	C7	5.21
Octanes	C8	6.96
Nonanes	C9	13.16
Decanes	C10	12.47
Undecanes	C11	9.43
Dodecanes	C12	7.51
Tridecanes	C13	7.45
Tetradecanes	C14	6.25
Pentadecanes	C15	6.02
Hexadecanes	C16	4.52
Heptadecanes	C17	3.89
Octadecanes	C18	2.57
Nonadecanes	C19	1.95
Eicosanes	C20	1.95
Heneicosanes	C21	1.63
Docosanes	C22	1.37
Tricosanes	C23	1.30
Tetracosanes	C24	1.11
Pentacosanes	C25	0.88
Hexacosanes	C26	0.65
Heptacosanes	C27	0.49
Octacosanes	C28	0.29
Nonacosanes	C29	0.20
Triacontanes	C30	0.12
Hentriacontanes	C31	0.06
Dotriacontanes	C32	0.00
Tritriacontanes	C33	0.00
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	173.5
Density @ 60 °F Calculated *	:	0.8114
Molecular Weight Measured	:	--
Density @ 60 °F Measured	:	0.7867

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 812423 EX MPSR 3337 Depth 3171.2m



PETROLAB

Company : Origin Energy Limited | Page : 12 of 57
Well : Trefoil #2 | File : O - 290888

COMPOSITIONAL ANALYSIS OF RESERVOIR FLUID

Cylinder # 812423 EX MPSR 3337 Depth 3171.2m

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.06	3.93	3.92
Nitrogen	N2	0.00	0.54	0.54
Methane	C1	0.49	84.55	84.24
Ethane	C2	0.23	6.75	6.73
Propane	C3	0.23	1.86	1.85
Iso-Butane	iC4	0.13	0.43	0.43
N-Butane	nC4	0.18	0.41	0.41
Iso-Pentane	iC5	0.24	0.21	0.21
N-Pentane	nC5	0.22	0.15	0.15
Hexanes	C6	1.29	0.33	0.33
Heptanes	C7	5.18	0.39	0.41
Octanes	C8	6.92	0.22	0.24
Nonanes	C9	13.09	0.15	0.20
Decanes	C10	12.40	0.05	0.10
Undecanes	C11	9.38	0.02	0.05
Dodecanes Plus	C12+	49.94	0.01	0.19
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0037	0.9963	1.0000
Mass Ratio	:	0.0305	0.9695	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	57.2229 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	169607 SCF	--
Stream Properties				
Molecular Weight	:	172.1	20.22	20.8
Density obs. (gm/cc)	:	0.8111 @ 60 °F	--	0.4665 @ PT*
Gravity (AIR = 1.000)	:	42.8 °API @ 60 °F	0.700	171.5
GHV (BTU/scf)	:	--	1133	--
Hexanes Plus Properties				
Mol %	:	98.21	1.17	1.52
Molecular Weight	:	174.4	101.0	118.4
Density (gm/cc @ 60 °F)	:	0.8132	0.6904	0.7288
Gravity (°API @ 60 °F)	:	42.3	73.2	62.5
Heptanes Plus Properties				
Mol %	:	96.92	0.84	1.19
Molecular Weight	:	175.7	107.7	128.0
Density (gm/cc @ 60 °F)	:	0.8142	0.6989	0.7420
Gravity (°API @ 60 °F)	:	42.1	70.8	59.0
Decanes Plus Properties				
Mol %	:	71.72	0.08	0.34
Molecular Weight	:	198.0	141.7	183.2
Density (gm/cc @ 60 °F)	:	0.8280	0.7352	0.8091
Gravity (°API @ 60 °F)	:	39.2	60.8	43.2
Undecanes Plus Properties				
Mol %	:	59.32	0.03	0.24
Molecular Weight	:	211.4	154.6	203.6
Density (gm/cc @ 60 °F)	:	0.8351	0.7467	0.8259
Gravity (°API @ 60 °F)	:	37.8	57.8	39.7
Dodecanes Plus Properties				
Mol %	:	49.94	0.01	0.19
Molecular Weight	:	223.5	169.8	220.3
Density (gm/cc @ 60 °F)	:	0.8412	0.7591	0.8375
Gravity (°API @ 60 °F)	:	36.6	54.7	37.3

* (P)ressure : 6000 psig * (T)emperature : 73 °F

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 80050 EX MPSR 3350 Depth 3155.1m

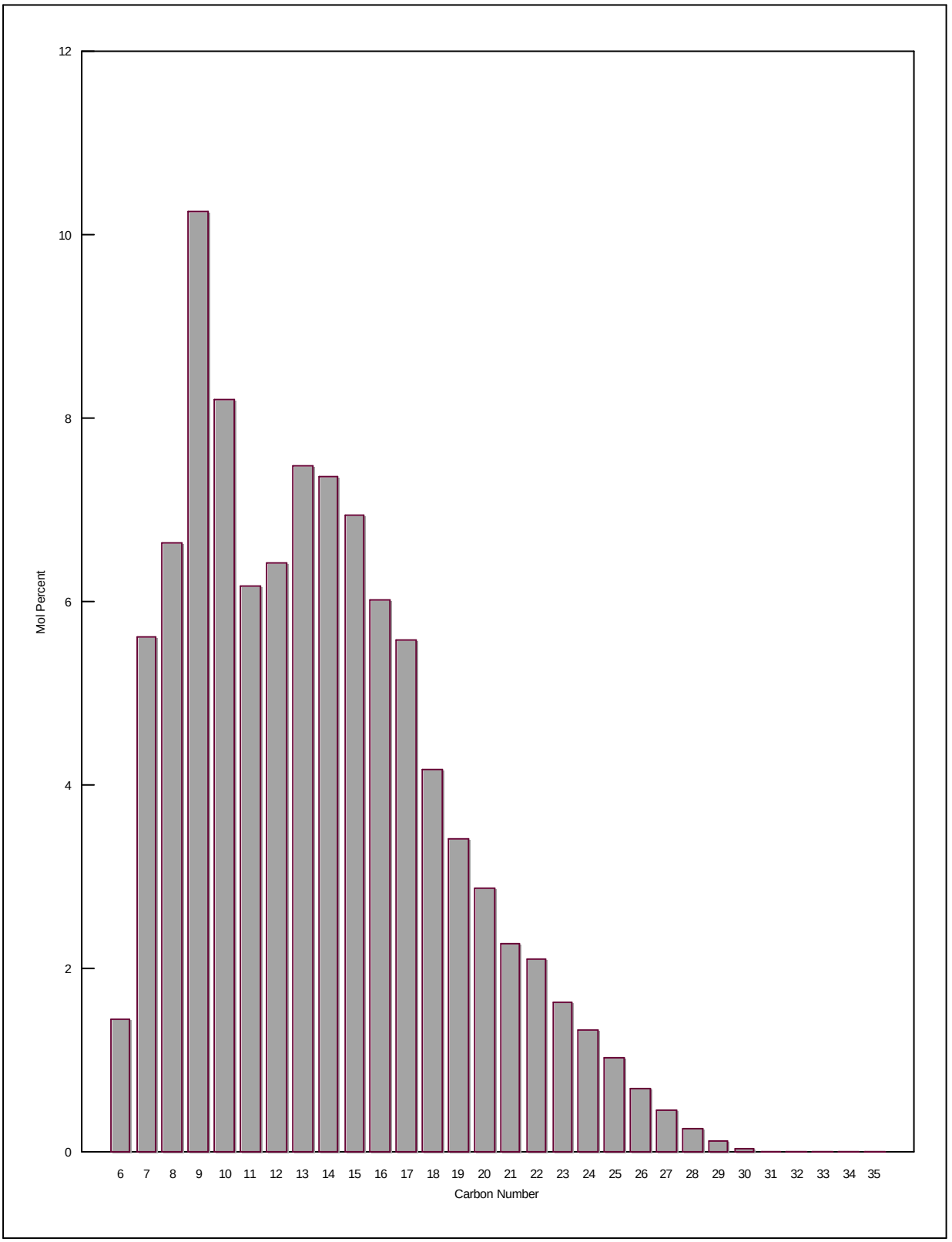
Component		Mol %
Hexanes minus	C6-	1.42
Hexanes	C6	1.45
Heptanes	C7	5.61
Octanes	C8	6.64
Nonanes	C9	10.26
Decanes	C10	8.21
Undecanes	C11	6.17
Dodecanes	C12	6.43
Tridecanes	C13	7.49
Tetradecanes	C14	7.36
Pentadecanes	C15	6.94
Hexadecanes	C16	6.02
Heptadecanes	C17	5.58
Octadecanes	C18	4.17
Nonadecanes	C19	3.42
Eicosanes	C20	2.88
Heneicosanes	C21	2.28
Docosanes	C22	2.11
Tricosanes	C23	1.64
Tetracosanes	C24	1.33
Pentacosanes	C25	1.03
Hexacosanes	C26	0.69
Heptacosanes	C27	0.45
Octacosanes	C28	0.25
Nonacosanes	C29	0.12
Triacontanes	C30	0.04
Hentriacontanes	C31	0.01
Dotriacontanes	C32	0.00
Tritriacontanes	C33	0.00
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	185.2
Density @ 60 °F Calculated *	:	0.8194
Molecular Weight Measured	:	--
Density @ 60 °F Measured	:	--

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 80050 EX MPSR 3350 Depth 3155.1m



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 15 of 57
Well : Trefoil 2	File : O - 29100

COMPOSITIONAL ANALYSIS OF RESERVOIR FLUID

Cylinder # 80050 EX MPSR 3350 Depth 3155.1m

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.06	4.31	4.29
Nitrogen	N2	0.00	0.49	0.49
Methane	C1	0.49	84.29	83.95
Ethane	C2	0.22	6.64	6.61
Propane	C3	0.23	1.90	1.89
Iso-Butane	iC4	0.13	0.45	0.45
N-Butane	nC4	0.19	0.44	0.44
Iso-Pentane	iC5	0.26	0.23	0.23
N-Pentane	nC5	0.22	0.15	0.15
Hexanes	C6	1.44	0.28	0.28
Heptanes	C7	5.59	0.38	0.40
Octanes	C8	6.61	0.19	0.22
Nonanes	C9	10.22	0.15	0.19
Decanes	C10	8.18	0.07	0.10
Undecanes	C11	6.15	0.02	0.04
Dodecanes Plus	C12+	60.01	0.01	0.27
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0041	0.9959	1.0000
Mass Ratio	:	0.0357	0.9643	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	-- @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	144862 SCF	--
Stream Properties				
Molecular Weight	:	184.1	20.31	21.0
Density obs. (gm/cc)	:	0.8192 @ 60 °F	--	0.4645 @ PT*
Gravity (AIR = 1.000)	:	41.1 °API @ 60 °F	0.700	172.8
GHV (BTU/scf)	:	--	1129	--
Hexanes Plus Properties				
Mol %	:	98.20	1.10	1.50
Molecular Weight	:	186.6	102.3	124.8
Density (gm/cc @ 60 °F)	:	0.8214	0.6921	0.7385
Gravity (°API @ 60 °F)	:	40.6	72.8	59.9
Heptanes Plus Properties				
Mol %	:	96.76	0.82	1.22
Molecular Weight	:	188.2	108.5	134.4
Density (gm/cc @ 60 °F)	:	0.8224	0.6999	0.7508
Gravity (°API @ 60 °F)	:	40.4	70.5	56.8
Decanes Plus Properties				
Mol %	:	74.33	0.10	0.41
Molecular Weight	:	211.5	140.2	192.3
Density (gm/cc @ 60 °F)	:	0.8353	0.7338	0.8146
Gravity (°API @ 60 °F)	:	37.7	61.2	42.0
Undecanes Plus Properties				
Mol %	:	66.16	0.03	0.31
Molecular Weight	:	221.1	154.6	213.7
Density (gm/cc @ 60 °F)	:	0.8400	0.7467	0.8323
Gravity (°API @ 60 °F)	:	36.8	57.8	38.4
Dodecanes Plus Properties				
Mol %	:	60.01	0.01	0.27
Molecular Weight	:	228.7	169.8	226.1
Density (gm/cc @ 60 °F)	:	0.8436	0.7591	0.8407
Gravity (°API @ 60 °F)	:	36.1	54.7	36.6

* (P)ressure : 6000 psig * (T)emperature : 77 °F

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 811110 EX MPSR 3376 Depth 3155.1m

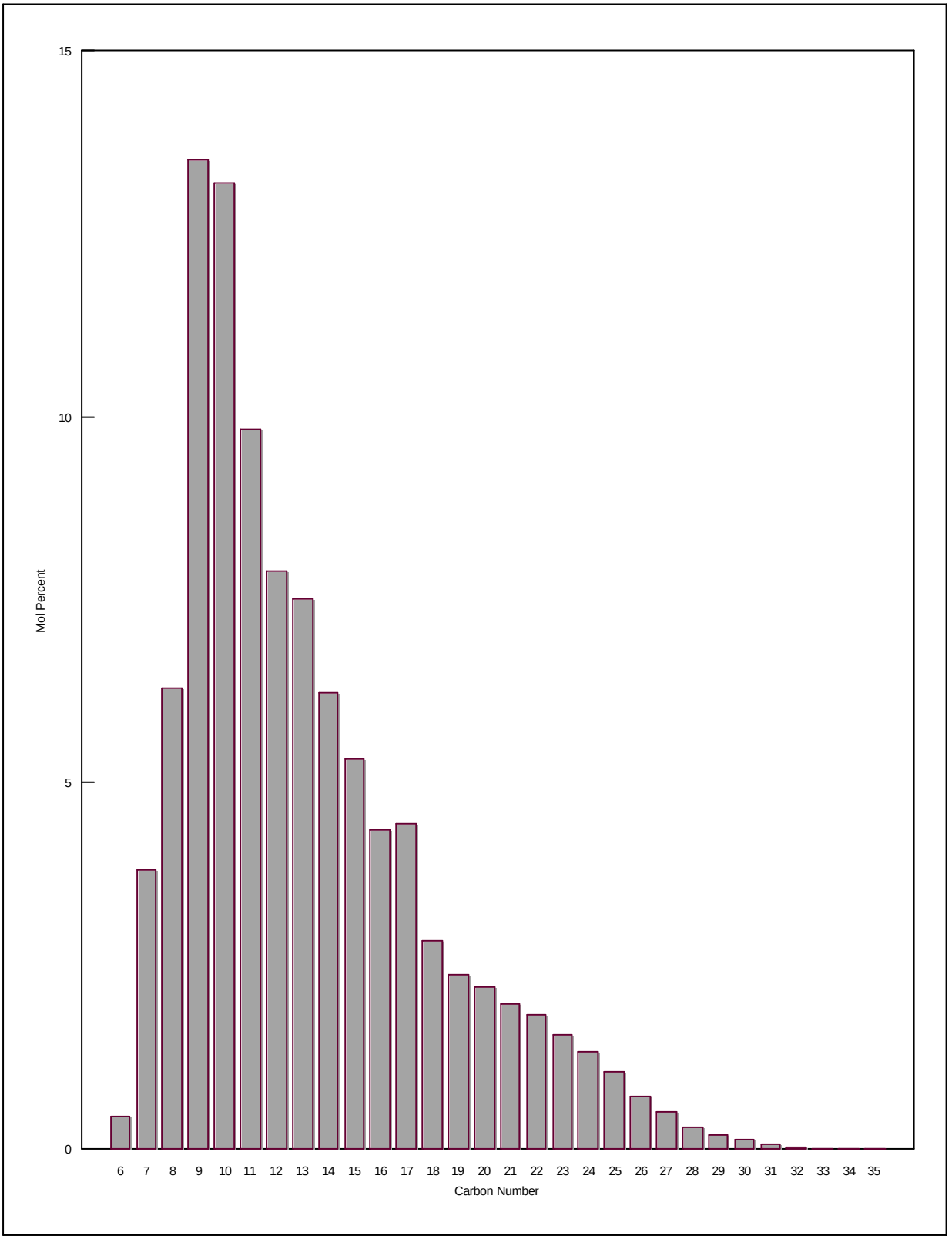
Component		Mol %
Hexanes minus	C6-	0.05
Hexanes	C6	0.44
Heptanes	C7	3.81
Octanes	C8	6.30
Nonanes	C9	13.50
Decanes	C10	13.19
Undecanes	C11	9.82
Dodecanes	C12	7.89
Tridecanes	C13	7.51
Tetradecanes	C14	6.24
Pentadecanes	C15	5.33
Hexadecanes	C16	4.35
Heptadecanes	C17	4.45
Octadecanes	C18	2.83
Nonadecanes	C19	2.38
Eicosanes	C20	2.21
Heneicosanes	C21	1.98
Docosanes	C22	1.83
Tricosanes	C23	1.56
Tetracosanes	C24	1.33
Pentacosanes	C25	1.05
Hexacosanes	C26	0.72
Heptacosanes	C27	0.50
Octacosanes	C28	0.30
Nonacosanes	C29	0.20
Triacontanes	C30	0.12
Hentriacontanes	C31	0.06
Dotriacontanes	C32	0.03
Tritriacontanes	C33	0.01
Tetratriacontanes	C34	0.01
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	179.8
Density @ 60 °F Calculated *	:	0.8166
Molecular Weight Measured	:	--
Density @ 60 °F Measured	:	0.7867

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 811110 EX MPSR 3376 Depth 3155.1m



COMPOSITIONAL ANALYSIS OF RESERVOIR FLUID

Cylinder # 811110 EX MPSR 3376 Depth 3155.1m

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.06	4.44	4.42
Nitrogen	N2	0.00	0.55	0.55
Methane	C1	0.49	83.82	83.47
Ethane	C2	0.22	6.61	6.58
Propane	C3	0.22	1.78	1.77
Iso-Butane	iC4	0.14	0.45	0.45
N-Butane	nC4	0.19	0.44	0.44
Iso-Pentane	iC5	0.25	0.22	0.22
N-Pentane	nC5	0.22	0.15	0.15
Hexanes	C6	0.43	0.40	0.40
Heptanes	C7	3.74	0.48	0.49
Octanes	C8	6.19	0.27	0.29
Nonanes	C9	13.27	0.21	0.26
Decanes	C10	12.96	0.11	0.16
Undecanes	C11	9.65	0.07	0.11
Dodecanes Plus	C12+	51.97	0.00	0.24
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0042	0.9958	1.0000
Mass Ratio	:	0.0345	0.9655	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	50.3395 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	146319 SCF	--
Stream Properties				
Molecular Weight	:	177.0	20.70	21.35
Density obs. (gm/cc)	:	0.8147 @ 60 °F	--	0.4705 @ PT*
Gravity (AIR = 1.000)	:	42.0 °API @ 60 °F	0.717	169.0
GHV (BTU/scf)	:	--	1146	--
Hexanes Plus Properties				
Mol %	:	98.21	1.54	1.95
Molecular Weight	:	179.4	103.3	119.3
Density (gm/cc @ 60 °F)	:	0.8168	0.6933	0.7282
Gravity (°API @ 60 °F)	:	41.6	72.4	62.6
Heptanes Plus Properties				
Mol %	:	97.78	1.14	1.55
Molecular Weight	:	179.8	110.0	128.4
Density (gm/cc @ 60 °F)	:	0.8171	0.7017	0.7404
Gravity (°API @ 60 °F)	:	41.5	70.0	59.4
Decanes Plus Properties				
Mol %	:	74.58	0.18	0.51
Molecular Weight	:	200.5	139.0	176.2
Density (gm/cc @ 60 °F)	:	0.8295	0.7327	0.7985
Gravity (°API @ 60 °F)	:	38.9	61.4	45.5
Undecanes Plus Properties				
Mol %	:	61.62	0.07	0.35
Molecular Weight	:	214.5	147.0	200.1
Density (gm/cc @ 60 °F)	:	0.8368	0.7400	0.8200
Gravity (°API @ 60 °F)	:	37.4	59.5	40.9
Dodecanes Plus Properties				
Mol %	:	51.97	0.00	0.24
Molecular Weight	:	227.0	--	227.0
Density (gm/cc @ 60 °F)	:	0.8429	--	0.8429
Gravity (°API @ 60 °F)	:	36.2	--	36.2

* (P)ressure : 6000 psig * (T)emperature : 73 °F

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 81114 EX MPSR 3457 Depth 2830.3 m

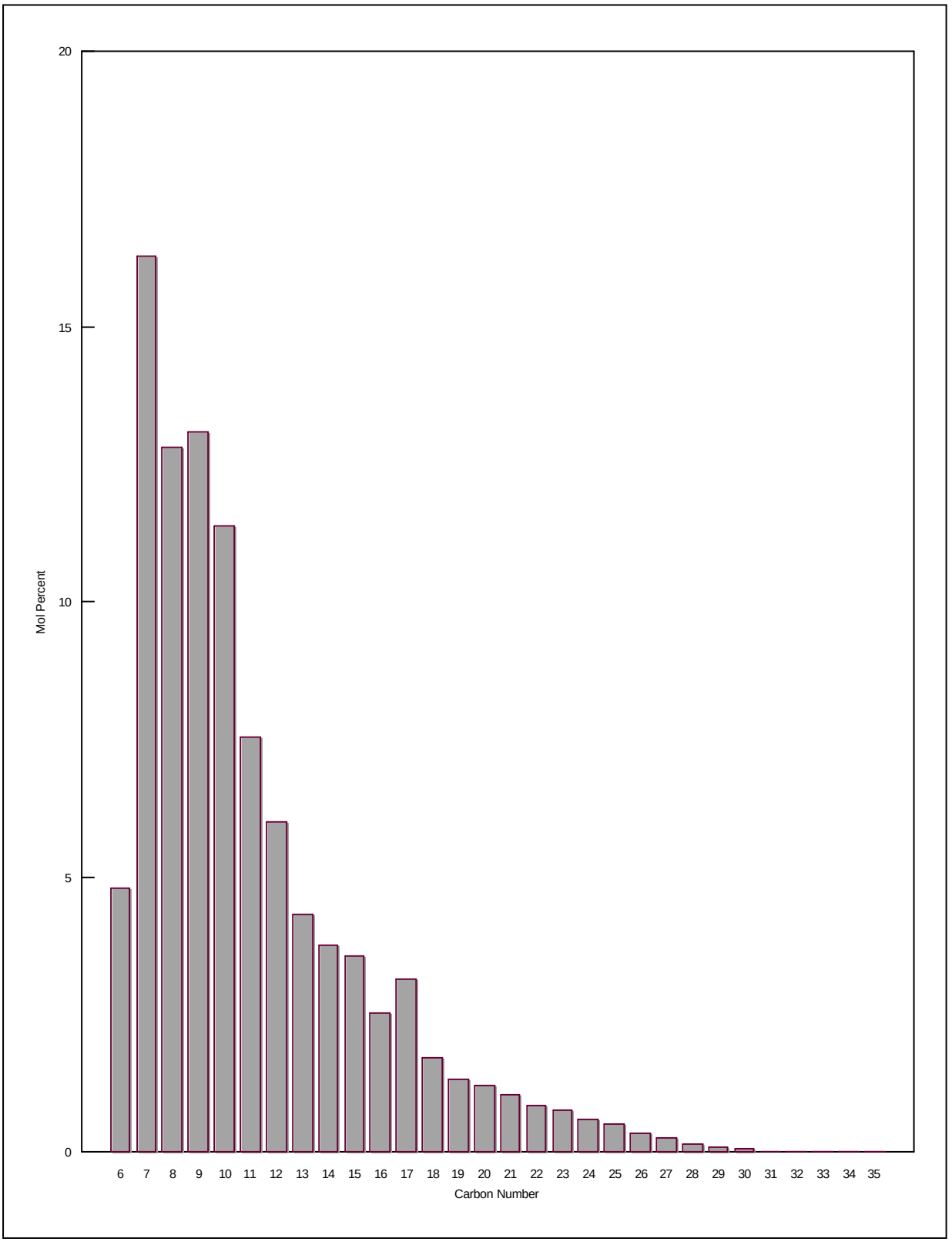
Component		Mol %
Hexanes minus	C6-	1.93
Hexanes	C6	4.80
Heptanes	C7	16.28
Octanes	C8	12.80
Nonanes	C9	13.08
Decanes	C10	11.39
Undecanes	C11	7.54
Dodecanes	C12	6.00
Tridecanes	C13	4.32
Tetradecanes	C14	3.77
Pentadecanes	C15	3.56
Hexadecanes	C16	2.53
Heptadecanes	C17	3.15
Octadecanes	C18	1.70
Nonadecanes	C19	1.31
Eicosanes	C20	1.22
Heneicosanes	C21	1.04
Docosanes	C22	0.83
Tricosanes	C23	0.76
Tetracosanes	C24	0.59
Pentacosanes	C25	0.50
Hexacosanes	C26	0.35
Heptacosanes	C27	0.26
Octacosanes	C28	0.14
Nonacosanes	C29	0.10
Triacontanes	C30	0.05
Hentriacontanes	C31	0.00
Dotriacontanes	C32	0.00
Tritriacontanes	C33	0.00
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	148.6
Density @ 60 °F Calculated *	:	0.7901
Molecular Weight Measured	:	--
Density @ 60 °F Measured	:	--

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 81114 EX MPSR 3457 Depth 2830.3 m



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 21 of 57
Well : Trefoil 2	File : O - 29100

