YOLLA 3

T/L1 OFFSHORE BASS BASIN

WELL COMPLETION REPORT
BASIC DATA

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MARCH 2005

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GENERAL DATA

Location:	Latitude:	39°50'40.4707"S	Status:	Cased Gas Producer		
(GDA 94)	Longitude:	145°49'06.0849"E				
(AMG Zone 55)	Easting:	398 905.69m	Total Depth:	Driller:	3497mMD	
	Northing:	5 588 825.22m		Logger:	3500.5mMD	
Elevation:	WD:	80.8 m	Plugs:	none		
	RT:	43 m				
			Casing:	Size:	Shoe:	
Date spudded:	11/08/2004	03:00 hours	(a) Surface	20"	215 mRT	
Date TD reached:	04/09/2004	11:30 hours	(b) Intermediate	13.375"	1007 mRT	
				9.625"	2340 mRT	
Date Rig release:	30/09/2004	10:00 hours	(c) Production	6.625"	3497 mRT	

WIRELINE LOGS

Log	**Run**	**Interval (from / to) m**	**BHT / Time**
PEX-HRLA-CMR-SP-GR-LEHQT	1	3474 m - surface	132°C/after 15 hr 0 mins
FMI-DSI-HNGS-ECS-LEHQT	2	3494 – 1000 m (HNGS-DSI to 120)	143°C/after 33 hr 05 mins
MDT-GR (pre-tests)	3	3479.5 – 3148.6 m	148°C/after 62 hr 16 mins
MDT-GR (sampling)	4	3420.6 – 3149 m	146°C/after 68 hr 50 mins
USIT-CBL-VDL-GR-CCL	5	3453 – 2281 m	
USIT-CBL-VDL-GR-CCL	6	2265 – 1350 m	
4 ½", 12 spf, HSD 34JL, Pure Perforating Record	7-11	3248.5 – 2210.2 m	
CPST Packer Set, Packer Setting Record	12-13	3258 - 3258	

PRODUCTION TESTS

Reservoir Sand	**Gas Flow Rate (mmscf/d)**	**Oil/ Condensate Flow Rate (bbls/day)**	**FWHP (psia)**	**Choke Size (in)**	**WHSP (psia)**	**Gauge Depth (mTVDSS)**	**Mid perf. Depth (mTVDSS)**	**Bottom Hole Flowing pressure @ gauge depth (psia)**
TEV4	16.7	813.0	1733.0	48/64	1733.0	1860.0	3247.5	2188
2755	16.4	340.0	2225.0	40/64	2225.0	2836.4	3183.5	2947
2809	17.5	602.0	3015.0	36/64	3015.0	2836.4	3239.5	3978
2973	7.0	67.0	692.0	48/64	692.0	2982.3	3405.5	1058

FULL HOLE CORES

No.	**Interval (mRT)**	**Formation**	**Cut (m)**	**Rec.(m)**
1	2216.00 – 2234.10	Top EVCM "TEV4 sand"	18	18.1

PERFORATIONS

Interval (mRT)	Formation	SPF
3246.5 – 3248.5	EVCM 2809 sand	4 ½" 12 spf 45/1350 UJ34JL HMX
3242.5 – 3236.5	EVCM 2809 sand	4 ½" 12 spf 45/1350 UJ34JL HMX
3196 - 3190	EVCM 2755 sand	4 ½" 12 spf 45/1350 UJ34JL HMX

Interval (mRT)	Formation	SPF
3186 - 3180	EVCM 2755 sand	4 ½" 12 spf 45/1350 UJ34JL HMX
2225.5 – 2210.2	Top EVCM TEV4 sand	4 ½" 12 spf 45/1350 UJ34JL HMX
3404 - 3407	EVCM 2973 sand	2-1/8" 6 spf 450 EnerjetPJ HMX

SIDEWALL CORES

None Taken	

1. WELL SUMMARY SHEET

Well Name:	Yolla 3	
Permit:	T/L1 Offshore Bass Basin	
Well Path:	Deviated	
Top Hole Location:	Latitude:	039° 50' 40.4707" South
	Longitude:	145° 49' 06.0849" East
	Easting:	398 905.69 metres
	Northing:	5 588 825.22 metres
	(GDA 94; AMG Zone 55, Central Meridian 147° East)	
Seismic Location:	Yolla 3D Seismic Survey**,** I-line 480, X-line 1000	
Bottom Hole Location:	664.2m north and 1091.7m west of surface location	
Elevation:	43m (RT-sea level)	
Water Depth:	80.8m LAT	
Total Depth Driller:	3497 mMDRT	
(TVD) Driller:	3100 mTVDRT	
Rig on tow:	17:30hrs	06/06/2004
Rig on Location:	20:00hrs	06/06/2004
Spud:	03:00hrs	11/08/2004
Reached TD:	11:30hrs	04/09/2004
Rig Released:	10:00hrs	30/09/2004
Total Rig Days:	54	
Well Status:	Cased Gas Producer	
Permit Interests:	Origin Energy Resources Ltd 32.5%	(OPERATOR)
	Origin Energy Northwest Pty Ltd	5%
	AWE Petroleum Pty Ltd	30%
	CalEnergy Gas (Australia) Ltd	20%
	Wandoo Petroleum Pty Ltd	12.5%
Rig Name:	ENSCO 102	(Jack-up)
Drilling Contractor:	ENSCO Australia Pty Ltd	
Approx. Well Cost:	A$23,329,727	

2. FINAL DRILLING REPORT

By Bill Curry, Australian Drilling Associates Pty Ltd (ADA)

2.1 DRILLING SUMMARY BY INTERVAL

2.1.1 Rig Mobilisation

The ENSCO 102 jack up rig was mobilised from Malaysia to Australia on the dry tow vessel American Cormorant. The rig was late in leaving Malaysia due to delays with the previous operator's well operations, longer than anticipated leg extraction operations (due to plugged jets on the spud cans), a failed engine on a tow boat and the eventual dry docking of the rig in Singapore to remove the large quantities of sea bed materials adhering to the spud cans on the rig. While in dry dock, the points on the spud cans were also removed to facilitate loading of the rig onto the dry tow vessel. The rig eventually arrived in Western Port Bay, Victoria mid day on the 28th April, 2004 and was floated off the dry tow vessel by approximately 0700hrs on the 30th April, 2004. The rig was towed to the Gippsland Basin and drilled a well for ESSO before beginning its tow to Yolla at approximately 1530hrs 5 June, 2004. The rig was towed with Tidewater's Ray J. Hope AHTS vessel (170 tonne Bollard Pull) and arrived 1 nautical mile from the Yolla platform at 1730hrs 6 June, 2004.

The rig "soft pinned" to the sea bed a few hundred meters east of the Yolla platform, at which time all four of the rig's anchors were run and set by Tidewater's Invincible Tide. The Invincible Tide (100 tonne Bollard pull) and MV Keera ocean going tug (62 tonne Bollard pull) then assisted in positioning the rig adjacent to the Yolla platform, while the Ray J. Hope remained on the tow bridle to pull the rig away from the platform in the event of a mishap. The rig was in position and began jacking its legs into the sea bed at approximately 0745hrs 7 June, 2004.

Subsequent preloading operations were not completed until 1500hr 11 June, 2004 due to the necessity to conduct numerous preload cycles with the rig hull in the water. The soils were discovered to be much weaker than earlier core and penetrometer tests predicted and several leg runs were experienced on each leg. Final leg penetrations into the sea bed varied from 23.47 to 23.77m. An ROV was used to inspect the rig legs and platform foundation but could see no problems. The ROV did reveal that the holes created by the spud cans had very nearly refilled with the fine grained sediments of the sea floor, leaving a depression estimated as being no more than 1 to 2 meters below normal sea bed elevation.

The rig floor was jacked up to an elevation 21.13m above the top deck on the platform which equated to an elevation 43.88m above MSL as defined by the platform design drawings (top deck on the platform was designed to be 22.75m above MSL). The rig hull is 21.9m below the rotary table, therefore the air gap below the hull to sea level would be 21.98m or 72.1 feet. The rig package was skidded into position over the Yolla 4 well slot by 0130hrs 12 June, and preparations to begin operations on Yolla 4 were completed by 1200hrs 12 June, 2004.

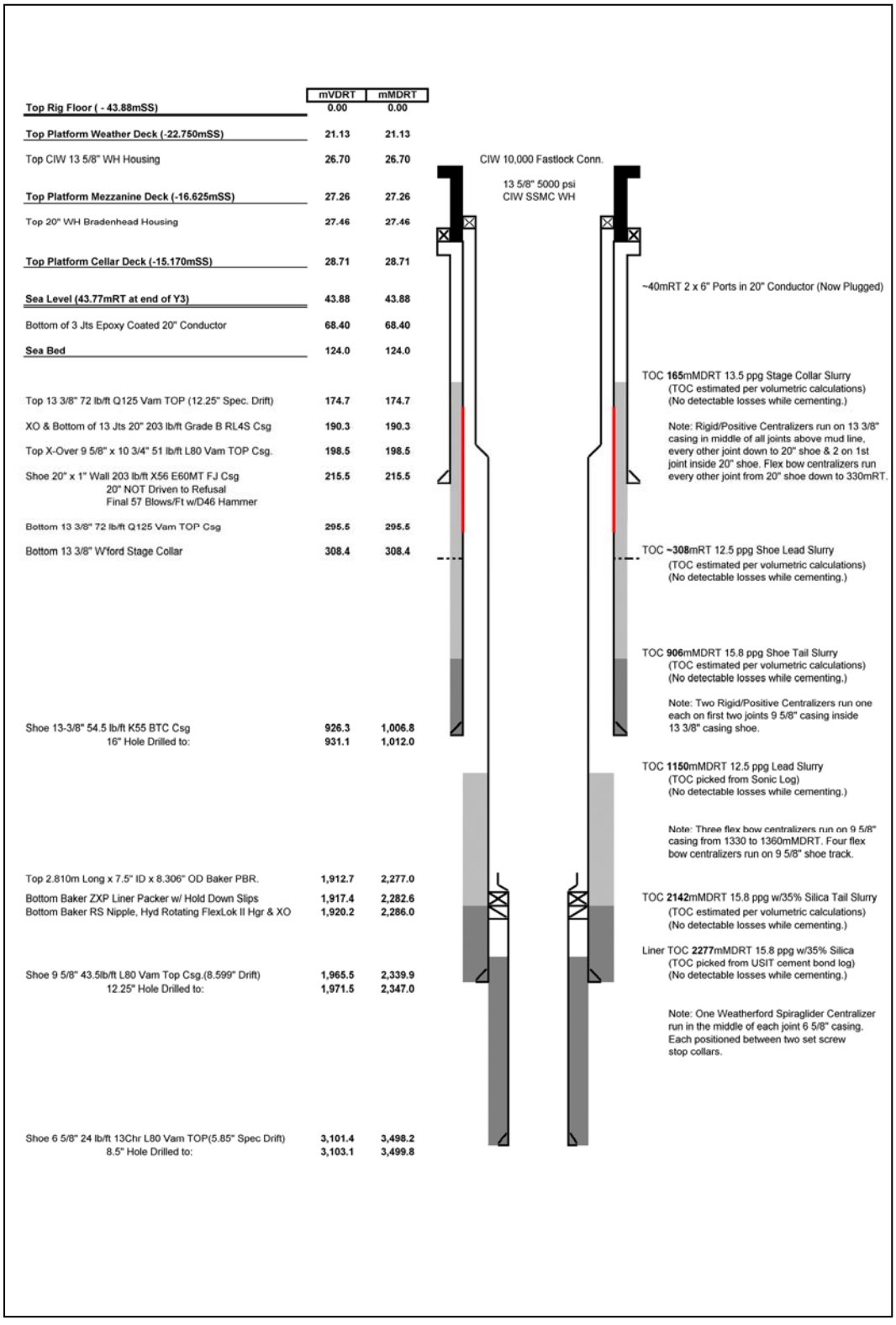


Figure 1: Yolla 3 Casing and Cement Schematic

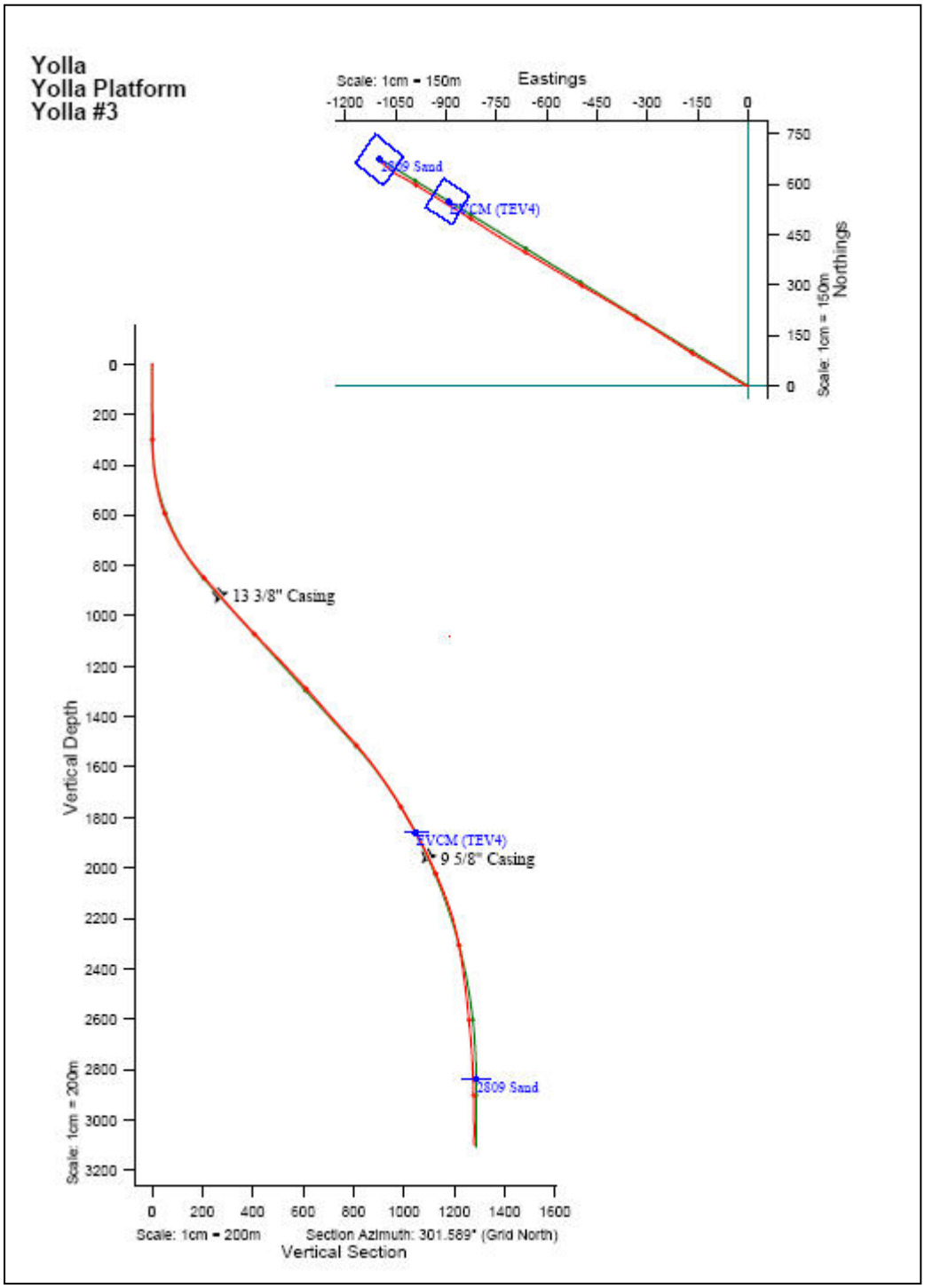


Figure 2: Yolla 3 Well Path – Plan- and Side View

2.1.2 Driving 20" Conductor

Yolla 3 well operations began at 0700hrs 16 June, 2004 when the rig finished driving conductor driving operations in Yolla 4 and skidded to the Yolla 3 well slot. Conductor driving operation on Yolla 3 ended at 0600hr 17 June, 2004, at which time the rig skidded from Yolla 3 to finish the drilling and completion of Yolla 4.

The 20" x 1" wall casing free fell in the Yolla 3 well to 17m of penetration into the sea bed where only 2 blows of the D46 hammer resulted in the casing free falling another 19m to 36m of penetration. After another 2 blows, the casing free fell again to 50m of penetration. The casing was

driven to a final depth 215.49m below the rotary table or 90.7m total penetration into the sea bed. This depth did NOT represent refusal but was the depth deemed sufficient to ensure integrity of the sea bed while drilling the subsequent 16" hole section. Soils experts had previously indicated that refusal may not be reached for perhaps hundreds of meters of penetration, therefore the conductor was only driven to a predetermined depth. The final blow count was only 28 blows/foot with a D46 hammer set at 66% energy level or 95,901Nm per blow (although the last 25cm required 78 blows).

The conductor showed less resistance to driving than the previously driven Y4 conductor, which was driven to 96m of penetration with a final blow count of 57 blows/foot with a D46 hammer set at 83% energy lever or 120,603Nm per blow. The shallower depth of the Yolla 3 shoe may explain some of the difference, but the Yolla 3 conductor consistently showed less resistance when compared to Yolla 4. The only real variable was that the Yolla 4 conductor had a flush OD for the first 25 meters above the shoe, whereas the Yolla 3 conductor had a flush OD for only 13 meters above the shoe. There is no other current explanation for the reduced driving resistance in the Yolla 3 well.

Although initially planned to have been driven approximately 60m below the mud line, due to the weaker than anticipated soils discovered during the rig jacking operation and the additional penetration of the spud cans into the sea bed, the decision was made at the time to drive the conductors 3 joints deeper to approximately 90m total penetration. The conductor was driven rather than drilled and grouted due to the requirement of the platform foundation designers to not disturb the sea bed for the first 50m below the mud line, thus protecting the integrity of the non-piled mat base of the platform.

The top three joints of 20" conductor were previously coated with an approximately 3mm thick coating of epoxy for corrosion protection. Two 6 inch diameter holes with ACME threads were also previously installed near the bottom end of the top joint of 20" casing. These holes were used to take mud returns near sea level, thus eliminating the approximately 40m of extra head which would have been required if returns were to have been taken through the normal mud return line below the rig floor. Threaded flat plugs were thread-locked in these holes (and those in the Yolla 4 well conductor) by abseiling personnel on 11 September, 2004.

Once driven, the 20" casing was cut in the cellar deck area and a Cameron "A" section wellhead welded on top. The 20" casing strings for Yolla 3 and 4 were batch set, therefore there was an interruption in well operations on Yolla 4 between 0700hr 16 June and 0600hr 17 June while the rig skidded and drove 20" conductor in the Yolla 3 well slot. No major delays were experienced while driving the 20" conductor in the Yolla 3 well, but driving the conductor 3 joints deeper added approximately 4.5 hours to well operations.

2.1.3 Drilling 16" Hole & Cementing 13 3/8" Casing

A 24" OD riser was rigged up onto the 20" wellhead followed by the rig's 24" overshot/diverter assembly. The rig up of the riser and testing of the diverter were delayed by approximately 1.5 days due to severe wind, which also slowed normal rig up operations.

Due to the possibility of the 20" casing free falling further into the sea bed once drilling began below the shoe, two steel cable slings were attached between the top of the conductor (previously fitted with pad eyes) and

corresponding pad eyes welded to the underside of the weather deck on the platform. The slings, turnbuckles (used to pre-tension the slings), shackles and pad eyes were all individually rated to 25 tonnes or more so they could theoretically support the entire weight of the conductor string.

A 16" bit was run inside the conductor and began washing fill from inside the conductor at 0300hr 11 August, 2004, which is deemed to be the spud time of the Yolla 3 well. The 16" hole was control drilled vertically to approximately 300mVDRT/300mMDRT, then directionally drilled to 932.1mVDRT/1012mMDRT. The hole section was drilled using sea water and periodic high viscosity gelled pills (30 barrels per joint and 50 barrels per connection). Good returns were seen from the 6" conductor ports all during the drilling operation.
Although drilled without incident, severe weather and wind prevented crane operations during much of the drilling of this hole section and delayed the trip out of the hole by approximately 5 hours. Weather also prevented the running of the 13 3/8" casing by approximately 6 hours and slowed normal casing running operations.

The 13 3/8" casing was cemented and pressure tested without incident and with no detectible lost circulation seen in the returns observed from the 6" conductor ports. Since no logs were run in the 16" hole, the required cement volume was calculated based on the degree of hole washout seen in the Yolla 1 well logs. Cement volumes were selected assuming hole washout factors of 100% volumetric excess above 700m and 200% volumetric excess below 700m. These volumes proved to be very accurate.

The 13 3/8" casing was cemented in two stages to ensure good cement coverage inside and just below the 20" casing shoe. Good cement is needed at this depth because the 13 3/8" casing will in all likelihood be required to support the 20" conductor casing, a reversal of their typical roles. Soils experts predict that flowing and shut-in cycles in the wells will in turn cause sufficient temperature expansion/contraction in the 13 3/8" casing to break the cement bonding between the cement and the formation for a depth of approximately 70m below the 20" casing shoe. For this reason the stage collar was positioned approximately 90m below the 20" shoe and a moderately strong (13.5ppg density) cement slurry circulated above that point. The cement density was selected to ensure sufficient strength for bonding to the casing and hole, but to also be below that density which might risk lost circulation and the absence of a full cement column. Fortunately the 13.5ppg slurry appeared to cause no lost circulation, yet creates considerably more strength than the formation itself.

A Cameron "SSMC" unitised wellhead housing was run as an integral part of the casing string through the 24" riser and diverter assembly. The wing valve outlets on the wellhead were temporarily plugged with flush OD plugs for cementing the casing.

2.1.4 Drilling 12 ¼" Hole & Cementing 9 5/8" / 10 ¾" Casing

Once the 13 3/8" casing had been cemented, the 24" riser and riser tensioning slings were removed. The riser tensioning strings appeared to have some additional tension at removal, but the 20" conductor did not move down hole once the slings were removed. The flush OD plugs were removed from the wellhead housing, the wing valves were bolted to the wellhead outlets and a 13 5/8" 5000psi rented spacer spool was installed onto the well followed by the rig's 18 ¾" 15,000 psi BOP stack.

Although the wiper plugs for the 13 3/8" casing cement job were PDC drillable, the decision was made at the time to drill out the stage collar plugs and shoe track using a tri-cone bit, thus ensuring against the problems sometimes encountered while drilling such items with PDC bits. The well was displaced to a Drispac/Soltex mud during the final stages of drilling out the shoe, after which 5m of new formation was drilled and a formation integrity test (FIT) performed to 10.5ppg equivalent mud density. The clean out assembly was then pulled and the FIT repeated to ensure 10.5ppg EMW. A directional drilling assembly was then run which included a Gamma Ray and Resistivity Logging While Drilling (LWD) tool in addition to an adjustable gauge stabilizer, directional MWD tool, bent housing mud motor and PDC bit.

The drilling of the 12.25" hole was delayed on several occasions when cuttings plugged the flow line below the rig floor. The MWD tool also failed at 1593mMDRT and the ensuing trip to change MWD's consumed over 1 day of rig time. The PDC bit and directional BHA successfully drilled to the predetermined core point above the Upper EVCM zone, but tight hole delayed the trip out by approximately 15 hours. The coring assembly was run and cut 18m of core without incident, but upon reaching surface it was discovered that a thread had backed out in the coring assembly, leaving the core and inner and outer barrels in the well. The coring assembly was of a special design to recover the unconsolidated sands suspected in the reservoir section. The actual timing and cause of the thread backing out could not be proven, but the coring assembly, including 18.47m of core, were successfully recovered in one trip. The fishing operation added approximately 1.4 days to the duration of the well. Considerable reaming was again required on the trip in the hole, but the core hole was successfully reamed out and the hole drilled to casing point at 2347mMDRT (1973.8mVDRT).

The trip out of the hole did not encounter any problems, but the first run of a logging tool hung up at 1200mMDRT and nearly got stuck in the hole. After a wiper trip with a stiff BHA, logging tools again failed to get below 1143mMDRT, even with the use of shorter logging tool assemblies. The problem was believed to be the result of a combination of reasonably high hole angle, ledges and soft/sticky formation at that depth because the wiper trip failed to encounter any resistance on the trip in the hole but large volumes of "mushy" returns were recovered during circulating and on the outside of the logging tools. Over two days of rig time were lost making the wiper trip and attempting to run logs.

The mud used to drill this hole section contained the same basic ingredients used to drill the previous Yolla 4 well, which encountered no such problems, but the mud in Yolla 3 contained a lower concentration of polymers and a smaller ratio or high versus low viscosity polymers (the higher viscosity polymer, Drispac R, gives more inhibition than its SL counterpart). The lower concentration of polymers was used simply to reduce the fairly high viscosities (and associated mud losses over the shakers and build up of fine cuttings) observed in the Yolla 4 well. However, the additional inhibition now appears to be critical for combating the higher than anticipated reactivity of the clays at this depth. In addition to the inhibition problem, geologists felt that a ledge was also deemed to be present at the hang up depth of the logging tools.

Although open hole logs would have been very valuable across the Upper EVCM, the decision was made to cease further logging attempts and to run casing. A set of 9 5/8" pipe rams were installed (per ENSCO requirement) with some additional time lost due to a failed seal on the BOP test plug used to test the 9 5/8" rams. The 9 5/8" / 10 ¾" combination casing string

(the 10 ¾" casing at surface was needed to accommodate the large OD 7" tubing retrievable sub surface safety valve) was run, cemented and pressure tested without incident with the 9 5/8" shoe set at 2339.9mMDRT(1967.4mVDRT). The Upper EVCM formation was covered with 15.8ppg cement (top at 2142mMDRT per calculations) with the top of the 12.5ppg lead cement calculated at 1150mMDRT.

2.1.5 Drilling 8 ½" Hole & Cementing 6 5/8" Casing

After replacing the 9 5/8" casing rams and testing the BOP's, the shoe track was drilled out plus 3m of new formation with an 8.5" PDC bit. An FIT test was conducted to 11ppg (1.32 SG) equivalent mud weight.

Drilling continued without incident and with one PDC bit to well total depth at 3499.8mMDRT(3103.1mVDRT). Open hole logs reached total depth without any problems, but several tool failures occurred while running the MDT tool. Approximately 1 barrel per hour of down hole mud losses were observed during the logging operation. While taking its last pressure point the MDT tool got differentially stuck in the well and had to be fished by stripping drill pipe over the cable, which took approximately 2.2 days.

After a wiper trip, the 6 5/8" liner was run without losses, tagging bottom at 3499.8mMDRT (versus the 3497mMDRT TD measured while drilling the well). The liner setting tool failed to release in a normal manner with hydraulic pressure so was released mechanically. The long liner was rotated without much difficulty but rotation ceased due to high torque once 35 barrels of cement had exited the shoe. Cementing continued without losses, but the drill pipe wiper plug got stuck inside the surface cement head so the liner wiper plug also did not launch. Cement displacement was stopped prior to displacement fluid exiting the shoe. Top of cement outside the liner appeared to reach the liner hanger since some cement was observed at surface while reversing out after the job. A later investigation by the liner contractor revealed that the liner wiper plug failed to launch due to a minor flaw in the configuration of the launching head.

2.1.6 Running Cement Bond Log & Perforating

The liner and intermediate production casing were flushed numerous times with sea water, chemical washes and filtered brine during a scraper run to TD (bit depth of 3460mMDRT). The liner and the lower portion of the 9 5/8" casing opposite the Upper EVCM formation was then displaced with a clean/filtered super saturated sodium chloride brine with sized salt particles held in suspension with gelling agents. Casing above the supersaturated fluid was displaced with a light sodium chloride brine to balance the highest formation pressure of the zones to be perforated.

A new generation cement bond log (Schlumberger USIT tool) was run inside the liner and revealed good bonding between zones but erratic bonding directly opposite the pay zones, believed to be the result of gas migration into the well bore. A "gas block" additive had been used in the cement, so although the bonding wasn't ideal opposite the pay zones, migration of the gas up the hole did not appear, which indicated good success for the product. Top of cement outside the liner was confirmed to be at the liner hanger. The log was reconfigured and run inside the 9 5/8" casing and showed adequate bonding above and below the Upper EVCM, with top of cement shown to be unclear but reducing in coverage above 1400mMDRT.

The top three zones in the well (one inside the 9 5/8" casing and two inside the 6 5/8" liner) were perforated (~100 psi overbalanced) with a new type

of casing gun (Schlumberger's PURE system, which is designed to created a momentary pressure under balance during the detonation of the charges) run on electric line (included the use of a shooting nipple per ENSCO requirements). The bottom most zone was intentionally left un-perforated in order to streamline completion operations.

After perforating, the bit and scraper assembly (including tandem scrapers inside the liner) was again run to scrape off any perforating burrs from the wall of the casing so they would not damage the sealing elements on the production packers next to be run. The well was not circulated during this last scraper run. The scrapers came out in good condition, with minor perforating debris caught in the scraper teeth.

2.1.7 Running Completion Tubing

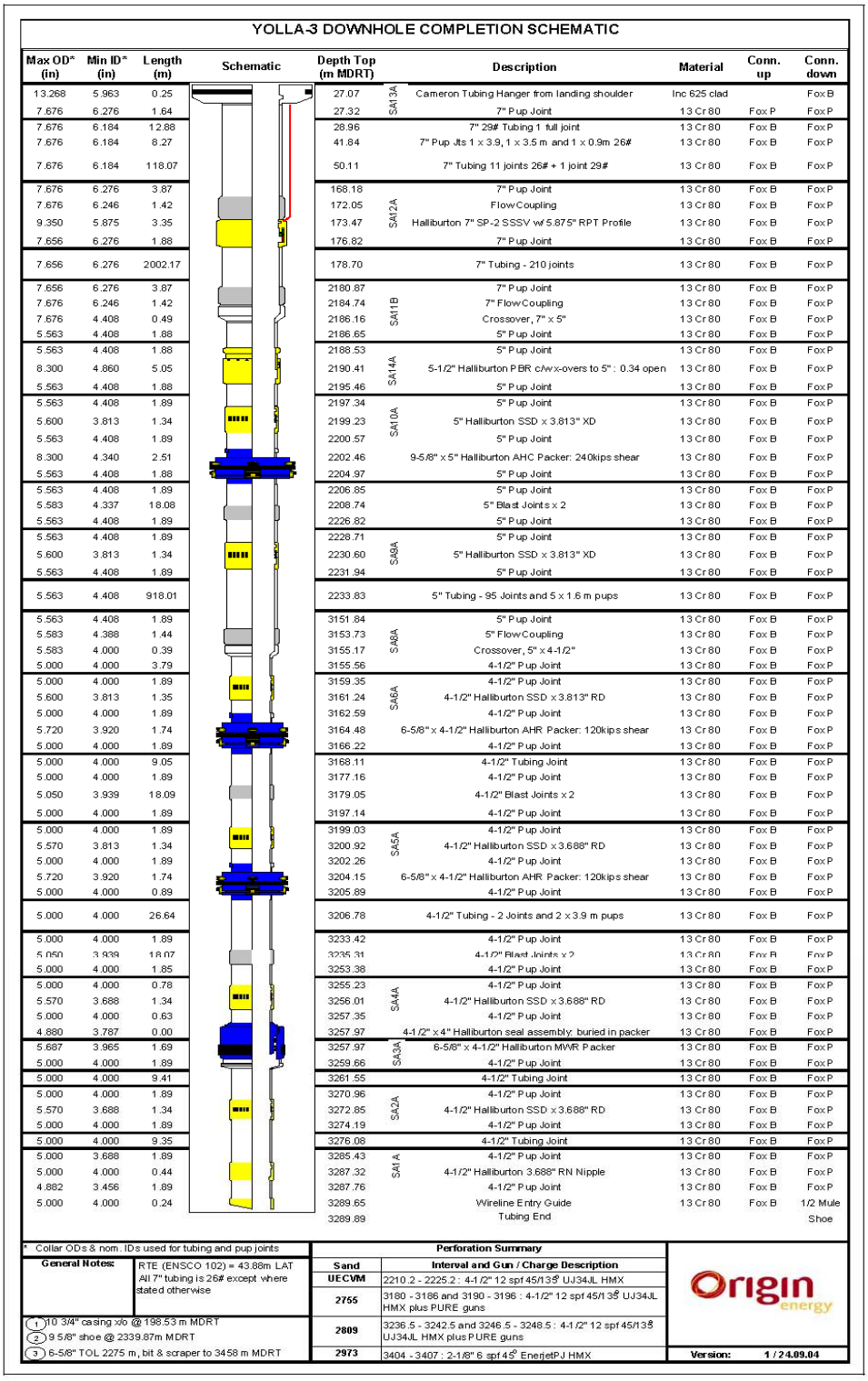
A 5.77" OD junk basket & gauge ring was run on electric line but failed to get below 2553mMDRT. Once recovered at surface, the junk basket was found to contain significant quantities of cement and metal and plastic perforating debris. Three more runs of the junk basket again recovered similar volumes of debris and again the basket hanging up at 3112mMDRT. Another bit and scraper run was made without encountering any resistance, but a 5.77" OD junk basket again hung up at 3111mMDRT. A 5.71" OD basket was then run without problems.

A permanent packer assembly was then run on electric line but failed to set due to a mechanical problem with the firing mechanism. The packer was pulled back to surface and the firing head repaired. The packer was rerun and successfully set below the lowest set of existing perforations but above the proposed perforations for the bottom zone (not yet perforated). The junk basket problems, extra wiper trip and firing head problem added approximately 52 hours to the duration of well operations.

A tapered string of 4 ½", 5" and 7" production tubing was then run and simultaneously landed in the permanent packer and wellhead. The production string included one 9 5/8" and two 6 5/8" hydraulic set straight pull release production packers (one just above each set of existing perforations), sliding sleeves (one just below each set of existing perforations), blast joints (opposite each set of existing perforations), and a sub surface safety valve approximately 50m below the mud line. Two Polished Bore Receptacles (each with shear pinned seal assemblies) were also included in the string, one just above the top packer so the top portion of the tubing string could be retrieved in the future without having to pull the packers. The second PBR was placed below the Upper EVCM perforations so the string above that point could be pulled if the Upper EVCM produced sand or created other problems. The annulus was filled with inhibited low density brine, but pumping had to be done at a very slow rate and with pipe reciprocation due to bridging in the annulus, no doubt due to the amount of perforating debris still in the well and the small clearance area outside the production packers. The tubing was displaced with diesel (down to the top most PBR) to create an under-balance pressure condition to assist in getting the well to flow.

A retrievable plug was set in the tubing near surface (in one of several joints of heavier walled 7 inch 29 lb/ft tubing), the BOP's removed and a 6 3/8" ID permanent production tree installed, after which the plug was retrieved. Due to the highly corrosive nature of the gas in the well (~19% carbon dioxide), the production tubing and down hole completion equipment items were all made from 13 Chrome material, with key components (such as the sealing surfaces in the landing nipple, tubing hanger and sliding sleeves) made from Inconel material. Elastomers were

also specified according to the CO2 environment and the reasonably high well bore temperatures. The wellhead and production tree were also made from corrosion resistant materials, with Inconel also being used for critical areas such as in all wetted ring grooves and valve seats.



YOLLA-3 DOWNHOLE COMPLETION SCHEMATIC

Max OD* (in)	Min ID* (in)	Length (m)	Depth Top (m MDRT)		Description	Material	Conn. up	Conn. down
13.268	5.963	0.25	27.07	SA13A	Cameron Tubing Hanger from landing shoulder	Inc 625 clad		Fox B
7.676	6.276	1.64	27.32		7" Pup Joint	13 Cr 80	Fox P	Fox P
7.676	6.184	12.88	28.96		7" 29# Tubing 1 full joint	13 Cr 80	Fox B	Fox P
7.676	6.184	8.27	41.84		7" Pup Jts 1 x 3.9, 1 x 3.5 m and 1 x 0.9m 26#	13 Cr 80	Fox B	Fox P
7.676	6.184	118.07	50.11		7" Tubing 11 joints 26# + 1 joint 29#	13 Cr 80	Fox B	Fox P
7.676	6.276	3.87	168.18		7" Pup Joint	13 Cr 80	Fox B	Fox P
7.676	6.246	1.42	172.05	SA12A	FlowCoupling	13 Cr 80	Fox B	Fox P
9.350	5.875	3.35	173.47		Halliburton 7" SP-2 SSSV w/ 5.875" RPT Profile	13 Cr 80	Fox B	Fox P
7.656	6.276	1.88	176.82		7" Pup Joint	13 Cr 80	Fox B	Fox P
7.656	6.276	2002.17	178.70		7" Tubing - 210 joints	13 Cr 80	Fox B	Fox P
7.656	6.276	3.87	2180.87		7" Pup Joint	13 Cr 80	Fox B	Fox P
7.676	6.246	1.42	2184.74	SA11B	7" FlowCoupling	13 Cr 80	Fox B	Fox P
7.676	4.408	0.49	2186.16		Crossover, 7" x 5"	13 Cr 80	Fox B	Fox P
5.563	4.408	1.88	2186.65		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.563	4.408	1.88	2188.53		5" Pup Joint	13 Cr 80	Fox B	Fox P
8.300	4.860	5.05	2190.41	SA14A	5-1/2" Halliburton PBR c/w x-overs to 5" : 0.34 open	13 Cr 80	Fox B	Fox P
5.563	4.408	1.88	2195.46		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.563	4.408	1.89	2197.34		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.600	3.813	1.34	2199.23	SA10A	5" Halliburton SSD x 3.813" XD	13 Cr 80	Fox B	Fox P
5.563	4.408	1.89	2200.57		5" Pup Joint	13 Cr 80	Fox B	Fox P
8.300	4.340	2.51	2202.46		9-5/8" x 5" Halliburton AHC Packer: 240kips shear	13 Cr 80	Fox B	Fox P
5.563	4.408	1.88	2204.97		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.563	4.408	1.89	2206.85		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.583	4.337	18.08	2208.74		5" Blast Joints x 2	13 Cr 80	Fox B	Fox P
5.563	4.408	1.89	2226.82		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.563	4.408	1.89	2228.71		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.600	3.813	1.34	2230.60	SA9A	5" Halliburton SSD x 3.813" XD	13 Cr 80	Fox B	Fox P
5.563	4.408	1.89	2231.94		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.563	4.408	918.01	2233.83		5" Tubing - 95 Joints and 5 x 1.6 m pups	13 Cr 80	Fox B	Fox P
5.563	4.408	1.89	3151.84		5" Pup Joint	13 Cr 80	Fox B	Fox P
5.583	4.388	1.44	3153.73	SA8A	5" FlowCoupling	13 Cr 80	Fox B	Fox P
5.583	4.000	0.39	3155.17		Crossover, 5" x 4-1/2"	13 Cr 80	Fox B	Fox P
5.000	4.000	3.79	3155.56		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3159.35		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.600	3.813	1.35	3161.24	SA6A	4-1/2" Halliburton SSD x 3.813" RD	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3162.59		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.720	3.920	1.74	3164.48		6-5/8" x 4-1/2" Halliburton AHR Packer: 120kips shear	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3166.22		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	9.05	3168.11		4-1/2" Tubing Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3177.16		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.050	3.939	18.09	3179.05		4-1/2" Blast Joints x 2	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3197.14		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3199.03		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.570	3.813	1.34	3200.92	SA5A	4-1/2" Halliburton SSD x 3.688" RD	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3202.26		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.720	3.920	1.74	3204.15		6-5/8" x 4-1/2" Halliburton AHR Packer: 120kips shear	13 Cr 80	Fox B	Fox P
5.000	4.000	0.89	3205.89		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	26.64	3206.78		4-1/2" Tubing - 2 Joints and 2 x 3.9 m pups	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3233.42		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.050	3.939	18.07	3235.31		4-1/2" Blast Joints x 2	13 Cr 80	Fox B	Fox P
5.000	4.000	1.85	3253.38		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	0.78	3255.23		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.570	3.688	1.34	3256.01	SA4A	4-1/2" Halliburton SSD x 3.688" RD	13 Cr 80	Fox B	Fox P
5.000	4.000	0.63	3257.35		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
4.880	3.787	0.00	3257.97		4-1/2" x 4" Halliburton seal assembly: buried in packer	13 Cr 80	Fox B	Fox P
5.687	3.965	1.69	3257.97	SA3A	6-5/8" x 4-1/2" Halliburton MWR Packer	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3259.66		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	9.41	3261.55		4-1/2" Tubing Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3270.96		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.570	3.688	1.34	3272.85	SA2A	4-1/2" Halliburton SSD x 3.688" RD	13 Cr 80	Fox B	Fox P
5.000	4.000	1.89	3274.19		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	9.35	3276.08		4-1/2" Tubing Joint	13 Cr 80	Fox B	Fox P
5.000	3.688	1.89	3285.43		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	0.44	3287.32	SA1A	4-1/2" Halliburton 3.688" RN Nipple	13 Cr 80	Fox B	Fox P
4.882	3.456	1.89	3287.76		4-1/2" Pup Joint	13 Cr 80	Fox B	Fox P
5.000	4.000	0.24	3289.65		Wireline Entry Guide	13 Cr 80	Fox B	1/2 Mule
			3289.89		Tubing End			Shoe

* Collar ODs & nom. IDs used for tubing and pup joints

General Notes:

RTE (ENSCO 102) = 43.88m LAT

All 7" tubing is 26# except where stated otherwise

(1) 10 3/4" casing x/o @ 198.53 m MDRT
(2) 9 5/8" shoe @ 2339.87m MDRT
(3) 6-5/8" TOL 2275 m, bit & scraper to 3458 m MDRT

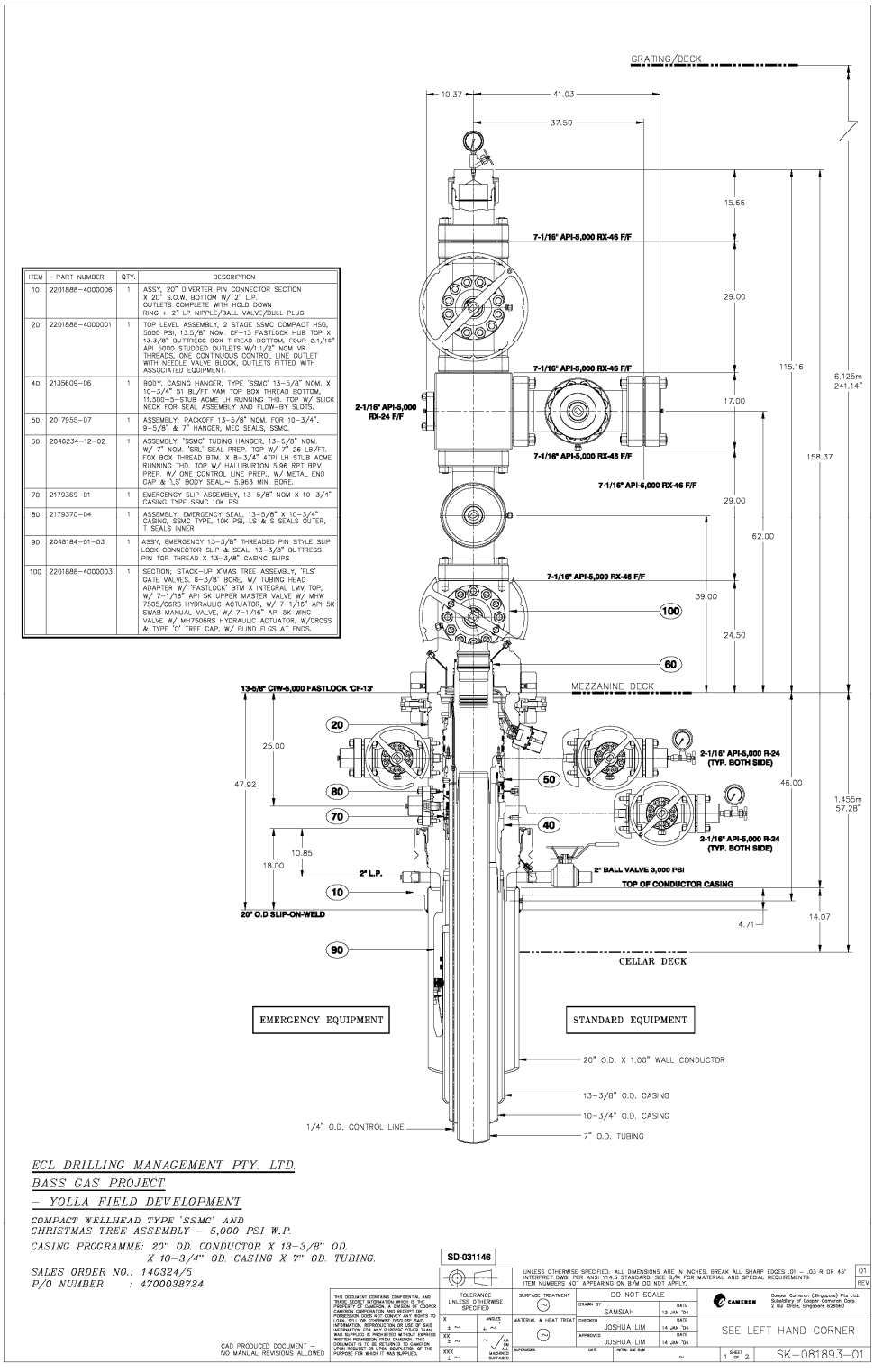
Perforation Summary

Sand	Interval and Gun / Charge Description
UECVM	2210.2 - 2225.2 : 4-1/2" 12 spf 45/135° UJ34JL HMX
2755	3180 - 3186 and 3190 - 3196 : 4-1/2" 12 spf 45/135° UJ34JL HMX plus PURE guns
2809	3236.5 - 3242.5 and 3246.5 - 3248.5 : 4-1/2" 12 spf 45/135° UJ34JL HMX plus PURE guns
2973	3404 - 3407 : 2-1/8" 6 spf 45° EnerjetPJ HMX

Origin energy

Version: 1 / 24.09.04

Figure 3: Yolla 3 Downhole Tubing Completion Schematic



ITEM	PART NUMBER	QTY.	DESCRIPTION
10	2201888-4000006	1	ASSY, 20" DIVERTER PIN CONNECTOR SECTION X 20" S.O.W. BOTTOM W/ 2" L.P. OUTLETS COMPLETE WITH HOLD DOWN RING + 2" LP NIPPLE/BALL VALVE/BULL PLUG
20	2201888-4000001	1	TOP LEVEL ASSEMBLY, 2 STAGE SSMC COMPACT HSG, 5000 PSI, 13.5/8" NOM. CF-13 FASTLOCK HUB TOP X 13.3/8" BUTTRESS BOX THREAD BOTTOM, FOUR 2.1/16" API 5000 STUDDED OUTLETS W/1.1/2" NOM VR THREADS, ONE CONTINUOUS CONTROL LINE OUTLET WITH NEEDLE VALVE BLOCK, OUTLETS FITTED WITH ASSOCIATED EQUIPMENT.
40	2135609-06	1	BODY, CASING HANGER, TYPE 'SSMC' 13-5/8" NOM. X 10-3/4" 51 BL/FT VAM TOP BOX THREAD BOTTOM, 11.500-5-STUB ACME LH RUNNING THD. TOP W/ SLICK NECK FOR SEAL ASSEMBLY AND FLOW-BY SLOTS.
50	2017955-07	1	ASSEMBLY; PACKOFF 13-5/8" NOM. FOR 10-3/4", 9-5/8" & 7" HANGER, MEC SEALS, SSMC.
60	2046234-12-02	1	ASSEMBLY, "SSMC" TUBING HANGER, 13-5/8" NOM. W/ 7" NOM. "SRL" SEAL PREP. TOP W/ 7" 26 LB/FT, FOX BOX THREAD BTM. X 8-3/4" 4TPI LH STUB ACME RUNNING THD. TOP W/ HALLIBURTON 5.96 RPT BPV PREP. W/ ONE CONTROL LINE PREP., W/ METAL END CAP & 'LS' BODY SEAL.– 5.963 MIN. BORE.
70	2179369-01	1	EMERGENCY SLIP ASSEMBLY, 13-5/8" NOM X 10-3/4" CASING TYPE SSMC 10K PSI
80	2179370-04	1	ASSEMBLY, EMERGENCY SEAL, 13-5/8" X 10-3/4" CASING, SSMC TYPE, 10K PSI, LS & S SEALS OUTER, T SEALS INNER
90	2046184-01-03	1	ASSY, EMERGENCY 13-3/8" THREADED PIN STYLE SLIP LOCK CONNECTOR SLIP & SEAL, 13-3/8" BUTTRESS PIN TOP THREAD X 13-3/8" CASING SLIPS
100	2201888-4000003	1	SECTION; STACK-UP X'MAS TREE ASSEMBLY, 'FLS' GATE VALVES, 6-3/8" BORE, W/ TUBING HEAD ADAPTER W/ 'FASTLOCK' BTM X INTERNAL LWV TOP, W/ 7-1/16" API 5K UPPER MASTER VALVE W/ MHW 7505/06RS HYDRAULIC ACTUATOR, W/ 7-1/16" API 5K SWAB MANUAL VALVE, W/ 7-1/16" API 5K WING VALVE W/ MH7506RS HYDRAULIC ACTUATOR, W/CROSS & TYPE 'D' TREE CAP, W/ BLIND FLGS AT ENDS.

Figure 4: Yolla 3 Wellhead and Christmas Tree Schematic

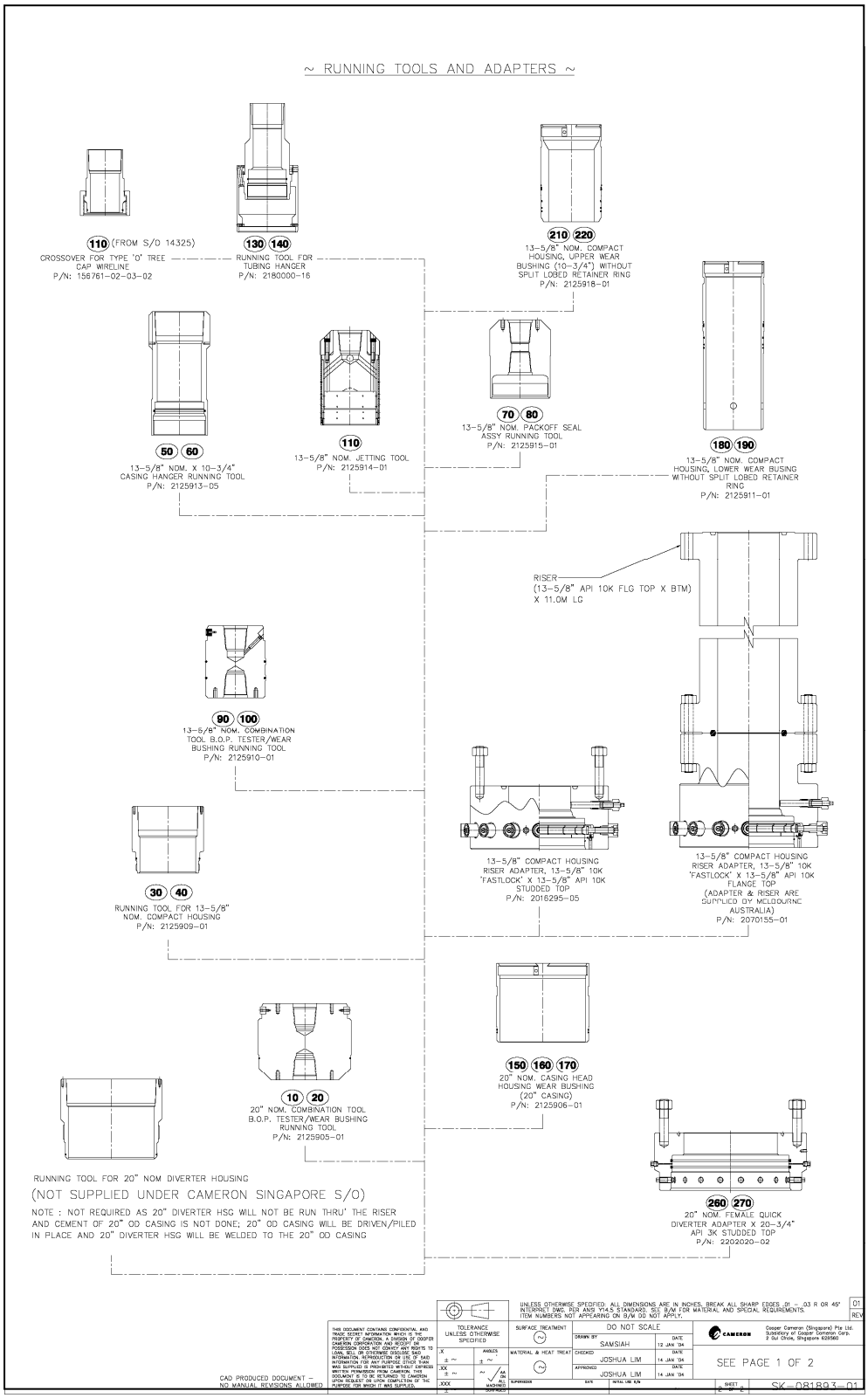


Figure 5: Yolla 3 Running Tools and Adaptors Schematic

2.1.8 Production Testing the Well

Rental production testing equipment was then rigged up, although most of the major items of equipment had remained in place on the rig after the previous production test of the Yolla 4 well. The rig up included a steam generator and heat exchanger. The bottom most zone in the well (2973

Sand) was perforated with through tubing electric line guns and production tested, followed by individual tests of the next three zones (the bottom zone was isolated by a wire line plug). The flow period for each zone was more than double the duration originally requested by the JV partners due to the partners' desire to more thoroughly clean up the zones and obtain representative fluid samples. The Upper EVCM zone was one of the zones tested and did not produce sand as originally feared.

Production testing proceeded without any major delays and the rig was released from the well at 1000Hrs on 30th September, 2004. The rig was then skidded back to Yolla 4 to locate and remedy a leak in the production tubing in that well and to repeat a production test of one of the zones in the well.

2.2 TIME ANALYSIS

The jack up rig ENSCO 102 came on hire at 1730Hrs 6 June, 2004 (when the rig reached a point 1 nautical mile from the Yolla platform) and departed the Yolla platform 3172.50 hours (132.19 days) later at 2200Hrs 16 October, 2004 (again once the rig reached a point 1 nautical mile from the platform). During the ensuing time, 193.25 hours (8.05 days) were spent positioning and preparing the rig to drill, 1339.0 hours (55.79 days) were spent drilling and completing the Yolla 4 well, 1292.5 hours (53.85 days) were spent drilling and completing the Yolla 3 well and 347.75 hours (14.49 days) were spent rigging down and demobilising the rig from the platform. No time is included in the above figures for mobilising the rig to Australia or to the Yolla field.

Of the 8.05 days spent mobilising the rig, 3.74 days were spent on planned activities (very close to the 3.5 days estimated), but 3.29 days of trouble time were spent conducting repeated preloading operations on the legs due to the weaker than predicted sea bed soils and half a day was spent waiting on weather. Another approximately half a day was spent on unplanned operations, including the picking up of drill string components on the critical path and the rigging up of unexpected rig equipment (e.g. pollution containment unit).

Of the 14.49 days spent demobilising the rig, 2.66 days were spent conducting planned operations, which is substantially more than the 1 day predicted. The difference is largely due to activities being logged as productive when a different interpretation could log them as waiting on weather. Considerable time was also spent rigging down the large quantities of DST equipment (which was in use until the very last well activity) and the associated time require to wait on the return of boats and the subsequent tie-down of late arriving material. A further 2.24 days of trouble time were spent conducting repeated leg pulling operations and another 6.85 days were clearly spent waiting on weather. A total of 2.74 days were also coded as unplanned time, most of which was spent laying down all the many drill string components in the derrick on the critical path, offloading equipment from a work boat and changing out the rig's large drill line spool.

Of the 53.85 days spent on the Yolla 3 well, 37.27 days were spent on planned activities, which is very close to the 38.51 days predicted. However, since the 38.51 day figure includes an assumed 15% Non Productive Time (NPT) component, the actual (productive only) time ran over the predicted minimum time (33.49 days) by approximately 3.78 days. This difference is largely due to the rig picking up, running and laying down tubular items much slower (approximately half the rate) than rigs without automatic pipe racking systems. The ENSCO 102 does not have a monkey board close to stand elevation in the derrick and is therefore unable to stand back or run stands in a conventional manner, short of having the derrick man abseiling on lines in the derrick. In particular, the making up and laying down of short or unconventional items was extremely slow. Although slow, the rig was

operated in a safe and methodical manner which prevented the occurrence of any injuries.

Several planned bit trips were not required due the successful selection of PDC bits which were capable of drilling each hole section in a single bit run, but these time savings were offset by more and longer wiper trips and circulating times. Drilling rates of penetration were overall close to those predicted. Of those operations which took more time (3.78 days) than expected, the following represent those activities which produced the most significant time differences. Drilling of the 12 ¼" hole required approximately 0.4 unanticipated days of sliding in order to maintain hole angle (being the first directional wells to be drilled in the area, the directional drilling characteristics of the formations were unknown when decisions had to be made regarding BHA design).

The 20" casing was set deeper due to the exceptionally weak soils encountered, which required approximately 0.2 extra days of rig time. Coring of the Upper EVCM was done with a special core barrel, which required approximately 0.2 days longer to make up and run. The extended logging program (primarily due to more pressure and sample points as requested by JV Partners) resulted in the rig having to test BOP's one additional time, which took approximately 0.9 days. The time required for the extra MDT data points could primarily be coded as "unplanned" activities (see below), but approximately 2 additional hours of delay still appear with a "planned" category designation. The cased hole was circulated approximately 0.3 days longer than anticipated to reduce fluid turbidity readings to a lower selected level of cleanliness. The flow periods for each of the individual zone production tests were approximately doubled at the request of the JV partners, which in turn added approximately one extra day to overall well operations. The remaining approximately 0.8 days of the 3.78 days of slower than expected "planned" operations was spread throughout the well in small intervals.

Well operations also encountered 1.95 days waiting on weather plus 10.79 days of trouble time during planned operations. The trouble time included 0.6 days to pull and change out a failed MWD tool, 1.0 total days to ream tight hole before and after coring in the 12 ¼" hole, 1.4 days to fish for and recover a parted core barrel (including full recovery of the core), 2.1 days to attempt open hole logs in the 12 ¼" hole (without success), 2.2 days to fish for a differentially stuck MDT tool in the 8 ½" hole, 1.7 days to recover perforating debris and get a gauge ring junk basket through the 6 5/8" production liner, 0.5 days to recover and change out a failed firing mechanism on a packer electric line setting tool and 1.3 days of miscellaneous shorter delays throughout the well (including 0.2 days of rig equipment repairs, 0.3 days of MDT tool failures, etc.).

Well operations encountered only approximately 2 hours of trouble time during unplanned operations, which occurred when seals on the BOP test plug leaked during the unplanned additional BOP test. Well operations also included 3.75 days of unplanned operations, which included 0.4 days to handle BHA components on the critical path (the AFE estimate was prepared on the basis that the BHA components could largely be made up off the critical path), 0.2 days additional circulating time through the stage collar prior to cementing, 0.4 days to drill out the stage collar and shoe track with a tri cone bit (to avoid possible problems drilling these items with a PDC bit), 0.2 days to change and test 9 5/8" casing rams (unanticipated ENSCO requirement), 0.8 days longer logging program (at the request of the JV Partners, primarily for more MDT pressure and sample points), 0.2 days to make up and use more casing washing tools and procedures, 0.2 days to make up and use PURE underbalanced perforating guns (per JV request), 0.3 days to set and retrieve a surface HE3 isolation plug (due to a change in well completion procedures), 0.2 days to investigate the death of a rig worker (died of natural causes), 0.3 days of longer flow periods (in addition to the ~1.0 days mentioned above for delays in "planned" operations) and 0.9 days of miscellaneous smaller activities spread throughout the well.

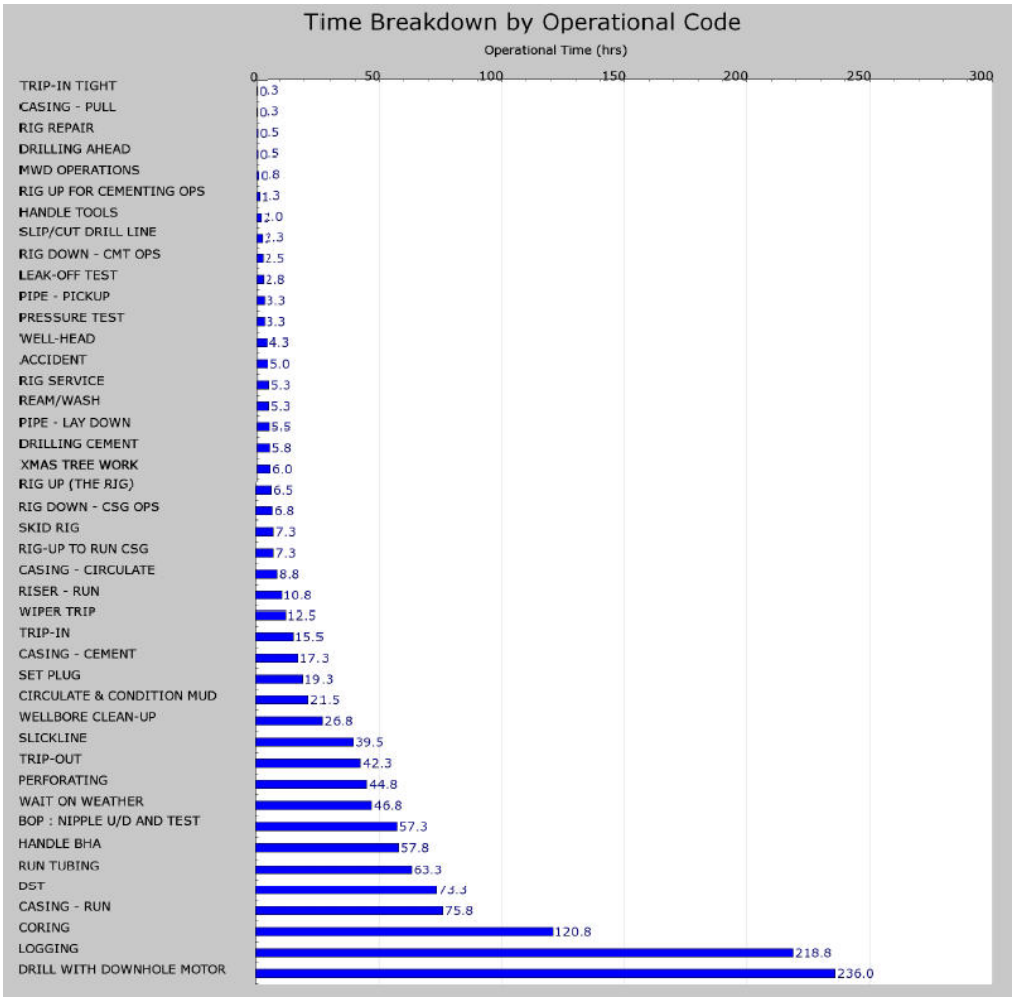


Figure 6: Yolla 3 Time Breakdown by Operation

RECAPITULATION (Based on IDS Software Data):

WELL PHASE	ACTUAL TOTAL HOURS	ACTUAL PHASE HOURS	ACTUAL TOTAL DAYS	ACTUAL PHASE DAYS	DAYS ALLOWED IN AFE	DAYS OVER AFE	PHASE CODE	COMMENTS
RIG MOBILISATION: From rig arrival 1 nautical mile from Yolla Platform until start of Yolla 4 well.	193.25	89.75	8.05	3.74	5.50	2.55	P	The 3.85 actual days is reasonably close to AFE 3.5days estimated for productive operations.
		79.00		3.29			TP (No WOW)	Conducted 5 preload cycles per leg (vs 1 cycle planned) and penetrated sea bed ~10m deeper than anticpitated due to soils being much weaker than predicted by soil cores & penetrometer tests.
		11.75		0.49			TP (WOW)	5.5 AFE days included 2.0 days WOW. Spent 8.5hr WOW while jacking and 3.5hr WOW during prespud activities.
		0.00		0.00			TU	No comment.
		12.75		0.53			U	Most unplanned hours spent picking up drill pipe on critical path (vs planned use of fox hole) while waiting on modified drive sub. Remainder spent rigging up pollution control unit, the existence of which was not known when AFE was prepared.
RIG DEMOBILISATION: From end of Y3 well until rig 1 nautical mile from Yolla Platform.	347.75	63.75	14.49	2.66	3.00	11.49	P	AFE estimated 1.0 day wo/WOW. 1.7 day overrun largely due to operations being coded as productive when in fact rig could not jack due to severe weather and the loading, offloading and waiting for supply boat. AFE assumed rig could be moved with most DST equipment and flare booms installed, but ENSCO policies prohibited same which forced extra boat trip. AFE may have also underestimated time required for ENSCO 102 to be secured for rig move, but difficult to establish extent of difference.
		53.75		2.24			TP (No WOW)	Conducted numerous jetting cycles to free legs. Jetting rates intentionally held low due to weaker than predicted soils which in turn increased depth/burial of spud cans and concern of washing out seal around platform's foundation.
		164.50		6.85			TP (WOW)	AFE included/assumed 2.0 days WOW. Actually spent 6.85 days WOW with possibly more depending on a stricter interpretation of activies/codes (see above).
		0.00		0.00			TU	No comment.
		65.75		2.74			U	Most unplanned time (~34 hrs) spent laying down drill pipe and BHA componenets on critical path (vs planned use of fox hole) and (~15hr) offloading boat. Remainder spent waiting on boat and unanticipated changing of ENSCO drill line spool.
YOLLA 3 WELL: Includes all drilling, completion and production testing operations on only the Yolla 3 well (8 August to 30 September, 2004). Includes approximately one day of operations (16th & 17th June, 2004) prior to spud for batch driving of 20 inch diameter conductor casing.	1,292.50	894.50	53.85	37.27	38.51	15.34	P	**Y3** 38.51days in AFE includes 33.49d productive + estimated 15% (5.02d) NPT but 37.27days (shown at left) includes 0 days NPT. Extra 3.78d largely due to rig taking much longer to pick-up/run/pull pipe. Picking up pipe/casing took ~2x as long as rigs without automatic pipe racking systems and trips with drill pipe were also slower. Operations often slower due to severe weather. Drilling ROP's close to predicted, but some budgeted bit trips not needed. Planned wiper trips took longer due to tight hole problems. Although slower, rig was operated in a very safe manner in winter conditions with no LTI's recorded. Major items included 1d longer flow periods requesteed by JV, 0.8d slower casing running, 0.5d unplanned BOP test due to longer logging program & 0.5d slower directional drilling due to more sliding in 12 1/4" hole. Also set 20" casing deeper than planned due to discovery of soft soils.
		259.00		10.79			TP (No WOW)	**Y3** Includes 0.2d misc rig equipment failures, 0.6d to trip for a failed MWD tool, 1.0 total days to ream 12 1/4" hole prior to & after coring, 1.4d to fish for a parted core barrel, 2.1d attempting to log 12 1/4" hole, 0.3d MDT logging tool failures, 2.2d to fish for a stuck MDT tool, 1.7d to run gauge ring junk baskets and recover perforating debris, 0.5d to replace failed firing head on production packer setting tool and 0.6d misc small delays spead throughout well.
		46.75		1.95			TP (WOW)	**Y3** In addition to time shown, weather also slowed opeerations coded as productive. Well AFE did not assume well would be drilled in mid winter.
		2.25		0.09			TU	**Y3** Includes just over 2 hours to change damaged seals on BOP test plug during unprogrammed test of BOP stack.
		90.00		3.75			U	**Y3** Includes 0.2d extra circulation time prior to cementing stage collar, 0.4d special trip to drill stage collar & shoe track, 0.2d ENSCO requirement to change to & from 9 5/8" casing BOP rams, 0.8d extended logging (MDT) program, 0.2d additional tools & time to clean liner, 0.2d ENSCO requirement to use shooting nipple & JV decision to use PURE perf guns, 0.3d run & pull HE3 plug, 0.3d longer flow period, 0.2d investigation of natural death and 0.95d misc small activites spread throughout well.

DEFINITIONS: NPT = Non Productive Time; WOW = Wait On Weather; TU = Trouble during Unplanned operations.; TP = Trouble during Planned operations; P = Planned operations (also productive time); U = Unplanned operations.

Table 1. Yolla 3 Well Time Breakdown Analysis (including Rig Mob and Demob)

2.3 CONCLUSIONS & RECOMMENDATIONS

2.3.1 Rig Mobilisation

Soil conditions at the platform were found to be considerably weaker than core samples indicated. The weaker soils resulted in the rig spud cans penetrating the soils approximately twice as deep as predicted and in the spud cans "punching through" two thin higher strength sandy layers. Soil experts are still investigating the reason why actual soil strengths proved to be much weaker than penetrometer testing predicted, but future jacking operations at the site should be informed of the punch through conditions and deeper then anticipated spud can penetrations. Although unsubstantiated, the removal of the points from the spud cans (removed by ENSCO for loading the rig on the dry tow vessel) has been raised as a possible explanation as to why the spud cans punched through the two sandy layers in such a sudden manner.

2.3.2 Weather Down Time

Future operations should recognize and appreciate the occasional adverse weather conditions of the area, particularly during the early stages of a well when large quantities of equipment and materials are frequently needed to be handled offshore. Sea states inside the Bass Strait never reach the enormous sea states seen just outside the Bass Strait, but are never the less often severe enough to prevent safe rig jacking and boat loading/offloading operations. Wind velocity also shut down crane operations and/or slowed normal equipment handling operations on the rig. The severe weather systems proved to last approximately 1 to 3 days and generally returned on a more or less weekly cycle. This was also borne out by a wave riding buoy which had been anchored at the platform location for a number of months prior to platform installation.

2.3.3 Conductor Driving & Support

The soft soil conditions at the platform made driving conditions very easy, but highlighted the fact that the conductors need to be supported in some other manner. Cementing the 13 3/8" casing inside and below the conductor shoe should again be considered for future wells since the procedure and cementing did not cause or encounter any problems. The use of ports in the conductor may have contributed to the success of placing a full column of cement across the 20" shoe, in addition to perhaps avoiding unstable hole conditions during the drilling of the 16" hole. Driving the conductors to refusal does not appear to be a workable solution because refusal point would be difficult to pick and could be at a very deep depth. Due to the nature of the soils to lose their strength during cyclic loading, refusal may also not guarantee that the conductors might subside at a later date, even if initially driven to refusal.

2.3.4 Mud Selection

A Drispac/Soltex mud system was used to drill both Yolla 3 and Yolla 4. The Yolla 3 mud system was similar to the system used in the previous Yolla 4 well, but with several distinct changes. The viscosity of the mud was extremely high during the initial stages of drilling the 12.25" hole section in Yolla 4. Although this viscosity never created any real problems aside from the loss of mud over the shale shakers and perhaps some build up of fines (because coarse screens were used on the shakers to minimize mud losses), the mud in Yolla 3 was constructed with less overall polymer and with a

much smaller proportion of Drispac Regular in order to reduce the viscosity, save mud building costs and perhaps ensure against the build up of fines in the mud. In retrospect, the larger concentration of Drispac polymers (in particular Drispac Regular) in the Yolla 4 mud may have played a major role in stabilizing the reactive clays of the Angahook formation in Yolla 4, since that formation proved to be surprisingly sticky any problematic in the Yolla 3 well, which had considerably less Drispac R & also less overall polymer (Drispac SL). Future drilling operations through the Angahook formation, particularly when directionally drilling through the formation, should therefore use highly inhibited mud. PHPA was added to the mud prior to drilling out the 9 5/8" shoe in Yolla 3, but no PHPA was ever added in the 12 ¼" hole.

The bio-degeneration of the mud in Yolla 4 was not observed in Yolla 3 due to the use of additional and regular biocide additions in Yolla 3. The biodegradation of mud observed in Yolla 4 was thought to possibly explain the observance of up to 40PPM H2S from the reservoir during production testing of the well, since the mud created considerable H2S smell in the mud pit room on the rig. However, no such biodegradation was seen in Yolla 3 (although some degradation may have occurred down hole) and production testing still produced approximately 30 ppm H2S.

2.3.5 Completion Fluid

Due to the problems encountered in getting the Yolla 4 well to flow (presumably due to the perforation tunnels being plugged with salt particles), the decision was made to prolong the life of the gelling agents in the supersaturated salt completion fluids in Yolla 3 and thereby reduce the risk of the salt particles screening out inside the perforation tunnels (due to the high fluid loss of a non-gelled carrying fluid). The life of the gelling agents were successfully extended in Yolla 3 and no problems were encountered in getting the well to flow, however the prolonged life of the gelling agents created a new problem in that it kept perforating debris in suspension inside the cased hole. This perforating debris interfered with the running of a gauge ring junk basket, the running of a permanent production packer and the circulation of fluid around the other production packers and completion equipment in the well.

No such problems were encountered in Yolla 4, presumably because the debris was allowed to fall to the bottom of that well once the gelling agent lost its viscosity. Future wells should therefore reconsider this issue and possibly use shorter life gels again (since getting the Yolla 4 well to flow was easily accomplished with a minor change in procedure sequence) or circulate the debris out during the post perforating scraper run. In terms of preventing the loss of potentially damaging completion fluids to the formation (the primary function of the fluid), the chosen supersaturated salt solution worked very well in both Yolla 3 and Yolla 4.

2.3.6 Bit Selection

Previous area wells had used PDC bits, but none were able to drill an entire hole section. Improvements in bit design since that time allowed the Yolla 3 and 4 wells to be drilled with only one bit in each hole section (although the 8.5" hole section in Yolla 4 had several cores which in turn allowed the changing of bits). One of those bits failed prematurely in Yolla 4, but that was due to poor manufacturing and not due to wear on the bit. Yolla 3 encountered no such problems.

Wellname : Yolla-3 | Drilling Co. : Ensco | Rig : Ensco 102

DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004

Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time: 03:00 | Release Time: 10:00

Bit Record

Well: Yolla-3

Date In	Date Out	IADC	Bit#	Size (in)	Ser #	Mfr	Type	Jets	TFA	D.In (m)	D.Out (m)	Prog (m)	Hrs IADC	ROP (m/hr)	SPP (psi)	Flow (gpm)	WOB (klb)	RPM	MW (sg)	I	O1	D	L	B	G	O2	R
11 Aug 2004	13 Aug 2004	115	1 RR1	16.00	6023745	HUGHES	MX1	3 x 24	1.325	124.0	1012.0	888	30.0	29.6	2114	850	15.00	60	1.04	2	2	WT	A	E	I	NO	TD
15 Aug 2004	16 Aug 2004	216	2 RR1	12.25	6010776	HUGHES	ATJ-G8	3 x 24	1.325	1012.0	1017.0	5	0.5	10	1015	780	5.00	47	1.04	2	2	WT	A	E	I	NO	BHA
27 Aug 2004	28 Aug 2004	216	2 RR2	12.25	6010776	HUGHES	ATJ-G8	3 x 24	1.325	2347.0	2347.0	0	0		0	0	0	0	1.11	2	3	WT	A	4	I	NO	TD
16 Aug 2004	18 Aug 2004		3 RR1	12.25	7003148	HUGHES	HCM 506	6 x 18	1.49	1017.0	1593.0	576	28.0	20.57	2825	842	15.00	60	1.06	1	1	NO	A	X	I	NO	DTF
18 Aug 2004	22 Aug 2004		3 RR2	12.25	7003148	HUGHES	HCM 506	6 x 18	1.49	1593.0	2216.0	623	56.3	11.07	3750	850	18.00	60	1.09	2	2	BT	S	X	I	ER	CP
25 Aug 2004	27 Aug 2004		3 RR3	12.25	7003148	HUGHES	HCM 506	6 x 18	1.49	2234.0	2347.0	113	11.3	10	3664	844	9.40	70	1.10	2	2	BT	S	X	I	WT	TD
22 Aug 2004	24 Aug 2004		4	8.50	7980532	SECURITY-DBS	264 LI		0	2216.0	2234.0	18	0.8	22.5	625	150	5.00	70	1.10	1	1	WT	A	X	I	NO	TD
31 Aug 2004	05 Sep 2004		5 RR1	8.50	206589	HYCALOG	DSX173DG	3 x 16 3 x 18 3 x 24	1.3345	2347.0	3497.0	1150	84.3	13.64	3990	611	21.00	94	1.11	2	3	WT	S	X	I	CT	TD
10 Sep 2004	11 Sep 2004	517	6 RR2	8.50	6024400	HUGHES	MX20		1.3254	3497.0	3497.0	0	0		0	0	0	0	1.11	1	1	NO	A	E	I	NO	TD
14 Sep 2004	15 Sep 2004		7 RR2	5.75	W19JM	HUGHES	STR-1		0	3497.0	3497.0	0	0		0	0	0	0	1.11	1	1	NO	A	E	I	NO	TD
18 Sep 2004	19 Sep 2004		7 RR3	5.75	W19JM	HUGHES	STR-1		0	3497.0	3497.0	0	0		0	0	0	0	1.11	1	1	NO	A	E	I	NO	TD
19 Sep 2004	20 Sep 2004		7 RR4	5.75	W19JM	HUGHES	STR-1		0	3497.0	3497.0	0	0		0	0	0	0	1.11	1	1	NO	A	E	I	NO	TD

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Table 2. Yolla 3 - Bit Record

2.3.7 Directional Drilling

No major problems were encountered directionally drilling the well, although an MWD tool failed after less than approximately 1 day of drilling in the 12 ¼" hole section and considerable sliding was necessary in the 12 ¼" hole to hit the multiple targets in the well. The Angahook formation was encountered during the high angle 12 ¼" hole build section in Yolla 3 and the formation proved to be considerably more reactive and problematic than in vertical wells. For this reason, considerable care needs to be taken in selecting the appropriate well path, casing setting depth and drilling fluid for future wells passing through this formation. The 16" and 8 ½" hole sections were both easily drilled and logs reached total depth in the 8 ½" hole section in Yolla 3 without any problems, even without a wiper trip with a stiffer/locked up assembly (as was needed in Yolla 4). The knowledge gained from Yolla 3 and Yolla 4 (the first two directionally drilled wells in the area) should greatly assist the design of subsequent BHA's, fluids and procedures in future wells in the area.