COMPOSITIONAL ANALYSIS OF RESERVOIR FLUID

Cylinder # 81114 EX MPSR 3457 Depth 2830.3 m

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.04	2.95	2.88
Nitrogen	N2	0.00	0.94	0.92
Methane	C1	0.44	73.79	72.14
Ethane	C2	0.30	8.33	8.15
Propane	C3	0.86	6.59	6.46
Iso-Butane	iC4	0.61	1.84	1.81
N-Butane	nC4	0.92	1.91	1.89
Iso-Pentane	iC5	1.12	0.87	0.88
N-Pentane	nC5	1.16	0.70	0.71
Hexanes	C6	4.63	0.86	0.94
Heptanes	C7	15.69	0.84	1.17
Octanes	C8	12.34	0.24	0.51
Nonanes	C9	12.61	0.10	0.38
Decanes	C10	10.98	0.03	0.28
Undecanes	C11	7.27	0.01	0.17
Dodecanes Plus	C12+	31.02	0.00	0.71
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0224	0.9776	1.0000
Mass Ratio	:	0.1209	0.8791	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	-- @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	31559 SCF	--
Stream Properties				
Molecular Weight	:	144.3	24.08	26.78
Density obs. (gm/cc)	:	0.7860 @ 60 °F	--	0.5012 @ PT*
Gravity (AIR = 1.000)	:	48.4 °API @ 60 °F	0.840	150.6
GHV (BTU/scf)	:	--	1361	--
Hexanes Plus Properties				
Mol %	:	94.54	2.08	4.16
Molecular Weight	:	149.3	94.3	122.4
Density (gm/cc @ 60 °F)	:	0.7926	0.6813	0.7466
Gravity (°API @ 60 °F)	:	46.9	76.0	57.8
Heptanes Plus Properties				
Mol %	:	89.91	1.22	3.22
Molecular Weight	:	152.7	101.6	133.7
Density (gm/cc @ 60 °F)	:	0.7961	0.6912	0.7634
Gravity (°API @ 60 °F)	:	46.1	73.0	53.7
Decanes Plus Properties				
Mol %	:	49.27	0.04	1.16
Molecular Weight	:	190.3	137.2	188.3
Density (gm/cc @ 60 °F)	:	0.8233	0.7309	0.8207
Gravity (°API @ 60 °F)	:	40.2	61.9	40.8
Undecanes Plus Properties				
Mol %	:	38.29	0.01	0.88
Molecular Weight	:	206.4	146.9	205.7
Density (gm/cc @ 60 °F)	:	0.8323	0.7399	0.8315
Gravity (°API @ 60 °F)	:	38.3	59.6	38.5
Dodecanes Plus Properties				
Mol %	:	31.02	0.00	0.71
Molecular Weight	:	220.3	--	220.3
Density (gm/cc @ 60 °F)	:	0.8395	--	0.8395
Gravity (°API @ 60 °F)	:	36.9	--	36.9

* (P)ressure : 6000 psig * (T)emperature : 70 °F

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 812257 EX MPSR 3513 Depth 2830.3m

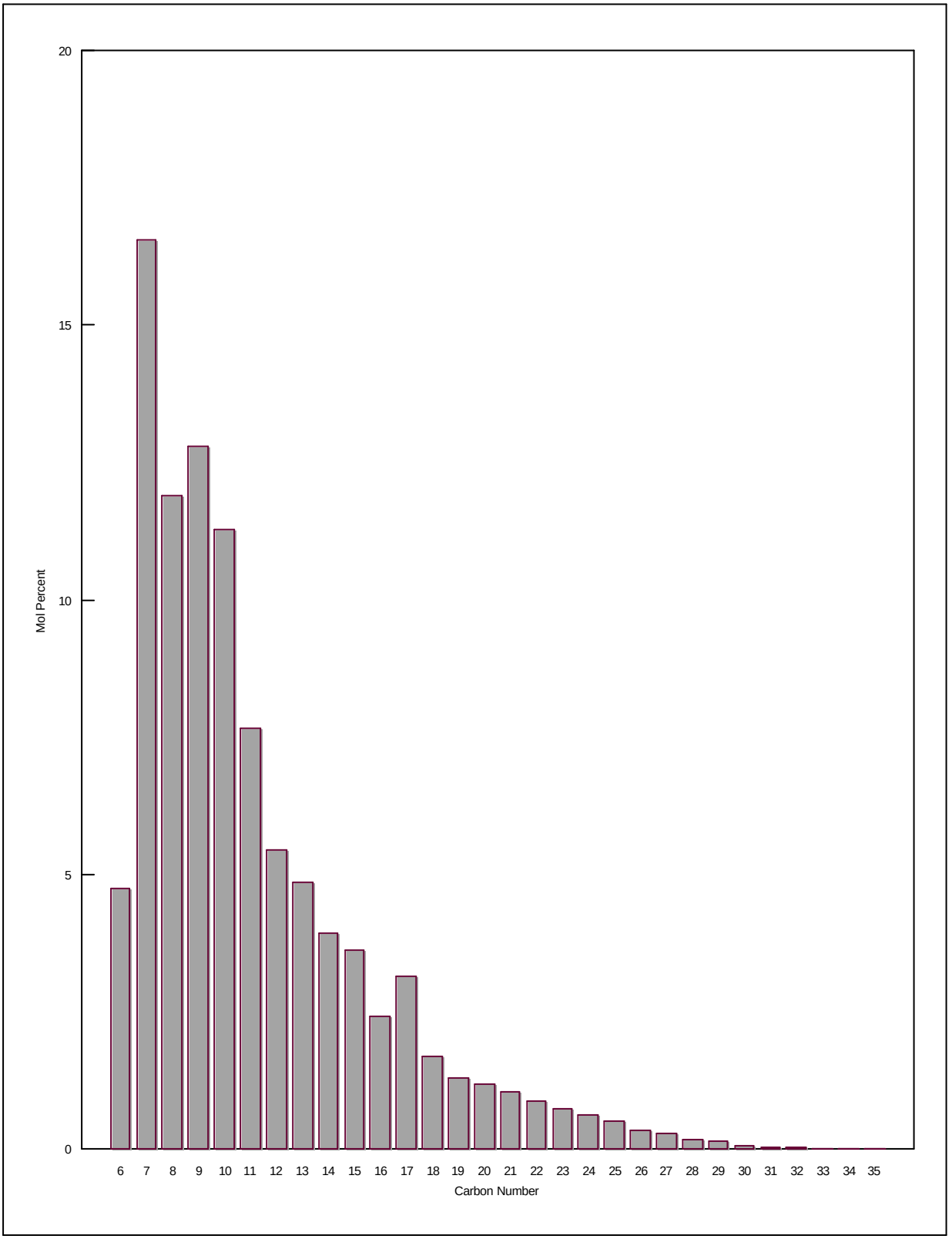
Component		Mol %
Hexanes minus	C6-	2.67
Hexanes	C6	4.75
Heptanes	C7	16.56
Octanes	C8	11.89
Nonanes	C9	12.80
Decanes	C10	11.29
Undecanes	C11	7.66
Dodecanes	C12	5.44
Tridecanes	C13	4.86
Tetradecanes	C14	3.92
Pentadecanes	C15	3.61
Hexadecanes	C16	2.42
Heptadecanes	C17	3.13
Octadecanes	C18	1.68
Nonadecanes	C19	1.28
Eicosanes	C20	1.18
Heneicosanes	C21	1.04
Docosanes	C22	0.86
Tricosanes	C23	0.74
Tetracosanes	C24	0.61
Pentacosanes	C25	0.50
Hexacosanes	C26	0.35
Heptacosanes	C27	0.29
Octacosanes	C28	0.18
Nonacosanes	C29	0.14
Triacontanes	C30	0.07
Hentriacontanes	C31	0.04
Dotriacontanes	C32	0.02
Tritriacontanes	C33	0.01
Tetratriacontanes	C34	0.01
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	148.9
Density @ 60 °F Calculated *	:	0.7902
Molecular Weight Measured	:	--
Density @ 60 °F Measured	:	0.7867

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY

On STT Liquid flashed from cylinder # 812257 EX MPSR 3513 Depth 2830.3m



COMPOSITIONAL ANALYSIS OF RESERVOIR FLUID

Cylinder # 812257 EX MPSR 3513 Depth 2830.3m

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.04	2.99	2.93
Nitrogen	N2	0.00	0.96	0.94
Methane	C1	0.43	73.04	71.57
Ethane	C2	0.28	8.15	7.99
Propane	C3	0.81	6.47	6.36
Iso-Butane	iC4	0.60	1.91	1.88
N-Butane	nC4	0.90	1.98	1.96
Iso-Pentane	iC5	1.09	0.91	0.91
N-Pentane	nC5	1.16	0.75	0.76
Hexanes	C6	4.62	1.08	1.15
Heptanes	C7	16.11	1.06	1.37
Octanes	C8	11.57	0.33	0.56
Nonanes	C9	12.45	0.18	0.43
Decanes	C10	10.98	0.09	0.31
Undecanes	C11	7.45	0.05	0.20
Dodecanes Plus	C12+	31.50	0.05	0.68
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0203	0.9797	1.0000
Mass Ratio	:	0.1088	0.8912	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	14.5133 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	34528 SCF	--
Stream Properties				
Molecular Weight	:	146.6	24.84	27.31
Density obs. (gm/cc)	:	0.7870 @ 60 °F	--	0.5013 @ PT*
Gravity (AIR = 1.000)	:	48.1 °API @ 60 °F	0.862	150.5
GHV (BTU/scf)	:	--	1400	--
Hexanes Plus Properties				
Mol %	:	94.68	2.84	4.70
Molecular Weight	:	151.6	97.7	119.7
Density (gm/cc @ 60 °F)	:	0.7933	0.6860	0.7376
Gravity (°API @ 60 °F)	:	46.7	74.6	60.2
Heptanes Plus Properties				
Mol %	:	90.06	1.76	3.55
Molecular Weight	:	155.1	106.1	131.3
Density (gm/cc @ 60 °F)	:	0.7968	0.6969	0.7544
Gravity (°API @ 60 °F)	:	45.9	71.3	55.9
Decanes Plus Properties				
Mol %	:	49.93	0.19	1.19
Molecular Weight	:	193.7	146.9	184.4
Density (gm/cc @ 60 °F)	:	0.8233	0.7399	0.8113
Gravity (°API @ 60 °F)	:	40.2	59.6	42.7
Undecanes Plus Properties				
Mol %	:	38.95	0.10	0.88
Molecular Weight	:	210.6	158.5	203.6
Density (gm/cc @ 60 °F)	:	0.8320	0.7500	0.8239
Gravity (°API @ 60 °F)	:	38.4	57.0	40.1
Dodecanes Plus Properties				
Mol %	:	31.50	0.05	0.68
Molecular Weight	:	225.6	170.0	221.0
Density (gm/cc @ 60 °F)	:	0.8391	0.7592	0.8341
Gravity (°API @ 60 °F)	:	37.0	54.7	38.0

* (P)ressure : 6000 psig * (T)emperature : 73 °F

CONSTANT MASS STUDY
@ 239 °F
On Bottom Hole Sample in Cylinder # 812257 EX MPSR 3513 Depth 2830.3m

Pressure (psig)		Relative Volume (V/Vsat) (1)	Formation Volume Factor (Bg) (2)	Gas Expansion Factor (E) (3)	Deviation Factor (Z)	Specific Volume (CFT/LB)	Gas Viscosity (Centipoise) (4)
7200		0.9580	0.00312	320.46	1.139	0.04339	0.0515
7100		0.9621	0.00313	319.10	1.128	0.04357	0.0511
7000		0.9671	0.00315	317.43	1.118	0.04380	0.0506
6900		0.9715	0.00316	316.01	1.107	0.04400	0.0502
6800		0.9759	0.00318	314.57	1.096	0.04420	0.0498
6700		0.9805	0.00319	313.09	1.085	0.04441	0.0494
6600		0.9862	0.00321	311.30	1.075	0.04466	0.0489
6500		0.9920	0.00323	309.47	1.065	0.04493	0.0484
6400		0.9980	0.00325	307.61	1.055	0.04520	0.0479
6375	*	1.0000	0.00326	306.99	1.053	0.04529	0.0477

* Dew Point Pressure

(1) Cubic feet of gas at indicated pressure and temperature per cubic foot at reservoir pressure
(2) Cubic feet of gas at indicated pressure and temperature per cubic foot at 14.696 psia and 60 °F
(3) Cubic feet of gas at 14.696 psia and 60 °F per cubic foot at indicated pressure and temperature
(4) Calculated from correlation of Lee, Gonzales and Eakin

CONSTANT MASS STUDY
@ 239 °F
On Bottom Hole Sample in Cylinder # 812257 EX MPSR 3513 Depth 2830.3m

Pressure (psig)		Relative Volume (V/Vsat) (1)	Retrograde Liquid Deposit (Bbl/MMSCF) (2)	(Volume%) (3)
6375	*	1.0000	0.00	0.00
6000		1.0280	0.12	0.02
5500		1.0684	0.23	0.04
5000		1.1241	0.35	0.06
4500		1.1949	0.46	0.08
4000		1.2878	0.52	0.09
3500		1.4209	3.83	0.66
3000		1.6183	13.11	2.26
2500		1.9304	25.93	4.47
2000		2.4336	38.70	6.67
1500		3.2971	43.80	7.55

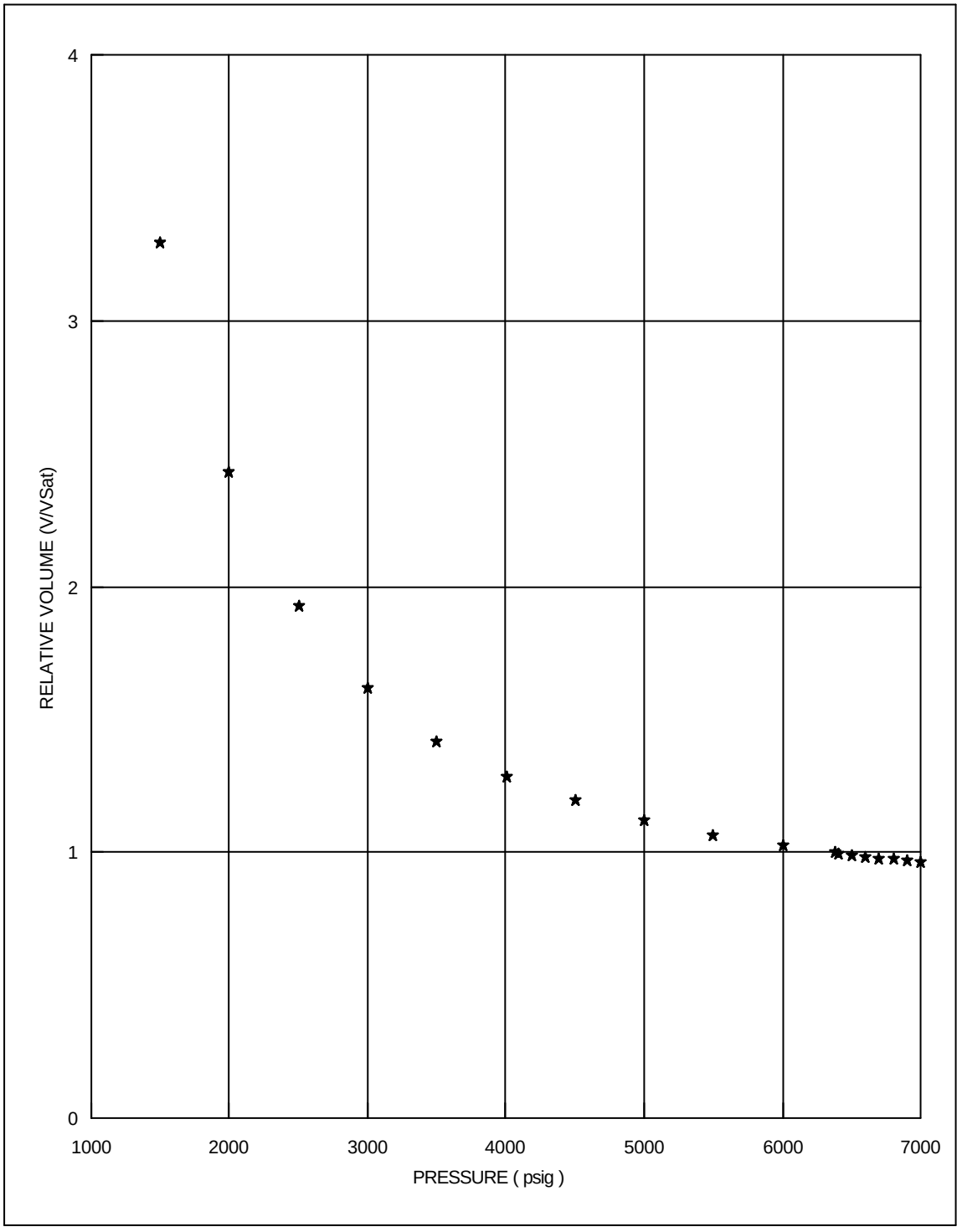
* Dew Point Pressure
** Reservoir Pressure

(1) Cubic feet of gas at indicated pressure and temperature per cubic foot at saturation pressure
(2) Barrels of liquid at indicated pressure and temperature per MMSCF of original reservoir fluid
(3) Percent of reservoir hydrocarbon pore space at dew point

RELATIVE VOLUME

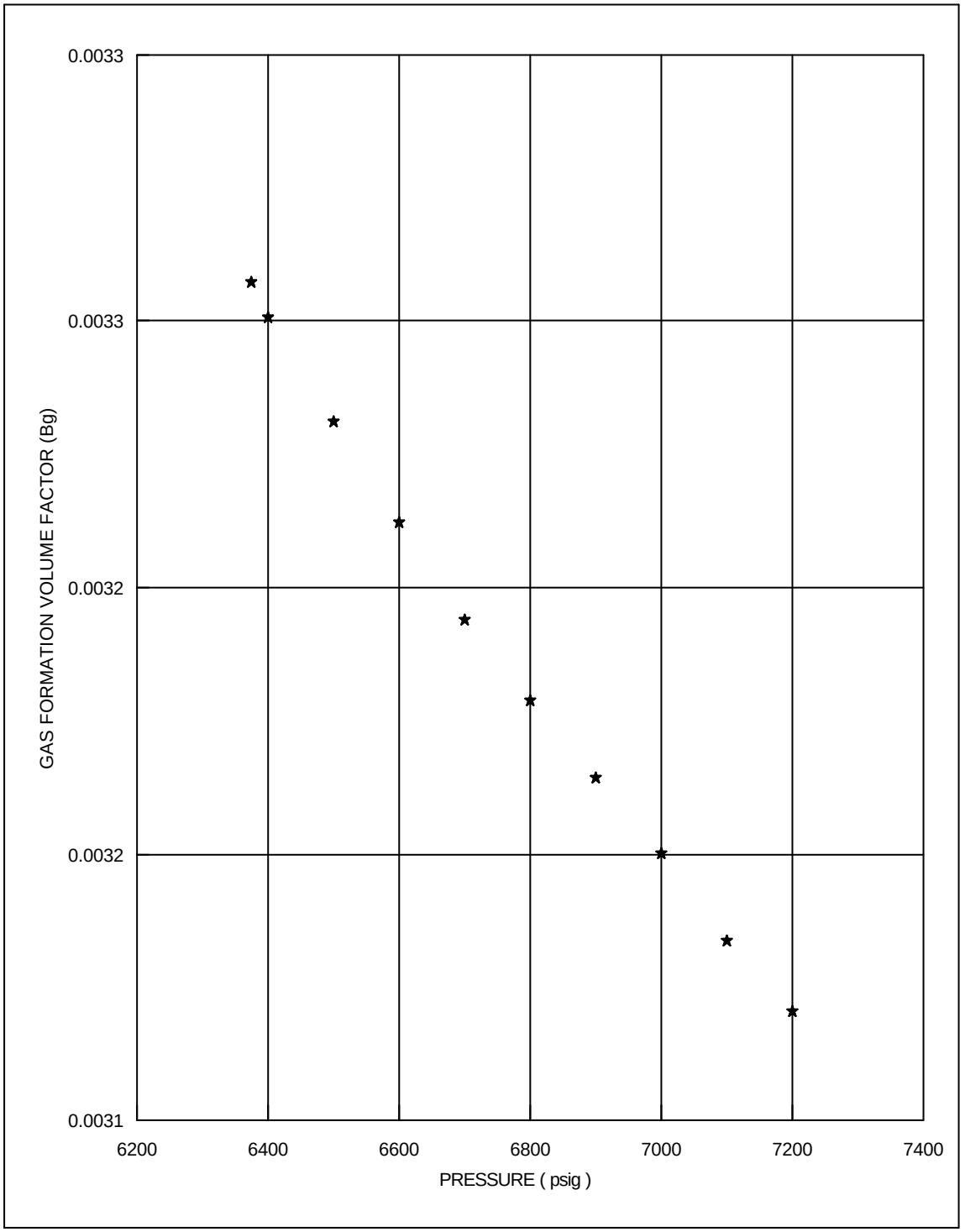
Equation of best fit

V/VSat = +8.30E+00 -5.07E-03 * P +1.39E-06 * P^2 -1.73E-10 * P^3 +8.06E-15 * P^4



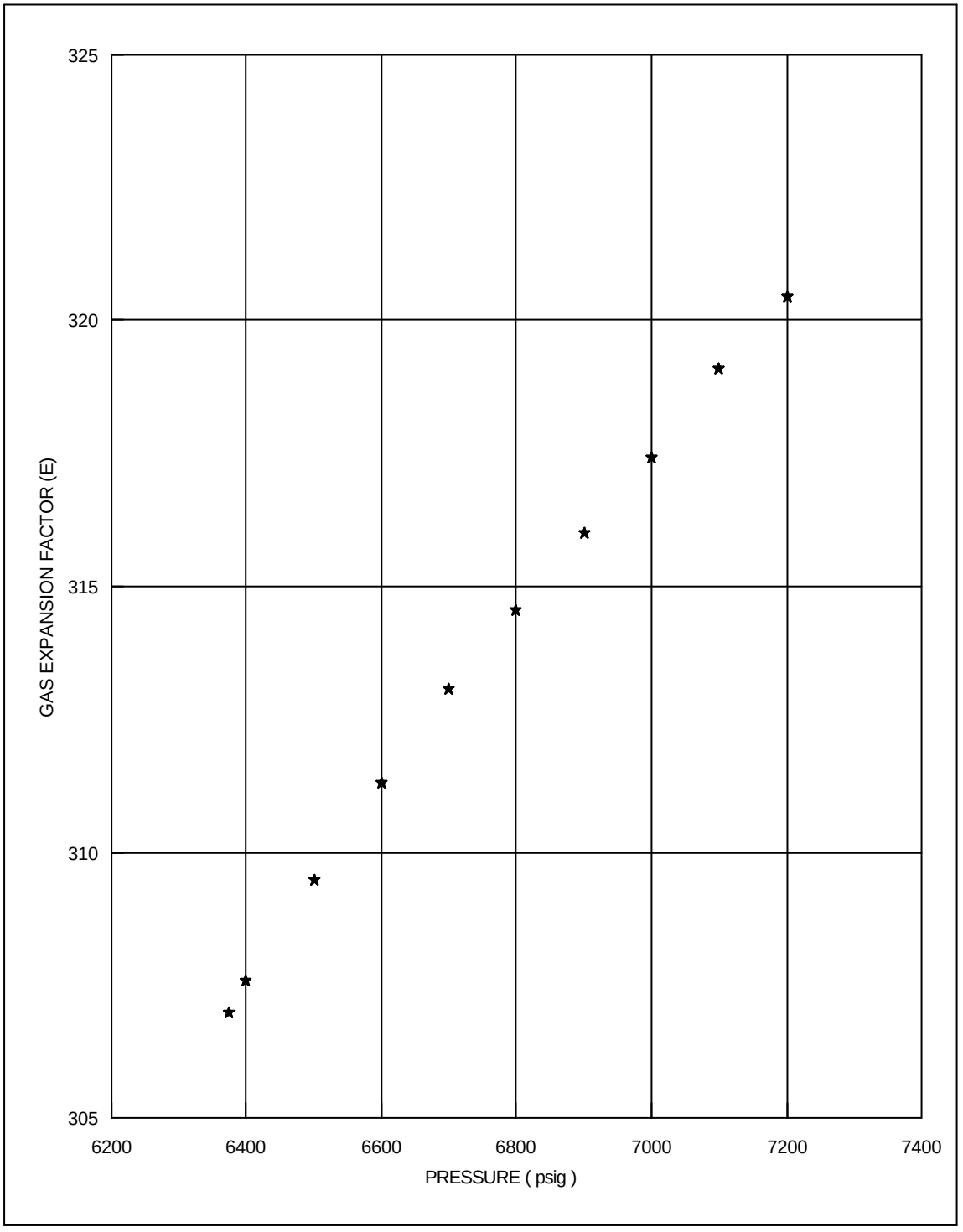
GAS FORMATION VOLUME FACTOR

Equation of best fit
Bg = +2.68E-02 -9.83E-06 * P +1.38E-09 * P^2 -6.56E-14 * P^3 +0.00E+00 * P^4



GAS EXPANSION FACTOR

Equation of best fit
E = -1.85E+03 +9.01E-01 * P -1.27E-04 * P^2 +6.06E-09 * P^3 +0.00E+00 * P^4