2.3.8 Coring

One 18.47m long core was recovered in the 12 ¼" hole from the Upper EVCM formation using a 6 ¾" x 4 ¼" Posi-Close core barrel (8 ½" bit and18m nominal length). The core barrel parted during the operation, but the inner and outer barrels, along with the core, were successfully recovered in a single trip with an overshot fishing assembly. The core barrel parted when an internal thread in the running tool backed out. The threads were undamaged, so it is unknown whether the thread backed out at surface or on bottom. The supplier is planning on initiating changes in the way the equipment is designed and made up to ensure against a repeat of the failure. On the positive side, the core head successfully cut the core in one run and the catching mechanism successfully caught the entire core, even in fishing conditions.

2.3.9 Rig Operations

The rig operated under a strict safety case regime which no doubt contributed to the well being drilled without any lost time injuries. However, this in turn appears to delay operations and should be considered when preparing future cost and time estimates. The rig was also observed to be slow in making up unusual tubular assemblies and in the picking up and running of casing and tubing, but this was in turn deemed to be due to the rig having a highly automated pipe racking system (which ran casing and tubing at approximately half the rate observed by manual rigs). Less than 6 total hours of down time were experienced during the Yolla 3 well as a result of the failure of rig equipment, which is an excellent result.

2.3.10 Slick Line Procedures

Unlike the Yolla 4 well, which experienced many days of lost time due to slick line operations, the Yolla 3 well was virtually trouble free in this regard with only approximately 3 total hours of slick line related problems. Although some of the improvement was due to changes in procedures and material selection (i.e. methodical opening of sleeves and the sanding down of sealing elements on wire line plugs), the Yolla 3 well didn't seem to encounter the problems or perhaps the bad luck experienced in the Yolla 4 well.

2.3.11 Waxy Crude

The 2458 sand, which contained waxy crude in the Yolla 4 well, did not contain hydrocarbons in the Yolla 3 well and was therefore not perforated in Yolla 3.

2.4 DAILY DRILLING OPERATIONS SUMMARY

#	Date	Depth	24 Hour Summary
1	16 Jun 2004	215.0m	Skidded rig from Yolla 4 to Yolla 3, ran / drove 20" conductor to 215 m. Cut conductor and prepared to weld on wellhead.
2	17 Jun 2004	215.0m	Tack welded on wellhead, rigged down conductor driving equipment. Skidded rig to Yolla 4.
3	08 Aug 2004	215.0m	Skidded rig to Yolla-3. Carried out rig maintenance while WOW.
4	09 Aug 2004	215.0m	WOW. Performed rig maintenance. Installed low pressure riser & divertor. WOW.
5	10 Aug 2004	215.0m	WOW. Offloaded drilling equipment and casing from vessel. Made up BHA.
6	11 Aug 2004	817.0m	Made up BHA. RIH to 124 m. Drilled out 20 in conductor to 215 m. Drilled 16 in hole to 280 m. Commenced kick off from 280 m to 817 m.
7	12 Aug 2004	1012.0m	Drilled from 817 m to 1012 m. Circulated BU. Displaced to HI Vis. Pulled to 215 m. WOW. Wiped hole to 1012 m. Displaced to Hi Vis + inhibited pill on bottom. POOH.
8	13 Aug 2004	1012.0m	Ran 13.375 in casing. WOW. Ran & landed 13.375 in casing.
9	14 Aug 2004	1012.0m	Circulated 1.25 x casing contents. cemented casing as per programme. R/D landiing string & running equipment. R/D LP riser.
10	15 Aug 2004	1012.0m	Installed BOP. Pressure tested BOP, C & K lines, Choke manifold. L/D 16 in BHA. P/U 12.25 BHA. RIH drilled & cleaned out stage collar.
11	16 Aug 2004	1205.0m	RIH, tagged cmt at 980 m. Drilled shoe track. Displaced to mud. Drilled to 1017 m. Performed FIT. POOH C/O BHA. RIH to 1017 m. Drilled ahead to 1205 m.
12	17 Aug 2004	1593.0m	Drilled from 1205 m to 1593 m. MWD failed. Circulated B/U. POOH.
13	18 Aug 2004	1642.0m	POOH. C/O MWD tools. RIH to shoe. Slipped & Cut Drill line. RIH. Circulate B/U. Drilled Ahead.
14	19 Aug 2004	1961.0m	Drilled from 1642 m to 1961 m. Commenced drop in to target.
15	20 Aug 2004	2178.0m	Drilled from 1961 m to 2146 m. Circulated out gas cut mud (2955 units). Drilled from 2146 m to 2178 m.
16	21 Aug 2004	2216.0m	Drilled to core point at 2216 m (1857 m TVDRT). POOH. Tight hole & packed off. Backreamed to shoe.
17	22 Aug 2004	2234.0m	L/O BHA. P/U coring assy. RIH to 2165 m, washed to bottom. Cut 18 m core. Circulated B/U. POOH.
18	23 Aug 2004	2234.0m	POOH coring assembly and noted that 21.1 m of coring assembly left in hole. Made up 11.75in overshot fishing assembly and RIH same.
19	24 Aug 2004	2234.0m	RIH with fishing assembly and engaged fish. POOH and laid down same.
20	25 Aug 2004	2234.0m	Laid out core barrels and cut up fibreglass inner barrels. Made up 12.25 in BHA and RIH same.
21	26 Aug 2004	2347.0m	Drilled 12.25 in to 2347 mMD (TD) and pumped 60 bbl Barolift sweep. Circulated 3x bottoms up and POOH.
22	27 Aug 2004	2347.0m	Wireline logs held up at 1134 mMD. Worked and freed same. POOH and made up BHA for wiper trip.
23	28 Aug 2004	2347.0m	Washed and reamed 12.25 in hole to 2347 mMD and POOH cleanout BHA. Rigged up Schlumberger and RIH wireline run #1.
24	29 Aug 2004	2347.0m	Rigged down Schlumberger wireline and pulled wear bushing. Tested BOP/wellhead and installed electric cable on top drive. Rigged up to run 9.625/10.75 in casing. RIH casing to 1912 mMD.
25	30 Aug 2004	2347.0m	Ran 9.625/10.75 in casing to 2339.87 mMD and cemented same. Pressure tested casing to 3500 psi and jetted welhead and BOP's. Set 10.75 in packoff and commenced testing BOP's.
26	31 Aug 2004	2360.0m	Completed testing the rig's BOP equipment. Ran the wear bushing and laid down the 12.25 in BHA. Made up and RIH 8.5 in BHA. Drilled out shoetrack and conducted FIT. Drilled ahead.
27	01 Sep 2004	2693.0m	Drilled 8.5 in hole from 2360 mMD to 2693 mMD.
28	02 Sep 2004	3086.0m	Drilled 8.5 in hole from 2693 mMD to 3086 mMD.
29	03 Sep 2004	3463.0m	Drilled 8½" hole from 3086 m to 3463 m.
30	04 Sep 2004	3497.0m	Drilled from 3463 mMD to 3497 mMD. Swept & Circulated hole clean. Wiped hole to shoe.
31	05 Sep 2004	3497.0m	RIH to TD. POOH, L/D MWD. R/U and run Log #1.
32	06 Sep 2004	3497.0m	Ran Log #'s 1 & 2. P/U LOg #3.
33	07 Sep 2004	3497.0m	Ran Log #3 LEH:QT:MDT:GR
34	08 Sep 2004	3497.0m	Ran Log #3 LEH:QT:MDT:GR wireline became stuck with tool at 3149 m.
35	09 Sep 2004	3497.0m	Stripped drill pipe over wireline from surface to 2323 m. Circulated B/U. Stripped over wireline to 2614 m.

			Broke circulation. Stripped over wireline to 2701 m.
36	10 Sep 2004	3497.0m	Stripped over wireline, latched on to fish. Pulled wireline. L/D wireline equipment. POOH with fish. Recovered fish. P/U BHA & RIH.
37	11 Sep 2004	3497.0m	Ran wiper trip washed & reamed tight spots. Circulated hole clean. POOH. R/U and ran 6.625 in liner.
38	12 Sep 2004	3497.0m	Ran 6.625 in liner. Circulated liner contents +20%. Ran liner on DP to 2340, circualted contents +20%. Ran liner to 3194 m on DP.
39	13 Sep 2004	3497.0m	Ran and landed liner. Set liner hanger. Cemented Liner, plug did not launch. Set Packer. Reversed out excess cement. Pulled liner running stringer and R/T. R/U and test BOP.
40	14 Sep 2004	3497.0m	P/U 6.625 in casing scraper / clean out assy. P/U and ran 4¾" Collars, 3½" HWDP and 3½" DP. P/U PBR polish mill and 9.625 in casing scraper. RIH on DP. Scraped packer areas. Polished PBR. Circ Clean.
41	15 Sep 2004	3497.0m	Tested csg to 4000 psi. Displaced well to SW. Pumped clean up sweeps. Displaced to sized salt and brine. POOH.
42	16 Sep 2004	3497.0m	P/U jetting assy. Jetted wellhead & BOP. Ran CBL:USIT in 6.625 in and 9.625. P/U & tested shooting nipple. P/U and ran Perforation run #1.
43	17 Sep 2004	3497.0m	Perforated intervals 3242.5 - 3236.5 mMD (run #2), 3196 - 3190 mMD (run #3) and 3186 - 3180 mMD (run #4).
44	18 Sep 2004	3497.0m	POOH perforation guns #5 and laid down same. Made up and RIH scraper assembly. Scraped perforated intervals and POOH BHA.
45	19 Sep 2004	3497.0m	Made a total of 4 CCL/gauge ring/junk basket runs. On each run obstructions were encountered and debris captured in junk basket. Made up cleanout BHA and RIH same.
46	20 Sep 2004	3497.0m	POOH clean-up BHA and rigged up to run wireline. Made x2 CCL/gauge ring/junk basket runs. Made up the permanent packer/tail pipe assembly and RIH to 2490 mMD.
47	21 Sep 2004	3497.0m	RIH and set permanent packer/tail pipe assembly. Rigged up to run production tubing and RIH same to 574 mMD.
48	22 Sep 2004	3497.0m	RIH production tubing and associated assemblies to 2754 mMD.
49	23 Sep 2004	3497.0m	Picked up SSSV and RIH same. Spaced out and set packers. Made up tubing hanger and RIH same.
50	24 Sep 2004	3497.0m	Pumped 267 bbls of diesel into tubing and landed production tubing in hanger. Set HE-3 plug and waited on police/coroners investigation. Commenced rigging down the BOP stack.
51	25 Sep 2004	3497.0m	Landed production tree and tested same. Riged up surface testing equipment and slickline equipment.
52	26 Sep 2004	3497.0m	Ran 2.71 in gauge to 3463 mMD and perforated 2973 sand from 3404 - 3407 mMD. Ran memory gauges and commenced flowing well.
53	27 Sep 2004	3497.0m	Completed testing 2973 sand. Set 3.688 in plug to isolate 2973 sand and commenced testing UEVCM sand.
54	28 Sep 2004	3497.0m	Completed testing UEVCM sand and commenced testing 2809 sand.
55	29 Sep 2004	3497.0m	Completed testing 2809 sand and commenced testing 2755 sand.
56	30 Sep 2004	3497.0m	Summary to 10:00 - Completed testing 2755 sand and prepared to skid drill floor to Yolla-4.

3. FORMATION SAMPLING & ANALYSIS

Cuttings were collected over the interval 1017 – 34975mRT. The sampling intervals were as follows:

1017 – 2020 mRT: 10 metre intervals
2020 – 2040 mRT: 5 to 10 metre intervals
2040 – 2088 mRT: 6 metre intervals
2088 – 2640 mRT: 3 to 6 metre intervals (sample variability due to variable ROP)
2640 – 3144 mRT: 6 to 12 metre intervals (sample variability due to variable ROP)
3144 – 3497 mRT: 3 to 12 metre intervals (sample variability due to variable ROP)

Cuttings were very poor during coring intervals and wellsite descriptions through these zones are generated from core chip descriptions (Appendix 2).

A detailed collection and distribution list for all ditch cutting samples collected from Yolla 3 is included in the Geoservices End of Well Report (Appendix 5).

Cuttings lithological descriptions are presented in Appendix 1. A complete set of Daily Geological Reports (which include cuttings descriptions summary) are included in Appendix 11.

3.1 SIDEWALL CORES

No sidewall cores were obtained in Yolla 3.

3.2 CONVENTIONAL CORES

One core was cut in Yolla 3. A summary of the cored interval is included in Table 1 below. Detailed core lithology descriptions are in Appendix 2. Routine core analysis and core photographs are supplied in Appendix 3.

Core #	Interval (mMDRT)	Cut (m)	Rec (m)
1	2216.00 – 2234.10	18	18.1 (100%)

Table 3. Summary of Conventional Cores cut in Yolla 3.

3.3 PALYNOLOGY

No samples were selected for palynological studies due to the close proximity of Yolla 1 which has extensive palynology data available.

3.4 GEOCHEMISTRY

No samples were selected for geochemical or maturity analysis due to the close proximity of Yolla 1 which had a very comprehensive geochemical, source rock and maturation study undertaken.

3.5 PETROLOGY

Five core plug off-cuts were sent to Reservoir Solutions Pty Ltd for petrology, X-ray diffraction analysis (XRD) and scanning electron microscopy (SEM). The petrology undertaken includes modal analysis, grain size analysis and photomicroscopy. The samples analysed are shown below in Table 2. The results are included in Yolla 3 Well Completion Report Interpretive Data Appendix 4.

Depth (mRT)	Sample Type	Sample #
2216.7	Core Plug	3
2219.36	Core Plug	12
2221.81	Core Plug	20
2230.27	Core Plug	48
2232.98	Core Plug	57

Table 4. Sample depths at which Petrology, XRD and SEM was undertaken.

3.6 CORE ANALYSIS

Routine Core Analysis (RCA) and Special Core Analysis (SCAL) were performed by ACS Laboratories Pty Ltd. The RCA report is presented in Appendix 3. The special core analysis (SCAL) report is included in Appendix 6 of the interpretive volume of the Yolla 3 Well Completion report.

4. FORMATION EVALUATION

4.1 MUDLOGGING

Mudlogging was provided by Geoservices Overseas SA over the interval 124 – 3497mRT. The Mudlogger's End of Well Report can be found in Appendix 5.

4.2 LOGGING WHILE DRILLING

Logging while drilling (LWD) services were provided by Sperry-Sun Drilling Services. The LWD comprised dual gamma ray (DGR) and four phase electromagnetic resistivity (EWR-P4) data. 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 run is shown in Table 3. Sperry-Sun provided an end-of well report detailing the LWD and MWD operations, which is presented in Appendix 6.

Hole Size (inches)	Interval (mMDRT)	MWD services	LWD services
16	215 - 1012	DWD with PCD-R	none
12.25	1017 – 1593	P4M-DIR-FE	DGR - EWR-P4
12.25	1593 – 2216	P4M-DIR-FE	DGR - EWR-P4
12.25	2216 – 2347	P4M-DIR-FE	DGR - EWR-P4
8.5	2347 – 3497	P4M-DIR-FE	DGR – EWR-P4

Table 5. Summary of LWD & MWD runs in Yolla 3.

4.3 WIRELINE LOGGING

The following wireline logs, shown in Table 4, were run at Yolla 3 by Schlumberger Oilfield Australia Pty Ltd.

Suite #	Run #	Log	Interval (mMDRT)
1	1	PEX-HRLA-CMR-SP-GR-LEHQT	3474 m - surface
1	2	FMI-DSI-HNGS-ECS-LEHQT	3494 – 1000 m (HNGS-DSI to 120)
1	3	MDT-GR (pre-tests)	3479.5 – 3148.6 m
1	4	MDT-GR (sampling)	3420.6 – 3149 m
1	5	USIT-CBL-VDL-GR-CCL	3453 – 2281 m
1	6	USIT-CBL-VDL-GR-CCL	2265 – 1350 m
1	7-11	4 ½", 12 spf, HSD 34JL, Pure Perforating Record	3248.5 – 2210.2 m
1	12-13	CPST Packer Set, Packer Setting Record	3258 - 3258

Table 6. Wireline logs run in Yolla 3.

Suite	Run	Bit Size	Fluid Type	Density (lbm/gal)	Viscosity (s)	Fluid Loss (cm^3)	pH	RM @ measured Temp (ohm.m@^oC)	RMF @ measured Temp (ohm.m@^oC)	RMC @ measured Temp (ohm.m@^oC)
1	1-4	8 ½"	Sea Water Drispac Soltex	9.45	98	3.1	8.9	0.184 @26^oC	0.147 @26^oC	0.229 @24^oC

Table 7. Logging Parameters in Yolla 3.

Suite #	Run #	Maximum Recorded Temperature (^oC)	Bottom Hole Depth (mRT)	Time Circulation Stopped	Time Logger on bottom
1	1	132	3491	05/09/04 06:00	05/09/04 21:00
1	2	143	3483	05/09/04 06:00	06/09/04 15:05
1	3	148	3479.5	05/09/04 06:00	07/09/04 20:16
1	4	146	3420.6	05/09/04 06:00	08/09/04 02:50

Table 8. Temperature data recorded during wireline logging in Yolla 3.

4.4 HYDROCARBON INDICATIONS

Gas shows from cuttings is presented in Appendix 4 and fluorescence shows in cuttings and core are detailed in Appendices 1 and 2 respectively.

4.5 VELOCITY SURVEY

No velocity or checkshot data was recorded in Yolla 3 due to the close proximity of Yolla 1.

5. FORMATION TESTING

5.1 PRESSURE TESTING AND FLUID SAMPLING

The Yolla-3 MDT program was conducted over the interval 3149 to 3480 mRT on 7/9/2004 and 8/9/2004. A total of 65 pre-tests were attempted of which 27 tests were valid, 15 were supercharged, 22 were tight tests and one lost seal to formation. A summary of the MDT-pressure data is included in Appendix 8 of the Yolla-3 WCR Basic Data.

A total of 7 samples were attempted, with 6 samples successfully recovered. The descriptions of these samples are as follows.

1 x 450 CC Water sample from 2718 Sand (3149.3 mRT)
1 x 450 CC Gas sample from 2755 Sand (3181.7 mRT)
1 x 450 CC No recovery from 2755 Sand (3181.7 mRT)
1 X 450 CC Gas sample from 2809 Sand (3249.0 mRT)
1 X 1gallon Gas sample from 2809 Sand (3249.0 mRT)
1 X 450 CC Gas sample from 2973 Sand (3420.0 mRT)
1 X 450 CC Gas sample from 2973 Sand (3420.0 mRT)

The fluid composition and analysis of these samples are included in Appendix 15 of the Yolla-3 WCR Basic Data.

The "pump out sub with optical fluid analyser method" (OFA) was used in an attempt to identify the reservoir fluid in the 2952, 2873 and 2844 sands (and also at 3222.7 mRT depth) but the tested formations were too tight and no analytical results were obtained for these intervals.

5.2 PRODUCTION TESTING

The intervals perforated in Yolla-3 and their respective production test results were:

Zone	Interval (mMD)	Flow Test Results
Upper EVCM Gas and Oil Zone	2210.2 – 2225.2	16.7 million cubic feet per day (MMscfd) of gas + 813 barrels of oil and condensate per day at 1733 psia on a 48/64" choke.
Upper Intra-EVCM Gas Zone	3180.0 – 3186.0 and 3190.0 – 3196.0	16.4 MMscfd of gas + 340 barrels of condensate per day (bcpd) at 2225 psia on a 40/64" choke.
Mid Intra-EVCM Gas Zone	3236.5 – 3242.5 and 3246.5 – 3248.5	17.5 MMscfd of gas + 602 bcpd at 3015 psia on a 36/64" choke.
Lower Intra-EVCM Gas Zone	3404.0 – 3407.0	7.0 MMscfd of gas + 67 bcpd at 692 psia on a 48/64" choke.

Notes:

1. *Gas flow rates were controlled to remain within the constraints of the rig's test equipment and to provide suitable conditions for sampling, and do not reflect maximum zone deliverability.*
2. *Condensate rates reported above are from the temporary rig separator which was operating at elevated temperature and pressure. Actual condensate content of the gas, and condensate yield during production, will be higher than this level.*

The following production test reports are included in Appendix 16.
a. Surface data - Schlumberger Report
b. Subsurface data - Halliburton Report
c. Petrotech – Fluid Sampling

Note the BH pressure data reported by Haliburton is in psig and the kpa unit shown on the heading is not correct.

Fluid samples including pressurised gas and condensate, stock tank condensate and water samples were taken during production test. The samples were analysed by Petrolab and Amdel and their reports are included in Appendix 15. Appendix 15 includes the following data.

a. Fluid Composition & PVT Reports (Petrolab)
b. Condensate and Oil Assay (Amdel)

Petrolab was still undertaking some work on fluid samples while this report was being prepared. The results of these tests will be contained in the interpretive volume of the Yolla 3 well completion report.

Note: A short flow test was also carried out over the Yolla-4 2809 Sand after the Yolla-3 production test was completed. Data related to this test (Yolla-4 2809 Sand) is included in this report.

APPENDIX 1: CUTTINGS DESCRIPTIONS

APPENDIX 1: CUTTINGS DESCRIPTIONS

Depth mRT	% of Rock	Main Lithology	Modifier >20%	Lithological Descriptions
1017	100	CLYST		Claystone, light grey - olive grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 90% clay, ACCESSORIES: fossils trace, calcite 10%
1020	100	CLYST		Claystone, light grey - olive grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 90% clay, ACCESSORIES: fossils trace, calcite 10%
1030	100	CLYST		Claystone, light grey - olive grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 90% clay, ACCESSORIES: calcite 10%
1040	100	CLYST		Claystone, light - olive grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 90% clay, ACCESSORIES: fossils trace, calcite 10%, CALCIMETERY: 15% calcite, 1% dolomite
1050	100	CLYST		Claystone, light - olive grey, trace cream coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 90% clay, ACCESSORIES: calcite 10%, fossils trace, forams trace
1060	100	CLYST		Claystone, light-medium grey, pale blue grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace
1070	100	CLYST		Claystone, medium-light grey, trace off white coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% silt, ACCESSORIES: calcite 10%, CALCIMETERY: 14% calcite, 1% dolomite
1080	100	CLYST		Claystone, light - medium grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 70% clay, 15% silt, trace very fine sand, ACCESSORIES: calcite 5%, fossils trace
1090	100	CLYST		Claystone, light-medium & occasionally olive grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
1100	100	CLYST		Claystone, light-medium grey, trace blue grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 10%, forams trace
1110	100	CLYST		Claystone, light-medium, olive grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 10%, pyrite trace, CALCIMETERY: 11% calcite
1120	100	CLYST		Claystone, light-medium & pale blue grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 85% clay, 10% silt, ACCESSORIES: calcite 5%, fossils trace
1130	100	CLYST		Claystone, light grey & slightly off white coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS:

				15% clay CLASTIC GRAINS: 80% clay, 5% silt, ACCESSORIES: calcite 15%, fossils trace
1140	100	CLYST		Claystone, light-medium grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace, CALCIMETERY: 11% calcite, 1% dolomite
1160	100	CLYST		Claystone, light grey-sl off white coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, trace very fine sand, ACCESSORIES: calcite 10%
1170	100	CLYST		Claystone, light grey-off white, medium grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 10%, fossils trace
1190	100	CLYST		Claystone, light grey-off white, medium grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 10%, fossils trace
1220	20	SLTST		Siltstone, light brown-cream coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 30% clay, 60% silt, 5% very fine sand, ACCESSORIES: kaolinite 20%, calcite 5%, CALCIMETERY: 10% calcite, 1% dolomite
	80	CLYST		Claystone, light-medium brown coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 15% clay CLASTIC GRAINS: 80% clay, 5% silt, ACCESSORIES: fossils trace, pyrite trace
1230	10	SLTST		Siltstone, cream, light-medium brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: kaolinite 20%, CALCIMETERY: 8% calcite
	90	CLYST		Claystone, light grey-off white coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 80% clay, 15% silt, ACCESSORIES: calcite 5%, pyrite trace
1240	80	CLYST	calc	Calcareous Claystone, light-medium grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt, ACCESSORIES: calcite 20%, pyrite 3%, fossils trace
	20	SLTST		Siltstone, cream-medium brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 10% clay, 50% silt, 30% very fine sand, ACCESSORIES: calcite 10%
1250	80	CLYST	calc	Calcareous Claystone, light-medium grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt, ACCESSORIES: calcite 20%, pyrite trace, CALCIMETERY: 8% calcite
	20	SLTST		Siltstone, cream-medium brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 10% clay, 50% silt, 30% very fine sand, ACCESSORIES: calcite 10%
1260	10	SST		Sandstone, dark/medium brown, light brown coloured, firm, blocky fracture, CALCAREOUS GRAINS: 15% clay CLASTIC GRAINS: 15% silt, 70% very fine sand, well sorted, angular, CEMENTS/STRENGTHS: calcite/moderate, POROSITY: inter-granular, 5%
	90	CLYST	calc	Calcareous Claystone, light-medium grey, sl off white

				coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt, ACCESSORIES: calcite 15%, fossils trace
1270	80	CLYST	calc	Calcareous Claystone, light-medium grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 60% clay, 20% silt, ACCESSORIES: calcite 20%
	20	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 10% clay, 60% silt, 20% very fine sand, ACCESSORIES: calcite 20%, pyrite trace
1280	80	CLYST	calc	Calcareous Claystone, predominantly light grey coloured, very soft, dispersive, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt, ACCESSORIES: calcite 20%, fossils trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 10% clay, 60% silt, 20% very fine sand
1290	80	CLYST		Claystone, predominantly light grey coloured, very soft, dispersive, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt, ACCESSORIES: calcite 20%, fossils trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand
1300	90	CLYST		Claystone, predominantly light grey coloured, very soft, dispersive, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt, ACCESSORIES: calcite 20%, fossils trace
	10	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand
1310	80	CLYST		Claystone, predominantly light grey coloured, very soft, dispersive, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt, ACCESSORIES: calcite 20%, fossils trace, pyrite trace, CALCIMETERY: 7% calcite
	20	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 10%
1320	90	CLYST		Claystone, light - medium grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 20%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%
1330	90	CLYST		Claystone, light - medium grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 20%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, soft-friable,

				sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%
1340	90	CLYST		Claystone, light - medium grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 80% clay, 10% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace, CALCIMETERY: 9% calcite
1350	90	CLYST		Claystone, medium - dark grey, olive grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
	tr	DOL		Dolomite, brownish black coloured, hard, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 10% clay
1360	80	CLYST		Claystone, medium - dark grey, olive grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
1370	80	CLYST		Claystone, medium - dark grey, olive grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
1380	80	CLYST		Claystone, medium - dark grey, olive grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
	tr	SST		Sandstone, light grey, yellow/grey coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 40% clay, 10% silt, 40% very fine sand, very well sorted, well rounded, spherical,

				CEMENTS/STRENGTHS: calcite/moderate, ACCESSORIES: calcite 5% POROSITY: inter-granular, 3%
1390	80	CLYST		Claystone, medium - dark grey, olive grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
	tr	SST		Sandstone, light grey, yellow/grey coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 40% clay, 10% silt, 40% very fine sand, very well sorted, well rounded, spherical, CEMENTS/STRENGTHS: calcite/moderate, ACCESSORIES: calcite 5% POROSITY: inter-granular, 3%
	tr	DOL		Dolomite, brownish black coloured, hard, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 10% clay
1400	80	CLYST		Claystone, medium - dark grey, olive grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
	tr	SST		Sandstone, light grey, yellow/grey, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 40% clay, 50% very fine sand, very well sorted, well rounded, spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/weak, ACCESSORIES: calcite 5% POROSITY: inter-granular, 3%
1410	80	CLYST		Claystone, medium - dark grey, olive grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
	tr	SST		Sandstone, light grey, yellow/grey, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 40% clay, 50% very fine sand, very well sorted, well rounded, spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/weak, ACCESSORIES: calcite 5%, fossils trace, bryazoans trace, POROSITY: inter-granular, 3%
	tr	DOL		Dolomite, brownish black coloured, hard, blocky fracture, CALCAREOUS GRAINS: 10% clay

				CLASTIC GRAINS: 10% clay, 30% silt
1420	80	CLYST		Claystone, medium - dark grey, olive grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	20	SLTST		Siltstone, medium grey-brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
	tr	SST		Sandstone, light grey, yellow/grey, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 40% clay, 50% very fine sand, very well sorted, well rounded, spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/weak, ACCESSORIES: calcite 5%, fossils trace, bryozoans trace, POROSITY: inter-granular, 3%
1430	90	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 45% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, forams trace
1440	90	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 45% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, carbonaceous matter trace
1450	90	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 45% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, carbonaceous matter trace
1460	90	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 45% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, carbonaceous matter trace
1470	90	CLYST		Claystone, brownish grey, olive grey coloured, very

				soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 45% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, carbonaceous matter trace
	tr	SST		Sandstone, light grey brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 10% silt, 60% very fine sand, well sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace POROSITY: inter-granular, 3%
1480	90	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 45% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, carbonaceous matter trace
1490	90	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	SLTST		Siltstone, medium grey-brown coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 45% silt, 10% very fine sand, ACCESSORIES: calcite 5%, fossils trace, carbonaceous matter trace
	tr	VOLTUF		Volcanic Tuff, off white coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, ACCESSORIES: calcite 5%, quartz 20%
1500	90	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	10	VOLTUF		Volcanic Tuff, off white coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, ACCESSORIES: calcite 5%, quartz 20%
1510	40	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	60	VOLTUF		Volcanic Tuff, off white, light bluish grey, very soft and amorphous to firm, commonly with very fine sandstone texture, very fine quartz grains set in a very fine tuffaceous matrix, commonly weathered to clay
1520	100	VOLTUF		Volcanic Tuff, off white, light bluish grey coloured,

				soft-friable, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% very fine sand, ACCESSORIES: calcite 5%, quartz 20%, pyrite trace
1530	20	CLYST		Claystone, brownish grey, olive grey coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% silt, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
	80	VOLTUF		Volcanic Tuff, off white, light bluish grey coloured, soft-friable, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 75% clay, 20% very fine sand, ACCESSORIES: calcite 5%, quartz 20%, pyrite trace
1540	30	CLYST		Claystone, off white-light grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 80% clay, 15% silt, ACCESSORIES: calcite 5%
	70	VOLTUF	silty	Volcanic Tuff, silty, cream-mottled light brown coloured, very soft, dispersive fracture CLASTIC GRAINS: 70% clay, 20% silt, 10% very fine sand, ACCESSORIES: pyrite trace, silty 20%
1546	90	SST	volc	Sandstone, volc, light-medium mottled brown coloured, very soft, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 40% clay, 40% very fine sand, 20% fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25%, calcite trace, quartz 25%, POROSITY: inter-granular, trace
	10	SLTST	volc	Siltstone, volc, light-medium mottled brown coloured, very soft, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 40% clay, 50% silt, 10% very fine sand, ACCESSORIES: argillaceous 25%, calcite trace, pyrite trace
1550	10	CLYST		Claystone, off white-light grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 80% clay, 15% silt, ACCESSORIES: calcite 5%
	60	SST	volc	Sandstone, volc, light-medium brown & cream coloured, very soft, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 40% clay, 40% very fine sand, 20% fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25%, calcite trace, quartz 25%, POROSITY: inter-granular, trace
	30	SLTST	volc	Siltstone, volc, light-medium brown & cream coloured, very soft, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 40% clay, 50% silt, 10% very fine sand, ACCESSORIES: argillaceous 25%, calcite trace, pyrite trace
1553	10	CLYST		Claystone, off white-light grey coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 80% clay, 15% silt, ACCESSORIES: calcite 5%
	10	SST	volc	Sandstone, volc, light-medium brown & cream coloured, very soft, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 40% clay, 40% very fine sand, 20% fine

				sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25%, calcite trace, quartz 20%, POROSITY: inter-granular, trace
	80	SLTST	volc	Siltstone, volc, light-medium brown & cream coloured, very soft, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 40% clay, 50% silt, 10% very fine sand, ACCESSORIES: argillaceous 25%, calcite trace, pyrite trace
1560	10	CLYST		Claystone, light-medium grey & off white coloured, firm, blocky fracture CLASTIC GRAINS: 80% clay, 20% silt, ACCESSORIES: silty 20%
	80	SLTST		Siltstone, light brown-cream coloured, very soft, dispersive, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: calcite 10%
	10	VOLTUF		Volcanic Tuff, mottled brown with dark green coloured, soft, sub-blocky fracture CLASTIC GRAINS: 50% clay, 40% silt, 10% very fine sand, ACCESSORIES: argillaceous 25%
1570	40	CLYST		Claystone, off white & medium-light grey coloured, firm, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 60% clay, 30% silt, 10% very fine sand, ACCESSORIES: calcite trace
	60	SLTST		Siltstone, light/medium brown-cream coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: fossils trace, calcite 10%
1580	90	SLTST		Siltstone, light/medium brown-cream coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: fossils trace, calcite 10%, pyrite trace
	10	SST		Sandstone, light-medium brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 30% silt, 50% very fine sand, well sorted, rounded, sub-spherical, ACCESSORIES: argillaceous 25%, coal 10%, quartz 25%, POROSITY: inter-granular, trace
1590	20	CLYST		Claystone, off white & medium-light grey coloured, firm, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 50% clay, 40% silt, 10% very fine sand, ACCESSORIES: calcite trace
	80	SLTST		Siltstone, light/medium brown-cream coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: calcite 10%, pyrite trace, quartz 25%
1600	30	CLYST		Claystone, light, medium & pale grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt, ACCESSORIES: calcite 20%, pyrite trace
	70	SLTST		Siltstone, medium brown - cream coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, trace fine sand, ACCESSORIES: calcite 10%, fossils trace, pyrite trace
1610	30	CLYST		Claystone, off white, light grey-blue grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 70% clay, 10% silt,

				ACCESSORIES: calcite 20%
	30	SLTST		Siltstone, dark brown-grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 50% silt, 10% very fine sand, ACCESSORIES: calcite 20%
	40	SST		Sandstone, light-medium brown coloured, soft-friable, blocky fracture, CALCAREOUS GRAINS: 15% clay CLASTIC GRAINS: 20% silt, 50% very fine sand, 30% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcite/moderate, ACCESSORIES: calcite 15%, forams trace, fossils 3%, POROSITY: inter-granular, 5%
1620	20	VOLTUF		Volcanic Tuff, medium grey, occasional specks coloured, moderately hard, blocky fracture CLASTIC GRAINS: 100% clay, trace silt, trace very fine sand
	20	CLYST		Claystone, light grey-pale blue grey coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 70% clay, 20% silt, ACCESSORIES: calcite 10%
	60	SLTST		Siltstone, medium & occasionally light brown coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 50% silt, 40% very fine sand, trace fine sand, ACCESSORIES: fossils trace, forams trace, pyrite trace
1630	20	VOLTUF		Volcanic Tuff, medium grey, occasional specks coloured, moderately hard, blocky fracture CLASTIC GRAINS: 100% clay, trace silt, trace very fine sand
	80	SLTST	sandy	Siltstone, sandy, cream-medium brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 50% silt, 20% very fine sand, ACCESSORIES: pyrite trace, fossils trace, glauconite trace
1640	20	VOLTUF		Volcanic Tuff, light-pale blue grey, mottled white coloured, moderately hard, sub-blocky fracture CLASTIC GRAINS: 100% clay, trace silt, trace very fine sand
	20	CLYST		Claystone, light brown-cream coloured, very soft, dispersive, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 60% clay, 20% silt, ACCESSORIES: calcite 20%
	60	SLTST		Siltstone, medium - dark brown coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 10% clay, 50% silt, 30% very fine sand, ACCESSORIES: fossils trace, glauconite trace, pyrite trace
1650	20	VOLTUF		Volcanic Tuff, light-pale blue grey, mottled white coloured, moderately hard, sub-blocky fracture CLASTIC GRAINS: 100% clay, trace silt, trace very fine sand, CALCIMETERY: 11% calcite, 2% dolomite
	50	SLTST	calc	Siltstone, calcareous, light-medium mottled brown coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 30% clay CLASTIC GRAINS: 20% clay, 50% silt, ACCESSORIES: quartz trace, pyrite trace
	30	SST		Sandstone, light-medium brown coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 10% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular,

				sub-spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/weak, ACCESSORIES: glauconite trace, pyrite trace, fossils trace, POROSITY: inter-granular, 3%
1660	20	VOLTUF		Volcanic Tuff, light-pale blue grey, mottled white coloured, moderately hard, sub-blocky fracture CLASTIC GRAINS: 100% clay, trace silt, trace very fine sand
	50	SLTST		Siltstone, light-medium mottled brown coloured, very soft, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 50% silt, ACCESSORIES: quartz trace, pyrite trace
	30	SST		Sandstone, light-medium brown coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 10% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/weak, ACCESSORIES: glauconite trace, pyrite trace, fossils trace, POROSITY: inter-granular, 3%
1670	60	SST		Sandstone, mottled medium-light brown cream coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 10% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/weak, ACCESSORIES: glauconite trace, quartz 25%, fossils trace, CALCIMETERY: 32% calcite, 2% dolomite, POROSITY: inter-granular, 5%
	30	SLTST		Siltstone, dark/medium brown-grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 30% clay CLASTIC GRAINS: 10% clay, 60% silt, ACCESSORIES: calcite 20%, pyrite trace
	10	CLYST		Claystone, light brown-cream/off white coloured, very soft, dispersive, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 60% clay, 20% silt, ACCESSORIES: calcite 20%
1680	60	SST		Sandstone, mottled medium-light brown cream coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/weak, ACCESSORIES: glauconite trace, quartz 25%, fossils trace, POROSITY: inter-granular, 5%
	40	SLTST		Siltstone, dark/medium brown-grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 50% silt, ACCESSORIES: calcite 20%, pyrite trace
	10	CLYST		Claystone, light brown-cream/off white coloured, very soft, dispersive, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 60% clay, 20% silt, ACCESSORIES: calcite 20%
1690	50	SST		Sandstone, mottled medium-light brown cream coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-

				spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/weak, ACCESSORIES: glauconite trace, quartz 25%, fossils trace, POROSITY: inter-granular, 5%
	40	SLTST		Siltstone, dark/medium brown-grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 50% silt, ACCESSORIES: calcite 20%, pyrite trace
	10	CLYST		Claystone, light brown-cream/off white coloured, very soft, dispersive, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 60% clay, 20% silt, ACCESSORIES: calcite 20%
1700	60	SST		Sandstone, light brown off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 10% silt, 40% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, quartz 25%, CALCIMETERY: 40% calcite, 1% dolomite, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, dark/medium brown-grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 50% silt, ACCESSORIES: calcite 10%, glauconite trace
1710	60	SST		Sandstone, light brown off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25% POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, dark/medium brown-grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 50% silt, ACCESSORIES: glauconite trace, calcite 20%
1720	60	SST		Sandstone, light brown off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, dark/medium brown-grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 50% silt, ACCESSORIES: glauconite trace, calcite 20%
1730	60	SST		Sandstone, light brown off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 3%, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, dark/medium brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 50% clay, 30% silt,

				ACCESSORIES: glauconite trace, calcite 20%, kaolinite trace
1740	60	SST		Sandstone, light brown off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite trace, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, dark/medium brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 50% clay, 30% silt, ACCESSORIES: glauconite trace, calcite 20%, kaolinite trace
1750	60	SST		Sandstone, light olive brown, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, dark/medium brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 50% clay, 30% silt, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1760	60	SST		Sandstone, light brown off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, dark/medium brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 50% clay, 30% silt, ACCESSORIES: glauconite trace, calcite 20%, kaolinite trace
1770	40	SST		Sandstone, light olive brown, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, CALCIMETERY: 30% calcite, 2% dolomite, POROSITY: inter-granular, 3%
	60	SLTST		Siltstone, dark/medium brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 50% clay, 30% silt, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1780	60	SST		Sandstone, light olive brown, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS:

				calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, dark/medium brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 50% clay, 30% silt, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1790	60	SST		Sandstone, light olive brown, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, light - dark brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 30% silt, 20% very fine sand, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1800	40	SST		Sandstone, light olive brown, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	60	SLTST		Siltstone, light - dark brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 30% silt, 20% very fine sand, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1810	40	SST		Sandstone, light olive brown, off white coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	60	SLTST		Siltstone, light - dark brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 30% silt, 20% very fine sand, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1820	60	SST		Sandstone, brownish grey, off white/grey coloured, soft-friable, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, CALCIMETERY: 27% calcite, 3% dolomite, POROSITY: inter-granular, 3%
	40	SLTST		Siltstone, light - dark brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 30% silt, 20% very fine sand, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace

1830	30	SST		Sandstone, brownish grey, off white/grey coloured, soft-friable, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	70	SLTST		Siltstone, brown grey coloured, loose-soft, amorphous fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 20% silt, 30% very fine sand, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1840	30	SST		Sandstone, brownish grey, off white/grey coloured, soft-friable, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	70	SLTST		Siltstone, brown grey coloured, loose-soft, amorphous fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 20% silt, 30% very fine sand, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1850	50	SST		Sandstone, brownish grey, off white/grey coloured, soft-friable, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, dolomite/strong, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, POROSITY: inter-granular, 3%
	50	SLTST		Siltstone, brown grey coloured, loose-soft, amorphous fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 20% silt, 30% very fine sand, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1860	40	SST		Sandstone, brownish grey, off white/grey coloured, soft-friable, blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, dolomite/strong, ACCESSORIES: glauconite trace, calcite 25%, kaolinite 5%, CALCIMETERY: 15% calcite, 4% dolomite, POROSITY: inter-granular, 3%
	60	SLTST		Siltstone, brown grey coloured, loose-soft, amorphous fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 20% silt, 30% very fine sand, ACCESSORIES: glauconite trace, calcite 20%, pyrite trace
1870	60	SLTST		Siltstone, dark-medium brown coloured, loose-soft, amorphous fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 50% silt, 10% very fine sand, ACCESSORIES: quartz 10%, calcite 20%
	40	SST		Sandstone, medium-light brown coloured, soft, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine

				sand, trace fine sand, moderately sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, dolomite/strong, ACCESSORIES: kaolinite 10%, pyrite trace, glauconite trace, POROSITY: inter-granular, 3%
1880	40	SLTST		Siltstone, dark-medium brown coloured, loose-soft, amorphous fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 50% silt, 10% very fine sand, ACCESSORIES: quartz 10%, calcite 20%, kaolinite 10%
	60	SST		Sandstone, medium-light brown coloured, soft, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 10% clay, 20% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, dolomite/strong, ACCESSORIES: fossils trace, pyrite trace, quartz 25%, POROSITY: inter-granular, 3%
1890	40	SLTST		Siltstone, light-medium & dark brown coloured, loose-soft, amorphous fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 50% silt, 10% very fine sand, ACCESSORIES: quartz 10%, calcite 20%, kaolinite 10%
	60	SST		Sandstone, light-medium brown & cream coloured, soft-friable, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 10% clay, 20% silt, 30% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, dolomite/strong, ACCESSORIES: fossils trace, pyrite trace, quartz 25%, POROSITY: inter-granular, 3%
1900	70	SLTST		Siltstone, light-medium & dark brown coloured, loose-soft, amorphous fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 50% silt, 10% very fine sand, ACCESSORIES: quartz 10%, calcite 20%, kaolinite 10%
	30	SST		Sandstone, light-medium brown & cream coloured, soft-friable, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 10% clay, 20% silt, 30% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcareous/weak, argillaceous/weak, dolomite/strong, ACCESSORIES: fossils trace, pyrite trace, quartz 25%, POROSITY: inter-granular, 3%
1910	90	SST		Sandstone, light-medium brown coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 15% clay CLASTIC GRAINS: 5% clay, 30% silt, 40% very fine sand, 10% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/moderate, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	10	SLTST		Siltstone, dark-light brown & grey coloured, friable-firm, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 10% clay, 50% silt, 20% very fine sand, ACCESSORIES: quartz 10%, pyrite trace

1920	20	SST		Sandstone, light-medium brown coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 15% clay CLASTIC GRAINS: 5% clay, 30% silt, 40% very fine sand, 10% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/moderate, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	80	SLTST		Siltstone, dark-light brown & grey coloured, friable-firm, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 10% clay, 50% silt, 20% very fine sand, ACCESSORIES: quartz 10%, pyrite trace
1930	50	SLTST		Siltstone, medium-light brown & mottled white coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 30% clay, 40% silt, 10% very fine sand, ACCESSORIES: quartz 10%, pyrite trace, kaolinite 15%
	50	SST		Sandstone, light-medium brown coloured, moderately hard, blocky fracture, CALCAREOUS GRAINS: 20% clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcite/moderate, argillaceous/moderate, ACCESSORIES: fossils trace, pyrite trace POROSITY: inter-granular, trace
1940	90	SLTST		Siltstone, dark-medium grey brown coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 30% clay, 60% silt, 5% very fine sand, ACCESSORIES: quartz 15%, pyrite trace, dol trace, CALCIMETERY: 21% calcite, 4% dolomite
	10	SST		Sandstone, mottled light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace fine sand, moderately sorted, sub-angular, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: glauconite trace, argillaceous 25% POROSITY: inter-granular, trace
1950	80	SLTST		Siltstone, dark-medium grey brown coloured, very soft, amorphous fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 30% clay, 60% silt, 5% very fine sand, ACCESSORIES: quartz 15%, pyrite trace
	20	SST		Sandstone, mottled light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace fine sand, moderately sorted, sub-angular, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: glauconite trace, argillaceous 25% POROSITY: inter-granular, trace
1960	60	SLTST		Siltstone, light-predominantly medium brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 50% silt, 10% very fine sand, ACCESSORIES: pyrite trace, quartz 10%
	40	SST		Sandstone, off white, mottled brown coloured, firm, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 30% clay, 20% silt, 50% very

				fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: argillaceous 25%, pyrite trace POROSITY: inter-granular, trace
1970	70	SLTST		Siltstone, light-predominantly medium brown coloured, soft-friable, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 50% silt, 10% very fine sand, ACCESSORIES: pyrite trace, quartz 10%, fossils trace, CALCIMETERY: 13% calcite, 4% dolomite
	30	SST		Sandstone, off white, mottled brown coloured, firm, sub-blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 30% clay, 20% silt, 50% very fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: argillaceous 25%, pyrite trace, glauconite trace, POROSITY: inter-granular, trace
1980	70	SST		Sandstone, medium-light brown coloured, firm, blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: fossils trace, glauconite trace POROSITY: inter-granular, 3%
	20	SLTST		Siltstone, medium-dark grey brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 30% clay, 50% silt, 15% very fine sand, ACCESSORIES: kaolinite 15%, pyrite trace, quartz 10%
1990	60	SST		Sandstone, medium-light brown coloured, firm, blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: fossils trace, glauconite trace POROSITY: inter-granular, 3%
	30	SLTST		Siltstone, medium-dark grey brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 30% clay, 50% silt, 15% very fine sand, ACCESSORIES: kaolinite 15%, pyrite trace, quartz 10%
2000	70	SST		Sandstone, mottled light-medium brown coloured, moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace
	30	SLTST		Siltstone, medium-dark grey brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 50% silt, 10% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%
2010	40	SST		Sandstone, mottled light-medium brown coloured, moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace

	60	SLTST		Siltstone, medium-dark grey brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 50% silt, 10% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%
2020	40	SST		Sandstone, mottled light-medium brown coloured, moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace
	60	SLTST		Siltstone, brownish grey, olive brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%, pyrite trace
2025	20	SST		Sandstone, mottled light-medium brown coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace
	80	SLTST		Siltstone, brownish grey, olive brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%, pyrite trace
2035	20	SST		Sandstone, light grey brown, cream/light grey brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 30% silt, 25% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/weak, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace
	80	SLTST		Siltstone, brownish grey, olive brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%, pyrite trace
2040	30	SST		Sandstone, light grey brown, cream/light grey brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 30% silt, 25% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/weak, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace
	70	SLTST		Siltstone, brownish grey, olive brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%, pyrite trace
	tr	SLTST		Siltstone, dark grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
2046	30	SST		Sandstone, light grey brown, cream/light grey brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 30%

				silt, 25% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/weak, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace
	60	SLTST		Siltstone, brownish grey, olive brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%, pyrite trace
	10	SLTST		Siltstone, dark grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
2052	30	SST		Sandstone, light grey brown, cream/light grey brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 30% silt, 25% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/weak, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace
	50	SLTST		Siltstone, brownish grey, olive brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%, pyrite trace
	20	SLTST		Siltstone, dark grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
2058	30	SST		Sandstone, light grey brown, cream/light grey brown coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 30% silt, 25% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/weak, ACCESSORIES: pyrite 3%, glauconite trace POROSITY: inter-granular, trace
	40	SLTST		Siltstone, brownish grey, olive brown coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 10% clay CLASTIC GRAINS: 30% clay, 40% silt, 20% very fine sand, ACCESSORIES: quartz 5%, kaolinite 10%, pyrite trace
	30	SLTST		Siltstone, dark grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
2064	40	SST		Sandstone, olive grey, brown grey coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 20% silt, 35% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/weak, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	60	SLTST		Siltstone, dark grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: mica trace, carbonaceous trace
2070	40	SST		Sandstone, olive grey, brown grey coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 20% silt, 35% very fine sand, well sorted, sub-rounded, sub-spherical,

				CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/weak, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	60	SLTST		Siltstone, dark grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: mica trace, carbonaceous trace
	tr	DOL		Dolomite, light brown / tan coloured, moderately hard, blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, ACCESSORIES: argillaceous 10%
2076	50	SST		Sandstone, olive grey, brown grey coloured, friable-firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 40% clay, 20% silt, 35% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/weak, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	50	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: mica trace, carbonaceous matter trace, forams trace
	tr	DOL		Dolomite, light brown / tan coloured, hard, blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, ACCESSORIES: argillaceous 10%
2082	40	SST		Sandstone, light brown grey, light brown/grey coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 25% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/strong, calcareous/strong, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	60	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: mica trace, carbonaceous matter trace, forams trace
	tr	DOL		Dolomite, light brown / tan coloured, hard, blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, ACCESSORIES: argillaceous 10%
2088	30	SST		Sandstone, light brown grey coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 25% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/strong, calcareous/strong, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	70	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: mica trace, carbonaceous matter trace, forams trace
	tr	DOL		Dolomite, light brown / yellow/brown coloured, hard, blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, ACCESSORIES: argillaceous 10%
2091	30	SST		Sandstone, light brown grey coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 25% clay, 30%

				silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/strong, calcareous/strong, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	70	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: mica trace, carbonaceous matter trace, forams trace
2094	20	SST		Sandstone, light brown, light brown/grey coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 25% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/strong, calcareous/strong, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	80	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: mica trace, carbonaceous matter trace, forams trace
2097	10	SST		Sandstone, light brown, light brown/grey coloured, firm to moderately hard, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 25% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/strong, calcareous/strong, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	90	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: mica trace, carbonaceous 5%, forams trace
2100	20	SST		Sandstone, light brown/grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 25% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/strong, calcareous/strong, ACCESSORIES: pyrite 3%, glauconite trace, forams trace, POROSITY: inter-granular, trace
	80	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: mica trace, carbonaceous 10%, forams trace
2103	10	SST		Sandstone, light brown/grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 25% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/strong, calcareous/strong, ACCESSORIES: pyrite trace, glauconite trace, forams trace, POROSITY: inter-granular, trace
	90	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: mica trace, carbonaceous 10%, forams trace

2106	20	SST		Sandstone, light brown/grey coloured, firm, blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 35% clay, 10% silt, 50% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, dolomite/moderate, calcareous/strong, ACCESSORIES: pyrite trace, glauconite trace, forams trace, POROSITY: inter-granular, trace
	80	SLTST		Siltstone, dark grey, greyish/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: mica trace, carbonaceous 10%, forams trace
2112	80	SLTST		Siltstone, dark grey-medium brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: sandy trace, carbonaceous 10%
	20	SST		Sandstone, medium brown-light grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 30% clay, 15% silt, 50% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, calcite/moderate, ACCESSORIES: pyrite trace, forams trace, carbonaceous 10%, POROSITY: inter-granular, trace
2118	90	SLTST		Siltstone, dark grey-medium brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: sandy trace, carbonaceous 10%
	10	SST		Sandstone, medium brown-light grey coloured, soft, sub-blocky fracture, CALCAREOUS GRAINS: 5% clay CLASTIC GRAINS: 30% clay, 15% silt, 50% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, calcite/moderate, ACCESSORIES: pyrite trace, forams trace, carbonaceous 10%, POROSITY: inter-granular, trace
2124	70	SLTST		Siltstone, dark grey & minor dark brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: carbonaceous 3%, argillaceous 10%
	30	SST		Sandstone, light-medium brown coloured, very soft, dispersive fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: pyrite trace, quartz POROSITY: inter-granular, trace
2127	70	SLTST		Siltstone, dark grey & minor dark brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: carbonaceous 3%, argillaceous 10%
	30	SST		Sandstone, light-medium brown coloured, very soft, dispersive fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: pyrite trace, quartz POROSITY: inter-granular, trace
2130	90	SLTST		Siltstone, very dark-dark grey coloured, firm to moderately hard, sub-fissile fracture CLASTIC

				GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: argillaceous 20%, carbonaceous 5%
	10	SST		Sandstone, light-medium brown coloured, friable-firm, blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: fossils trace, pyrite trace POROSITY: inter-granular, trace
2133	90	SLTST		Siltstone, very dark-dark grey coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: argillaceous 20%, carbonaceous 5%
	10	SST		Sandstone, light-medium brown coloured, friable-firm, blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderate, ACCESSORIES: fossils trace, pyrite trace POROSITY: inter-granular, trace
2136	90	SLTST		Siltstone, very dark grey - brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: argillaceous 10%, carbonaceous 10%, pyrite trace
	10	SST		Sandstone, light brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: trace clay, 10% silt, 80% very fine sand, 10% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, dolomite/moderate, ACCESSORIES: quartz 20%, fossils trace, pyrite trace, POROSITY: inter-granular, 5%
2139	70	SLTST		Siltstone, very dark grey - brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: argillaceous 10%, carbonaceous 10%, pyrite trace
	20	SST		Sandstone, light brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 50% very fine sand, trace fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, dolomite/trace, ACCESSORIES: argillaceous 20%, fossils trace, pyrite trace, POROSITY: inter-granular, trace
	10	COAL		Coal, black, waxy-vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, 5% silt, ACCESSORIES: argillaceous trace
2142	90	SLTST		Siltstone, dark-very dark grey brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: argillaceous 20%, carbonaceous 3%
	10	SST		Sandstone, medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, dolomite/moderate, ACCESSORIES: fossils trace, glauconite trace, pyrite trace, POROSITY: inter-granular, trace

2148	90	SLTST		Siltstone, dark-very dark grey brown coloured, friable-firm, sub-fissile fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 30% clay, 50% silt, 10% very fine sand, ACCESSORIES: argillaceous 20%, carbonaceous 3%
	10	SST		Sandstone, light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 15% silt, 50% very fine sand, 5% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, dolomite/moderate, ACCESSORIES: fossils trace, glauconite trace, pyrite trace, POROSITY: inter-granular, 3%
2154	100	SLTST		Siltstone, medium dark grey-brown coloured, firm to moderately hard, sub-fissile fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 15% clay, 70% silt, 10% very fine sand, 5% fine sand, ACCESSORIES: calcite trace, carbonaceous matter trace, argillaceous 15%, CALCIMETERY: 3% calcite, 6% dolomite
2160	100	SLTST		Siltstone, medium dark grey-brown coloured, firm to moderately hard, sub-fissile fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 15% clay, 70% silt, 10% very fine sand, 5% fine sand, ACCESSORIES: calcite trace, carbonaceous matter trace, argillaceous 15%
2166	100	SLTST		Siltstone, black grey-dark brown, rarely light grey coloured, firm, sub-fissile fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 20% clay, 60% silt, 15% very fine sand, 5% fine sand, ACCESSORIES: calcite trace, pyrite trace, carbonaceous matter trace
2172	90	SLTST		Siltstone, black grey-dark brown, rarely light grey coloured, firm, sub-fissile fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 20% clay, 60% silt, 15% very fine sand, 5% fine sand, ACCESSORIES: calcite trace, pyrite trace, carbonaceous matter trace
	10	SST		Sandstone, medium brown coloured, firm to moderately hard, blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 20% clay, 10% silt, 60% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: calcareous/trace, silica/moderate, ACCESSORIES: pyrite trace, forams trace POROSITY: inter-granular, 3%
2178	80	SLTST		Siltstone, dark -medium grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: carbonaceous matter trace, argillaceous 20%
	20	SST		Sandstone, medium brown coloured, soft-friable, blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderate, ACCESSORIES: pyrite trace, glauconite trace, forams trace, POROSITY: inter-granular, trace
2184	90	SLTST		Siltstone, dark -medium grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 70%

				silt, 10% very fine sand, ACCESSORIES: carbonaceous matter trace, argillaceous 20%
	10	SST		Sandstone, medium brown coloured, soft-friable, blocky fracture CALCAREOUS GRAINS: trace clay CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderate, ACCESSORIES: pyrite trace, glauconite trace, forams trace, POROSITY: inter-granular, trace
2190	100	SLTST		Siltstone, dark -medium grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: carbonaceous matter trace, argillaceous 20%
2196	100	SLTST		Siltstone, dark grey, greyish/black coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, argillaceous 20%, pyrite trace
2202	100	SLTST		Siltstone, dark grey, greyish/black coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, argillaceous 20%, pyrite trace
	tr	SST		Sandstone, light brown grey coloured, firm, blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, dolomite/moderate, ACCESSORIES: pyrite trace, forams trace, bryozoans trace, POROSITY: inter-granular, trace
2208	100	SLTST		Siltstone, dark grey, brownish grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, argillaceous 20%, pyrite trace
	tr	SST		Sandstone, light brown grey coloured, firm, blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, dolomite/moderate, ACCESSORIES: pyrite trace, forams trace, bryozoans trace, POROSITY: inter-granular, trace
2214	100	SLTST		Siltstone, dark grey, brownish grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, argillaceous 20%, pyrite trace
	tr	SST		Sandstone, light brown grey coloured, firm, blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, dolomite/moderate, ACCESSORIES: pyrite trace, forams trace, bryozoans trace, POROSITY: inter-granular, trace
2217	90	SLTST		Siltstone, dark grey, brownish grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, argillaceous 20%, pyrite trace
	10	SST		Sandstone, light brown grey, medium grey coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay,

				30% silt, 50% very fine sand, well sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: pyrite trace, forams trace, bryozoans trace, POROSITY: inter-granular, trace
CORE	#1			CORE 1
2238	80	SLTST		Siltstone, dark grey, brownish grey coloured, firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	20	SST		Sandstone, light yellow brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, forams trace, POROSITY: inter-granular, 3%
2244	40	SLTST		Siltstone, dark grey, brownish grey coloured, firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	60	SST		Sandstone, light yellow brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, forams trace, POROSITY: inter-granular, 3%
2250	40	SLTST		Siltstone, medium dark brown, grey black coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 25% clay, 70% silt, 5% very fine sand, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	60	SST		Sandstone, light yellow brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, forams trace, POROSITY: inter-granular, 3%
2256	50	SLTST		Siltstone, medium dark brown, grey black coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 25% clay, 70% silt, 5% very fine sand, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	50	SST		Sandstone, light yellow brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, forams trace, POROSITY: inter-granular, 3%
2262	60	SLTST		Siltstone, medium dark brown, grey black coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 25% clay, 70% silt, 5% very fine sand, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	50	SST		Sandstone, light yellow brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, moderately sorted, sub-

				rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, gastropods trace, POROSITY: inter-granular, 3%
2268	80	SLTST		Siltstone, brown grey, medium grey, grey black coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	20	SST		Sandstone, light yellow brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, gastropods trace, POROSITY: inter-granular, 3%
2274	90	SLTST		Siltstone, brown grey, medium grey, grey black coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	10	SST		Sandstone, light yellow brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, gastropods trace, POROSITY: inter-granular, 3%
	tr	DOL		Dolomite, light brown / tan coloured, moderately hard, blocky fracture CLASTIC GRAINS: 10% clay, 5% silt, ACCESSORIES: pyrite trace
2280	90	SLTST		Siltstone, brown grey, medium grey, grey black coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	10	SST		Sandstone, light yellow brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, gastropods trace, POROSITY: inter-granular, 3%
2286	50	SLTST		Siltstone, brown grey, medium grey, grey black coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	20	SST		Sandstone, light yellow brown, brown grey coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, trace medium sand, trace coarse sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	30	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2292	70	SLTST		Siltstone, brown grey, medium grey, grey black

				coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 3%, fossils trace, pyrite trace
	20	SST		Sandstone, light yellow brown, brown grey coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, trace medium sand, trace coarse sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	10	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2298	60	SLTST		Siltstone, brownish grey coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 55% silt, 5% very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	20	SST		Sandstone, light yellow brown, brown grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, trace medium sand, trace coarse sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	20	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2304	80	SLTST		Siltstone, brownish grey coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 55% silt, 5% very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	15	SST		Sandstone, light yellow brown, brown grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	5	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: 50% medium sand, 50% coarse sand, moderately sorted, angular, elongate, CEMENTS/STRENGTHS: argillaceous/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 15%
2310	70	SLTST		Siltstone, brownish grey coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 55% silt, 5% very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	15	SST		Sandstone, light yellow brown, brown grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%

	5	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: 50% medium sand, 50% coarse sand, moderately sorted, angular, elongate, CEMENTS/STRENGTHS: argillaceous/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 15%
	10	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2316	80	SLTST		Siltstone, brownish grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	20	SST		Sandstone, brownish grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	tr	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: 50% medium sand, 50% coarse sand, moderately sorted, angular, elongate, CEMENTS/STRENGTHS: silica/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 15%
2322	90	SLTST		Siltstone, brownish grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	10	SST		Sandstone, brownish grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	tr	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: trace clay, 50% medium sand, 50% coarse sand, moderately sorted, angular, elongate, CEMENTS/STRENGTHS: silica/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 15%
2325	80	SLTST		Siltstone, brownish grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 80% silt, trace very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	15	SST		Sandstone, brownish grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	5	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: trace clay, 50% medium sand, 50% coarse sand, moderately sorted, angular, elongate, CEMENTS/STRENGTHS: silica/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 15%
2328	80	SLTST		Siltstone, brownish grey coloured, soft-friable, sub-

				fissile fracture CLASTIC GRAINS: 30% clay, 80% silt, trace very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	15	SST		Sandstone, brownish grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	5	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: trace clay, 20% medium sand, 70% coarse sand, 10% very coarse sand, poorly sorted, angular, elongate, CEMENTS/STRENGTHS: silica/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 20%
2334	40	SLTST		Siltstone, brownish grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 80% silt, trace very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	5	SST		Sandstone, brownish grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, calcareous/weak, ACCESSORIES: pyrite trace, fossils trace, glauconite trace, POROSITY: inter-granular, 5%
	55	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: trace clay, 20% medium sand, 70% coarse sand, 10% very coarse sand, poorly sorted, angular, elongate, CEMENTS/STRENGTHS: silica/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 20%
2340	70	SLTST		Siltstone, brownish grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 80% silt, trace very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	tr	SST		Sandstone, brownish grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 50% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, silica/weak, ACCESSORIES: pyrite trace, fossils trace POROSITY: inter-granular, 5%
	10	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: trace clay, 20% medium sand, 70% coarse sand, 10% very coarse sand, poorly sorted, angular, elongate, CEMENTS/STRENGTHS: silica/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 20%
	20	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2343	50	SLTST		Siltstone, brownish grey, brown/black coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, trace very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	30	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: trace clay, 20% medium sand, 70% coarse sand, 10% very coarse sand, poorly

				sorted, angular, elongate, CEMENTS/STRENGTHS: silica/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 20%
	20	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2347	60	SLTST		Siltstone, brownish grey, brown/black coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, trace very fine sand, ACCESSORIES: carbonaceous 3%, mica trace, pyrite trace
	30	SST		Sandstone, clear, translucent coloured, loose CLASTIC GRAINS: trace clay, 20% medium sand, 70% coarse sand, 10% very coarse sand, poorly sorted, angular, elongate, CEMENTS/STRENGTHS: silica/trace, pyrite/trace, ACCESSORIES: pyrite trace POROSITY: inter-granular, 20%
	10	SST		Sandstone, brownish grey, off white/grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 50% very fine sand, 10% fine sand, well sorted, rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, silica/weak, ACCESSORIES: pyrite trace, fossils trace POROSITY: inter-granular, 5%
2349		CMT		Cement from 9.625 casing
2355	10	COAL		Coal, black-very dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 15% clay, 30% silt, trace very fine sand
	40	SLTST		Siltstone, dark brown-grey/black coloured, firm, blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite trace, pyrite trace, carbonaceous matter trace
	40	SST		Sandstone, light brown-cream, translucent coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 30% clay, 10% silt, 30% very fine sand, 15% fine sand, 10% medium sand, 5% coarse sand, poorly sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25%, pyrite trace POROSITY: inter-granular, trace
2361	10	COAL		Coal, black-very dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 15% clay, 30% silt, trace very fine sand
	30	SLTST		Siltstone, dark brown-grey/black coloured, firm, blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: calcite trace, pyrite trace, carbonaceous matter trace
	60	SST		Sandstone, light brown-cream, translucent coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 30% clay, 10% silt, 30% very fine sand, 15% fine sand, 10% medium sand, 5% coarse sand, poorly sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25%, pyrite trace POROSITY: inter-granular, trace
2370	40	SLTST		Siltstone, medium-dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: pyrite trace, coal 5%
	60	SST		Sandstone, light brown-cream coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 40% clay,

				20% silt, 30% very fine sand, 20% fine sand, 10% medium sand, poorly sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2376	10	COAL		Coal, black-dark brown coloured, firm, blocky fracture CLASTIC GRAINS: 10% clay, trace silt
	40	SLTST		Siltstone, medium-dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, pyrite trace
	60	SST		Sandstone, cream-light brown, off white coloured, firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 50% very fine sand, 10% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25%, pyrite trace POROSITY: inter-granular, 5%
2382	30	COAL		Coal, black - vitreous coloured, friable-firm, blocky fracture CLASTIC GRAINS: trace clay
	30	SLTST		Siltstone, medium-dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, pyrite trace
	40	SST		Sandstone, light brown/grey-cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, 20% fine sand, trace medium sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25%, pyrite trace POROSITY: inter-granular, 3%
2388	20	COAL		Coal, black - vitreous coloured, friable-firm, blocky fracture CLASTIC GRAINS: trace clay
	40	SLTST		Siltstone, medium-dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous trace
	40	SST		Sandstone, light brown/grey-cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, 10% fine sand, trace coarse sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
2394	10	COAL		Coal, black, predominantly vitreous coloured, friable-firm, blocky fracture CLASTIC GRAINS: trace clay, 15% silt
	50	SLTST		Siltstone, medium-dark brown coloured, firm, sub-blocky fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: carbonaceous 3%, pyrite trace
	40	SST		Sandstone, light brown-cream, translucent coloured, very soft, dispersive fracture CLASTIC GRAINS: 30% clay, 10% silt, 40% very fine sand, 10% fine sand, trace coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: pyrite trace, kaolinite 25% POROSITY: inter-granular, trace
2400	60	SST		Sandstone, clear - translucent coloured, loose, dispersive fracture CLASTIC GRAINS: 10% clay,

				trace silt, 20% medium sand, 40% coarse sand, 30% very coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10% POROSITY: inter-granular, 15%
	40	SLTST		Siltstone, dark brown/black coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: coal 15%, carbonaceous trace
2406	100	SST		Sandstone, clear-translucent, off white coloured, loose, dispersive fracture CLASTIC GRAINS: 5% clay, 5% silt, 20% medium sand, 20% coarse sand, 40% very coarse sand, moderately sorted, angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 5% POROSITY: inter-granular, 10%
2412	80	SST		Sandstone, off white, clear & translucent coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 10% clay, 10% silt, 10% fine sand, 20% medium sand, 20% coarse sand, 30% very coarse sand, poorly sorted, angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 10% POROSITY: inter-granular, 10%
	20	SLTST		Siltstone, light grey/brown-occasionally dark brown coloured, firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 10%, coal 20%
2418	50	SST		Sandstone, light grey-brown & off white coloured, very soft, dispersive fracture CLASTIC GRAINS: 30% clay, 20% silt, 20% very fine sand, 10% coarse sand, 20% very coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 5%
	50	SLTST		Siltstone, dark & very dark brown, trace cream coloured, firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 10%, coal 10%
2424	70	SST		Sandstone, light grey-brown & off white coloured, very soft, dispersive fracture CLASTIC GRAINS: 30% clay, 20% silt, 20% very fine sand, 10% coarse sand, 20% very coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 5%
	30	SLTST		Siltstone, dark & very dark brown, trace cream coloured, firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 3%, coal trace
2430	30	COAL		Coal, black, vitreous-waxy coloured, firm, sub-fissile fracture CLASTIC GRAINS: trace clay, ACCESSORIES: argillaceous trace
	50	SLTST		Siltstone, medium-occasionally dark brown coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 50% silt, 30% very fine sand, ACCESSORIES: carbonaceous 10%
	20	SST		Sandstone, cream-light brown, translucent coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 20% clay, 10% silt, 40% very fine sand, 10% coarse

				sand, 20% very coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20% POROSITY: inter-granular, 10%
2436	60	SLTST		Siltstone, medium-occasionally dark brown coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 50% silt, 30% very fine sand, ACCESSORIES: carbonaceous 10%
	40	SST		Sandstone, cream-light brown, translucent coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 20% clay, 10% silt, 40% very fine sand, 10% coarse sand, 20% very coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20% POROSITY: inter-granular, 10%
2439	20	SLTST		Siltstone, medium-occasionally dark brown coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 50% silt, 30% very fine sand, ACCESSORIES: carbonaceous 10%
	80	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 50% clay, 10% silt, 30% very fine sand, 10% fine sand, trace coarse sand, trace very coarse sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 5%
2442	20	SLTST		Siltstone, medium-occasionally dark brown coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 50% silt, 30% very fine sand, ACCESSORIES: carbonaceous 10%
	80	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 50% clay, 10% silt, 30% very fine sand, 10% fine sand, trace coarse sand, trace very coarse sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 5%
2448	30	SLTST		Siltstone, medium-dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	70	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 50% clay, 10% silt, 30% very fine sand, 10% fine sand, trace coarse sand, trace very coarse sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 5%
2454	30	SLTST		Siltstone, medium-dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	70	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 50% clay, 10% silt, 30% very fine sand, 10% fine sand, trace coarse sand, trace very coarse sand, well sorted, sub-rounded, sub-spherical,

				CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 5%
2460	20	SLTST		Siltstone, medium-dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	80	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 50% clay, 10% silt, 30% very fine sand, 10% fine sand, trace coarse sand, trace very coarse sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 5%
2466	30	SLTST		Siltstone, medium-dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	60	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 5%
2472	30	SLTST		Siltstone, medium-dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	60	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 5%
	tr	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: 5% clay, trace silt
2478	70	SLTST		Siltstone, medium-dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	30	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 5%
2484	90	SLTST		Siltstone, medium-dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	10	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-

				granular, 5%
2490	90	SLTST		Siltstone, medium-occasionally dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 75% silt, 5% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	10	SST		Sandstone, white, off white coloured, soft-friable, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
2493	90	SLTST		Siltstone, medium- occasionally dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 75% silt, 5% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	10	SST		Sandstone, off white, light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 50% clay, 20% silt, 30% very fine sand, trace coarse sand, moderately sorted, sub-rounded, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
	tr	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: 5% clay, trace silt
2496	90	SLTST		Siltstone, medium grey coloured, very soft, sub-fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, trace very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	10	SST		Sandstone, off white coloured, soft, sub-blocky fracture CLASTIC GRAINS: 60% clay, 10% silt, 30% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
2499	95	SLTST		Siltstone, medium grey coloured, very soft, sub-fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, trace very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	5	SST		Sandstone, off white coloured, soft, sub-blocky fracture CLASTIC GRAINS: 60% clay, 10% silt, 30% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
2502	80	SLTST		Siltstone, medium grey coloured, very soft, sub-fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, trace very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	20	SST		Sandstone, off white coloured, soft, sub-blocky fracture CLASTIC GRAINS: 60% clay, 10% silt, 30% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
	tr	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: 5% clay, trace silt
2505	55	SLTST		Siltstone, medium grey coloured, very soft, sub-fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, trace very fine sand, ACCESSORIES: carbonaceous 10%,

				mica trace
	40	SST		Sandstone, off white coloured, soft, dispersive fracture CLASTIC GRAINS: 50% clay, 20% silt, 30% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
	5	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: 5% clay, trace silt
2508	60	SLTST		Siltstone, dark grey, brown/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 40% clay, 55% silt, 5% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	40	SST		Sandstone, off white coloured, soft, dispersive fracture CLASTIC GRAINS: 50% clay, 20% silt, 30% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
2511	40	SLTST		Siltstone, dark grey, brown/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 40% clay, 55% silt, 5% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	50	SST		Sandstone, off white coloured, soft, dispersive fracture CLASTIC GRAINS: 50% clay, 20% silt, 30% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
	5	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: 5% clay, trace silt
2517	40	SLTST		Siltstone, dark grey, brown/black coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 40% clay, 55% silt, 5% very fine sand, ACCESSORIES: carbonaceous 10%, mica trace
	60	SST		Sandstone, off white coloured, soft, dispersive fracture CLASTIC GRAINS: 50% clay, 20% silt, 30% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 50% POROSITY: inter-granular, 3%
	tr	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: 5% clay, trace silt
2523	30	COAL		Coal, dull black coloured, firm, blocky fracture CLASTIC GRAINS: 10% clay, trace silt, ACCESSORIES: argillaceous 10%
	40	SLTST		Siltstone, medium-dark grey/brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous trace
	30	SST		Sandstone, off white-light grey/brown coloured, soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2529	20	COAL		Coal, dull black coloured, firm, blocky fracture CLASTIC GRAINS: 10% clay, trace silt, ACCESSORIES: argillaceous 10%

	30	SLTST		Siltstone, medium-dark grey/brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous trace
	50	SST		Sandstone, off white-light grey/brown coloured, soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 10% fine sand, trace coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2535	20	COAL		Coal, black, dull-resinous coloured, firm, sub-fissile fracture CLASTIC GRAINS: trace clay, trace silt, ACCESSORIES: argillaceous trace
	30	SLTST		Siltstone, medium grey-brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: argillaceous 20%
	50	SST		Sandstone, light grey-off white, light brown coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 5% fine sand, 15% coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20% POROSITY: inter-granular, 5%
2541	30	COAL		Coal, black, vitreous-resinous coloured, firm, sub-fissile fracture CLASTIC GRAINS: trace silt, ACCESSORIES: argillaceous trace
	70	SST		Sandstone, off white-light grey/brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, 5% fine sand, 5% coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2547	10	COAL		Coal, black, vitreous-resinous coloured, firm, sub-fissile fracture CLASTIC GRAINS: trace silt, ACCESSORIES: argillaceous trace
	70	SST		Sandstone, off white-light grey/brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, 5% fine sand, 5% coarse sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
	20	SLTST		Siltstone, medium grey-brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: argillaceous 20%
2553	40	COAL		Coal, black, vitreous coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: trace clay, ACCESSORIES: argillaceous trace
	30	SLTST		Siltstone, medium grey-brown coloured, firm, blocky fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand
	40	SST		Sandstone, light brown-cream coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 10% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak,

				ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2559	40	SLTST		Siltstone, light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, trace fine sand, ACCESSORIES: carbonaceous matter trace
	60	SST		Sandstone, light brown-cream coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 10% silt, 40% very fine sand, 10% fine sand, trace coarse sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2562	10	COAL		Coal, black, vitreous-glassy coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	60	SLTST		Siltstone, light-medium brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous trace
	30	SST		Sandstone, light brown-cream coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 10% silt, 40% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2568	30	COAL		Coal, black, vitreous-glassy coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	60	SLTST		Siltstone, light-medium brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous trace
	10	SST		Sandstone, light brown-cream coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 10% silt, 40% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2574	30	COAL		Coal, black, vitreous coloured, firm, blocky fracture
	50	SLTST		Siltstone, medium brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: carbonaceous 3%
	20	SST		Sandstone, light brown-cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace coarse sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2580	10	COAL		Coal, black coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	50	SLTST		Siltstone, light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: carbonaceous trace
	40	SST		Sandstone, light brown-cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace coarse sand, well sorted, sub-rounded, sub-spherical,

				CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2586	50	COAL		Coal, black coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	40	SLTST		Siltstone, light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: carbonaceous trace
	10	SST		Sandstone, cream, off white-light brown coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 10% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2592	10	COAL		Coal, black coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	50	SLTST		Siltstone, light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: carbonaceous trace
	40	SST		Sandstone, cream, off white-light brown coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2598	50	COAL		Coal, black vitreous-dirty black coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	30	SLTST		Siltstone, medium-dark grey-brown coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous trace
	20	SST		Sandstone, medium-light brown/cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20% POROSITY: inter-granular, trace
2604	20	COAL		Coal, black vitreous-dirty black coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	60	SLTST		Siltstone, medium-dark grey-brown coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous trace
	20	SST		Sandstone, medium-light brown/cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 40% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20% POROSITY: inter-granular, trace
2610	20	COAL		Coal, black, predominantly vitreous coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	50	SLTST		Siltstone, dark-medium brown & grey coloured, friable-firm, blocky fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: carbonaceous trace

	30	SST		Sandstone, off white-light grey/brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 10% silt, 30% very fine sand, 20% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2616	20	COAL		Coal, black, predominantly vitreous coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	50	SLTST		Siltstone, dark-medium brown & grey coloured, friable-firm, blocky fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: carbonaceous trace
	30	SST		Sandstone, off white-light grey/brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 10% silt, 30% very fine sand, 20% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2622	90	SST		Sandstone, off white, cream-light brown coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, trace fine sand, trace coarse sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
	5	COAL		Coal, black vitreous-dirty black coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	5	SLTST		Siltstone, medium-dark grey-brown coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: carbonaceous trace
2628	40	SLTST		Siltstone, medium-dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, trace fine sand, ACCESSORIES: carbonaceous 3%
	60	SST		Sandstone, off white, cream-light brown coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, trace fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
	tr	COAL		Coal, black vitreous-dirty black coloured, firm, blocky fracture
2634	70	SST		Sandstone, off white, cream-light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
	30	SLTST		Siltstone, light/medium grey-brown coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, trace fine sand, ACCESSORIES: carbonaceous matter trace, coal 5%
2640	30	COAL		Coal, black, vitreous-glassy coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	40	SST		Sandstone, off white, cream-light brown coloured,

				soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
	30	SLTST		Siltstone, light/medium grey-brown coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, trace fine sand, ACCESSORIES: carbonaceous trace
2652	20	COAL		Coal, black, vitreous-resinous coloured, firm, blocky fracture trace silt
	50	SLTST		Siltstone, medium-dark brown, black specks coloured, friable-firm, blocky fracture CLASTIC GRAINS: 15% clay, 80% silt, 5% very fine sand, ACCESSORIES: carbonaceous trace
	30	SST		Sandstone, off white, cream-light brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 10% silt, 30% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2658	20	COAL		Coal, black, vitreous-resinous coloured, firm, blocky fracture trace silt
	50	SLTST		Siltstone, medium-dark brown, black specks coloured, friable-firm, blocky fracture CLASTIC GRAINS: 15% clay, 80% silt, 5% very fine sand, ACCESSORIES: carbonaceous trace
	30	SST		Sandstone, off white, cream-light brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 10% silt, 30% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2664	40	COAL		Coal, black, vitreous-glassy coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	40	SLTST		Siltstone, medium-dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: carbonaceous trace
	20	SST		Sandstone, off white, cream-light brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2670	30	SST		Sandstone, off white-light brown coloured, soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 30% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
	50	SLTST		Siltstone, light, medium & dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 20% clay, 50% silt, 30% very fine sand, trace fine sand, ACCESSORIES: carbonaceous 3%

	20	COAL		Coal, black, vitreous-glassy coloured, firm, blocky fracture trace silt, ACCESSORIES: argillaceous trace
2682	70	COAL		Coal, black, vitreous coloured, firm, blocky fracture
	15	SLTST		Siltstone, light, medium & dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: carbonaceous 3%
	15	SST		Sandstone, off white-light brown coloured, soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2688	70	COAL		Coal, black, vitreous coloured, firm, blocky fracture
	15	SLTST		Siltstone, light, medium & dark brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: carbonaceous 3%
	15	SST		Sandstone, off white-light brown coloured, soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2694	60	SLTST		Siltstone, medium-dark grey/brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 50% silt, 20% very fine sand, 10% fine sand, ACCESSORIES: carbonaceous 3%
	35	SST		Sandstone, off white-light grey/brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 10% clay, 20% silt, 60% very fine sand, 10% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 10% POROSITY: inter-granular, 5%
	5	COAL		Coal, black coloured, firm, blocky fracture trace silt
2700	50	SLTST		Siltstone, medium-dark grey/brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 50% silt, 20% very fine sand, 10% fine sand, ACCESSORIES: carbonaceous 3%
	40	SST		Sandstone, off white-light grey/brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 10% clay, 20% silt, 60% very fine sand, 10% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 10% POROSITY: inter-granular, 5%
	10	COAL		Coal, black coloured, firm, blocky fracture trace silt
2706	5	COAL		Coal, black coloured, firm, blocky fracture trace silt
	70	SLTST		Siltstone, medium-dark grey/brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: carbonaceous 5%
	25	SST		Sandstone, off white-light grey/brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 50% very fine sand, 10% fine sand, trace medium sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20%

				POROSITY: inter-granular, 3%
2712	70	SLTST		Siltstone, light, medium & dark grey-brown coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: carbonaceous trace
	30	SST		Sandstone, off white-light grey brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20% POROSITY: inter-granular, 3%
2718	80	SLTST		Siltstone, light, medium & dark grey-brown coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: carbonaceous trace
	20	SST		Sandstone, off white-light grey brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20% POROSITY: inter-granular, 3%
2724	10	COAL		Coal, black coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
	10	SST		Sandstone, light grey-off white coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, 10% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
	80	SLTST		Siltstone, medium-dark grey & brown coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 5%
2730	20	SST		Sandstone, light brown-cream coloured, very soft, dispersive fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, trace fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
	70	SLTST		Siltstone, black, dark brown-grey coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: carbonaceous 10%
	10	COAL		Coal, vitreous black coloured, firm, blocky fracture ACCESSORIES: argillaceous trace
2736	70	SLTST		Siltstone, dark brown & minor black coloured, moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: carbonaceous 3%, coal trace
	30	SST		Sandstone, light brown-grey, off white coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2742	5	COAL		Coal, vitreous black coloured, firm, blocky fracture

				CLASTIC GRAINS: trace clay, trace silt
	65	SLTST		Siltstone, dark brown & minor black coloured, moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: carbonaceous 3%, coal trace
	30	SST		Sandstone, light brown-grey, off white coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
2748	70	SLTST		Siltstone, dark brown-grey, black in part coloured, moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 50% silt, 30% very fine sand, trace fine sand, ACCESSORIES: carbonaceous trace
	30	SST		Sandstone, off white-light grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 10% silt, 50% very fine sand, 10% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
2754	60	SLTST		Siltstone, dark brown-grey, black in part coloured, moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 50% silt, 30% very fine sand, trace fine sand, ACCESSORIES: carbonaceous 3%
	30	SST		Sandstone, off white-light grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 10% silt, 50% very fine sand, 10% fine sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
	10	COAL		Coal, dull-vitreous black coloured, friable-firm, blocky fracture CLASTIC GRAINS: trace clay, 5% silt
2760	60	SLTST		Siltstone, dark grey-slightly dark brown coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 10% very fine sand, 10% fine sand, ACCESSORIES: mica trace, carbonaceous matter trace, coal 5%
	40	SST		Sandstone, medium brown-cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 15% silt, 30% very fine sand, 10% fine sand, 5% medium sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 20% POROSITY: inter-granular, 3%
2766	60	SLTST		Siltstone, dark grey-slightly dark brown coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 10% very fine sand, 10% fine sand, ACCESSORIES: mica trace, carbonaceous trace
	40	SST		Sandstone, translucent, off white-light brown coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 20% clay, 20% silt, 60% very fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10% POROSITY: inter-granular, 5%
2772	60	SLTST		Siltstone, dark grey-slightly dark brown coloured,

				moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 10% very fine sand, 10% fine sand, ACCESSORIES: mica trace, carbonaceous trace
	40	SST		Sandstone, translucent, off white-light brown coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 20% clay, 20% silt, 60% very fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10% POROSITY: inter-granular, 5%
	tr	COAL		Coal, dull-vitreous black coloured, friable-firm, blocky fracture CLASTIC GRAINS: trace clay, 5% silt
2778	30	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	20	SST		Sandstone, translucent, off white-light brown coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 20% clay, 20% silt, 60% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10% POROSITY: inter-granular, 5%
	50	COAL		Coal, vitreous black, sub vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay
2784	80	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	10	SST		Sandstone, translucent, off white-light brown coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 20% clay, 20% silt, 60% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10% POROSITY: inter-granular, 5%
	10	COAL		Coal, vitreous black, sub vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay
2790	70	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	30	SST		Sandstone, translucent, off white-light brown coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 20% clay, 20% silt, 60% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 15% POROSITY: inter-granular, 5%
	tr	COAL		Coal, vitreous black, sub vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay
2796	60	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	40	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 60% clay, 20% silt, 20% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS:

				argillaceous/trace, ACCESSORIES: kaolinite 40% POROSITY: inter-granular, 3%
2802	70	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	30	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 60% clay, 20% silt, 20% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 40% POROSITY: inter-granular, 3%
2808	80	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	20	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 60% clay, 20% silt, 20% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 40% POROSITY: inter-granular, 3%
2814	60	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	40	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 60% clay, 20% silt, 20% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 40% POROSITY: inter-granular, 3%
2820	70	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	30	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 25%, carbonaceous trace POROSITY: inter-granular, 3%
2826	80	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	20	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 20%, carbonaceous trace POROSITY: inter-granular, 3%
2832	40	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	60	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 10% clay,

				60% silt, 30% very fine sand, trace fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10%, carbonaceous trace POROSITY: inter-granular, 3%
2838	30	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	70	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 10% clay, 50% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10%, carbonaceous trace POROSITY: inter-granular, 3%
2844	40	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	60	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 10% clay, 40% silt, 50% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10%, carbonaceous trace POROSITY: inter-granular, 3%
2850	60	SLTST		Siltstone, dark grey, grey brown coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	20	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 10% clay, 40% silt, 50% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 10%, carbonaceous trace POROSITY: inter-granular, 3%
	20	CSLT	carb	Carbonaceous Siltstone, grey black, black coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: trace clay, 100% silt, trace very fine sand, ACCESSORIES: pyrite trace, mica trace
2856	80	SLTST		Siltstone, medium dark grey/brown coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	10	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 50% silt, 50% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite trace, carbonaceous trace POROSITY: inter-granular, 3%
	10	CSLT	carb	Carbonaceous Siltstone, grey black, black coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: trace clay, 100% silt, trace very fine sand, ACCESSORIES: pyrite trace, mica trace
2862	80	SLTST		Siltstone, medium dark grey/brown coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	10	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 50% silt, 50% very fine sand, well sorted, rounded, sub-spherical,

				CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite trace, carbonaceous trace POROSITY: inter-granular, 3%
	10	CSLT	carb	Carbonaceous Siltstone, grey black, black coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: trace clay, 100% silt, trace very fine sand, ACCESSORIES: pyrite trace, mica trace
2868	90	SLTST		Siltstone, medium dark grey/brown coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	10	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 50% silt, 50% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 3%, carbonaceous trace POROSITY: inter-granular, 3%
	tr	CSLT	carb	Carbonaceous Siltstone, grey black, black coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: trace clay, 100% silt, trace very fine sand, ACCESSORIES: pyrite trace, mica trace
2874	100	SLTST		Siltstone, medium dark grey/brown coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
2880	90	SLTST		Siltstone, medium dark grey/brown coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	10	SST		Sandstone, off white-very light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 50% silt, 50% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 3%, carbonaceous trace POROSITY: inter-granular, 3%
2886	60	SLTST		Siltstone, medium dark grey/brown coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	40	SST		Sandstone, white-off white coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 25%, carbonaceous trace POROSITY: inter-granular, 5%
2892	80	SLTST		Siltstone, dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
	20	SST		Sandstone, white-off white coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 25%, carbonaceous trace POROSITY: inter-granular, 5%
2904	90	SLTST		Siltstone, dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
	10	SST		Sandstone, white-off white coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, rounded, sub-

				spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: kaolinite 25%, carbonaceous trace POROSITY: inter-granular, 5%
	tr	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2910	70	SLTST		Siltstone, dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
	30	SST		Sandstone, light grey /brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 20% very fine sand, 20% fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, silica/weak, ACCESSORIES: kaolinite 5%, carbonaceous trace POROSITY: inter-granular, 5% FLUORESCENCE: 5%, dull yellow, patchy, slow direct cut, fast crush cut, moderately bright cream broken residue ring
2916	70	SLTST		Siltstone, medium - dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 90% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	30	SST		Sandstone, light grey /brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 20% very fine sand, 20% fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, silica/weak, ACCESSORIES: kaolinite 5%, carbonaceous trace POROSITY: inter-granular, 5%
2922	80	SLTST		Siltstone, medium - dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	20	SST		Sandstone, off white, light brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 20% very fine sand, 20% fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, silica/weak, ACCESSORIES: kaolinite 20%, carbonaceous trace POROSITY: inter-granular, 3%
2928	80	SLTST		Siltstone, medium - dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
	10	SST		Sandstone, off white, light brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 50% clay, 20% silt, 15% very fine sand, 15% fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, silica/weak, ACCESSORIES: kaolinite 25%, carbonaceous trace POROSITY: inter-granular, 3% FLUORESCENCE: 3%, very dull green, pin point, no direct cut, trace crush cut, moderately bright green/cream patchy film residue ring
	10	COAL		Coal, black coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2934	100	SLTST		Siltstone, medium - dark grey coloured, soft-friable, sub-fissile fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace

	tr	SST		Sandstone, off white, light brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 50% clay, 20% silt, 15% very fine sand, 15% fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, silica/weak, ACCESSORIES: kaolinite 25%, carbonaceous trace POROSITY: inter-granular, 3%
2940	90	SLTST		Siltstone, brownish grey coloured, very soft, fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, ACCESSORIES: mica trace, carbonaceous trace
	10	COAL		Coal, black, vitreous, sub-vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2946	60	SLTST		Siltstone, brownish grey coloured, very soft, fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, ACCESSORIES: mica trace, carbonaceous trace
	10	SST		Sandstone, off white, light brown coloured, soft-friable, amorphous fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, silica/weak, ACCESSORIES: kaolinite 10%, carbonaceous trace POROSITY: inter-granular, 3%
	30	COAL		Coal, black, vitreous ,sub-vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2949	90	SLTST		Siltstone, brownish grey coloured, very soft, fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, ACCESSORIES: mica trace, carbonaceous trace
	10	COAL		Coal, black, vitreous, sub-vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2952	90	SLTST		Siltstone, brownish grey coloured, very soft, fissile fracture CLASTIC GRAINS: 40% clay, 60% silt, ACCESSORIES: mica trace, carbonaceous trace
	10	COAL		Coal, black, vitreous, sub-vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
	tr	SST		Sandstone, off white, light brown coloured, soft-friable, amorphous fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, silica/weak, ACCESSORIES: kaolinite 10%, carbonaceous trace POROSITY: inter-granular, 3%
2958	100	SLTST		Siltstone, brown black, greyish black coloured, soft-friable, fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous 10%
	tr	COAL		Coal, black, vitreous, sub-vitreous coloured, firm, blocky fracture CLASTIC GRAINS: trace clay, trace silt
2964	100	SLTST		Siltstone, brown black, greyish black coloured, soft-friable, fissile fracture CLASTIC GRAINS: 15% clay, 85% silt, ACCESSORIES: mica trace, carbonaceous 5%
2970	100	SLTST		Siltstone, brown black, greyish black coloured, soft-friable, fissile fracture CLASTIC GRAINS: 15% clay, 85% silt, ACCESSORIES: mica trace, carbonaceous 5%

2976	100	SLTST		Siltstone, dark grey, greyish black coloured, soft-friable, fissile fracture CLASTIC GRAINS: 15% clay, 85% silt, ACCESSORIES: mica trace, carbonaceous trace
2982	30	COAL		Coal, very dark brown - black coloured, firm, irregular fracture CLASTIC GRAINS: trace silt
	70	SLTST	carb	Siltstone, carbonaceous, dark brown - black coloured, friable, sub-fissile fracture ACCESSORIES: mica trace, carbonaceous 20%
2988	5	COAL		Coal, very dark brown - black coloured, firm, irregular fracture CLASTIC GRAINS: trace silt
	15	SST		Sandstone, medium grey & medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20% POROSITY: inter-granular, trace
	80	SLTST	carb	Siltstone, carbonaceous, dark brown - black coloured, friable, sub-fissile fracture ACCESSORIES: mica trace, carbonaceous 20%
2994	5	COAL		Coal, black - vitreous coloured, firm, blocky fracture
	20	SLTST		Siltstone, light-very dark grey & black coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: carbonaceous 10%, coal 5%
	20	IGN		Igneous Intrusion, light brown-tan coloured, hard, irregular fracture ACCESSORIES: pyrite trace
	55	CLYST		Claystone, light grey-very pale blue grey coloured, friable-firm, blocky fracture CLASTIC GRAINS: 60% clay, 20% silt, 15% very fine sand, 5% fine sand, ACCESSORIES: sandy 5%
3000	30	SLTST		Siltstone, light-very dark grey & black coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: carbonaceous 10%, coal 5%
	70	IGN		Igneous Intrusion, mottled green, grey, black, tan coloured, hard, irregular fracture ACCESSORIES: pyrite trace
3006	15	SLTST		Siltstone, light-very dark grey & black coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: carbonaceous 10%
	5	COAL		Coal, black - vitreous coloured, firm, blocky fracture
	80	IGN		Igneous Intrusion, mottled green, grey, black, tan coloured, hard, irregular fracture ACCESSORIES: pyrite trace
3012	90	IGN		Igneous Intrusion, off white, dark green & black specks coloured, hard, irregular fracture ACCESSORIES: pyrite trace
	10	SLTST		Siltstone, dark grey-black coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: coal 20%, carbonaceous 10%
3018	95	IGN		Igneous Intrusion, dark mottled green black, off white coloured, hard-very hard, blocky fracture ACCESSORIES: pyrite trace
	5	COAL		Coal, black vitreous-dull, cavings coloured, firm, blocky fracture CALCAREOUS GRAINS: trace clay, ACCESSORIES: argillaceous trace

3024	100	IGN		Igneous Intrusion, dark mottled green black, off white coloured, hard, blocky fracture
3030	100	IGN		Igneous Intrusion, mottled black, green, cream, yellow coloured, hard, irregular fracture
3036	100	IGN		Igneous Intrusion, mottled black, green, cream, yellow coloured, hard, irregular fracture ACCESSORIES: pyrite trace
3042	100	IGN		Igneous Intrusion, light grey-off white with dark specks coloured, moderately hard-hard, irregular fracture ACCESSORIES: pyrite trace
3048	100	IGN		Igneous Intrusion, light grey-green grey, dark specks coloured, hard, irregular fracture
3054	100	IGN		Igneous Intrusion, cream-light grey, mottled green/black coloured, hard-very hard, irregular fracture
3060	80	IGN		Igneous Intrusion, light & dark green, black, cream coloured, hard-very hard, irregular fracture
	20	CLYST		Claystone, off white-light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 30% silt, 30% very fine sand, trace fine sand, ACCESSORIES: kaolinite 25%, coal trace
3066	80	SST		Sandstone, off white-very light grey coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 40% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25%, coal 5% POROSITY: inter-granular, trace
	20	IGN		Igneous Intrusion, light grey-green grey, dark specks coloured, hard, irregular fracture ACCESSORIES: pyrite trace
3072	100	SLTST	carb	Siltstone, carbonaceous, dark grey - black coloured, moderately hard-hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous 20%
3078	90	SLTST		Siltstone, very dark grey & brown coloured, moderately hard-hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous 5%
	10	SST		Sandstone, medium grey coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
3084	100	SLTST		Siltstone, medium-very dark grey & brown coloured, moderately hard-hard, sub-fissile fracture CLASTIC GRAINS: 15% clay, 80% silt, 5% very fine sand, ACCESSORIES: sandy 5%, mica trace
3096	100	SLTST		Siltstone, very dark grey, minor light grey coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, argillaceous trace
3102	100	SLTST		Siltstone, very dark-medium brown/grey coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace
	tr	COAL		Coal, black, vitreous coloured, firm, blocky fracture
3108	10	SST		Sandstone, light-medium brown coloured, friable-firm,

				sub-blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 50% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25%
	90	SLTST		Siltstone, very dark-medium brown/grey coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, pyrite trace
3114	100	SLTST		Siltstone, dark-medium grey/brown, trace light brown coloured, friable-firm, blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: coal trace, mica trace, pyrite trace
3120	100	SLTST		Siltstone, medium-dark brown coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace, coal trace
3126	100	SLTST		Siltstone, dark grey & brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 15% clay, 80% silt, 5% very fine sand, ACCESSORIES: argillaceous trace, carbonaceous trace
3132	100	SLTST		Siltstone, dark grey & brownish grey coloured, moderately hard, blocky fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, argillaceous trace
3138	100	SLTST		Siltstone, dark grey & brownish grey coloured, moderately hard, blocky fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, argillaceous trace
3144	100	SLTST		Siltstone, very dark brown, dark grey coloured, moderately hard-hard, blocky fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: argillaceous trace, mica trace
3147	90	SLTST		Siltstone, very dark grey-brown coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, coal trace
	10	SST		Sandstone, light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25% POROSITY: inter-granular, trace
3150	60	SLTST		Siltstone, very dark grey-brown coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, coal trace
	40	SST		Sandstone, light brown coloured, soft-friable, sub-blocky fracture CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 20% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20% POROSITY: inter-granular, 5% FLUORESCENCE: 5%, dull yellow, patchy, slow direct cut, spotted crush cut, moderately bright white, fast streaming cut, moderately bright yellow/green thick residue ring
3153	60	SST		Sandstone, cream, light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 15% clay, 20% silt, 50% very fine sand, 15% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak,

				ACCESSORIES: argillaceous 15% POROSITY: inter-granular, 5% FLUORESCENCE: 8%, dull yellow, patchy, slow direct cut, spotted crush cut, moderately bright white, fast streaming cut, moderately bright yellow/green thick residue ring
	40	SLTST		Siltstone, very dark grey-brown coloured, moderately hard, blocky fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace
3156	70	SST		Sandstone, cream, light-medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 15% clay, 20% silt, 50% very fine sand, 15% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 15% POROSITY: inter-granular, 5% FLUORESCENCE: 8%, dull yellow, patchy, slow direct cut, spotted crush cut, moderately bright white, fast streaming cut, moderately bright yellow/green thick residue ring
	30	SLTST		Siltstone, medium-very dark brown, slightly grey coloured, moderately hard-hard, blocky fracture CLASTIC GRAINS: 20% clay, 70% silt, 10% very fine sand, ACCESSORIES: mica trace
3159	40	SST		Sandstone, light-medium brown coloured, firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20% POROSITY: inter-granular, 3% FLUORESCENCE: 5%, dull yellow, patchy, slow direct cut, spotted crush cut, moderately bright white, fast streaming cut, moderately bright yellow/green thin residue ring
	60	SLTST		Siltstone, medium-very dark brown, slightly grey coloured, moderately hard-hard, blocky fracture CLASTIC GRAINS: 30% clay, 60% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3162	10	SST		Sandstone, light-medium brown coloured, firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20% POROSITY: inter-granular, 3%
	90	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
3168	20	SST		Sandstone, light-medium brown coloured, firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20% POROSITY: inter-granular, 3%
	80	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace, carbonaceous trace
3174	5	SST		Sandstone, light-medium brown coloured, firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted,

				sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 10% POROSITY: inter-granular, 3%
	95	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 5% clay, 85% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3180	20	SST		Sandstone, light-medium brown coloured, firm, sub-blocky fracture CLASTIC GRAINS: 10% clay, 20% silt, 50% very fine sand, 20% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 10% POROSITY: inter-granular, 5%
	80	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 5% clay, 85% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3183	20	SST		Sandstone, off white-light grey coloured, firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 20% silt, 20% very fine sand, 20% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 10%, carbonaceous trace POROSITY: inter-granular, 5% FLUORESCENCE: trace, dim yellow, pinpoint, no direct cut, no crush cut, dim yellow broken indistinct residue ring
	80	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 5% clay, 85% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3186	40	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25%, carbonaceous trace POROSITY: inter-granular, 8%, FLUORESCENCE: trace, dim yellow, pinpoint, no direct cut, no crush cut, dim yellow broken indistinct residue ring
	60	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 5% clay, 85% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3189	60	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 20% clay, 10% silt, 10% very fine sand, 50% fine sand, trace medium sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25%, carbonaceous trace POROSITY: inter-granular, 10%, FLUORESCENCE: 5%, dim yellow/green, pinpoint, very slow direct cut, trace dim yellow crush cut, dim yellow/cream broken indistinct residue ring
	40	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 5% clay, 85% silt, 10% very fine sand, ACCESSORIES: mica trace,

				carbonaceous trace
3192	70	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 20% clay, 10% silt, 10% very fine sand, 50% fine sand, trace medium sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25%, carbonaceous trace POROSITY: inter-granular, 10%, FLUORESCENCE: 20%, moderately bright yellow, spotted, fast direct cut, moderately bright streaming fast white crush cut, bright cream thick residue ring
	30	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 5% clay, 85% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3195	80	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 30% silt, 30% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 40%, carbonaceous trace POROSITY: inter-granular, 5%, FLUORESCENCE: 3%, dim yellow/green, pinpoint, very slow direct cut, dim trace yellow crush cut, dim yellow/cream broken indistinct residue ring
	20	SLTST		Siltstone, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 5% clay, 85% silt, 10% very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3198	40	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 30% silt, 30% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 40%, carbonaceous trace POROSITY: inter-granular, 3%
	60	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3204	30	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 40% silt, 30% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 30%, carbonaceous trace POROSITY: inter-granular, 3%
	70	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3210	10	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 40% silt, 30% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 30%, carbonaceous trace POROSITY: inter-granular, 3%
	90	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace,

				carbonaceous trace
3216	5	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 40% silt, 30% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25%, carbonaceous trace POROSITY: inter-granular, 3%
	95	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3222	30	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 50% clay, 20% silt, 30% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 40%, carbonaceous trace POROSITY: inter-granular, 3%
	70	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3228	40	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 30% silt, 30% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 40%, carbonaceous trace POROSITY: inter-granular, 3%
	60	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3234	20	SST		Sandstone, off white-light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 30% silt, 30% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 40%, carbonaceous trace POROSITY: inter-granular, 3%
	80	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3237	60	SST		Sandstone, off white-light grey/cream coloured, friable, sub-blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 50% very fine sand, 10% fine sand, trace coarse sand, trace very coarse sand, moderately sorted, sub-angular, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, silica/trace, ACCESSORIES: argillaceous 20% POROSITY: inter-granular, 5%, FLUORESCENCE: trace, dim green, pinpoint, no direct cut, no crush cut, dim yellow broken indistinct residue ring
	40	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3240	50	SST		Sandstone, off white-very light grey coloured, friable,

				sub-blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 50% very fine sand, 10% fine sand, trace coarse sand, moderately sorted, sub-angular, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, silica/trace, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 5%, FLUORESCENCE: trace, dim white/green, spotted, trace direct cut, off white, fast crush cut, moderately bright green/cream thin residue ring
	50	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3246	60	SST		Sandstone, off white-very light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, 50% very fine sand, 30% fine sand, trace coarse sand, moderately sorted, sub-angular, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, silica/trace, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 5%
	40	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3252	20	SST		Sandstone, off white-very light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, 50% very fine sand, 30% fine sand, trace coarse sand, moderately sorted, sub-angular, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, silica/trace, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 5%
	70	SST		Sandstone, clear, translucent, brown stained coloured, loose CLASTIC GRAINS: 10% medium sand, 50% coarse sand, 40% very coarse sand, poorly sorted, angular, elongate, silica/moderate, POROSITY: inter-granular, 25%
	10	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3258	20	SST		Sandstone, off white-very light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, 50% very fine sand, 30% fine sand, trace coarse sand, moderately sorted, sub-angular, sub-elongate, CEMENTS/STRENGTHS: argillaceous/weak, silica/trace, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 5%, FLUORESCENCE: 3%, dull green/cream, spotted, fast direct cut, trace dim white crush cut, dim yellow broken indistinct residue ring
	70	SST		Sandstone, clear, translucent, brown stained coloured, loose CLASTIC GRAINS: 10% medium sand, 50% coarse sand, 40% very coarse sand, poorly sorted, angular, elongate, silica/moderate, POROSITY: inter-granular, 25%
	10	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90%

				silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3264	50	SST		Sandstone, off white-very light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, 50% very fine sand, 30% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/trace, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 5%
	20	SST		Sandstone, clear, translucent, brown stained coloured, loose CLASTIC GRAINS: 10% medium sand, 50% coarse sand, 40% very coarse sand, poorly sorted, angular, elongate, silica/moderate, POROSITY: inter-granular, 25%
	30	SLTST		Siltstone, dark grey, very dark grey coloured, firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace, carbonaceous trace
3270	20	SST		Sandstone, off white-very light grey coloured, friable, sub-blocky fracture CLASTIC GRAINS: 10% clay, 10% silt, 40% very fine sand, 40% fine sand, trace coarse sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/trace, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 5%
	80	SLTST		Siltstone, medium-dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 90% silt, ACCESSORIES: mica trace
3276	50	SST		Sandstone, off white / light brown coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 3%
	50	SLTST		Siltstone, medium-dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 90% silt, ACCESSORIES: mica trace
3282	80	SST		Sandstone, off white / light brown coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 3%
	20	SLTST		Siltstone, medium-dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: mica trace
3288	30	SST		Sandstone, off white / light brown coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 3%
	70	SLTST		Siltstone, medium-dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: mica trace
3294	100	SLTST		Siltstone, medium-dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90%

				silt, trace very fine sand, ACCESSORIES: mica trace
3300	100	SLTST		Siltstone, dark grey /brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace
3306	90	SLTST		Siltstone, dark grey /brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace
	10	SST		Sandstone, off white / light brown coloured, friable, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 3%, FLUORESCENCE: 3%, moderately bright yellow/green, spotted, no direct cut, no crush cut, dim cream/yellow broken indistinct residue ring
3312	90	SLTST		Siltstone, dark grey /brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace
	10	SST		Sandstone, off white / very light brown coloured, friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20%, carbonaceous trace POROSITY: inter-granular, 3%
3318	100	SLTST		Siltstone, dark grey, brownish grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, trace very fine sand, ACCESSORIES: mica trace
	tr	SST		Sandstone, off white / v light brown coloured, friable, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20%, carbonaceous matter trace, pyrite trace, POROSITY: inter-granular, 3%
3324	100	SLTST		Siltstone, dark grey, brownish grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: mica trace
3330	100	SLTST		Siltstone, dark grey, brownish grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace
3336	100	SLTST		Siltstone, dark grey, brownish grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace
3342	100	SLTST		Siltstone, dark grey, brownish grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: mica trace
3354	100	SLTST		Siltstone, predominantly dark brown/grey coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: argillaceous 20%, mica trace
3360	100	SLTST		Siltstone, predominantly dark brown/grey coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 80% silt, trace very fine sand, ACCESSORIES: argillaceous 20%, mica trace

3366	100	SLTST		Siltstone, medium-dark grey, brown grey coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 25% clay, 70% silt, 5% very fine sand, ACCESSORIES: mica trace
3372	100	SLTST		Siltstone, medium-dark grey, brown grey coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 25% clay, 70% silt, 5% very fine sand, ACCESSORIES: mica trace
3384	80	SLTST		Siltstone, light grey brown - medium brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: mica trace
	20	SST		Sandstone, cream - light/medium brown coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 30% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25% POROSITY: inter-granular, 10%, FLUORESCENCE: 3%, dim olive, slow, pinpoint, direct cut, dull orange bleeding crush cut, dull orange residue ring
3387	60	SLTST		Siltstone, light grey brown - medium brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: mica trace
	40	SST		Sandstone, light brown coloured, firm, sub-blocky fracture CLASTIC GRAINS: 20% clay, 10% silt, 50% very fine sand, 20% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 20% POROSITY: inter-granular, 5%, FLUORESCENCE: 5%, pale brown, slow, pinpoint, direct cut, moderately bright white blooming crush cut, bright white residue ring
3390	50	SST		Sandstone, off white-cream/light brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 10% clay, 40% silt, 40% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 10% POROSITY: inter-granular, 5%, FLUORESCENCE: 5%, pale brown, slow, pinpoint, direct cut, moderately bright white blooming crush cut, bright white residue ring
	50	SLTST		Siltstone, predominantly medium grey/brown coloured, moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: mica trace
3399	80	SLTST		Siltstone, medium grey/brown coloured, firm to moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: mica trace
	20	SST		Sandstone, off white-cream/light brown coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 10% clay, 40% silt, 40% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 10% POROSITY: inter-granular, 3%
3402	95	SLTST		Siltstone, medium-dark brown/grey coloured, firm, sub-blocky fracture CLASTIC GRAINS: 30% clay,

				50% silt, 20% very fine sand, ACCESSORIES: mica trace
	5	SST		Sandstone, medium-light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 30% silt, 40% very fine sand, trace fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25% POROSITY: inter-granular, trace
3408	50	SLTST		Siltstone, dark grey-very dark brown coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: mica trace
	40	SST		Sandstone, clear, translucent-light brown coloured, loose, dispersive fracture CLASTIC GRAINS: 10% very fine sand, 30% fine sand, 40% medium sand, 20% coarse sand, trace very coarse sand, poorly sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: argillaceous trace POROSITY: inter-granular, 20%
	10	SST		Sandstone, cream-off white coloured, very soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
3411	60	SLTST		Siltstone, dark grey-very dark brown coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, ACCESSORIES: mica trace
	40	SST		Sandstone, cream-medium brown coloured, soft, dispersive fracture CLASTIC GRAINS: 30% clay, 10% silt, 40% very fine sand, 40% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
3417	70	SLTST		Siltstone, medium-dark brown, dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: mica trace
	30	SST		Sandstone, off white-light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 10% silt, 40% very fine sand, 20% fine sand, trace coarse sand, moderately sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 5%
3420	40	SST		Sandstone, clear & translucent - off white coloured, loose, dispersive fracture CLASTIC GRAINS: 30% medium sand, 40% coarse sand, 30% very coarse sand, moderately sorted, angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: argillaceous trace POROSITY: inter-granular, 20%
	20	SST		Sandstone, cream-off white coloured, very soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS:

				argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, trace
	40	SLTST		Siltstone, medium-dark brown, dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: mica trace
3423	60	SST		Sandstone, translucent, off white coloured, loose, dispersive fracture CLASTIC GRAINS: 10% fine sand, 20% medium sand, 30% coarse sand, 40% very coarse sand, poorly sorted, angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: argillaceous trace POROSITY: inter-granular, 20%
	20	SST		Sandstone, cream-light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25% POROSITY: inter-granular, trace
	20	SLTST		Siltstone, medium-dark brown, dark grey coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 10% clay, 80% silt, 10% very fine sand, ACCESSORIES: mica trace
3429	20	SST		Sandstone, translucent, off white coloured, loose, dispersive fracture CLASTIC GRAINS: 10% fine sand, 20% medium sand, 30% coarse sand, 40% very coarse sand, poorly sorted, angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: argillaceous trace POROSITY: inter-granular, 20%
	50	SST		Sandstone, cream-light brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25% POROSITY: inter-granular, trace
	30	SLTST		Siltstone, light, medium & dark brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, coal trace, mica trace
3432	30	SST		Sandstone, light/medium brown-cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
	50	SLTST		Siltstone, light, medium & dark brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 50% silt, 20% very fine sand, ACCESSORIES: carbonaceous matter trace, coal trace, mica trace
	20	SST		Sandstone, translucent - clear & light brown coloured, loose, dispersive fracture CLASTIC GRAINS: trace clay, 30% very fine sand, 20% fine sand, 10% medium sand, 10% coarse sand, 30% very coarse sand, very poorly sorted, angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: argillaceous trace POROSITY: inter-

				granular, 10%
3438	20	SST		Sandstone, translucent - clear & light brown coloured, loose, dispersive fracture CLASTIC GRAINS: trace clay, 10% silt, 50% very fine sand, 40% fine sand, trace coarse sand, trace very coarse sand, poorly sorted, angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/trace, ACCESSORIES: argillaceous trace POROSITY: inter-granular, 10%
	50	SLTST		Siltstone, dark-medium brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: mica trace
	30	SST		Sandstone, light/medium brown-cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
3444	40	SLTST		Siltstone, dark-medium brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 30% clay, 70% silt, trace very fine sand, ACCESSORIES: carbonaceous matter trace, mica trace, coal 5%
	60	SST		Sandstone, light/medium brown-cream coloured, soft, sub-blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
3447	40	SLTST		Siltstone, dark-medium brown coloured, friable-firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 80% silt, ACCESSORIES: carbonaceous matter trace, mica trace, coal 5%
	60	SST		Sandstone, light & medium brown coloured, soft, sub-blocky fracture CLASTIC GRAINS: 40% clay, 20% silt, 40% very fine sand, trace fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: kaolinite 25% POROSITY: inter-granular, 3%
3456	100	SLTST		Siltstone, dark grey & dark brown - black coloured, moderately hard, sub-fissile fracture CLASTIC GRAINS: 15% clay, 80% silt, 5% very fine sand, ACCESSORIES: mica trace, carbonaceous 3%, coal 5%
3459	80	SLTST		Siltstone, dark grey & dark brown coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, coal trace, carbonaceous matter trace
	20	SST		Sandstone, light-medium brown coloured, loose-soft, dispersive fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, trace fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, ACCESSORIES: argillaceous 25% POROSITY: inter-granular, 3%
3462	60	VOLALT		Altered Volcanics, mottled off white, light brown, dark grey coloured, moderately hard, blocky fracture

				CLASTIC GRAINS: 20% clay
	40	SLTST		Siltstone, dark grey & dark brown coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 70% silt, 20% very fine sand, ACCESSORIES: mica trace, coal trace, carbonaceous matter trace
3468	80	VOLALT		Altered Volcanics, white, pink, green grey, dark grey coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 40% clay
	20	SLTST		Siltstone, dark grey - black coloured, firm to moderately hard, sub-fissile fracture CLASTIC GRAINS: 10% clay, 90% silt, ACCESSORIES: coal trace, carbonaceous trace
3471	70	VOLALT		Altered Volcanics, white, pink, green grey, dark grey coloured, friable-firm, sub-blocky fracture CLASTIC GRAINS: 50% clay
	30	SLTST		Siltstone, dark grey, dark brown, black coloured, firm, sub-fissile fracture CLASTIC GRAINS: 20% clay, 60% silt, 20% very fine sand, ACCESSORIES: mica trace, coal trace, carbonaceous matter trace
3474	100	VOLALT		Altered Volcanics, mottled off white, yellow grey, pinkish grey, off white light grey, light brown, dark reddish brown, very soft, sub blocky to blocky, trace weathered pyroxene, olivine and feldspar, rare pyrite, slightly calcareous
3477	50	VOLALT		Altered Volcanics, reddish brown, light cream / grey, off white mottled light brown red, very soft, amorphous, trace weathered pyroxene, olivine and feldspar, rare pyrite, slightly calcareous, commonly weathered to clay
	50	VOL		Volcanic, green black, medium to coarse crystals of olivine, feldspar, pyroxene, biotite, olivine partially weathered to serpentinite
3480	60	VOLALT		Altered Volcanics, reddish brown, light cream / grey, off white mottled light brown red, very soft, amorphous, trace weathered pyroxene, olivine and feldspar, rare pyrite, slightly calcareous, commonly weathered to clay
	40	VOL		Volcanic, green black, medium to coarse crystals of olivine, feldspar, pyroxene, biotite, olivine partially weathered to serpentinite
3483	100	VOLALT		Altered Volcanics, reddish brown, light cream / grey, off white mottled light brown red, very soft, amorphous, trace weathered pyroxene, olivine and feldspar, rare pyrite, slightly calcareous, commonly weathered to clay
3486	100	VOLALT		Volcanic, green black, medium to coarse crystals of olivine, feldspar, pyroxene, biotite, olivine partially weathered to serpentinite
3489	100	VOLALT		Altered Volcanics, off white / green, off white mottled orange dull red, light brown mottled dark red, very soft, sub blocky to amorphous, trace weathered pyroxene, olivine, commonly weathered to clay
3492	80	VOLALT		Altered Volcanics, off white / green, off white mottled orange dull red, light brown mottled dark red, very soft, sub blocky to amorphous, trace weathered pyroxene, olivine, commonly weathered to clay
	20	VOL		Volcanic, green black, medium to coarse crystals of olivine, feldspar, pyroxene, biotite, olivine partially

				weathered to serpentinite
3595	90	VOLALT		Altered Volcanics, off white / green, off white mottled orange dull red, light brown mottled dark red, very soft, sub blocky to amorphous, trace weathered pyroxene, olivine, commonly weathered to clay
	10	VOL		Volcanic, green black, medium to coarse crystals of olivine, feldspar, pyroxene, biotite, olivine partially weathered to serpentinite
3497	90	VOLALT		Altered Volcanics, off white / green, off white mottled orange dull red, orange red, light brown mottled dark red, very soft, sub blocky to amorphous, trace weathered pyroxene, olivine, commonly weathered to clay
	10	VOL		Volcanic, green black, medium to coarse crystals of olivine, feldspar, pyroxene, biotite, olivine partially weathered to serpentinite

APPENDIX 2: CONVENTIONAL CORE CHIP DESCRIPTIONS

APPENDIX 2: CONVENTIONAL CORE CHIP DESCRIPTIONS

Core #1: Top EVCM TEV4 Sand
Depth Interval Cored: 2216m – 2234.1m MDRT
Cut 18m recovered 18m (100%)

Depth mMDRT	Lithology Description
2216	Sandstone: medium brown coloured, moderately hard, blocky fracture CLASTIC GRAINS: 30% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/moderately strong, silica/moderately strong, POROSITY: inter-granular, 10%
2217	Sandstone: medium - dark brown coloured, firm - moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderately strong, ACCESSORIES: carbonaceous trace, glauconite trace, POROSITY: inter-granular, 10%
2218	Sandstone: medium - dark brown coloured, firm - moderately hard, blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderately strong, ACCESSORIES: carbonaceous trace, glauconite trace, pyrite trace, POROSITY: inter-granular, 10%
2219	Sandstone: pale green - light olive green coloured, firm - moderately hard, blocky fracture CLASTIC GRAINS: 5% clay, 55% silt, 30% very fine sand, 10% fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/weak, ACCESSORIES: carbonaceous trace, POROSITY: inter-granular, 15%
2220	Sandstone: pale green - light olive green coloured, firm - moderately hard, blocky fracture CLASTIC GRAINS: 40% silt, 60% very fine sand, trace fine sand, well sorted, sub-angular, sub-spherical, CEMENTS/STRENGTHS: silica/moderately strong, POROSITY: inter-granular, 15%
2221	Sandstone: light greenish/grey coloured, friable - firm, blocky fracture CLASTIC GRAINS: 40% silt, 60% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: silica/moderately strong, POROSITY: inter-granular, 15%, FLUORESCENCE: trace dull yellow very slow pinpoint, no crush cut, no residue. Strong hydrocarbon odour.
2222	Sandstone: light greenish/grey coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 40% silt, 40% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderately strong, POROSITY: inter-granular, 15%, FLUORESCENCE: trace dull yellow very slow patchy direct cut, no crush cut, no residue. Strong hydrocarbon odour.
2223	Sandstone: greenish / grey coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 20% silt, 60% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderately strong, POROSITY: inter-granular, 10%, FLUORESCENCE: 30% pale green / yellow very slow patchy direct cut, trace dull green/cream crush cut, dull green/cream broken weak residue. Strong hydrocarbon odour.
2224.06	Sandstone: greenish / grey coloured, firm, blocky fracture CLASTIC GRAINS: 10% clay, 20% silt, 70% very fine sand, trace fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderately strong, ACCESSORIES: carbonaceous trace, POROSITY: inter-granular, 10%, FLUORESCENCE: 40% bright blue-green very slow even direct cut, trace bright green/cream crush cut, moderately bright green/cream broken ring residue. Strong hydrocarbon odour.
2225	Sandstone: greenish / grey coloured, firm, blocky fracture CLASTIC GRAINS: 10% clay, 20% silt, 70% very fine sand, trace fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderately strong, ACCESSORIES: carbonaceous trace, POROSITY: inter-granular, 10%, FLUORESCENCE: 60% bright blue-green very slow even direct cut, blooming bright green/cream crush cut, moderately bright green/cream broken ring residue. Strong hydrocarbon odour.

2226	Sandstone: dark greenish / grey coloured, firm - moderately hard, blocky fracture CLASTIC GRAINS: 30% clay, 40% silt, 30% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: argillaceous/weak, silica/moderately strong, ACCESSORIES: carbonaceous trace, POROSITY: inter-granular, 3%, FLUORESCENCE: 30% moderately bright blue-green very slow patchy direct cut, no crush cut, no residue. Strong hydrocarbon odour.
2227	Sandstone: greenish / grey coloured, firm, blocky fracture CLASTIC GRAINS: 10% clay, 20% silt, 70% very fine sand, well sorted, rounded, sub-spherical, CEMENTS/STRENGTHS: silica/weak, ACCESSORIES: carbonaceous trace, POROSITY: inter-granular, 7%, FLUORESCENCE: 60% bright blue-green very slow even direct cut, dull green/cream trace crush cut, dull green/cream broken indistinct ring residue. Strong hydrocarbon odour.
2228	Sandstone: light olive grey / greenish/grey coloured, friable - firm, blocky fracture CLASTIC GRAINS: 10% clay, 20% silt, 70% very fine sand, well sorted, rounded, spherical, CEMENTS/STRENGTHS: silica/weak, POROSITY: inter-granular, 15%, FLUORESCENCE: 60% bright blue-green very slow patchy direct cut, moderately bright green/cream trace crush cut, moderately bright green/cream broken ring residue. Strong hydrocarbon odour.
2229	Sandstone: greenish/grey coloured, friable - firm, blocky fracture CLASTIC GRAINS: 10% clay, 20% silt, 70% very fine sand, well sorted, sub-rounded, spherical, CEMENTS/STRENGTHS: silica/weak, POROSITY: inter-granular, 15%, FLUORESCENCE: 50% bright blue-green very slow even direct cut, moderately bright green/cream trace crush cut, moderately bright green/cream broken ring residue. Strong hydrocarbon odour.
2230	Sandstone: greenish/grey coloured, friable, blocky fracture CLASTIC GRAINS: trace clay, 10% silt, 80% very fine sand, 10% fine sand, well sorted, rounded, spherical, CEMENTS/STRENGTHS: silica/weak, POROSITY: inter-granular, 15%, FLUORESCENCE: 30% pale blue-green very slow pinpoint direct cut, moderately bright green/cream trace crush cut, moderately bright green/cream broken ring residue. Weak hydrocarbon odour.
2231	Sandstone: greenish/grey coloured, friable, blocky fracture CLASTIC GRAINS: trace clay, 10% silt, 80% very fine sand, 10% fine sand, well sorted, rounded, spherical, CEMENTS/STRENGTHS: silica/weak, POROSITY: inter-granular, 15%, FLUORESCENCE: 3% dim yellow very slow pinpoint direct cut, moderately bright green/cream trace crush cut, moderately bright green/cream broken ring residue. Moderate hydrocarbon odour.
2232	Sandstone: dark greenish/grey coloured, friable, blocky fracture CLASTIC GRAINS: 30% clay, 30% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: silica/weak, argillaceous/weak, ACCESSORIES: carbonaceous trace, POROSITY: inter-granular, 3%, FLUORESCENCE: 3% dim yellow very slow pinpoint direct cut, dull green/cream trace crush cut, dull green/cream broken very thin film ring residue. No hydrocarbon odour.
2233.04	Sandstone: light olive grey coloured, firm, blocky fracture CLASTIC GRAINS: 20% clay, 40% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: silica/weak, argillaceous/weak, POROSITY: inter-granular, 3%, FLUORESCENCE: 3% dim yellow very slow pinpoint direct cut, dull green/cream trace crush cut, dull green/cream broken very thin film ring residue. No hydrocarbon odour.
2234.1	Sandstone: light olive grey coloured, soft- friable, blocky fracture CLASTIC GRAINS: 20% clay, 40% silt, 40% very fine sand, well sorted, sub-rounded, sub-spherical, CEMENTS/STRENGTHS: silica/weak, argillaceous/weak, ACCESSORIES: carbonaceous trace, POROSITY: inter-granular, 7%, FLUORESCENCE: trace dim yellow pinpoint direct cut, dull green/cream trace crush cut, dull green/cream broken very thin film ring residue. No hydrocarbon odour.

APPENDIX 3: ROUTINE CORE ANALYSIS & PHOTOS

10th November, 2004

Origin Energy Resources Limited
1st Floor, John Oxley Centre
339 Coronation Drive
MILTON QLD 4064

Attention: Mr Andy Hall

FINAL REPORT: 0360-02
YOLLA-3

CLIENT REFERENCE: Purchase Order No. O4643

MATERIAL: 4″ diameter Whole Core

LOCALITY: Bass Strait Basin

WORK REQUIRED: Routine Core Analysis

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

KEVIN H FLYNN
General Manager

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ROUTINE CORE ANALYSIS FINAL REPORT

of

YOLLA-3

for

ORIGIN ENERGY RESOURCES LIMITED

by

ACS LABORATORIES PTY LTD

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CHAPTER 1

LOGISTICS AND INTRODUCTION

1. LOGISTICS AND INTRODUCTION

1.1 Logistics

ACS personnel travelled offshore to the Yolla-3 well site to stabilise the core, due to the expected friable to unconsolidated nature of the reservoir.

At the well site the core was marked up and cut into 1 metre sections. The mud was allowed to drain from the annulus from each section of core before a two part aptane resin being used. The resin is injected into the anulus, between the core and the inner core barrel, to stabilise and protect the core for shipment. The core was received at ACS Laboratories Brisbane facility on 27 August 2004.

1.2 Introduction

This final report presents the results from a routine core analysis study performed on a core from the Yolla-3 well. The study was undertaken as per instructions received from Origin Energy Resources Limited.

The following report includes tabular data of ambient permeability to air, helium injection porosity and density determinations. Data presented graphically includes a core log plot of the above and porosity versus permeability to air plots.

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 core gamma log over the cored interval.

2. To provide hot shot data as required.

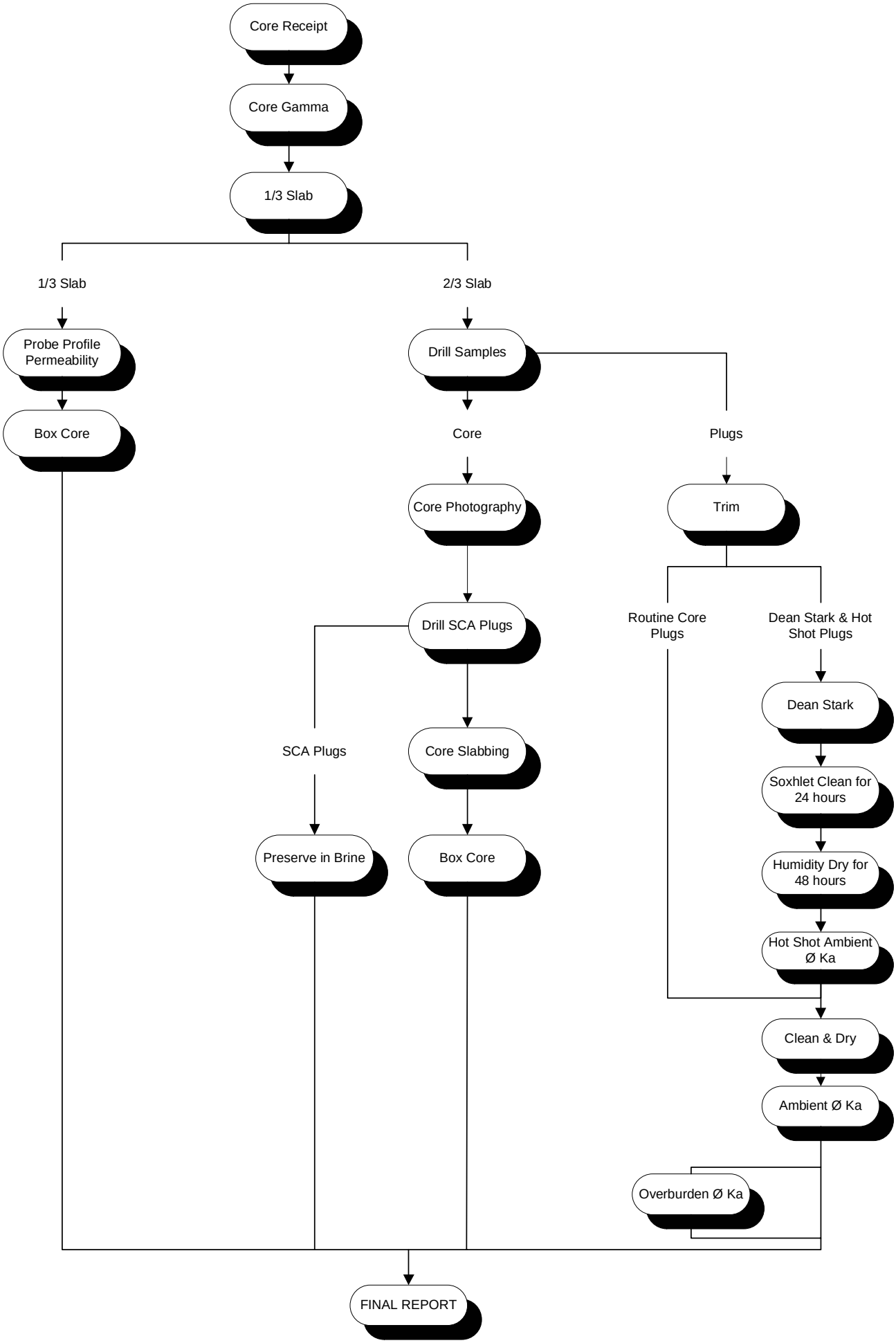
3. To provide air permeability, helium injection porosity and density data at ambient conditions.

4. To provide residual saturation data on selected samples across the core interval.

5. To investigate the effect on porosity and permeability due to overburden stress.

6. To provide a detailed permeability profile across the core interval.

7. To provide a permanent record of the core through core photography.


Core Receipt
Core Gamma
1/3 Slab
1/3 Slab
2/3 Slab
Probe Profile Permeability
Box Core
Drill Samples
Core
Plugs
Core Photography
Trim
Drill SCA Plugs
Routine Core Plugs
Dean Stark & Hot Shot Plugs
SCA Plugs
Core Slabbing
Dean Stark
Soxhlet Clean for 24 hours
Preserve in Brine
Box Core
Humidity Dry for 48 hours
Hot Shot Ambient Ø Ka
Clean & Dry
Ambient Ø Ka
Overburden Ø Ka
FINAL REPORT

CHAPTER 3

SAMPLING

3. SAMPLING

3.1 1/3 Core Slabbing

As the core was resinated into the core barrels the core was slabbed longitudinally into two sections (1/3:2/3) using brine as the blade cooling and lubricating medium. This was necessary to allow visual inspection of the core and selection of sampling points.

3.2 Routine Core Analysis Samples

Sixty 1½" diameter horizontal plug samples were cut at approximately 30cm intervals throughout the core using brine as the bit lubricant. Eighteen vertical plug samples were cut at 1m intervals. All plugs were trimmed to right cylinders. The off-cuts were labelled and bagged for possible future analysis.

3.3 SCAL Samples

A suite of 10 SCAL plugs were also drilled with brine and stored immersed in brine for any possible preserved/fresh-state analyses.

3.4 1/3 : 1/3 Core Slab

Upon completion of the sampling, the 2/3 core was again slabbed longitudinally into two additional sections (1/3:1/3) using brine as the blade cooling and lubricating medium. It is necessary to provide 3 sections of the core – see Chapter 6 for more details.

CHAPTER 4

SAMPLE PREPARATION

4. SAMPLE PREPARATION

4.1 Soxhlet Cleaning

Cleaning was performed in a modified soxhlet system using a 3:1 Chloroform:Methanol azeotrope. Cleaning continued until tests for oil (fluorescence under UV light) and salt (silver nitrate precipitation) showed negative.

4.2 Sample Drying

The clean samples were dried to constant weight in a humidity oven at 60°C and 40% relative humidity. Once dried, the samples were cooled to room temperature in individual airtight containers.

4.3 Hot Shot

A suite of "hot shot" data was provided in an agreed time-frame. Hot shot samples were only allowed minimal preparation, cleaning and drying. Consequently the data maybe affected accordingly. The hot shot samples were subsequently re-prepared for analysis using the full procedures.

CHAPTER 5

TEST PROCEDURES

5. TEST PROCEDURES

5.1 Continuous Core Gamma

The core was laid out according to depth markings, and a continuous core gamma trace produced by passing the core beneath a gamma radiation detector. The detector is protected from extraneous radiation by a lead tunnel. The detector signal is amplified and digitised to produce a gamma trace for comparison with the down hole log.

5.2 Dean-Stark Residual Fluid Saturation

The fresh state samples were placed in the Dean-Stark fluid extraction apparatus, where each sample is suspended above a reservoir of boiling toluene. The solvent vapours, together with the extracted pore fluids, are condensed at the top of the glassware and the water collected in a calibrated side arm. Oil and toluene are collected in the reservoir and continue boiling so that clean toluene vapour continues extracting pore fluids. The process is continued until the water production ceases.

From the collected water volume and the latter determined helium injection pore volume of the sample, the water saturation is calculated as follows.

Sw = (Pore Water Volume / Pore Volume) x 100%

Thereafter the samples completed the cleaning and drying process as detailed in Chapter 4.

5.3 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 mercury immersion. 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.

$$P_1 V_1 = P_2 V_2$$

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

$$Vp = Vb - Vg$$

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

The porosity (and permeability) at simulated overburden stress was measured on every 3rd sample by mounting individually into a thick walled rubber sleeve and then

loading the assembly into a hydrostatic cell. With an 'ambient' confining stress of 400 psi applied to the sample, helium held at 100 psi reference pressure was released into the samples pore space. The new pressure is then recorded. The confining stress is then increased to the required pressure of 3200 psi, as supplied by Origin, and the pore pressure noted at equilibrium. The changes in pore pressure, together with the previously determined parameters in the ambient analyses, allow the calculation of porosity at overburden conditions, as follows.

$$\textit{Overburden Porosity \%} = \frac{Vp - \Delta Vp}{Vb - \Delta Vp} x\ 100\%$$

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)*

5.4 Permeability to Air

The samples were placed into a hydrostatic cell (Appendix VIII) with an ambient confining pressure of 400 psi applied. The confining pressure was used to prevent bypassing of air around the sample when the measurement was made. In order to determine permeability a known air pressure was applied to the upstream face of each sample, creating a flow of air through the core plug. Air permeability for each core sample was calculated using Darcy's Law through knowledge of the upstream pressure, flow rate, viscosity of air and sample 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)*
L = *sample length (cm)*
P_1 = *upstream pressure (atmospheres)*
P_2 = *downstream pressure (atmospheres)*
A = *sample cross sectional area (cm^2)*

For every 3rd sample the confining pressure was then increased to the overburden pressure of 3200 psi and the above procedure repeated to give permeability at overburden conditions**.**

5.5 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)*

5.6 Probe Permeability

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

A probe is pneumatically applied to the surface of the core at 100 psig. An 'O' ring on the tip of the probe is used to achieve a seal against the rock. Air is then forced to flow at a constant pressure through the probe tip into the core and back into the atmosphere. The flow rate is measured by a series of precision flow meters which are selected to cover a wide range of flow rates. The measured flow rate (at a fixed injection pressure) is converted to permeability by comparison against measurements on core plugs with known permeabilities.

5.7 Core Photography

The core photography was carried out on the 2/3 slab of core.

Photographs were taken with a digital camera in 5 metre format under white light and ultra violet light. On completion, photographs were edited and reported on conventional photographic paper and electronically.

CHAPTER 6

SAMPLE DISTRIBUTION AND STORAGE

6. SAMPLE DISTRIBUTION AND STORAGE

6.1 Sample Distribution and Storage

The centre 1/3 slab of core is currently stored at ACS Laboratories Brisbane facility.

One 1/3 slab of core was sent to Mineral Resources Tasmania, 30 Gordons Hill Road, Rosny Park, Tasmania, 7018 on 2 November 2004.

One 1/3 slab of core was sent to Geosciences Australia, AGSO Petroleum Data Repository, Cnr Jerrabomberra Ave & Hindmarsh Dr, Symonstan, ACT, 2609 on 2 November 2004.

6.2 SCA Sample Depth Listing

The following samples were drilled and stored under brine for possible special core analysis studies

S1	2217.41	S6	2228.30
S2	2219.78	S7	2229.54
S3	2222.32	S8	2230.69
S4	2223.56	S9	2231.11
S5	2226.49	S10	2232.29

APPENDIX I

AMBIENT TEST RESULTS
HORIZONTAL PLUGS

CORE ANALYSIS FINAL REPORT

Client : Origin Energy Resources Limited
Well : Yolla-3
Field : Yolla
Core Int : 2216.00 - 2234.10 m

Date : 20/09/2004
File : 0360-02
Location : BNE
Analysts : kw, mhe

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Fluid Saturation So (percent)	Fluid Saturation Sw (percent)	Remarks
1	2216.10	H	23.9	2.64	5.8			
2	2216.40	H	24.3	2.62	10.5	2.9	81.0	
3	2216.70	H	18.3	2.65	0.58			
4	2216.94	H	19.0	2.64	0.79			
5	2217.25	H	21.4	2.62	2.56			
6	2217.55	H	21.4	2.63	1.89	3.6	80.6	
7	2217.85	H	22.8	2.64	2.71			
8	2218.15	H	20.6	2.62	1.38			
9	2218.39	H	28.3	2.70	42.0	3.5	84.5	Fracs
10	2218.76	H	28.5	2.88	48.9			
11	2219.09	H	32.9	2.74	104			
12	2219.36	H	28.3	2.74	10.6	4.9	83.0	
13	2219.66	H	32.3	2.69	130			
14	2219.93	H	31.1	2.73	23.5			
15	2220.26	H	34.2	2.68	210			
16	2220.58	H	34.2	2.66	196	3.1	65.9	
17	2220.86	H	30.4	2.69	53.8			
18	2221.17	H	30.0	2.70	43.0			
19	2221.45	H	33.0	2.67	25.2	3.5	68.3	
20	2221.81	H	35.0	2.67	268			
21	2222.16	H	34.6	2.68	187			
22	2222.46	H	32.6	2.75	106	13.4	75.0	
23	2222.76	H	29.9	2.72	30.1			
24	2223.09	H	32.4	2.69	70.6			
25	2223.36	H	29.1	2.72	16.6	22.6	69.5	
26	2223.66	H	31.1	2.70	47.4			
27	2223.99	H	24.7	2.78	27.6			
28	2224.30	H	32.7	2.73	90.2			
29	2224.56	H	28.4	2.70	12.3	22.4	73.0	
30	2224.87	H	28.3	2.91	56.0			
31	2225.17	H	31.7	2.68	80.3			
32	2225.54	H	32.7	2.66	99.0	40.0	44.6	
33	2225.77	H	28.2	2.68	25.4			
34	2226.09	H	24.8	2.68	12.5			
35	2226.37	H	35.2	2.67	191	39.2	39.8	

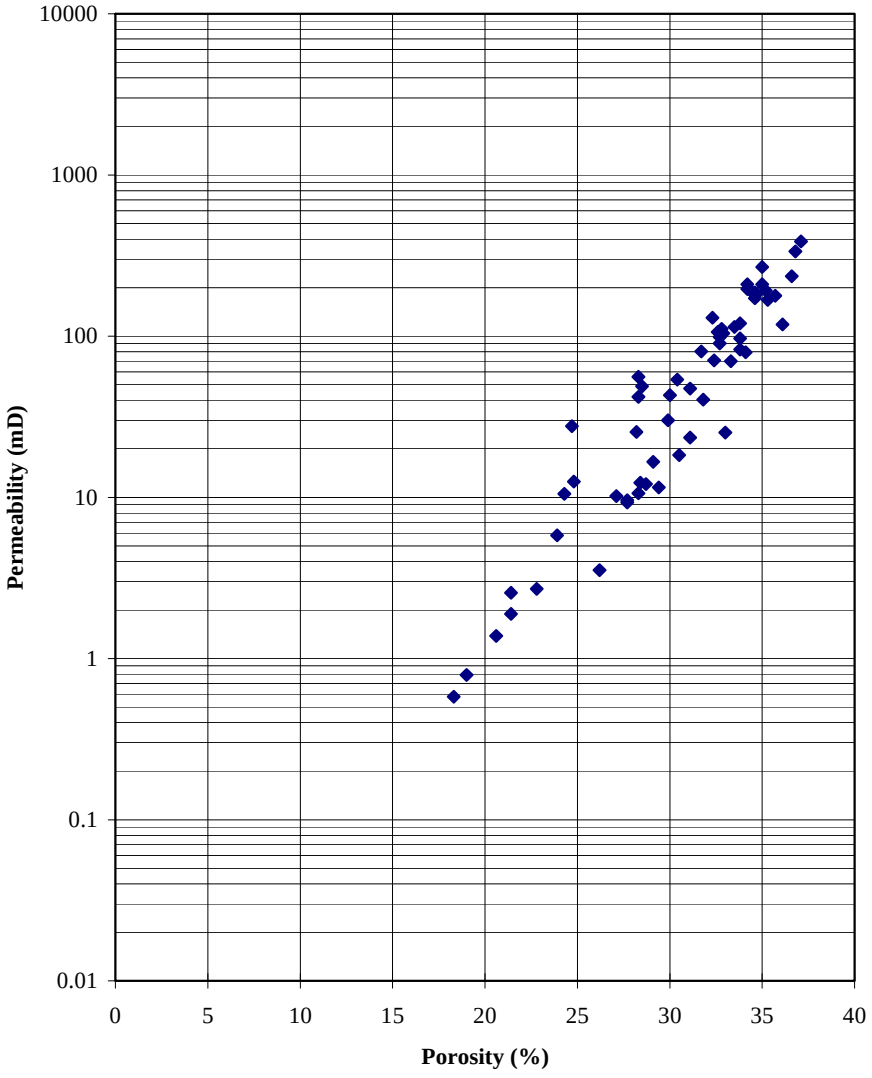
Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Fluid Saturation So (percent)	Fluid Saturation Sw (percent)	Remarks
36	2226.67	H	34.6	2.67	172			
37	2226.95	H	34.7	2.67	183			
38	2227.27	H	32.8	2.70	111	40.5	49.4	
39	2227.57	H	33.5	2.68	114			
40	2227.87	H	35.0	2.68	210			
41	2228.18	H	34.4	2.68	190	41.0	47.9	
42	2228.49	H	33.8	2.67	120			
43	2228.78	H	34.1	2.69	79.5			
44	2229.09	H	33.3	2.70	69.8	34.6	53.8	
45	2229.38	H	36.1	2.70	118			Fracs
46	2229.66	H	36.6	2.68	235			
47	2229.95	H	33.8	2.70	96.8			
48	2230.27	H	37.1	2.67	387	39.4	44.7	
49	2230.57	H	35.3	2.68	168			
50	2230.87	H	36.8	2.67	336			
51	2231.18	H	35.7	2.69	178	33.6	52.3	
52	2231.48	H	33.8	2.69	82.7			
53	2231.78	H	26.2	2.66	3.53			
54	2232.08	H	27.1	2.66	10.2	21.9	72.1	
55	2232.37	H	29.4	2.69	11.5			
56	2232.67	H	31.8	2.68	40.3			
57	2232.98	H	28.7	2.67	12.1	16.0	79.3	
58	2233.29	H	27.7	2.68	9.6			
59	2233.56	H	27.7	2.67	9.3			
60	2233.87	H	30.5	2.67	18.3			

POROSITY vs PERMEABILITY
Ambient

Client: Origin Energy Resources Limited

Well: Yolla-3

Depth: 2216.00 to 2234.10 m



APPENDIX II

AMBIENT TEST RESULTS
VERTICAL PLUGS

CORE ANALYSIS FINAL REPORT

Client	: Origin Energy Resources Limited	**Date**	: 27/09/2004
Well	: Yolla-3	**File**	: 0360-02
Field	: Yolla	**Location**	: BNE
Core Int	: 2216.00 - 2233.10 m	**Analysts**	: kw

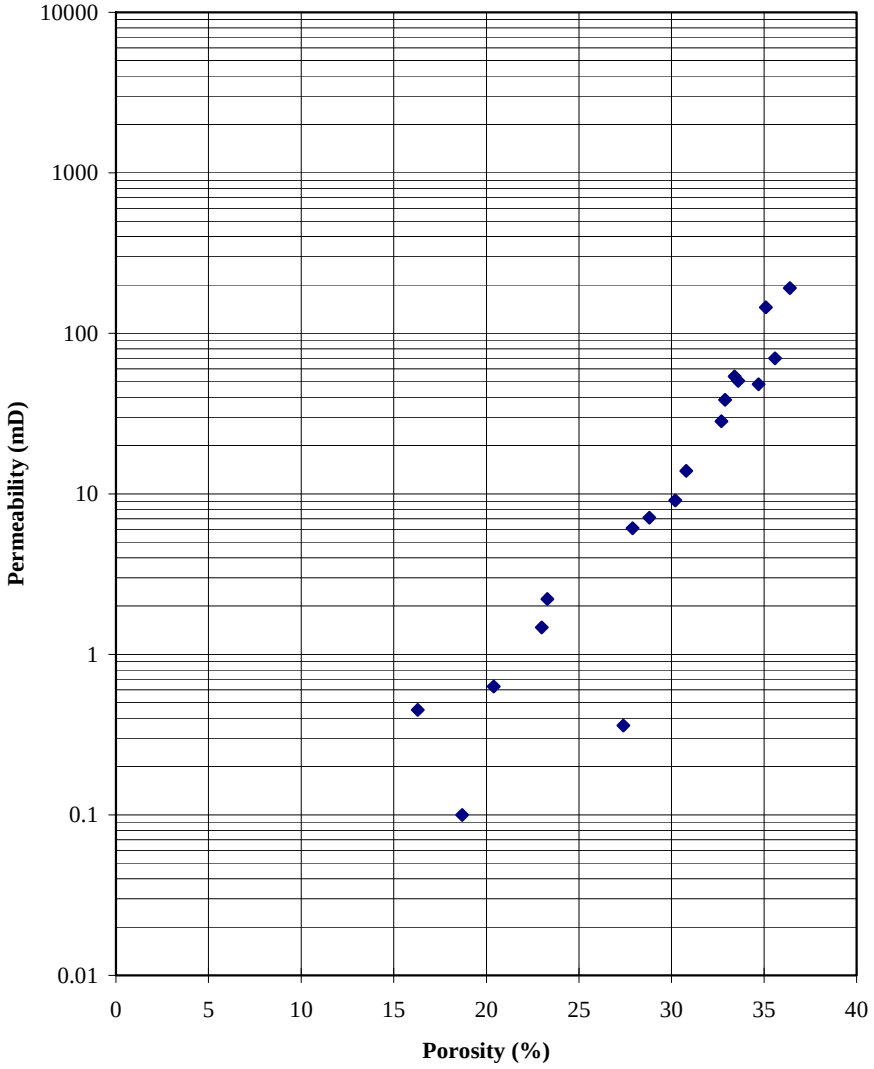
Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Fluid Saturation So (percent)	Fluid Saturation Sw (percent)	Remarks
1V	2216.00	V	23.0	2.62	1.47			
2V	2217.00	V	23.3	2.63	2.21			
3V	2218.00	V	20.4	2.62	0.63			
4V	2219.00	V	30.8	2.76	13.9			
5V	2220.00	V	30.2	2.76	9.1			
6V	2221.06	V	32.9	2.67	38.6			
7V	2222.00	V	27.4	2.77	0.36			
8V	2223.00	V	33.4	2.66	54.0			
9V	2224.10	V	16.3	3.16	0.45			
10V	2225.00	V	33.6	2.72	50.6			
11V	2226.00	V	18.7	2.68	0.10			
12V	2227.00	V	32.7	2.70	28.3			
13V	2228.00	V	35.1	2.66	145			
14V	2229.00	V	35.6	2.67	70.0			
15V	2230.00	V	34.7	2.70	48.2			
16V	2231.00	V	36.4	2.67	191			
17V	2232.00	V	27.9	2.66	6.1			
18V	2233.00	V	28.8	2.67	7.1			

POROSITY vs PERMEABILITY
Vertical Plugs

Client: Origin Energy Resources Limited

Well: Yolla-3

Depth: 2216.00m to 2234.10m



APPENDIX III

OVERBURDEN TEST RESULTS

OVERBURDEN CORE ANALYSIS FINAL REPORT

Company	: Origin Energy Resources Limited	**Date**	: 23/09/2004
Well	: Yolla-3	**File**	: 0360-02
Field	: Yolla	**Location**	: BNE
Core Int.	: 2216.00 - 2234.10 m	**Analysts**	: kw

Overburden Pressure 1: 3200 psi

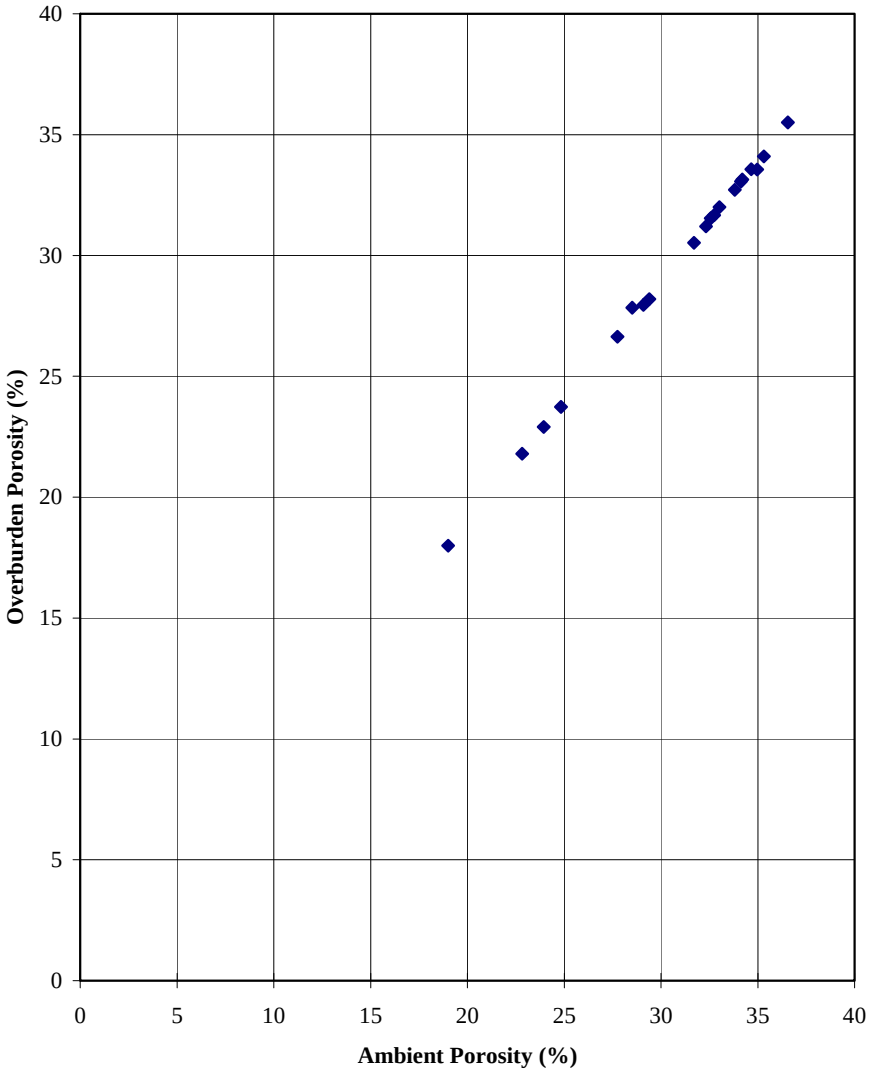
Sample Number	Depth	Dir	Ambient Porosity	OB1 Porosity	Ambient Permeability	OB1 Permeability
1	2216.10	H	23.9	22.9	5.8	3.90
4	2216.94	H	19.0	18.0	0.79	0.30
7	2217.85	H	22.8	21.8	2.71	1.63
10	2218.76	H	28.5	27.8	48.9	38.9
13	2219.66	H	32.3	31.2	130	113
16	2220.58	H	34.2	33.1	196	171
19	2221.45	H	33.0	32.0	25.2	15.5
22	2222.46	H	32.6	31.5	106	94.0
25	2223.36	H	29.1	28.0	16.6	12.2
28	2224.30	H	32.7	31.7	90.2	78.6
31	2225.17	H	31.7	30.5	80.3	70.1
34	2226.09	H	24.8	23.7	12.5	10.3
37	2226.95	H	34.7	33.6	183	161
40	2227.87	H	35.0	33.6	210	177
43	2228.78	H	34.1	33.1	79.5	64.9
46	2229.66	H	36.6	35.5	235	201
49	2230.57	H	35.3	34.1	168	131
52	2231.48	H	33.8	32.7	82.7	68.7
55	2232.37	H	29.4	28.2	11.5	9.5
58	2233.29	H	27.7	26.6	9.6	7.5

POROSITY PLOT

Client: Origin Energy Resources Limited

Well: Yolla-3

Depth: 2216.00 to 2234.10 m

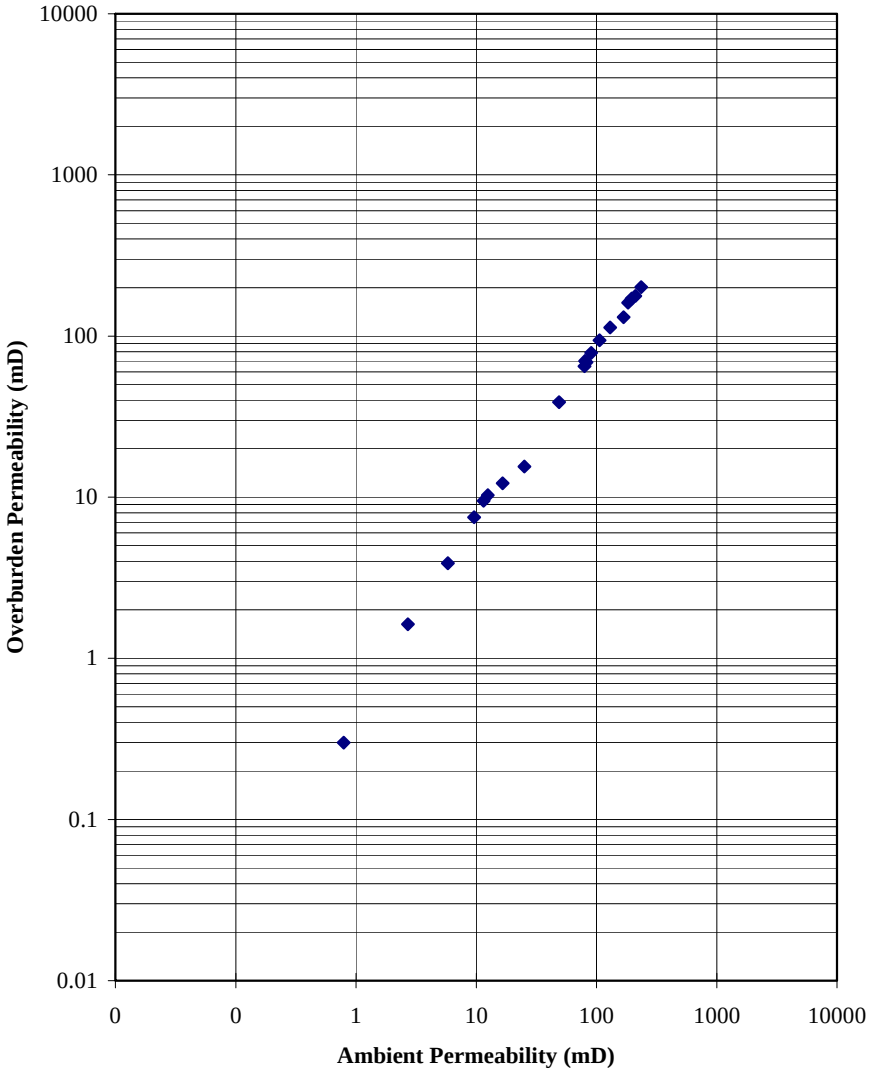


PERMEABILITY PLOT

Client: Origin Energy Resources Limited

Well: Yolla-3

Depth: 2216.00 to 2234.10 m



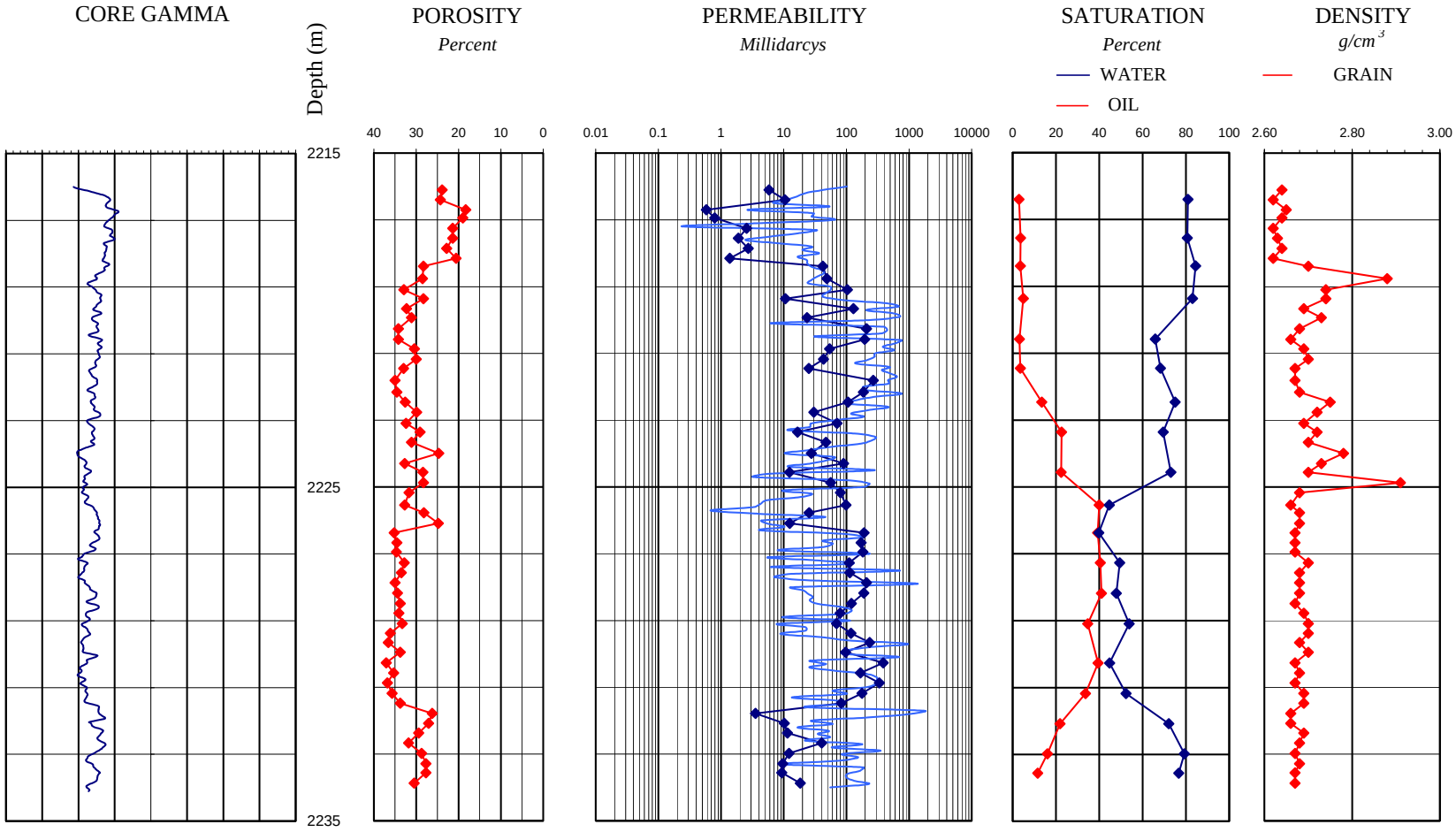
APPENDIX IV

CORE PLOT

CORE PLOT

Scale 1:200

Client Origin Energy Resources Limited Core 1: 2216.00m - 2234.10m
Well: Yolla-3
File No.: 0360-02



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APPENDIX V

RESULTS SUMMARY

CORE ANALYSIS FINAL REPORT

Client : Origin Energy Resources Limited
Well : Yolla-3
Field : Yolla
Core Int : 2216.00 - 2234.10 m

Date : 27/09/2004
File : 0360-02
Location : BNE
Analysts : kw, mhe

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Fluid Saturation So (percent)	Fluid Saturation Sw (percent)	Remarks
1V	2216.00	V	23.0	2.62	1.47			
1	2216.10	H	23.9	2.64	5.8			
2	2216.40	H	24.3	2.62	10.5	2.9	81.0	
3	2216.70	H	18.3	2.65	0.58			
4	2216.94	H	19.0	2.64	0.79			
2V	2217.00	V	23.3	2.63	2.21			
5	2217.25	H	21.4	2.62	2.56			
6	2217.55	H	21.4	2.63	1.89	3.6	80.6	
7	2217.85	H	22.8	2.64	2.71			
3V	2218.00	V	20.4	2.62	0.63			
8	2218.15	H	20.6	2.62	1.38			
9	2218.39	H	28.3	2.70	42.0	3.5	84.5	Fracs
10	2218.76	H	28.5	2.88	48.9			
4V	2219.00	V	30.8	2.76	13.9			
11	2219.09	H	32.9	2.74	104			
12	2219.36	H	28.3	2.74	10.6	4.9	83.0	
13	2219.66	H	32.3	2.69	130			
14	2219.93	H	31.1	2.73	23.5			
5V	2220.00	V	30.2	2.76	9.1			
15	2220.26	H	34.2	2.68	210			
16	2220.58	H	34.2	2.66	196	3.1	65.9	
17	2220.86	H	30.4	2.69	53.8			
6V	2221.06	V	32.9	2.67	38.6			
18	2221.17	H	30.0	2.70	43.0			
19	2221.45	H	33.0	2.67	25.2	3.5	68.3	
20	2221.81	H	35.0	2.67	268			
7V	2222.00	V	27.4	2.77	0.36			
21	2222.16	H	34.6	2.68	187			
22	2222.46	H	32.6	2.75	106	13.4	75.0	
23	2222.76	H	29.9	2.72	30.1			
8V	2223.00	V	33.4	2.66	54.0			
24	2223.09	H	32.4	2.69	70.6			
25	2223.36	H	29.1	2.72	16.6	22.6	69.5	
26	2223.66	H	31.1	2.70	47.4			
27	2223.99	H	24.7	2.78	27.6			

Sample Number	Depth (m)	Dir	Porosity Helium (percent)	Grain Density (g/cm^3)	Permeability to Air (mD)	Fluid Saturation So (percent)	Fluid Saturation Sw (percent)	Remarks
9V	2224.10	V	16.3	3.16	0.45			Dual Lith, Sid
28	2224.30	H	32.7	2.73	90.2			
29	2224.56	H	28.4	2.70	12.3	22.4	73.0	
30	2224.87	H	28.3	2.91	56.0			Dual Lith, Sid
10V	2225.00	V	33.6	2.72	50.6			
31	2225.17	H	31.7	2.68	80.3			
32	2225.54	H	32.7	2.66	99.0	40.0	44.6	
33	2225.77	H	28.2	2.68	25.4			
11V	2226.00	V	18.7	2.68	0.10			
34	2226.09	H	24.8	2.68	12.5			
35	2226.37	H	35.2	2.67	191	39.2	39.8	
36	2226.67	H	34.6	2.67	172			
37	2226.95	H	34.7	2.67	183			
12V	2227.00	V	32.7	2.70	28.3			
38	2227.27	H	32.8	2.70	111	40.5	49.4	
39	2227.57	H	33.5	2.68	114			
40	2227.87	H	35.0	2.68	210			
13V	2228.00	V	35.1	2.66	145			
41	2228.18	H	34.4	2.68	190	41.0	47.9	
42	2228.49	H	33.8	2.67	120			
43	2228.78	H	34.1	2.69	79.5			
14V	2229.00	V	35.6	2.67	70.0			
44	2229.09	H	33.3	2.70	69.8	34.6	53.8	
45	2229.38	H	36.1	2.70	118			Fracs
46	2229.66	H	36.6	2.68	235			
47	2229.95	H	33.8	2.70	96.8			
15V	2230.00	V	34.7	2.70	48.2			
48	2230.27	H	37.1	2.67	387	39.4	44.7	
49	2230.57	H	35.3	2.68	168			
50	2230.87	H	36.8	2.67	336			
16V	2231.00	V	36.4	2.67	191			
51	2231.18	H	35.7	2.69	178	33.6	52.3	
52	2231.48	H	33.8	2.69	82.7			
53	2231.78	H	26.2	2.66	3.53			
17V	2232.00	V	27.9	2.66	6.1			
54	2232.08	H	27.1	2.66	10.2	21.9	72.1	
55	2232.37	H	29.4	2.69	11.5			
56	2232.67	H	31.8	2.68	40.3			
57	2232.98	H	28.7	2.67	12.1	16.0	79.3	
18V	2233.00	V	28.8	2.67	7.1			
58	2233.29	H	27.7	2.68	9.6			
59	2233.56	H	27.7	2.67	9.3			
60	2233.87	H	30.5	2.67	18.3			

APPENDIX VI

PROBE PERMEABILITY DATA

PROFILE PROBE PERMEABILITY

Depth (metres)	K_{probe} (mD)	Depth (metres)	K_{probe} (mD)	Depth (metres)	K_{probe} (mD)	Depth (metres)	K_{probe} (mD)
2216.00	102	2221.00	287	2226.00	4.47	2231.00	205
2216.10	42.9	2221.10	282	2226.10	5.6	2231.10	60.4
2216.20	22.4	2221.20	214	2226.20	10.3	2231.20	98.8
2216.30	16.2	2221.30	141	2226.30	4.23	2231.30	13.4
2216.40	11.1	2221.40	484	2226.40	79.6	2231.40	74.3
2216.50	7.1	2221.50	369	2226.50	191	2231.50	86.5
2216.60	53.4	2221.60	498	2226.60	42.6	2231.60	23.2
2216.70	2.63	2221.70	640	2226.70	60.9	2231.70	1727
2216.80	30.0	2221.80	460	2226.80	42.6	2231.80	997
2216.90	27.8	2221.90	474	2226.90	8.2	2231.90	223
2217.00	62.5	2222.00	184	2227.00	237	2232.00	27.8
2217.10	3.68	2222.10	207	2227.10	5.7	2232.10	60.1
2217.20	0.24	2222.20	767	2227.20	33.2	2232.20	16.5
2217.30	31.9	2222.30	275	2227.30	126	2232.30	52.3
2217.40	17.0	2222.40	148	2227.40	6.3	2232.40	34.8
2217.50	6.0	2222.50	98.8	2227.50	722	2232.50	54.7
2217.60	2.44	2222.60	467	2227.60	13.3	2232.60	22.2
2217.70	7.9	2222.70	219	2227.70	7.0	2232.70	177
2217.80	28.1	2222.80	118	2227.80	27.0	2232.80	58.6
2217.90	19.7	2222.90	190	2227.90	1385	2232.90	354
2218.00	36.7	2223.00	65.8	2228.00	13.2	2233.00	84.8
2218.10	16.8	2223.10	27.0	2228.10	20.5	2233.10	155
2218.20	23.2	2223.20	26.2	2228.20	24.3	2233.20	72.6
2218.30	23.8	2223.30	11.9	2228.30	29.2	2233.30	8.9
2218.40	27.5	2223.40	134	2228.40	25.9	2233.40	186
2218.50	39.9	2223.50	292	2228.50	35.6	2233.50	167
2218.60	43.7	2223.60	258	2228.60	84.9	2233.60	102
2218.70	34.3	2223.70	170	2228.70	122	2233.70	101
2218.80	27.8	2223.80	53.9	2228.80	93.0	2233.80	135
2218.90	24.6	2223.90	24.6	2228.90	9.4	2233.90	228
2219.00	56.1	2224.00	10.6	2229.00	114	2234.00	55.1
2219.10	55.5	2224.10	63.9	2229.10	8.0		
2219.20	46.9	2224.20	48.5	2229.20	22.2		
2219.30	41.5	2224.30	27.0	2229.30	22.4		
2219.40	88.4	2224.40	12.6	2229.40	8.8		
2219.50	465	2224.50	284	2229.50	42.4		
2219.60	676	2224.60	6.1	2229.60	110		
2219.70	205	2224.70	3.28	2229.70	963		
2219.80	572	2224.80	98.8	2229.80	231		
2219.90	706	2224.90	235	2229.90	95.3		
2220.00	224	2225.00	188	2230.00	84.8		
2220.10	6.1	2225.10	9.9	2230.10	692		
2220.20	392	2225.20	28.4	2230.20	27.0		
2220.30	448	2225.30	18.9	2230.30	47.5		
2220.40	359	2225.40	5.3	2230.40	25.7		
2220.50	30.7	2225.50	4.33	2230.50	60.7		
2220.60	748	2225.60	3.35	2230.60	209		
2220.70	596	2225.70	0.67	2230.70	305		
2220.80	382	2225.80	3.49	2230.80	303		
2220.90	582	2225.90	46.4	2230.90	296		

APPENDIX VII

DEAN-STARK

DEAN-STARK

Client : Origin Energy Resources Limited
Well : Yolla-3

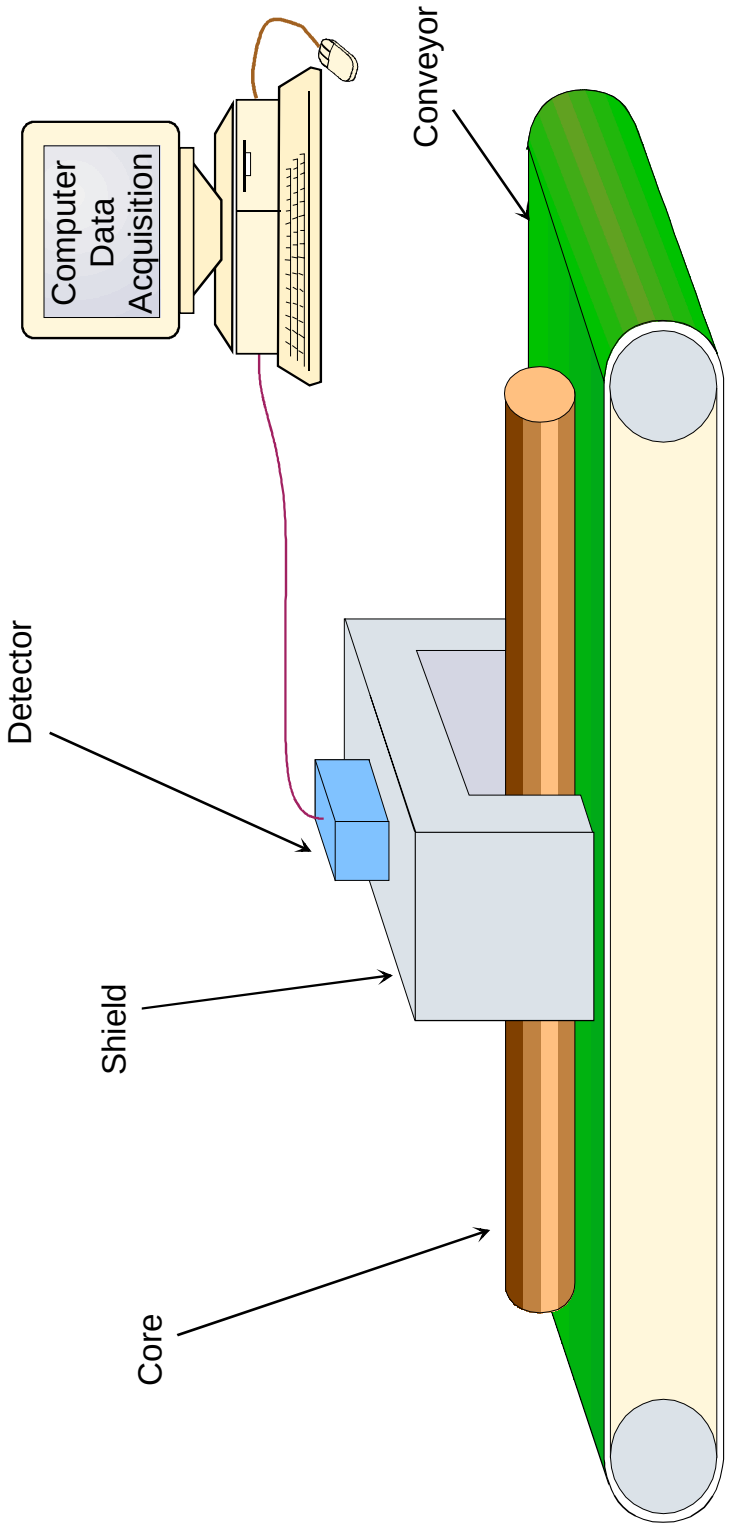
Sample Number	Depth *(m)*	Dir	Fluid Saturation So *(percent)*	Fluid Saturation Sw *(percent)*	Solvent Colour
2	2216.40	H	2.9	81.0	Light Yellow
6	2217.55	H	3.6	80.6	Light Yellow
9	2218.39	H	3.5	84.5	Pale Yellow
12	2219.36	H	4.9	83.0	Pale Yellow
16	2220.58	H	3.1	65.9	Pale Yellow
19	2221.45	H	3.5	68.3	Pale Yellow
22	2222.46	H	13.4	75.0	Pale Yellow
25	2223.36	H	22.6	69.5	Pale Yellow
29	2224.56	H	22.4	73.0	Yellow
32	2225.54	H	40.0	44.6	Light Brown
35	2226.37	H	39.2	39.8	Light Brown
38	2227.27	H	40.5	49.4	Light Brown
41	2228.18	H	41.0	47.9	Light Brown
44	2229.09	H	34.6	53.8	DarkYellow
48	2230.27	H	39.4	44.7	Light Brown
51	2231.18	H	33.6	52.3	Light Brown
54	2232.08	H	21.9	72.1	Pale Yellow
57	2232.98	H	16.0	79.3	Pale Yellow



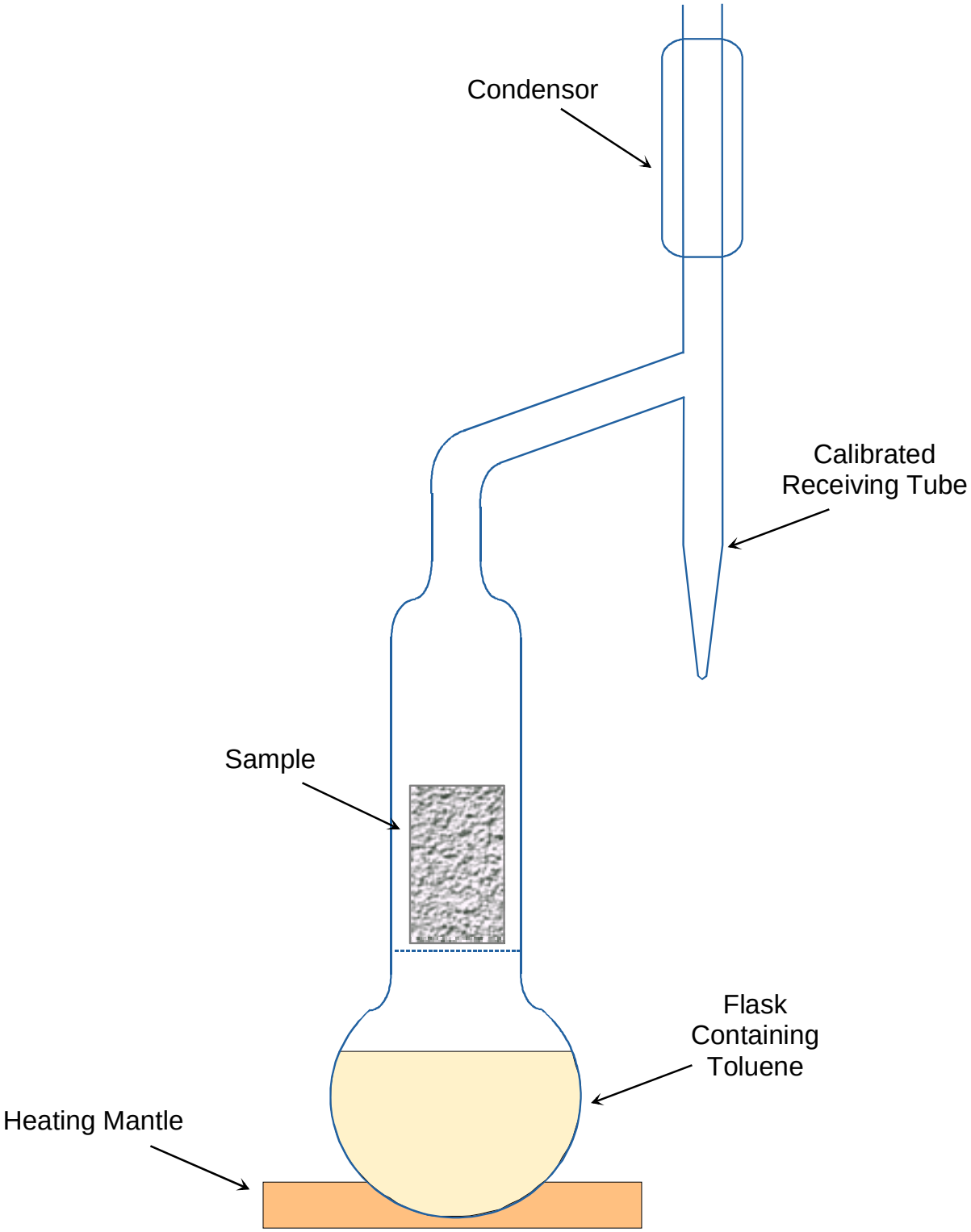
APPENDIX VIII

EQUIPMENT SCHEMATICS

CONTINUOUS CORE GAMMA SCHEMATIC

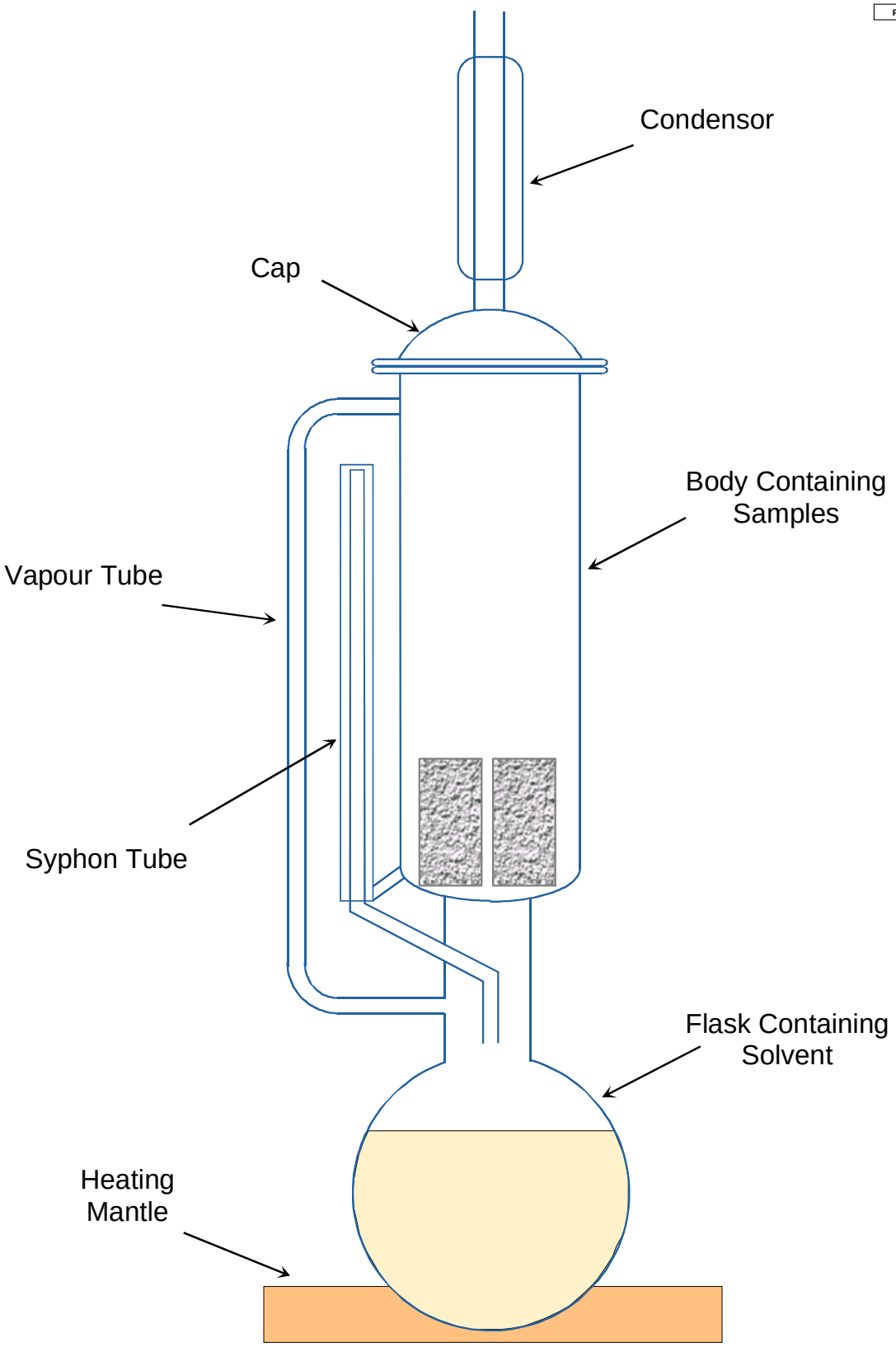


DEAN-STARK APPARATUS



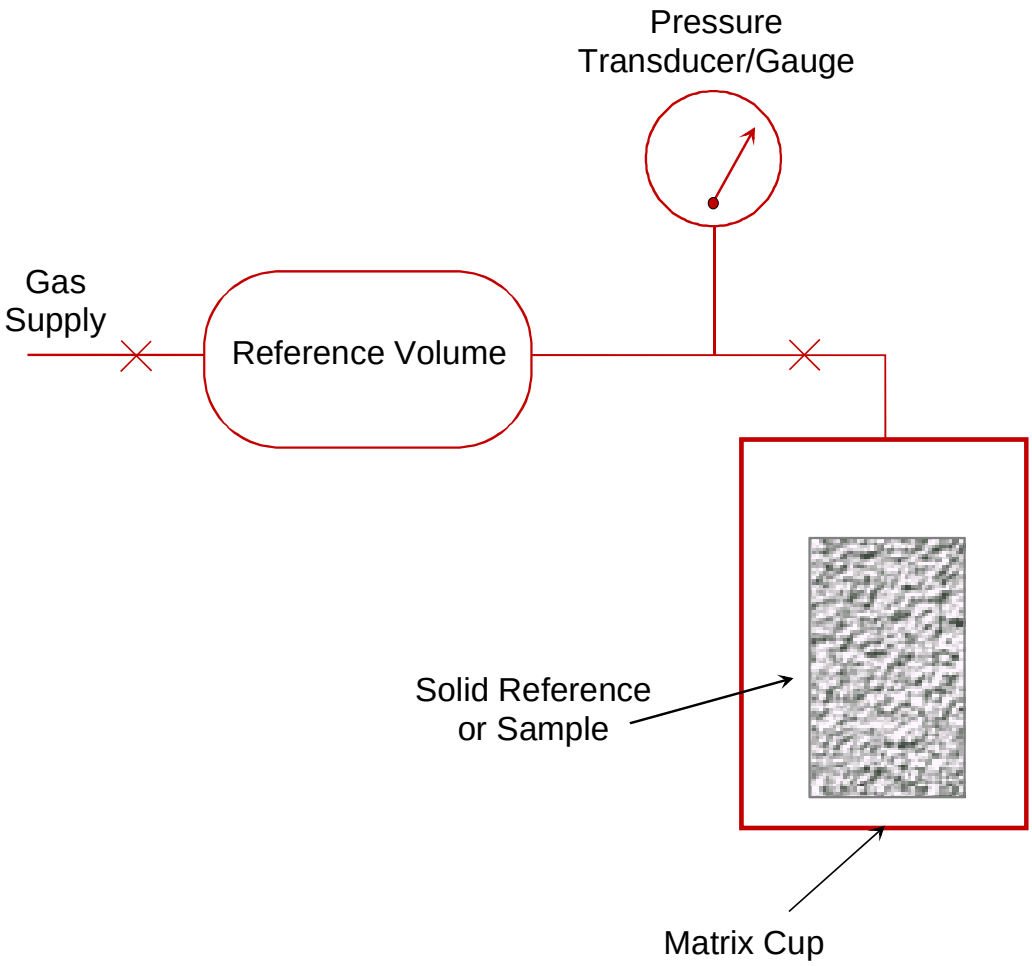
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SOXHLET CLEANING APPARATUS



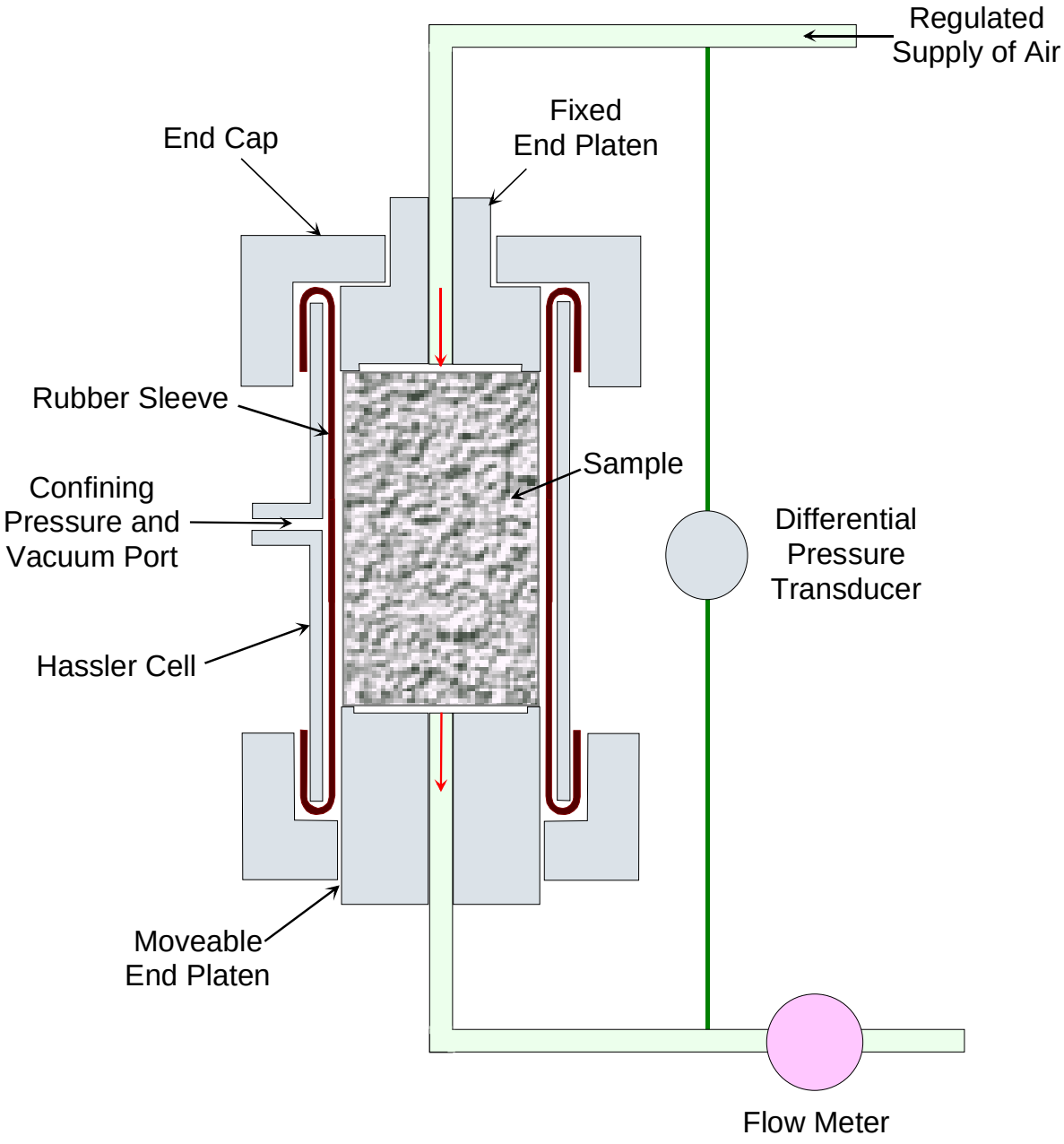
ACS Laboratories Pty Ltd
ABN: 81 008 273 005

POROSIMETER SCHEMATIC



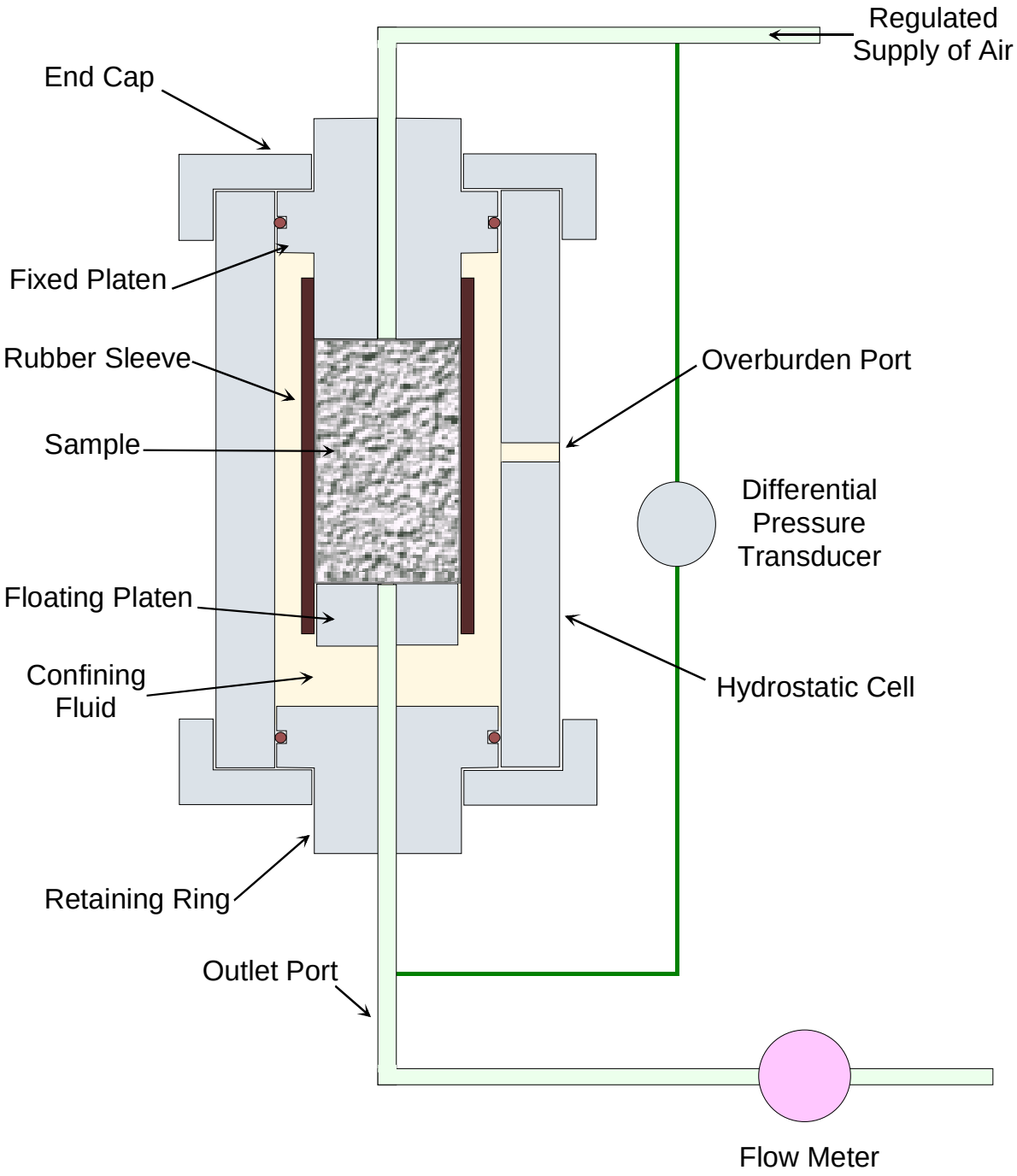
P1.V1 (reference) = P2.V2 (sample)

GAS PERMEAMETER SCHEMATIC (Hassler)

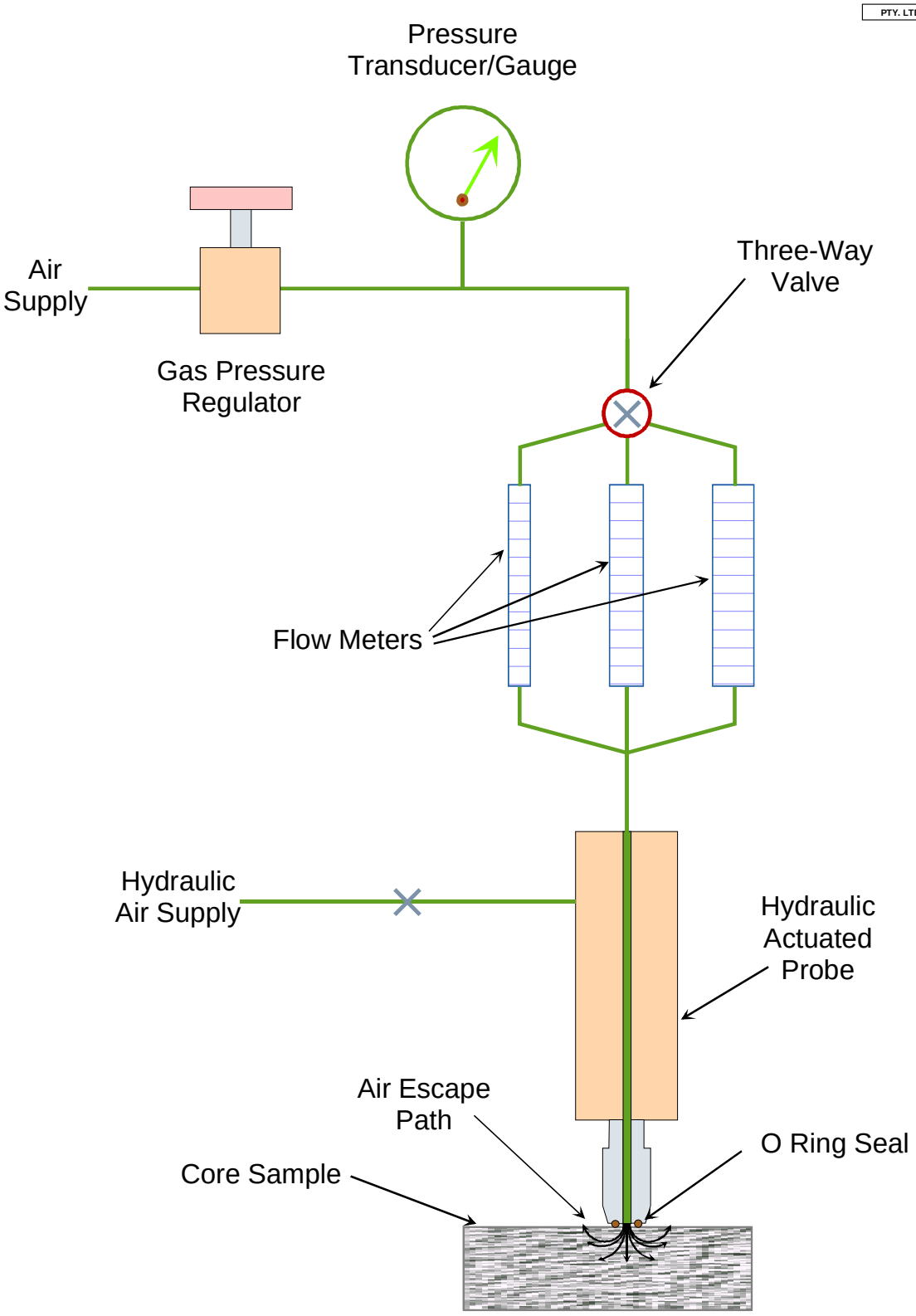


ACS Laboratories Pty Ltd
ABN: 81 008 273 005

GAS PERMEAMETER SCHEMATIC (Hydrostatic)



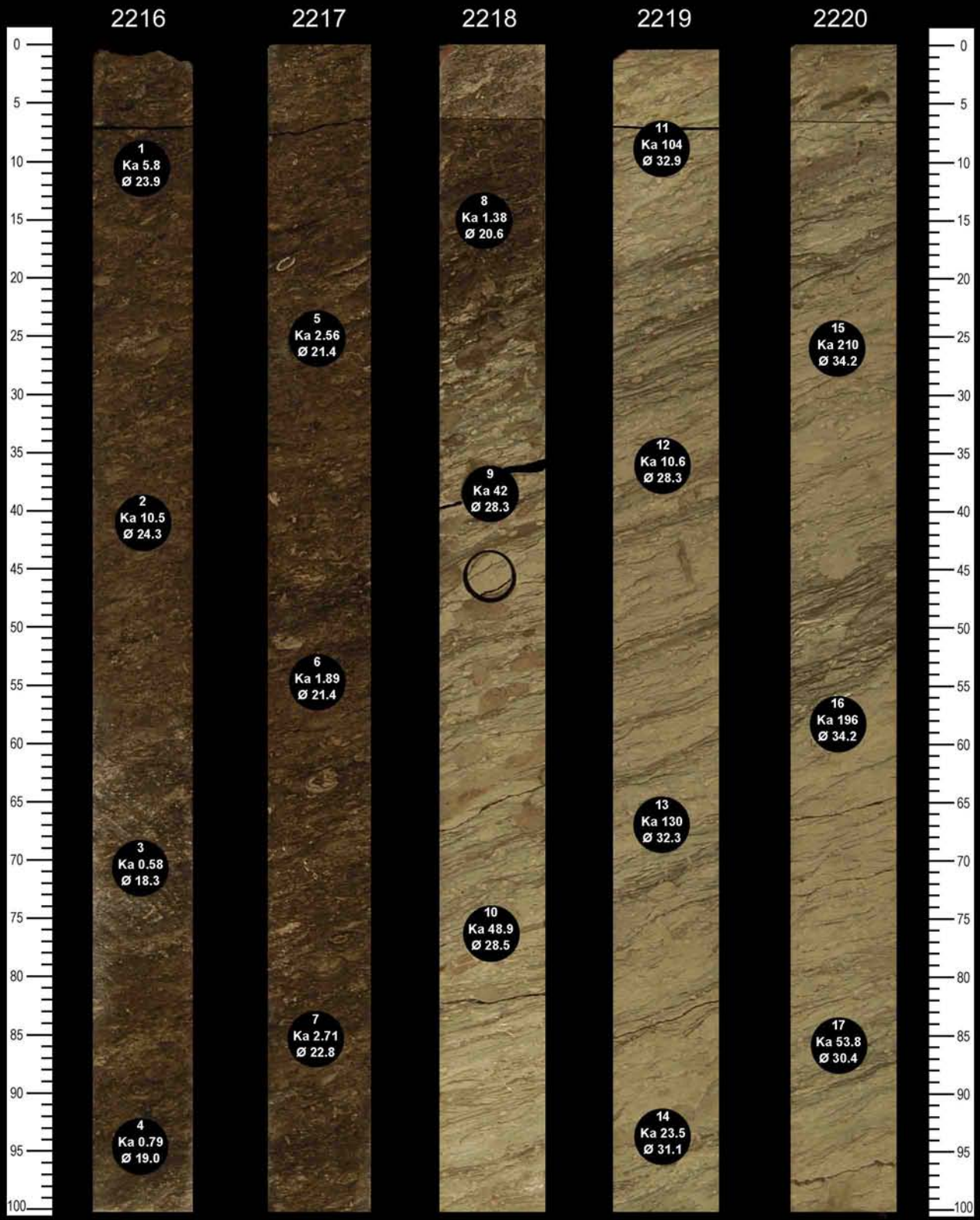
PROBE PERMEAMETER SCHEMATIC



Origin energy

YOLLA-3
CORE No. 1

ACS LABORATORIES PTY LTD



GREY SCALE

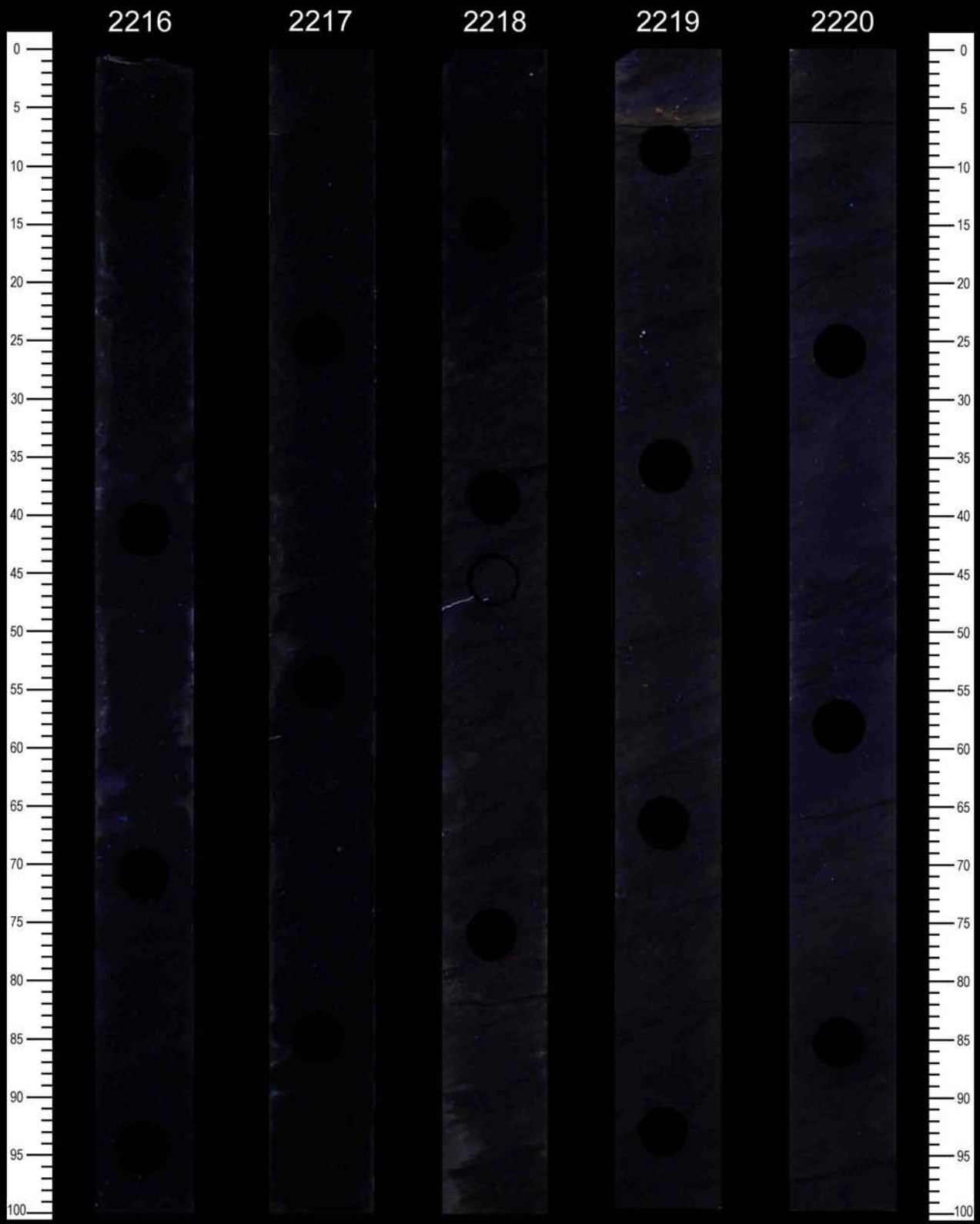
COLOUR REFERENCE

Origin energy

YOLLA-3 UV

CORE No. 1

ACS LABORATORIES PTY LTD



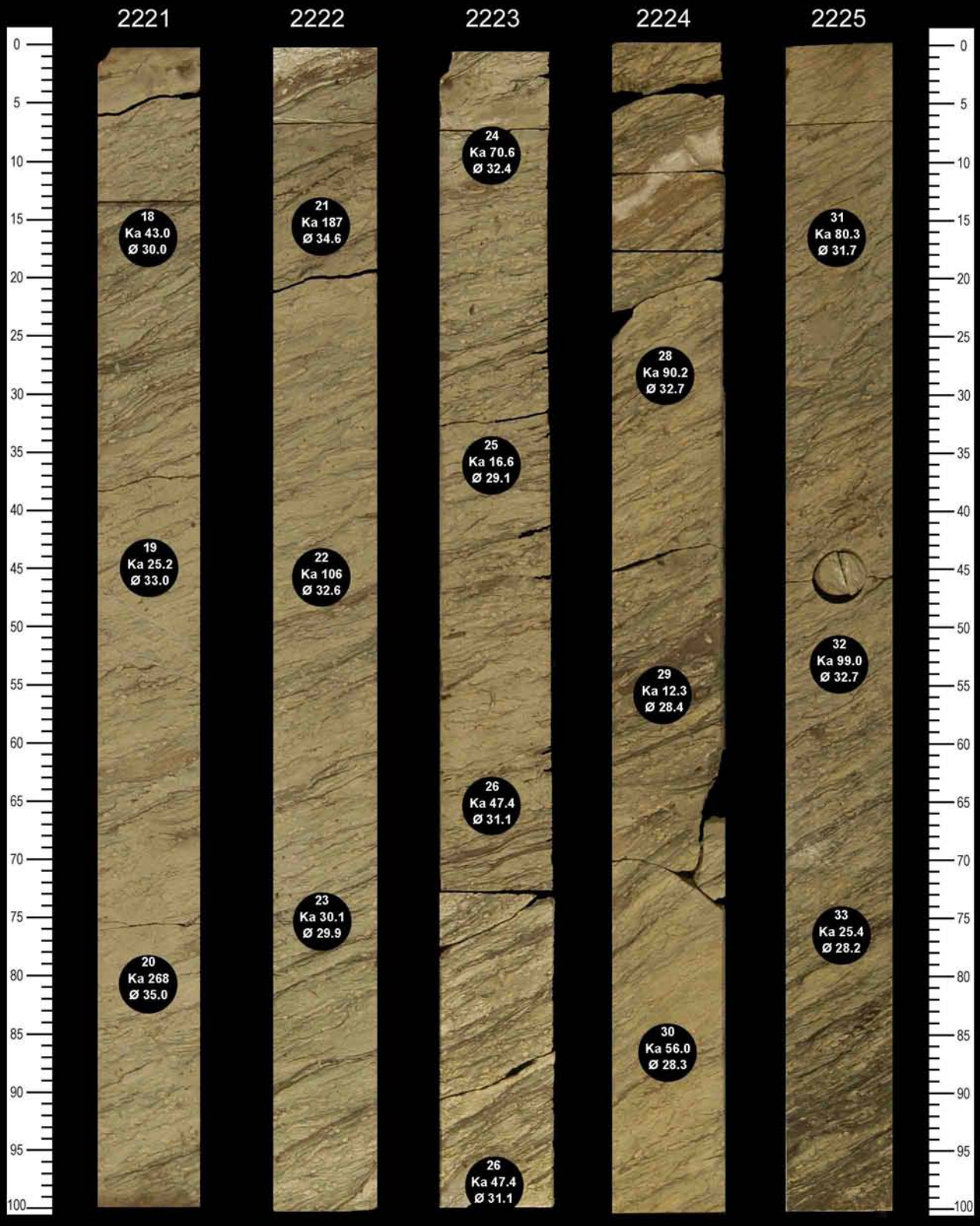
GREY SCALE

COLOUR REFERENCE

Origin energy

YOLLA-3
CORE No. 1

ACS LABORATORIES PTY LTD



GREY SCALE

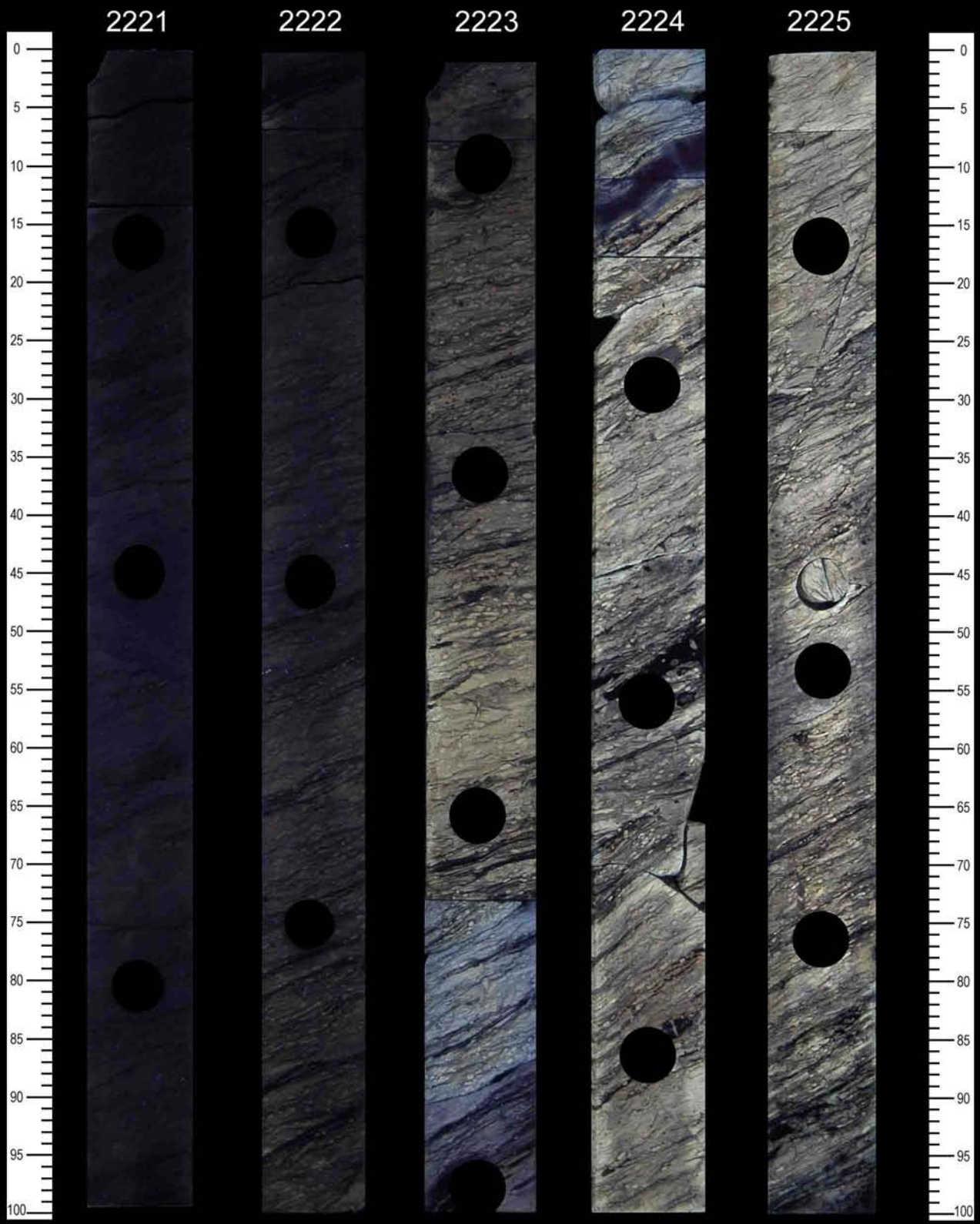
COLOUR REFERENCE

Origin energy

YOLLA-3 UV

CORE No. 1

ACS LABORATORIES PTY LTD



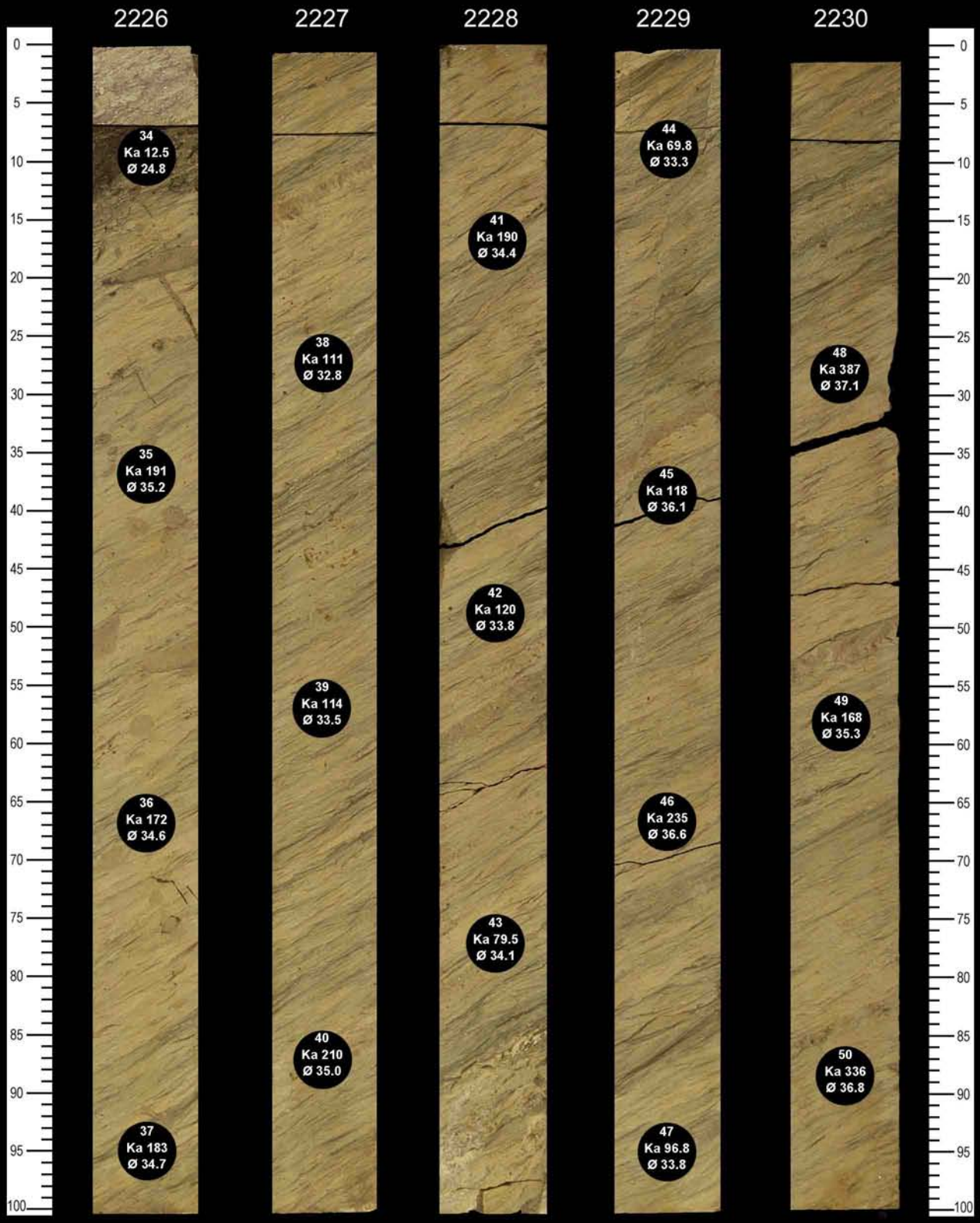
GREY SCALE

COLOUR REFERENCE

Origin energy

YOLLA-3
CORE No. 1

ACS LABORATORIES PTY LTD



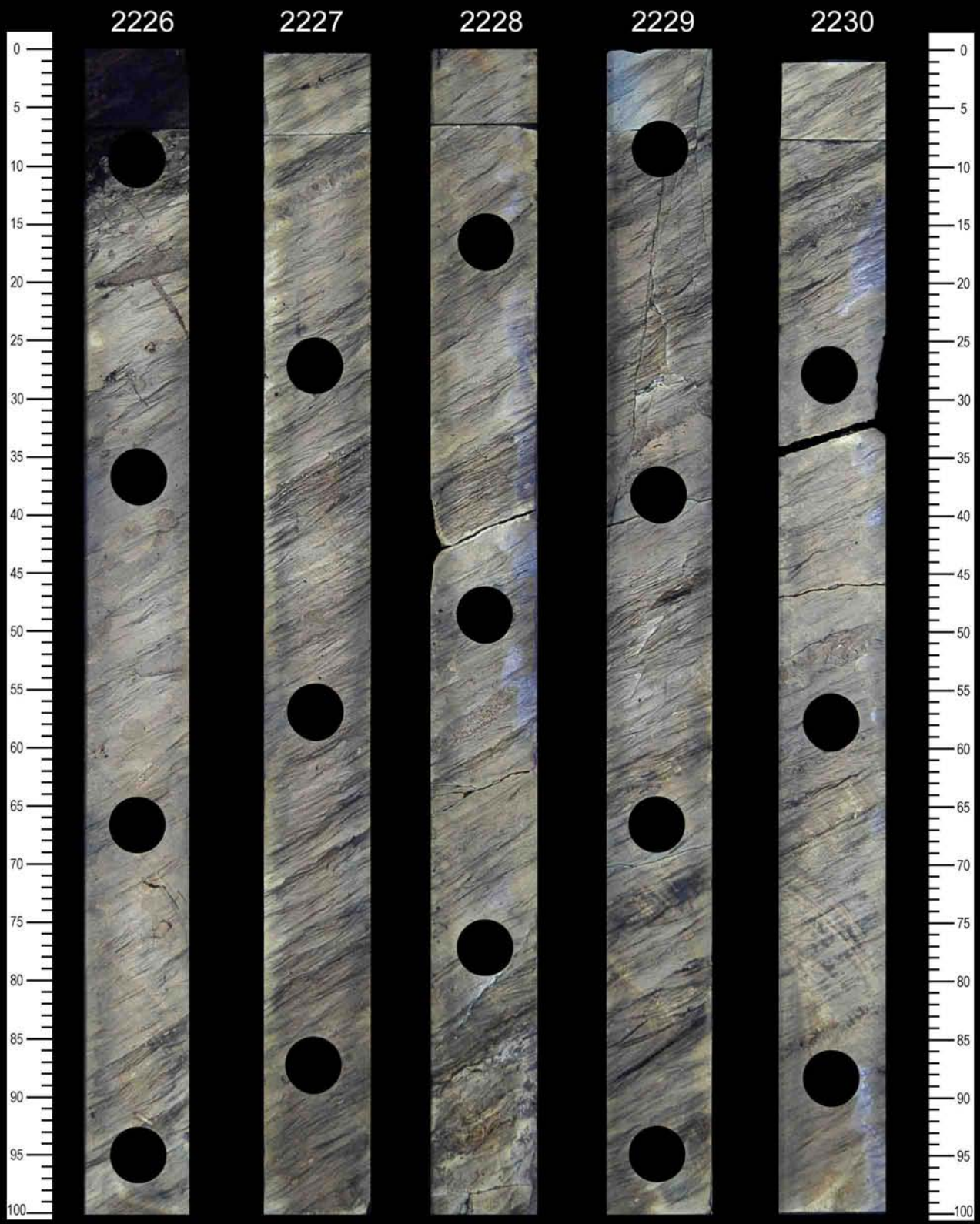
GREY SCALE

COLOUR REFERENCE

Origin energy

YOLLA-3 UV
CORE No. 1

ACS LABORATORIES PTY LTD



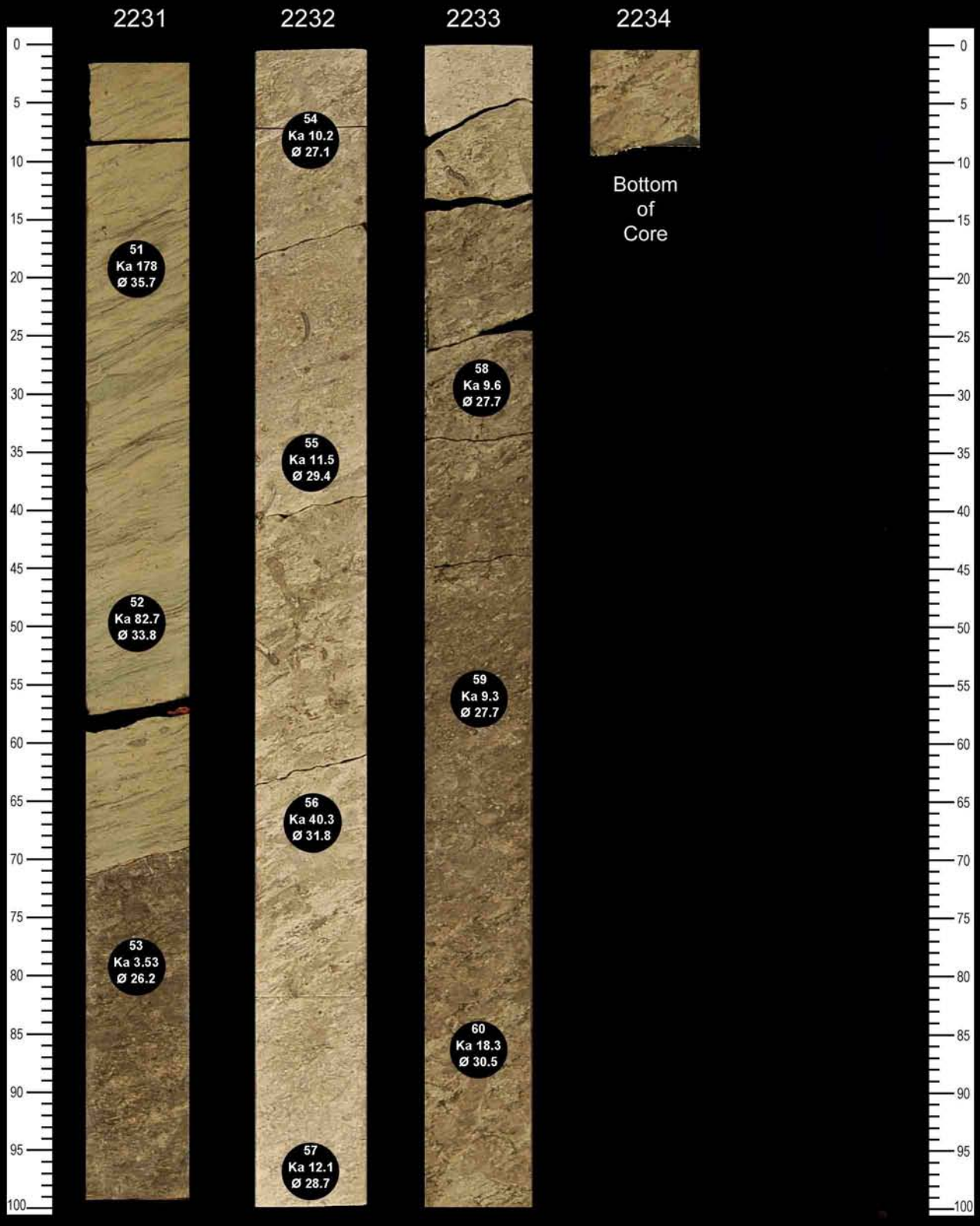
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COLOUR REFERENCE

Origin energy

YOLLA-3
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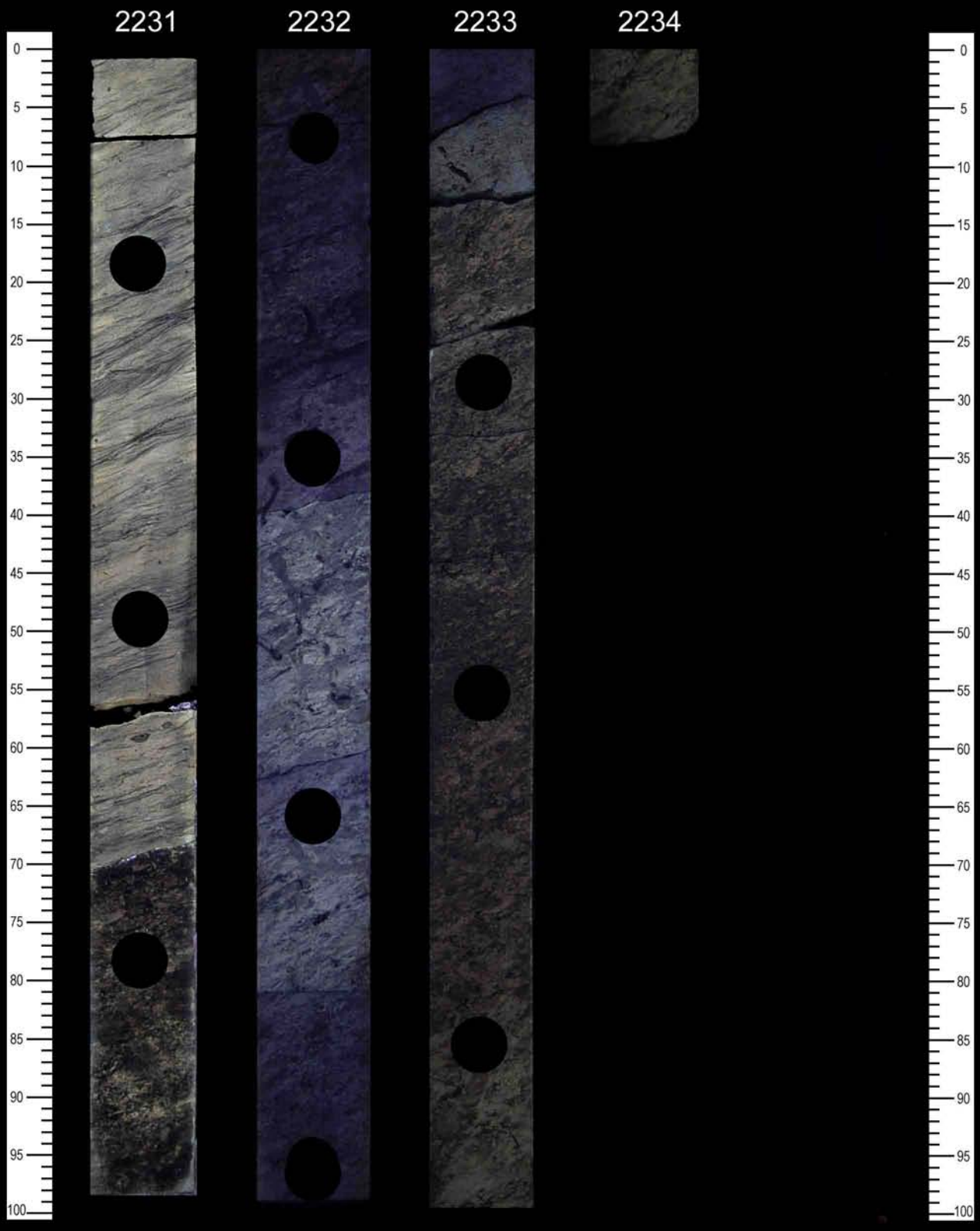
GREY SCALE

COLOUR REFERENCE

Origin energy

YOLLA-3 UV
CORE No. 1

ACS LABORATORIES PTY LTD




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APPENDIX 4: CUTTINGS GAS SUMMARY

APPENDIX 4: CUTTINGS GAS SUMMARY

Sourced from Daily Geological Reports

Depth Interval (mMDRT)	Total Gas (units)	C1 (ppm)	C2 (ppm)	C3 (ppm)	C4 (ppm)	C5 (ppm)
1017 - 1085	1 - 2	264	10	2	1	tr
1085 - 1205	8	1007	39	10	7	1
1205 - 1380	16	2000	90	16	2	1
1380 - 1420	35	4454	292	118	75	43
1420 - 1489	65	11180	956	476	244	99
1489 - 1522	64	6559	792	525	303	153
1522 - 1544	402	36863	4818	3335	1927	857
1544 - 1552	404	32480	5369	4155	2540	1285
1547	748	59441	9611	7463	4513	2197
1552 - 1591	147	10270	1180	711	393	206
1583	216	23446	2503	1467	709	320
1591 - 1614	90	7560	1072	785	466	241
1605	295	21711	2618	1849	1287	958
1614 - 1642	142	9094	1089	746	449	363
1632	277	23899	2571	1558	835	592
1642 - 1658	129	7426	928	633	390	327
1658 - 1690	107	7216	831	545	318	204
1690 - 1925	90	8813	837	496	251	126
1925 - 1961	60	5400	587	333	168	82
1961 - 2034	55	5701	616	351	173	75
2034 - 2097	60	7053	780	400	164	63
2097 - 2145	100	12535	1652	868	357	71
2140	1069	152699	14860	7225	2813	858
2145 - 2178	84	10585	1303	657	262	98
2178 - 2192	111	14930	1888	958	264	124
2192 - 2216	245	33014	3624	1951	762	145
2234 - 2279	230	17422	3150	2507	1445	659
2250	582	47493	8202	6367	3426	1513
2279 - 2347	38	1010	179	188	161	146
2347 - 2358	5	427	48	39	28	19
2358 - 2395	9	929	110	66	33	18
2395 - 2436	8	1435	169	98	42	16
2436 - 2498	4	288	34	30	18	7
2498 - 2559	4	539	48	31	13	4
2559 - 2635	14	2611	200	63	22	4
2635 - 2693	26	5082	287	94	39	7
2693 - 2772	24	4791	208	91	39	8
2772 - 2850	31	6318	269	154	64	13
2850 - 2904	37	6986	482	231	82	21
2904 - 2946	30	5275	480	246	93	29
2946 - 2994	22	3110	483	270	84	26
2994 - 3059	10	1392	157	102	41	19
3059 - 3086	28	4194	601	356	89	21
3086 - 3144	41	5541	978	566	184	57
3144 - 3153	148	18907	3357	2288	1003	346
3147	176	22329	3999	2737	1213	432
3153 – 3178	64	9580	1227	628	233	78
3159	119	22356	2428	905	249	70
3178 - 3195	351	65742	5371	2138	807	264
3195 - 3235	57	8884	924	480	207	89
3235 - 3252	308	54319	5481	2383	898	293

Depth Interval (mMDRT)	Total Gas (units)	C1 (ppm)	C2 (ppm)	C3 (ppm)	C4 (ppm)	C5 (ppm)
3239	575	100965	10462	4558	1679	535
3252 - 3318	55	8050	973	555	241	101
3318 - 3382	30	3581	519	392	162	69
3382 - 3403	68	10517	1009	658	291	114
3383	153	22829	2569	1915	797	266
3403 - 3422	167	34109	2167	835	367	140
3404	334	69875	4353	1528	638	140
3422 - 3459	45	7163	686	369	154	67
3459 - 3463	84	15716	11444	512	219	89
3463 - 3497	6	1095	31	11	6	4

APPENDIX 5: MUDLOGGERS REPORT

Yolla - 3

FINAL WELL REPORT

Prepared by
Geoservices Overseas S.A.
Engineers: P. McGilveray, G. Doczy, T.Platt, M. Boyd

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SECTION 3 -- GEOSERVICES WELL LOGS

MASTERLOG -- 1:500 scale from 125 to 3497 metres

DRILLING LOG -- 1:1000 scale from 125 to 3497 metres

GAS RATIO LOG -- 1:500 scale from 1000 to 3497 metres

BORE HOLE STABILITY LOG -- 1:1000 scale from 125 to 3497 metres

Section 1
General Well Summary

WELL DATA

Operator	: Origin Energy Resources Ltd	
Platform	: Yolla A	
Well name	: Yolla - 3	
Country	: Australia	
Location	: Offshore Bass Basin - Tasmania	
Structure	: Fault Bounded Anticline	
Field	: Yolla	
Permit	: T / L1	
Location AMG co-ordinates	: 5 588 822 m N	398 908 m E
Location local co-ordinates	: Lat: 39° 50' 40.578" S	Long: 145° 49' 06.186" E
Profile	: Deviated	
Reference depth	: Rotary Table	
RT to Seabed	: 124.0 metres	
RT above M.S.L.	: 43.0 metres	
Sea-water depth	: 80.8 metres	
Proposed total depth	: 3246.0 metres	
Actual total depth	: 3497.0 metres	
True vertical depth	: 3100.3 metres	
Spudded on	: 11th August 2004	
Total depth reached on	: 04th September 2004	

Drilling Contractor

Drilling Contractor	: Ensco Australia
Rig name	: Ensco 102
Rig type	: Jackup

Drilling Phases

Diameter (inch)	From (m)	To (m)	Mud Type
16"	124.0	1012.0	Flocculated / Bentonite / Seawater
12¼"	1012.0	2347.0	Seawater / Drispac / Soltex
8½"	2347.0	3497.0	Seawater / Drispac / Soltex

Cased Hole

Casing Diameter (inch)	Casing Type	Shoe Depth (m)
20"	Conductor	215.00 MDRT
$13^{3}/_{8}$"	Surface	1006.82 MDRT
$9^{5}/_{8}$"	Intermediate	2339.82 MDRT
$6^{5}/_{8}$"	Production	3497.00 MDRT

MUD LOGGING

Logging Unit Number: 171

Engineers: P. McGilveray, G. Doczy, T.Platt, M. Boyd.
Mudloggers: V.B.Jagarlamudi, N. Elliott, C. Chadwick.