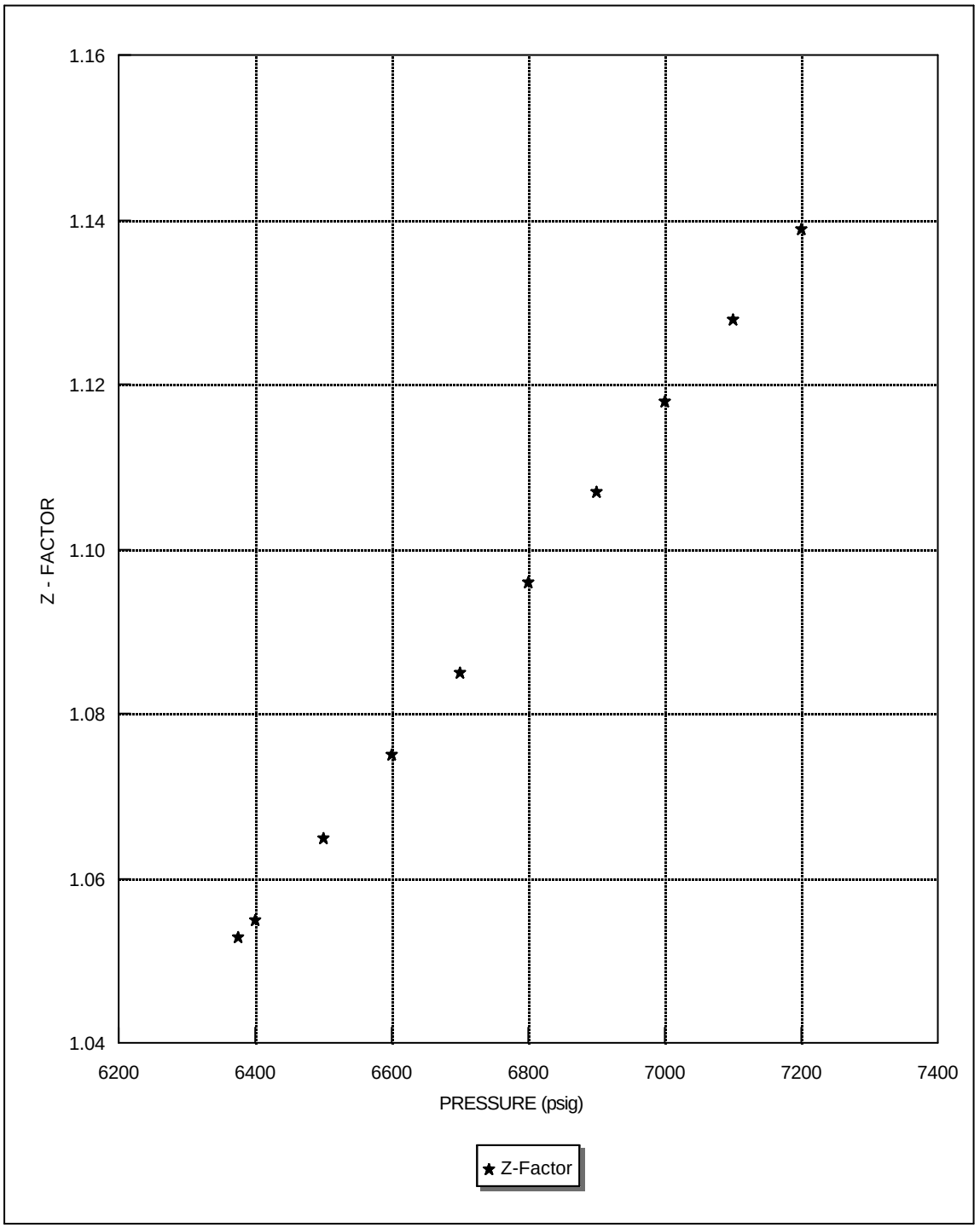


GAS DEVIATION FACTOR

Equation of best fit

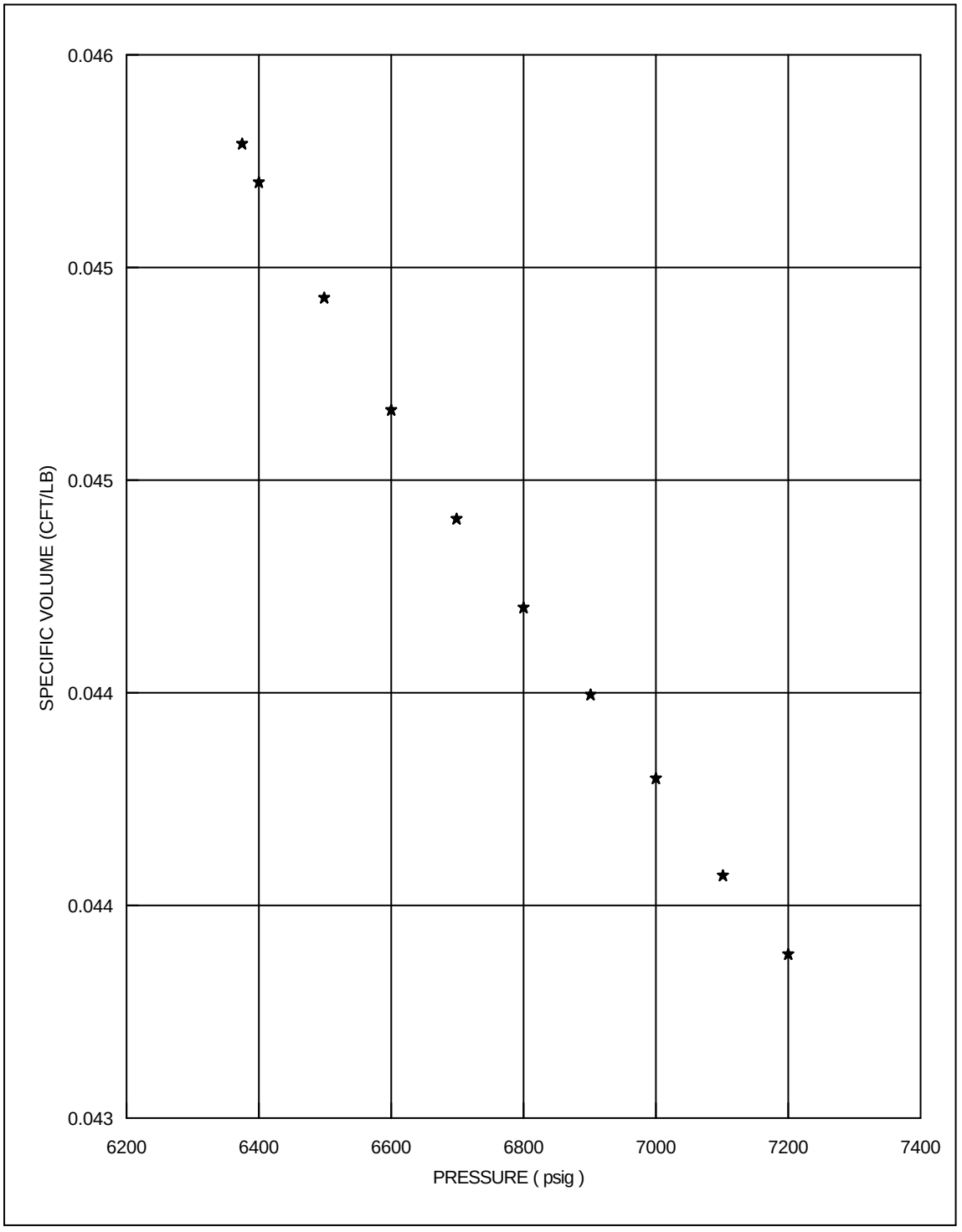
Z

$$Z = +9.46E\text{-}01 - 1.91E\text{-}04 * P + 6.25E\text{-}08 * P^2 - 6.15E\text{-}12 * P^3 + 2.31E\text{-}16 * P^4$$



RESERVOIR FLUID SPECIFIC VOLUME

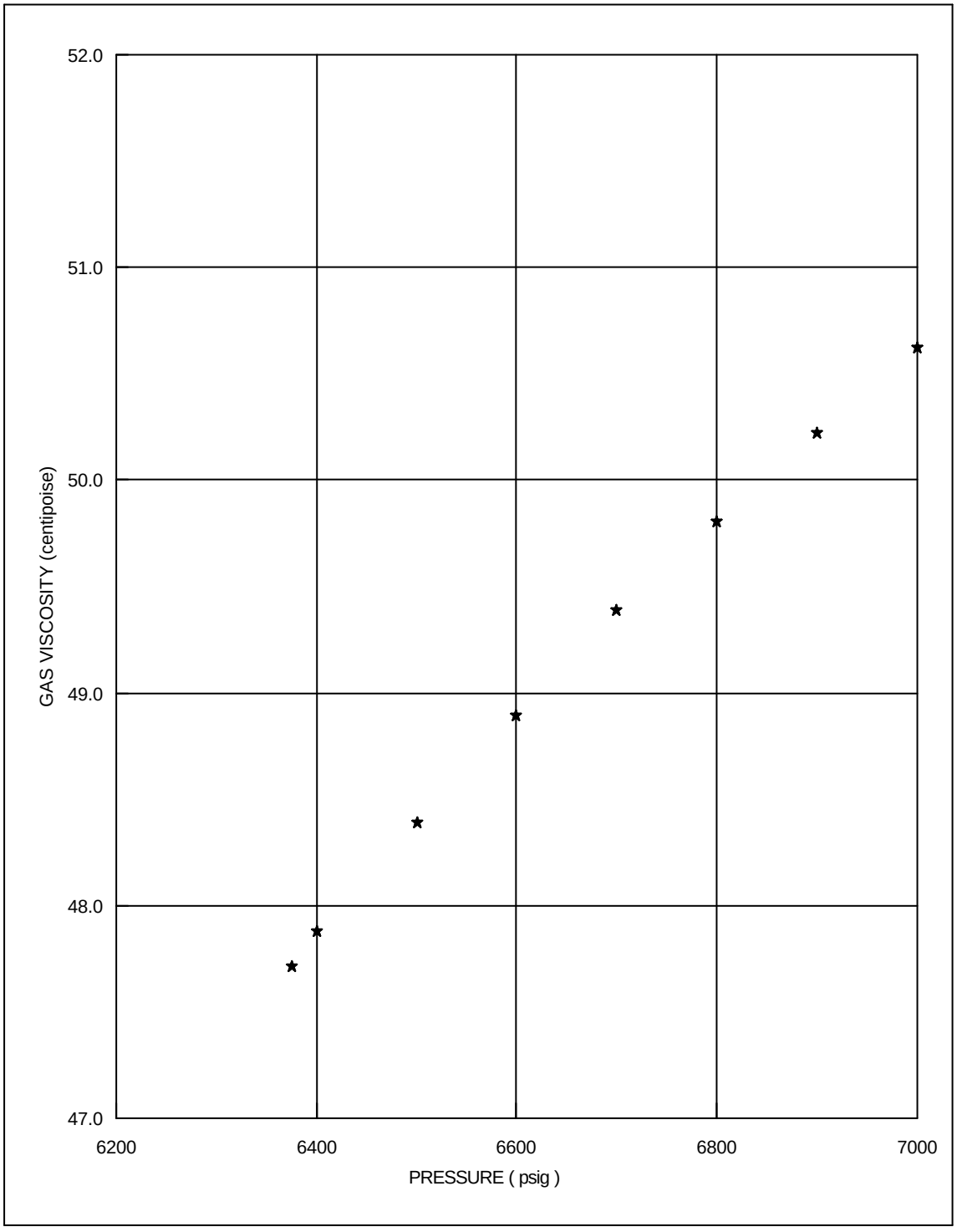
Equation of best fit
SV = +3.73E-01 -1.37E-04 * P +1.92E-08 * P^2 -9.12E-13 * P^3 +0.00E+00 * P^4



VISCOSITY OF RESERVOIR FLUID

Equation of best fit

$\mu = +1.69E\text{-}02 -5.97E\text{-}06 * P +4.00E\text{-}09 * P^2 -3.31E\text{-}13 * P^3 -2.94E\text{-}18 * P^4$

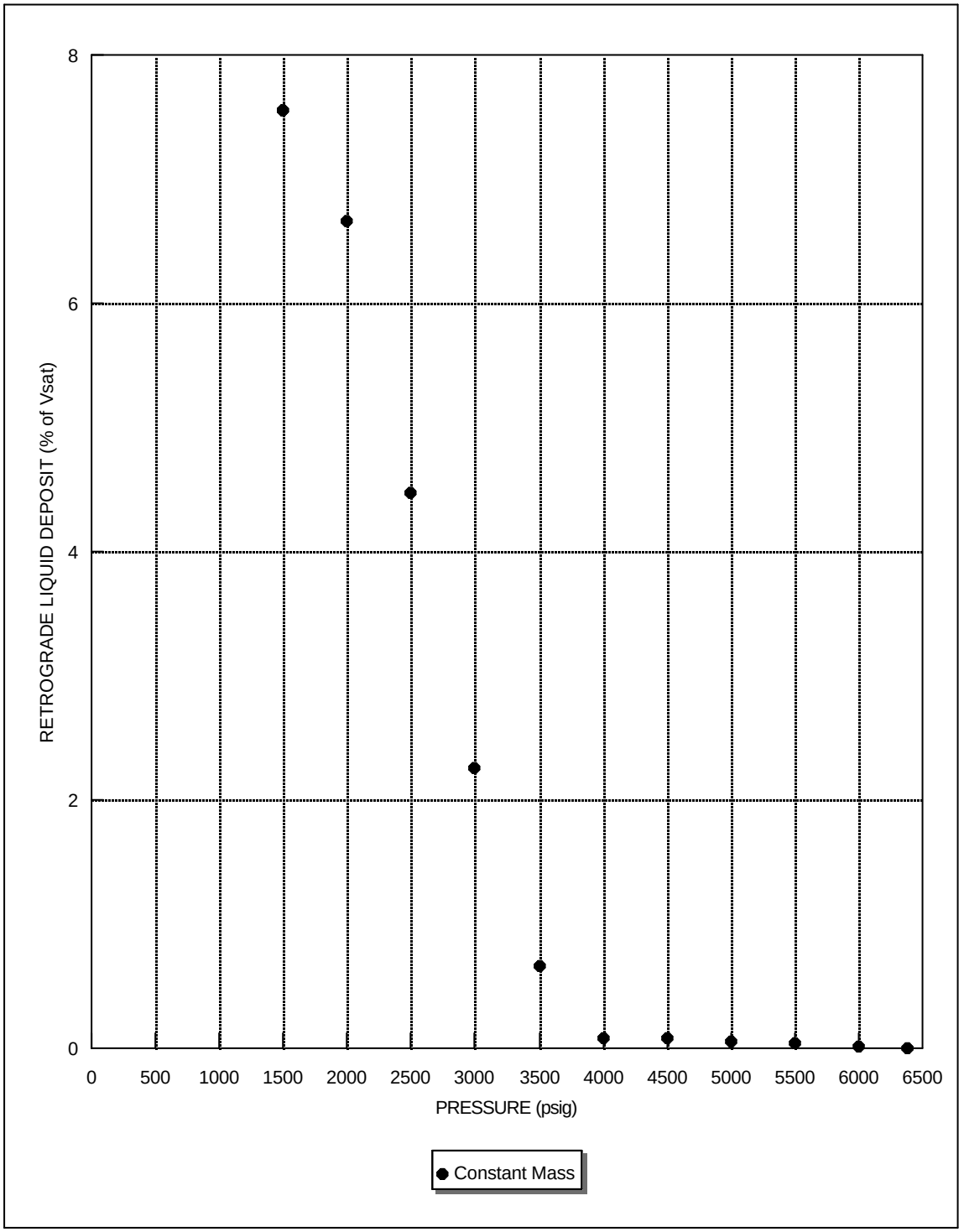


RETROGRADE CONDENSATION

Equation of best fit

Constant Mass

RLD = +3.53E-01 +1.46E-02 * P -8.85E-06 * P^2 +1.75E-09 * P^3 -1.13E-13 * P^4



CONSTANT MASS STUDY
@ 261 °F
On Bottom Hole Sample in Cylinder # 811110 EX MPSR 3376 Depth 3155.1m

Pressure (psig)		Relative Volume (V/Vsat) (1)	Formation Volume Factor (Bg) (2)	Gas Expansion Factor (E) (3)	Deviation Factor (Z)	Specific Volume (CFT/LB)	Gas Viscosity (Centipoise) (4)
6000		0.7390	0.00353	283.28	1.042	0.06278	0.0320
5750		0.7578	0.00362	276.28	1.024	0.06437	0.0311
5500		0.7798	0.00372	268.49	1.008	0.06623	0.0302
5250		0.8038	0.00384	260.45	0.992	0.06828	0.0293
5000		0.8320	0.00397	251.64	0.978	0.07067	0.0283
4750		0.8622	0.00412	242.82	0.963	0.07324	0.0274
4483	**	0.8992	0.00429	232.84	0.948	0.07638	0.0265
4250		0.9363	0.00447	223.60	0.936	0.07953	0.0256
4000		0.9808	0.00468	213.46	0.923	0.08331	0.0247
3910	*	1.0000	0.00478	209.36	0.920	0.08494	0.0243

* Dew Point Pressure
** Reservoir Pressure

(1) Cubic feet of gas at indicated pressure and temperature per cubic foot at reservoir pressure
(2) Cubic feet of gas at indicated pressure and temperature per cubic foot at 14.696 psia and 60 °F
(3) Cubic feet of gas at 14.696 psia and 60 °F per cubic foot at indicated pressure and temperature
(4) Calculated from correlation of Lee, Gonzales and Eakin

CONSTANT MASS STUDY

@ 261 °F

On Bottom Hole Sample in Cylinder # 811110 EX MPSR 3376 Depth 3155.1m

Pressure (psig)		Relative Volume (V/Vsat) (1)	Retrograde Liquid Deposit (Bbl/MMSCF) (2)	(Volume%) (3)
3910	*	1.0000	0.00	0.00
3600		1.0704	1.28	0.15
3300		1.1557	3.66	0.43
3000		1.2608	5.78	0.68
2700		1.3939	7.49	0.88
2400		1.5564	8.85	1.04
2100		1.7732	9.78	1.15
1800		2.0687	10.38	1.22
1500		2.4869	10.80	1.27
1200		3.1257	10.97	1.29
900		4.2068	10.80	1.27

* Dew Point Pressure

(1) Cubic feet of gas at indicated pressure and temperature per cubic foot at saturation pressure
(2) Barrels of liquid at indicated pressure and temperature per MMSCF of original reservoir fluid
(3) Percent of reservoir hydrocarbon pore space at dew point

CONSTANT VOLUME DEPLETION STUDY

@ 261 °F

On Bottom Hole Sample in Cylinder # 811110 EX MPSR 3376 Depth 3155.1m

Pressure (psig)		Cumulative Produced Fluid (1)	Deviation Factor (Z) Liberated Gas	Deviation Factor (Z) Two Phase	Gas Viscosity (Centipoise)	Retrograde Liquid (Bbl/MMSCF) (2)	Retrograde Liquid (Vol.%) (3)
3910	*	0.000	0.920	0.920	0.0244	0.00	0.00
3500		9.658	0.907	0.903	0.0226	2.04	0.24
3100		18.937	0.896	0.892	0.0212	4.76	0.56
2700		28.910	0.891	0.886	0.0198	6.89	0.81
2300		39.263	0.890	0.884	0.0186	8.68	1.02
1900		50.034	0.896	0.889	0.0174	9.70	1.14
1500		60.809	0.906	0.897	0.0165	10.29	1.21
1100		71.573	0.923	0.910	0.0156	10.46	1.23
700		82.025	0.946	0.923	0.0149	10.04	1.18

* Dew Point Pressure

(1) Wellstream produced : Cumulative volume percent of initial fluid
(2) Barrels of liquid at indicated pressure and temperature per MMSCF of original reservoir fluid
(3) Percent of reservoir hydrocarbon pore space at dew point

COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		3950 **	3500	3100
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	4.42	4.43	4.43
Nitrogen	N2	0.55	0.55	0.55
Methane	C1	83.47	83.71	83.83
Ethane	C2	6.58	6.58	6.58
Propane	C3	1.77	1.77	1.76
Iso-Butane	iC4	0.45	0.45	0.45
N-Butane	nC4	0.44	0.44	0.44
Iso-Pentane	iC5	0.22	0.22	0.22
N-Pentane	nC5	0.15	0.15	0.15
Hexanes	C6	0.40	0.39	0.39
Heptanes	C7	0.49	0.47	0.46
Octanes	C8	0.29	0.25	0.23
Nonanes	C9	0.26	0.24	0.23
Decanes	C10	0.16	0.10	0.08
Undecanes	C11	0.11	0.06	0.04
Dodecanes Plus	C12+	0.24	0.19	0.16
TOTAL		100.00	100.00	100.00
Stream Properties				
Molecular Weight	:	21.36	21.05	20.90
Gravity (AIR = 1.000)	:	0.741	0.729	0.724
Gross HV (BTU/SCF)	:	1183	1165	1157
Nett HV (BTU/SCF)	:	1072	1055	1047
Wobbe Index	:	1374	1364	1359
Critical Pressure (psia)	:	677.5	678.4	678.8
Critical Temperature (°R)	:	389.9	388.1	387.2
GPM Content				
Ethane Plus	:	3.651	3.503	3.434
Propane Plus	:	1.890	1.742	1.673
Butanes Plus	:	1.402	1.254	1.188
Pentanes Plus	:	1.116	0.968	0.902
Hexanes Plus Properties				
Mol %	:	1.95	1.70	1.59
Molecular Weight	:	119.2	115.6	113.0
Density (gm/cc @ 60 °F)	:	0.7281	0.7547	0.7517
Gravity (°API @ 60 °F)	:	62.6	55.8	56.6
Heptanes Plus Properties				
Mol %	:	1.55	1.31	1.20
Molecular Weight	:	128.4	124.9	122.4
Density (gm/cc @ 60 °F)	:	0.7403	0.7653	0.7625
Gravity (°API @ 60 °F)	:	59.5	53.2	53.9
Decanes Plus Properties				
Mol %	:	0.51	0.35	0.28
Molecular Weight	:	176.1	177.6	177.6
Density (gm/cc @ 60 °F)	:	0.7984	0.8152	0.8152
Gravity (°API @ 60 °F)	:	45.6	41.9	41.9
Undecanes Plus Properties				
Mol %	:	0.35	0.25	0.20
Molecular Weight	:	200.0	194.4	194.2
Density (gm/cc @ 60 °F)	:	0.8199	0.8285	0.8284
Gravity (°API @ 60 °F)	:	40.9	39.1	39.1
Dodecanes Plus Properties				
Molecular Weight	:	227.0	208.6	205.4
Density (gm/cc @ 60 °F)	:	0.8429	0.8391	0.8367
Gravity (°API @ 60 °F)	:	36.2	37.0	37.4
Recovery Factor*				
* at 500 psi abandonment pressure	:	0.8779	0.8643	0.8487

** Original Reservoir Fluid

COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		2700	2300	1900
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	4.44	4.44	4.44
Nitrogen	N2	0.55	0.55	0.55
Methane	C1	83.93	84.01	84.03
Ethane	C2	6.59	6.59	6.59
Propane	C3	1.76	1.76	1.76
Iso-Butane	iC4	0.44	0.44	0.44
N-Butane	nC4	0.43	0.43	0.43
Iso-Pentane	iC5	0.21	0.21	0.21
N-Pentane	nC5	0.15	0.14	0.14
Hexanes	C6	0.38	0.37	0.37
Heptanes	C7	0.45	0.44	0.44
Octanes	C8	0.22	0.21	0.22
Nonanes	C9	0.22	0.21	0.21
Decanes	C10	0.06	0.05	0.05
Undecanes	C11	0.03	0.02	0.02
Dodecanes Plus	C12+	0.14	0.13	0.10
TOTAL		100.00	100.00	100.00

Stream Properties				
Molecular Weight	:	20.76	20.61	20.56
Gravity (AIR = 1.000)	:	0.719	0.714	0.712
Gross HV (BTU/SCF)	:	1149	1141	1138
Nett HV (BTU/SCF)	:	1040	1033	1030
Wobbe Index	:	1355	1350	1349
Critical Pressure (psia)	:	679.2	679.4	679.5
Critical Temperature (°R)	:	386.3	385.3	385.1
GPM Content				
Ethane Plus	:	3.368	3.303	3.283
Propane Plus	:	1.604	1.539	1.519
Butanes Plus	:	1.119	1.054	1.034
Pentanes Plus	:	0.839	0.774	0.754
Hexanes Plus Properties				
Mol %	:	1.50	1.43	1.41
Molecular Weight	:	110.7	107.7	105.5
Density (gm/cc @ 60 °F)	:	0.7490	0.7452	0.7425
Gravity (°API @ 60 °F)	:	57.2	58.2	58.9
Heptanes Plus Properties				
Mol %	:	1.12	1.06	1.04
Molecular Weight	:	119.8	116.2	113.4
Density (gm/cc @ 60 °F)	:	0.7596	0.7554	0.7522
Gravity (°API @ 60 °F)	:	54.6	55.6	56.4
Decanes Plus Properties				
Mol %	:	0.23	0.20	0.17
Molecular Weight	:	177.5	173.9	167.0
Density (gm/cc @ 60 °F)	:	0.8151	0.8121	0.8062
Gravity (°API @ 60 °F)	:	41.9	42.6	43.8
Undecanes Plus Properties				
Mol %	:	0.17	0.15	0.12
Molecular Weight	:	192.9	190.5	185.3
Density (gm/cc @ 60 °F)	:	0.8274	0.8255	0.8214
Gravity (°API @ 60 °F)	:	39.4	39.7	40.6
Dodecanes Plus Properties				
Molecular Weight	:	202.7	199.2	196.2
Density (gm/cc @ 60 °F)	:	0.8348	0.8322	0.8299
Gravity (°API @ 60 °F)	:	37.8	38.4	38.8
Recovery Factor*				
* at 500 psi abandonment pressure :		0.8274	0.7976	0.7534

COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		1500	1100	700
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	4.44	4.44	4.45
Nitrogen	N2	0.55	0.55	0.55
Methane	C1	84.03	83.96	83.89
Ethane	C2	6.60	6.61	6.62
Propane	C3	1.76	1.77	1.78
Iso-Butane	iC4	0.44	0.45	0.45
N-Butane	nC4	0.43	0.43	0.44
Iso-Pentane	iC5	0.21	0.21	0.22
N-Pentane	nC5	0.14	0.14	0.15
Hexanes	C6	0.37	0.37	0.38
Heptanes	C7	0.44	0.46	0.47
Octanes	C8	0.23	0.24	0.24
Nonanes	C9	0.21	0.21	0.21
Decanes	C10	0.06	0.07	0.08
Undecanes	C11	0.03	0.04	0.05
Dodecanes Plus	C12+	0.06	0.05	0.02
TOTAL		100.00	100.00	100.00

Stream Properties				
Molecular Weight	:	20.56	20.60	20.61
Gravity (AIR = 1.000)	:	0.712	0.713	0.714
Gross HV (BTU/SCF)	:	1138	1140	1141
Nett HV (BTU/SCF)	:	1030	1032	1033
Wobbe Index	:	1349	1350	1350
Critical Pressure (psia)	:	679.6	679.5	679.5
Critical Temperature (°R)	:	385.3	385.6	385.8
GPM Content				
Ethane Plus	:	3.286	3.312	3.325
Propane Plus	:	1.520	1.543	1.553
Butanes Plus	:	1.035	1.055	1.062
Pentanes Plus	:	0.755	0.772	0.776
Hexanes Plus Properties				
Mol %	:	1.40	1.44	1.45
Molecular Weight	:	104.6	104.3	102.8
Density (gm/cc @ 60 °F)	:	0.7414	0.7410	0.7391
Gravity (°API @ 60 °F)	:	59.2	59.3	59.8
Heptanes Plus Properties				
Mol %	:	1.03	1.07	1.07
Molecular Weight	:	112.1	111.5	109.6
Density (gm/cc @ 60 °F)	:	0.7506	0.7498	0.7475
Gravity (°API @ 60 °F)	:	56.8	57.0	57.6
Decanes Plus Properties				
Mol %	:	0.15	0.16	0.15
Molecular Weight	:	157.9	152.6	142.5
Density (gm/cc @ 60 °F)	:	0.7981	0.7933	0.7836
Gravity (°API @ 60 °F)	:	45.6	46.70	48.9
Undecanes Plus Properties				
Mol %	:	0.09	0.09	0.07
Molecular Weight	:	175.8	168.8	153.9
Density (gm/cc @ 60 °F)	:	0.8137	0.8078	0.7945
Gravity (°API @ 60 °F)	:	42.2	43.49	46.4
Dodecanes Plus Properties				
Molecular Weight	:	193.0	190.7	188.3
Density (gm/cc @ 60 °F)	:	0.8275	0.8257	0.8238
Gravity (°API @ 60 °F)	:	39.3	39.7	40.1
Recovery Factor*				
* at 500 psi abandonment pressure :		0.6842	0.5612	0.2931

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		3500	3100	2700
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	3.19	3.06	2.90
Nitrogen	N2	0.38	0.34	0.29
Methane	C1	46.03	42.82	39.32
Ethane	C2	6.23	6.14	6.01
Propane	C3	2.48	2.54	2.60
Iso-Butane	iC4	0.85	0.89	0.95
N-Butane	nC4	0.91	0.98	1.04
Iso-Pentane	iC5	0.59	0.65	0.72
N-Pentane	nC5	0.44	0.49	0.54
Hexanes	C6	1.68	1.92	2.22
Heptanes Plus	C7+	37.22	40.17	43.41
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	195.2	168.6	162.2
Density @ P & T	:	0.851	0.824	0.811

Hexanes Plus Properties

Mol %	:	38.90	42.09	45.63
Molecular Weight	:	466.7	369.2	327.6
Density (gm/cc @ 60 °F)	:	0.973	0.932	0.912
Gravity (°API @ 60 °F)	:	13.8	20.2	23.5

Heptanes Plus Properties

Molecular Weight	:	483.9	382.8	340.0
Density (gm/cc @ 60 °F)	:	0.976	0.936	0.916
Gravity (°API @ 60 °F)	:	13.4	19.6	22.8

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		2300	1900	1500
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	2.71	2.48	2.19
Nitrogen	N2	0.23	0.18	0.13
Methane	C1	35.48	31.21	26.41
Ethane	C2	5.81	5.52	5.08
Propane	C3	2.64	2.65	2.59
Iso-Butane	iC4	1.00	1.04	1.06
N-Butane	nC4	1.11	1.18	1.22
Iso-Pentane	iC5	0.79	0.87	0.93
N-Pentane	nC5	0.60	0.67	0.73
Hexanes	C6	2.56	2.97	3.40
Heptanes Plus	C7+	47.07	51.23	56.26
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	165.3	177.4	192.9
Density @ P & T	:	0.808	0.816	0.825

Hexanes Plus Properties

Mol %	:	49.63	54.20	59.66
Molecular Weight	:	308.8	306.4	305.8
Density (gm/cc @ 60 °F)	:	0.902	0.901	0.901
Gravity (°API @ 60 °F)	:	25.1	25.3	25.4

Heptanes Plus Properties

Molecular Weight	:	321.0	319.3	319.2
Density (gm/cc @ 60 °F)	:	0.907	0.906	0.906
Gravity (°API @ 60 °F)	:	24.4	24.6	24.6

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		1100	700 *	700 **
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	1.81	1.33	1.25
Nitrogen	N2	0.08	0.04	0.04
Methane	C1	20.94	14.60	13.80
Ethane	C2	4.41	3.39	3.40
Propane	C3	2.40	1.99	1.84
Iso-Butane	iC4	1.04	0.91	0.83
N-Butane	nC4	1.21	1.08	1.01
Iso-Pentane	iC5	0.97	0.91	0.86
N-Pentane	nC5	0.77	0.73	0.68
Hexanes	C6	3.79	3.89	1.75
Heptanes Plus	C7+	62.58	71.13	74.54
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	217.7	246.3	169.6
Density @ P & T	:	0.840	0.852	0.769

Hexanes Plus Properties

Mol %	:	66.37	75.02	76.29
Molecular Weight	:	314.2	318.7	213.5
Density (gm/cc @ 60 °F)	:	0.906	0.908	0.843
Gravity (°API @ 60 °F)	:	24.6	24.2	36.2

Heptanes Plus Properties

Molecular Weight	:	328.1	331.5	216.5
Density (gm/cc @ 60 °F)	:	0.910	0.912	0.845
Gravity (°API @ 60 °F)	:	23.8	23.5	35.9

* Abandonment Pressure Liquid Composition from Material Balance
** Abandonment Pressure Liquid Composition Analysed

CALCULATED CUMULATIVE RECOVERY DURING DEPLETION

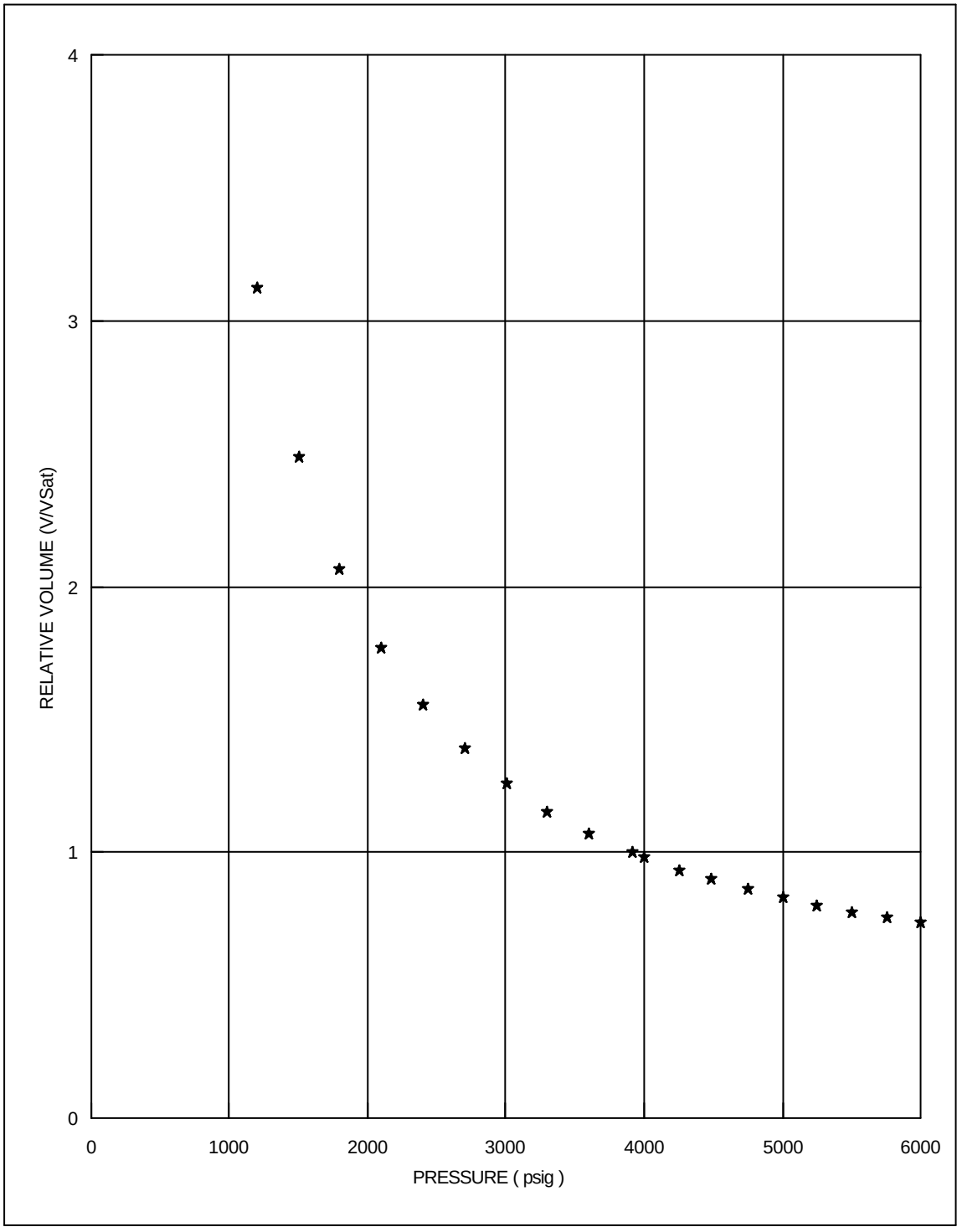
per MMSCF of Original Reservoir Fluid *

Reservoir Pressure		3950	3500	3100	2700	2300	1900	1500	1100	700
	Initial in Place	**Saturation Pressure**								
Well Stream - MSCF	**1000**	0	96.6	189.4	289.1	392.6	500.3	608.1	715.7	820.2
Stock Tank Liquid - °API @ 60 °F		47.6	60.0	60.9	61.7	62.8	63.6	64.0	64.0	64.8
Cumulative Produced (Bbl)	**0.00**	0.00	1.65	3.06	4.43	5.70	6.98	8.24	9.56	10.85
Remaining in Vapor (Bbl)	**26.05**	26.05	15.30	12.21	9.61	7.38	5.82	4.47	3.39	2.14
Remaining in Liquid (Bbl)	**0.00**	0.00	9.10	10.79	12.02	12.97	13.25	13.35	13.10	13.06
Primary Separator Gas - MSCF	**972.23**	0.00	94.32	185.14	282.93	384.61	490.44	596.33	702.01	804.58
Second Stage Gas - MSCF	**5.78**	0.00	0.47	0.88	1.28	1.67	2.06	2.45	2.86	3.26
Stock Tank Gas - MSCF	**4.13**	0.00	0.34	0.63	0.92	1.20	1.48	1.76	2.06	2.35
		Total " Plant Products " - (Gallons) in Well Stream :								
Ethane	**1761**	0	170	333	509	692	882	1072	1263	1448
Propane	**488**	0	47	92	141	191	243	295	348	399
Butanes	**286**	0	28	54	82	111	141	171	202	232
Pentanes Plus	**1116**	0	93	177	261	341	422	504	587	668
		Total " Plant Products " - (Gallons) in Primary Separator Gas :								
Ethane	**1708**	0	166	325	497	676	862	1049	1235	1417
Propane	**454**	0	44	87	133	181	231	281	331	380
Butanes	**245**	0	24	47	73	99	126	154	181	208
Pentanes Plus	**264**	0	26	52	80	109	139	169	199	229
		Total " Plant Products " - (Gallons) in Secondary Separator Gas :								
Ethane	**16**	0	1	2	4	5	6	7	8	9
Propane	**4**	0	0	1	1	1	1	2	2	2
Butanes	**2**	0	0	0	0	1	1	1	1	1
Pentanes Plus	**1**	0	0	0	0	1	1	1	1	1
		Total " Plant Products " - (Gallons) in Stock Tank Gas :								
Ethane	**27**	0	2	4	6	8	10	11	13	15
Propane	**17**	0	1	3	4	5	6	7	8	10
Butanes	**12**	0	1	2	3	4	4	5	6	7
Pentanes Plus	**10**	0	1	2	2	3	4	4	5	6
		Gas Liquid Ratios *								
1st Sep. Gas/Stock Tank Liquid (SCF/BBL)		37320	5.725E+04	6.432E+04	7.156E+04	7.950E+04	8.281E+04	8.430E+04	8.011E+04	7.941E+04
1st+2nd Sep. Gas/Stock Tank Liquid (SCF/BBL)		37542	5.753E+04	6.461E+04	7.186E+04	7.980E+04	8.312E+04	8.461E+04	8.041E+04	7.972E+04
1st+2nd Sep+STTGas/Stock Tank Liquid (SCF/BBL)		37700	5.774E+04	6.482E+04	7.207E+04	8.002E+04	8.334E+04	8.483E+04	8.064E+04	7.995E+04
1st Sep. Gas/Produced WellStream (MSCF/MMSCF)		972	977	979	981	982	983	983	982	981
1st+2nd Sep. Gas/Produced WS (MSCF/MMSCF)		978	981	983	985	986	986	986	986	985
1st+2nd Sep.+STT Gas/Produced WS (MSCF/MMSCF)		982	985	986	988	989	989	989	988	988
Stock Tank Liquid/Produced WS (STB/MMSCF)		26	17	15	14	12	12	12	12	12

* Primary Separator @ 1000 psig and 100 °F; Secondary separator @ 250 psig and 70 °F; Stock Tank @ 14.696 psia and 60 °F

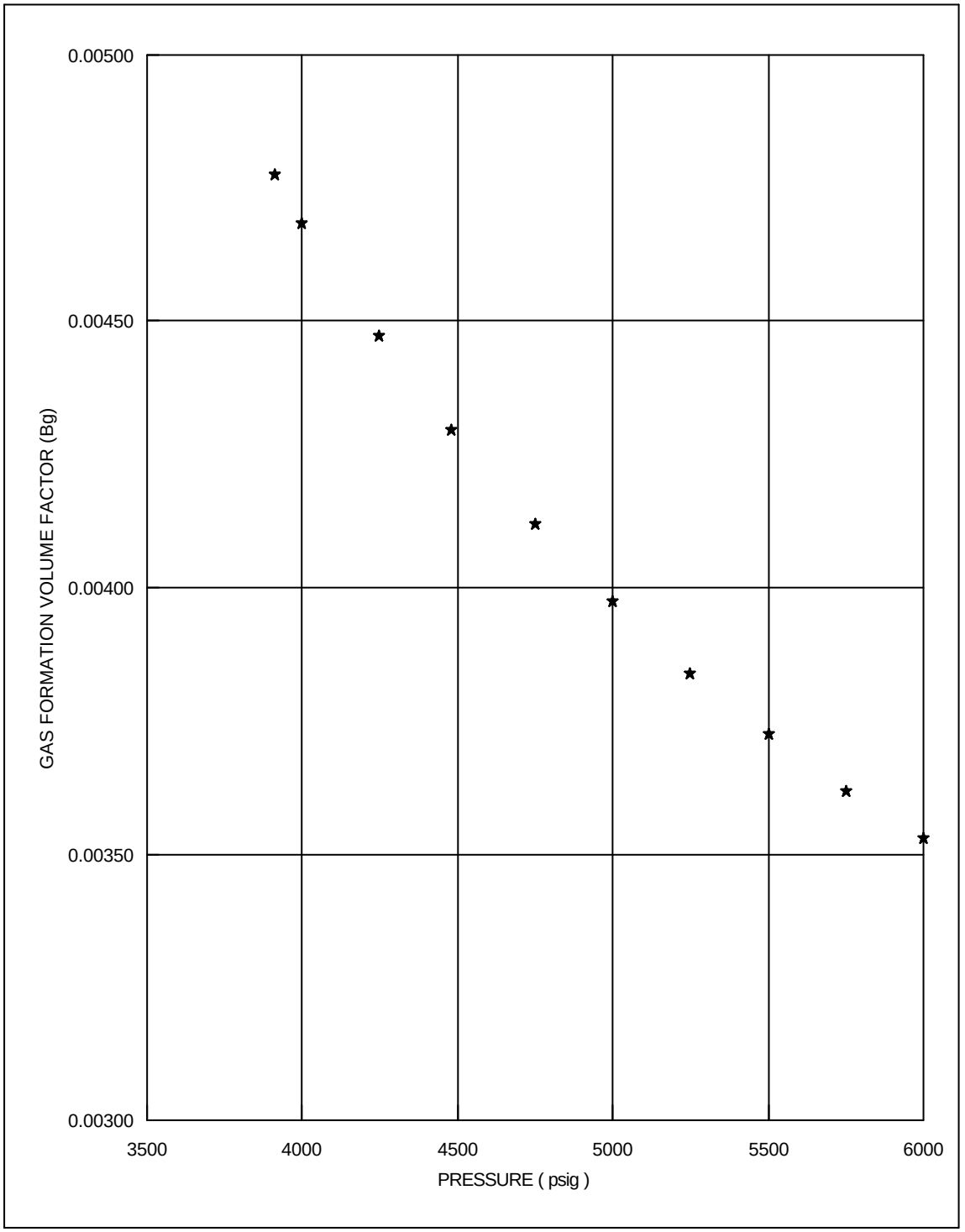
RELATIVE VOLUME

Equation of best fit
V/VSat = +8.80E+00 -7.15E-03 * P +2.57E-06 * P^2 -4.17E-10 * P^3 +2.50E-14 * P^4



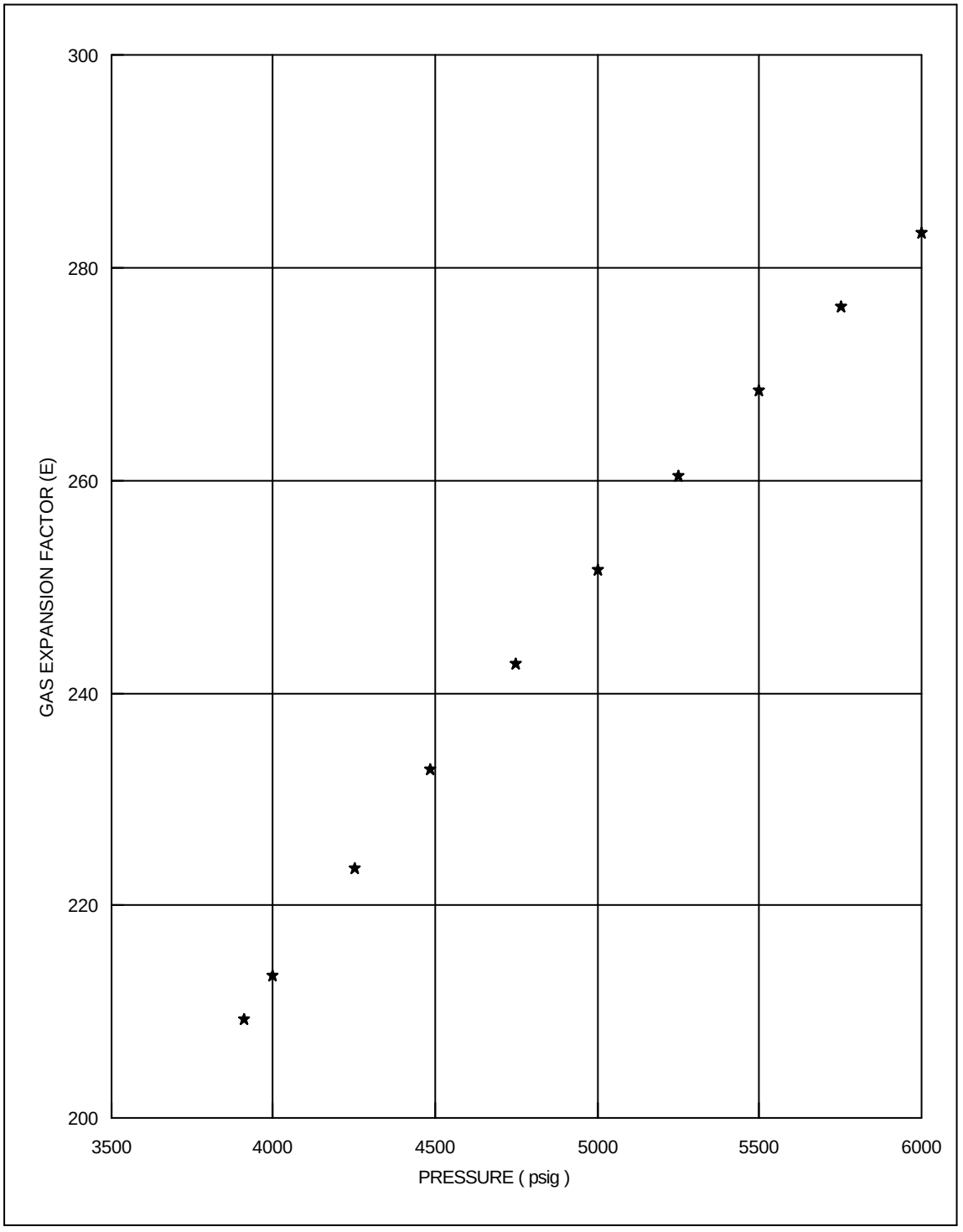
GAS FORMATION VOLUME FACTOR

Equation of best fit
Bg = +1.38E-02 -4.09E-06 * P +5.69E-10 * P^2 -2.87E-14 * P^3 +0.00E+00 * P^4



GAS EXPANSION FACTOR

Equation of best fit
E = -4.38E+00 +6.61E-02 * P -2.71E-06 * P^2 -5.26E-11 * P^3 +0.00E+00 * P^4