Sampling Interval

Yolla - 3

Sample Type	Number of sets	Quantity per set	Sampling interval	From (m)	To (m)
Washed and Dried	3	100 grams	10 metres	1012	2020
Washed and Dried	3	100 grams	3-6 metres	2020	3497

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

WELL SUMMARY

Yolla A platform is located offshore within the Bass basin approximately 120 Km north of Tasmania. The Yolla-3 well is the second of a two well developmental phase of the Yolla field to be deviated and completed from the Yolla platform. Yolla-3 was deviated to intersect the Palaeocene sandstone reservoirs of the Intra-Eastern View Coal Measures to ascertain their deliverability for supply to the Victorian domestic market. These reservoirs were previously intersected and evaluated in the Yolla-1/2 & 4 wells. The Yolla-4 well also evaluated the top EVCM stratigraphic level.

The Yolla Drilling programme was drilled using the ENSCO 102 jack up drilling rig which was cantilevered over the Yolla permanent production / wellhead platform and the 20"conductor casing was installed on both Yolla-4 & 3 prior to spudding the wells. The 20" Conductor was driven to a depth of 215 m, Yolla-3 was re-spudded @ 03:00 hrs on the 11th of August 2004 and drilled to a Total Depth of 3497mMD on the 4th September 2004, in a 3 Phase programme over 25 days.

16" PHASE

A Hughes Christensen MX1 Tri-cone 16" Bit was used in conjunction with the SperryDrill to drill the 16" Phase. It washed from the Mud line at 124 m to 184 m where competent formation was encountered and then drilled ahead to the section TD of 1012 m. Once the BHA was well clear of the 20"casing, the hole was drilled and steered, building to an angle of 40.9° by 980m. All returns for this section were dumped to the sea via a ported riser.

A total of 888 m of 16" hole was drilled in 19.7 on bottom hours resulting in an average ROP of 45.1m/hr.

The $13^{3}/_{8}$" casing was run and set at 1006.8m. (928.14 TVD)

12¼" PHASE

A Hughes Christensen 12¼" ATJ-G8 bit in conjunction with the $9^{5}/_{8}$" SperryDrill was run to drill out the Stage collar (303m to 308m), shoe track, casing shoe (1016.82m) and 12¼" rat hole to 1017m (0.4 hrs drilling formation, 1.7 hrs drilling cement and 3 hours total pump time) A LOT was performed resulting in a EMW of 10.5 ppg, prior to pulling out of the hole to change the BHA.

A Hughes Christensen 12 ¼" HCM506 PDC bit with the SperryDrill Motor / MWD directional assembly was then run. The Claystone section caused problems at the flow line and shakers, causing losses and blockages, and subsequently the section was drilled with controlled ROP to reduce the problems. Weak MWD signal losses preceded a signal failure at 1593m, where the string was pulled out to change the MWD tool out. While pulling out, tight hole was encountered from 1226m, with 40-50Klb over-pull on the hook. The string was pumped out to 1212m with the hole packing off, then back reamed to the 13 3/8" shoe at 1006 m. The hole was then circulated clean before pumping a slug and pulling out of the hole.

The MWD was changed out and run in the hole with the same BHA configuration to 1293m where 60Klb resistance was encountered. The string was washed to 1593m where bottoms up was circulated out giving a maximum trip gas reading of 4418 units (aux). Drilling then continued down to the top EVCS (Eastern view coal measures) to the coring point at 2216m (1858m TVD). Maximum drilled gas for the run was recorded as 1288 units (Aux). The string was pulled out to 1463 m where the hole became tight and packed off. The hole was circulated and back reamed to the shoe at 1006m, with the hole packing off several times.

A 8 ½" core barrel was made up and run in the hole to the shoe, where a full circulation was done whilst servicing the top drive. Tight hole was experienced from 1035m and the string was washed and reamed to 2216m, through tight spots (at 1090, 1107, 1117, 1475 and 2165m). The trip gas at bottom was recorded at 1046 units. The diverter ball was dropped and the core cut to a depth of 2234m. The closure ball was dropped but did not seat, a second ball was dropped but also did not seat. The core was then broken off with 15Klb over-pull. The hole was circulated clean, with a gas peak of 491 units, and the string was pulled out, but the core barrel was found to have sheared off. A fishing BHA was made up with a 6 ¾" grapple and run in the hole. It was necessary to wash and ream the fishing string from 1061 to 1096m, tight spots occurring at 1061, 1067 and 1071m also. The fish was washed down to the bottom and successfully engaged the core barrel with 60Klb over-pull. The string was pulled out of the hole, encountering tight spots at 1095, 1075 and 1055m.

The same 12¼" drilling BHA as previous was RIH to the 13 3/8" casing shoe. From 1032 - 1600m the hole was washed and reamed while the mud was conditioned. The cored section (2216-2232m) was opened to a 12¼" size hole and drilling continued down to the section TD of 2347m, steering as per directional requirements.
The hole was circulated clean with 3 full circulations, and Barolift sweeps were pumped. The string was then pulled out of the hole to 2173m where a slug was pumped. There was no resistance on the trip to the surface so a wiper trip was deemed

not necessary. Wireline logging was rigged up and run in the hole but hung up at 1200m. On pulling out the tools became stuck at 1134 m. A 5Klb over-pull was held and worked to free.

A clean-out BHA was made up and run in the hole for a wiper trip. The hole was reamed to 1800m, where the hole was clean enough to RIH without washing / reaming down. The last 3 stands were washed down to the bottom at 2347m, where a 60 bbl Barolift sweep was pumped. 3 full circulations were done whilst working the pipe and the mud was conditioned to 9.4 ppg in and out. Typical background gas readings were recorded below 25 units and a peak of 130 units was recorded as trip gas. The clean out assembly was then pulled out of the hole with no sticking points observed. The wireline was then rigged up and RIH to 1123m where it hung up before continuing to 1143m where it hung up again. The wireline tools were pulled out of the hole and the logging run abandoned. A BOP test was done before rigging up to run $9^5/_8$" casing.

A total of 1335m of 16" hole was drilled in 68.2 on bottom hours resulting in an average ROP of 19.6m/hr.

The $9^5/_8$" casing shoe was set at 2339.82m (1967.33TVD).

8½" PHASE

The 8½" hole was drilled with a Hycalog DSX173DG PDC bit with 3x16 and 3x18 jets and steering assembly down to the total depth of 3497m. The bit was pulled 3m sooner than prognosed due to poor ROP of around 1 m/hr.

The float, cement and shoe of the 9 5/8” casing were drilled from 2317 to 2339.8m, the rat-hole was cleaned out and 3m of new formation was drilled to 2350m. An LOT was performed resulting in an EMW of 10.9ppg. Drilling continued down to TD at 3497m, sliding and rotating as per directional requirements. Surveys were taken every stand drilled. There were no downhole losses encountered while drilling this section. On reaching TD the hole was swept with two sweep pills and on return to surface these were dumped at the shakers.

On pulling out to the $9^5/_8$" casing shoe, minor tight hole was encountered and reamed. These tight spots were at 3260, 3210, 3170, 3149, 2935, 2908, 2900 and 2761m. A top drive service was done once inside the 9 5/8” shoe, before running in the hole back to 3497m. No resistance was encountered on the trip to bottom.

Circulation was broken at TD and two sweep pills were pumped as before, and they were dumped on return to the shakers. Bottoms up was circulated out giving a trip gas reading of 3740 units (Aux). A further two bottoms up volumes were then circulated and the hole was confirmed clean before a flow check showed the well to be static. A slug was pumped before pulling out of the hole to the shoe with no resistance encountered.

A total of 1150 m of 8½" hole was drilled in 62.6 on bottom hours resulting in an average ROP of 18.4m/hr.

Schlumberger wireline logs were then run as follows:
Run # 1, PEX-HRLA-CMR-SP-GR-LEHQT.
Run # 2, FMI-DSI-HNGS -LEHQT
Run # 3, MDT-GR-LEHQT
Run # 4, MDT-GR-LEHQT

On pulling the wireline out of the hole after the 4th run the tools became stuck. An over-pull of 10Klbs was applied but to no avail. The cable was cut and a grapple was RIH, engaging the MDT at 3052m. A wiper trip was performed before running the 6 5/8” liner- washed and reamed at 3077m, giving a gas peak of 3280 units. The gas was circulated out before running to bottom where a sweep pill was circulated before circulating 3 bottoms up and confirming the hole clean. A trip gas peak of 3650 units was recorded. A flow check confirmed the well to be static, before pulling out of the hole and rigging to run the liner.

The liner was landed and set at 3497m TD (3100.31mTVD)

Yolla-3 was tested and then completed with a single oil completion string of 3½" tubing in $6^5/_8$" production casing.

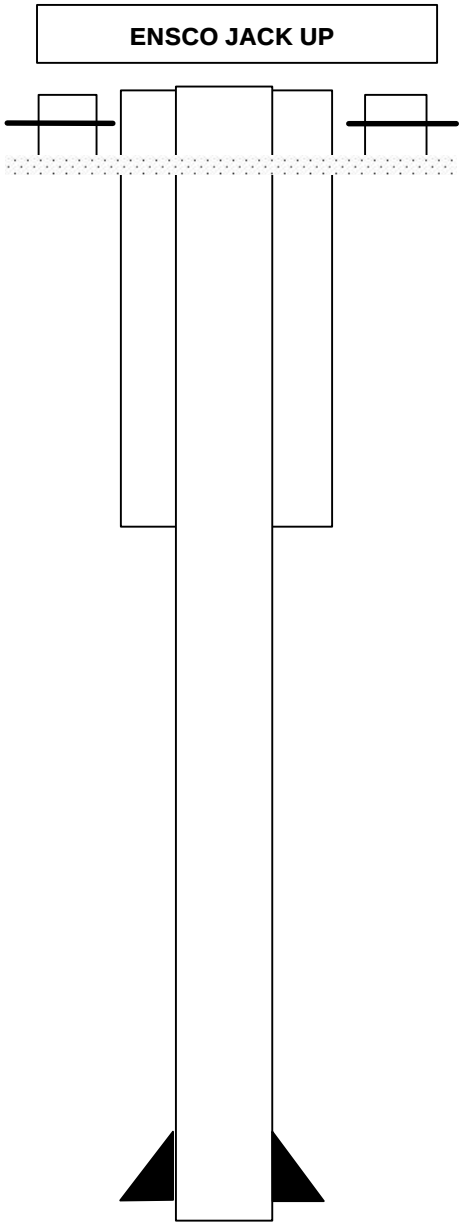
WELL PROFILE

Rotary Table to Mean Sea Level 42.8 m
Water Depth 81.0 m
Rotary Table to Sea Bed 124.0 m
20" Conductor at 215.0 mRT

$13^{3}/_{8}$" Casing Set at 1006.82 mRT

$9^{5}/_{8}$" Casing Set at 2239.82 mRT

$6^{5}/_{8}$" Production casing at 3497 mRT



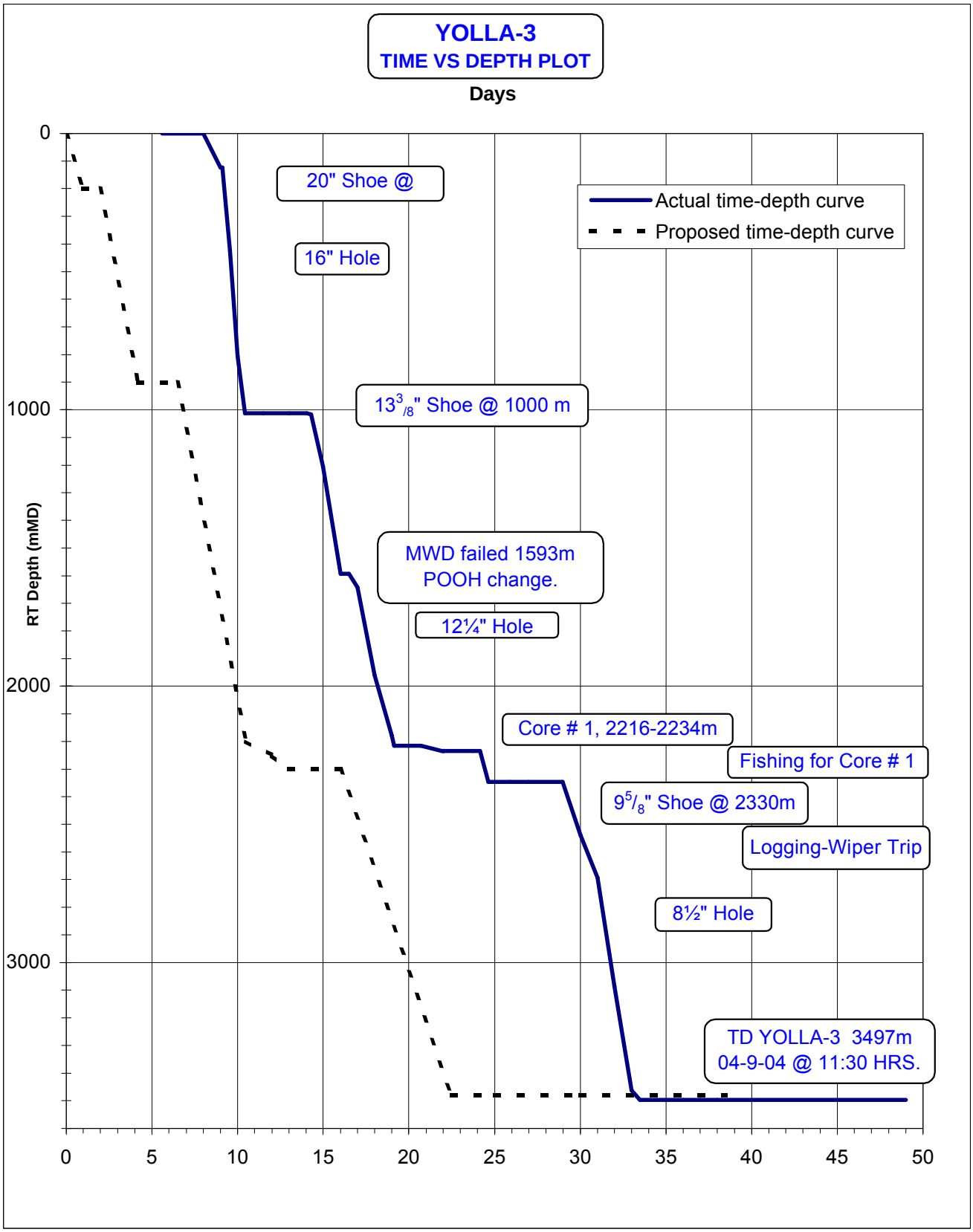
Spudded Yolla-4
11th August 2004

16" hole
124.0 m – 1012.0 m

12¼" Hole
1012.0 m – 2347.0 m
Mud Weight 8.6^{+} - 9.4^{+} ppg

8½" Hole drilled to 3497.0 m
Mud Weight 9.3 - 9.4^{+} ppg

TIME-DEPTH CURVE (measured depth)



BIT RUN SUMMARY

BIT	**Size** (")	**Type**	**Jets**	**In** (m)	**Out**	**Hours**	**Condition**
1RR	16	Hughes MX-1	3 x 24	124	1012	19.7	2-2-BU-A-E-I-NO-TD
2RR	12¼	Hughes ATJ-G8	3 x 24	1012	1017	0.4	2-2-WT-A-E-I-NO-BHA
3	12¼	Hughes HCM506	6 x 18	1017	1593	17.7	2-2-NO-A-X-I-NO-DTF
3RR	12¼	Hughes HCM506	6 x 18	1593	2216	43.2	2-2-BT-S-X-I-ER-CP
5	8½	Security FC264LI	1.33 TFA	2216	2234	0.75	100 % Recovery
3RR2	12¼	HUGHES HCM506	6 x 18	2216	2347	6.9	2-2-BT-S-X-I-CT-TD
4RR	8½	HYCALOG DSX173DG	3 x 16 3 x 18	2347	3497	62.6	2-3-WT-S-X-I-CT-TD

CASING DATA

Type	**Size** (Inches)	**Weight** (lb/ft)	**Grade**	**Thread**	**Depth** (mMDRT)
Conductor	20"	203	B / X56	RL4S / E60MT	215.0
Surface	$13^{3}/_{8}$"	54.5 / 72	K55 / Q125	BTC / Vam top	1006.82
Intermediate 12¼" Hole	$9^{5}/_{8}$"	43.5	L80	Vam Top	2339.87
	10¾"	51	L80	Vam Top	199.81
Production	$6^{5}/_{8}$"				

CEMENTING DATA

$13^{3}/_{8}$" Surface casing

STAGE 1

Casing details	**Cement Type**	**Dry Cement Volume** (sx)	**Cement Additives**	**Mix Water** (bbls)	**Slurry Volume** (bbls)	**Slurry Density** (ppg)	**Top of Cement** (mMDRT)	**Casing Pressure Test** (psi)
$13^{3}/_{8}$" Lead Slurry	G	740	0.42 gal/sk D75 0.01 gal/sk D47	232 Seawater	294	12.5	308 m	
Tail Slurry	G	298	0.01 gal/sk D47	37 Drl water	62	15.8	906 m	

STAGE 2

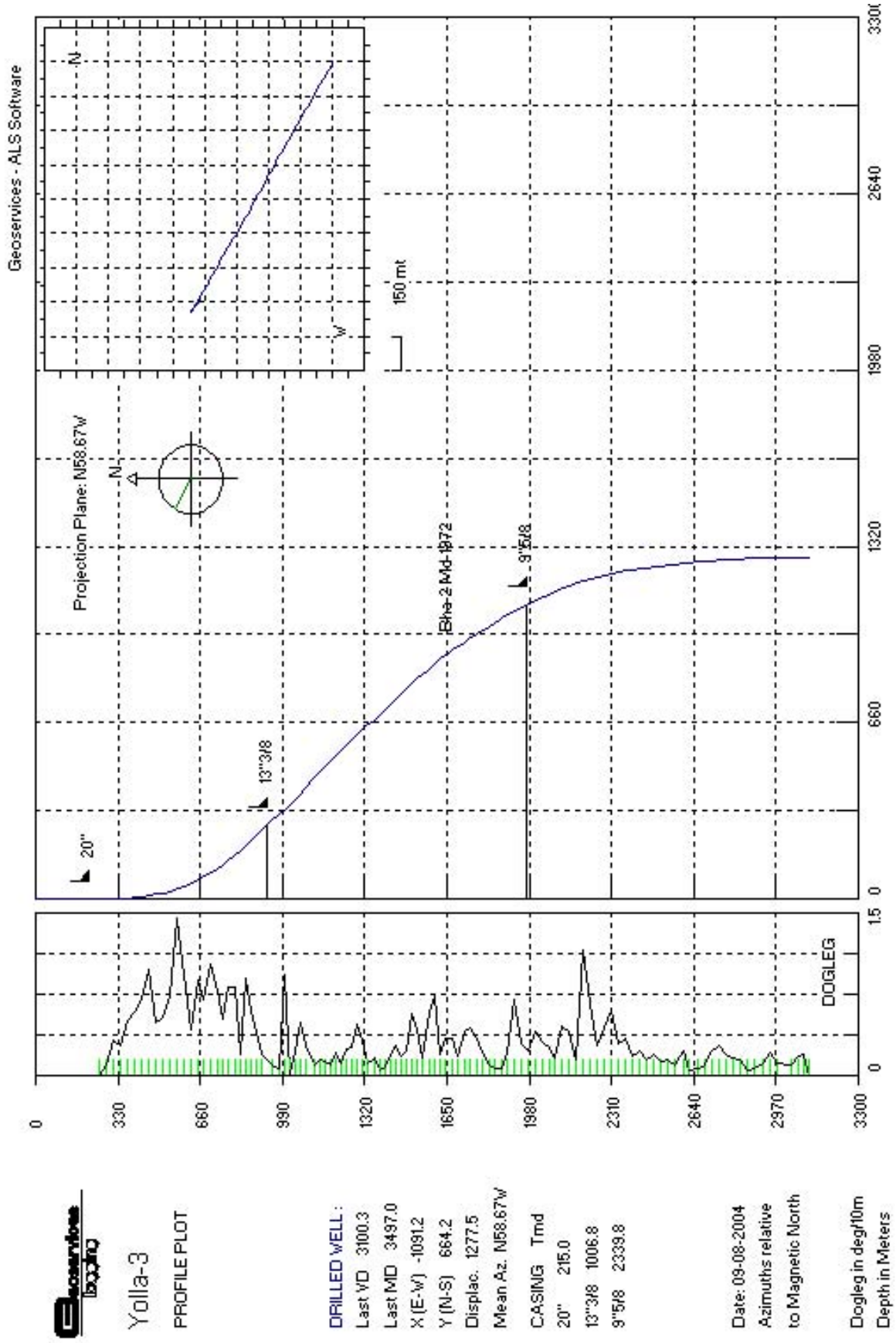
Casing details	**Cement Type**	**Dry Cement Volume** (sx)	**Cement Additives**	**Mix Water** (bbls)	**Slurry Volume** (bbls)	**Slurry Density** (ppg)	**Top of Cement** (mMDRT)	**Casing Pressure Test** (psi)
$13^{3}/_{8}$" Tail Slurry	G	216	0.42 gal/sk D75 0.01 gal/sk D47 1.5% BWOC CaCl2	50 Seawater	68	15.8	40 m	1500

CEMENTING DATA (Cont'd)

$9^5/_8$" Intermediate casing

Casing details	**Cement Type**	**Dry Cement Volume** (sx)	**Cement Additives**	**Mix Water** (bbls)	**Slurry Volume** (bbls)	**Slurry Density** (ppg)	**Top of Cement** (mMDRT)	**Casing Pressure Test** (psi)
$9^5/_8$" Lead Slurry	G	522	2.5% BWOC Pre-Hyd Bentonite 0.05 gal/sk D110 0.01 gal/sk D 47	153 Drl Water	198	12.5	1150 m	
Tail Slurry	G	174	0.1 gal/sk D080 2.0 gal/sk D600 0.05 gal/sk D175 35% BWOC D66	27 Drl Water	48	15.8	22142 m	3500

WELL DIRECTIONAL PROFILE



WELL DIARY

08th Aug 2004 Skid drill floor 12' to port, Yolla-3. Centre line to rotary 10'3" to port. Reinstate hand- rails etc. Reconnect service lines to rig floor. Reinstate deck hatch covers to Yolla main deck and remove hatch covers for Yolla-3. Scaffolders erect safety handrail around Yolla-3 deck opening. Prepare and move PCU into position below drill floor and secure. Pick up riser tensioning frame and install on riser tensioning cylinders. Prepare pick up and rig up sling. Wind speed above 40 knot - lay down cranes. Perform PM on drill equipment. Test choke and manifold 500 / 5000 psi.

09th Aug 2004 Continue to wait on weather. Wind above 40 knots, unable to use cranes. Perform PM on drill equipment. MPI top drive components. Continue to wait on weather. Cranes not operating. Perform PM on drill equipment. Wind down to 30-35 knots. Pick up low pressure riser and run same, make up to Cameron 20" wellhead and tie down. Install turn buckles and slings to 20" conductor casing pad eyes. Pick up and install second joint, torque same. Pick up overshot packer-diverter box and install same. Wind 40-45 knots. PM on drill equipment. Seas 5 metres.

10th Aug 2004 Wind speed above 40 knots. Crane not operating. Perform PM on drill equipment. Test BOP stack 500 psi / 5 min, 5000 psi / 10 min. Test drill string safety valves 500 / 5000 psi. Wait on weather to offload boat. Rig down test equipment, install wear bushing and function diverter system. Arrange deck, layout BHA – measure and caliper same. Make up 16" bit, BHA with 1.15º bend in motor.

11th Aug 2004 Continue to pick up / make up 16" directional BHA and run in hole. Tag mud line 124m. Spud well 03:00 hours. Drill ahead from 124 - 391m. Pump 30 bbl hi-vis sweep each single. Spot 50bbl hi-vis in open hole around BHA prior to connection. Drill 391 - 817m. MWD survey each connection, pump hi-vis pills as required, returns to sea bed.

12th Aug 2004 Continue to drill 817 - 1012m, section TD, 30bbl sweeps every single, 50bbl hi-vis spotted at BHA each connection. Steer as required, surveys on each connection. Pump and displace hi-vis mud to open hole, spot 90bbl inhibited mud on bottom. Pull out to 188m, wait on weather. Perform wiper trip. Circulate on bottom, Pump slugs. Pull out of the hole.

13th Aug 2004 Continue to pull out of the hole with BHA, lay out Sperry probe, lay down bit. Remove 20" packer. Retrieve wear bushing. Install 20" insert packers. PJSM rig up casing tools. Rig up and change pipe handlers from 5" to $13^3/_8$". Change out inserts and guides on PS-21 slips to $13^3/_8$". Install la fleur casing: fill up tool. PJSM on run $13^3/_8$" casing. Weatherford tongs not work, change out. Make up $13^3/_8$" shoe track and run casing. Wait on weather, work casing string up / down at 517m.

14th Aug 2004 Wind picked up over 50 knots, wait on weather, stow cranes. Pre-job safety meeting for casing run. Run casing, install collar, housing and land, verify 1006.82m. Remove Le Fleur casing fill up tool. Cement as per programme. Install X/O, cement hose and lines. Circulate 125% casing volume at 250gpm / 480psi. PJSM for cement job. Dowell test lines - 2000psi. Pump 20bbl sea water. Mix /pump 746 sx 12.5ppg lead slurry (294bbl) and 298 sx 15.8ppg tail (62 bbl) 1st stage wiper plug. Flush cement line, chase plug with 20bbl seawater. Displace with rig pump 483bbl sea water, bump plug 1500psi, wait 15 min, bleed off, float holding. Remove cap from cement head, drop stage / load closing plug, restore cap. Test 1000psi with Dowell. Circulate while wait on cement, line up Dowell and pump 70bbl seawater. Pump 10 bbl water with oxygen scavenger and Baracor 129. Mix / pump 68bbl 13.5ppg slurry. Release plug from cement head and Dowell pump 20bbl drill water and 136bbl seawater. Bump plug 1500psi hold 15 min for casing test and bleed off. Check for backflow – OK. Rig down cement head and lines, rig down $13^3/_8$" handling tools and bails. Clear rig floor. Nipple down diverter and overshot packer and riser. Install slide outlet valves on wellhead, test flanges to 5000 psi. Remove plugs. Install CF13 fastlock connectors. Install $13^3/_8$" riser spool with connector.

15th Aug 2004 Install tensiometer frame support beams. Prepare to pick up BOP. PJSM lift BOP. Pick up 18¾" 15m BOP, traverse to well centre, install rig up lines. Land BOP, torque up NT-2 connector. Install pod control hoses. Pressure up Koomey, remove test joint and rig up lines. Nipple up overshot mandrel, overshot and diverter housing. Energize tensiometer with 20 ton. Nipple up choke and kill hoses. Pressurize diverter seals. Lay out 16" directional BHA. Rig up and test BOP, choke and kill lines, CMV 1 to 4, upper wellhead valves, and shear rams, 500 / 5000psi, 5 / 10 minutes. Perform accumulator test. Pull test plug, rig down test equipment, install wear bushing. Make up 12½" BHA and run in hole. Tag cement at 303m. Drill cement to 308m. Pump hi-vis pill to clean hole, rotate-work pipe and run in hole to 552m.

16th Aug 2004 Run in hole, tag cement 980m, fill pipe and circulate, close TPR-test casing 1500psi, bleed off, open TPR. Drill cement and shoe to 1006m, displace to mud 8.6ppg. Drill to 1012m rat hole, new formation drilled to 1017m. Circulate bottoms up, POOH to 986m. Perform FIT, 303psi, 10.5ppg EMW. Check for back flow - OK, slug pipe. Pull out of the hole. Remove PS-21 slips and install rotary bushings, POOH and change BHA. Re-check FIT with blind rams closed, 303psi / 10.5ppg EMW, no leak off. Pick up / make up adjustable stabiliser, test same at 620gpm - OK. Pick up MWD tools, plug in and programme Sperry-Sun tools.

17th Aug 2004 Run in hole BHA. Drill ahead as per Sperry-Sun directional driller. Surveys on connections. Flow line blockages with cuttings build up, stop and clean, 1260m, 1420m, work pipe while cleaning trough. Drill to 1456m. Slide from 1456 - 1593m, MWD failure at 1593m. Circulate bottoms up, flow check. Pump slug, pull out of the hole.

18th Aug 2004 Pull out of the hole. Tight hole 1265-1226m, 40-50Klb over-pull, pump out of the hole from 1226 - 1212m, hole packing off. Back-ream to 1006 m. Circulate, pump slug at 840gpm, check flow - static, slug pipe and pull out to 190m. Check flow static. Remove PS-21 slips, pull out of hole to 26m. Change jars, layout HOC, DIR, RLL and pick up new ones. Programme Sperry tools, pull up, check bit and clean. Scribe motor to tools. RIH shallow test Sperry-Sun tools, 700gpm - OK. RIH to 1006m. PJSM for cut and slip drill line, cut 132 ft drill line. Reset upper-lower limit BCS and Crownomatic, test with block. RIH 1259m, resistance 60Klb, pump through, wash stand down, continue to 1585m, wash down to 1593m. Gas increase, circulate out, 4418 units, stop and flow check - static. Gas break out at surface, annular preventer closed as precaution against well purging, complete circulating bottoms up., 300gpm, 750psi via open choke. Pits volume steady. Mud density check – gas cut, stop circulating, flow check – well static. Open annular preventers, rotate, work pipe, monitor trip tank 15 minutes – static. Circulate bottoms up – 2380 u dropping. Drill ahead with surveys.

19th Aug 2004 Drill 12¼" hole with surveys. Steer as required by directional driller, drill to 1961m.

20th Aug 2004 Drill 12¼" hole. Steer as required. Do SCRs, mud weight 9.45ppg. Drill to 2146m. Circulate out gas, mud 9.5 - 8.8ppg gas cut, max gas 2955 units. Drill to 2178m.

21st Aug 2004 Continue drilling 2178 - 2216m, with surveys. Circulate hole clean, 835gpm / 3340psi. Flow check - well static. POOH wet to 1505m. Pull out to 1463m, tight hole. (55-60Klb over-pull). Work pipe – packing off, connect top drive and attempt to pump out with 65spm / 850psi, hole packed off. Attempt to rotate and re-establish circulation and pull to 1439m. Attempt to pull string, no success, 65Klb over-pull. Jars fired. Establish circulation 80spm - 1100psi, attempt to pump out of the hole, over-pull 40-50Klb over-pull, hole packed off. Rotate - work pipe, 15-25 kft/lbs torque, gain returns 1417m, establish circulation. Increase flow rate 800gpm – 2930psi. Circulate bottoms up, work pipe-rotate. Back ream out 600gpm - 1600psi, 1417 - 1334 m. Hole packing off, work pipe down to 1351m, re-gain circulation. Stage pumps back up to 800gpm / 2800psi. Back ream out to 1243m. Hole partially pack off 1243m, work pipe until full returns. Continue to back ream out to 1170m. Packing off, re-gain circulation work through to 1149m, 43spm / 90rpm / 560psi. Continue to ream 1150 - 1003m. Packing off at 1136m and 1070m. Circulate hole clean, 760gpm / 2350psi. Drift drill pipe in derrick. Flow check - well static. Pump slug. Drop 2½" rabbit with 120' wire in drill string.

22nd Aug 2004 POOH 1003 - 190m with BHA, lay down stabiliser, down load MWD. Lay down bit. Pre-job safety meeting for core assembly pick up. Make up core assembly, core head and run in hole to 997m. Service Top drive-block-crown, circulate bottoms up at same time at 500gpm. Continue to RIH, reaming tight spots at 1035, 1107, 1117 and, 1475m at 400gpm. Wash and ream from 2165 - 2216m at 350gpm. Take rotational torque values. Drop 1¼" diverter ball and pump down at 200gpm. Ball seated with a pressure increase of 200psi. Core cut from 2216 - 2234m. Closure ball dropped but did not seat- second ball dropped but also did not seat. Core broken off with 15Klbs over-pull. Pull back to 2215m and circulate the hole clean at 350gpm giving a maximum gas peak of 491 units.

23rd Aug 2004 Continue to circulate hole clean at 2215m. (350gpm / 900psi) Flow check - well static. Pumped slug and POOH to 1146m. Tight hole, pumped out of the hole to 998m. (230gpm / 330psi). Flow check - well static. Pump and displace slug, POOH to 824m, gain 2.7bbl, flow check well - static. Continue to POOH to 100m. POOH with BHA and rack 8¼" drill collars in derrick. 21.1m of core barrel assembly left in hole. Monitor well on trip tank while waiting on instructions. Service top-drive and pipe racking system. Make up fishing assembly with 6¾" grapple. Install PS21 slips and RIH with 5" heavyweight drill pipe and 5" drill pipe to 1061m. Wash and ream from 1061 - 1096m using 200gpm/310psi and 30rpm. Tight spots at 1061, 1067 and 107m.

24th Aug 2004 Wash 1076 - 1400m, 30 rpm / 200gpm, run in hole to 2189m. Break circulation every 5 stands. Wash from 2199m down, circulate bottoms up 400gpm / 879psi, work pipe. Wash down and tag fish, confirm with 340Klb over-pull, bleed off string pressure 600psi to 0. Work string free. Max over-pull 420Klb, pressure up string 550psi and confirm fish engaged, bleed off pressure. Flow check - static, POOH to 2112m. Reciprocate pipe - up weight 290Klbs, down weight 210Klbs. POOH with fish on drill pipe 2112 - 109.1m. Tight spots at 1095, 1075 and 1055m. Remove PS21 and install master bushing. POOH with BHA and fish to surface. Break off core head. Retrieve and lay down core barrels from Core 1.

25th Aug 2004 Pick up / make up BHA and 12¼" bit. Align Sperry-Sun lobe with MWD tools. Plug in and programme MWD. Perform adjustable stabiliser test at 477gpm. Full gauge – 500psi, under gauge - 375 psi. RIH with BHA 190m - casing shoe. Pick up stand from derrick and break out, drop ball sub. Rack stand in derrick. Service top drive and PRS. Trouble shooting link tilt probe on top drive. RIH 974 - 1032m. Ream and wash 1032 - 1613m at 880gpm / 2800psi. Tight at 1255, 1516 and 1558m. Pump 30bbls Barolift sweep at 1293m. Notice an increase in fines. Pump 60bbl Barolift sweep and circulate out same at 880gpm / 3000psi. RIH 1613 - 2193m. Ream and wash down 2193 - 2216m. Resistance from 2203 - 2216m.

26th Aug 2004 Open up coring rat hole 2216 - 2234m, 850gpm, 12-15k torque, 3840psi. Pump 60bbl Barolift sweep and circulate the hole clean, 146spm / 3840psi. Rotate and reciprocate the pipe while circulating. Drill / slide from 2234 - 2310m, surveys on connections. SCRs taken at 2310m with 9.5ppg mud. Drilling / sliding continued to 2347m, with surveys on connections. Pumped 60bbl Barolift and circulated out 3 bottoms up. Flow check - static. POOH to 2173m where a slug was pumped. POOH to 984m. Flow check -l static. POOH to 190 m, layout / rack BHA.

27th Aug 2004 Continue to POOH BHA. Download MWD, retrieve probe, lay down bit. Pre-job safety meeting on rig-up wireline. Make up triple combo, run in hole with wireline to 1200m - resistance. POOH to 1134m, stuck, work to free. Slack off line, confirm max pull – start to pull in tension - free. POOH to surface. Lay down logging tools, lay down directional BHA from derrick. Make up BHA for clean out wiper trip. Run in hole to 994m, service top drive. Wash / ream 1040 - 1459m, no resistance.

28th Aug 2004 Continue to wash and ream, 1459 - 1633m. 150spm / 2600psi, torque 6-9K, 80rpm. Pump 60bbl Barolift pill, circulate hole clean. Work pipe. Continue to run in hole to 1678m - resistance, wash / ream to 1691m, 150spm, run in to 1779m resistance, wash and ream to 1835m. Max torque 15K. Continue in to 2262m, resistance, wash / ream to 2347m, max torque 25K, pump pill. Circulate hole clean with 920gpm / 3450psi. Flow check - static. POOH to 2233m. Pump slug, POOH to 989m, flow check - static. POOH, rack back BHA in derrick. PJSM make up / run in the hole with Schlumberger tool string (HRLA-CMR-SP). Run in hole 1123m, work string down to 1172m - unable to pass. POOH.

29th Aug 2004 POOH wireline, re-arrange tool and run in hole (PEX-GR) to 1147m - resistance, unable to pass, try work down. POOH lay down tool and wireline. Change rams to 9? ". Make up WBRT assembly, retrieve wear bushing, change rams. Make up and run in well jet tool and clean the wellhead. BOP test assembly made up and run in, fill riser, test BOP 300psi / 5 mins - OK. Test 1500psi - no success. POOH test tool, check shears, run in and set test tool, fill riser. Test BOP 1500psi - OK. POOH tool, install electrical cable on top drive. Prepare to run casing, hold PJSM meeting. Rig up and run casing.

30th Aug 2004 Continue run in 9? "L80 43.5 PPF VY casing to 2140m. Change out elevators to 10¾". Pick up X/O and change out slips from 9? "to 10¾". Continue RIH with 10¾" L80 SI PPF VT casing to 2309m. Pick up Cameron hanger, running tool assembly and landing joints. Resistance at 2337m, wash down to 2340m. Land out hanger, circulate and condition mud at 500psi - maximum circulation pressure. Final flow rate 400gpm / 560psi. Break out and lay down Le Fleur circulation head, 10¾" Pup-A. Pick and make up 10¾" VT pin and 9? "VT box cross over. Install cement head and surface lines. PJSM cement job. Cement unit pumps 10 bbl fresh water. Test surface lines to 4000psi – ok. Pump 8bbl fresh water, release bottom plug. Mix and pump 198bbl 12.5ppg lead slurry with cement unit. Follow with 48bbl 15.8ppg tail slurry. Drop top plug. Cement unit pump 20bbl fresh water. Continue to displace cement with rig pumps. Initial rate 69spm / 1010psi, final rate 30spm / 1170psi. Bump plug at 11.35hrs. Cement unit pressure test casing to 3500psi, casing held pressure for 15mins - OK. Bled back 9bbls. Dowell flushed through surface lines. Rig down cement head and landing joints. Rig down casing handling equipment. Install drilling bails and elevators whilst flushing through cement manifold, stand pipe and lines with mud pumps. Make up Cameron jetting tool, jet wellhead and BOPs with 100spm / 2000psi. Make up Cameron 10¾" casing pack-off seal assembly and set in wellhead. Confirm assembly set with 20Klbs over-pull. Cameron test seals 5000 psi for 10 minutes - OK. Change out top set 9? "casing rams to 5" x 7" VBR. Rig up and test 18¾" BOP, choke manifold and all related surface equipment at 250 /5000psi for 5 / 10mins.

31st Aug 2004 Continue to test 18¾", 15Kpsi BOP choke manifold, stand pipe manifold and all related surface equipment to 250 / 3000psi (5 / 10min). Rig down test equipment. Make up wear bushing running tool assembly, install wear bushing and lay down assembly. Lay down 12¼" BHA and excess equipment from drill floor. Service top drive while handling helicopter. Finish laying down 2 x 8" drill collars. Pick up and make up 8½" BHA (7" motor, adjustable stabiliser, float sub, RLL, PM) and make up bit. Align MWD tools with motor, and initialise MWD tools. Test adjustable stabilisers - full gauge 512gpm / 920psi, undergauge 312gpm / 750psi. RIH with BHA, changing the position of the 8½" stabiliser in the BHA. Change out jars and finish RIH with BHA to 166m. Test mud - 550gpm / 1500psi. RIH filling up every 15 stands to 2286m. Wash down from 2286m and tag cement at 2314m, 300gpm / 1200psi. Drill cement, float equipment and rat hole from 2314 - 2347m. Shoe at 2340m. Drill 3m of new formation to 2350m. Circulate and condition mud at 2350m. Pull up to 2334m. Rig up Dowell lines, break circulation. Test lines to 800psi - OK. Perform FIT to 540psi with 9.3ppg mud for EMW of 10.9ppg. Drill and slide from 2350 - 2358m. MWD survey at 2352m.

01st Sept 2004 Continue drill ahead through EVCM, sliding and rotating as per Directional Drillers' instructions. MWD surveys taken every stand. Drilled 2358 - 2693m

02nd Sept 2004 Drill ahead from 2693 - 3086m taking surveys each stand, steering as per directional plan.

03rd Sept 2004 Drilled 3086 - 3463m, through 2718 Sand, 2755 Sand, 2809 Sand, 2952 Sand and 2973 Sand, sliding and rotating, as per Directional Drillers instructions. MWD surveys taken every stand.

04th Sept 2004 Drill 8½" hole from 3463 - 3497m TD. Pump 40bbl 8.9ppg premix, 60bbl 11.0ppg and sweep hole with 600gpm / 4100psi. Dump sweep at shakers and circulate 3 bottoms up. POOH for wiper trip. Tight spots at 3260, 3210, 3170, 3149, 2935, 2908, 2900 and 2761m. Service TDS when bit inside shoe. Wash and ream back to bottom.

05th Sept 2004 Circulate bottoms up at 2722m with 600gpm / 3600psi. RIH f/2722 - 3497m; no resistance, no fill. Break circulation. Pump 40bbl 8.9ppg premix / 60bbl 11.0ppg. Circulate out same and dump at shakers. Maximum gas at bottoms up 3740 units. Continue to circulate 3 bottoms up at 600gpm / 3750psi. Flow check - static. POOH f/349 - 3478m, pump slug and POOH f/3178 - 2334m. Flow check - static. Continue POOH f/2334 to BHA. Flow check - static. POOH and lay down Sperry-Sun BHA. Rig up Schlumberger and RIH Log#1:SP-HRLA-PEX-GR-CMR-LEH-QT.

06th Sept 2004 Continue logging run #1. Pull logging tools to surface and lay down logging tools. Make up logging tools for log #2 and RIH and log: FMI-DSI-HNGS.

07th Sept 2004 Continue to run wireline logs run #2. Complete run #2 and run log #3 for MDT sampling. Complete run #3.

08th Sept 2004 Rig up to run in hole with Logging run #4, MDT sampling. Complete logging and attempt to pull out of hole. Logging cable stuck. Pull 10k over-pull, cable differentially stuck. Rig up to cut cable and run in hole to retrieve logging assembly.

09th Sept 2004 Continue to run in hole to retrieve MDT tool and wireline cable. Circulate bottoms up at 9 ? " casing shoe. Flow check and continue to run in hole.

10th Sept 2004 Continue to run in hole to retrieve MDT tool and wireline cable. Stop RIH at 2846m, wireline free from side of hole. Break circulation and wash grapple. Attempt to pull MDT tool to grapple – MDT tool stuck at 3052m. Grapple tool and pull out of hole after shearing cable at weak point. Lay out tool and make up BHA to run in hole for wiper trip prior to running casing. Run in hole.

11th Sept 2004 Continue to run in hole for wiper trip prior to running liner, slip and cut drilling line, wash and ream at 3077m, maximum gas recorded 3280 units, circulate gas out. Continue to run in hole and circulate hole clean. Max trip gas recorded 3650 units. Pump sweep, circulate 3 bottoms up, flow check and pull out of hole. Stop at shoe, flow check and pump slug and continue to pull out of hole. Rack back BHA and rig up to run 6 ? " liner. Pick up and make up float and shoe track.

Section 2
Geological Summary

FORMATION TOPS

DESCRIPTION	MD (m) RT	TVDSS (m) RT	PROG. TOP MDRT (m)	PROG. TOP TVDSS (m)	HIGH / LOW (m)
Sea bed	124.8	-81.8	124.8	81.8	
Angahook Form	1231	-1051	*Not*	*Prognosed*	
Top Volcanics	1489	-1238	1421.6	-1201	37m low
Base Volcanics	1658	-1365	1642.0	-1367	2m high
Top Demons Bluff	2034	-1658	2027.1	-1657	1m low
Top EVCM	2192	-1793	*Not*	*Prognosed*	
TEV 4 SAND	2219	-1817	2216.3	-1817	0 Diff
Coal Marker	2772	-2334.5	2769.2	-2340	4.5m high
Top Igneous Sill	2994	-2555	3012.6	-2580	25m high
Base Igneous Sill	3059	-2619.5	3080.2	-2647	27.5m high
Top 2718 Sand	3144.5	-2705	3136.5	-2703	2m low
Top 2755 Sand	3178.5	-2739	3167.1	-2733.5	5.5m low
Top 2809 Sand	3235.5	-2795.5	3228.8	-2795	0.5m low
Top 2973 Sand	3403	-2963	3392.9	-2959	4 m Low
Top Basalt	3459	-3019.5	3458.6	-3025	5.5 m High
TOTAL DEPTH	3497	-3057.3			

Sub sea 43 m.

GEOLOGICAL SUMMARY

All returns to sea via ported riser prior to 1012 m. Drill with a Riser from 1012 m – start of 12¼" hole.

Interval			ROP (ave)	Lithology Description
124	-	1012	7.5 - 225 (50)	Returns to sea through ported riser. ROP decreases from 792 m, and associated increase in torque and weight on bit, Formation becoming more argillaceous based on correlation with Yolla-1 and Yolla-2. No samples recovered, returns to sea through ported riser. Below 867 m a notable increase in average ROP is observed after increasing the WOB. Correlation to Yolla-1 would suggest we are in a dominantly Claystone minor Limestone interbedded sequence.

Interval			ROP (avg)	Lithology Description Torquay Group									
1012	-	1017m	7 – 19 (15)	CLAYSTONE: olive grey - green grey, soft, sub blocky, calc grains 20%, clay clastic grains 80%, silt tr, accessories: fossil fragments tr, forams tr, shell fragments tr, disseminated pyrite tr.									
Gas 1012 – 905m			**Units :**	0.5	**Composition (%)**	127 C1	4 C2	1 C3	-	-	-	-	-	-
Show Details			No Shows										

Interval (m)			ROP (avg)	Lithology Description Claystone						
1017		1085	16 - 73 (45.3)	CLAYSTONE, light to olive grey, trace cream, very soft, sub blocky fracture, 10% calcareous clay, 90% clay, constituents, accessories include 10% calcite, with trace amounts of fossil and foraminifera.						
Gas average			**Units :**	1-2	**Composition (ppm)**	264 C1	10 C2	2 C3	1 C4	Tr C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Claystone becoming slightly silty						
1085	-	1231	15 - 68 (40)	CLAYSTONE, light to medium grey, soft, sub blocky fracture, 10% calcareous clay, 80% clay, 10% silt constituents, with accessory calcite, 10 %, trace fossil amounts and trace pyrite. Calcimetry records 11% calcite and 1% dolomite.						
Gas average			**Units :**	8	**Composition (ppm)**	1007 C1	39 C2	10 C3	7 C4	1 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Claystone and Siltstone ANGAHOOK FORMATION : 1231 m (-1051 mTVDSS)						
1231		1380	19 - 61 (37)	CLAYSTONE: calcareous, light to medium grey, very soft, sub blocky, calc grains: 20% clay, clastic grains: 60% clay, 20% silt, accessories: calc 20 %, trace fossil fragments including forams and bryozoans. SILTSTONE, medium grey / brown, soft to firm, sub blocky, calc grains: 10% clay clastic grains: 10% clay, 60% silt, 20% very fine sand, accessories: calc 20 %, pyrite tr %, fossil fragments, forams.						
Gas average			**Units :**	16	**Composition (ppm)**	2000 C1	90 C2	16 C3	2 C4	1 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Claystone, Siltstone trace Sandstone and Dolomite						
1380	-	1420	23 - 46 (33)	CLAYSTONE: med to dark grey, olive grey, very soft, sub blocky, calc grains: 10% clay clastic grains: 70% clay, 20% silt, accessories: calc 10 %, fossil fragments tr, pyrite tr %. SILTSTONE, med grey brown, soft, sub blocky, calc grains: 10% clay clastic grains: 20% clay, 60% silt, 10% very fine sand, accessories: calc 5 %, fossils tr %, foraminifera tr %, SANDSTONE, light grey, yellow / grey, friable to firm, blocky, calc grains: 10% clay clastic grains: 40% clay, 10% silt, 40% very fine sand, very well sorted, well rounded, spherical, cements/strengths: calcareous moderately strong, accessories: calc 5 % porosity: inter granular 3%. No shows. DOLOMITE, brownish black, hard, block, calc grains: 10% clay clastic grains: 10% clay.						
Gas average			**Units :**	35	**Composition (ppm)**	4454 C1	292 C2	118 C3	75 C4	43 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Claystone and minor Siltstone						
1420	-	1489	15 - 47 (30)	CLAYSTONE: brownish grey, olive grey, very soft, amorphous, calc grains: 5% clay clastic grains: 75% clay, 20% silt, accessories: calc 10 %, fossils tr %, pyrite tr. SILTSTONE, medium grey / brown, very soft, sub blocky, calc grains: 5% clay clastic grains: 40% clay, 45% silt, 10% very fine sand, accessories: calc 5 %, fossils fragments (foram bryozoans echinoids) tr %, carbonaceous grains.						
Gas average			**Units :**	65	**Composition (ppm)**	11180 C1	956 C2	476 C3	244 C4	99 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description **Top Miocene Volcanics : 1489mMD (-1238 mTVDSS)** **Tuff with minor Claystone**						
1489	-	1522	7-48 (12)	TUFF, off white, light bluish grey, very soft and amorphous to firm, commonly with very fine sandstone texture, very fine quartz grains set in a very fine tuffaceous matrix, commonly weathered to clay. CLAYSTONE, brownish grey, olive grey coloured, very soft, amorphous, 5% calcareous clay with 75% silicate clay, 20% silt, accessories: calcite 10 %, and trace amounts of fossil and pyrite.						
Gas average			**Units :**	64	**Composition (ppm)**	6559 C1	792 C2	525 C3	303 C4	153 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description **Claystone and minor Tuff**						
1522	-	1544	15-37 (19)	CLAYSTONE, brownish grey, olive grey, very soft, amorphous, 5% calcareous clay, with 75% silicate clay, 20% silt, accessory calcite 10 %, and trace amounts of fossil and pyrite. TUFF, off white, light bluish grey, soft to firm, amorphous, 5% calcareous clay with 75% silicate clay, 20% very fine sand, accessory calcite 5 %, quartz 20 % and trace pyrite.						
Gas average			**Units :**	402	**Composition (ppm)**	36863 C1	4818 C2	3335 C3	1927 C4	857 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description **Sandstone with Clay Matrix Grading to Siltstone**						
1544	-	1552	12-35 (12.5)	SANDSTONE, volcanoclastic, light to medium mottled brown, very soft, sub blocky, 10% calcareous clay, 40% silicate clay, 40% very fine sand, 20% fine sand, well sorted, rounded, sub spherical clasts, weak argillaceous cement, accessory calcite traces, 25 % quartz grains, with trace inter granular porosity. SILTSTONE, volcanoclastic, light to medium mottled brown coloured, very soft, sub blocky, trace calcareous clay, 40% silicate clay, 50% silt, 10% very fine sand, accessory calcite and traces of pyrite.						
Gas average			**Units :**	404	**Composition (ppm)**	32480 C1	5369 C2	4155 C3	2540 C4	1285 C5	-
Show Details			Gas show only, no fluorescence. Peak at 1547m: 748 u 59441 / 9611 / 7463 / 4513 / 2197								

Interval (m)			ROP (avg)	Lithology Description Sandstone Grading to Siltstone with Minor Interbedded Claystone						
1552	-	1591	10-28 (10.7)	SILTSTONE, light and medium browns to cream, soft, sub blocky, 10% calcareous clay, 30% silicate clay, 40% silt, 20% very fine sand, accessory fossil traces, 10 % calcite and trace pyrite. SANDSTONE, light to medium brown, soft, sub blocky, 10% calcareous clay, 30% silicate clay, 30% silt, 50% very fine sand, well sorted, rounded, sub spherical clasts, 10 % accessory calcite, 25 % quartz and trace inter granular porosity. CLAYSTONE, off white & medium to light grey, firm, sub blocky, 50% silicate clay, 40% silt, 10% very fine sand, with accessory calcite traces.						
Gas average			**Units :**	147	**Composition (ppm)**	10270 C1	1180 C2	711 C3	393 C4	206 C5	-
Show Details			Gas show only, no fluorescence. Peak at 1583m: 216 u 23446 / 2503/ 1467/ 709 / 320								

Interval (m)			ROP (avg)	Lithology Description Siltstone with subordinate Claystone						
1591	-	1614	7-33 (15)	SILTSTONE, medium brown to cream, soft, sub blocky, 10% calcareous clay, 30% silicate clay, 40% silt, 20% very fine sand, trace fine sand, with accessory bryozoa, gastropods, forams and pyrite. CLAYSTONE, light, medium and pale grey, firm, blocky, 20% calcareous clay, 70% silicate clay, 10% silt, with accessory pyrite.						
Gas average			**Units :**	90	**Composition (ppm)**	7560 C1	1072 C2	785 C3	466 C4	241 C5	-
Show Details			No Hydrocarbon Shows, Maximum Gas at 1605m: 295u, 21711/2618/1849/1287/958								

Interval (m)			ROP (avg)	Lithology Description Siltstone and graded Claystone with interbedded Tuff						
1614	-	1658	4 - 31 (7.3)	SILTSTONE, medium to dark brown, firm to moderately hard, blocky, 10% calcareous clay, 10% silicate clay, 50% silt, 30% very fine sand, trace gastropods, glauconite and pyrite. CLAYSTONE, light brown to cream, very soft, dispersive, 20% calcareous clay, 60% silicate clay, 20% silt. TUFF, light to pale blue grey and mottled white, moderately hard, sub blocky 100% clay, with trace silt and very fine sand sized grains.						
Gas average			**Units :**	142	**Composition (ppm)**	9094 C1	1089 C2	746 C3	449 C4	363 C5	-
Show Details			No Hydrocarbon Shows, Max Gas at 1632m: 277u, 23899/2571/1558/835/592								

Interval (m)			ROP (avg)	Lithology Description Sandstone and Siltstone and minor Claystone **Undifferentiated Oligocene : 1658 mMD (-1365 mTVDSS)**						
1658	-	1690	6-28 (14.5)	SANDSTONE: light olive brown, off white, light brownish white, firm to friable, calc grains: 10% clay. clastic grains: 20% clay, 30% silt, 40% very fine sand, well sorted, sub rounded, sub spherical, cements/strengths: calcareous / weak, argillaceous / weak, accessories: glauconite tr %, calcareous 25 %, kaolinite clay 5 %, porosity: inter granular 3%. SLTST, medium to occasionally dark brown, friable to firm, sub blocky to occasionally blocky, calcareous grains: 20% clay. clastic grains: 50% clay, 30% silt, accessories: glauconite tr %, calcareous 20 %, pyrite nodules tr %, CLAYSTONE: light brown to cream, very soft, dispersive, calc grains: 20% clay. clastic grains: 60% clay, 20% silt, accessories: calc 20 %						
Gas average			**Units :**	107	**Composition (ppm)**	7216 C1	831 C2	545 C3	318 C4	204 C5	-
Show Details			No Hydrocarbon Shows.								

Interval (m)			ROP (avg)	Lithology Description Calcareous Siltstone and Sandstone						
1690	-	1925	5-32 (17)	SILTSTONE: calcareous, dark - medium brown, brownish grey, firm, blocky, calc grains: 30% clay, clastic grains: 30% clay, 50% silt, accessories: glauconite tr %, calcareous 20 % SANDSTONE: light brown off white, friable to firm, sub blocky to blocky, calc grains: 10% clay, clastic grains: 20% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub rounded, sub spherical, cements/strengths: calcareous / weak, argillaceous / weak, accessories: glauconite tr %, calcareous 25 %, kaolinite tr - 5 %, porosity: inter granular 3%.						
Gas average			**Units :**	90	**Composition (ppm)**	8813 C1	837 C2	496 C3	251 C4	126 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone						
1925	-	1961	14-37 (21)	SILTSTONE, light to predominantly medium brown, soft to friable, sub blocky, 10% calcareous clay, 30% silicate clay, 50% silt, 10% very fine sand, abundant loose quartz grains and trace pyrite. SANDSTONE, off white and mottled brown, firm, sub blocky, 30% silicate clay, 20% silt, 50% very fine sand, moderately sorted, sub angular, sub spherical, moderately strong argillaceous cement, abundant kaolinite with trace pyrite and calcite, trace intergranular porosity.						
Gas average			**Units :**	60	**Composition (ppm)**	5400 C1	587 C2	333 C3	168 C4	82 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Sandstone and Siltstone						
1961	-	2034	5-32 (17)	SANDSTONE: off white, mottled brown, firm, sub blocky, clastic grains: 30% clay, 20% silt, 50% very fine sand, moderately sorted, sub angular, sub spherical, cements/strengths: argillaceous / moderately strong, accessories: argillaceous 25 %, pyrite nodules tr %, glauconite tr %, porosity: inter granular trace. SILTSTONE: light to predominantly medium brown, soft to friable, sub blocky, calc grains: 10% clay clastic grains: 30% clay, 50% silt, 10% very fine sand, accessories: pyrite trace %, quartz 10 %, fossils (forams) trace %,, calcimetry: 13% calcite, 4% dolomite,						
Gas average			**Units :**	55	**Composition (ppm)**	5701 C1	616 C2	351 C3	173 C4	75 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone, trace Dolomite Demons Bluff Formation 2034mMD -1658mSS						
2034	-	2097	4-31 (11)	SANDSTONE: light brownish, light brownish grey, firm to moderately hard, blocky, calc grains: 5% clay, clastic grains: 25% clay, 30% silt, 40% very fine sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / moderately strong, dolomitic / strong, calcareous / strong, accessories: pyrite nodules trace to 3 %, glauconite tr %, foraminifera tr %, porosity: inter granular tight. SILTSTONE: dark grey, greyish black, soft friable, sub fissile, clastic grains: 20% clay, 80% silt, accessories: trace micro mica, carbonaceous, trace forams. DOLOMITE: light brown / tan, hard, blocky, occasional sub conchoidal fracture, clastic grains: 10% clay, 10% silt, accessories: argillaceous 10 %.						
Gas average			**Units :**	60	**Composition (ppm)**	7053 C1	780 C2	400 C3	164 C4	63 C5	-
Show Details			No Hydrocarbon Shows.								

Interval (m)			ROP (avg)	Lithology Description Siltstone occasionally Grading to Sandstone						
2097	-	2145	10-17 (8)	SILTSTONE, dark grey, greyish / black coloured, soft to friable, sub fissile, 30% clay, 70% silt, micro-micaceous, carbonaceous, trace foraminifera. SANDSTONE, light brown /grey, firm, blocky, 5% calcareous clay, 25% silicate clay, 30% silt, 40% very fine sand, w sorted, sub rounded, sub spherical, moderately strong argillaceous matrix, strong dolomitic and calcareous cement, trace pyrite, glauconite and forams, trace intergranular porosity.						
Gas average			**Units :**	100	**Composition (ppm)**	12535 C1	1652 C2	868 C3	357 C4	71 C5	-
Show Details			Gas Peak at 2140m: 1069u, 152699 / 14860 / 7225 / 2813 / 858. No fluorescence.								

Interval (m)			ROP (avg)	Lithology Description Siltstone							
2145	-	2178	10-17 (13)	SILTSTONE, medium dark grey to brown, firm to moderately hard, sub fissile, trace carbonate clay, 15% silicate clay, 70% silt, 10% very fine sand, 5% fine sand, accessory carbonaceous material, calcimetry: 3% calcite, 6% dolomite.							
Gas average			**Units :**	84	**Composition (ppm)**	10585 C1	1303 C2	657 C3	262 C4	98 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone and minor Sandstone							
2178	-	2192	9.5 - 18 (12)	SILTSTONE: dark to medium grey brown, firm, sub fissile, clastic grains: 20% clay, 70% silt, 10% very fine sand, accessories: carbonaceous specks tr %, argillaceous 20 %. SANDSTONE: medium brown, soft to firm, blocky, clastic grains: 30% clay, 20% silt, 40% very fine sand, 10% fine sand, moderately well sorted, sub angular, sub spherical, cements/strengths: argillaceous / weak, siliceous / moderate strong, accessories: pyrite nodules tr %, glauconite tr %, forams tr %, porosity: inter granular trace.							
Gas average			**Units :**	111	**Composition (ppm)**	14930 C1	1888 C2	958 C3	264 C4	124 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone Eastern View Coal Measures 2192mMD -1793mSS							
2192	-	2216	11 - 23 (13)	SILTSTONE: dark grey, brownish grey, firm, sub fissile, clastic grains: 20% clay, 60% silt, 20% very fine sand, accessories: carbonaceous specks tr %, argillaceous matrix 20 %, pyrite nodules tr %, SANDSTONE: light brown grey, medium grey, firm, blocky, clastic grains: 20% clay, 30% silt, 50% very fine sand, well sorted, sub rounded, sub elliptical, cements/strengths: argillaceous / weak, accessories: pyrite tr %, forams tr %, bryozoans tr %, porosity: inter granular trace.							
Gas average			**Units :**	245	**Composition (ppm)**	33014 C1	3624 C2	1951 C3	762 C4	145 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description CORE # 1 : Sandstone						
2216	-	2234	9.7-38.8 (24)	SANDSTONE: light olive grey, grey green, very fine, well sorted, rounded, trace spherical, weak siliceous and minor argillaceous-silty matrix, chloritic, minor carbonaceous silty laminae, friable, fair visual porosity, fluorescence.						
Gas Peak			**Units :**	489	**Composition (ppm)**	57830 C1	8008 C2	5470 C3	2444 C4	848 C5	-
Show Details			Fluorescence: 30-60% bright blue-green patchy to even fluorescence, trace slow direct cut to trace very slow crush cut, bright green/cream broken residue ring.							

Interval (m)			ROP (avg)	Lithology Description Siltstone grading to Very Fine Grained Sandstone						
2234	-	2279	4 – 48 (16)	SILTSTONE, brown grey, medium grey and grey black, friable to firm, sub blocky, 30% clay, 60% silt, 10% very fine sand, 3 % carbonaceous material, trace fossils and pyrite. SANDSTONE, light yellow brown, friable to firm, sub blocky, 30% clay, 30% silt, 40% very fine sand, moderately sorted, sub round, sub equant grains, weak argillaceous and calcareous cements, trace pyrite and gastropods, 3% intergranular porosity.						
Gas average			**Units :**	230	**Composition (ppm)**	17422 C1	3150 C2	2507 C3	1445 C4	659 C5	-
Show Details			No Fluorescence. Gas Peak at 2250mMD 582 u. 47493/8202/6367/3426/1513							

Interval (m)			ROP (avg)	Lithology Description Siltstone with occasional inter-bedded Sandstone and Coal						
2279	-	2347	4 – 57 (17)	SILTSTONE, brownish grey, friable to firm, sub blocky, 40% clay, 55% silt, 5% very fine sand, 3 % carbonaceous material, trace mica and pyrite. SANDSTONE (1), light yellow brown, brown grey, soft to friable, sub blocky, 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub equant grains, weak argillaceous and calcareous cements, trace pyrite, glauconite and fossils, 5% intergranular porosity. SANDSTONE (2), clear to translucent, loose clastic grains, 50% medium sand, 50% coarse sand, moderately sorted, angular, equant grains, trace argillaceous and pyritic cements, trace nodular pyrite, 15% intergranular porosity. COAL, black, firm, blocky, with trace clay and silt.						
Gas average			**Units :**	38	**Composition (ppm)**	1010 C1	179 C2	188 C3	161 C4	146 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Interbedded Coal, Siltstone and Sandstone						
2347	-	2358	56-5 (8.6)	COAL, black to very dark brown, friable to firm, blocky, 15% clay, 30% silt and trace very fine sand. SILTSTONE, dark brown to grey black, firm, blocky, 30% clay, 60% silt, 10% very fine sand, trace calcite, pyrite and carbonaceous material. SANDSTONE, light brown to cream, translucent, loose and very soft, dispersive grains, 30% clay, 10% silt, 30% very fine sand, 15% fine sand, 10% medium sand, 5% coarse sand, poorly sorted, sub angular, sub spherical, weak argillaceous cement, 30% kaolinite, trace pyrite and trace intergranular porosity.						
Gas average			**Units :**	5	**Composition (ppm)**	427 C1	48 C2	39 C3	28 C4	19 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone interbedded with minor Coal						
2358	-	2395	48-6 (35)	SILTSTONE: medium to dark brown, friable to firm, blocky, clastic grains: 20% clay, 60% silt, 20% very fine sand, accessories: carbonaceous specks and laminae tr %, very fine pyrite tr %. SANDSTONE: cream to light brown, off white, friable to firm, sub blocky, clastic grains: 20% clay, 20% silt, 50% very fine sand, 10% fine sand, 0 – 10% medium to coarse sand generally becoming finer grained with depth, moderately sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: kaolinite matrix 25%, trace pyrite, porosity: inter granular 5%. COAL: black, sub vitreous to vitreous, firm, blocky, trace clay.						
Gas average			**Units :**	9	**Composition (ppm)**	929 C1	110 C2	66 C3	33 C4	18 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Very Coarse Sandstone with interbedded Siltstone and Coal						
2395	-	2436	78-48 (34)	SANDSTONE, off white, clear and translucent, loose to soft, dispersive, 10% clay, 10% silt, 10% fine sand, 20% medium sand, 20% coarse sand, 30% very coarse sand, poorly sorted, angular, sub spherical, weak argillaceous cement, 10% kaolinite matrix, 10% intergranular porosity. SILTSTONE, light grey / brown, occasionally dark brown, firm, sub blocky, 30% clay, 60% silt, 10% very fine sand, 10% carbonaceous material, 20% coal.						
Gas average			**Units :**	8	**Composition (ppm)**	1435 C1	169 C2	98 C3	42 C4	16 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Graded Sandstone and Siltstone						
2436	-	2498	52-4 (28)	SILTSTONE, medium to dark grey, soft to friable, sub fissile, 10% clay, 80% silt, 10% very fine sand, 10% carbonaceous material, trace mica. SANDSTONE, white, off white, soft to friable, dispersive, 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub rounded, sub spherical grains, weak argillaceous cement, 40% kaolinite matrix, 5% intergranular porosity.						
Gas average			**Units :**	4	**Composition (ppm)**	288 C1	34 C2	30 C3	18 C4	7 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone grading to Sandstone with trace Coal						
2498	-	2559	61-4 (25)	SANDSTONE, off white to light grey/brown, soft, dispersive, 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub rounded, sub spherical grains, weak argillaceous cement, 40% kaolinite matrix, trace intergranular porosity. SILTSTONE, medium to dark grey/brown, soft, sub blocky, 30% clay, 60% silt, 10% very fine sand, trace carbonaceous material. COAL, dull black, firm, blocky, 10% clay, trace silt.						
Gas average			**Units :**	4	**Composition (ppm)**	539 C1	48 C2	31 C3	13 C4	4 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Bedded Siltstone, Sandstone and Coal						
2559	-	2635	84-7 (38)	SANDSTONE, light brown to cream, very soft, dispersive, 40% clay, 10% silt, 40% very fine sand, 10% fine sand, well sorted, sub rounded, sub spherical, weak argillaceous cement, 40% kaolinite matrix, trace intergranular porosity. SILTSTONE, light to medium brown, friable to firm, sub blocky, 30% clay, 60% silt, 10% very fine sand, trace carbonaceous material. COAL, black, vitreous to greasy, firm, blocky, slightly argillaceous.						
Gas average			**Units :**	14	**Composition (ppm)**	2611 C1	200 C2	63 C3	22 C4	4 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Bedded Sandstone, Siltstone and minor Coal						
2635	-	2693	97-10 (62)	SANDSTONE, off white, cream to light brown, soft, sub blocky, 30% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub rounded, sub spherical grains, weak argillaceous cement, 30% kaolinte matrix, trace intergranular porosity. SILTSTONE, light/medium, grey to brown, firm, blocky, 20% clay, 60% silt, 20% very fine sand, tr% fine sand, trace carbonaceous material. COAL, black, vitreous to resinous, firm, blocky, trace ash.						
Gas average			**Units :**	26	**Composition (ppm)**	5082 C1	287 C2	94 C3	39 C4	7 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Dominantly Siltstone and Sandstone with inter bedded Coal						
2693	-	2772	62-7 (38)	SANDSTONE: light brown grey, off white, soft, sub blocky, clastic grains: 20 - 40% clay, 20% silt, 10 - 40% very fine sand, tr - 20% fine sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: kaolinite 25 % porosity: inter granular tr. SILTSTONE, dark brown / grey, black in part, firm, blocky fracture clastic grains: 20% clay, 50% silt, 30% very fine sand, tr% fine sand, accessories: carbonaceous specks tr % COAL, dull-vitreous black, firm, blocky, clastic grains: tr% clay, 5% silt.						
Gas average			**Units :**	24	**Composition (ppm)**	4791 C1	208 C2	91 C3	39 C4	8 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone grading to Sandstone with Coal						
2772	-	2850	48-5 (30)	SANDSTONE: off white to very light brown, soft, sub blocky, clastic grains: 60% clay, 20% silt, 20% very fine sand, well sorted, rounded, sub spherical, cements/strengths: argillaceous / very weak, accessories: kaolinite clay 20 % porosity: inter granular 3%. SILTSTONE: dark grey, grey brown, firm, sub fissile, clastic grains: 30% clay, 60% silt, 10% very fine sand, accessories: mica tr %, carbonaceous specks tr % COAL, black and vitreous to sub vitreous, firm, blocky.						
Gas average			**Units :**	31	**Composition (ppm)**	6318 C1	269 C2	154 C3	64 C4	13 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone, Carbonaceous Siltstone minor Sandstone						
2850	-	2904	59-13 (30)	SILTSTONE: dark grey, grey brown, firm, sub fissile, clastic grains: 10% clay, 70% silt, 20% very fine sand, accessories: mica tr %, carbonaceous specks tr %. CARBONACEOUS SILTSTONE: grey black, black, friable to firm, sub blocky, clastic grains: tr% clay, 10% silt, tr% very fine sand, accessories: fine pyrite tr %, mica tr %. SANDSTONE, off white, very light brown, soft, sub blocky, clastic grains: 10% clay, 40% silt, 50% very fine sand, well sorted, rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: kaolinite 10 %, carbonaceous grains tr % porosity: inter granular 3%.						
Gas average			**Units :**	37	**Composition (ppm)**	6986 C1	482 C2	231 C3	82 C4	21 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Dominantly Siltstone with minor Sandstone and Coal						
2904	-	2946	43-4 (27)	SILTSTONE: medium to dark grey, soft to friable, sub fissile, clastic grains: 20% clay, 70% silt, 10% very fine sand, accessories: mica tr %, carbonaceous specks tr %. SANDSTONE: off white, light brown, soft to friable, sub blocky, clastic grains: 40% clay, 20% silt, 20% very fine sand, 20% fine sand, well sorted, rounded, sub spherical, cements/strengths: argillaceous / weak, siliceous / weak, accessories: kaolinite 30 %, carbonaceous grains tr % porosity: inter granular. COAL: black, firm, blocky, uneven to rare sub conchoidal fracture, tr% clay, tr% silt.						
Gas average			**Units :**	30	**Composition (ppm)**	5275 C1	480 C2	246 C3	93 C4	29 C5	-
Show Details			2904 – 2910m 5% Fluorescence, dull yellow, patchy, slow direct cut, fast crush cut, moderately bright cream broken residue ring. Gas BG 5, Tgas 48u C1 8704ppm, C2 754ppm, C3 410ppm, C4 157ppm, C5 48ppm. Fluorescence occurs in very fine grained Sandstone. 2922 – 2928m 3% Fluorescence, very dull green, pin point, no direct cut, trace crush cut, moderately bright green/cream patchy film residue ring. Gas BG 5 Tgas 27u C1 3589ppm, C2 334ppm, C3 166ppm, C4 58ppm, C5 18ppm. Fluorescence occurs in very fine grained Sandstone.								

Interval (m)			ROP (avg)	Lithology Description Carbonaceous Siltstone and occasional Coal						
2946	-	2994	48-13 (29)	SILTSTONE, brown black, greyish black, soft to friable, 10% clay, 90% silt, with accessory micas and 10% carbonaceous material. COAL, black, vitreous to sub vitreous, firm, blocky, trace clay, silt, and ash.						
Gas average			**Units :**	22	**Composition (ppm)**	3110 C1	483 C2	270 C3	84 C4	26 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description 2994m (-2555mTVDSS) Top Igneous Sill							
2994	-	3059	43-5 (13.5)	IGNEOUS INTRUSION, mottled green, grey, black and off white coloured, with occasional yellow and tan grains, hard, irregular, clear crystalline definition, mafic mineral assemblage including, olivine, pyroxene, hornblende and plagioclase, with trace disseminated pyrite.							
Gas average			**Units :**	10	**Composition (ppm)**	1392 C1	157 C2	102 C3	41 C4	19 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Massive Siltstone with trace Sandstone and Coal							
3086	-	3144m	40-7 (24)	SILTSTONE: dark to medium grey / brown, trace light brown, friable-to firm, sub blocky to blocky, clastic grains: 30% clay, 60% silt, 10% very fine sand, accessories: carbonaceous grains tr %, mica tr %, very fine pyrite tr %. SANDSTONE: light to medium brown, friable to firm, sub blocky, clastic grains: 30% clay, 20% silt, 50% very fine sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous. COAL: black, vitreous, firm, blocky and brittle.							
Gas average			**Units :**	41	**Composition (ppm)**	5541 C1	978 C2	566 C3	184 C4	57 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Sandstone and Siltstone Top 2718SAND 3144.5mMD -2705mSS							
3144	-	3153	42-17 (27)	SANDSTONE: cream, light to medium brown, soft, sub blocky, clastic grains: 15% clay, 20% silt, 50% very fine sand, 15% fine sand, well sorted, sub angular, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous porosity: inter granular 5% SILTSTONE: very dark grey / brown, firm to moderately hard, blocky, clastic grains: 10% clay, 90% silt, accessories: micro mica tr %							
Gas average			**Units :**	148	**Composition (ppm)**	18907 C1	3357 C2	2288 C3	1003 C4	346 C5	-
Show Details			Fluorescence: 5 – 8% dull cream, spotted, slow direct cut, crush cut; moderately bright, white, fast, streaming cut; residue ring moderately bright, yellow green, thick. Associated gas: 176units. C1 22329, C2 3999, C3 2737, C4 1213, C5 432.								

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone Siltstone becoming more dominant with depth						
3153	-	3178.5	36-19 (25)	SILTSTONE: very dark grey, firm, sub fissile, clastic grains: 10% clay, 90% silt, accessories: mica tr %, carbonaceous specks tr %. SANDSTONE: light to medium brown, firm, sub blocky, clastic grains: 20% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub angular, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous, porosity: inter granular 3%.						
Gas average			**Units :**	64	**Composition (ppm)**	9580 C1	1227 C2	628 C3	233 C4	78 C5	-
Show Details			Fluorescence: 3153 – 3159m, 5 – 8% dull cream, spotted, slow direct cut, crush cut; moderately bright, white, fast, streaming cut; residue ring moderately bright, yellow green, thick. Associated gas: 119units. C1 22356, C2 2428, C3 905, C4 249, C5 70.							

Interval (m)			ROP (avg)	Lithology Description Sandstone and Siltstone Top 2755 SAND 3178.5mMD -2739mSS						
3178.5	-	3195	53-14 (26)	SANDSTONE: off white light grey, friable, sub blocky, clastic grains: 20% clay, 10% silt, 10% very fine sand, 50% fine sand, tr% medium sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous, carbonaceous grains tr % porosity: inter granular 10%. SILTSTONE: very dark grey, firm, sub fissile, clastic grains: 5% clay, 85% silt, 10% very fine sand, accessories: mica tr %, carbonaceous tr %.						
Gas average			**Units :**	351	**Composition (ppm)**	65742 C1	5371 C2	2138 C3	807 C4	264 C5	-
Show Details			Fluorescence: 3183 – 3195m, tr – 20% moderately bright, yellow, spotted, slow direct cut, crush cut; moderately bright, white, fast, streaming cut; residue ring bright, cream green, thick. Associated gas: 241units. C1 47938, C2 3583, C3 1367, C4 496, C5 157.							

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone						
3195	-	3235.5	35-12 (20)	SILTSTONE: dark grey, very dark grey, firm, sub fissile, clastic grains: 10% clay, 90% silt, tr% very fine sand, accessories: mica tr %, carbonaceous specks tr %. SANDSTONE: off white to light grey, friable, sub blocky, clastic grains: 30% clay, 40% silt, 30% very fine sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous, carbonaceous grains tr % porosity: inter granular 3%.						
Gas average			**Units :**	57	**Composition (ppm)**	8884 C1	924 C2	480 C3	207 C4	89 C5	-
Show Details			No Shows							

Interval (m)			ROP (avg)	Lithology Description Sandstone and Siltstone Top 2809SAND 3235.5mMD -2795.5mSS
3235.5	-	3252	39-24 (28)	SANDSTONE: (1) off white to very light grey, friable, sub blocky, clastic grains: 10% clay, 10% silt, 50% very fine sand, 30% fine sand, tr% coarse sand, moderately sorted, sub angular, sub elongate, cements/strengths: argillaceous / weak, siliceous / weak, accessories: argillaceous, carbonaceous grains tr % porosity: inter granular 5%. SANDSTONE: (2) clear to translucent, brown stained grains, loose, clastic grains: 10% medium sand, 50% coarse sand, 40% very coarse sand, poorly sorted, angular, elongate, siliceous / moderately strong, porosity: inter granular 25%. SILTSTONE: dark grey, very dark grey, firm, sub fissile, clastic grains: 10% clay, 90% silt, tr% very fine sand, accessories: mica tr %, carbonaceous grains tr %.

Gas average	Units :	308	Composition (ppm)	54319 C1	5481 C2	2383 C3	898 C4	293 C5	-

Show Details	Fluorescence: 3237 – 3240m trace dim green, spotted, trace direct cut, crush cut; off white, fast, residue ring: moderately bright, green / cream, thin. Associated gas: 575units, C1 100965, C2 10462, C3 4558, C4 1679, C5 535.

Interval (m)			ROP (avg)	Lithology Description Siltstone occasionally grading to Sandstone
3252	-	3318	49-9 (23)	SILTSTONE, medium to dark grey, friable to firm, sub fissile, 20% clay, 90% silt, trace mica. SANDSTONE, off white to very light grey, friable, sub blocky, 10% clay, 10% silt, 40% very fine sand, 40% fine sand, trace coarse sand, well sorted, sub rounded, sub spherical, weak argillaceous cement, trace siliceous cement, 20% argillaceous, trace carbonaceous material, 5% intergranular porosity.

Gas average	Units :	55	Composition (ppm)	8050 C1	973 C2	555 C3	241 C4	101 C5	-

Show Details	No Shows

Interval (m)			ROP (avg)	Lithology Description Siltstone
3318	-	3382	34-8 (21)	SILTSTONE, dark grey, brownish grey, firm to friable, sub fissile, 20% clay, 80% silt, trace very fine sand, trace mica.

Gas average	Units :	30	Composition (ppm)	3581 C1	519 C2	392 C3	162 C4	69 C5	-

Show Details	No Shows

Interval (m)			ROP (avg)	Lithology Description Top 2952 SAND 3383mMD, 2941.5mTVDSS Sandstone and Siltstone						
3382	-	3403	38-7 (23)	SANDSTONE, light brown, firm, sub blocky, 20% clay, 10% silt, 50% very fine sand, 20% fine sand, well sorted, sub rounded, sub spherical, weak argillaceous cement, 20% argillaceous, 5% intergranular porosity. SILTSTONE, light grey brown to medium brown, friable firm, sub blocky, 30% clay, 70% silt, trace very fine sand, trace mica.						
Gas average			**Units :**	68	**Composition (ppm)**	10517 C1	1009 C2	658 C3	291 C4	114 C5	-
Show Details			Fluorescence: 3383 – 3390m pale olive, slow, pin-point direct cut, crush cut; moderately bright, white, fast even crush cut, residue ring: bright, white, thin. Associated gas: 153 units, C1 22829, C2 2569, C3 1915, C4 797, C5 266.							

Interval (m)			ROP (avg)	Lithology Description Top 2973 SAND 3403mMD, 2963mTVDSS Coarse Grained Sandstone						
3403	-	3422	51-8 (24)	SANDSTONE, clear and translucent to off white, loose, dispersive, 30% medium sand, 40% coarse sand, 30% very coarse sand, moderately sorted, angular, sub spherical, trace argillaceous cement, 20% intergranular porosity. SANDSTONE, cream to off white coloured, very soft, sub blocky, 40% clay, 20% silt, 40% very fine sand, well sorted, sub angular, sub spherical, weak argillaceous cement, 40% kaolinite, trace intergranular porosity. SILTSTONE, medium to dark brown, dark grey, friable firm, sub fissile, 10% clay, 80% silt, 10% very fine sand, trace mica						
Gas average			**Units :**	167	**Composition (ppm)**	34109 C1	2167 C2	835 C3	367 C4	140 C5	-
Show Details			No Fluorescence. Gas Peak at 3404m: 334units, C1 69875, C2 4353, C3 1528, C4 638, C5 227.							

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone						
3422	-	3459	37-2 (18)	SILTSTONE, dark to medium brown, friable to firm, sub fissile, 30% clay, 70% silt, trace very fine sand, trace carbonaceous material, mica and coal. SANDSTONE, light to medium brown to cream, soft, sub blocky, 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub rounded, sub sperical, weak argillaceous cement, 30% kaolinite, 3% intergranular porosity.						
Gas average			**Units :**	45	**Composition (ppm)**	7163 C1	686 C2	369 C3	154 C4	67 C5	-
Show Details			No Shows							

Interval (m)			ROP (avg)	Lithology Description Volcanics						
3459	-	3463	11-7 (8)	VOLCANICS, tuffaceous, white, green grey and dark grey coloured, soft, sub blocky to amorphous, often weathered to clay appearance.						
Gas average			**Units :**	84	**Composition (ppm)**	15716	1144 C2	512 C3	219 C4	89 C5	-
Show Details			No Shows							

Interval (m)			ROP (avg)	Lithology Description **Volcanics** (fresh and altered)						
3463	-	3497	1.3 - 20 (3.7)	VOLCANIC: green black, medium to coarse crystals of olivine, feldspar, pyroxene, biotite, olivine partially weathered to serpentinite. ALTERED VOLCANIC: off white / green, off white mottled orange dull red, orange red, light brown mottled dark red, very soft, sub blocky to amorphous, trace weather pyroxene, olivine, commonly weathered to clay.						
Gas average			**Units :**	6	**Composition (ppm)**	1095 C1	31 C2	11 C3	6 C4	4 C5	-
Show Details			No Shows								

GAS REPORT

Yolla-3 was drilled with returns going to the sea via a ported riser until reaching 1012m. After surface casing was set returns were via the flow-line and gas data was recorded. Background gas was initially present in low concentrations on exiting surface casing at 1007m and between 2 and 12 units. Present dominantly as methane (C1), with traces of heavier gases, it remained at this low concentration until approximately 1250 mMDRT where the gas concentrations began to increase. Good gas shows were present through the Volcanic Tuff, with a peak of 749 units of gas observed in a sandstone layer at 1546mMDRT. Gas levels remained constant throughout the section of hole from the base of the Volcanics at 1658mMDRT to the Demons Bluff Formation at 2034mMDRT averaging between 80 and 120 units, with occasional peaks of up to 180 units related to thin coal and carbonaceous layers. Within the Demons Bluff Formation gas levels began to gradually increase. Initially ranging from 60 to 80 units, gas rose to between 100 and 140 units shortly before entering the Eastern View Coal Measures. Gas peaks within the Demons Bluff Formation were related to coal and carbonaceous interbeds, one coal at approximately 2139mMDRT produced a gas peak of 1068 units. Other gas peaks within this formation were between 150 and 250 units and also related to coal layers.

Through the top of the Eastern View Coal Measures from 2192mMDRT to the top of the Core through the TEV 4 sand, gas levels increased moderately from 140 unit to 420 units. The composition of the gases changed through the Siltstone at the top of the Eastern View Coal Measures and into the TEV 4 Sandstone. Initially rich in C1, at 2205mMDRT the composition ratio was (From C1 to C5) 84/9/5/2/tr. In the cored section from 2216 - 2234.5mMDRT the gas composition was 79/10/7/3/1 and fluorescence was visible in this cored section. In the lower portion of the sandstone at approximately 2250mMDRT the gas composition was 70/13/10/5/2. At approximately 2251mMDRT a Siltstone dominated the lithology and explained the sudden drop in gas levels from an average of 520 units to 140 units.

Gas levels continued to drop from 2251mMDRT to TD of the 12¼" section at 2347mMDRT, initially high in C3, C4 and C5, the initial relatively high ratios of heavy gases in this dominantly Siltstone section may have been due to residual gas from the TEV 4 sand. At TD of this section gas levels had dropped to 15 - 25 units and the gas composition was 76/8/6/5/5. 9 ? " casing was set at 2339.8mMDRT.

On exiting the 9 ? " casing to drill 8½" hole, gas levels were lower, ranging from 5 - 10 units, due to the smaller hole size and reduced volume of cuttings.

Through the 8½" hole section from 2347mMDRT to the top of the Igneous Intrusion at 2994mMDRT gas levels were low, averaging between 15 and 30 units. The coal marker at 2772mMDRT had a gas peak of 169 units of C1 dominated gas. Other significant gas peaks in this section were related to coal layers and were below 50 units. Fluorescence was seen in the cuttings at 2904mMDRT and again at 2922mMDRT. There were no noticeable gas increases in this part of the hole however the gas ratios were altered from the layers immediately above, a ratio at 2898mMDRT was 93/6/1 this was related to a gas peak in a coal layer, a gas ratio from the middle of the fluorescence at 2923mMDRT recorded 83/9/5/2/1 % ratio. This increase in heavy gases continued to the top of the Igneous Intrusion at 2994mMDRT.

Beneath the Igneous Intrusion and to the top of the 2718 Sandstone in a predominately Siltstone lithology, gas levels stayed low, between 10 and 20 units with peaks of up to 40 units. Gas levels reached a peak of 205 units at the top of the 2718 Sand with a gas ratio of 74/13/8/4/1. This peak was associated with fluorescence from 3144 - 3159mMDRT. Another gas peak occurred in the 2755 Sandstone, gas levels reached 687 units at 3183mMDRT and fluorescence was seen in the sandstone at the base of this section from 3183 - 3189mMDRT. Gas ratios at 3183mMDRT were 90/6/3/1 and at 3237m 86/9/4/1. Gas levels through this section were relatively high and averaged between 30 and 70 units.

This trend continued through the rest of the hole, with gas peaks associated with Sandstone lithology. At 3237mMDRT and 3383mMDRT gas peaks were also associated with fluorescence in the Sandstone cuttings. At 3459mMDRT there was a large drop in gas levels associated with the change in lithology to Volcanic rock. These low gas levels continued until TD at 3497mMDRT.

Gas Peaks listed below are from the Reserval gas equipment. An FCP-FGP backup gas system was run as well, the gas ratio plots show the same trends with variation in % of gas recorded. (1% = 50 units = 10000 ppm). The Reserval gas is more analytical of gas readings and picks up more background heavy gas with a constant mud flow. The Backup GZII degasser has a higher mud flow through it and liberates more gas from the mud to the chamber and so during gas zones tends to saturate with gas and tends to give a lot higher readings from the FCP-FGP. The calibrations were checked during the well and are very accurate with the FCP-FGP calibrated to 99 % Methane. These have been double checked by the wellsite geologist in situ. Trip gases were reported using the auxiliary FCP-FGP gas system.

Gas Peaks (from Reserval)

Depth metres	**Total Gas** Peak units	**C_1 ppm**	**C_2 ppm**	**C_3 ppm**	**iC_4 ppm**	**nC_4 ppm**	**iC_5 ppm**	**nC_5 ppm**
1428.0	108.1	14215	1053	458	96	120	52	38
1448.0	129.2	16558	1314	626	131	170	65	51
1460.0	120.2	15233	1242	603	126	169	65	52
1484.0	182.8	18412	2277	1364	288	409	155	125
1547.0	749.7	59441	9611	7463	1851	2662	1152	1043
1570.0	108.0	10270	1180	711	151	242	111	111
1583.0	216.2	23446	2503	1467	282	427	162	158
1595.0	278.3	17564	2336	1808	534	897	535	564
1605.0	295.3	21711	2618	1849	481	806	465	493
1627.0	272.0	23541	2447	1441	291	489	278	320
1632.0	277.0	23899	2571	1558	314	521	276	316
1659.0	205.7	16627	1812	1147	232	383	173	203
1701.0	124.4	9575	1028	628	124	214	107	89
1720.0	167.2	13596	1424	865	163	275	115	101
1791.0	148.5	12653	1536	1028	206	343	127	119
1800.0	170	14785	2097	1617	355	599	218	231
1815.0	136	12761	1441	1004	222	380	151	166
1837.0	147	15593	1518	895	169	273	97	105
1856.0	190	21935	2089	1218	229	342	111	114
1883.0	103	10803	1004	556	101	160	59	64
1914.0	89.0	8060	1035	683	132	227	75	79
1983.0	99.3	11986	1180	604	98	162	47	48
2015.0	133.9	16461	1629	860	142	237	67	71
2044.0	104.8	13005	1270	607	96	157	47	49
2070.0	120.7	16522	1705	858	138	225	65	66
2111.0	244.5	38469	3246	1495	245	321	83	77
2140.0	1068.7	152699	14860	7225	1219	1594	404	454
2164.0	146.1	21479	2085	991	151	226	62	64
2185.0	147.2	20005	2362	1238	180	292	76	77
2216.0	471.6	65967	7181	4059	641	964	243	252
2234.0	489	57830	8008	5470	993	1481	435	413
2250.0	582	47493	8202	6367	1292	2134	749	764
2265.0	121	8581	1415	1202	294	497	237	258
2384.0	75	4202	543	441	152	277	199	230
2395.0	43	1810	261	209	60	99	59	70
2429.0	45	7530	829	377	62	66	18	13
2512.0	7	1001	90	56	10	8	3	1
2518.0	9	1325	120	72	14	9	3	2
2541.0	7	1076	80	40	10	6	2	1
2552.0	7	1177	90	39	10	6	3	1
2572.0	25	4762	346	124	27	12	5	2

Gas Peaks (from Reserval)
continued

Depth metres	**Total Gas** Peak units	**C_1 ppm**	**C_2 ppm**	**C_3 ppm**	**iC_4 ppm**	**nC_4 ppm**	**iC_5 ppm**	**nC_5 ppm**
2586.0	37	7070	511	140	31	11	4	2
2593.0	32	5824	472	140	34	12	5	1
2641.0	23	4414	249	69	21	7	4	1
2656.0	55	11275	578	154	44	13	7	2
2685.0	60	12616	584	184	55	17	9	2
2694.0	52	10722	451	136	38	13	6	2
2739.0	40	8225	331	146	43	16	9	2
2774.0	169	38202	1188	420	98	36	15	4
2819.0	47	9124	433	269	63	39	15	15
2850.0	38	6558	435	376	62	69	15	8
2898.0	194	41664	2510	753	72	108	20	16
2942.0	128	23109	2087	1036	153	242	65	54
2982.0	63	9032	1774	642	53	55	12	8
3036.0	17	2795	269	128	16	26	8	10
3088.0	64	7128	1802	1564	154	215	27	15
3147.0	205	27867	4689	3050	428	801	215	207
3183.0	685	12394	10465	4238	629	978	270	255
3222.0	98	16367	1605	895	132	256	72	78
3239.0	576	100965	10462	4558	651	1028	271	264
3307.0	119	19165	2254	1254	175	325	87	86
3382.0	152	22829	2569	1915	289	499	136	130
3403.0	343	71017	4413	15555	264	385	120	108
3420.0	317	65514	4128	1541	277	394	127	115
3446.0	81	12893	1361	900	130	270	68	82

MASTERLOG
Yolla-3

GENERAL
Country : AUSTRALIA
Permit : T/L1
Field : YOLLA
Basin : BASS BASIN
Well Type : Development
Rig Name : Ensco 102

POSITION
Latitude : 039 50' 40.578"S
Longitude : 145 49' 06.186"E
UTM Co-ord X : 398,905.07m E
UTM Co-ord Y : 5,588,821.47m N
RT to MSL : 43.0m
RT to Sea Bed : 124m

HOLE / CASING INFO
16" Hole to (mMDRT) : 1012.0m
12 1/4" Hole to (mMDRT) : 2340m
8 1/2" Hole to (mMDRT) : 3497m
20" Conductor @ (mMDRT) : 215m
13 3/8" Shoe @ (mMDRT) : 1006.8m
9 5/8" Shoe @ (mMDRT) : 2339.8m

DATE / DEPTH
Spud Date : 11-08-2004
Total Depth Date : 04-09-2004
Total Depth : 3497 mRT
True Vertical Depth : 3100.3 mRT
Log Scale : 1/ 500
Final Status : Run 6 5/8"Liner

ENGINEERS
Paul Mc Gilveray
Matt Boyd
Gideon Doczy
Tom Platt
Noel Elliott

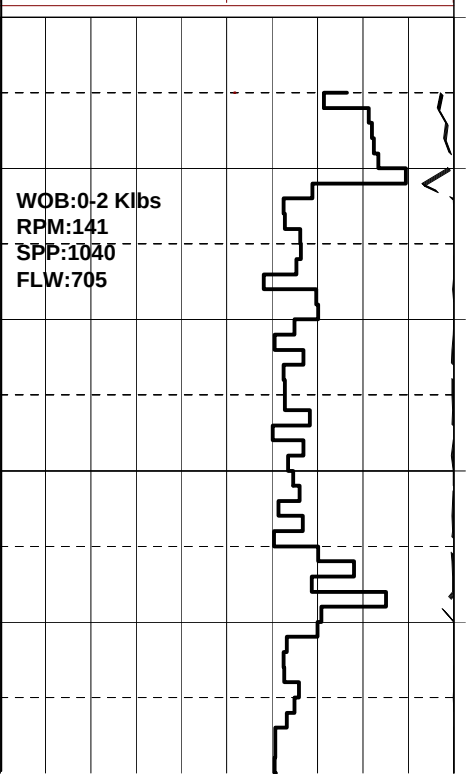
ABBREVIATIONS

MW	Mud Weight	WOB	Weight on Bit (klbs)
FV	Funnel Viscosity	RPM	Rotations Per Min
PV	Plastic Viscosity	FLW	Flow Rate (gpm)
YP	Yield Point	SPP	Pump Pressure (psi)
Gel	Gel Strength	RR	Re-Run Bit
WL	Water Loss	TG	Trip Gas
KCl	Potassium Chloride	CG	Connection Gas
Cl	Chlorides	BG	Background Gas
Incl	Inclination	DGP	Drilled Gas Peak
Az	Azimuth	MM	Mud Motor

LITHOLOGY LEGEND
Claystone, Marl, Bryozoa, Bitumen
Siltstone, Limestone, Roots and roots, Volcanics
f. Sandstone, Dolomite, Iron, Igneous
me. Sandstone, Chert, Corals, Glauconite
co. Sandstone, Conglomerate, Foraminifera, Pyrite
Carb. Siltstone, Coal, Lithic Fragment, Cement

ENGINEERING LEGEND
Shoe
Mud Loss
Mud Gain
Deviation Survey
SW Core Rec
SW Core Unrec
Core
MDT POINTS:
RFT
FIT
DST
Cement

ROP (m/hr) 100 80 60 40 20 0
WOB (klbs) 50 25 0
MWD Gamma Ray (api) 0 100 200
DEPTH (m) (TVD)
CUTTINGS LITHOLOGY % 0 100
INTERPRETIVE
RESERVAL TG & CHROMATOGRAPH
C1, C2, C3, iC4, nC4, iC5, nC5, TG
Total Gas in ppm
Chromatograph in ppm
1 10 100 1K 10K 100K
CALCIMETRY % 0 100
DIRECT FLUOR poor fair good
LITHOLOGY DESCRIPTIONS and REMARKS



120
130
140
150
160
170

YOLLA-3 SPUDDED @ 03:00 hrs on the 11th August 2004

No Gas Recorded

Bit #1: 16" 406.4mm
Hughes MX-1 Jets: 3x24
In: 124m Out: 1012m
Run: 888m Hrs: 19.7
Cond:2-2-BU-A-E-I-NO-TD

Drill with Seawater and Sweeps

Returns to sea bed

180
190
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
360
370
380

WOB:0-4 Klbs
RPM:110-150
SPP:1090-1650
FLW:780-815

WOB:0-5 Klbs
RPM:91-130
SPP:1150
FLW:710

WOB:2-4 Klbs
RPM:91-126
SPP:1175
FLW:695

20" Conductor driven to 215 m

Returns to sea bed

Returns to sea bed

Survey:258.45mMD(258.45mTVD)
0.43°inc 242.79°az

STEERING FROM 280-300 m

Survey:282.7mMD(282.7mTVD)
0.65°inc 248.87°az

Returns to sea bed

STEERING FROM 305-320 m

Survey:311.77mMD(311.76mTVD)
1.48°inc 273.86°az

STEERING FROM 333-350 m

Survey:340.78mMD(340.8mTVD)
2.25°inc 277.27°az

Returns to sea bed

STEERING FROM 361-415 m

Survey:369.82mMD(369.8mTVD)
3.48°inc 293.00°az

390
400
410
420
430
440
450
460
470
480
490
500
510
520
530
540
550
560
570
580
590

WOB:3-5 Klbs
DHM/RPM:93-156
SPP:1290
FLW:715

WOB:5-10 Klbs
DHM/RPM:95-158
SPP:1340
FLW:712

WOB: 5-10 Klbs
RPM/DHM:100-160
SPP: 1510 psi
FLW: 771 gpm

WOB:10-22 Klbs
RPM/DHM:170/100
SPP: 1585 psi
FLW: 764 gpm

Survey:399.37mMD(399.2mTVD)
5.1°inc 300.93°az

Returns to sea bed

STEERING FROM 421-469 m

Survey:428.43mMD(428.1mTVD)
7.12°inc 298.67°az

Survey:457.46mMD(456.8mTVD)
9.92°inc 296.21°az

STEERING FROM 479-499 m

Survey:486.47mMD(485.3mTVD)
11.29°inc 298.06°az

Returns to sea bed

STEERING FROM 508-532 m

Survey:515.47mMD(513.7mTVD)
12.76°inc 300.31°az

STEERING FROM 536-593 m

Survey:544.40mMD(541.8TVD)
14.82°inc 302.65°az

Returns to sea bed

Survey:572.93mMD(569.1mTVD)
18.93°inc 301.35°az

600
610
620
630
640
650
660
670
680
690
700
710
720
730
740
750
760
770
780
790
800

WOB:15-22 Klbs
RPM/DHM:170/100
SPP: 1607 psi
FLW: 768 gpm

WOB:15-25 Klbs
RPM/DHM:170/100
SPP: 1613 psi
FLW: 766 gpm

WOB:15-25 Klbs
RPM/DHM:184
SPP:1750
FLW:782

MW:8.75
FV:113
PV:8
YP:43

WOB:8-20 Klbs
RPM/DHM:176/110
SPP:2103
FLW:860

Returns to sea bed

Survey:602.47mMD(596.8mTVD)
21.65°inc 299.97°az

STEERING FROM 605-623 m

Survey:631.53mMD(623.7mTVD)
22.7°inc 301.62°az

STEERING FROM 635-658 m

Returns to sea bed

Survey:660.59mMD(650.3mTVD)
25.23°inc 302.37°az

STEERING FROM 665-687 m

Survey:689.59mMD(676.3mTVD)
27.24°inc 301.89°az

STEERING FROM 693-715 m

Returns to sea bed

Survey:718.62mMD(701.7mTVD)
30.23°inc 301.58°az

STEERING FROM 721-739 m

Returns to sea bed

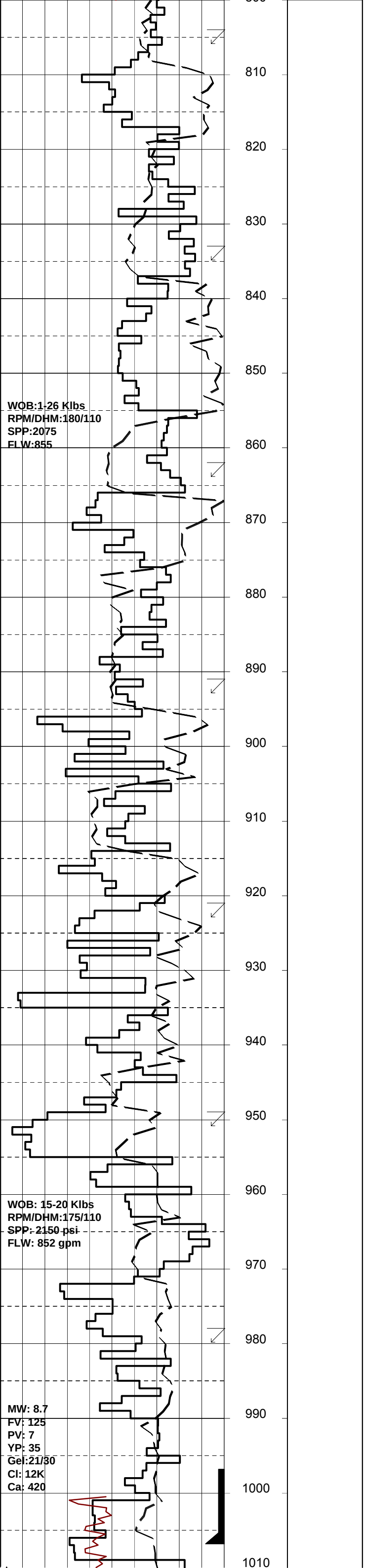
Survey:747.71mMD(726.6mTVD)
32.41°inc 300.41°az

STEERING FROM 751-768 m

Survey:776.77mMD(750.9mTVD)
33.84°inc 299.59°az

STEERING FROM 790-810 m

Returns to sea bed



Survey:805.83mMD(774.7mTVD)
36.11°inc 300.79°az

STEERING FROM 819-838 m

Survey:834.87mMD(797.8mTVD)
38.46°inc 301.43°az

Returns to sea bed

STEERING FROM 857-866 m

Survey:863.88mMD(820.5mTVD)
39.0°inc 301.2°az

STEERING FROM 876-895 m

Survey:892.95mMD(842.6mTVD)
41.57°inc 301.65°az

Returns to sea bed

STEERING FROM 905-915 m

Survey:922.03mMD(864.3mTVD)
41.88°inc 304.27°az

STEERING FROM 943-950 m

Returns to sea bed

Survey:951.1mMD(886.1mTVD)
41.35°inc 302.71°az

STEERING FROM 965-972 m

Survey:980.13mMD(907.9mTVD)
40.9°inc 302.19°az

STEERING FROM 990-1005 m

Returns to sea bed

13 3/8" Casing set @ 1006.8m

Bit #2: 12.25" 311.15mm

Hughes ATSG8 Jets: 3x24
In: 1012m Out: 1017m
Run: 5.0m Hrs: 0.4
Cond:2-2-WT-A-E-I-NO-BHA

CLAYSTONE:lt gy-gy,lt olv gy sft,stky,sbblky-amor,mod calc, tr foram,tr foss,tr diss pyr.

FIT PERFORMED @ 1017 m
303 psi (EMW=10.5 ppg)
8.6 ppg mud

WOB: 2-5 Klbs
RPM/DHM: 170/103
SPP: 1970 psi
FLW: 795 gpm

1020

Thick mud and abundant Clay cuttings blocking gas detectors.

1030

96 / 3 / 1

Bit #3: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 1017m Out: 1593m
Run: 576m Hrs: 17.7
Cond:2-2-NO-A-X-I-NO-DTF

MW: 8.65
FV: 102
PV: 43
YP: 89
Gel:14/16
Cl: 19.5K
Ca: 720

Survey:1038.17mMD(952.0mTVD)
40.4°inc 302.59°az

1040

CLAYSTONE:lt gy-gy,lt olv gy sft,stky,sbblky-amor,mod calc, tr foram,tr foss,tr diss pyr.

1050

Thick mud and abundant Clay cuttings blocking gas detectors.

CLAYSTONE:lt gy-gy,lt-occ med olv gy,mod calc,v sft,stky,tr foram,tr foss,tr diss pyr,stky, sbblky-amor.

1060

Survey:1067.25mMD(974.1mTVD)
40.28°inc 302.79°az

1070

STEERING FROM 1071-1082 m

WOB: 8-11 Klbs
RPM/DHM: 153/50
SPP: 1950 psi
FLW: 810 gpm

96 / 3 / 1

CLAYSTONE:lt-occ med olv gy, mod calc,v sft,stky,tr foss, tr diss pyr,sbblky-amor.

1080

Thick mud and abundant Clay cuttings blocking gas detectors.

STEERING FROM 1090-1099 m

1090

CLAYSTONE:lt olv gy,occ med gy,mod calc,v sft,stky,tr foss, rr diss pyr,sbblky-amor.

Survey:1095.63mMD(995.4mTVD)
42.87°inc 302.03°az

1100

95 / 3 / 1 / 1

CLAYSTONE:lt gy,lt olv gy,mod calc,tr foss,tr diss pyr,sft,occ frm,sbblky,occ disp.

1110

Thick mud and abundant Clay cuttings blocking gas detectors.

WOB: 8-11 Klbs
RPM/DHM: 153/50
SPP: 2650 psi
FLW: 840 gpm

1120

95 / 4 / 1 / Tr

Survey:1125.32mMD(1017.12mTVD)
42.88°inc 301.94°az

1130

CLAYSTONE:pl gy,lt olv gy,tr v pl brn,mod calc,tr foss,sft, occ frm,stky i/p,sbblky,occ amor.

MW: 8.65
FV: 102
PV: 43
YP: 89
Gel:14/16
pH: 9.5
Cl: 19.5K

1140

1150

Survey:1154.84mMD(1038.84mTVD)
42.4°inc 301.25°az

95 / 4 / 1 / Tr

1160

CLAYSTONE:lt-med gy,occ lt olv gy,tr vf aren occ g/t arg SLTST, tr forams,rr foss,sft,frm i/p, sbblky-amor.

1170

STEERING FROM 1178-1194 m

1180

Survey:1183.37mMD(1059.67mTVD)
43.81°inc 301.11°az

1190

Thick mud and abundant Clay cuttings blocking gas detectors.

1200

17-08-04

MW: 8.7
FV: 240
PV: 34
YP: 48
Gel:7/9
pH: 8.9
Cl: 20K

95 / 4 / 1 / Tr

CLAYSTONE:lt-med gy,occ lt olv gy,tr vf aren occ g/t arg SLTST, tr forams,sft,occ frm,sbblky-amor i/p.

1210

Survey:1212.9mMD(1080.8mTVD)
44.55°inc 301.56°az

1220

SILTSTONE:crm,lt brn,aren,i/p,

WOB: 14 Klbs
RPM/DHM: 155
SPP: 2678 psi
FLW: 841 gpm

1230

95 / 4 / 1 / Tr

SILTSTONE:crm-lt brn,aren i/p, com kaol,tr foss det,frm-sft, sbblky.

ANGAHOOK FORMATION
1231 mMD (-1051 mTVDSS)

1240

Survey:1240.82mMD(1100.8mTVD)
44.26°inc 301.23°az

CLAYSTONE:lt-med gy,occ lt olv gy,tr vf aren occ g/t arg SLTST, tr forams,sft,occ frm,sbblky-amor i/p.

1250

WOB: 14 Klbs
RPM/DHM:180/115
SPP: 2734 psi
FLW: 842 gpm

1260

93 / 5 / 1 / 1

Trough blocked with soft Clay cuttings. Drilling stopped & cuttings cleared

SILTSTONE:lt brn,aren i/p,g/t vf SST,com kaol,com pyr,com lith,frm-fri,sbblky.

1270

Survey:1271.0mMD(1122.4mTVD)
44.1°inc 301.04°az

CLAYSTONE:lt-med gy,occ lt olv gy,tr forams,sft,occ frm, sbblky-amor i/p.

Common large cavings up to 70 mm rounded soft plastic Claystone occasionally with firm centres.

1280

1290

CLAYSTONE:lt-med gy,occ lt olv gy,tr foram,sft,occ frm, slty i/p,sbfiss-sbblky.

1300

Survey:1300.06mMD(1143.3mTVD)
43.8°inc 300.64°az

SILTSTONE:lt-med gy-brn,,aren i/p, g/t vf SST,abdt kaol,calc,com pyr,com lith,frm-fri,sbblky.

WOB: 14 Klbs
RPM/DHM: 180/109
SPP: 2740 psi
FLW: 842 gpm

93 / 5 / 1 / 1

1310

1320

1330

Survey:1329.13mMD(1164.3mTVD)
43.59°inc 300.2°az

CLAYSTONE:lt-med gy,occ lt olv gy,tr foram,sft,occ frm, slty i/p,sbfiss-sbblky.

1340

91 / 5 / 2 / 1 / 1

WOB: 14 Klbs
RPM/DHM: 176/109
SPP: 2734 psi
FLW: 838 gpm

1350

SILTSTONE:lt-med gy-brn,,aren i/p, g/t vf SST,abdt kaol,calc,com pyr,com lith,frm-fri,sbblky.

Common Large rounded Claystone cavings to 70 mm Generally soft & deformable, occasionally firm.

1360

Survey:1358.13mMD(1185.4mTVD)
43.45°inc 300.56°az

1370

CLAYSTONE:lt-med gy,occ lt olv gy,tr forams,sft,occ frm, slty i/p,sbfiss-sbblky.

1380

90 / 6 / 2 / 1 / 1

SILTSTONE:lt-med gy-brn,,aren, g/t vf SST,abdt kaol,calc,com pyr,com lith, frm-fri, sbblky, tr bff-brn dol, hd, blky.

1390

Survey:1387.17mMD(1206.5mTVD)
43.16°inc 299.75°az

SANDSTONE(TR):lt gy-yel gy, vf,w rnd-sph,w srt,com aggs, abdt arg mtx,frm calc cmt,pr vis por,no fluor.

1400

WOB: 12-16 Klbs
RPM/DHM: 178/110
SPP: 2828 psi
FLW: 842 gpm

1410

SILTSTONE:brn/gy,arg-aren, com foss frag, tr calc,com pyr, com lith, frm-fri, sbblky, tr bff-brn dol, tr SST i/p.

1420 m, Trough blocked with soft Clay cuttings. Drilling stopped and cuttings cleared

1420

87 / 7 / 3 / 2 / 1

Survey:1416.0mMD(1227.6mTVD)
43.09°inc 299.29°az

1430

89 / 7 / 3 / 1

CLAYSTONE:lt-med gy,occ lt

1440
1450
1460
1470
1480
1490
1500
1510
1520
1530
1540
1550
1560
1570
1580
1590
1600
1610
1620
1630
1640

88 / 7 / 3 / 1 / 1

87 / 7 / 3 / 2 / 1

80 / 10 / 6 / 3 / 1

81 / 8 / 5 / 4 / 2

85 / 8 / 4 / 2 / 1

71 / 12 / 9 / 5 / 3

80 / 9 / 6 / 3 / 2

82 / 9 / 5 / 2 / 1

73 / 10 / 7 / 6 / 4

76 / 9 / 7 / 5 / 3

82 / 8 / 5 / 3 / 2

Survey:1444.73mMD(1248.5mTVD)
43.10°inc 300.33°az

Survey:1473.80MD(1269.8mTVD)
43.22°inc 299.26°az

Survey:1502.86MD(1291.9mTVD)
42.22°inc 300.61°az

Survey:1531.9MD(1312.7mTVD)
41.39°inc 301.29°az

Survey:1560.93MD(1334.6mTVD)
41.1°inc 301.52°az

Survey:1589.81MD(1356.4mTVD)
40.8°inc 300.98°az

Survey:1618.95MD(1378.4mTVD)
40.92°inc 301.11°az

WOB: 16 Klbs
RPM/DHM: 175/110
SPP: 2919 psi
FLW: 840 gpm

WOB: 16 Klbs
RPM/DHM: 181/110
SPP: 3000 PSI
FLW: 848 GPM

MW: 9.2
FV: 120
PV: 30
YP: 40
Gel:8/18
pH: 8.5
Cl: 17.5K

WOB: 16 Klbs
RPM/DHM: 181/110
SPP: 3000 PSI
FLW: 848 GPM

18-08-04

WOB: 10-15 Klbs
RPM/DHM: 180/110
SPP: 2818 psi
FLW: 835 gpm

olv gy,tr foss,tr diss pyr, sft-occ frm,slty i/p,sbfiss, occ sbblky.

CLAYSTONE:lt-med gy,occ lt olv gy,tr foss,tr diss pyr, sft-occ frm,slty i/p,stky i/p, amor-sbblky.

Occasional large rounded Claystone cavings to 60 mm soft & deformable with firm centres.

SILTSTONE:med brn/gy,occ lt brn,arg,occ calc,tr aren,tr diss pyr,tr carb spks,sft frm i/p,sbblky.

MIOCENE VOLCANCS
1489 mMD (-1238 mTVDSS)

STEERING FROM 1496-1505 m

VOLCANIC TUFF:off wh,lt bl/gy v sft,amor-frm,occ vf SST gns set in vf tuffaceous mtx,com weath to CLAY.

CLAYSTONE:pl gy,occ off wh, disp i/p,non calc,v sft,occ frm, sbblky-amor.

VOLCANIC TUFF:off wh,lt bl/gy v sft,amor-frm,occ vf SST gns in vf tuff mtx,com weath to CLAY.

SANDSTONE:trnsl-clr,vf grn volcanoclastic SST,wl srt,sr-rnd,no cmt,lse grns,abdt tuff mtx,pr por,no fluor.

CLAYSTONE:lt gy,med gy,amor, occ calc,v sft,slty i/p,sbblky-occ disp.

SILTSTONE:lt-med brn,occ lt brn/gy,arg,tr calc,mnr vf aren occ g/t vf SST,tr pyr,tr foss, sft-frm,sbblky,occ amor.

SANDSTONE:lt-med brn,vf occ g/t aren SLTST,wl srt,sr-rnd, com clay mtx,tr calc cmt,lse qtz grns,lse i/p,pr vis & inf por,no fluor.

2 % KCL added to mud

Bit #4RR2: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 1593m Out: 2216m
Run:623 m Hrs: 43.2
Cond: 2-2-BT-S-X-I-E-CP

SILTSTONE:lt-med gy,med brn/gy, arg,tr calc,aren g/t vf SST,com foss,tr bryoza,tr forams,tr gastropods,sft-frm,occ mod hd, sbblky,occ sbfiss.

VOLCANIC TUFF:lt gy-off wh,occ lt bl/gy,arg,v sft,weath to CLYST,sbblky-disp i/p.

SANDSTONE:trnsl-clr,i/p pl gy, vf g/t aren SLTST,wl srt,sr-rnd, tr calc cmt,abdt cly mtx,lse,mod hd-fri aggs,pr vis por,no fluor.

SILTSTONE:lt-med gy,med brn/gy, arg,tr calc,aren g/t vf SST,com foss,tr bryoza,tr forams,tr

19-08-04

MW: 9.5
FV: 125
PV: 30
YP: 38
Gel:8/15
pH: 8.7
Cl: 26.5K

WOB: 10 Klbs
RPM/DHM: 170/110
SPP: 3000 psi
FLW: 855 gpm

WOB: 8-12 Klbs
RPM/DHM: 180/110
SPP: 3100 psi
FLW: 864 gpm

WOB: 10-12 Klbs
RPM/DHM: 180/110
SPP: 3467 psi
FLW: 866 gpm

WOB: 10-12 Klbs
RPM/DHM: 184/111

1650
1660
1670
1680
1690
1700
1710
1720
1730
1740
1750
1760
1770
1780
1790
1800
1810
1820
1830
1840
1850

80 / 9 / 6 / 3 / 3
77 / 10 / 7 / 4 / 2
81 / 9 / 5 / 3 / 2
82 / 9 / 5 / 3 / 1
82 / 9 / 5 / 3 / 1
79 / 10 / 6 / 3 / 2
77 / 10 / 7 / 4 / 2
79 / 9 / 6 / 4 / 2
79 / 9 / 6 / 4 / 2
84 / 8 / 5 / 2 / 1

Survey:1647.9MD(1400.3mTVD)
40.94°inc 300.75°az

Survey:1676.97MD(1422.2mTVD)
41.39°inc 300.32°az

Survey:1706.03MD(1443.9mTVD)
42.12°inc 299.91°az

Survey:1735.0MD(1465.3mTVD)
42.61°inc 300.1°az

Survey:1764.06MD(1486.7mTVD)
42.52°inc 299.11°az

Survey:1793.12MD(1508.3mTVD)
41.38°inc 300.86°az

Survey:1822.17MD(1530.3mTVD)
40.15°inc 301.20°az

Survey:1850.8MD(1552.2mTVD)

gastropods,sft-frm,occ mod hd, inc pyr,sbblky,occ sbfiss.

VOLCANIC TUFF:lt gy-off wh,occ lt bl/gy,arg,v sft,weath to CLYST,sbblky-disp i/p.

BASE VOLCANICS
1658 mMD(-1365 mTVDSS)

SANDSTONE:bff-lt brn,vf g/t aren SLTST,mod srt,sr-rnd,com calc cmt, abdt cly mtx,,mod hd-fri aggs, com lse qtz grn,tr pyr,tr foss, tr glauc,pr vis por,no fluor.

SILTSTONE:lt-med gy,med brn/ gy,arg,com calc,aren g/t vf SST, rr foss,frm-mod hd,com pyr, sbblky.

SANDSTONE:lt brn-off wh,vf,mod srt,sr-rnd,mod calc cmt,com fri-mod hd aggs,com lse grns, abdt kaol/arg mtx,com glauc, rr pyr,pr vis por,no fluor.

SILTSTONE:med-dk brn/gy,aren g/t vf SST,v calc,occ glauc, com kaol,rr pyr,fri-mod hd, sbblky.

SANDSTONE:lt brn-off wh,vf, mod srt,sr-rnd,mod calc cmt,com fri-mod hd aggs,com lse grns, abdt kaol/arg mtx,com glauc, rr pyr,pr vis por,no fluor.

SILTSTONE:med brn,occ med gy/ brn,com aren occ g/t vf SST,i/p calc,tr glauc,i/p nod pyr,tr foss, frm-mod hd,occ hd,sbblky.

STEERING 1788m-1794m

SANDSTONE:trnsl-clr,pl gy-pl brn i/p,vf occ g/t aren SLTST, f,wl srt,sr-rnd,occ calc cmt,com slty mtx,tr glauc,tr nod pyr,mod hd-fri aggs,lse,pr vis & inf por, no fluor.

STEERING 1817m-1824m

SILTSTONE:med brn,occ med gy/ brn,com aren occ g/t vf SST,i/p calc,tr glauc,com nod pyr,frm-mod hd,occ sft,sbblky.

SANDSTONE:trnsl-clr,pl gy-pl brn i/p,vf occ g/t aren SLTST, f,wl srt,sr-rnd,occ calc cmt,com clay mtx,tr glauc,occ nod pyr, modhd-fri aggs,com lse,pr vis & inf por,no fluor.

SPP: 3405 psi
FLW: 855 gpm

1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020
2030
2040
2050
2060

84 / 8 / 5 / 2 / 1

85 / 8 / 4 / 2 / 1

78 / 10 / 7 / 3.5 / 1.5

83 / 9 / 5 / 2 / 1

85 / 8 / 4 / 2 / 1

85 / 8 / 4 / 2 / 1

85 / 8 / 4 / 2 / 1

85 / 8 / 4 / 2 / 1

39.76°inc 301.54°az

Survey:1881.06MD(1575.8mTVD)
38.01°inc 301.08°az

Survey:1909.02.06MD(1598.1mTVD)
36.06°inc 302.18°az

Survey:1938.07MD(1621.6mTVD)
35.58°inc 302.76°az

Survey:1967.41MD(1645.7mTVD)
34.62°inc 302.4°az

Survey:1996.46MD(1669.7mTVD)
33.68°inc 303.06°az

Survey:2025.46MD(1693.8mTVD)
33.57°inc 302.15°az

Survey:2054.5MD(1718.2mTVD)
32.43°inc 302.83°az

WOB: 10-15 Klbs
RPM/DHM: 180/111
SPP: 3525 psi
FLW: 855 gpm

MW: 9.45
FV: 78
PV: 29
YP: 31
Gel:7/13
pH: 8.5
Cl: 25.5K
20-08-04

WOB: 8-15 Klbs
RPM/DHM: 180/70
SPP: 3528 psi
FLW: 850 gpm

WOB: 8-18 Klbs
RPM/DHM: 170/60
SPP: 3618 psi
FLW: 846 gpm

WOB: 8-18 Klbs
RPM/DHM: 193/80
SPP: 3605 psi
FLW: 855 gpm

SILTSTONE:med brn,med gy/brn i/p,arg,aren occ g/t vf SST,calc i/p,occ-com nod pyr,tr glauc, frm-mod hd,occ hd,sbblky.

STEERING 1873m-1884m

SANDSTONE:trnsl,pl gy-pl brn, com f-vf occ g/t aren SLTST, wl srt,sr-rnd,occ calc cmt,abdt clay mtx,tr glauc,occ nod pyr, mod hd-fri aggs,com lse,pr vis & inf por,no fluor.

STEERING 1904m-1915m

SANDSTONE:trnsl,pl gy-pl brn, com f-vf occ g/t aren SLTST, wl srt,sr-rnd,occ calc cmt,abdt clay mtx,tr glauc,occ nod pyr, mod hd-fri aggs,com lse,pr vis & inf por,no fluor.

SILTSTONE:med brn,med gy/brn i/p,arg,aren occ g/t vf SST,calc i/p,occ-com nod pyr,tr glauc, frm-mod hd,occ hd,sbblky.

SANDSTONE:trnsl,pl gy-pl brn, com f-vf occ g/t aren SLTST, wl srt,sr-rnd,occ calc cmt,abdt clay mtx,tr glauc,occ nod pyr, mod hd-fri aggs,com lse,pr vis & inf por,no fluor.

STEERING 1962m-1968m

SILTSTONE:med brn,med gy/brn i/p,arg,aren occ g/t vf SST,calc i/p,occ-com nod pyr,tr glauc, frm-mod hd,occ hd,sbblky.

STEERING 1991m-1997m

SANDSTONE:trnsl,pl gy-pl brn, com f-vf occ g/t aren SLTST, wl srt,sr-rnd,occ calc cmt,abdt clay mtx,tr glauc,occ nod pyr, mod hd-fri aggs,com lse,pr vis & inf por,no fluor.

STEERING 2019m-2022m

SANDSTONE:off wh-lt brn,vf, mod wl srt,sr-rnd,com calc cmt, fri-hd aggs,occ lse grns,occ glauc,arg/kaol mtx,pr vis por,no fluor.

DEMONS BLUFF FORMATION
2034 mMD (-1658 mTVDSS)

Poor hole cleaning observed at formation change, estimate 60 % of cuttings arriving at surface late.

SILTSTONE:dk gy,aren,micmic, carb spks,sft-fri/crmbly,sbblky.

STEERING 2048m-2056m

SILTSTONE:dk gy,aren,micmic,

carb spks, sft-fri, crmbly,sbblky.

2070

84 / 9 / 4 / 2 / 1

SANDSTONE:off wh-lt brn,vf,mod wl srt,sr-rnd,com calc cmt,fri-hd aggs,occ lse grns,occ glauc, arg/kaol mtx,pr vis por,no fluor.

STEERING 2077m-2084m

2080

Survey:2083.5MD(1742.9mTVD)
31.20°inc 302.19°az

SILTSTONE:dk brn-dk brn/gy, arg,micmic i/p,tr calc,com nod pyr,tr glauc,tr carb spks,sft-frm,occ mod hd,sbblky.

2090

83 / 9 / 5 / 2 / 1

2100

WOB: 10-18 Klbs
RPM/DHM: 193/80
SPP: 3675 psi
FLW: 854 gpm

STEERING 2107m-2114m

2110

88 / 7 / 3 / 1 / 1

Survey:2112.6MD(1767.8mTVD)
30.20°inc 301.86°az

SILTSTONE:dk brn-dk brn/gy, arg,micmic i/p,tr calc,com nod pyr,tr glauc,tr carb spks,sft-frm,occ mod hd,sbblky.

2120

83 / 9 / 5 / 2 / 1

2130

STEERING 2134m-2140m

SANDSTONE:lt-med brn,vf g/t aren SLTST,wl srt,sa-sr,abdt clay mtx, tr calc cmt,mod hd aggs,lse,pr inf por,no fluor.
COAL(Tr):blk,vit-wxy txt,frm,blky.

2140

WOB: 10-30 Klbs
RPM/DHM: 184/75
SPP: 3696 psi
FLW: 856 gpm

86 / 8 / 4 / 2 / Tr

Survey:2141.6MD(1793.0mTVD)
29.6°inc 301.49°az

GAS PEAK 2139m :
Reserval: 1035 u
Aux: 2955 u
1m sliding over 10mins

2150

SILTSTONE:dk brn,occ dk gy/brn, arg,micmic,tr calc,tr nod pyr,tr glauc,tr carb spks,frm-mod hd, sbblky.

2160

86 / 8 / 4 / 2 / Tr

2170

Survey:2170.62MD(1818.2mTVD)
29.65°inc 300.95°az

SANDSTONE:wh-lt brn,vf,sa-sr, wl srt,wk calc cmt,com lse gns, slty mtx,tr lith,tr glauc,pr vis por,no fluor.

2180

MW: 9.5
FV: 78
PV: 28
YP: 32
Gel:8/15
Cl: 30.5K
Ca: 280

83 / 10 / 5 / 2 / Tr

Survey:2192.70MD(1837.42mTVD)
29.51°inc 301.71°az

SILTSTONE:dk brn,occ dk gy/brn, arg,micmic,tr calc,tr nod pyr,tr glauc,tr carb spks,frm-mod hd, sbblky.

2190

EAST VIEW COAL MEASURES
2192 mMD (-1793 mTVDSS)

WOB: 10-28 Klbs
RPM/DHM: 184/75
SPP: 3712 psi
FLW: 845 gpm

Survey:2199.47MD(1843.3mTVD)
29.61°inc 301.35°az

Poor hole cleaning observed at formation change, estimate 70 % of cuttings arriving at surface late.

SANDSTONE:wh-lt brn,vf,sa-sr, wl srt,wk calc cmt,com lse gns, arg mtx,tr lith,tr glauc,pr vis por,no fluor.

2200

84 / 9 / 5 / 2 / Tr

BIT# 5: 8.5" 215.9mm
Corehead CD93 4"ID
In: 2216m Out: 2234m
Run: 18m Hrs: 0.75
Recovery: 100%

2210

TEV 4 SAND
2219 mMD (-1817m TVDSS)

2220

CORE # 1

WOB: 9 Klbs
RPM: 70
SPP: 595 psi
FLW: 154 gpm

FLUOR:30-60%,bri,blu/grn, ptchy-evn fluor,tr-slw dir cut, tr-v slw c/cut,bri grn/crm broken ring res.

2230

79 / 10 / 7 / 3 / 1

Survey:2228.52MD(1868.6mTVD)
29.54°inc 300.95°az

SANDSTONE:lt olv gy,gn/gy,vf, wl srt,rnd,tr sph,wk sil & mnr arg mtx,chloritic,slty mtx i/p, occ carb SLTST lam,fri,fr vis por,fluor a/a.

2240

MW: 9.35
FV: 190
PV: 39
YP: 53
Gel:10/14
Cl: 23K
Ca: 320

Bit #3RR3: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 2234m Out: 2347m
Run: 113m Hrs: 6.9
Cond:2-2-BT-S-X-I-CT-TD

2250

70 / 13 / 10 / 5 / 2

STEERING 2249m-2258m

Survey:2257.54MD(1893.9mTVD)
29.00°inc 301.43°az

SANDSTONE:lt gy brn,vf,wl srt, sr-r,wk-mod sil cmt,pred lse, comc aggs,arg mtx i/p,glauc i/p,fr-gd vis por,tr fluor a/a.

2260

WOB: 8-12 Klbs
RPM: 190
SPP: 3750 psi
FLW: 850 gpm

2270

SILTSTONE:dk rdsh gy,aren,

WOB: 18-26 Klbs
RPM: 112
SPP: 3785 psi
FLW: 860 gpm

WOB: 10-12 Klbs
RPM/DHM: 80+110
SPP: 4250 psi
FLW: 878 gpm

WOB: 0-0.5 Klbs
RPM/DHM: 100+180
SPP: 3650 psi
FLW: 655 gpm

MW: 9.45
FV: 128
PV: 35
YP: 42
Gel:8/12
Cl: 22.5K
Ca: 340

WOB: 0-3.5 Klbs
RPM/DHM: 100+190
SPP: 3350 psi
FLW: 650 gpm

WOB: 0-1 Klbs
RPM/DHM: 110+190
SPP: 3500 psi
FLW: 650 gpm

WOB: 5-10 Klbs
RPM/DHM: 110+190
SPP: 3475 psi
FLW: 600 gpm

2280
2290
2300
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
2410
2420
2430
2440
2450
2460
2470
2480

59 / 10 / 10 / 11 / 10

69 / 10 / 8 / 7 / 6

76 / 8 / 6 / 5 / 5

80 / 10 / 6 / 3 / 1

84 / 8 / 5 / 2 / 1

86 / 9 / 4 / 1 / tr

72 / 9 / 9 / 7 / 3

Survey:2286.53MD(1919.5mTVD)
26.96°inc 301.77°az

Survey:2315.56MD(1945.5mTVD)
26.11°inc 301.7°az

Survey:2323.95MD(1953.0mTVD)
25.94°inc 301.45°az

Survey:2352.54MD(1978.8mTVD)
25.28°inc 301.5°az

Survey:2381.58MD(2005.2mTVD)
24.10°inc 301.76°az

Survey:2409.95MD(2031.1mTVD)
23.28°inc 301.46°az

Survey:2438.98MD(2057.9mTVD)
22.49°inc 301.5°az

Survey:2468.04MD(2084.8mTVD)
22.16°inc 300.59°az

Trouble dropping angle in graded Siltstone and Sandstone from 9 5/8" Csg.Shoe-2555m.

carb i/p,com pyr,com lith,frm-fri,sbblky.

STEERING 2280m-2292m

COAL:blk,shny,sbvit,sbconch, frac,brit.

SILTSTONE:med gry,arg,dol, com foss,frm-hd,sbblky.

SANDSTONE:lt gry brn,pred vf occ f-crs,pred lse,occ aggs, mnr arg mtx,tr glauc,fr vis/inf por,tr fluor a/a.

STEERING 2309m-2311m

COAL:blk,dk gy,sbvit,dll i/p brit-mod hd,occ ea g/t carb SLTST,sbblky.

STEERING 2320m-2322m

SANDSTONE:clr-trnsl,off wh-v pl gy,med,crs i/p,vf i/p,mod pr srt,sa-sr,wk sil cmt,tr qtz o/gths,lse,fri-tr mod hd aggs,fr vis & fr-gd inf por,no fluor.

SANDSTONE:clr-trnsl,off wh-pl gy,med-crs,f-vf i/p, com off crs qtz grs,sa-occ ang,mod sil cmt,occ slty mtx,lse,mod hd aggs,pr vis & inf por,no fluor.

9 5/8" Casing set @ 2339.82m
1967.26m TVD

SILTSTONE:brn-dk brn,med-dk gy,gy/brn i/p,arg,tr carb,micmic i/p,aren occ g/t vf SST,tr nod pyr,tr carb spks,frm-mod hd,occ hd,sbblky,occ sbfiss.

Bit #4RR: 8.5" 215.90mm
HYCALOG DSX173 DG
Jets: 3x18, 3x16
In: 2347m Out: 3497m
Run: 1150m Hrs: 62.6
Cond: 2-3-WT-S-X-I-CT-TD

FIT PERFORMED @ 2349 m
540 psi (EMW=10.9 ppg)
9.3 ppg mud

SANDSTONE:lt brn gy,pred f-med,w/com med-v crs qtz grns/o/gths,p srt,sa-ang,wk-mod sil cmt,com aggs,abdt arg mtx,pr inf/vis por,no fluor.

STEERING 2350m-2359m

COAL:blk,sbvit-ea,frm-fri, g/t SLTST,sbfiss,sbconch.

SILTSTONE:lt-med gy-gy brn, aren,g/t vf SST i/p,tr-com carb,tr nod pyr,frm-fri, sbblky.

SANDSTONE:clr-trnsl,med-v crs pred crs,pr srt,sa-ang,wk sil cmt,lse,arg mtx-cln,fr infpor,no fluor.

SILTSTONE:lt-med gy-gy brn, aren,g/t vf SST i/p,tr-com carb,tr nod pyr,frm-fri,sbblky.

CO2 5%-1% 2407m-2411m

STEERING 2402m-2413m

SANDSTONE:clr-trnsl,vf-f aggs, med-v crs pred crs,pr srt,sa-ang,wk sil cmt,lse,arg mtx-cln, fr inf por,no fluor.

COAL:blk,sbvit-ea,frm-fri, g/t SLTST,sbfiss,sbconch.

SILTSTONE:lt-med gy-gy brn, aren,g/t vf SST i/p,tr-com carb,tr nod pyr,frm-fri, sbblky.

STEERING 2430m-2443m

SANDSTONE:v pl gy-wh,f-vf aggs,med-v crs pred crs,pr srt, sa-ang,wk sil cmt,lse,abdt arg mtx,fr inf por,no fluor.

STEERING 2460m-2462m

SILTSTONE:lt-med gy-gy brn, aren,g/t vf SST i/p,tr-com carb,tr nod pyr,frm-fri, sbblky.

SANDSTONE:v pl gy-wh,f-vf aggs,com lre grns,w srt,sr-sa,wk

WOB: 3-8 Klbs
RPM/DHM: 0+180
SPP: 3100 psi
FLW: 600 gpm

MW: 9.30
FV: 140
PV: 44
YP: 55
Gel:8/12
Cl: 20.5K
Ca: 820

WOB: 4-12 Klbs
RPM/DHM: 77/180
SPP: 3450 psi
FLW: 600 gpm

WOB: 4-9 Klbs
RPM/DHM: 66/178
SPP: 3550 psi
FLW: 595 gpm

MW: 9.25
FV: 145
PV: 44
YP: 56
Gel:8/12/15
Cl: 22.0K
Ca: 720

WOB: 4-8 Klbs
RPM/DHM: 92/182
SPP: 3650 psi
FLW: 605 gpm

WOB: 3-8 Klbs
RPM/DHM: 93/180
SPP: 3590 psi
FLW: 600 gpm

WOB: 10-20 Klbs
RPM/DHM: 74/172
SPP: 3550 psi
FLW: 575 gpm

2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600
2610
2620
2630
2640
2650
2660
2670
2680
2690

75 / 10 / 9 / 5 / 1

83 / 9 / 6 / 2 / TR

87 / 7 / 4 / 2 / TR

90 / 7 / 2 / 1 / TR

60 / 30 / 8 / 2 / TR

92 / 6 / 1 / 1 / TR

92 / 5 / 2 / 1 / TR

94 / 5 / 1 / TR

94 / 4 / 1 / 1

Survey:2497.12MD(2111.8mTVD)
20.86°inc 300.56°az

Survey:2526.18MD(2139.1mTVD)
19.69°inc 300.61°az

Survey:2555.19MD(2166.44.1mTVD)
19.27°inc 296.62°az

Rapid 3° drop in inclination
2555m-2584m beneath graded
sediment.

Survey:2584.24MD(2194.1mTVD)
16.12°inc 296.10°az

Survey:2613.62MD(2222.2mTVD)
14.16°inc 296.48°az

Survey:2642.34MD(2250.4mTVD)
12.20°inc 296.42°az

Survey:2671.48MD(2278.8mTVD)
12.20°inc 298.74°az

sil cmt,lse,abdt arg mtx,fr inf
por,no fluor.

STEERING 2489m-2495m

SILTSTONE:med-dk gy brn,aren
g/t vf SST i/p,carb inc,frm,
sbblky.

STEERING 2499m-2509m

SANDSTONE:off wh,trnsl,com
f-vf-med i/p,mod srt,sa-sr,abdt
wh arg mtx,occ slty mtx,tr carb
spks,lse i/p,pr vis por,no fluor.

SILTSTONE:dk gy,brn/blk,arg,
aren occ g/t vf SST,carb,micmic,
sft-frm,inter lam w/ vf SST,
sbblky-sbfiss.

STEERING 2529m-2531m

SANDSTONE:trnsl,off wh,clr i/p,
tr lt brn,f,occ-com med-crs,mod
srt,sa-sr,tr ang,abdt wh arg mtx,
occ slty mtx,tr carb spks,mod
hd-fri aggs,lse i/p,pr vis & inf
por,no fluor.

COAL:blk,sbvit-vit,brit-frm,
sbblky.

STEERING 2547m-2566m

SANDSTONE:trnsl,off wh,clr i/p,
com f,vf i/p g/t aren SLTST,tr
med,mod srt,sa-sr,mod sil
cmt,abdt wh arg mtx,fri-mod hd
aggs,lse i/p,pr vis por,no fluor.

SILTSTONE:gy/brn,med-lt brn,
arg,aren occ g/t vf SST,carb,
com lam of carb mat & vf SST,
com carb spks,frm,occ mod hd,
sbblky-sbfiss.

STEERING 2576m-2587m

COAL:blk,sbvit-vit,dll i/p,brit-
frm,occ slty g/t carb SLTST,
sbblky.

SANDSTONE:trnsl,clr i/p,tr off
wh,com f,occ med,mod wl srt,sa-
sr,mod sil cmt,com wh arg mtx,
fri-mod hd aggs,occ lse grs,
pr vispor,no fluor.

STEERING 2604m-2615m

SANDSTONE:trnsl,off wh,clr i/p,
com f,vf i/p occ g/t aren SLTST,
tr med,mod srt,sa-sr,abdt wh arg
mtx,occ slty mtx,com carb spks,
fri-mod hd aggs,pr vis por,no
fluor.

SILTSTONE:dk gy,lt-med brn,
aren occ g/t vf SST,arg i/p g/t
CLYST,micmic i/p,tr carb,com
inter lam carb mat & SST,frm-
sft,occ mod hd,sbblky-sbfiss.

SANDSTONE:trnsl-clr i/p,off wh
i/p,gen f,vf i/p,tr med,mod w
srt,sr-sa,v wk sil cmt i/p,fri-
occ mod hd aggs,occ lse,abdt
wh arg mtx,pr vis por,pr-fr inf
por,no fluor.

COAL:blk,sbvit-vit,occ dll,
brit,occ mod hd,sbconch,
sbblky.

SILTSTONE:dk gy,lt-med brn,
aren occ g/t vf SST,arg i/p g/t
CLYST,micmic i/p,tr carb,com
inter lam carb mat & SST,frm-
sft occ mod hd,sbblky-sbfiss.

SANDSTONE:trnsl,clr i/p,off wh
i/p,gen f,vf i/p,tr med,mod wl

WOB: 8-12 Klbs
RPM/DHM: 75/180
SPP: 3810 psi
FLW: 595 gpm

2700

2710

2720

93 / 4 / 2 / 1

2730

2740

93 / 4 / 2 / 1

WOB: 8-12 Klbs
RPM/DHM: 75/182
SPP: 3770 psi
FLW: 600 gpm

2750

2760

2770

96 / 3 / 1

2780

2790

93 / 4 / 2 / 1

WOB: 8-12 Klbs
RPM/DHM: 75/180
SPP: 3650 psi
FLW: 596 gpm

2800

2810

2820

92 / 4 / 3 / 1

2830

MW: 9.35
FV: 152
PV: 61
YP: 61
Gel:9/14
Cl: 19.5K
Ca: 400

2840

2850

87 / 6 / 5 / 2

2860

2870

88 / 7 / 4 / 1

WOB: 9-14 Klbs
RPM/DHM: 75/175
SPP: 3710 psi
FLW: 588 gpm

2880

2890

2900

93 / 6 / 1

Survey:2700.58MD(2307.3mTVD)
10.52°inc 301.17°az

Survey:2729.63MD(2335.9mTVD)
9.78°inc 303.39°az

Survey:2758.61MD(2364.5mTVD)
8.91°inc 306.43°az

Survey:2787.63MD(2393.2mTVD)
8.39°inc 306.83°az

Survey:2816.68MD(2421.9mTVD)
7.92°inc 309.88°az

Survey:2845.75MD(2450.8mTVD)
7.52°inc 310.63°az

Survey:2874.82MD(2479.6mTVD)
6.95°inc 310.46°az

srt,sr-sa,wk sil cmt i/p,abdt wh arg mtx,fri-occ mod hd aggs,occ lse,pr vis por,pr-fr inf por,no fluor.
COAL:blk,sbvit-vit,occ dll, brit,occ mod hd,sbconch, sbblky.

SILTSTONE:brnsh gy,aren occ g/t vf SST,arg i/p,micmic i/p, com carb lams,frm-sft,occ mod hd,sbblky-sbfiss.

PARTIAL BLOCKED Suction Head ON DEGASSER, Reduced GAS READINGS FROM: 2713m - 2719m

SANDSTONE:trnsl,clr i/p,off wh i/p,gen f,vf i/p,tr med,mod wl srt,sr-sa,v wk sil cmt i/p,abdt wh arg mtx,fri-occ mod hd aggs, occ lse,pr vis por,pr-fr inf por,no fluor.

COAL:blk,sbvit-vit,occ dll, brit,occ mod hd,sbconch, sbblky.

SILTSTONE:brnsh gy,aren occ g/t vf SST,arg i/p,micmic i/p, com carb lams,frm-sft,occ mod hd,sbblky-sbfiss.

COAL MARKER
2772 mMD (-2334.5m TVDSS)

COAL:blk,vit,brit-hd,blky, ang-sbconch.

SANDSTONE:trnsl,clr i/p,off wh i/p,gen f,vf i/p,tr med,mod wl srt,sr-sa,v wk sil cmt i/p,abdt wh arg mtx,fri-occ mod hd aggs, occ lse,pr vis por,pr-fr inf por,no fluor.

SILTSTONE:brnsh gy,aren occ g/t vf SST,arg i/p,micmic i/p, com carb lams,frm-sft,occ mod hd,sbblky-sbfiss.

SANDSTONE:v lt gy,vf,wl srt, sr-rnd,mod sil/arg cmt,abdt aggs,arg mtx,g/t SLTST i/p, kaol lams, pr vis por,no fluor.

SILTSTONE:med-dk gy brn-dk gyr,arg,carb i/p,micmic, frm- mod hd,sbblky-sbfiss.

CARBONACEOUS SILTSTONE: gysh blk-blk,fri-frm,sbblky, occ hckly frac,micmic,tr pyr.

SILTSTONE:med-dk gy brn-dk gyr,arg,carb i/p,micmic, frm- mod hd,sbblky-sbfiss.

SANDSTONE:v lt gy,vf,w srt, sr-rnd,mod sil/arg cmt,abdt aggs,arg mtx,g/t SLTST i/p, kaol lams,pr vis por,no fluor.

SILTSTONE:dk gy,gy/brn,arg, aren g/t vf SST i/p,micmic,com carb & vf SST inter lam,frm,occ mod hd,sbblky-sbfiss.

2900
2910
2920
2930
2940
2950
2960
2970
2980
2990
3000
3010
3020
3030
3040
3050
3060
3070
3080
3090
3100
3110

WOB: 4-10 Klbs
RPM/DHM: 83/183
SPP: 3560 psi
FLW: 610 gpm

WOB: 5-9 Klbs
RPM/DHM: 70/183
SPP: 3725 psi
FLW: 610 gpm

MW: 9.40
FV: 146
PV: 53
YP: 64
Gel:10/7
Cl: 21.0K
Ca: 440

WOB: 8-16 Klbs
RPM/DHM: 78/180
SPP: 3630 psi
FLW: 600 gpm

WOB: 10-12 Klbs
RPM/DHM: 72/180
SPP: 3750 psi
FLW: 600 gpm

WOB: 6-9 Klbs
RPM/DHM: 74/173
SPP: 3845 psi

Survey:2903.84MD(2608.4mTVD)
6.59°inc 311.13°az

83 / 9 / 5 / 2 / 1

Survey:2932.80MD(2537.2mTVD)
6.47°inc 307.32°az

80 / 10 / 6 / 3 / 1

Survey:2961.87MD(2566.1mTVD)
6.25°inc 305.90°az

79 / 19 / 8 / 2 / TR

Survey:2990.91MD(2595.0mTVD)
5.63°inc 307.78°az

83 / 8 / 5 / 3 / 1

Survey:3016.37MD(2595.0mTVD)
5.51°inc 307.66°az

Survey:3048.91MD(2652.7mTVD)
5.38°inc 306.46°az

86 / 8 / 4 / 1 / 1

Survey:3077.85MD(2681.5mTVD)
5.05°inc 307.24°az

79 / 12 / 7 / 2

Survey:3106.89MD(2710.5mTVD)
4.40°inc 308.4°az

FLUOR:2904-2910m,5% dll yel, ptchy fluor,slw dir cut,fst c/cut, mod bri crm ring res.

SANDSTONE:pl gy,off wh-trnsl, tr clr,com f,vf occ g/t aren sltst,tr med-crs lse grs,mod wl srt,sa-sr,wk sil cmt,com wh arg mtx,occ slty mtx,fri-occ mod hd aggs,pr vis por,tr fluor.
SILTSTONE:dk gy,gy/brn,gy/blk, arg,aren occ g/t vf SST, occ micmic, occ carb & vf SST interb lam, frm-mod hd,sbblky-sbfiss.

FLUOR:2922-2928m,3% v dll gn, ppt fluor,no dir cut,tr c/cut, mod bri,grn/crm,ptchy flm res.

COAL:blk,dk blk/gy i/p,sbvit, occ dll,brit-mod hd,g/t carb SLTST i/p,sbconch,sbblky.

SILTSTONE:dk gy/blk,occ gy/brn, arg,carb occ g/t slty COAL,tr micmic,occ inter lam vf SST,frm, mod hd i/p,sbblky-sbfiss.

COAL:blk,sbvit,dll, ea i/p, slty, occ g/t carb SLTST, brit-frm,sbconch,i/p unevn.

CLAYSTONE:lt gy,pl bl/gy,aren i/p,tr pyr,frm,blky.

TOP IGNEOUS INTRUSION
2994 mMD (-2555m TVDSS)

IGNEOUS INTRUSION:mottld gn, gy,blk,off wh-bff,hd,irregular frac,xln,mafic min assemblage, biot,olivine,feld,pyrox,hornbl, plagioclase,tr diss pyr.