GAS DEVIATION FACTOR

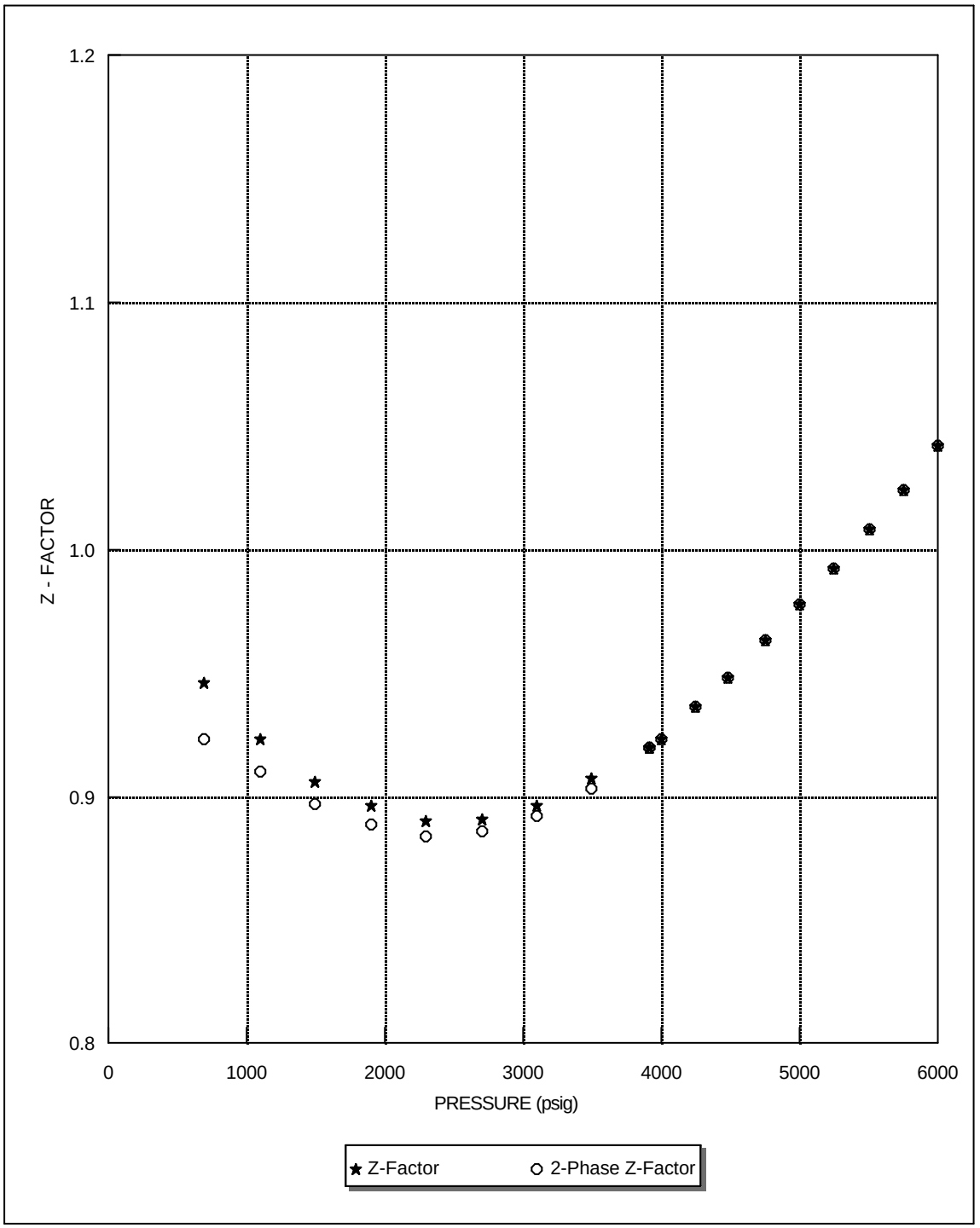
Equation of best fit

Z

$Z = +1.00E+00 -9.08E-05 * P +1.87E-08 * P^2 +2.38E-13 * P^3 +-1.08E-16 * P^4$

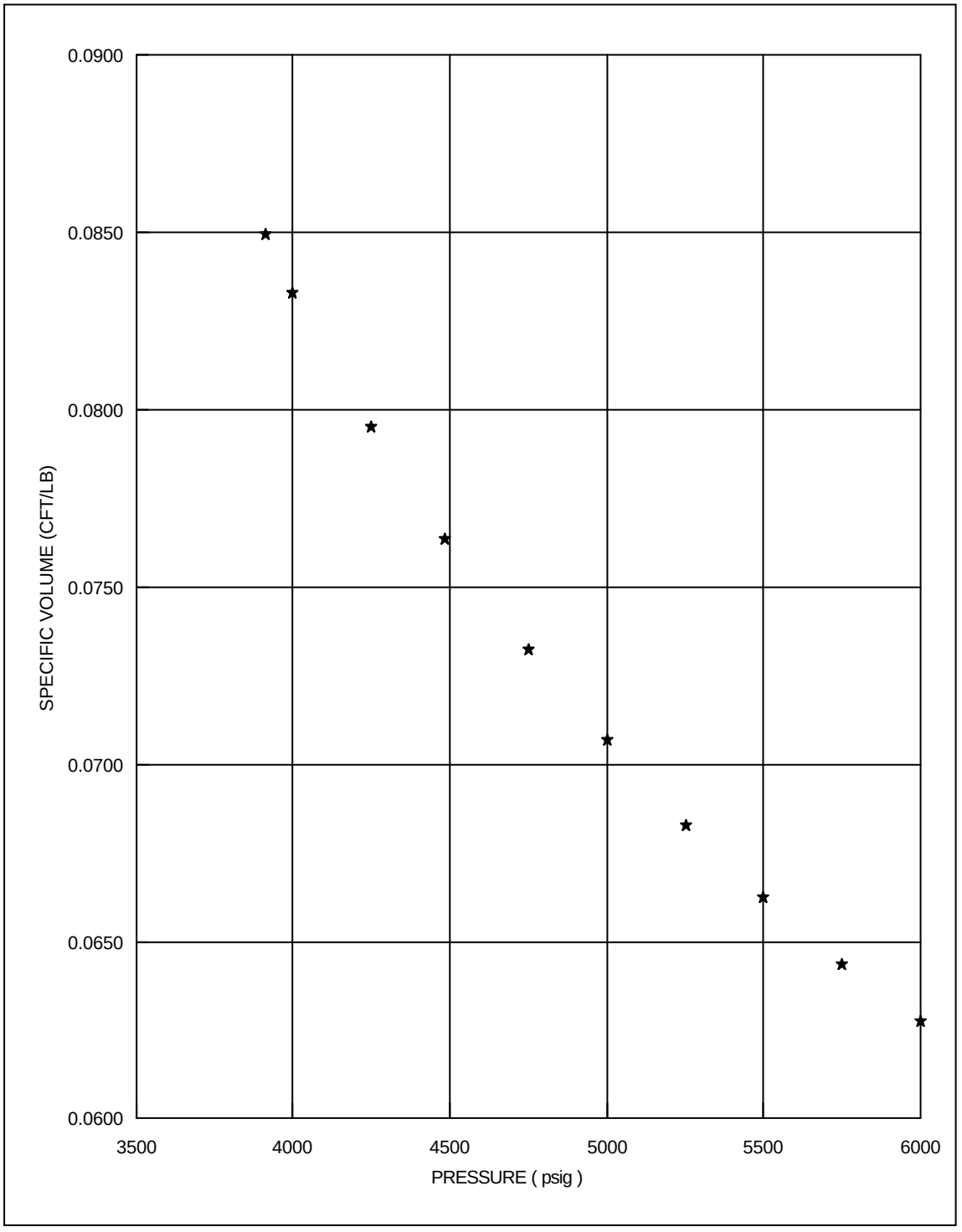
2 phase Z

$2phZ = +9.99E-01 -1.48E-04 * P +7.76E-08 * P^2 -2.00E-11 * P^3 +2.19E-15 * P^4$



RESERVOIR FLUID SPECIFIC VOLUME

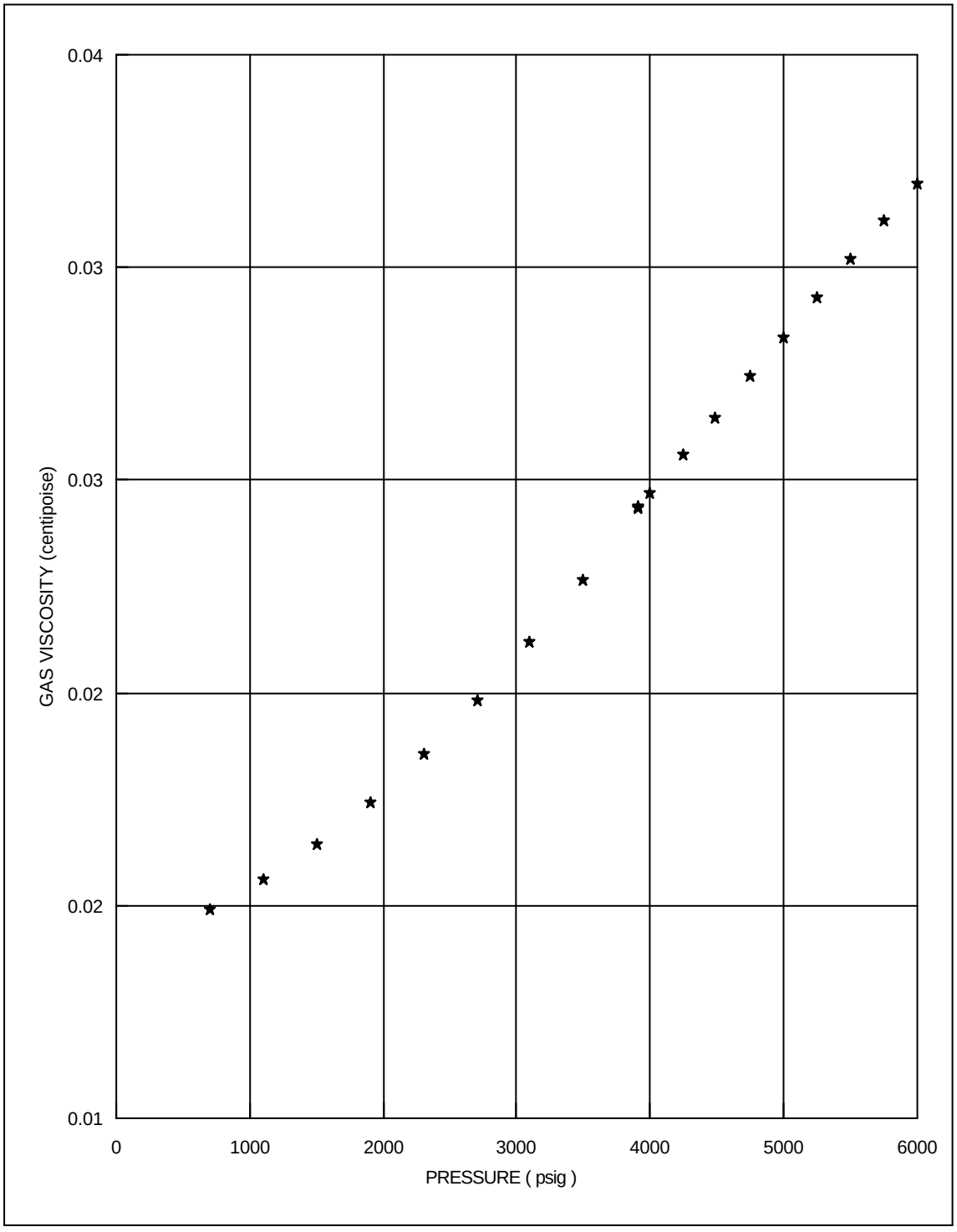
Equation of best fit
SV = +2.45E-01 -7.27E-05 * P +1.01E-08 * P^2 -5.11E-13 * P^3 +0.00E+00 * P^4



VISCOSITY OF RESERVOIR FLUID

Equation of best fit

$\mu = +1.45E\text{-}02 +1.03E\text{-}07 * P +9.17E\text{-}10 * P^2 -8.18E\text{-}14 * P^3 +1.15E\text{-}18 * P^4$



RETROGRADE CONDENSATION

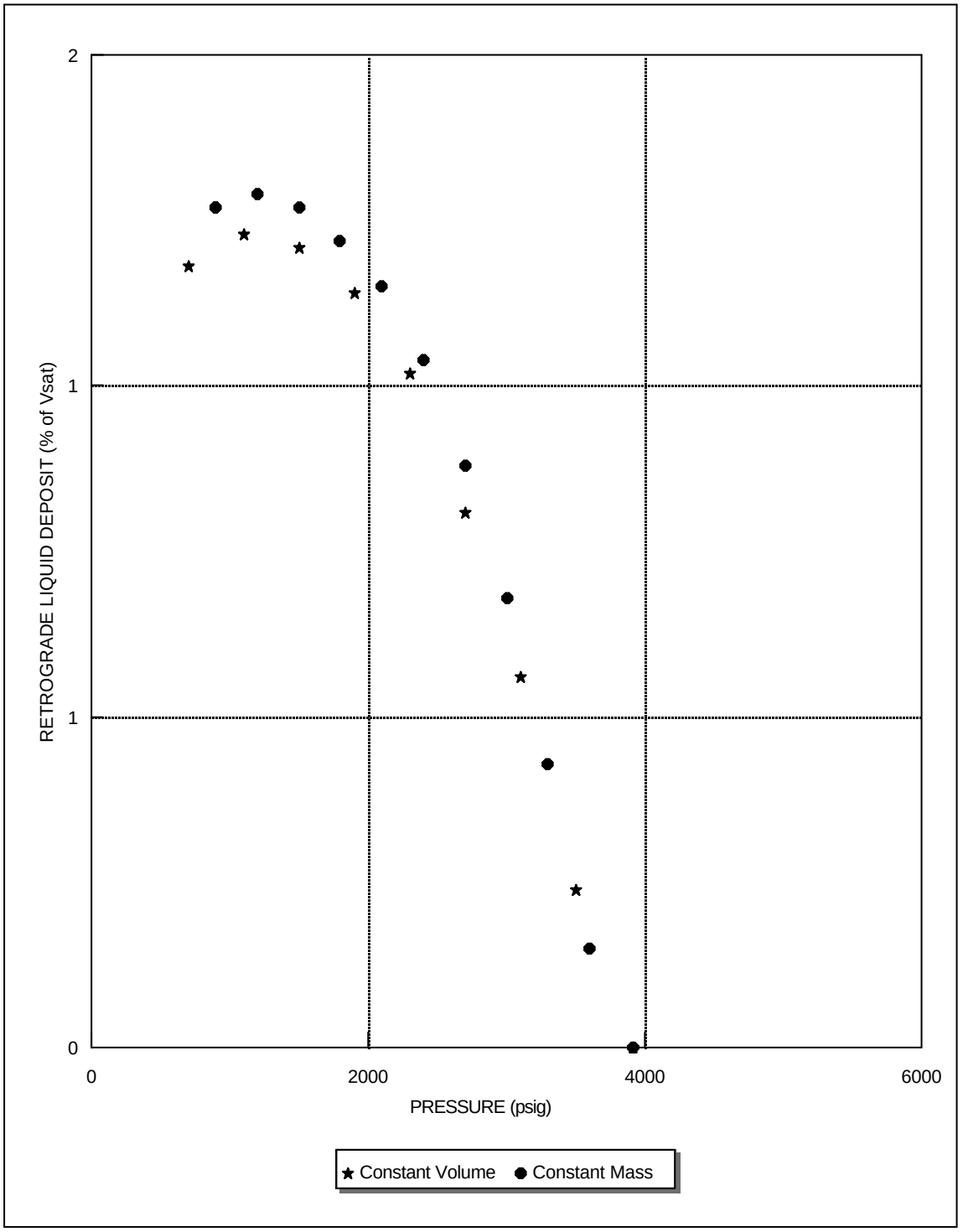
Equation of best fit

Constant Volume

RLD = +1.18E+00 -1.65E-04 * P +3.69E-07 * P^2 -1.99E-10 * P^3 +2.44E-14 * P^4

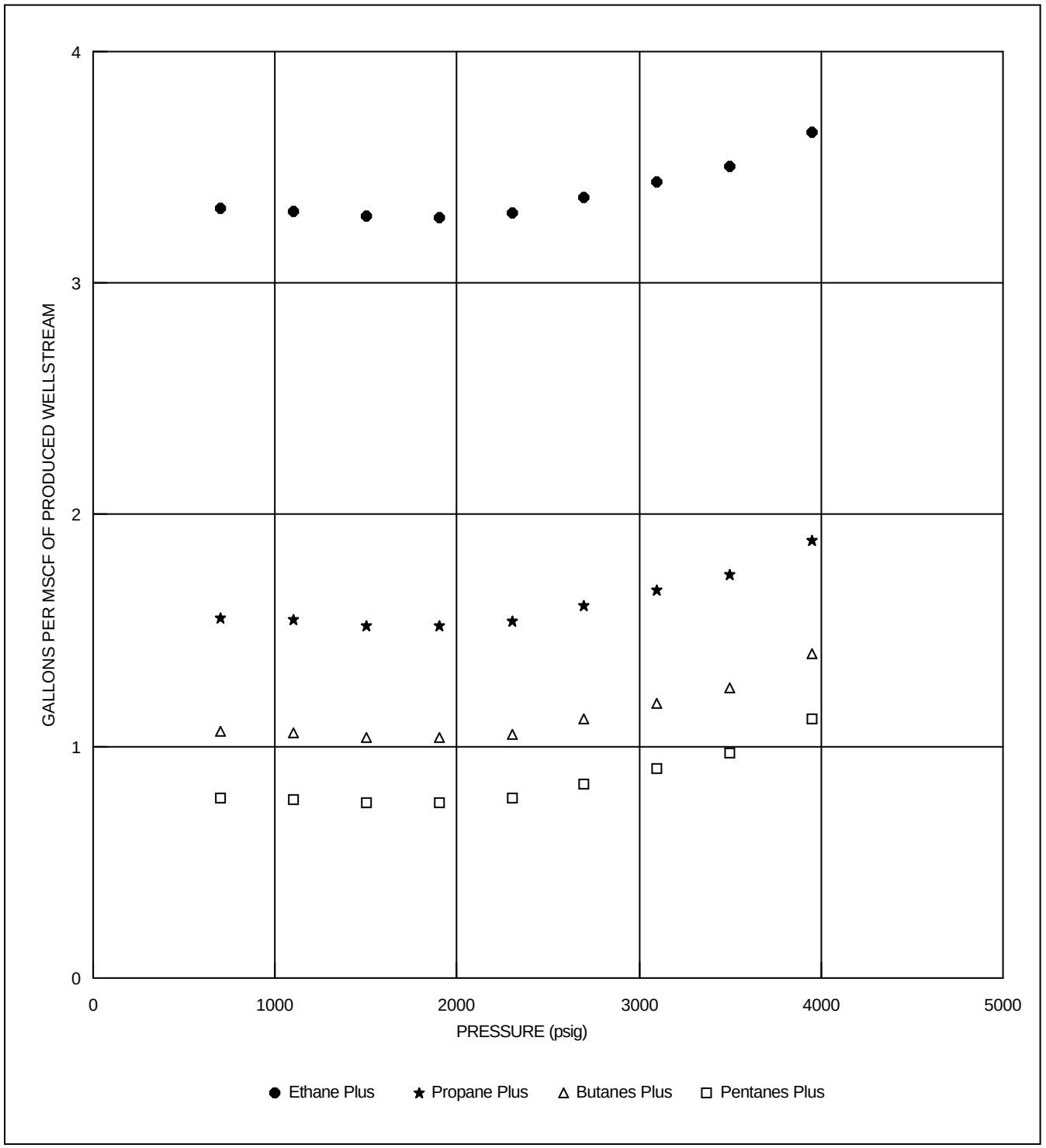
Constant Mass

RLD = +1.70E+00 -1.15E-03 * P +1.07E-06 * P^2 -4.04E-10 * P^3 +4.50E-14 * P^4



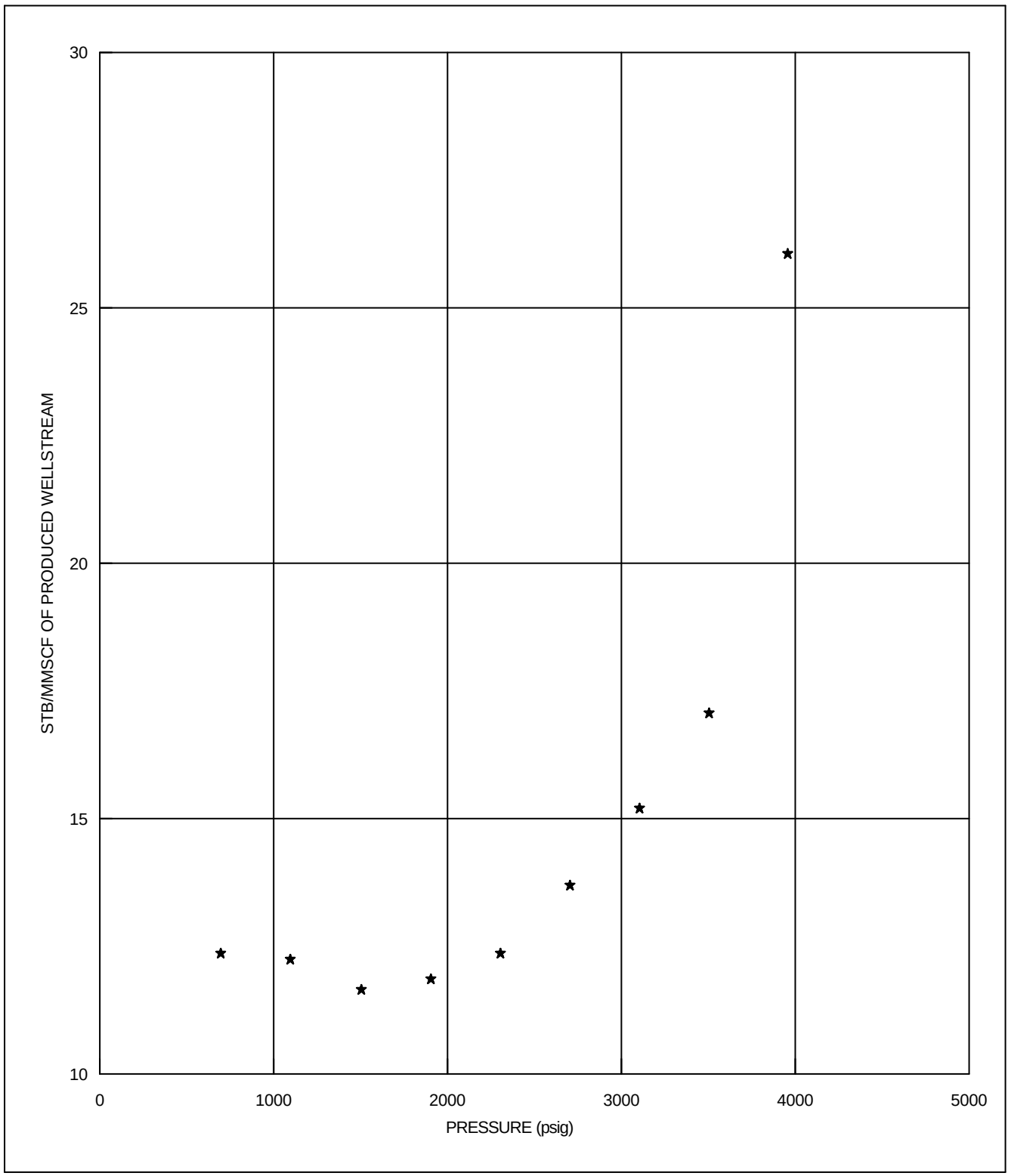
GPM CONTENT IN PRODUCED WELL STREAM

Ethane Plus GPM C o n t e n t = +3.38E+00 -5.25E-05 * P -4.16E-08 * P^2 +2.87E-11 * P^3 -2.64E-15 * P^4
Propane Plus GPM C o n t e n t = +1.59E+00 -2.19E-05 * P -5.86E-08 * P^2 +3.32E-11 * P^3 -3.08E-15 * P^4
Butanes Plus GPM C o n t e n t = +1.09E+00 -5.63E-06 * P -6.35E-08 * P^2 +3.34E-11 * P^3 -3.04E-15 * P^4
Pentanes Plus GPM C o n t e n t = +8.03E-01 -1.21E-05 * P -4.74E-08 * P^2 +2.61E-11 * P^3 -2.11E-15 * P^4



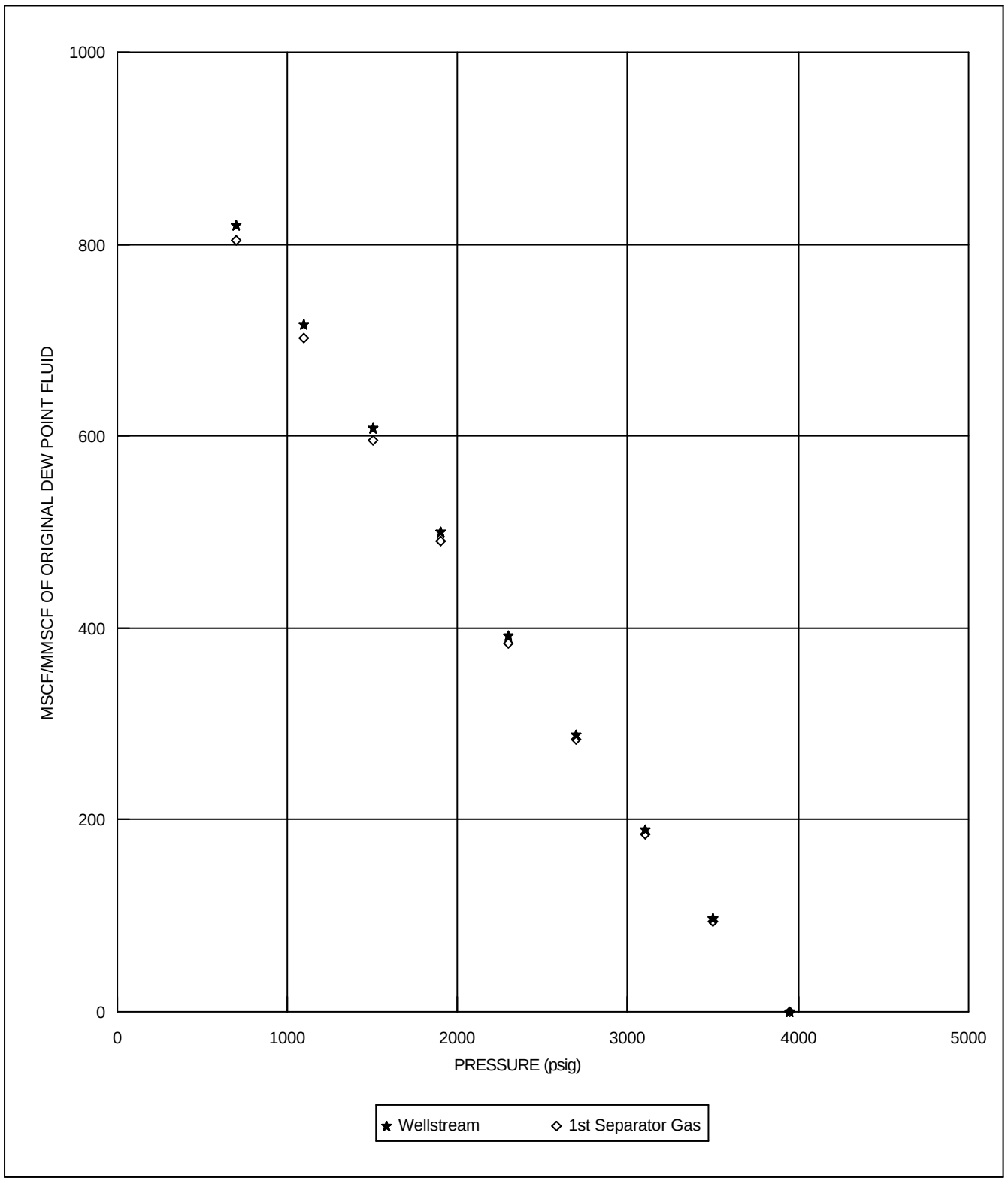
STOCK TANK LIQUID
IN PRODUCED WELLSTREAM

STL = +2.04E+01 -2.03E-02 * P +1.67E-05 * P^2 -5.75E-09 * P^3 +7.39E-13 * P^4



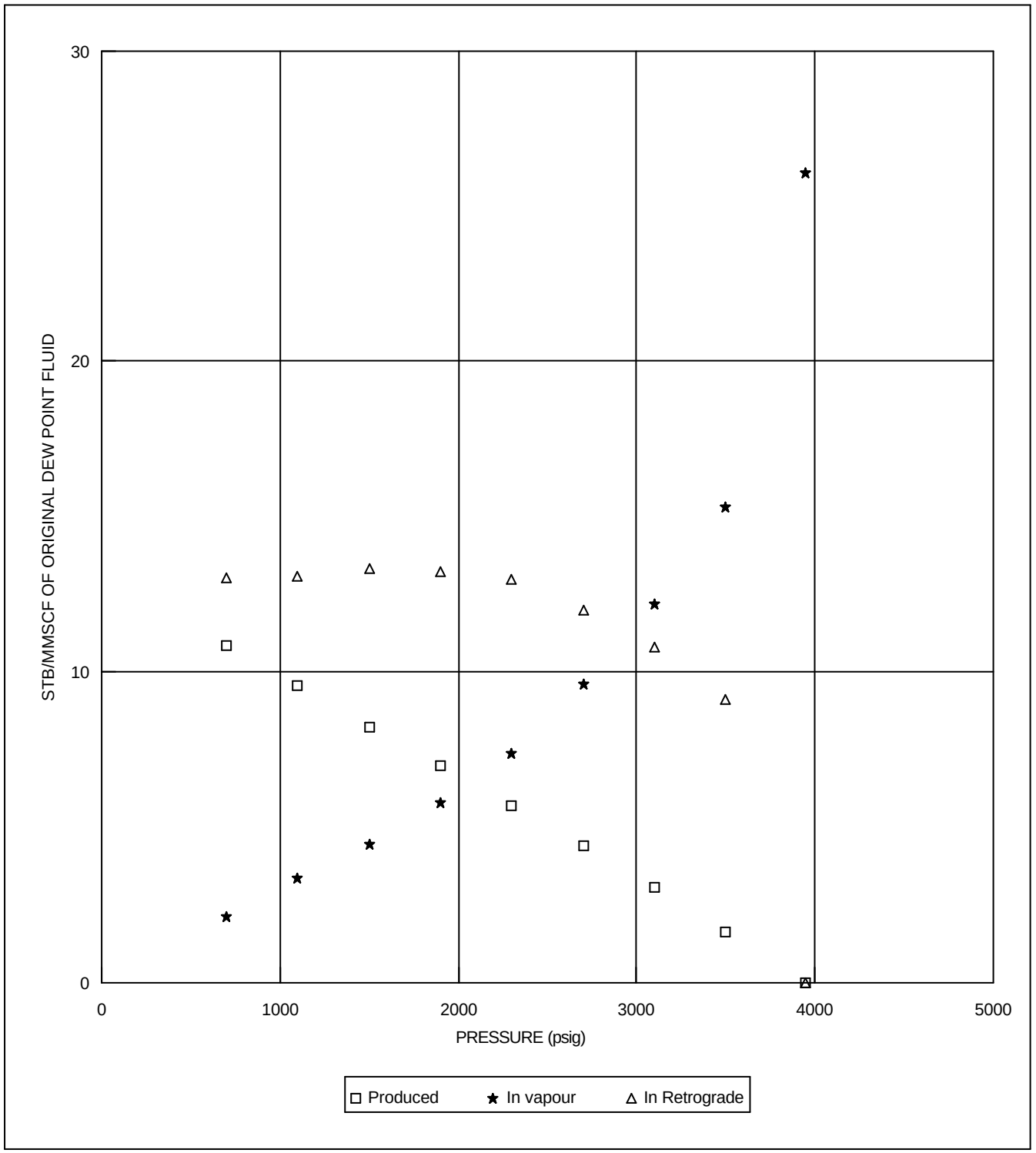
CUMULATIVE GAS PHASE PRODUCED

Cum Vol W/S = +9.88E+02 -2.20E-01 * P -3.28E-05 * P^2 +7.86E-09 * P^3 -3.71E-13 * P^4
Cum Vol Sep Gas = +9.69E+02 -2.15E-01 * P -3.32E-05 * P^2 +7.95E-09 * P^3 -3.75E-13 * P^4



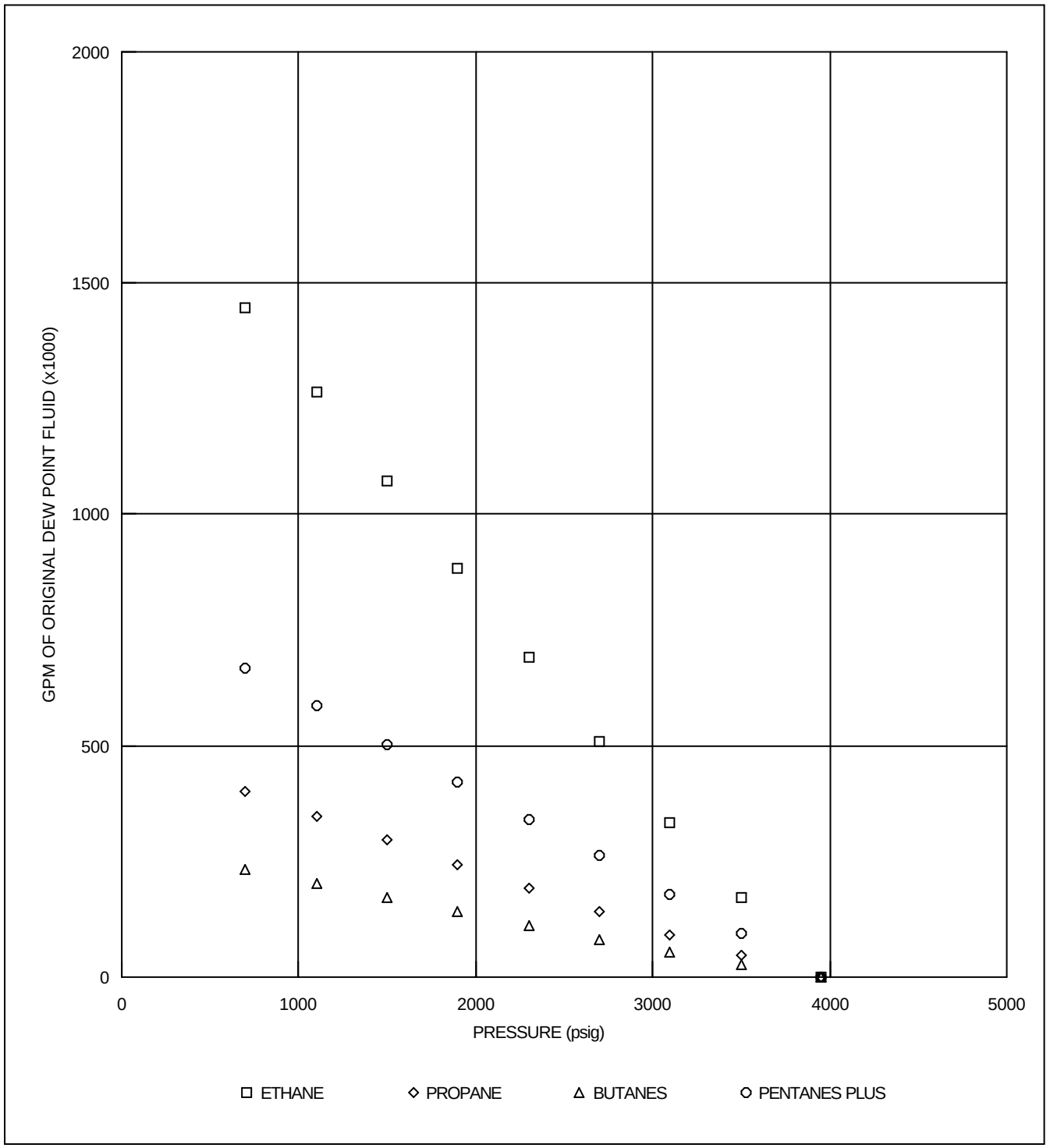
CUMULATIVE STOCK TANK LIQUID PRODUCTION AND CONDENSATION

Produced = +1.33E+01 -3.76E-03 * P +3.62E-07 * P^2 -8.32E-11 * P^3 +4.02E-15 * P^4
In Vapour = -1.75E+00 +8.30E-03 * P -5.15E-06 * P^2 +1.94E-09 * P^3 -2.45E-13 * P^4
In Retrograde = +1.45E+01 -4.41E-03 * P +4.50E-06 * P^2 -1.63E-09 * P^3 +1.66E-13 * P^4



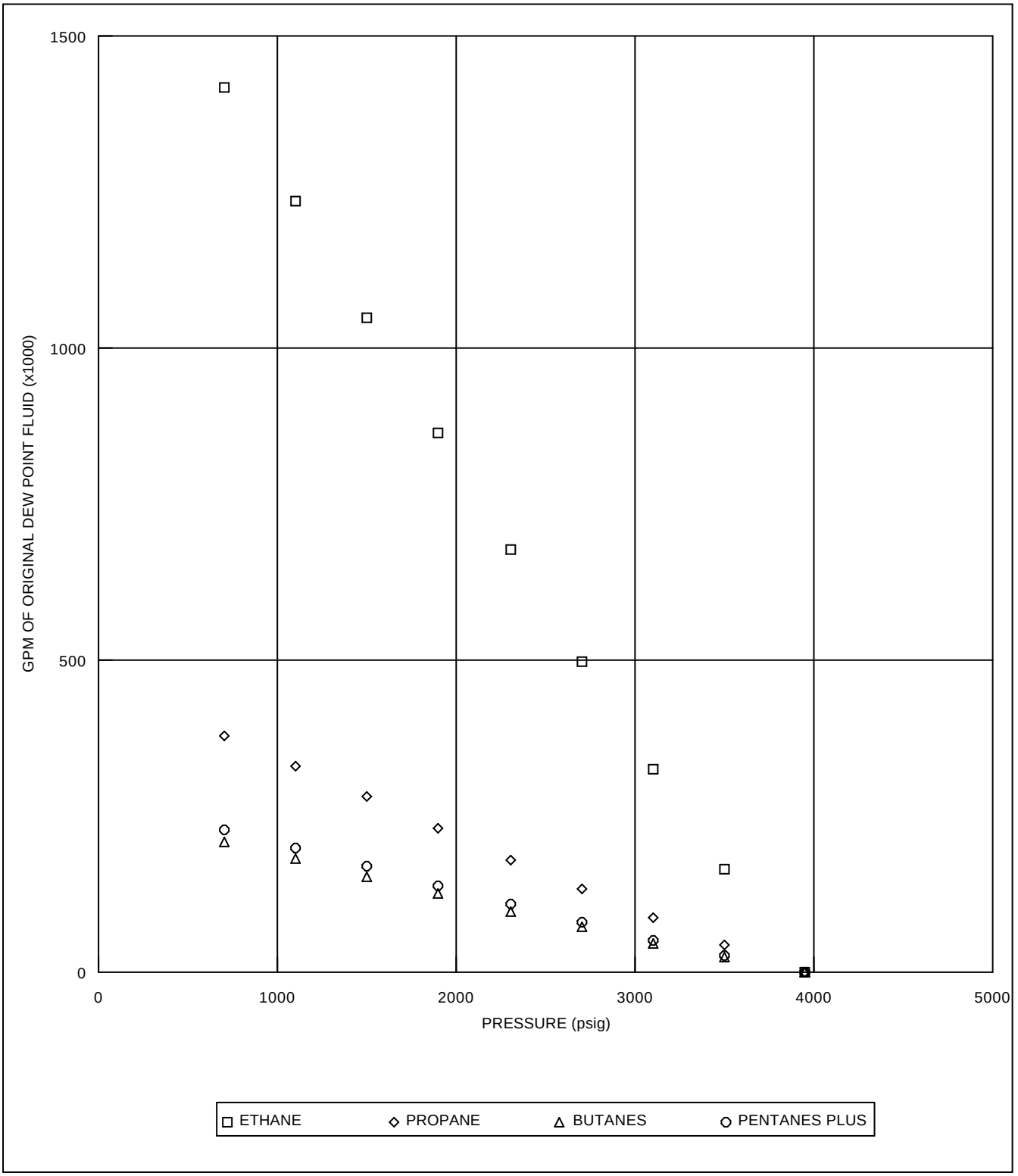
PLANT PRODUCTS IN PRODUCED WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Ethane Plus GPM C o n t e n t = +1.75E+03 -3.95E-01 * P -5.48E-05 * P^2 +1.32E-08 * P^3 -5.93E-13 * P^4
Propane Plus GPM C o n t e n t = +4.83E+02 -1.12E-01 * P -1.35E-05 * P^2 +3.33E-09 * P^3 -1.48E-13 * P^4
Butanes Plus GPM C o n t e n t = +2.81E+02 -6.76E-02 * P -5.97E-06 * P^2 +1.51E-09 * P^3 -6.02E-14 * P^4
Pentanes Plus GPM C o n t e n t = +8.16E+02 -2.16E-01 * P +8.19E-06 * P^2 -2.03E-09 * P^3 +1.45E-13 * P^4



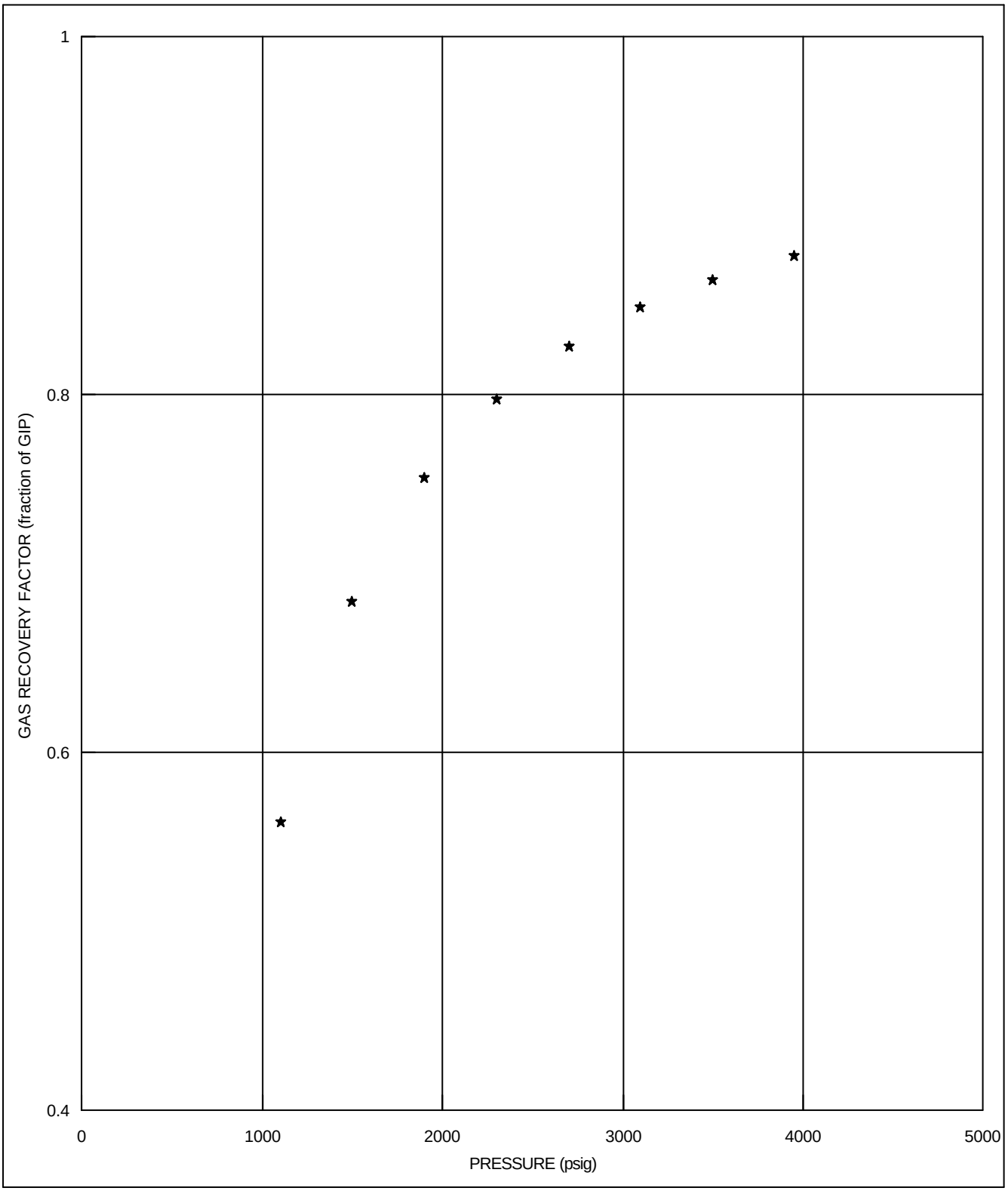
PLANT PRODUCTS
IN PRIMARY SEPARATOR GAS

Ethane Plus GPM C o n t e n t = +1.71E+03 -3.84E-01 * P -5.59E-05 * P^2 +1.35E-08 * P^3 -6.22E-13 * P^4
Propane Plus GPM C o n t e n t = +4.59E+02 -1.05E-01 * P -1.39E-05 * P^2 +3.36E-09 * P^3 -1.41E-13 * P^4
Butanes Plus GPM C o n t e n t = +2.52E+02 -5.84E-02 * P -7.07E-06 * P^2 +1.66E-09 * P^3 -5.49E-14 * P^4
Pentanes Plus GPM C o n t e n t = +2.76E+02 -6.24E-02 * P -8.50E-06 * P^2 +1.85E-09 * P^3 -4.43E-14 * P^4



GAS RECOVERY FACTOR

Gas Recovery Factor = -2.42E-01 +1.19E-03 * P -5.29E-07 * P^2 +1.11E-10 * P^3 -8.89E-15 * P^4



APPENDIX 20: STUCK-IN-HOLE INCIDENT REPORT



STUCK-IN-HOLE INCIDENT REVIEW REPORT

TREFOIL-2

1	0	Issued	DES	DS	OD	10.11.09
1	A	Issued for comment	DES	DS	OD	6.11.09
Issue	Rev	Description	Prepared By:	Reviewed By:	Approved By:	Date:

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1.0 Document Distribution List

Location	Recipient	Hard Copy	E-Copy
ADA	Document Control (File)	-	1
Origin Energy	Drilling Manager	-	1
Origin Energy	Principal Drilling Engineer	-	1
Origin Energy	Senior Drilling Engineer	-	1
ADA	Chief Executive Officer	1	1
ADA	Operations Director	1	1
ADA	Drilling Superintendent	1	1
ADA	Drilling Engineering Supt	1	1
ADA	Senior Drilling Engineer	1	1

2.0 Approvals

Prepared by:



10 November, 2009

ADA Engineering Superintendent — Date



10 November, 2009

ADA Senior Drilling Engineer — Date

Reviewed by:



10 November, 2009

ADA Drilling Superintendent — Date

Approved by:



10 November, 2009

ADA Operations Director — Date

Disclaimer

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3.0 Introduction

This report outlines an investigation undertaken in regards to the 9.625in stuck casing incident that occurred on the Kan Tan IV (KTIV) semi-submersible rig on 23 October, 2009. At the time the KTIV was drilling the Origin Energy operated Trefoil-2 appraisal well in the Bass Basin (T/18P). The following points summarise the stuck casing event:

- The 9.625in casing string became stuck whilst being RIH at 2508mMDRT.
- The compensator was opened and the string worked in attempt to free the casing.
- Air pressure was getting low and it was decided to close the compensator.
- The slips were set, the compensator closed and locked.
- Whilst waiting for the air pressure to build up in order to verify the lock pin was engaged the rig heaved several times, the slips acting as a ratchet allowed tension to build up in the casing and landing string until it was sufficient to part the landing string.
- The 9.625in casing hanger and seal assembly running tool (CHSART) and casing remained in the hole within the lower marine riser package (LMRP). Refer to Figure 1 for further details.
- Several days were spent attempting to fish the casing string without success.
- The casing was eventually sheared with the blind/shear rams and the CHSART jarred free and recovered to surface.
- The casing was cut below the seabed and a casing patch set.

The intent of this Incident report is to investigate the reasons why the casing string became stuck and makes recommendations to avoid this type of incident occurring in the future. The report does not comment on the subsequent fishing operations.

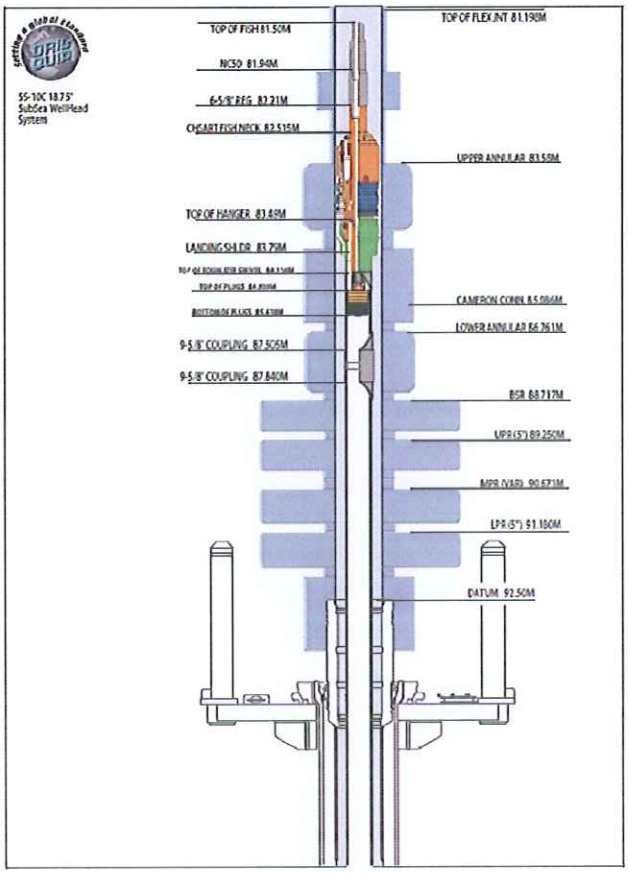


Figure 1

4.0 Conclusion

The 9.625in casing was run to 2480mMDRT. Up to that point the hole appeared to be in good condition with little resistance whilst running with only a few tight spots noted. Circulation started and the casing was washed down to 2508mMDRT (+/-7m from landing off). Problems with wellbore pack-off materialised due to viscous pills and high annular velocities transporting cuttings to surface and packing-off around the CHSART within the LMRP. Standard procedures suggest that once a pack-off is experienced it is essential to keep or get the string moving as soon as possible. Without circulation cuttings can build up around the pack off and within the annulus in open hole. This typically results in a stuck-in-hole scenario.

It is the conclusion of this investigation that:

- The wellbore packed off around the casing hanger and the CHSART as a result of pumping a viscous pill.
- Once circulation ceased due to the pack off the casing string became stuck in open hole.

5.0 Recommendations

As a result of the investigation into the 9.625in stuck-in-hole incident on Trefoil-2 the following recommendations have been made:

1. The Detailed Drilling Program shall be more specific in the use of viscous pills during drilling and circulation. If it is required to spot a viscous pill on bottom prior to running casing this shall be specified in the Detailed Drilling Program and only spotted in the proposed rat hole below the casing. No viscous pills are to be pumped whilst circulating the casing.

2. The annular velocities during washing the casing down and circulation prior to cement should be no greater than used in the drilling phase and shall be specified in the Detailed Drilling Program.

3. The Drilling Superintendent and/or Senior Drilling Engineer shall review and approve casing running and cementing procedures written by the ADA Drilling Supervisor onboard the rig.

4. The Senior Drilling Engineer shall monitor well operations via the Forward Program and/or Drillers Instructions to ensure they follow the Detailed Drilling Program. Variations should be highlighted to the Drilling Superintendent.

6.0 Scope and Methodology

This Incident Review Report outlines the investigation and the findings associated with the 9.625in stuck casing incident. The report reviews and comments on operations prior to the stuck casing incident and makes recommendations to prevent reoccurrence in the future. It is not within the scope of this report to investigate the parting of the landing string and the subsequent fishing operation and casing patch operations. The investigation and interpretation of the reports and data was undertaken by Paul Barrett (ADA Engineering Superintendent) in conjunction with Texas Richards (ADA Drilling Superintendent).

The investigation reviewed Daily Drilling Reports, Geoservices Drilling Data Log, Mud Engineer's Report, the ADA Senior Supervisor's Report and the Maersk Senior Toolpusher's Report.

7.0 Sequence of Events

Table 1 summasises the sequence of events surrounding the 9.625in stuck-in-hole incident. The information presented in the Table has been sourced from the the daily IDS reports.