IGNEOUS INTRUSION:lt gy-off wh, gn,blk,brn spks,unevn frac,xln, olivine,pyrox,feld,tr biot,tr pyr, hd-v hd.

CLAYSTONE:off wh,lt brn,aren sft,sbblky.

BASE IGNEOUS INTRUSION
3059 mMD (-2619.5m TVDSS)

SANDSTONE:off wh,pl gy,com f, vf occ g/t aren SLTST,wl srt,sr, com cly mtx,pr vis por,no fluor.

SILTSTONE:med-v dk gy/brn,occ gy/blk,carb i/p,occ micmic,aren i/p occ g/t vf SST,mod hd-hd, sbblky-sbfiss.

SILTSTONE:med-v dk gy/brn, occ gy/blk,carb i/p,occ micmic, aren i/p occ g/t vf SST,mod hd-hd,sbblky-sbfiss.

FLW: 575 gpm

MW: 9.40
FV: 110
PV: 52
YP: 50
Gel:8/11
Cl: 21.0K
Ca: 360

WOB: 6-9 Klbs
RPM/DHM: 74/173
SPP: 3830 psi
FLW: 605 gpm

WOB: 8-12 Klbs
RPM/DHM: 75/182
SPP: 3725 psi
FLW: 604 gpm

WOB: 10-12 Klbs
RPM/DHM: 75/179
SPP: 3778 psi
FLW: 590 gpm

WOB: 10-15 Klbs
RPM/DHM: 75/170
SPP: 4090 psi
FLW: 590 gpm

3120
3130
3140
3150
3160
3170
3180
3190
3200
3210
3220
3230
3240
3250
3260
3270
3280
3290
3300
3310
3320

74 / 14 / 8 / 2 / 1

Survey:3135.95MD(2739.4mTVD)
3.62°inc 309.91°az

74 / 13 / 8 / 4 / 1

Survey:3164.96MD(2768.4mTVD)
3.08°inc 312.61°az

79/ 12 / 6 / 2 / 1

88 / 7 / 3 / 1 / 1

90 / 6 / 3 / 1

Survey:3194.05MD(2797.5mTVD)
2.64°inc 315.47°az

83 / 9 / 5 / 2 / 1

83 / 9 / 5 / 2 / 1

Survey:3223.06MD(2826.4mTVD)
2.25°inc 311.13°az

86 / 9 / 4 / 1

85 / 9 / 4 / 2 / 1

Survey:3252.11MD(2855.5mTVD)
2.09°inc 311.32°az

83 / 8 / 5 / 2 / 1

Survey:3281.17MD(2884.5mTVD)
1.91°inc 311.40°az

82 / 10 / 5 / 2 / 1

Survey:3310.24MD(2913.6mTVD)
1.65°inc 305.29°az

SILTSTONE:med-v dk gy/brn, occ gy/blk,carb i/p,occ micmic, aren i/p occ g/t vf SST,mod hd-hd,sbblky-sbfiss.

TOP 2718 SANDSTONE
3144.5 mMD (-2705m TVDSS)

SANDSTONE:lt brn-crm,vf, wl srt,sa-sr,wk sil cmt,com aggs,com slty/arg mtx,ti-fr vis por,8% fluor.

FLUOR:3144.5-3159m,8% dll gn/crm,sptty.Mod brt wh strmng crsh cut.Mod brt pl yel/gn solid ring res.

BLOCKED SUCTION HEAD ON DEGASSER, REDUCED GAS READINGS FROM: 3161m - 3164m

SILTSTONE:med-v dk gy/brn, occ gy/blk,carb i/p,occ micmic, aren i/p occ g/t vf SST,mod hd-hd,sbblky-sbfiss.

TOP 2755 SANDSTONE
3178.5 mMD (-2739m TVDSS)

FLUOR:3183-3189m,tr-20% Mod brt yel,sptd,slw dir cut,mod brt wh fst strmng crsh cut,brt crm/gn thk ring res.

SANDSTONE:lt brn-crm,vf, wl srt,sa-sr,wk sil cmt,com aggs,com slty/arg mtx,ti-fr vis por,tr dll-mod brt gn fluor.
SILTSTONE: med-dk gy/brn, occ gy/blk, micmic,aren i/p, mod hd-hd, sbblky-sbfiss.

SANDSTONE(1):lt brn-crm,vf, wl srt,sa-sr,wk sil cmt,com aggs,slty/arg mtx,com ti-fr vis por,tr fluor.

SILTSTONE:med-v dk gy/brn, occ gy/blk,carb i/p,occ micmic, aren i/p occ g/t vf SST,mod hd-hd,sbblky-sbfiss.

TOP 2809 SANDSTONE
3235.5 mMD (-2795.5m TVDSS)

FLUOR:3237-3240m,tr dim gn,sptty.off wh fst strmng crsh cut,mod brt gn/crm thin ring res.

SANDSTONE(2):clr-lt brn,med-v crs occ f,ang-sa,p srt, wk sil cmt,lse,pred cln,tr arg mtx,gd inf por,tr fluor.

SILTSTONE:med dk gy/brn, micmic,aren i/p,mod hd-hd,sbblky-sbfiss.

SANDSTONE: lt brn-crm, vf, wl srt, sa-sr, wk sil cmt, aggs,occ crs-v crs lse grn, slty/arg mtx, com ti-fr vis por,no fluor.

SILTSTONE:med-v dk gy/brn, occ micmic,mod hd-hd, sbblky-sbfiss.

COAL:blk,sbvit,brit,sbfiss-sbblky,unevn.

MW: 9.40
FV: 106
PV: 50
YP: 53
Gel:8/13
Cl: 21.0K
Ca: 340

WOB: 10-15 Klbs
RPM/DHM: 82/180
SPP: 4000 psi
FLW: 600 gpm

WOB: 15-20 Klbs
RPM/DHM: 92/182
SPP: 4030 psi
FLW: 605 gpm

MW: 9.35
FV: 102
PV: 50
YP: 53
Gel:8/13
Cl: 21.0K
Ca: 340

WOB: 22-30 Klbs
RPM/DHM: 92/182
SPP: 3910 psi
FLW: 605 gpm

3330
3340
3350
3360
3370
3380
3390
3400
3410
3420
3430
3440
3450
3460
3470
3480
3490
3500
3510

80 / 9 / 7 / 3 / 1

91 / 6 / 2 / 1 / tr

91/ 5 / 2 / 1 / tr

86/ 8 / 4 / 1 / 1

Survey:3339.24MD(2942.6mTVD)
1.02°inc 303.72°az

Unblock G2G air inlet

Survey:3368.27MD(2971.6mTVD)
0.67°inc 302.37°az

Survey:3426.31MD(3029.6mTVD)
0.13°inc 257.23°az

Survey:3455.33MD(3058.6mTVD)
0.50°inc 160.2°az

Survey:3476.47MD(3079.8mTVD)
0.91°inc 169.30°az

Yolla-3 reached TD 3497m
@ 11:30 hrs, 04/09/2004
Drillers' depth: 3497.0m
Loggers' depth: 3500.5m

SILTSTONE:med-v dk gy/brn, occ v lt-lt gy,arg i/p,occ micmic, tr glauc,mod hd-hd,sft i/p, sbblky-sbfiss.

SILTSTONE:med-v dk gy/brn, occ micmic,frm-hd,occ sft,sbblky-sbfiss.

FLUOR:3383-3390m, tr-20%, mod bri yel,sptd,slw dir cut, inst crsh cut,sptd-thn rr.

SANDSTONE(1):crm,off wh-v lt gy,mod wl srt,vf-f,sa-sr,com kaol cmt,arg mtx,tr qtz o/gths, tr liths,sft-mod hd,pr vis por, fluor a/a.

TOP 2973 SANDSTONE
3403 mMD (-2963m TVDSS)

SANDSTONE(2):clr-transl,frstd, med-v crs,lse uncons grns,sa-sr, gd-v gd inf por,no fluor.

SANDSTONE(1):crm,off wh-v lt gy,vf-f,sa-sr,mod wl srt,com sil cmt,arg mtx,tr qtz o/gths,tr liths, sft-mod hd,pr vis por,no fluor.

SANDSTONE(2):clr-transl,frstd, vf-v crs,dom med,lse uncons grns,sbang-sbrnd,gd-v gd inf por,no fluor.

SILTSTONE:med-dk gy/brn, arg i/p,occ micmic,frm,com sft-disp,sbblky-amor.

TOP BASALT
3459 mMD (-3019.5m TVDSS)

VOLCANIC TUFF:yel/gy,off wh-lt gy,brn/gy-lt olv gy,v sft, crmbly,tr weathered pyroxene, tr feld,sl calc,rr indistinct flow structure.

VOLCANIC:gn/blk,med-crs, olivine crystals,feld,pyroxene biotite olivine partially weathered to serpentite.

WEATHERED VOLCANIC:off wh/grn,off wh mott org dll rd,lt brn mott dk rd,v sft,sbblky-amor,tr weathered pyroxene, olivine,commonly weathered to clay.

6 5/8" Liner set @ 3497m TD
3100.31m TVD

RUN WRELINE LOGS:
1.PEX-HRLA-CMR-SP-GR-LEHQT
2.FMI-DSI-HNGS-LEHQT
3.MDT-GR-LEHQT
4.MDT-GR-LEHQT

DRILLING LOG

Origin energy

Geoservices logging

FROM :(mt) 120 TO :(mt) 3510 SCALE : 1/ 1000

Well Name : Yolla-3

Company : Origin energy

Country : AUSTRALIA

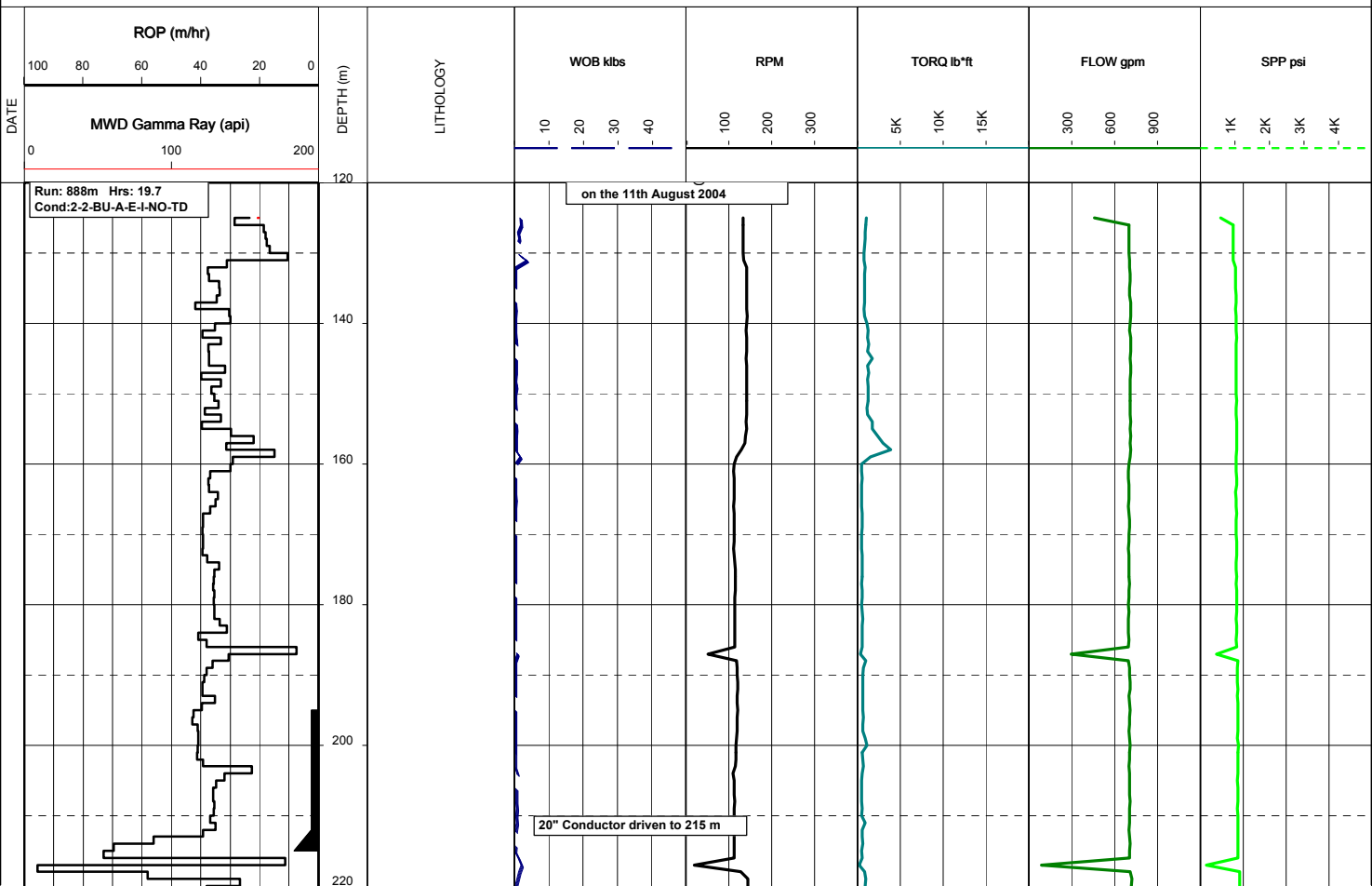
RT-MSL : 43.0m

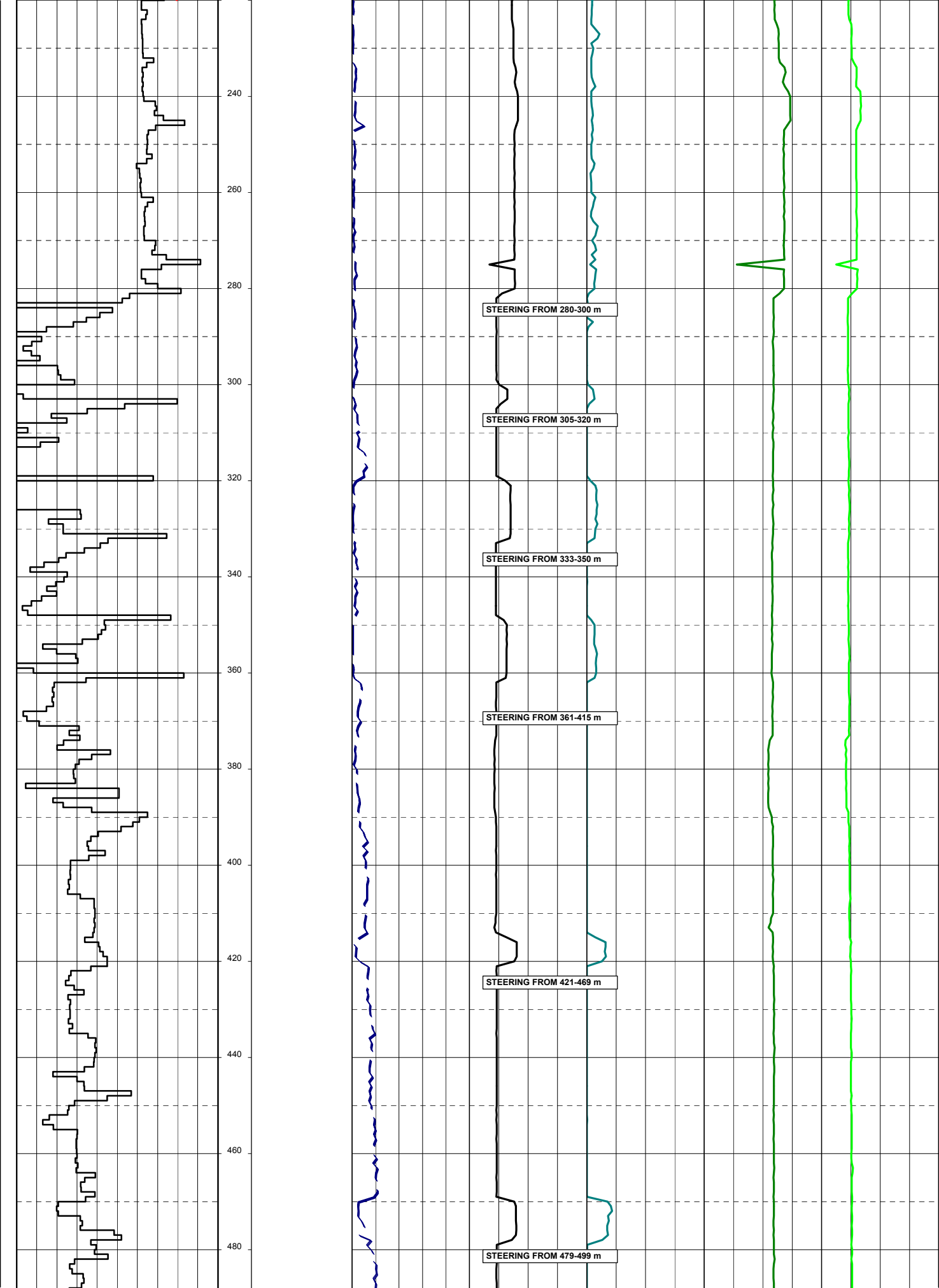
RT-SEABED : 124m

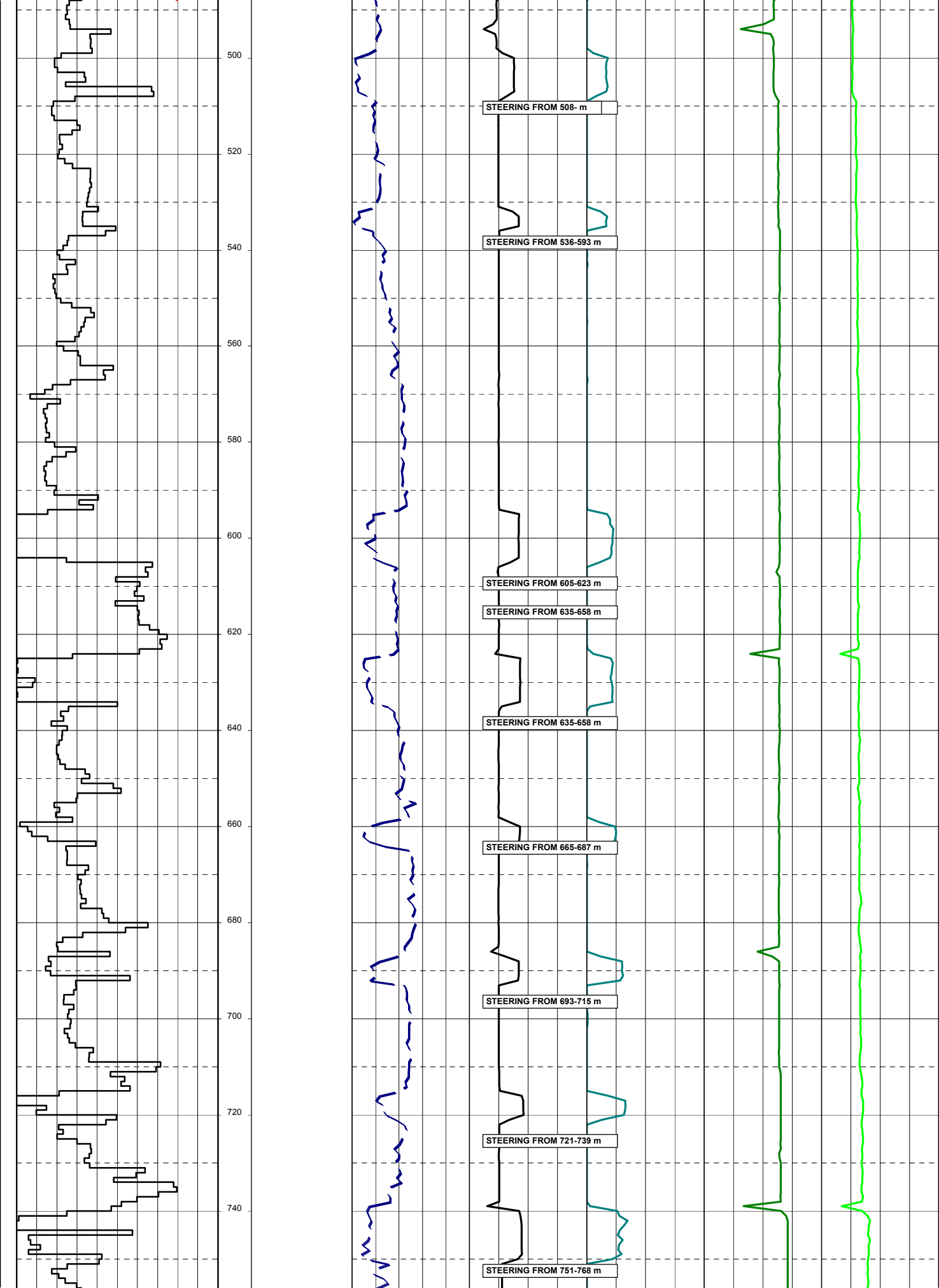
Final TD : 3497 mRT

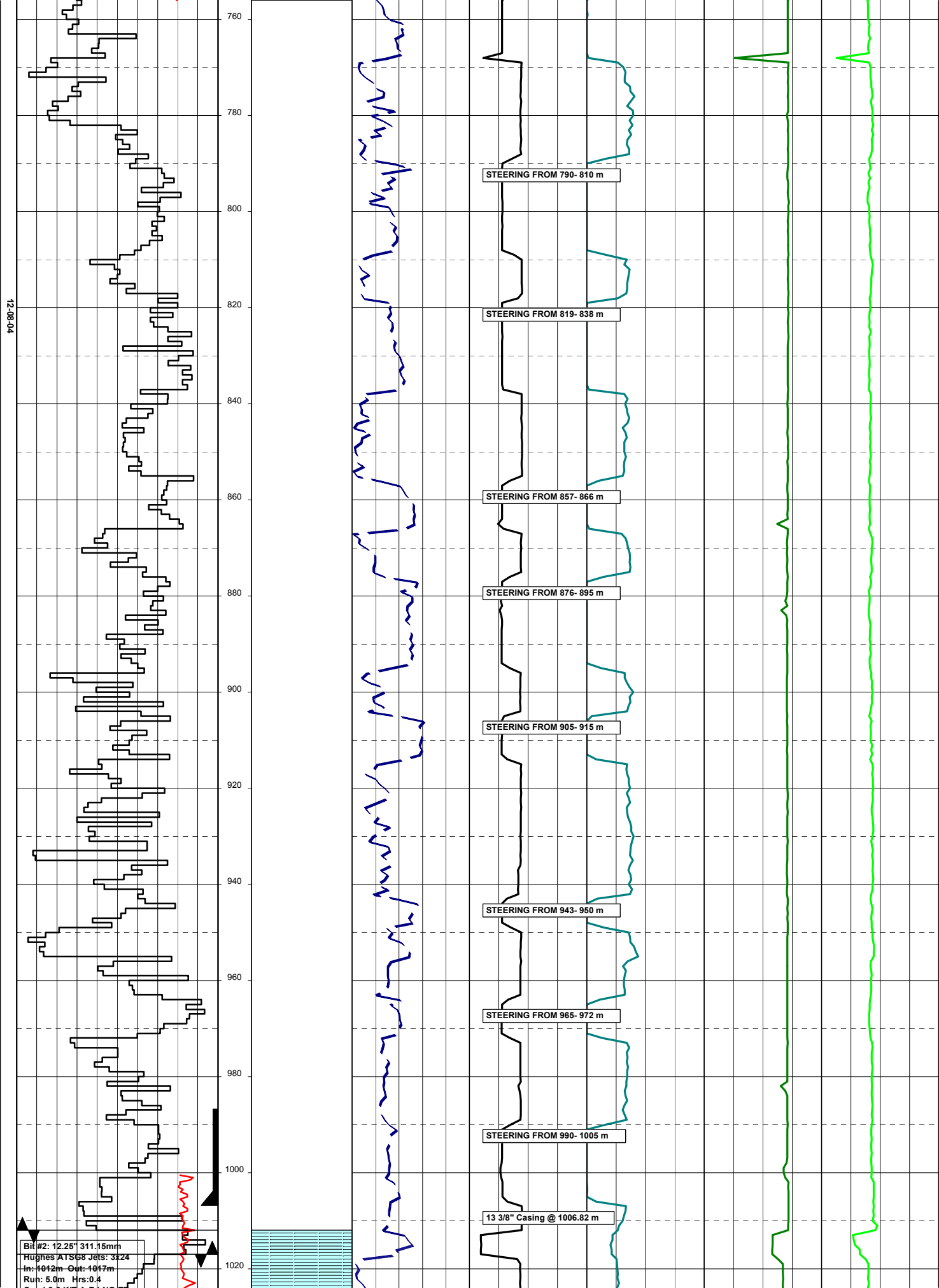
Final TVD : 3100.3 mRT

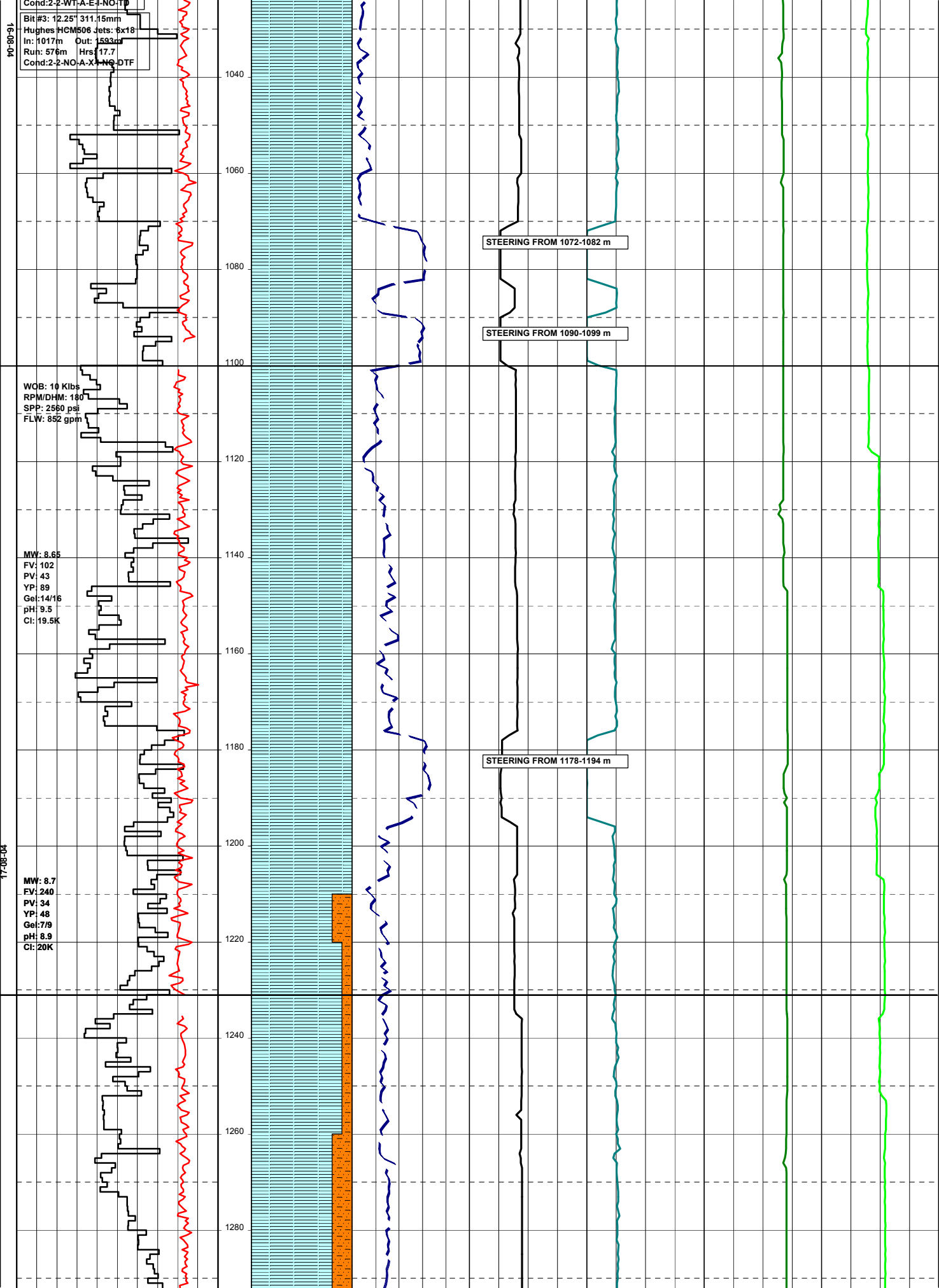
Generated by ALS Package

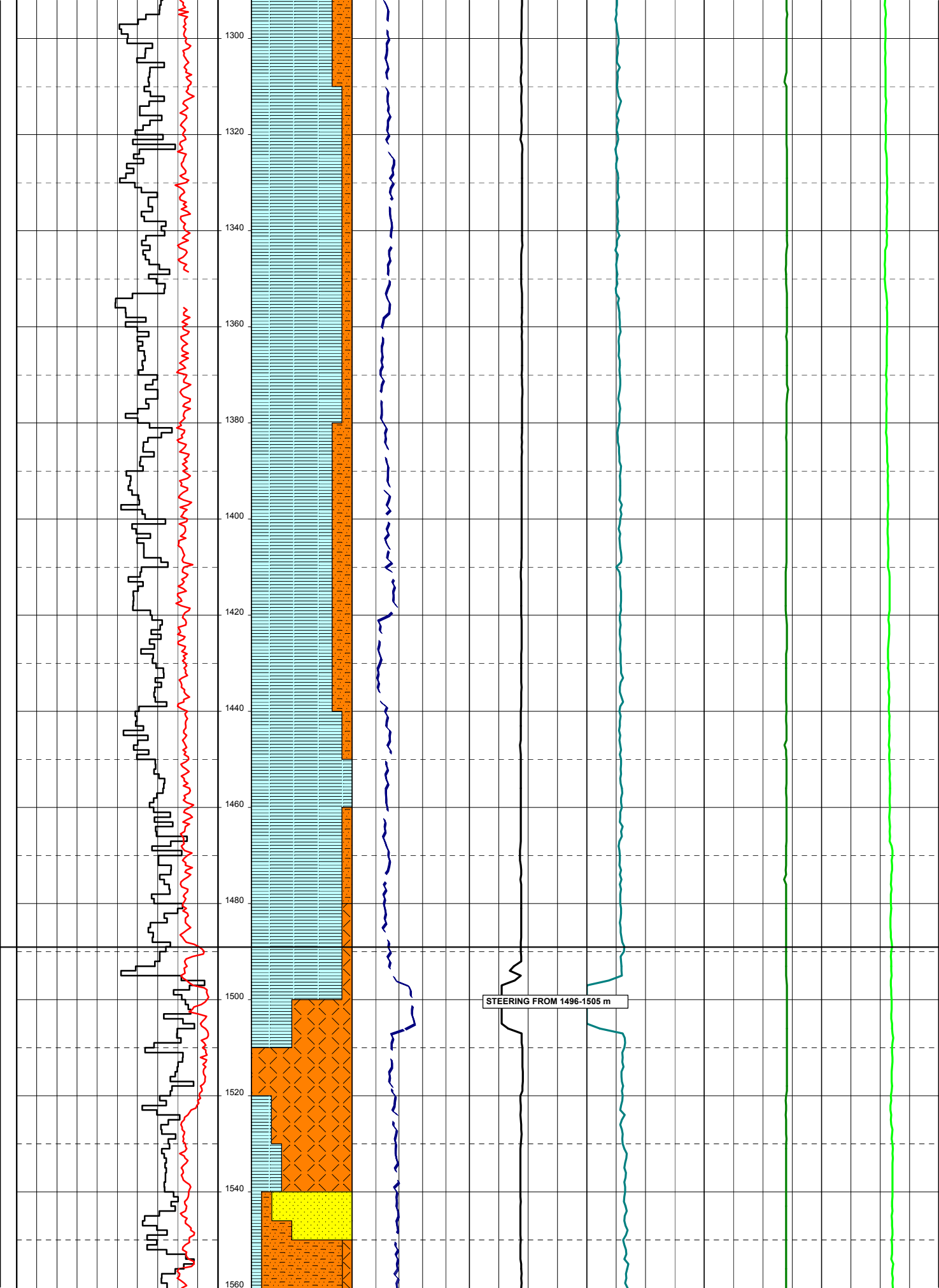


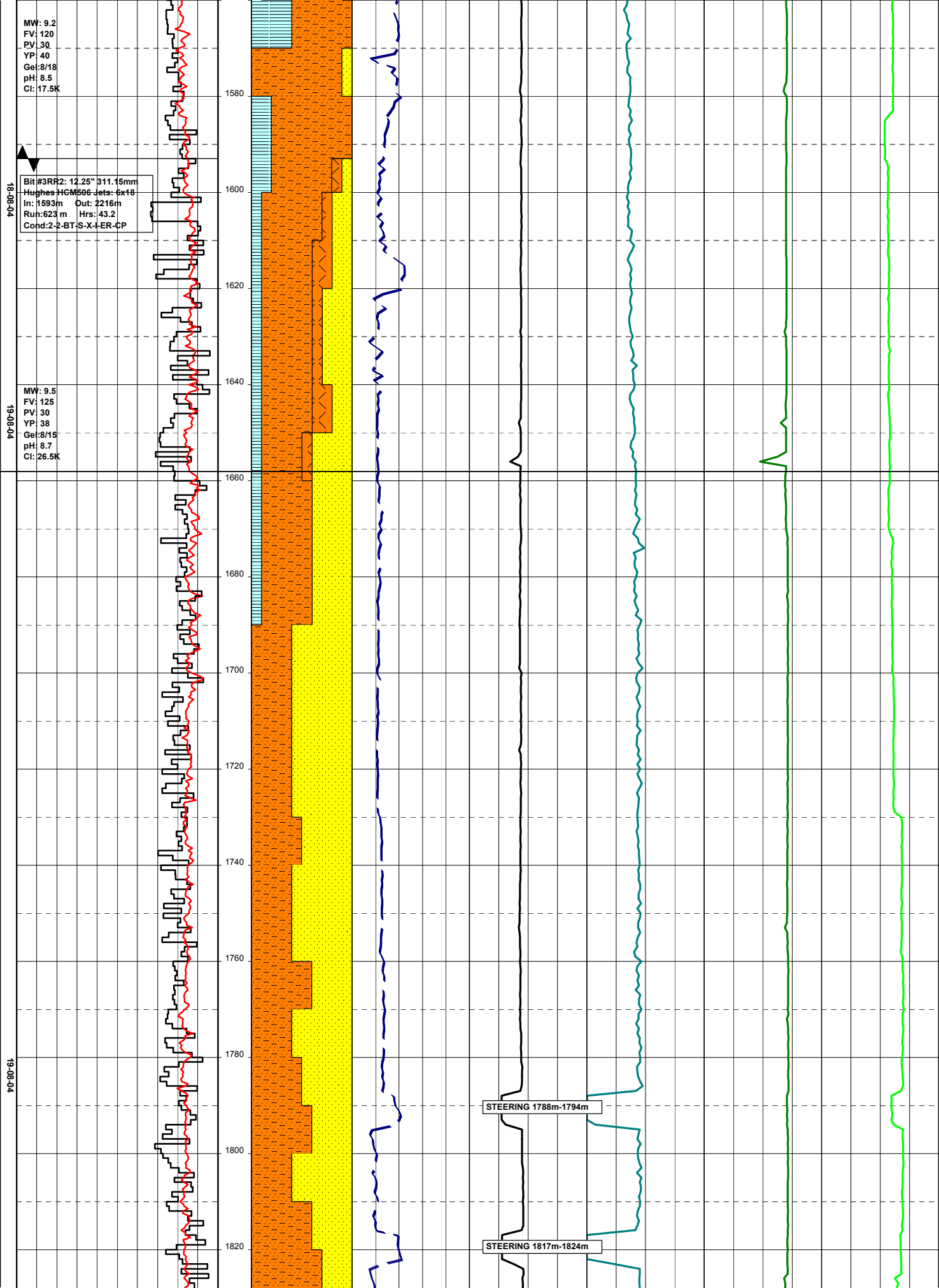

240
260
280
300
320
340
360
380
400
420
440
460
480
STEERING FROM 280-300 m
STEERING FROM 305-320 m
STEERING FROM 333-350 m
STEERING FROM 361-415 m
STEERING FROM 421-469 m
STEERING FROM 479-499 m

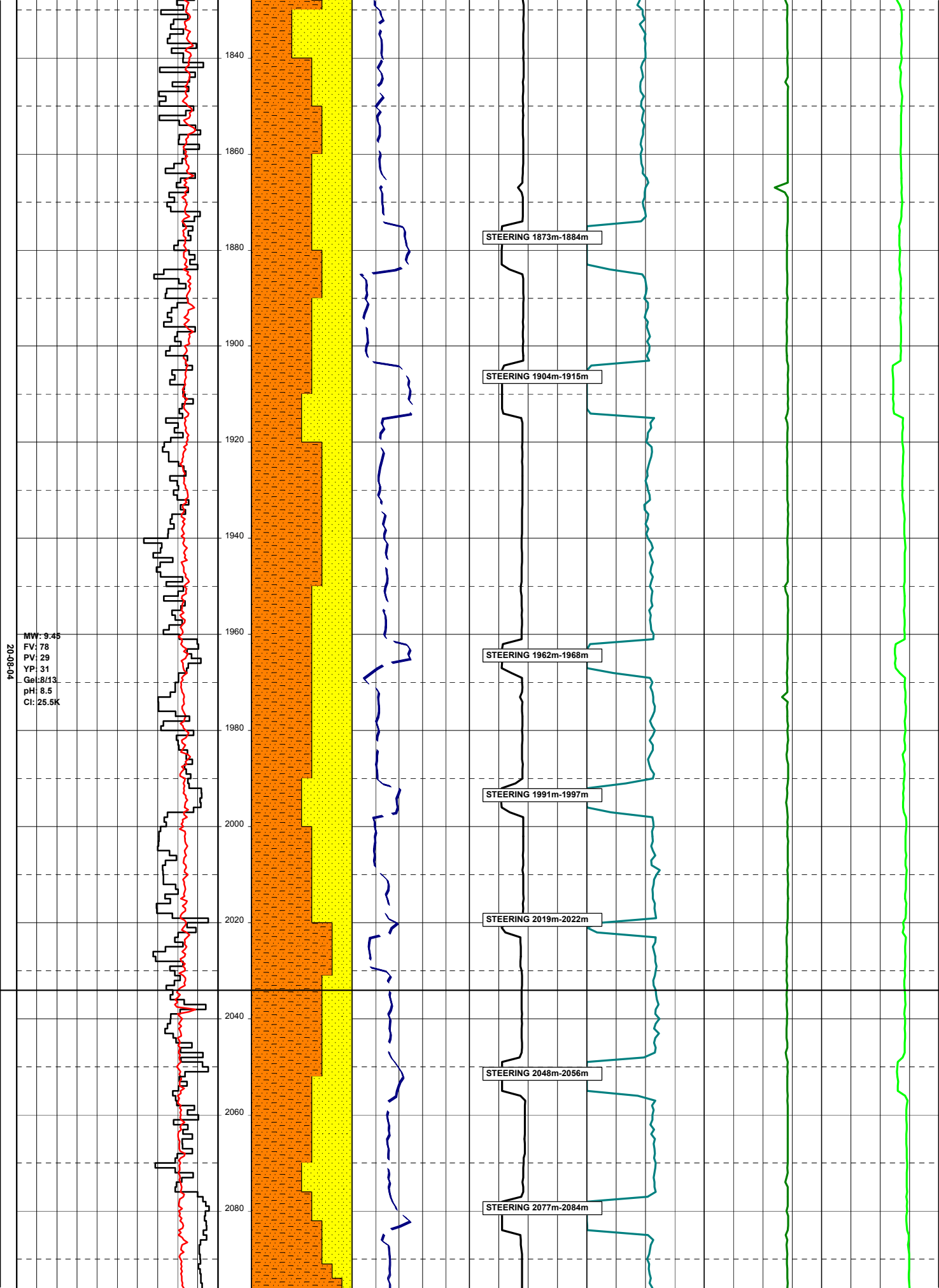

500
520
540
560
580
600
620
640
660
680
700
720
740
STEERING FROM 508- m
STEERING FROM 536-593 m
STEERING FROM 605-623 m
STEERING FROM 635-658 m
STEERING FROM 635-658 m
STEERING FROM 665-687 m
STEERING FROM 693-715 m
STEERING FROM 721-739 m
STEERING FROM 751-768 m

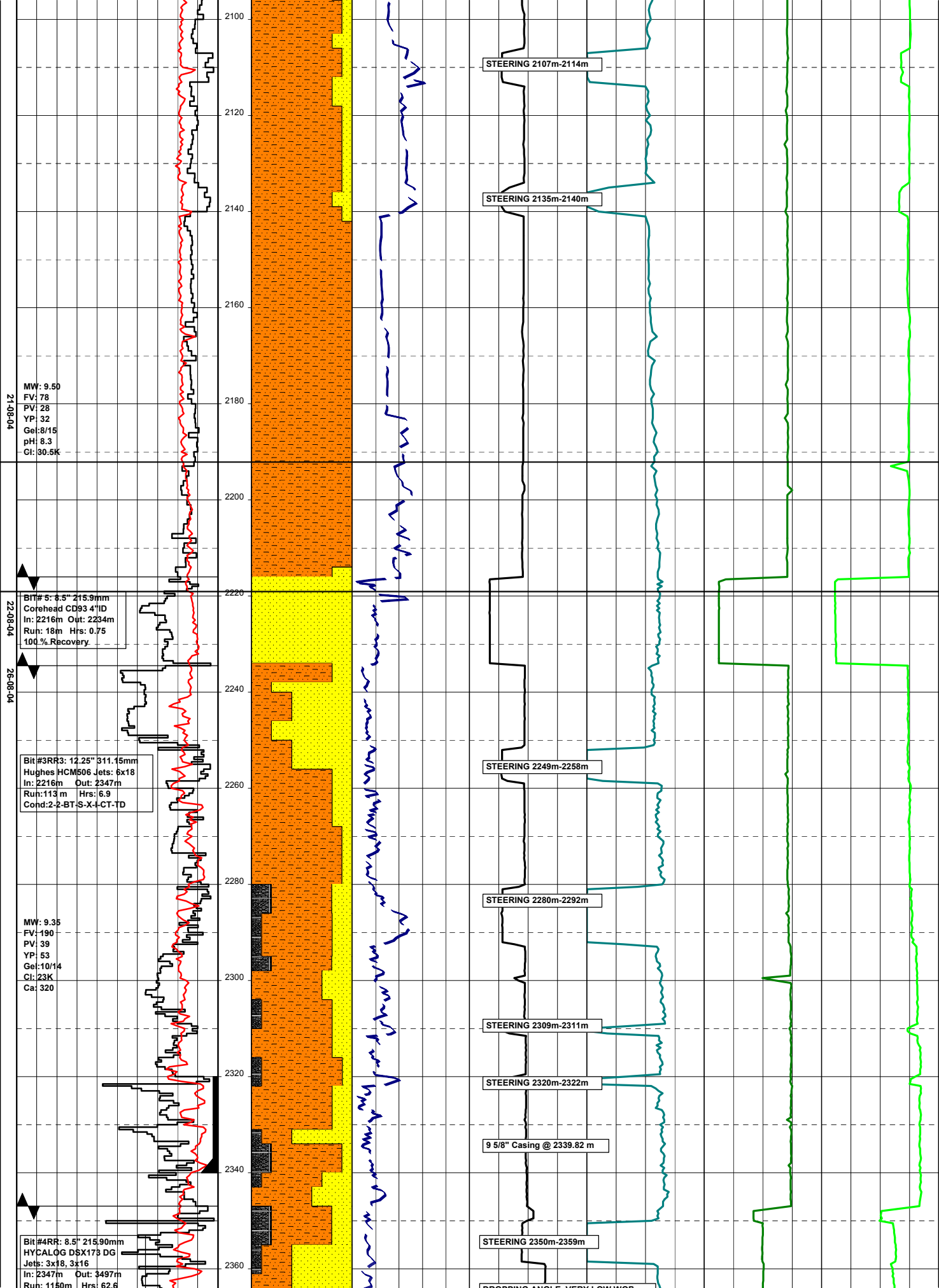

12-08-04
760
780
800
820
840
860
880
900
920
940
960
980
1000
1020
STEERING FROM 790- 810 m
STEERING FROM 819- 838 m
STEERING FROM 857- 866 m
STEERING FROM 876- 895 m
STEERING FROM 905- 915 m
STEERING FROM 943- 950 m
STEERING FROM 965- 972 m
STEERING FROM 990- 1005 m
13 3/8" Casing @ 1006.82 m
Bit #2: 12.25" 311.15mm
Hughes ATSG8 Jets: 3x24
In: 1012m Out: 1017m
Run: 5.0m Hrs:0.4

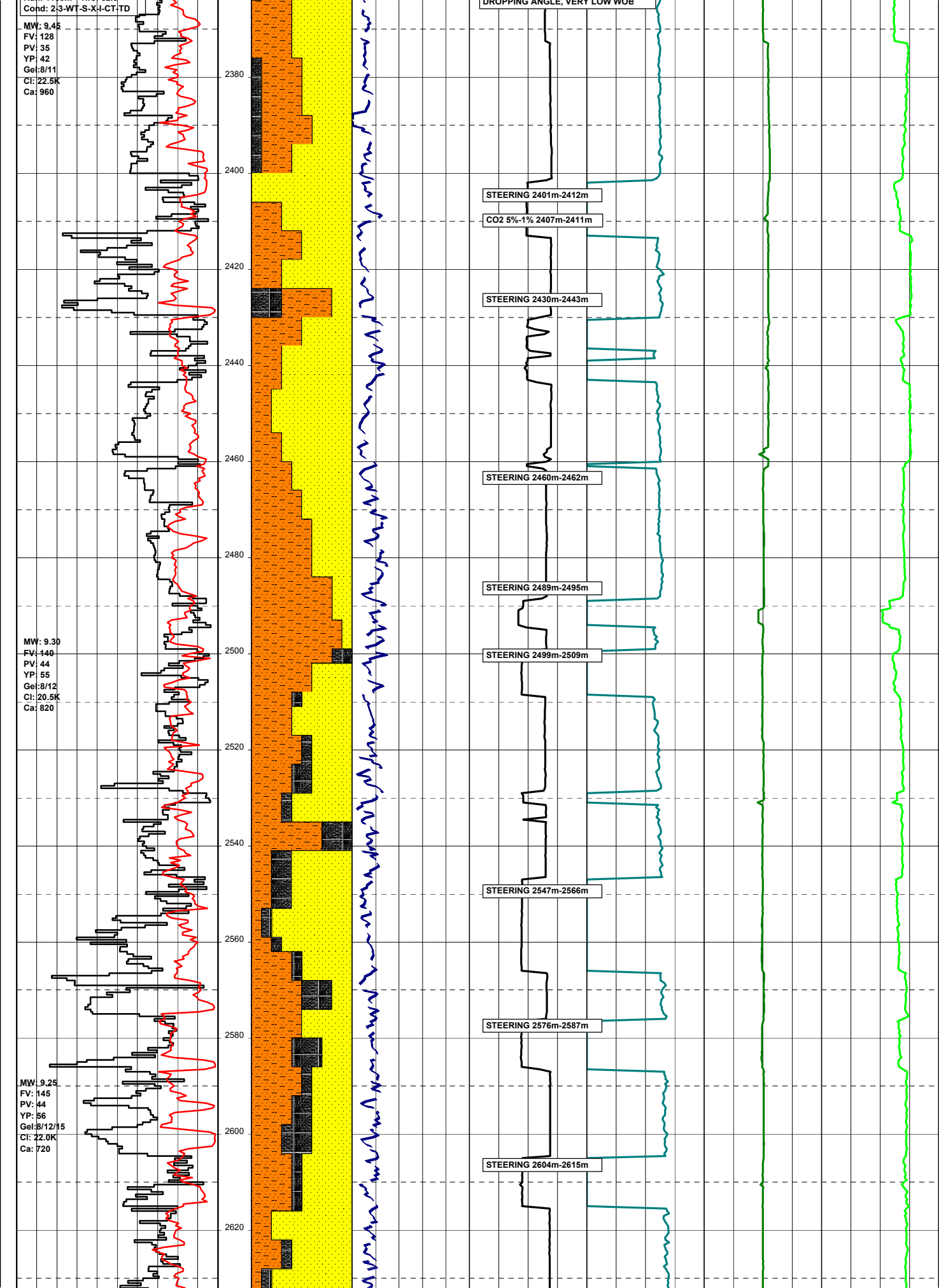

Cond:2-2-WT-A-E-I-NO-TD
Bit #3: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 1017m Out: 1593m
Run: 576m Hrs: 17.7
Cond:2-2-NO-A-X-I-NO-DTF
16-08-04
1040
1060
1080
1100
STEERING FROM 1072-1082 m
STEERING FROM 1090-1099 m
WOB: 10 Klbs
RPM/DHM: 180
SPP: 2560 psi
FLW: 852 gpm
MW: 8.65
FV: 102
PV: 43
YP: 89
Gel:14/16
pH: 9.5
Cl: 19.5K
1120
1140
1160
1180
1200
1220
STEERING FROM 1178-1194 m
17-08-04
MW: 8.7
FV: 240
PV: 34
YP: 48
Gel:7/9
pH: 8.9
Cl: 20K
1240
1260
1280

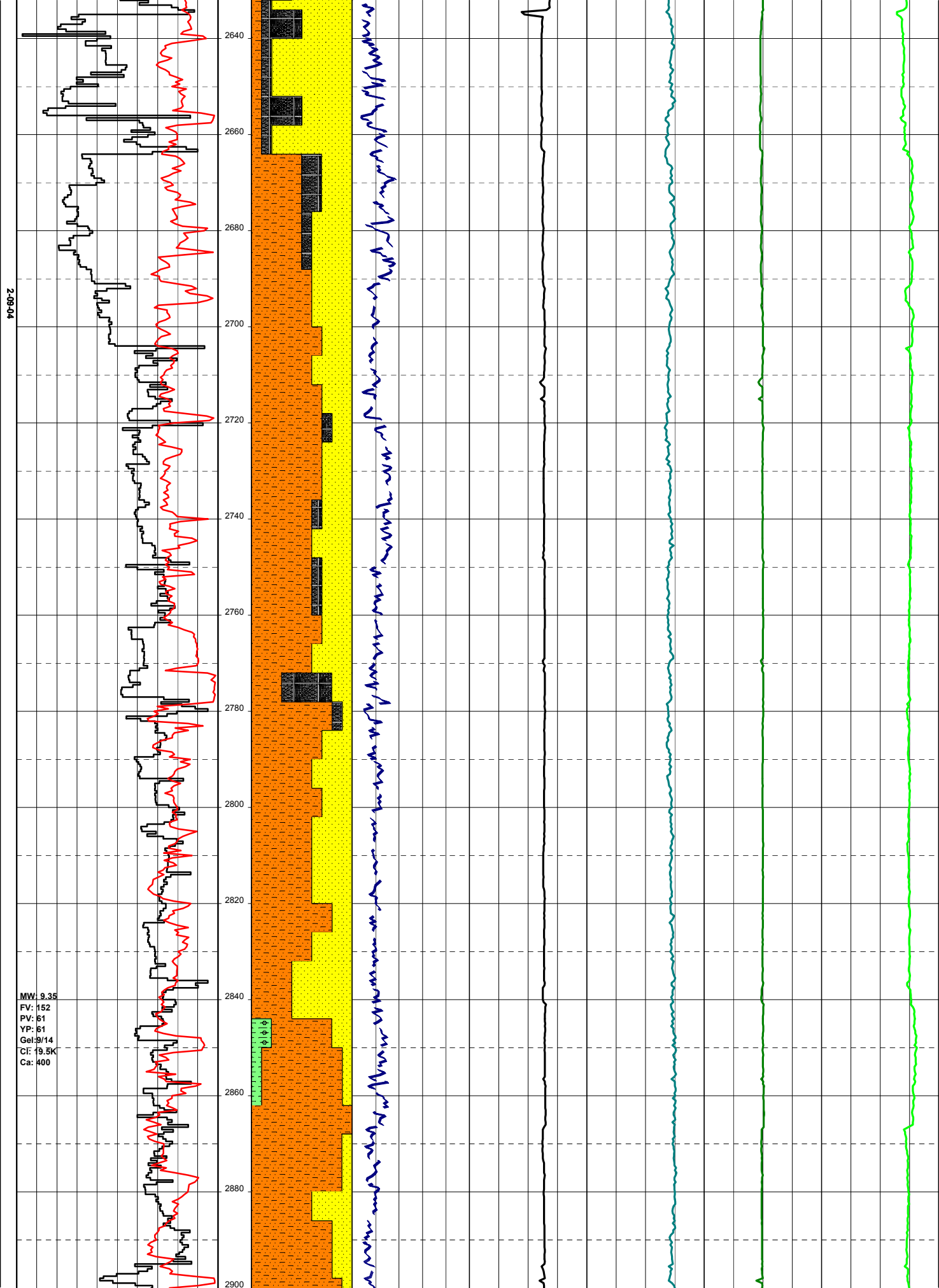

1300
1320
1340
1360
1380
1400
1420
1440
1460
1480
1500
1520
1540
1560
STEERING FROM 1496-1505 m

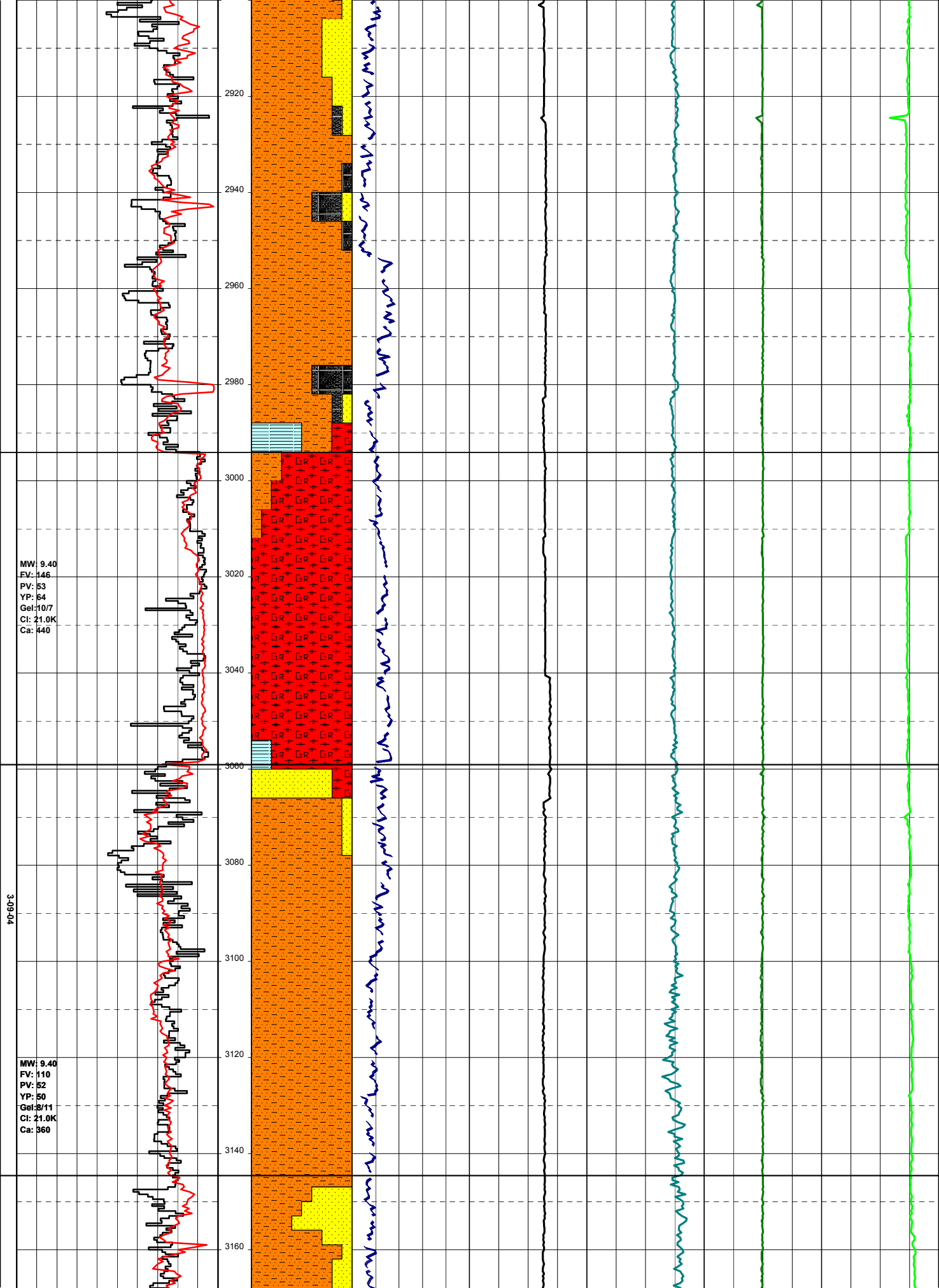

MW: 9.2
FV: 120
PV: 30
YP: 40
Gel:8/18
pH: 8.5
Cl: 17.5K
Bit #3RR2: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 1593m Out: 2216m
Run:623 m Hrs: 43.2
Cond:2-2-BT-S-X-I-ER-CP
MW: 9.5
FV: 125
PV: 30
YP: 38
Gel:8/15
pH: 8.7
Cl: 26.5K
18-08-04
19-08-04
19-08-04
1580
1600
1620
1640
1660
1680
1700
1720
1740
1760
1780
1800
1820
STEERING 1788m-1794m
STEERING 1817m-1824m

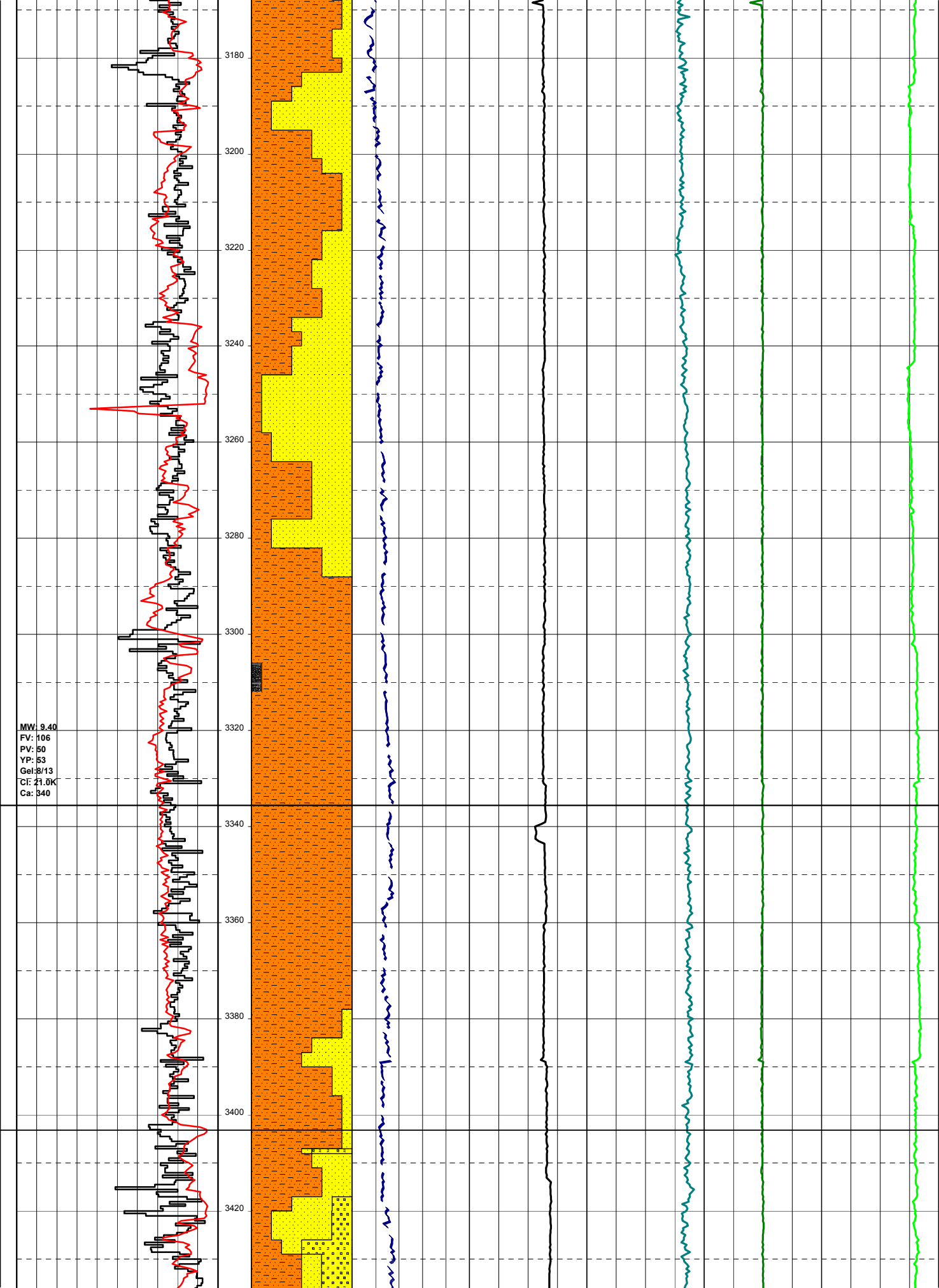

1840
1860
1880
1900
1920
1940
1960
1980
2000
2020
2040
2060
2080
STEERING 1873m-1884m
STEERING 1904m-1915m
STEERING 1962m-1968m
STEERING 1991m-1997m
STEERING 2019m-2022m
STEERING 2048m-2056m
STEERING 2077m-2084m
MW: 9.45
FV: 78
PV: 29
YP: 31
Gel: 8/13
pH: 8.5
Cl: 25.5K
20-08-04

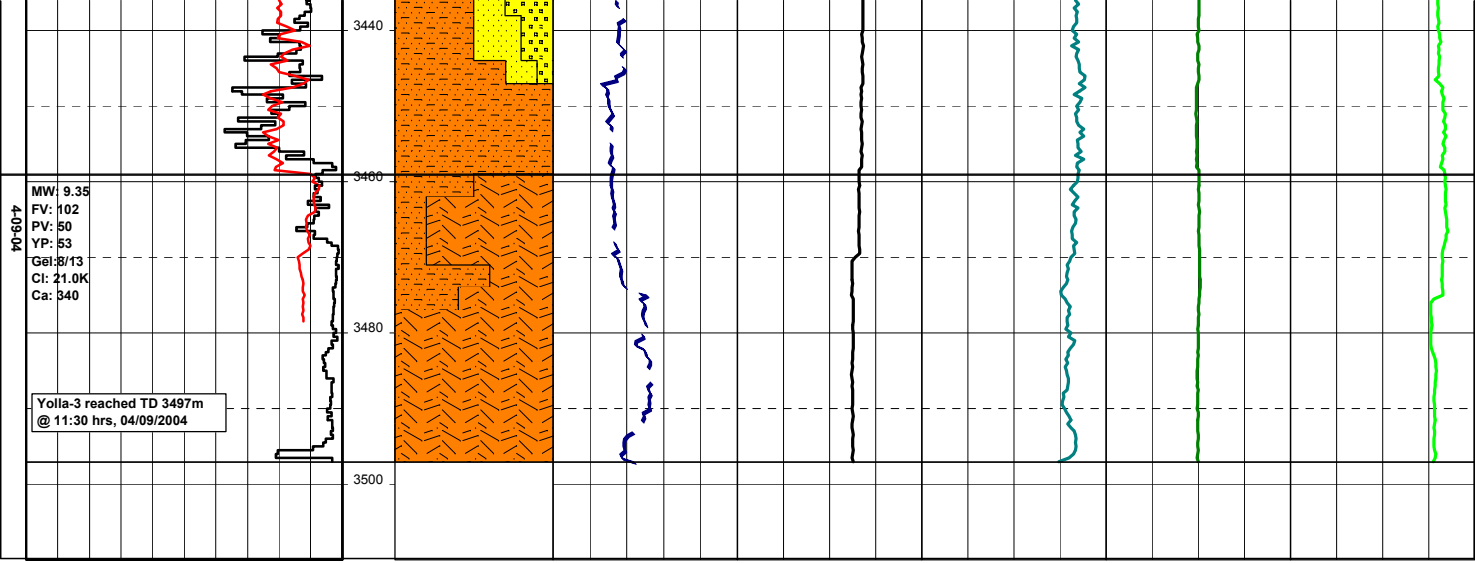

2100
2120
2140
2160
2180
2200
2220
2240
2260
2280
2300
2320
2340
2360
STEERING 2107m-2114m
STEERING 2135m-2140m
STEERING 2249m-2258m
STEERING 2280m-2292m
STEERING 2309m-2311m
STEERING 2320m-2322m
9 5/8" Casing @ 2339.82 m
STEERING 2350m-2359m
21-08-04
MW: 9.50
FV: 78
PV: 28
YP: 32
Gel:8/15
pH: 8.3
Cl: 30.5K
22-08-04
BIT# 5: 8.5" 215.9mm
Corehead CD93 4"ID
In: 2216m Out: 2234m
Run: 18m Hrs: 0.75
100 % Recovery
26-08-04
Bit #3RR3: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 2216m Out: 2347m
Run:113 m Hrs: 6.9
Cond:2-2-BT-S-X-I-CT-TD
MW: 9.35
FV: 190
PV: 39
YP: 53
Gel:10/14
Cl: 23K
Ca: 320
Bit #4RR: 8.5" 215.90mm
HYCALOG DSX173 DG
Jets: 3x18, 3x16
In: 2347m Out: 3497m
Run: 1150m Hrs: 62.6

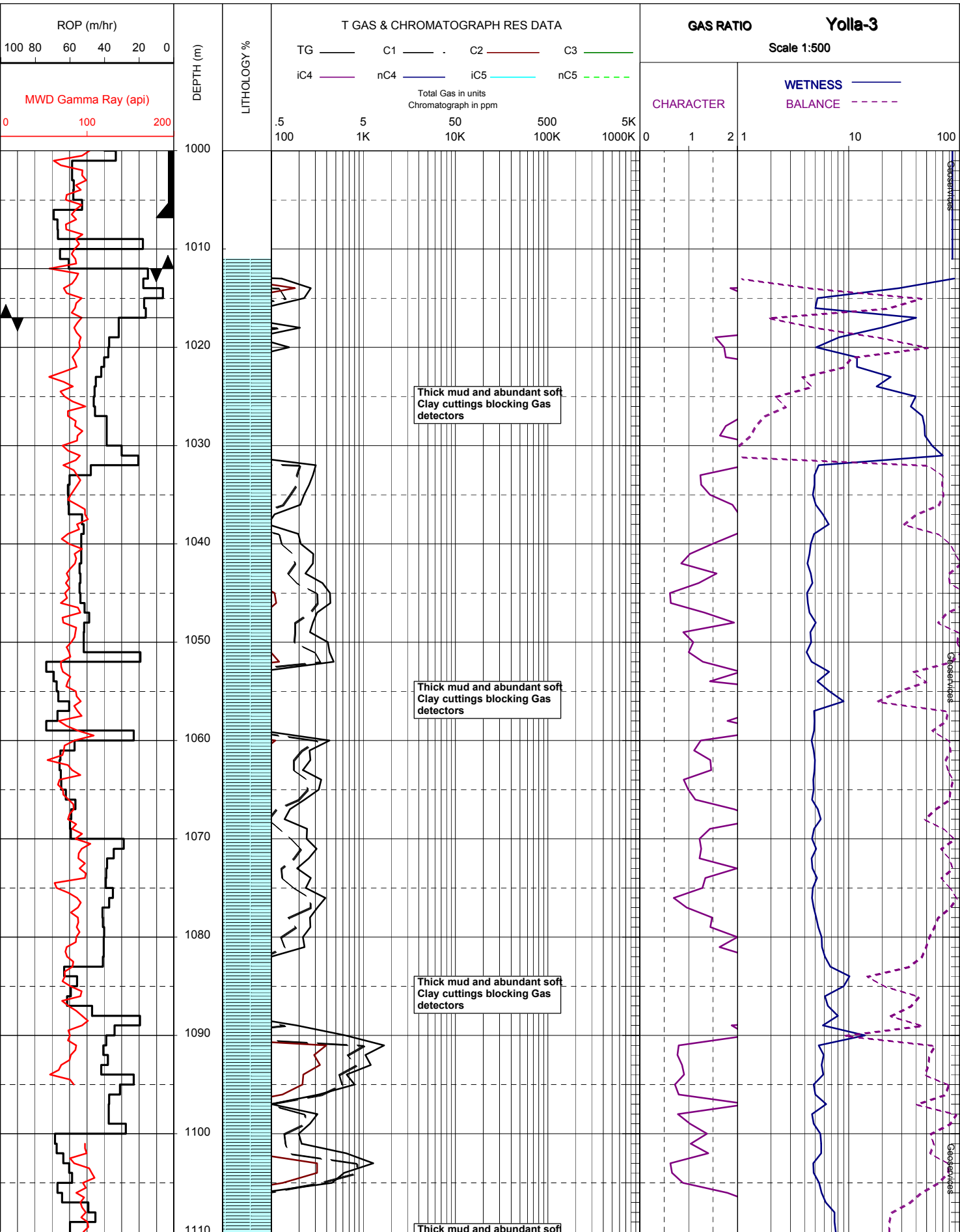

Cond: 2/3-WT-S-X-I-CT-TD
MW: 9.45
FV: 128
PV: 35
YP: 42
Gel:8/11
Cl: 22.5K
Ca: 960
2380
2400
2420
2440
2460
2480
2500
2520
2540
2560
2580
2600
2620
DROPPING ANGLE, VERY LOW WOB
STEERING 2401m-2412m
CO2 5%-1% 2407m-2411m
STEERING 2430m-2443m
STEERING 2460m-2462m
STEERING 2489m-2495m
STEERING 2499m-2509m
STEERING 2547m-2566m
STEERING 2576m-2587m
STEERING 2604m-2615m
MW: 9.30
FV: 140
PV: 44
YP: 55
Gel:8/12
Cl: 20.5K
Ca: 820
MW: 9.25
FV: 145
PV: 44
YP: 56
Gel:8/12/15
Cl: 22.0K
Ca: 720

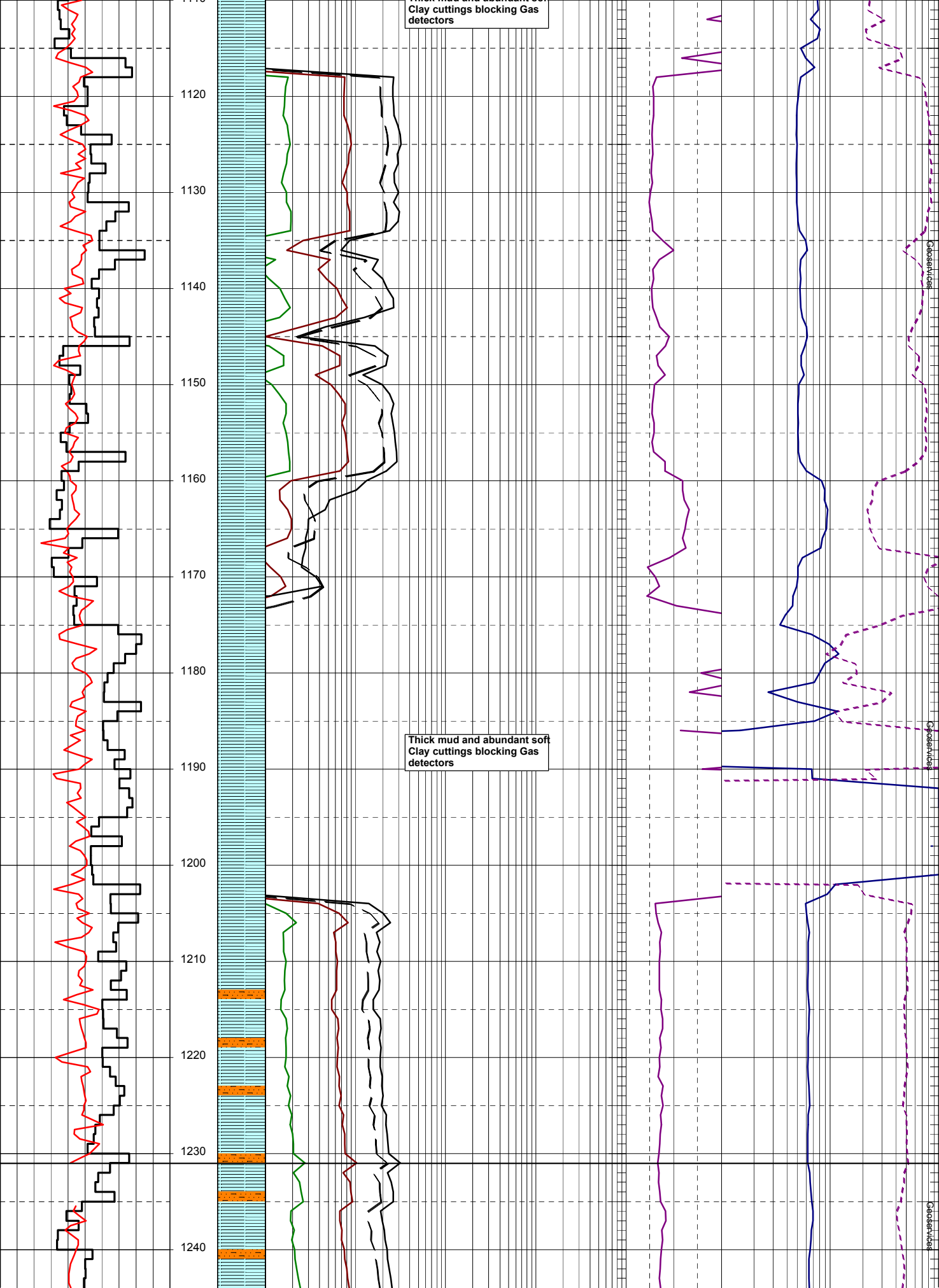

2640
2660
2680
2700
2720
2740
2760
2780
2800
2820
2840
2860
2880
2900
2-09-04
MW: 9.35
FV: 152
PV: 61
YP: 61
Gel:9/14
Cl: 19.5K
Ca: 400

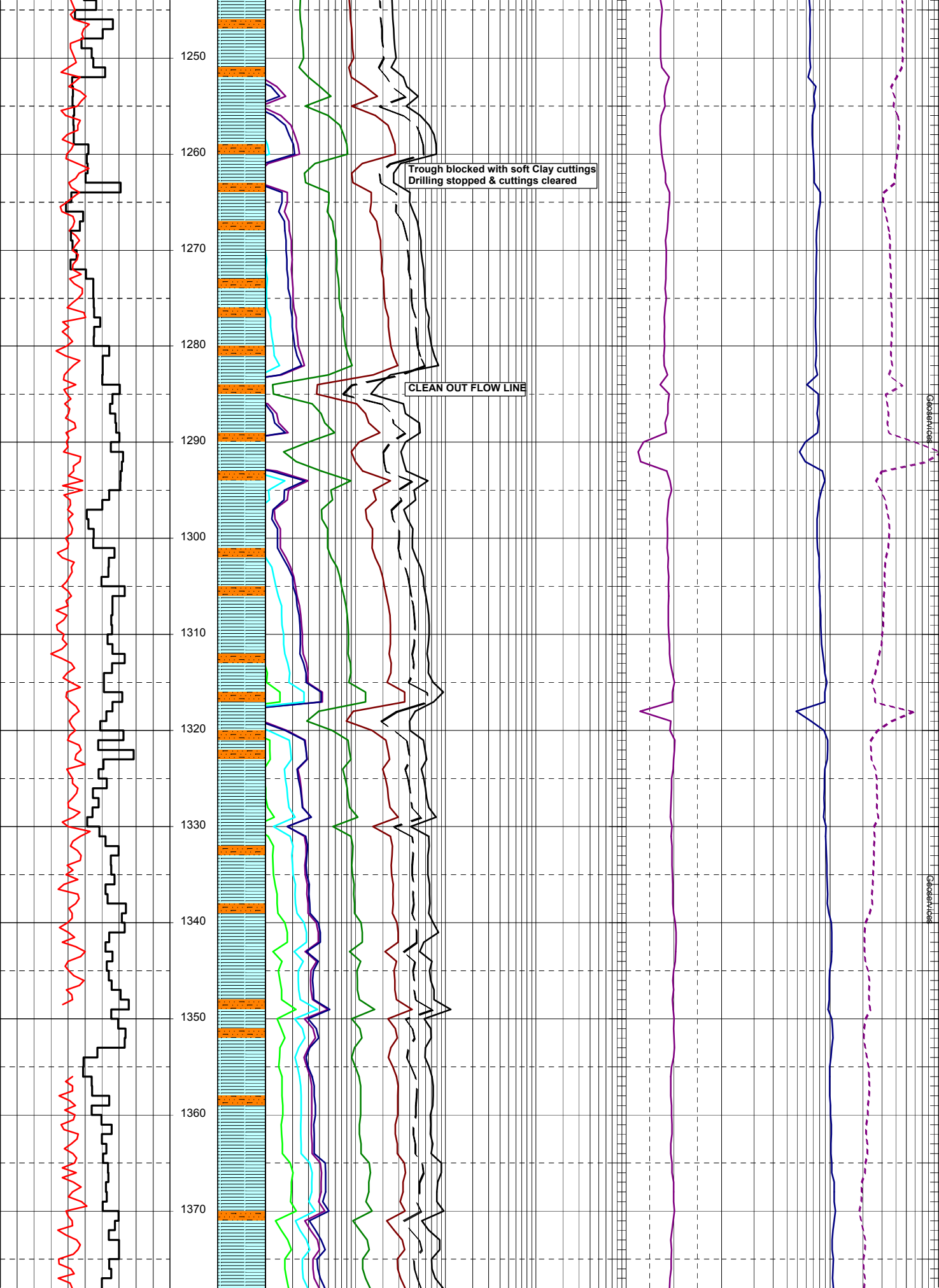

2920
2940
2960
2980
3000
3020
3040
3060
3080
3100
3120
3140
3160
MW: 9.40
FV: 146
PV: 53
YP: 64
Gel:10/7
Cl: 21.0K
Ca: 440
MW: 9.40
FV: 110
PV: 52
YP: 50
Gel:8/11
Cl: 21.0K
Ca: 360
3-09-04