Date	From	To	Hours	Comment
22/10/2009	1:00	1:30	0:30	Spotted 40 bbls hi-vis pill on bottom. Pumped slug. Flow checked well. Well static.
22/10/2009	1:30	5:00	3:30	POOH dry from 2520m to 930m at 15 stands/hr.
22/10/2009	5:00	6:00	1:00	Flow checked well at shoe. Well static. Concurrently serviced rig.
22/10/2009	6:00	6:30	0:30	Pulled out of hole from 930m to 355m at 20 stands/hr.
22/10/2009	6:30	7:00	0:30	Flow checked well prior to pulling BHA through BOP. Well static
22/10/2009	7:00	7:30	0:30	Pulled out of hole from 355m to 252m.
22/10/2009	7:30	9:00	1:30	Removed diverter packer and drill pipe wiper. Pulled out of hole with BHA to surface.
22/10/2009	9:00	10:00	1:00	Removed bit and drained motor. 12.125" motor sleeve was measured 1/16" under gauge at surface.Checked mud motor - in spec. Checked 12.25" string stablisers, both in gauge. Down loaded MWD tools all data received. 2 plugged nozzles in bit, but still in good condition. IADC bit grade 1-1-CT-A-X-I-PN-TD.
22/10/2009	10:00	12:00	2:00	Made up Dril-Quip MPT retrieval tool and RIH. Washed the wellhead with the jet sub at 800 gpm, 250psi. Retrieved the wear bushing. POOH and laid down wear bushing and MPT. Dril-Quip obtained index measuremnet for casing hanger seat.
22/10/2009	12:00	15:00	3:00	Held JSA. Rigged up to run 9.625" casing.
22/10/2009	15:00	17:30	2:30	Attempted to make up shoe track. Malfunction of casing equipment. Changed out 11.75" elevator inserts to 9.625" inserts.
22/10/2009	17:30	24:00:00	6:30	Ran 9.625" casing to 830m. Filled pipe every 5 joints with mud.
23/10/2009	0:00	12:30	12:30	Ran 9.625" casing from 830m to 2417m. Filled pipe every 5 joints with mud.
23/10/2009	12:30	13:00	0:30	Rigged down and laid out 9.625" 500 ton casing elevators and fill up tool
23/10/2009	13:00	13:30	0:30	Picked up 9.625" casing hanger assembly and made up same.
23/10/2009	13:30	14:00	0:30	Rigged down 9.625" casing flush mounted slips.
23/10/2009	14:00	14:30	0:30	RIH with 9.625" casing hanger and landing string to 2480m. Casing stood up with 20 - 35 kips.
23/10/2009	14:30	18:00	3:30	Engaged TDS and washed down from 2480m to 2508m. Pumped 40 bbls hi-vis pill and circulated out of hole.
23/10/2009	18:00	19:30	1:30	Casing stuck at 2508m. Attempted to work free - no progress. Set slips and closed compensator.
23/10/2009	19:30	22:30	3:00	String parted due to heave. Conducted derrick survey.
23/10/2009	22:30	23:30	1:00	Pulled out of hole with landing string. Laid out pup joint, 1 x single HWDP and parted single (9.185m)

Table 1

8.0 Observations Leading up to the Stuck-in-Hole Incident

Note: The information in this section should be read in conjunction with the Geoservices Drilling Data Log located in Attachment 1.

8.1 Circulation Prior to the Check Trip

When TD of the 12.25in hole section was reached at 2520mTVDRT the wellbore was circulated to remove drilled cuttings and the drilling fluid was treated with shale inhibitors and a 50bbl/128sec viscous pill was pumped around to sweep the hole clean. No significant cuttings were observed coming over the shakes when the pill reached the surface.

8.2 Check Trip Prior to the Casing Run

The drill string was tripped out the hole to 2267m with over pulls of 20klbs at 2515m, 2412m 2383m and 2354m were reported. The drill string was tripped back in the hole to TD at 2520m with a maximum of 15klbs drag recorded.

8.3 Circulation Prior to Tripping for Casing

The wellbore was circulated clean and a 40bbl viscous pill was spotted on bottom. No comments were made regarding cuttings returned on bottoms up. Mud properties were as programmed with the exception of KCl percentage which was 9% as opposed to the programmed 7%. The higher KCl concentration assisted with shale inhibition. It was therefore assumed the hole was adequately cleaned and conditioned to run casing.

8.4 Tripping Out of the Hole for the Casing

A heavy weight slug was pumped in order to pull out of the hole dry and the drill string was tripped out the hole without problems indicating the hole was in good condition.

8.5 Wear Bushing Retrieval and Jetting the Wellhead

The Drilquip MPT retrieval tool was run to retrieve the wear bushing and to jet the wellhead clean. The wear bushing was retrieved without any issues.

8.6 Casing Running

The 9.625in casing was run to 2417mTVDRT (filling the pipe) with no resistance noted. The Geoservices Drilling Data Log confirms little resistance in running the casing to this point with only a few spots taking slight weight.

8.7 Running Casing Hanger and Landing String

The 9.625in casing hanger and the CHSART were made up to the casing and three stands of DP/HWDP run to 2480m. The casing stood up at with approximately 35klbs resistance. The Geoservices Drilling Data log indicates no resistance in running the casing to this point and the Mud Engineers report confirms this. The top drive was made up and circulating the casing down commenced.

From the Geoservices Drilling Data Log the circulation pressures and hook load varies considerably as the stand was washed down and improves during washing of the last 30ft with pump pressures and hook load fairly constant. This agrees with the Maersk Senior

Toolpusher's account (Attachment 5). The Mud Engineer's report states that as the casing was washed down a "steady flow" of cuttings were observed over the shakers and the cuttings described as "hard and well formed with the average size estimated at 1 - 1.15cm. The cuttings size could be described as blocky and angular".

The variation in pump pressures noted at the start of pumping approximately corresponds with the calculations for the viscous pill (21bbls annular volume) spotted at TD being circulated out. Once the stand was washed down circulation continued and the casing was raised and lowered four times. The Geoservice Drilling Data Log states a mud loss of 24bbls over 10 minutes. The circulation rate averaged 400gpm during circulation.

The Mud Engineer was advised by the ADA Drilling Supervisor to prepare a viscous pill and 70bbls was made up. It should be noted that the Mud Engineers Report in Attachment 2 states that the total 70bbl volume was pumped. The ADA and Geoservices records show that a 40bbl viscous pill was pumped and circulated around.

Directly after pumping the viscous pill, pump pressure and hook load varied considerably indicating the hole was starting to pack-off, but to a lesser extent than previously experienced. Once the circulating pressure and hook load stabilised the pump rate was increased to 505gpm. The ADA Drilling Supervisor gave instructions not to run in hole until the hole was clean. The circulation time of the pill was estimated to be 65 minutes.

8.8 Casing Stuck

Circulation continued with the casing being reciprocated until the string became stuck at 2508mTVDRT which coincides with the viscous pill being circulated out. The compensator was opened and the pipe was worked with the compensator. The compensator was working close to full stoke and air pressure was getting low. The Maersk Day Pusher, Night Pusher and the ADA Drilling Supervisor discussed options and the decision was made to close and lock the compensator. The rotary slips where set and the compensator closed and locked. While waiting for the air pressure to increase to confirm that the compensator was locked the rig took several heaves with the rotary slips acting as a ratchet. Enough tension was built up in the landing string to part the landing string above the CHSART. Refer to Figure 1.

9.0 Discussion

9.1 Detailed Drilling and Mud Program

The Detailed Drilling Program does not specify the use of viscous pills for hole cleaning. The Mud Program makes reference to using Barolift sweeps for hole cleaning if required. The use of viscous pills for hole cleaning during drilling and circulating prior to tripping is left to onsite supervision to specify dependent on hole conditions. Spotting a viscous pill on bottom prior to tripping out for casing is something specified to stabilise the rat hole and keep the rat hole clear of cement. However a pill should only be spotted below the intended shoe setting depth. The Detailed Drilling Program did not specify spotting a pill prior to running casing. Circulating a viscous pill to aid hole cleaning whilst running casing is not a normal practice due to smaller annuli resulting in higher annular velocities and close tolerance of casing hangers in the wellhead and risers.

9.2 Annular Velocities During Circulation

A circulation rate of +/-1000gpm was used to drill and circulate in the 12.25in hole. Circulating at 1000gpm equates to an annular velocity between open hole and the drill pipe of 196ft/min. The casing was initially circulated at 400gpm giving an annulus velocity between open hole and casing of 171ft/min. This was later increased to 505gpm giving an annular velocity between the casing and open hole of 215ft/min. The higher velocity cleaned the hole more efficiently and raised the cuttings previously left in hole to surface. It is normal practice to circulate the casing with an annular velocity less than that used during drilling and circulating the hole clean. The Detailed Drilling Program does not specify maximum circulation rates during casing running and cementing operations.

9.3 Hole Condition Prior to Running Casing

Once the 12.25in section was drilled to section TD the well was circulated clean and wiper trip was made to the previous BHA trip depth. The wiper trip showed the hole to be in good condition for running casing. The mud properties at this point of time were as programmed.

9.4 Circulating the Casing Down

Generally no problems were seen running the casing in open hole until the casing stood up at 2480mTVDRT with 35klbs resistance. Once the resistance to running in hole was noted the top drive was made up to circulate the casing down. As a result of the excessive cuttings returned and indications of packing off instructions were given not to lower the string until the annulus was clean and to pump a viscous pill around. The circulation rate used to wash down the casing was initially 400gpm which equates to an annulus velocity in the open hole of 171ft/min. Thirty minutes after the start of circulation the hole was starting to give indications of packing off. This approximately coincides with the return to surface of the viscous pill spotted at TD. Once pump pressures stabilised the circulation rate was increased to 505gpm (annular velocity 215ft/min). On bottoms up for this rate increase the hole gave indications of packing off as additional cuttings were being circulated out but to a lesser extent.

A 40bbl viscous pill was pumped and circulated around at 505gpm and on the return to surface the wellbore packed off and the string became stuck. Pumping a viscous pill with increased annular velocities increased the mud carrying capacity and lifted cuttings that would normally be left down hole. This in combination with the tight clearance of the hanger and running tool within the riser resulted in pack-offs and lost circulation as seen from the Geoservices Drilling Data Log. Once a pack-off occurred with the string stationary it was essential to get the pipe moving in order to clear same and regain circulation.

9.5 Actions following Stuck Casing

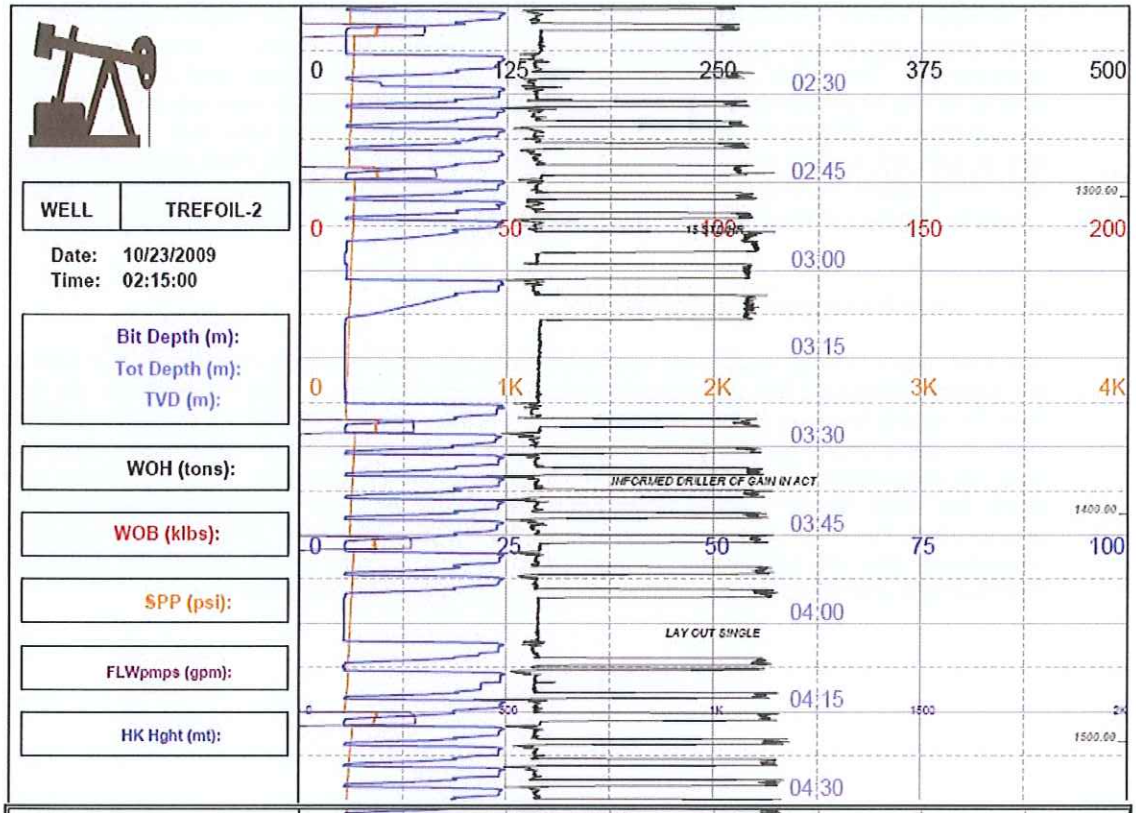
The compensator was opened and the pipe was worked. The Geoservices Drilling Data Log indicates that only +/-25klbs overpull was being applied. The compensator was working close to full stoke and air pressure was getting low. The Maersk Day Pusher, Night Pusher and the ADA Drilling Supervisor discussed options and the decision was made to close and lock the compensator. The rotary slips were set and the compensator closed and locked. While waiting for the air pressure to increase to confirm that the compensator was locked the rig took several heaves. The rotary slips acting as a ratchet, enough tension was built up in the drill pipe to part the landing string above the CHSART. The time from the initial pack-off and the pipe being stuck to when the pipe failed was approximately 90 mins. Failure to regain circulation and to get the pipe moving resulted in the casing becoming stuck in open hole.

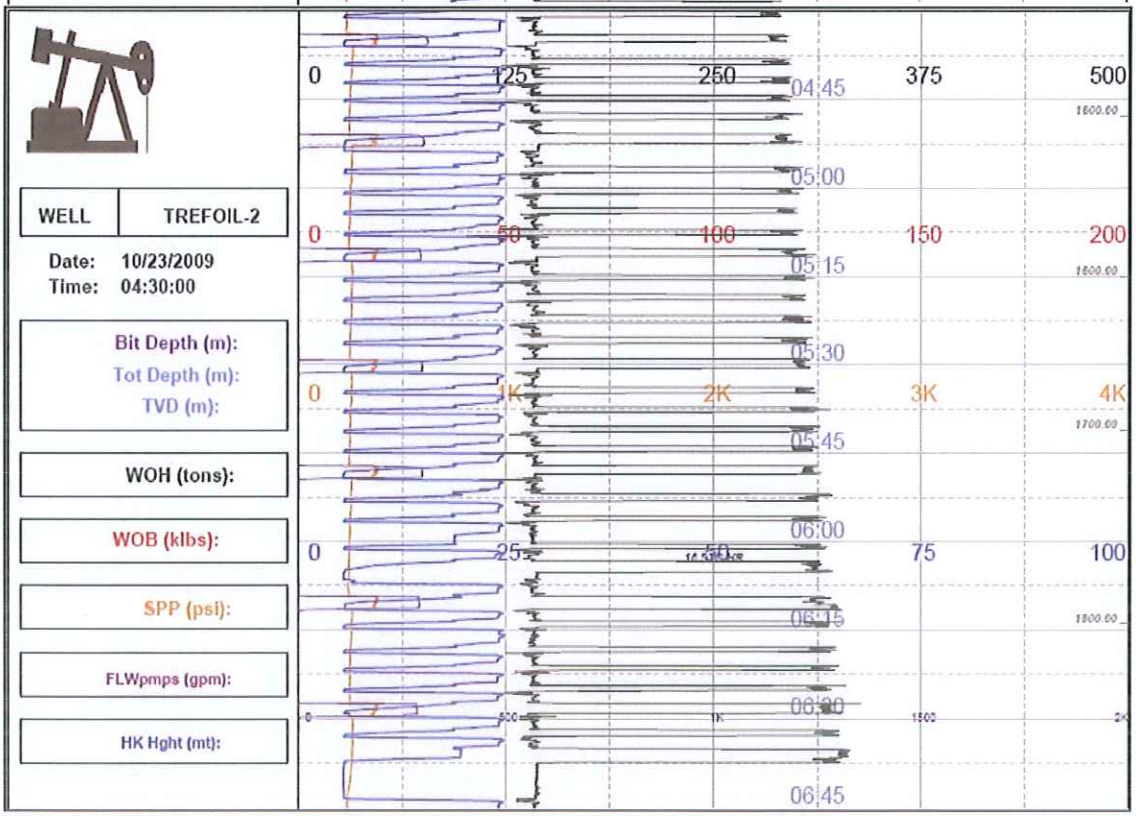
9.6 ADA Management of Operations

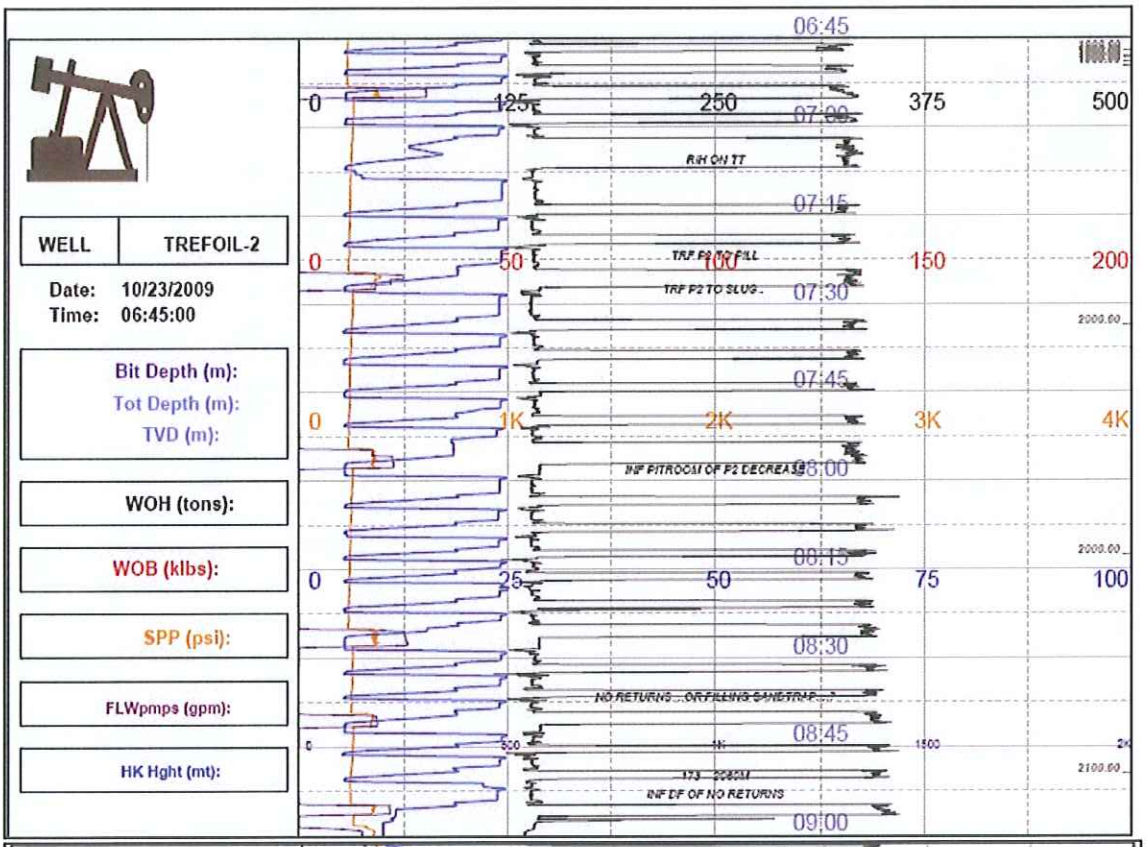
The ADA Night Drilling Supervisor was witnessing the washing down operations and was at the shakers observing the viscous pill coming over the shakers. During his return to the drill floor the casing became stuck. The Senior ADA Supervisor was notified of problems that the wellbore was packing off and gave the instruction to mix and pump a 40bbl pill to clean the hole. No consultation was undertaken with ADA onshore management. Once the string was stuck the ADA Senior Drilling Supervisor visited the rig floor to supervise/witness the operations. The ADA Senior Drilling Supervisor notified the ADA Drilling Superintendent immediately after the casing had become stuck and that he was on his way to the drill floor. The Drilling Superintendent was further notified when the pipe had parted.

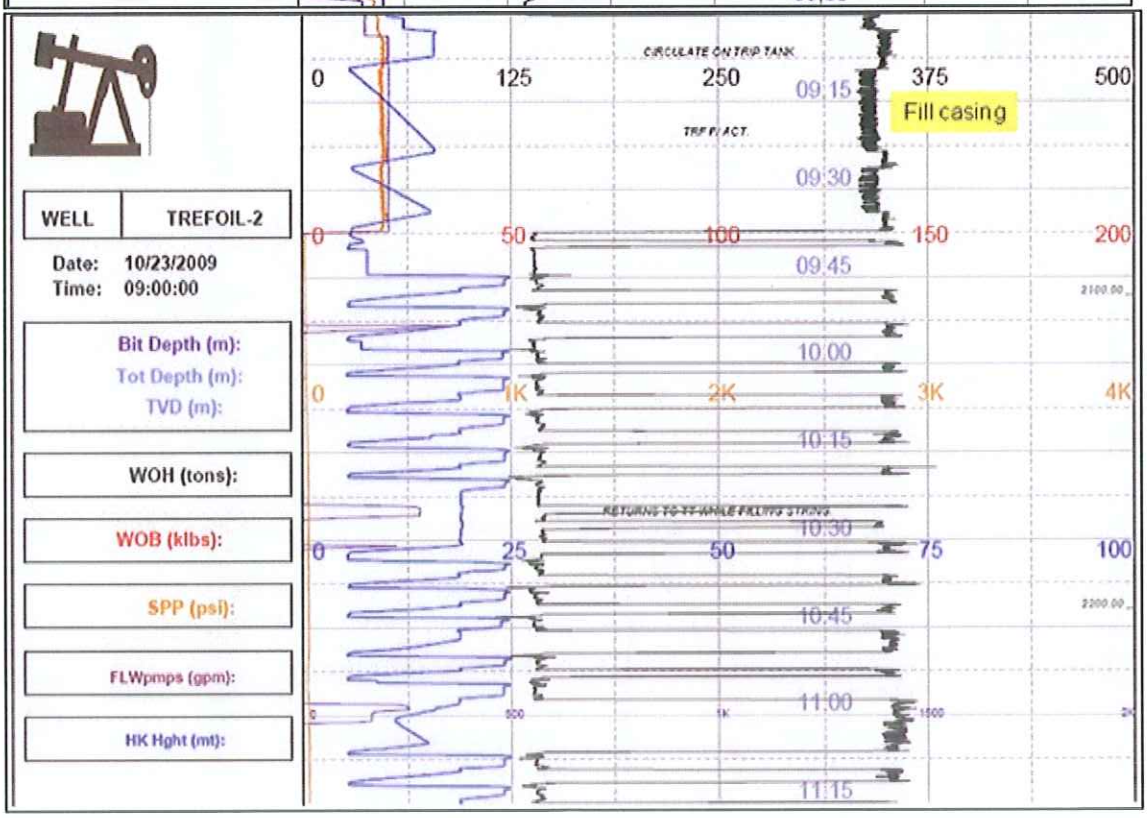
10.0 Attachments

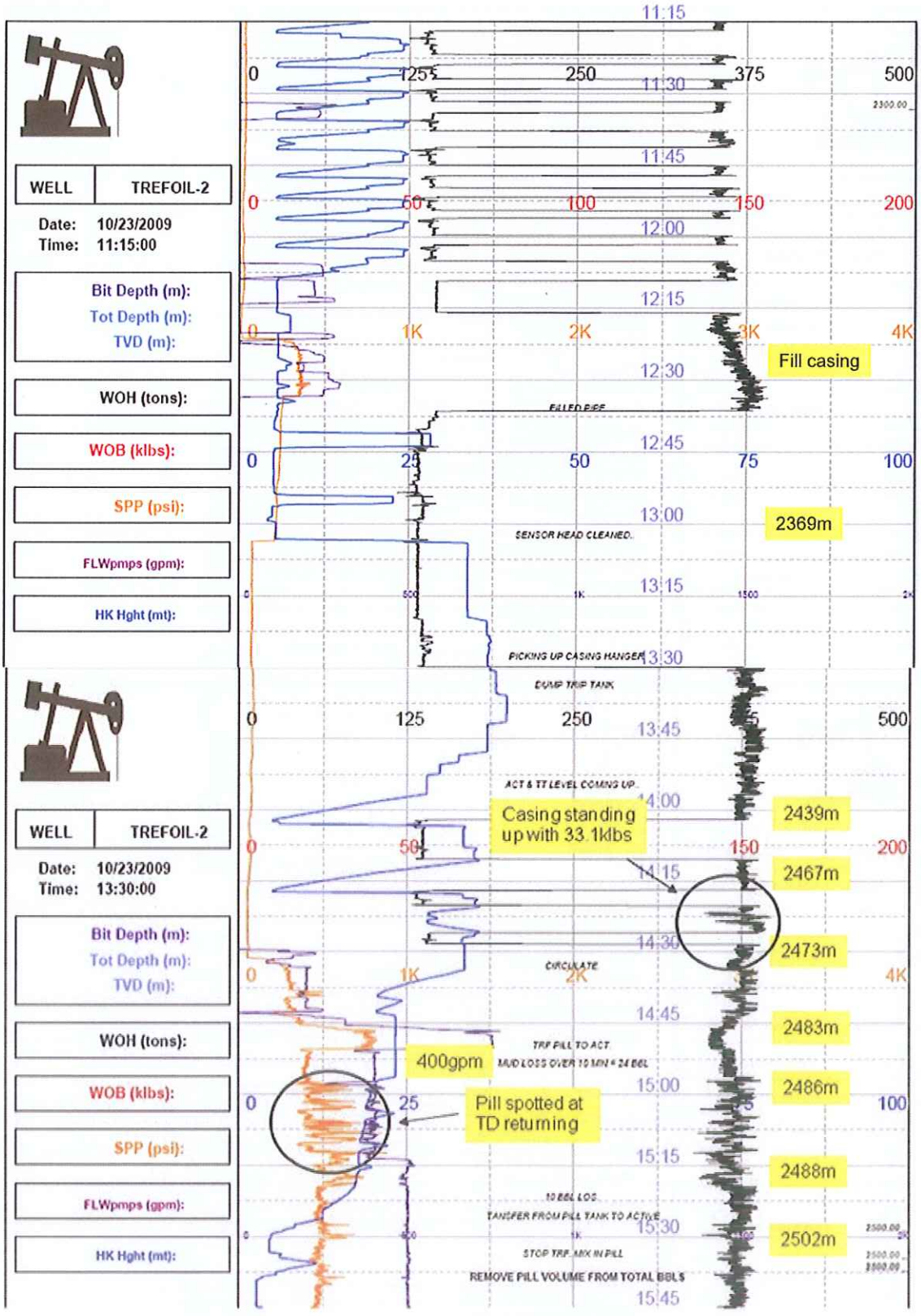
Attachment 1 - Geoservices Drilling Data Log

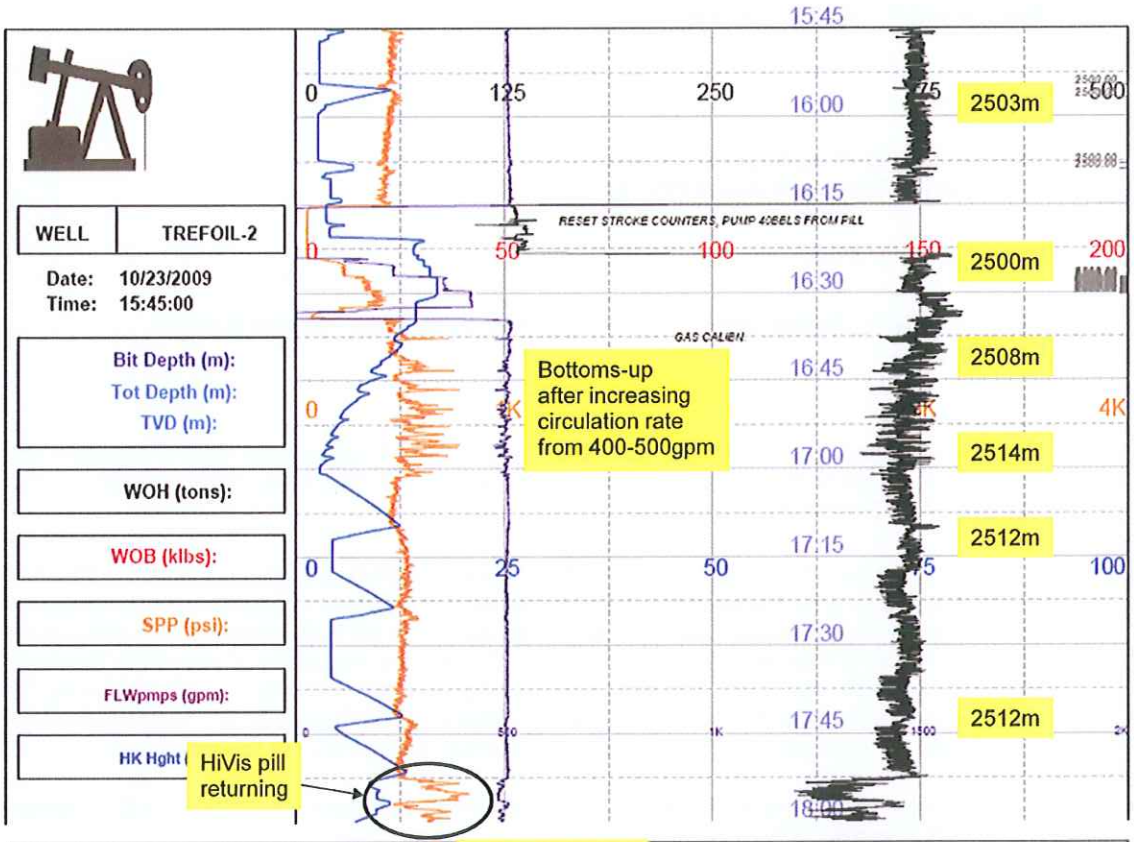


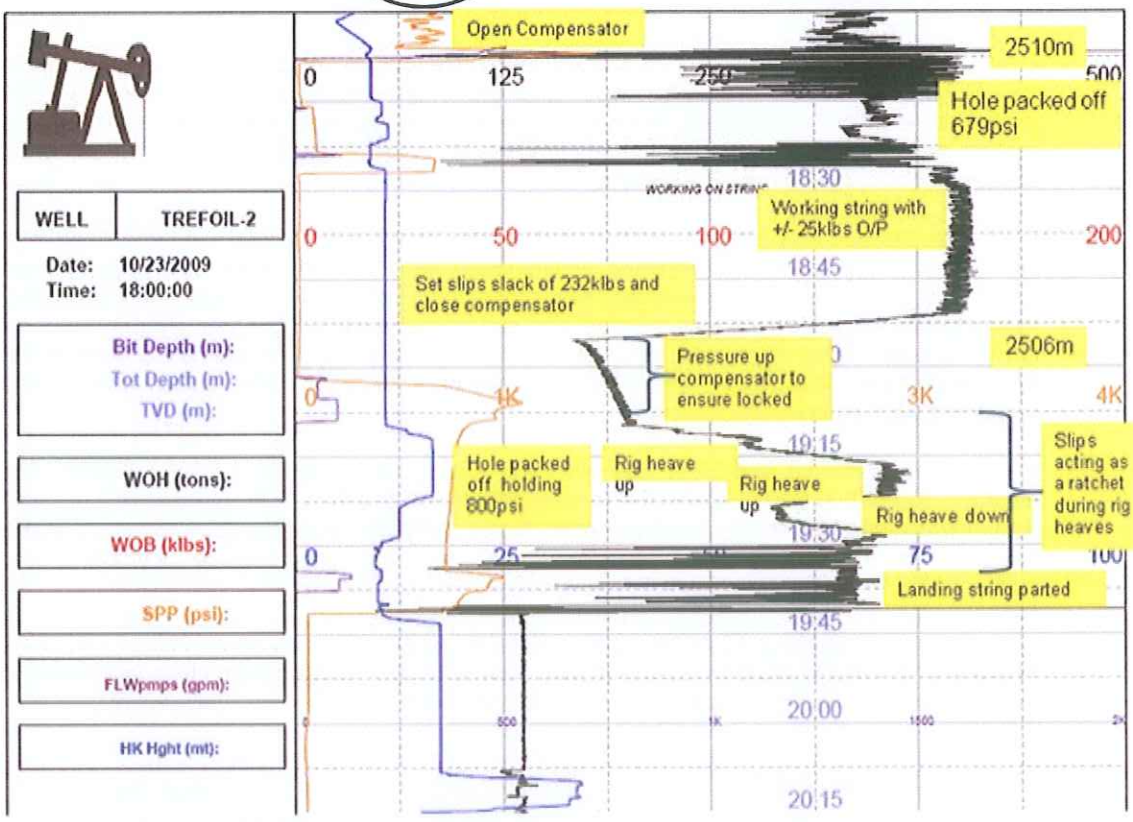



WELL TREFOIL-2
Date: 10/23/2009
Time: 06:45:00
Bit Depth (m):
Tot Depth (m):
TVD (m):
WOH (tons):
WOB (klbs):
SPP (psi):
FLWpmps (gpm):
HK Hght (mt):
06:45
07:00
07:15
07:30
07:45
08:00
08:15
08:30
08:45
09:00
RIH OH TT
TRF P2 TO FILL
TRF P2 TO SLUG
INF PITROOM OF P2 DECREASE
NO RETURNS ... OR FILLING SAINSTRIP
INF OF NO RETURNS


WELL TREFOIL-2
Date: 10/23/2009
Time: 09:00:00
Bit Depth (m):
Tot Depth (m):
TVD (m):
WOH (tons):
WOB (klbs):
SPP (psi):
FLWpmps (gpm):
HK Hght (mt):
09:00
09:15
09:30
09:45
10:00
10:15
10:30
10:45
11:00
11:15
CIRCULATE ON TRIP TANK
TRF F/ ACT
RETURNS TO TT WHILE FILLING STRING
Fill casing


WELL TREFOIL-2
Date: 10/23/2009
Time: 11:15:00
Bit Depth (m):
Tot Depth (m):
TVD (m):
WOH (tons):
WOB (klbs):
SPP (psi):
FLWpmps (gpm):
HK Hght (mt):
11:15
11:30
11:45
12:00
12:15
12:30
12:45
13:00
13:15
13:30
13:45
14:00
14:15
14:30
14:45
15:00
15:15
15:30
15:45
Fill casing
FILLED PIPE
SENSOR HEAD CLEANED.
2369m
PICKING UP CASING HANGER
DUMP TRIP TANK
ACT & TT LEVEL COMING UP
Casing standing up with 33.1klbs
2439m
2467m
2473m
CIRCULATE
2483m
TRP PILL TO ACT
400gpm
MUD LOSS OVER 10 MIN = 24 BBL
2486m
Pill spotted at TD returning
2488m
10 BBL LOS
TANSFER FROM PILL TANK TO ACTIVE
2502m
STOP TRP. MIX IN PILL
REMOVE PILL VOLUME FROM TOTAL BBLS
WELL TREFOIL-2
Date: 10/23/2009
Time: 13:30:00
Bit Depth (m):
Tot Depth (m):
TVD (m):
WOH (tons):
WOB (klbs):
SPP (psi):
FLWpmps (gpm):
HK Hght (mt):


WELL TREFOIL-2
Date: 10/23/2009
Time: 15:45:00
Bit Depth (m):
Tot Depth (m):
TVD (m):
WOH (tons):
WOB (klbs):
SPP (psi):
FLWpmps (gpm):
HK Hght (
15:45
16:00
16:15
16:30
16:45
17:00
17:15
17:30
17:45
18:00
2503m
2500m
2508m
2514m
2512m
2512m
RESET STROKE COUNTERS, PUMP 40BELS FROM PIL
GAS CALIBN
Bottoms-up after increasing circulation rate from 400-500gpm
HiVis pill returning


WELL TREFOIL-2
Date: 10/23/2009
Time: 18:00:00
Bit Depth (m):
Tot Depth (m):
TVD (m):
WOH (tons):
WOB (klbs):
SPP (psi):
FLWpmps (gpm):
HK Hght (mt):
Open Compensator
2510m
Hole packed off 679psi
18:30
18:45
19:15
19:30
19:45
20:00
20:15
2506m
WORKING ON STRING
Working string with +/- 25klbs O/P
Set slips slack of 232klbs and close compensator
Pressure up compensator to ensure locked
Hole packed off holding 800psi
Rig heave up
Rig heave up
Rig heave down
Slips acting as a ratchet during rig heaves
Landing string parted

Attachment 2 – Mud Engineers Report

Report for:

Paul Barrett - Drilling Superintendant,
Australian Drilling Associates Pty Ltd.

Report compiled by:

Mike Lawrance - Senior Drilling Fluids Engineer Dave Tofts - Baroid Service Coordinator

The following has been complied from the Daily Drilling Fluid reports (DDF), Sweep / Pill report and accounts from engineers present in relation to the stuck pipe incident on 23rd October 2009, Maersk Rig Kan Tan IV.

- During the 12 ¼" hole interval the fluid remained within target properties as outlined in the mud program (see **Appendix A**). At the request of the ADA company man 20-30 barrel Hi-vis sweeps were pumped typically every three stands to aid hole cleaning. The first sweep was pumped at 1295m and the last at 1843m. There were indicators of poor hole cleaning, however the ROP was high, at times approaching 100 m/hr. Shakers were monitored for sweep returns and logged in the "Pill & Sweeps Report" (see **Appendix B**). Typically cuttings returns with the sweeps were around 200% the normal cuttings load at the shakers.

- Circa 1485m the ADA company man required the Potassium Chloride "KCL" content of the mud raised from the programmed 7% to 9%.

- At 2246m mud pump # 1 and #2 failed. Circulation continued on pump #3 while repairs were carried out. Drilling continued after the repairs through to 2271m when a +/- 300 psi pressure loss was detected. Note at this time a transfer from the premix to the active system was occurring and it is not uncommon to observe small pressure losses when transfers containing polymers take place.

- A decision was made to pull the bit at 2271m due to a suspected "ringed-out" bit. The mud was conditioned with CLAYSEAL PLUS and a slug was prepared. The hole was not swept prior to the trip. The trip out very was problematic with numerous tight spots identified. Pumping and back reaming was initiated and carried out back to the shoe. See **DDF#19** for further details. Three slugs were required to produce a dry trip. Upon reaching surface the BHA and bit were found to be free of debris or any clay adhesion, further indication that mud properties were sufficient for inhibition.

- The same bit and BHA was RIH and drilling continued to a TD of 2520m. The incorporation of 3 slugs increased the mud weight to 9.5 ppg from 9.25 ppg and KCL content was maintained at 9% as per Company man decree. All other mud properties remained stable and the mud was treated to ensure compliance with programmed properties and concentrations.

- Prior to reaching TD of the 12 ¼" section the active fluid was treated with CLAYSEAL PLUS and EZ-MUD LIquid to ensure a slick hole prior to running casing. This is detailed in **DDF#21**. All fluid properties were within the specified target range. The mud weight was 9.4 - 9.5 ppg.

- On reaching TD the hole was circulated clean. During the circulation the mud was conditioned with CLAYSEAL PLUS, EZ-MUD Liquid (shale inhibitors), OXYGON (oxygen scavenger) and ALDACIDE-G (biocide). At this point a 50 barrel Hi-vis sweep was pumped and circulated out. This was built using 5 ppb BARAZAN-D PLUS and active mud yielding a

funnel viscosity of 128 sec/qt. On the sweep returning to surface no significant increase in cuttings were observed coming over the shakers.

- Following the wiper trip the hole was circulated clean and a 40 barrel Hi-vis Pill was spotted on the bottom of the hole as per the above recipe. This was chased with active mud and a slug (1.9 ppg over MW) was pumped prior to POOH.

- The mud weight on POOH for the wiper trip was 9.45 ppg and the active fluid set properties remained within their programmed target range.

- On running casing, circulation commenced prior to reaching the TD depth due to hole fill at 2480m (40m off bottom). No other problems in getting the casing down were identified to this point. As circulation continued and the casing was washed down there was a steady flow of cuttings coming over the shakers. The cuttings were hard and well formed, the average size estimated at 1 - 1.5cm. The cuttings shape could be described as blocky and angular. It is the opinion of the mud engineer that these were casing fill - cuttings pushed to the bottom of the well whilst running the casing. At the requirement of the company man the mud engineer remained in the pit room monitoring any volume changes of the active fluid set.

- At this point, on direction of the ADA company man, a Hi-vis pill was prepared again using BARAZAN-D PLUS and active fluid. A total of 80 barrels was prepared.

- 70 barrels of this Hi-vis Pill (Funnel Viscosity 128 secs) was then pumped and chased with active mud.

- The mud engineer was present at the shakers when this Hi-vis pill returned to the surface. Only a small increase in cuttings was observed on the pill returning to surface. The increase observed seemed to be made up mostly of fines/sand. Shortly after the pill being circulated out the mud engineer was aware that circulation had been lost and the casing string stuck.

- The condition of the drilling fluid throughout the 12 ¼" section has been very consistent. The principal change has been an increase in mud weight which is primarily due to a number of slugs being incorporated into the system. The concentration of the premium products - CLAYSEAL PLUS and EZ-MUD has been maintained as per program to ensure minimal clay dispersion. The KCL concentration has been run higher than the fluids program between 8.5% and 9% as opposed to 7% giving high inhibition. The low end rheology / hole cleaning performance of the fluid has been maintained by the addition of BARAZAN-D PLUS.

	36" Interval	17 1/2" Interval	12 1/4" Interval	8 1/2" Interval
m MDRT	95 - 155	155 - 910	910 - 2510	2510 - 3221
Mud Weight (ppg)	ALAP	APAP	8.8 - 9.5	9 - 10
6 Rpm	-	-	12 - 14	9 - 13
YP (lbs/100 ft2)	-	-	25 - 30	15 - 25
Pv (cP)	-	-	ALAP	ALAP
pH	9.0	9.0	8.5 - 9.5	8.5 - 9.5
10 sec Gels	-	-	9	6
KCl %	-	-	7 %	4 %
K+ ion	-	-	~ 37,000	~ 25,000
Chlorides (mg/l)	< 1,500	< 1,500	-	-
Fv (sec/qt)	> 120	> 120	-	-
CLAYSEAL+ (%v/v)	-	-	2	2
LGS (% by Vol)	-	-	<5 %	<5 %
Sand Content (%)	-	-	<1 %	<1 %
Excess PHPA (ppb)	-	-	1.5	1.5
API FL (ml/30 min)	N/c	N/c	<6 ml	<5 ml
Cake (_/32nd)	-	-	1	1
MBT (ppb Eq.)	15 - 30	15 - 30	<25	<25
HPHT FL (ml/30 min)	-	-	< 15	<13
Hardness (mg/l)	<400 mg/l	<400 mg/l	<400 mg/l	<400 mg/l

ALAP = as low as possible

Appendix B.

Pill & Sweeps Report **Well: Trefoil-2**

Date-	Time	Hole Size (in)	Bit Depth (m MD)	Hole Angle (°)	Pill Volume (bbl)	Pill Weight (ppg)	Pill Composition & Key Properties	Remarks / Results (e.g. % incr cuttings at shakers)
16/10/09	1250	12.25	1295	0	20	9.0	5 ppb Barazan D+, FV – 133 sec	Estimated 200% increase in cuttings return over 3 mins
16/10/09	1630	12.25	1381	0	20	9.0	5 ppb Barazan D+, FV – 133 sec	Estimated 200% increase in cuttings return over 3 mins
16/10/09	2030	12.25	1498	0	30	9.0	5 ppb Barazan D+, FV – 133 sec	Estimated 200% increase in cuttings return over 3 mins
17/10/09	0150	12.25	1584	0	30	9.0	5 ppb Barazan D+, FV – 133 sec	Estimated 200% increase in cuttings return over 3 mins
17/10/09	0525	12.25	1672	0	30	9.0	5 ppb Barazan D+, FV – 133 sec	Estimated 200% increase in cuttings return over 3 mins
17/10/09	1420	12.25	1843	1	20	9.0	5 ppb Barazan D+, FV – 128 sec	Estimated 100% increase in cuttings volume over 4 mins
17/10/09	1920	12.25	1931	0	20	9.0	5 ppb Barazan D+, FV – 128 sec	
18/10/09	0145	12.25	2026	0	20	9.1	5 ppb Barazan D+, FV – 128 sec	
18/10/09	0500	12.25	2100	0	20	9.1	5 ppb Barazan D+, FV – 128 sec	
18/10/09	2000	12.25	2180	0	20	9.1	5 ppb Barazan D+, FV – 128 sec	
19/10/09	0300	12.25	2268	0	20	9.1	5 ppb Barazan D+, FV - 128 sec	
21/10/09	1845	12.25	2520	0	50	9.3	5 ppb Barazan D+, FV – 128 sec	Pumped prior to wiper trip at TD of 12 ¼" section. No increase in cuttings observed at shakers
22/10/09	0110	12.25	2520	0	40	9.45	Active mud and 5 ppb Barazan D+, FV - 130	Pill spotted on bottom prior to POOH, following wiper trip. Pill was not displaced to the surface.
23/10/09	1615	12.25	n/a	06	70	9.45	4.5 ppb Barazan D+, FV - 128	Pill pumped whilst circulating 9 5/8" casing down to bottom. Small increase in cuttings seen at shakers – principally fines. Casing came stuck – believed packed off at base of riser/casing running tool. Pumped on direction of CM.
27/10/09	1515	12.25	n/a	0	5	9.4	Active mud and 5 ppb Barazan D+, FV - 140	Pill pumped on top of fish and chased with active mud. No increase in cuttings seen at shakers.
27/10/09	1550	12.25	n/a	0	5	9.4	Active mud and 5 ppb Barazan D+, FV - 140	Pill pumped on top of fish and chased with active mud. No increase in cuttings seen at shakers.

Attachment 3 – ADA Drilling Supervisors Report

Brian called me to the drill floor and informed me he was having problems with washing down.

Prior to them getting stuck, and recommended not to go down till the annulus was clean

I called the mud engineer and told him to mix a 40bbl high viscosity pill .

I asked Brian to pump it around and don't go down till hydraulic had stopped and the hole was clean.

I was not on the drill floor at the time they got stuck after a period of time, the night tool pusher came into the office and informed me that they were stuck in the hole .

I rang the drill floor and asked them what was going on and they confirmed that they were stuck.

I went to the rig floor and tried to work the casing without any success, as the compensator was in use.

I reported to you and went back to the drill floor and tried once more to move the casing with no success.

The only way to move the casing was to attempt to lock the compensator .

I discussed this with the day tool pusher and the night tool pusher who was on the brake at the time, and

it was decided to close the compensator and set the slips .

We did get the compensator closed but at that moment the heave grabbed us .

My main concern was to get the casing moving knowing full well the hole was packed off.

The only other way around this, was to back out the casing running tool and leave the casing there,

without attempting to try and recover it.

I knew if I could move it one metre I had a chance to recover circulation.

Regards Mac

Attachment 4 – Maersk Senior Toolpusher Report

From: MD-KanTanIV Rig Toolpusher
Sent: Saturday, 24 October 2009 12:43 AM
To: Riach, Ian
Cc: MD-KanTanIV Rig OIM; Buncic, Igor; Grant, Robert Cook
Subject: Parting of landing string [Our Ref:EXB21422]

Ian,
Operation:
Picked up the casing hanger which was racked back in the derrick and started to RIH with the casing hanger.
Running tool
Single of 5" DP pipe (that parted close to the pin end) Single of 5" HWDP 5" pup joint
2 stands of 5" HWDP
single of 5" HWDP
Cement stand
On the second stand of HWDP it started to take weight 40-50,000 lbs down.
Connected up the TDS and started to wash. We slowly increased the SPM to 100 and 400 psi standpipe pressure Slowly we managed to wash the stand down, maintained full circulation.
Depth of Hang Up 2480m.
During the last single of the stand of HWDP the hole condition improved, I talked to the new co.man Brian and suggested we continued running in and land the hanger, Brian agreed and called up Mac. Mac wanted to make a hi vis and circulate it around before we proceeded further down.
When the pill was ready we picked up the last single of HWDP and started to wash while circulating the pill down the casing. The single of HWDP washed fairly easily and at 17:00 hrs. we just needed to pick up the cmt. stand and wash 6,16m down to land the casing.
Pill was coming to surface
We started to see a little more changes to our standpipe pressure and hookload at about 17:50, nothing alarming when at 18:00 the hole packed off and the pipe got stuck. We immediately opened the compensator and started to work the pipe with the compensator. We tried to establish circulation but no luck.
We worked the compensator to mid. stroke, and tried to work the pipe, at some stage we got close to having the compensator "full stroke", and the air pressure was getting low.
We slacked off to 150,000 lbs, set the slips and locked the compensator. While we were waiting for the pressure to build up again to verify our lock pin was engaged the slips started to slide down during the heave. We had the TD connected, not hanging on the elevators. Tourpusher Martin was on the brake. I told him that we needed to get the slips out, I could see the slips settling lower on the pipe for every heave. My intention was to hook up an air tugger to the slips and pull them that way .
At this point all floorhands had been told to go to the coffee shop On my way out of the door I saw the rig take a heave, and the slips came out of the rotary, the pipe had parted.
the weight left indicated that the string parted just above the running tool.
The TD was checked, and the lube oil motor had sheared off, it was secured.

The stand was racked back, and the TD brought to rig floor level.
Dropped object/derrick inspection was done TD is currently being secured.
A yellow bolt was found aft. by the lifeboats, full dropped object investigation is ongoing.
Drill line is due a cut, it will be done and drilling line visually inspected.
TD seems to be OK apart from the broken oil pump.
Mech. and Elec. are inspecting.
After we got stuck, I checked my tally again and the hanger was across my lower annular, I only have my upper annular as well control.
We were not making any progress working the compensator, that was my reason to lock the compensator to see if we could get some movements, thus making a small channel for us to start circulating. Every time the heave came up, the compensator closed I estimated we had 2 feet of heave with max 3 feet at 17:00 hours, looking at the slip joint, I thought I could manage this.

kind Regards
Ole J. Andreasen
sen.Toolpusher
KanTan IV