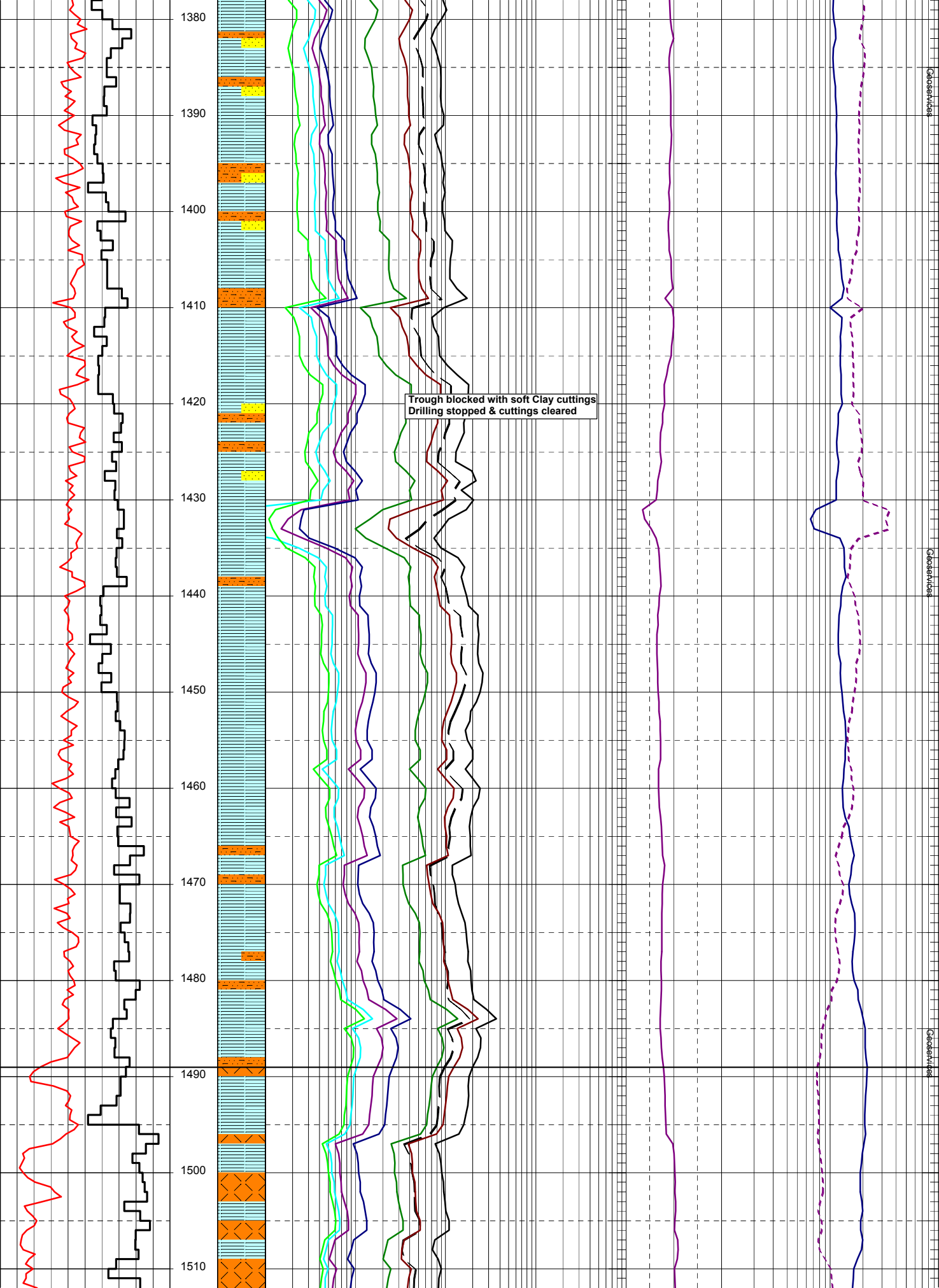

3180
3200
3220
3240
3260
3280
3300
3320
3340
3360
3380
3400
3420
MW: 9.40
FV: 106
PV: 50
YP: 53
Gel:8/13
Cl: 21.0K
Ca: 340

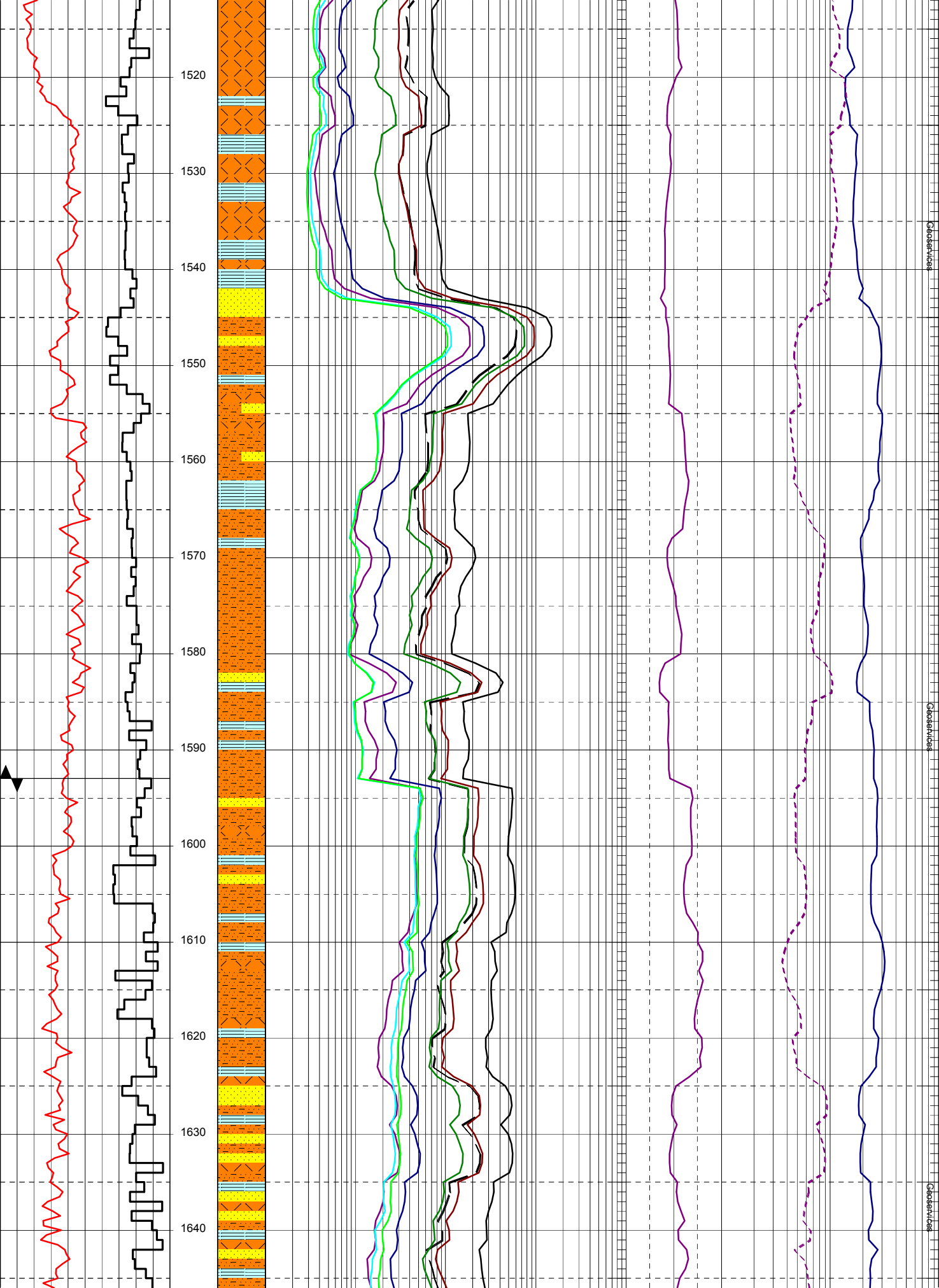

3440
3460
3480
3500
MW: 9.35
FV: 102
PV: 50
YP: 53
Gel:8/13
Cl: 21.0K
Ca: 340
Yolla-3 reached TD 3497m
@ 11:30 hrs, 04/09/2004
4-09-04

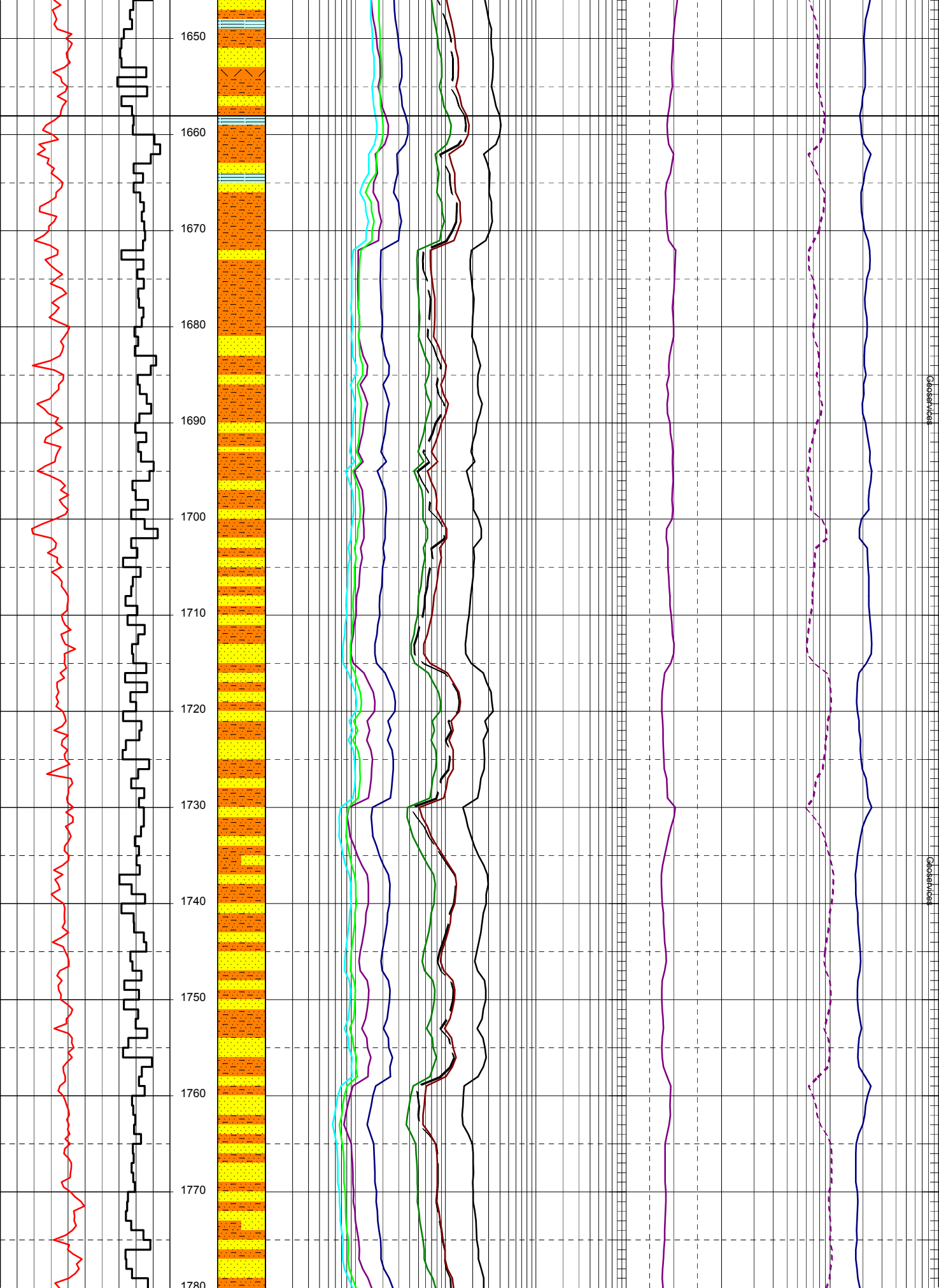

ROP (m/hr)
100 80 60 40 20 0
MWD Gamma Ray (api)
0 100 200
DEPTH (m)
LITHOLOGY %
T GAS & CHROMATOGRAPH RES DATA
TG
C1
C2
C3
iC4
nC4
iC5
nC5
Total Gas in units
Chromatograph in ppm
.5 5 50 500 5K
100 1K 10K 100K 1000K
GAS RATIO
Yolla-3
Scale 1:500
CHARACTER
WETNESS
BALANCE
0 1 2
1 10 100
1000
1010
1020
1030
1040
1050
1060
1070
1080
1090
1100
1110
Thick mud and abundant soft Clay cuttings blocking Gas detectors
Thick mud and abundant soft Clay cuttings blocking Gas detectors
Thick mud and abundant soft Clay cuttings blocking Gas detectors
Thick mud and abundant soft
Geoservices

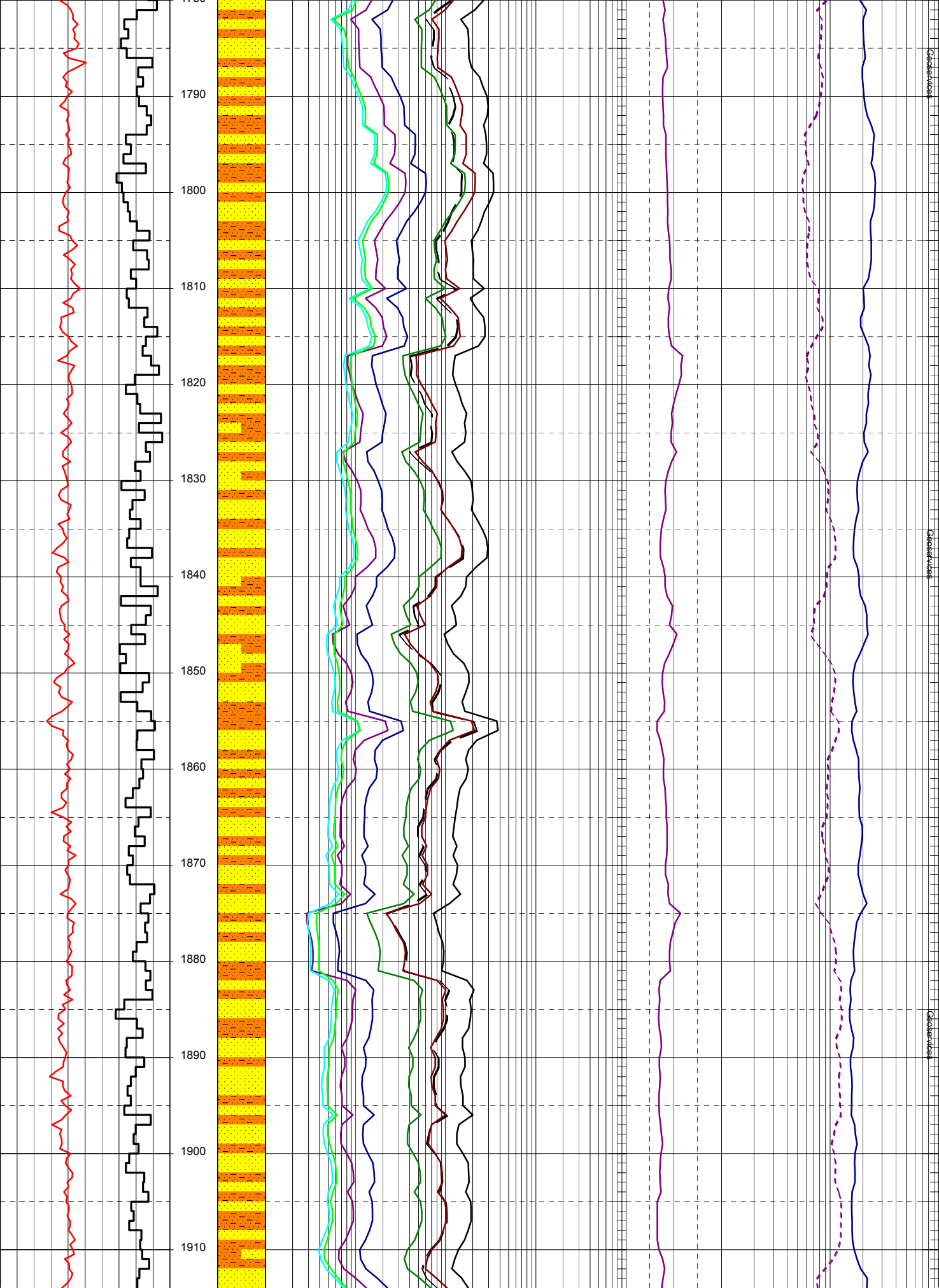

Clay cuttings blocking Gas detectors
1120
1130
1140
1150
1160
1170
1180
Thick mud and abundant soft
Clay cuttings blocking Gas detectors
1190
1200
1210
1220
1230
1240
Geoservices
Geoservices
Geoservices

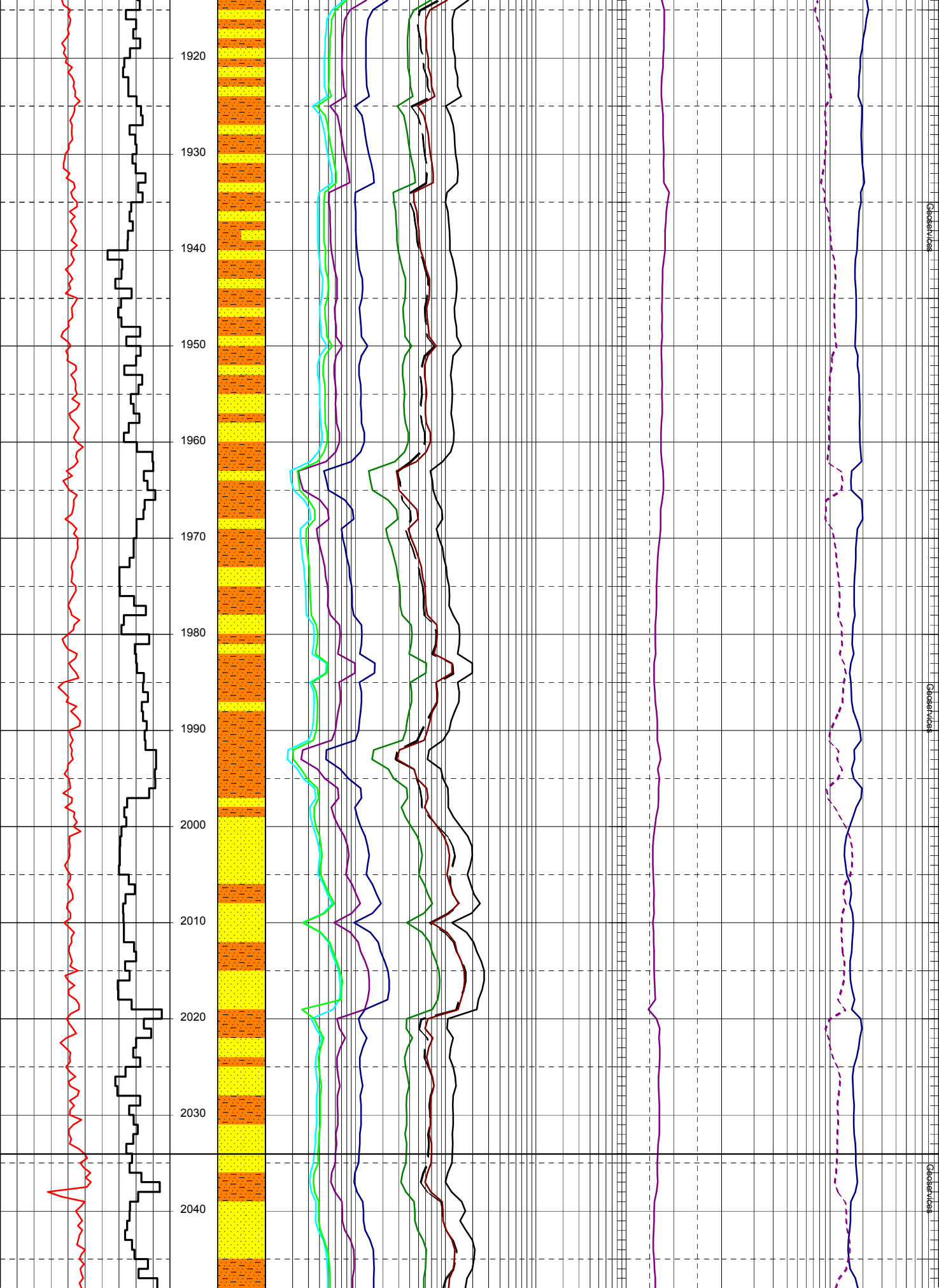

1250
1260
1270
1280
1290
1300
1310
1320
1330
1340
1350
1360
1370
Trough blocked with soft Clay cuttings
Drilling stopped & cuttings cleared
CLEAN OUT FLOW LINE

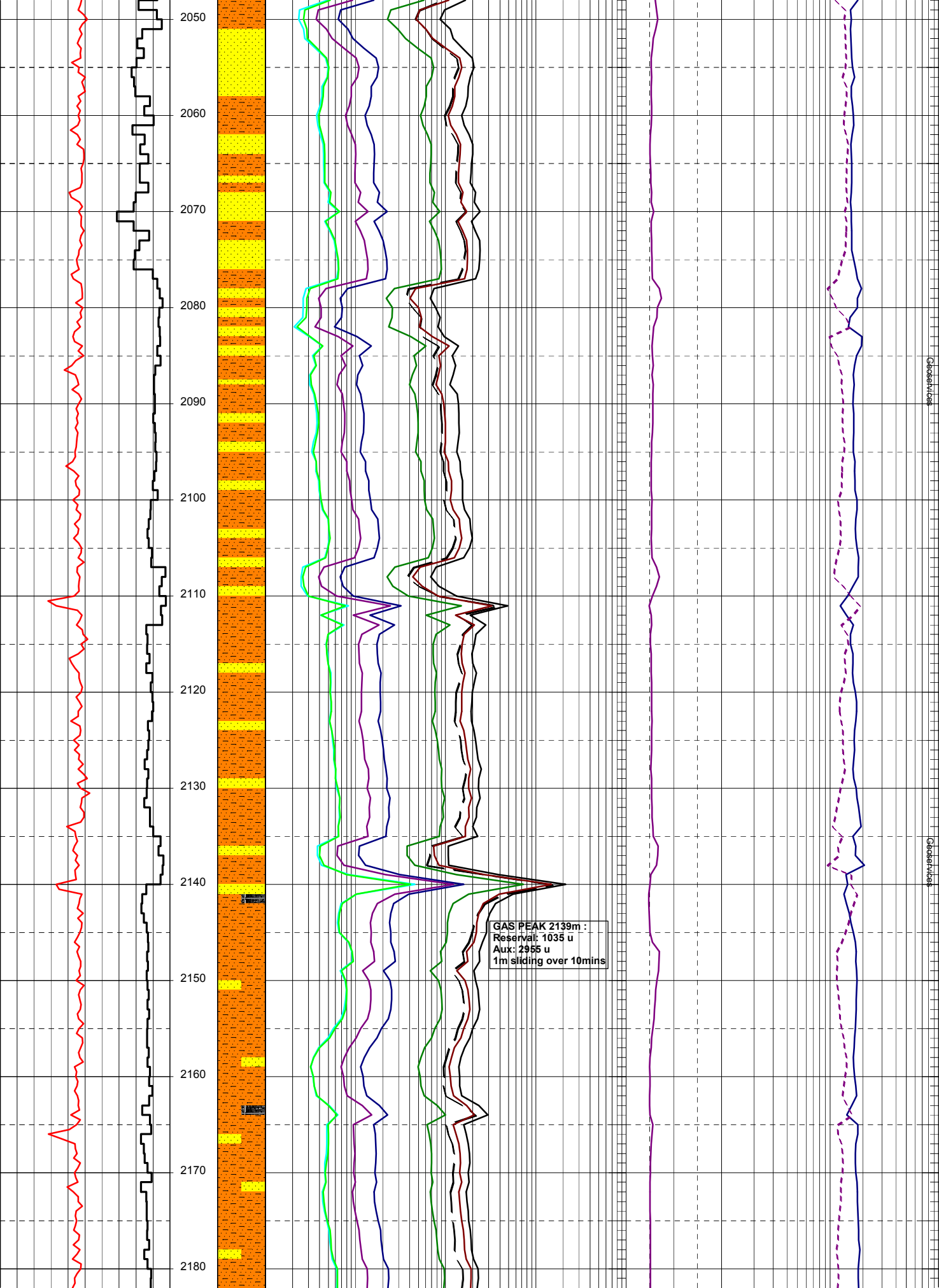

1380
1390
1400
1410
1420
1430
1440
1450
1460
1470
1480
1490
1500
1510
Trough blocked with soft Clay cuttings
Drilling stopped & cuttings cleared
GeoServices
GeoServices
GeoServices

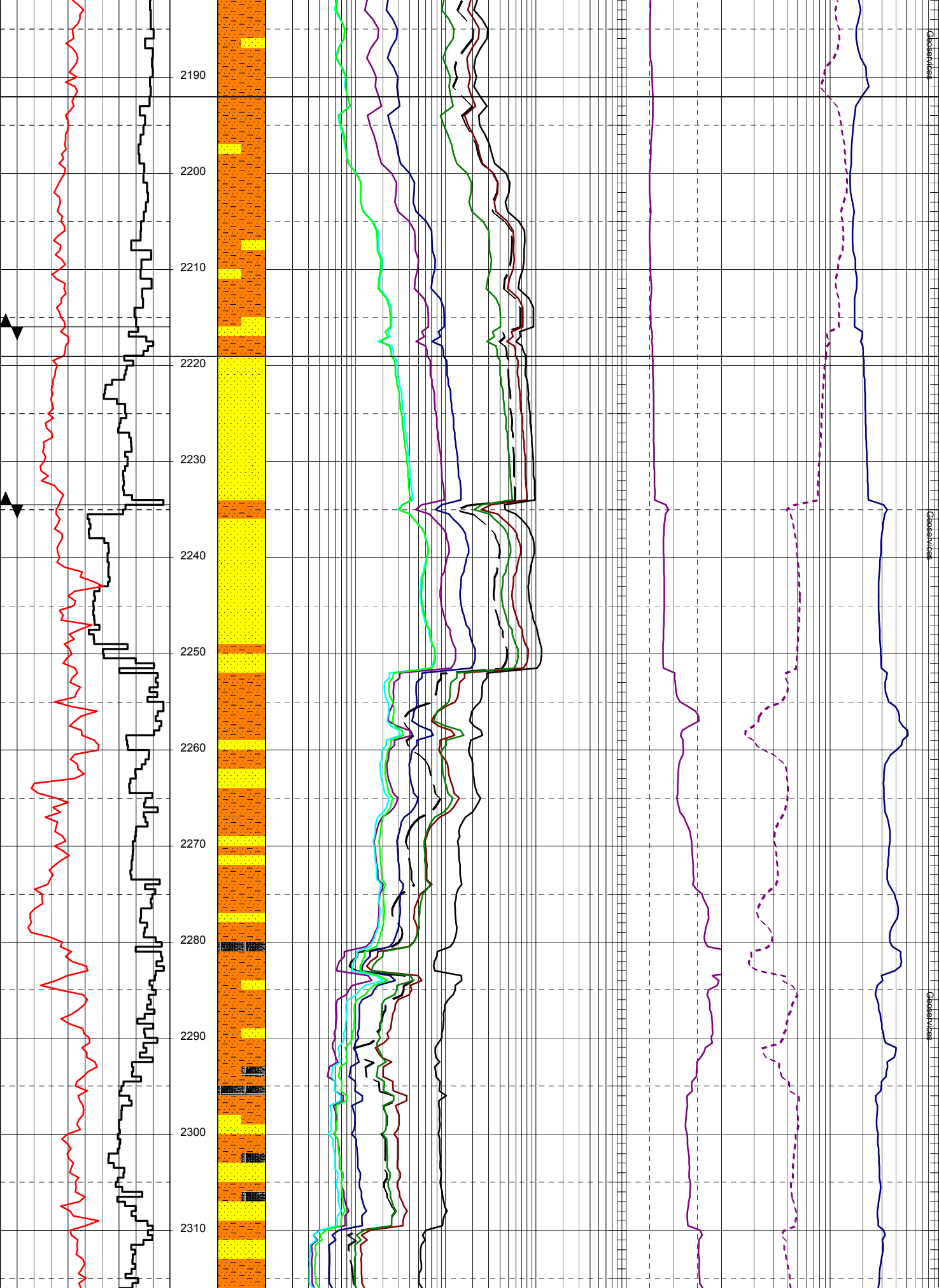

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Geoservices
Geoservices

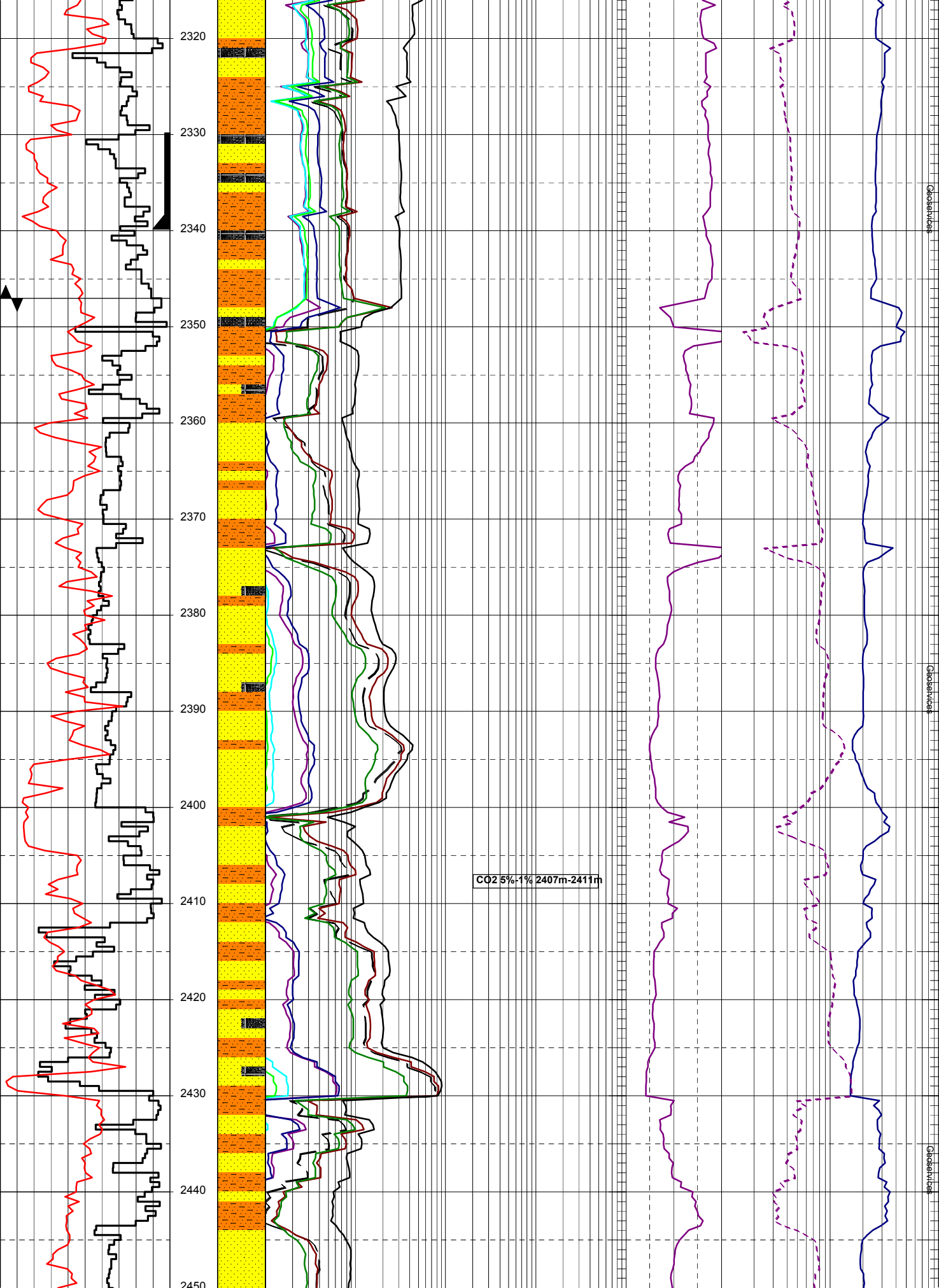

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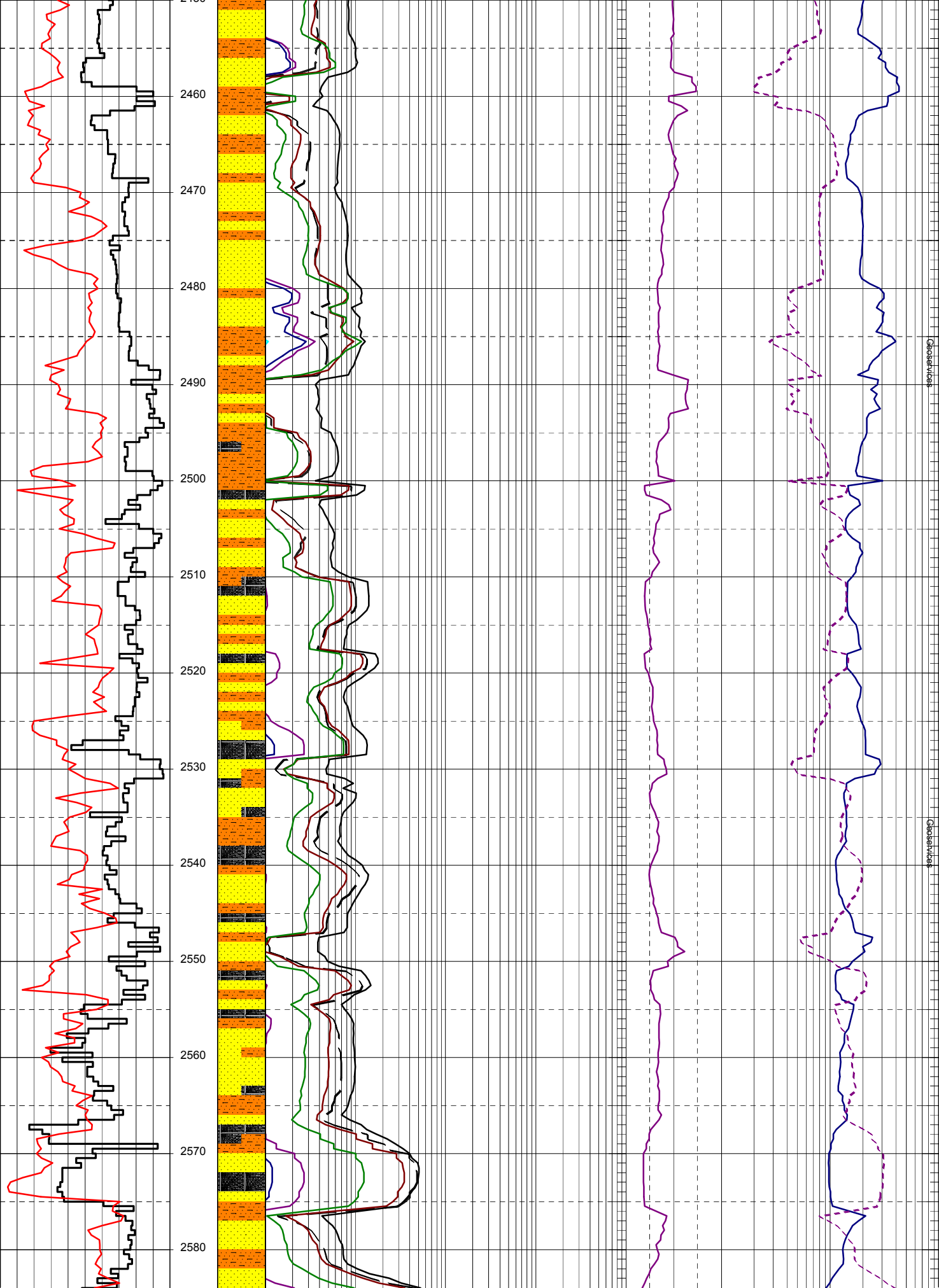

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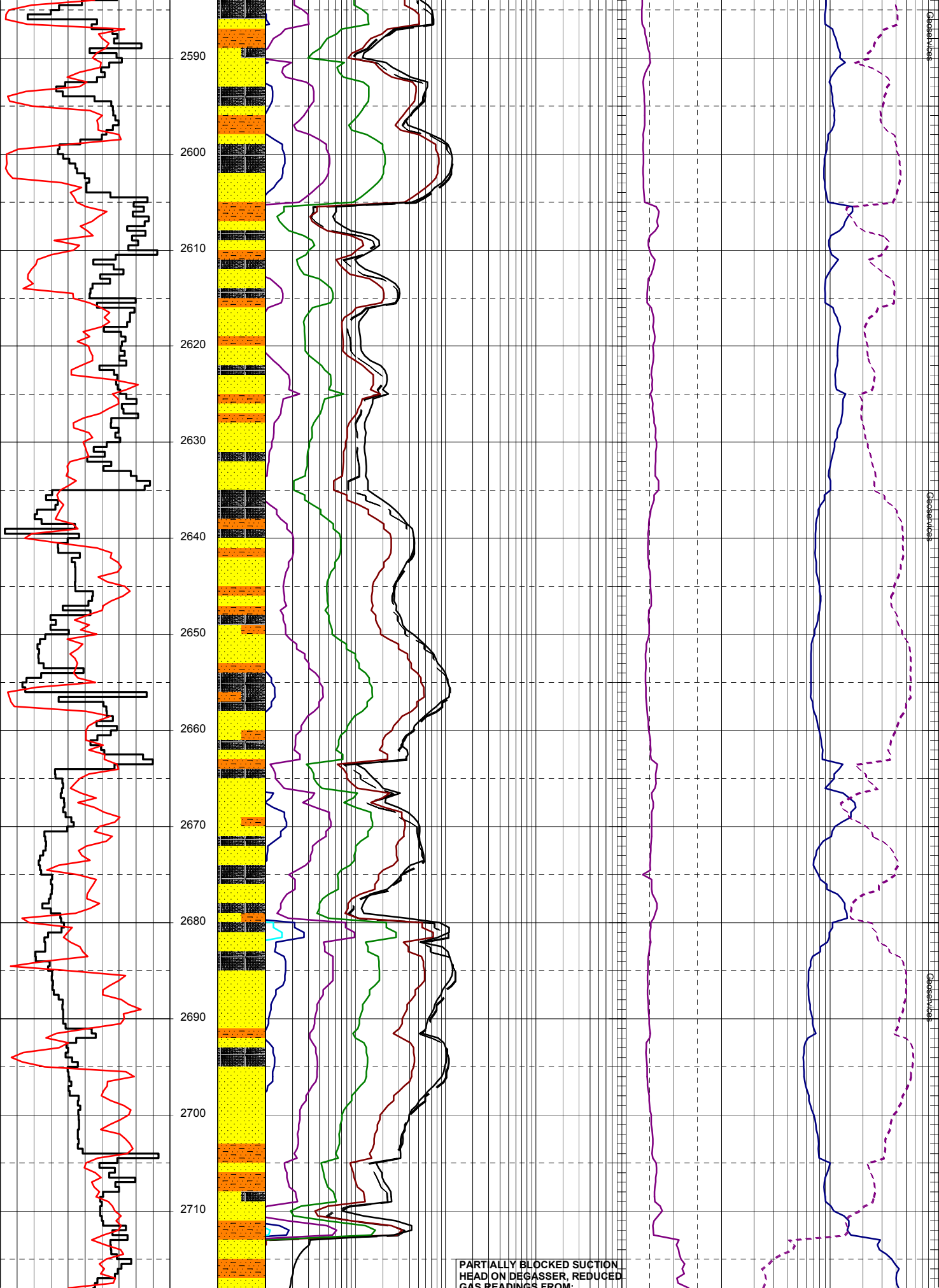

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GeoServices
GeoServices

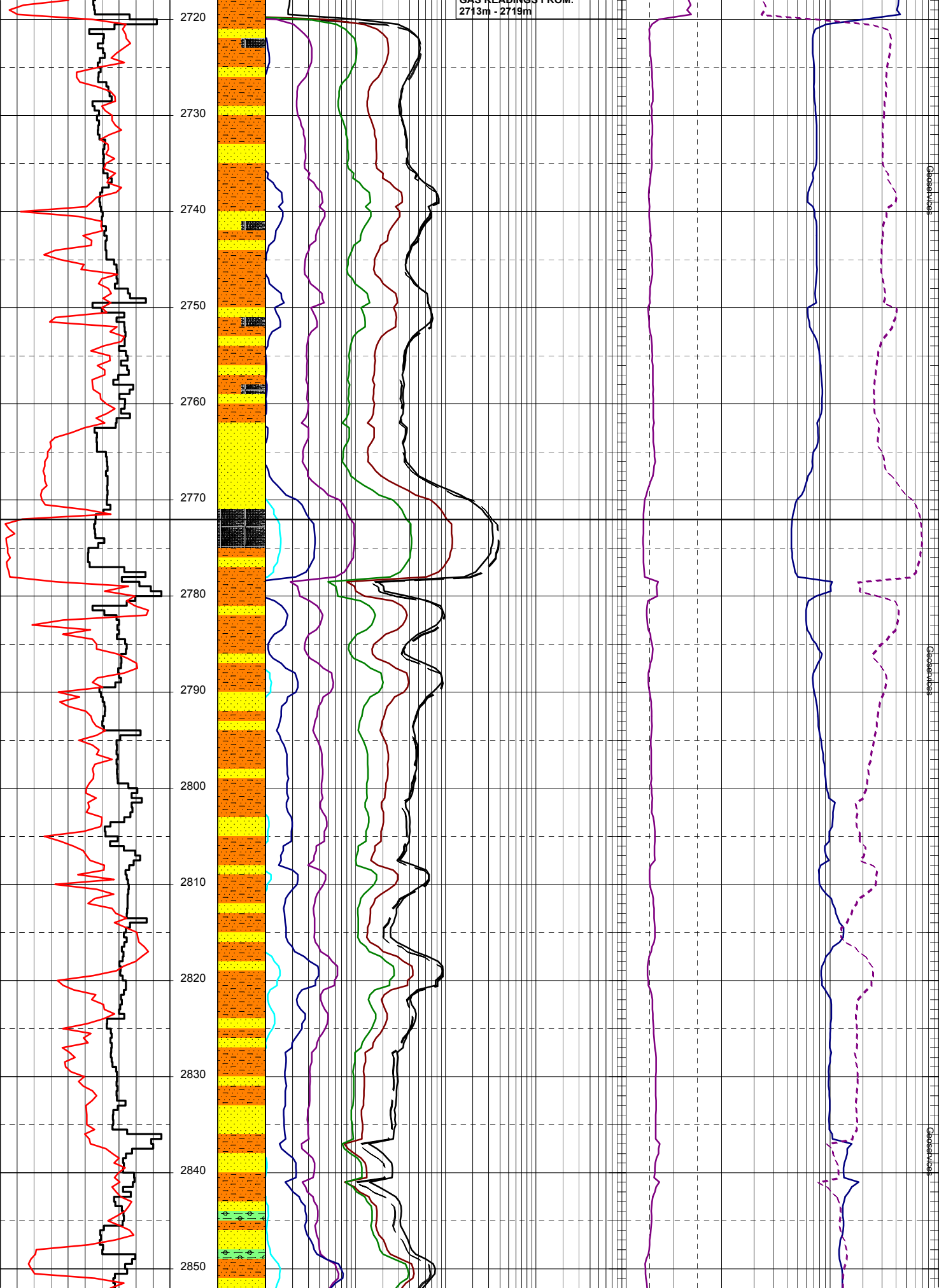

2050
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2090
2100
2110
2120
2130
2140
2150
2160
2170
2180
GAS PEAK 2139m :
Reserval: 1035 u
Aux: 2955 u
1m sliding over 10mins
Geoservices
Geoservices

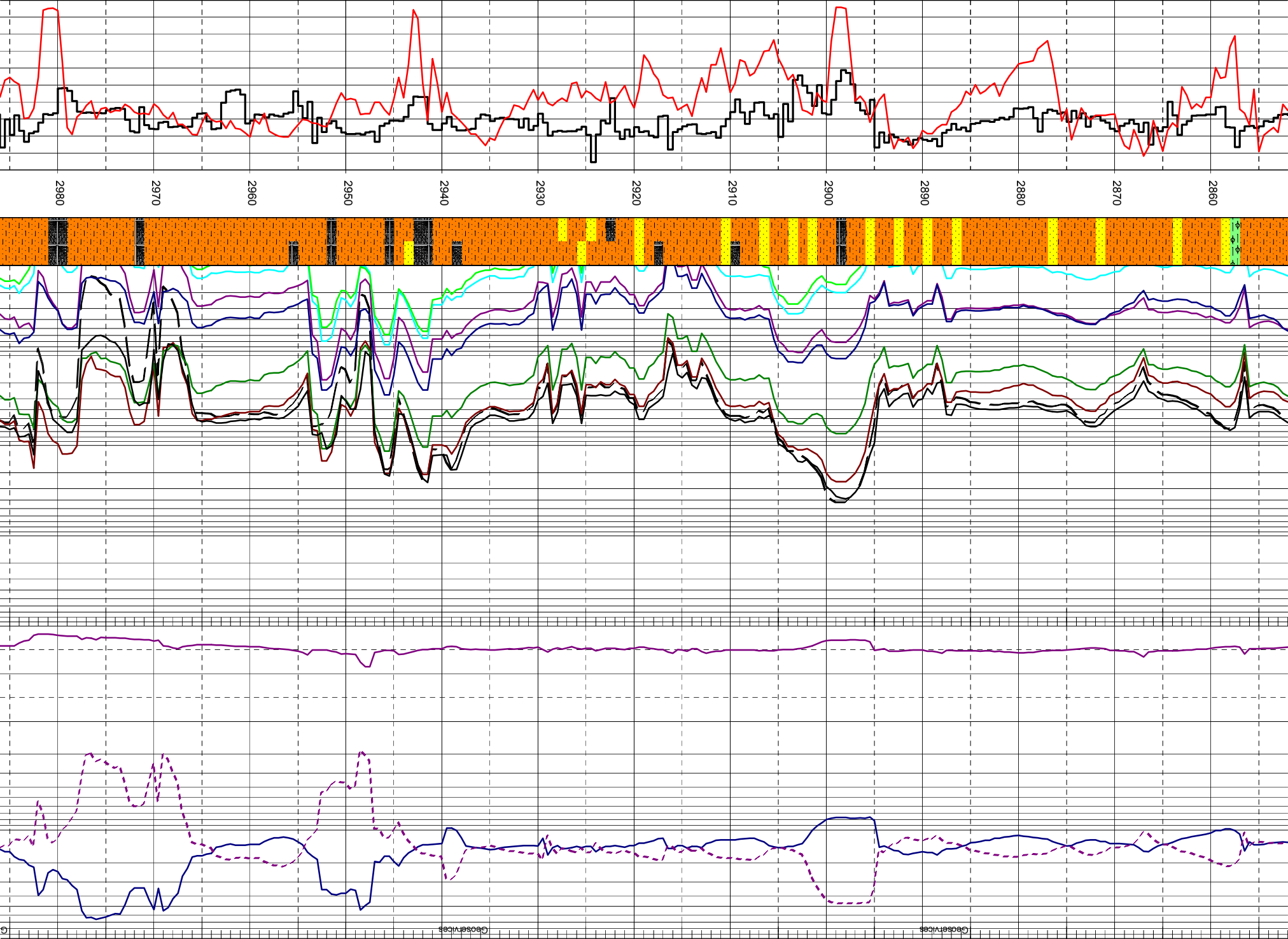

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2300
2310

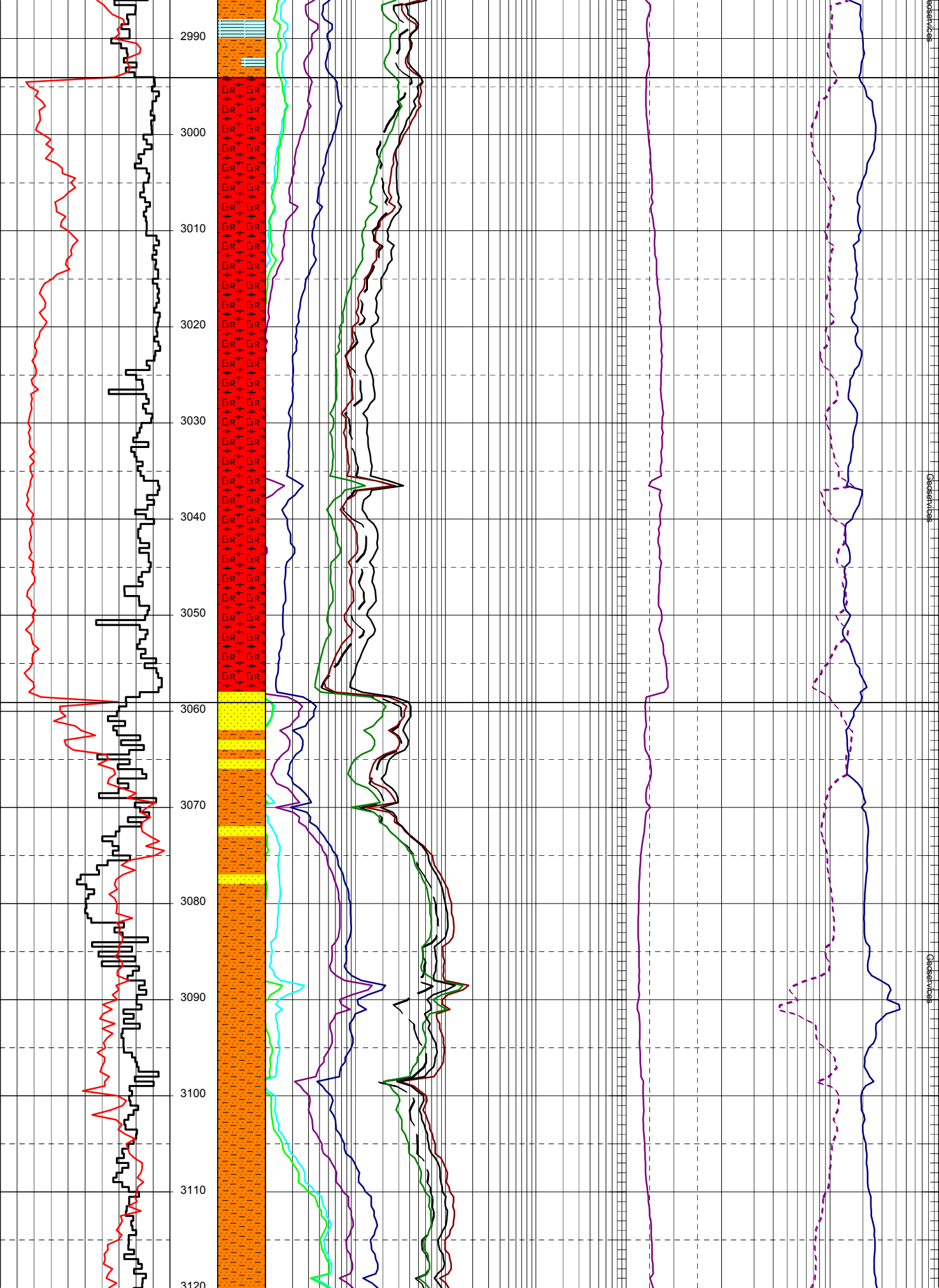

2320
2330
2340
2350
2360
2370
2380
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2400
2410
2420
2430
2440
2450
CO2 5%-1% 2407m-2411m
Geoservices
Geoservices
Geoservices

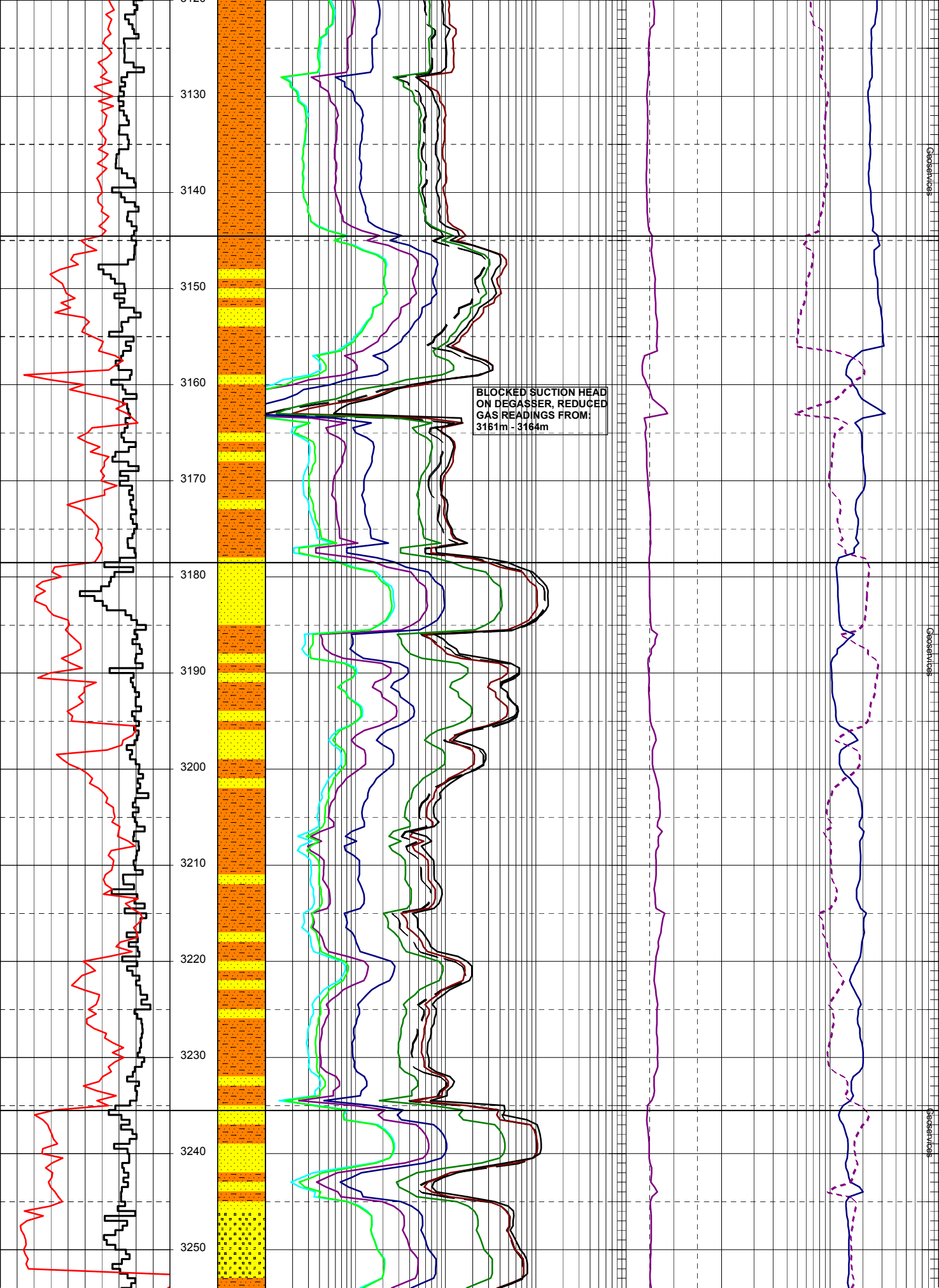

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2570
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Geoservices

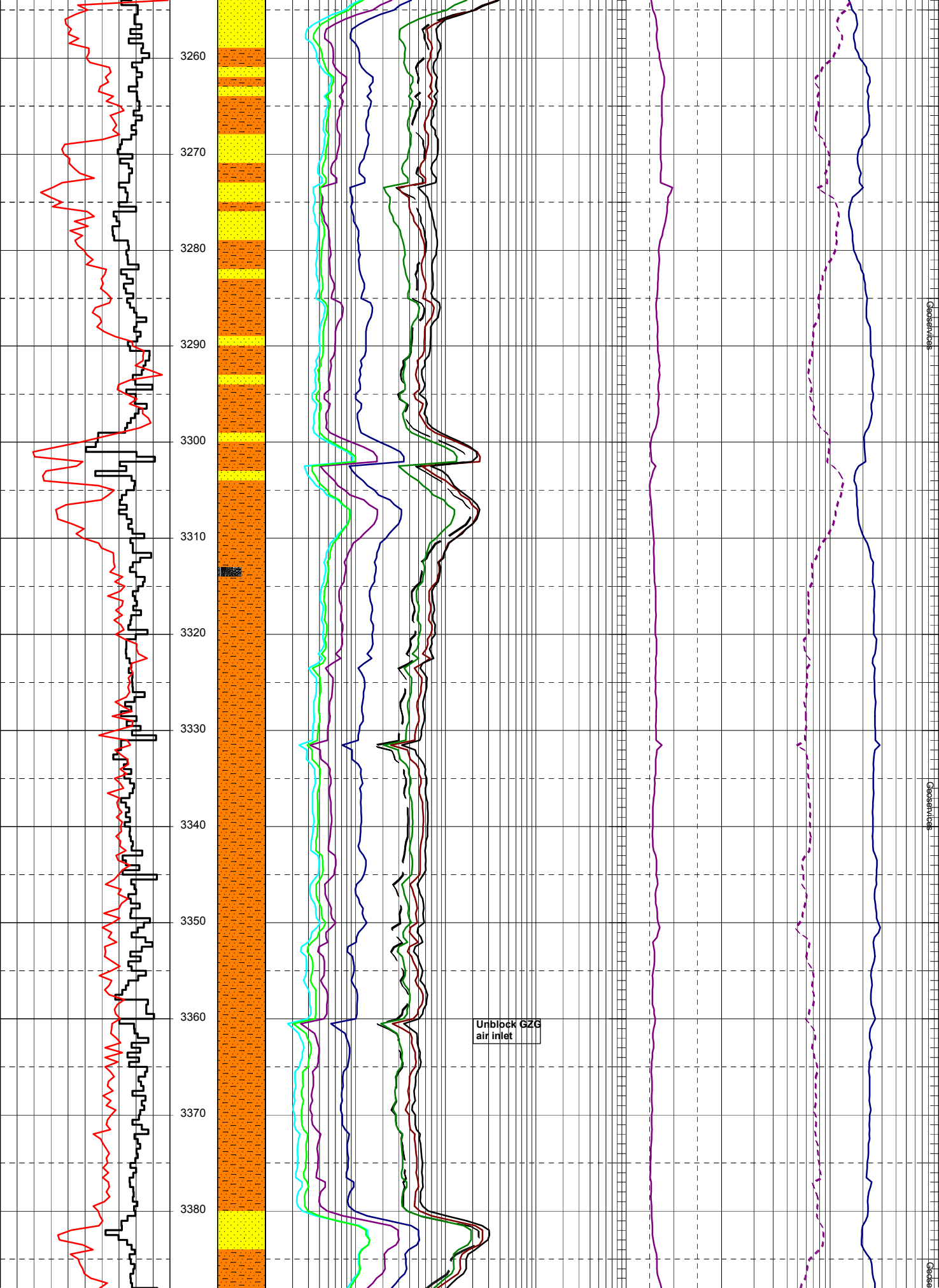

2590
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2690
2700
2710
PARTIALLY BLOCKED SUCTION
HEAD ON DEGASSER, REDUCED
GAS READINGS FROM:
Geoservices
Geoservices
Geoservices

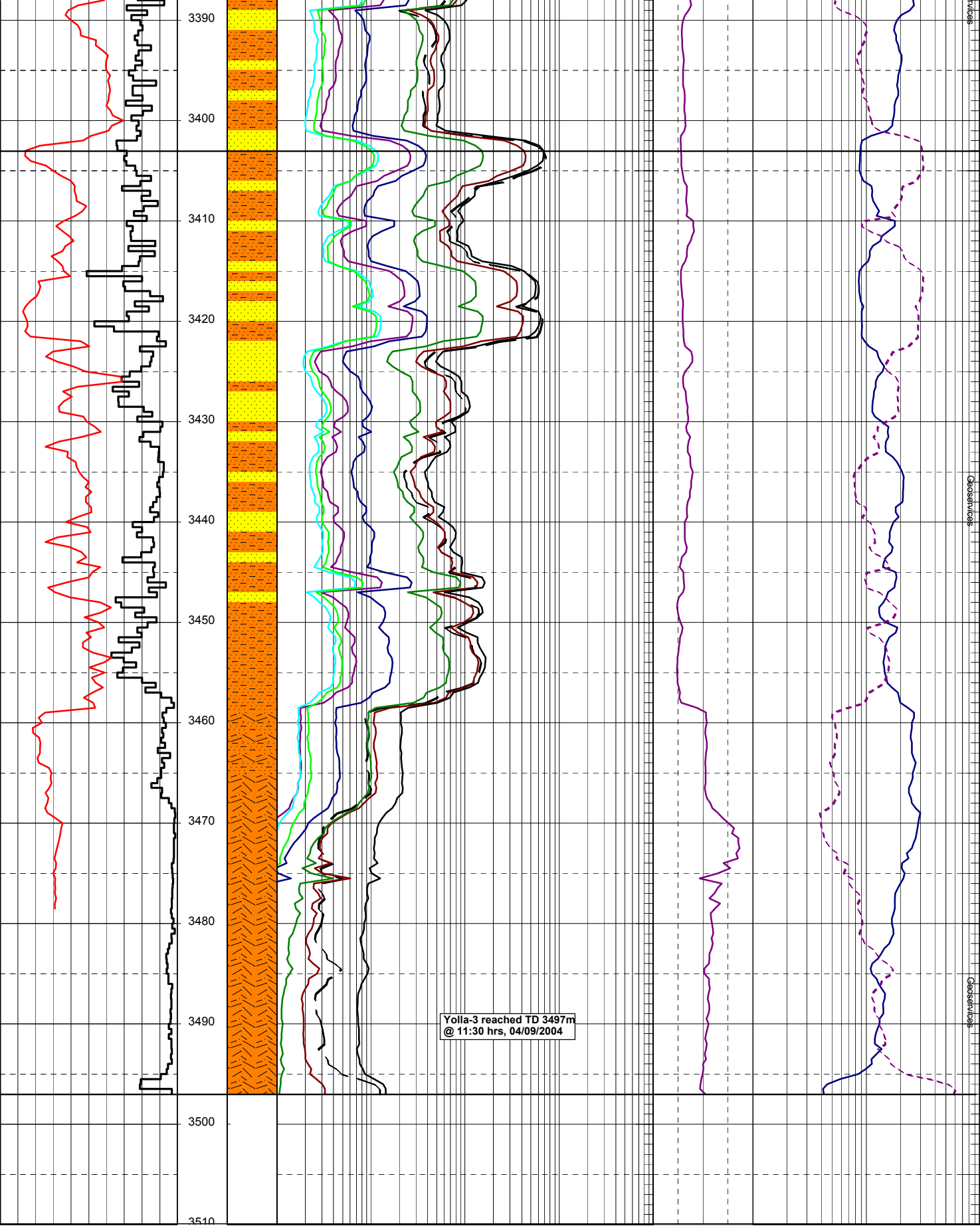

GAS READINGS FROM:
2713m - 2719m
2720
2730
2740
2750
2760
2770
2780
2790
2800
2810
2820
2830
2840
2850
Geoservices
Geoservices
Geoservices

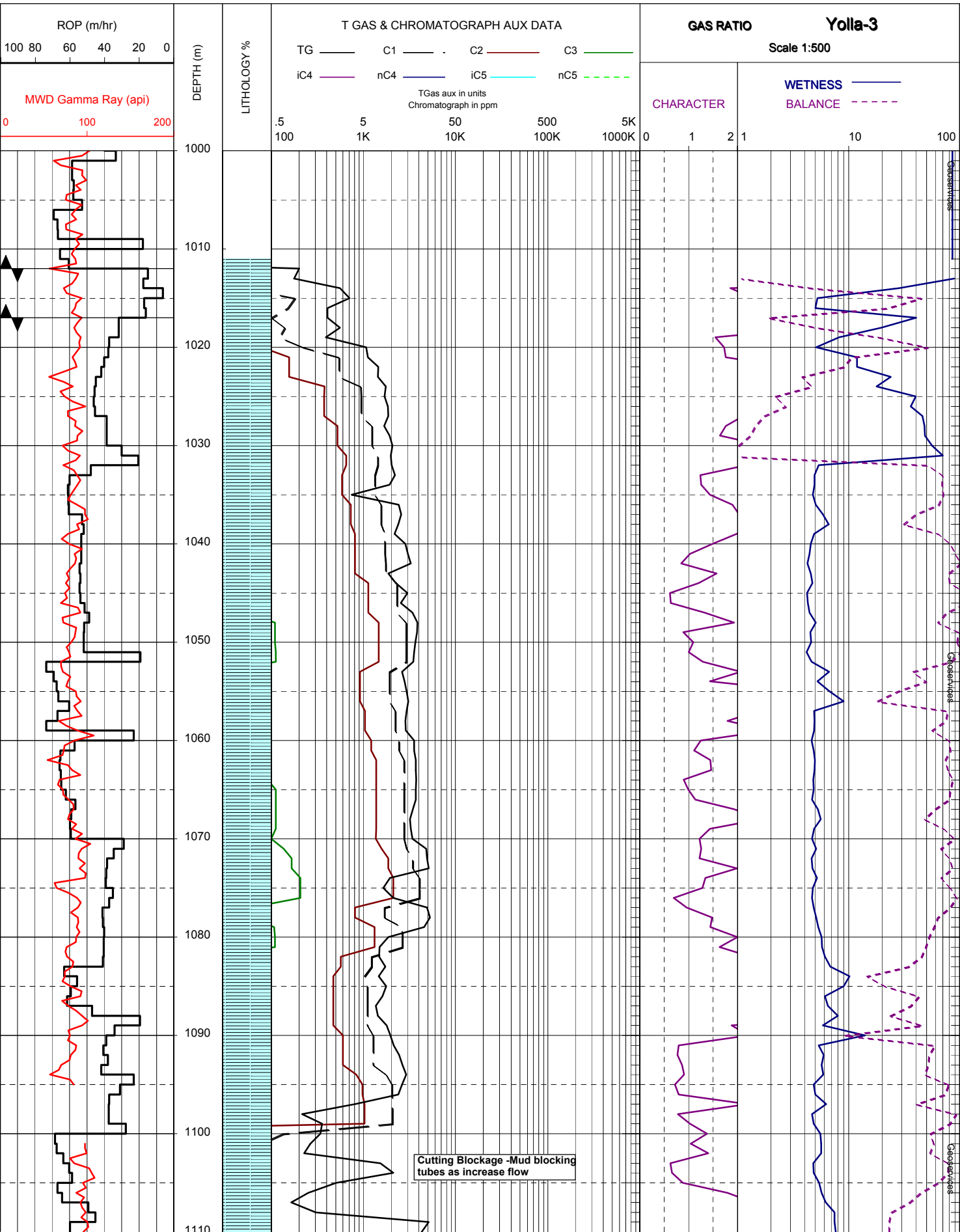

2980
2970
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2940
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2920
2910
2900
2890
2880
2870
2860
Geoservices
Geoservices

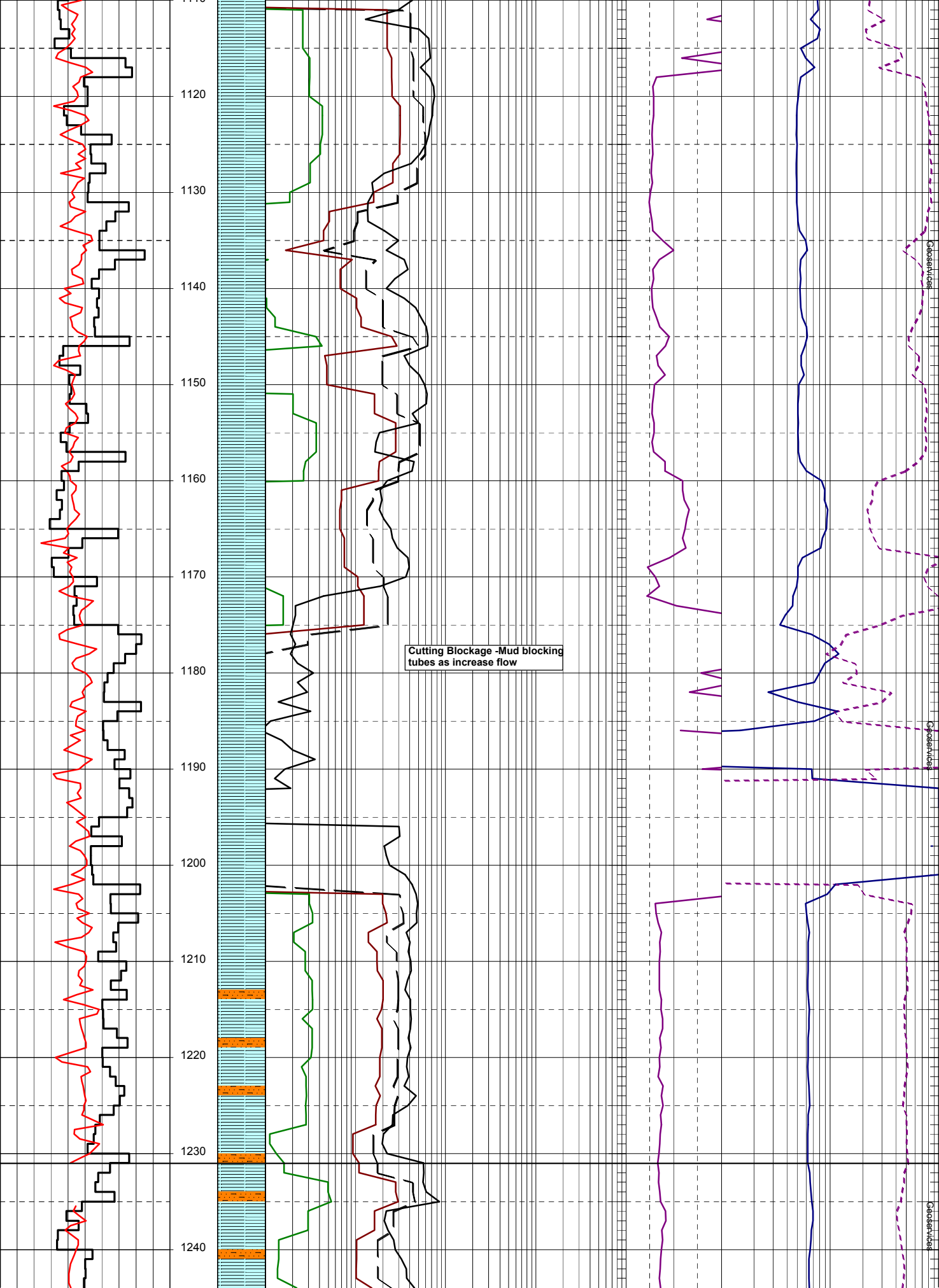

2990
3000
3010
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3030
3040
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3060
3070
3080
3090
3100
3110
3120
GR
Geoservices

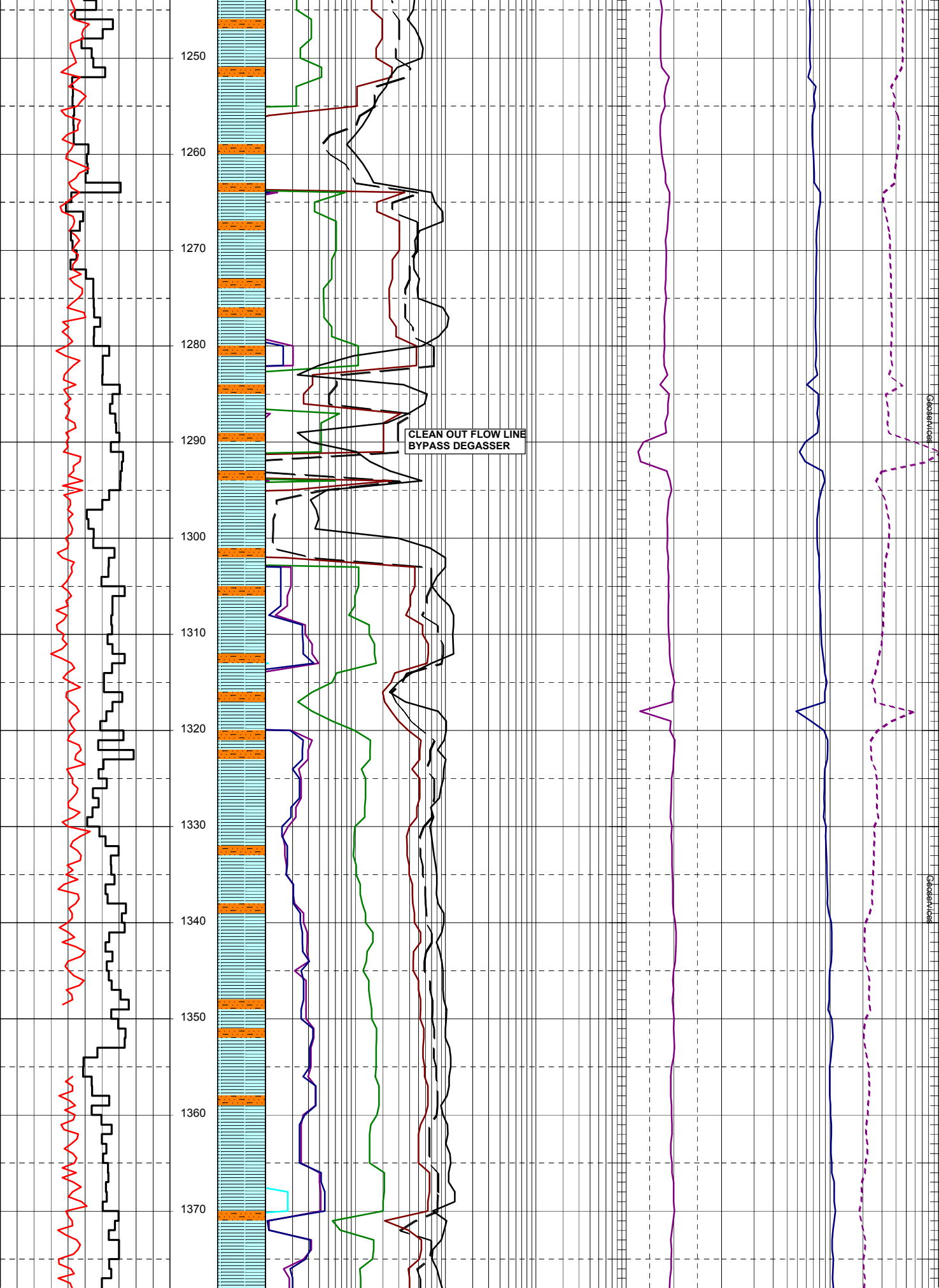

3130
3140
3150
3160
3170
3180
3190
3200
3210
3220
3230
3240
3250
BLOCKED SUCTION HEAD
ON DEGASSER, REDUCED
GAS READINGS FROM:
3161m - 3164m

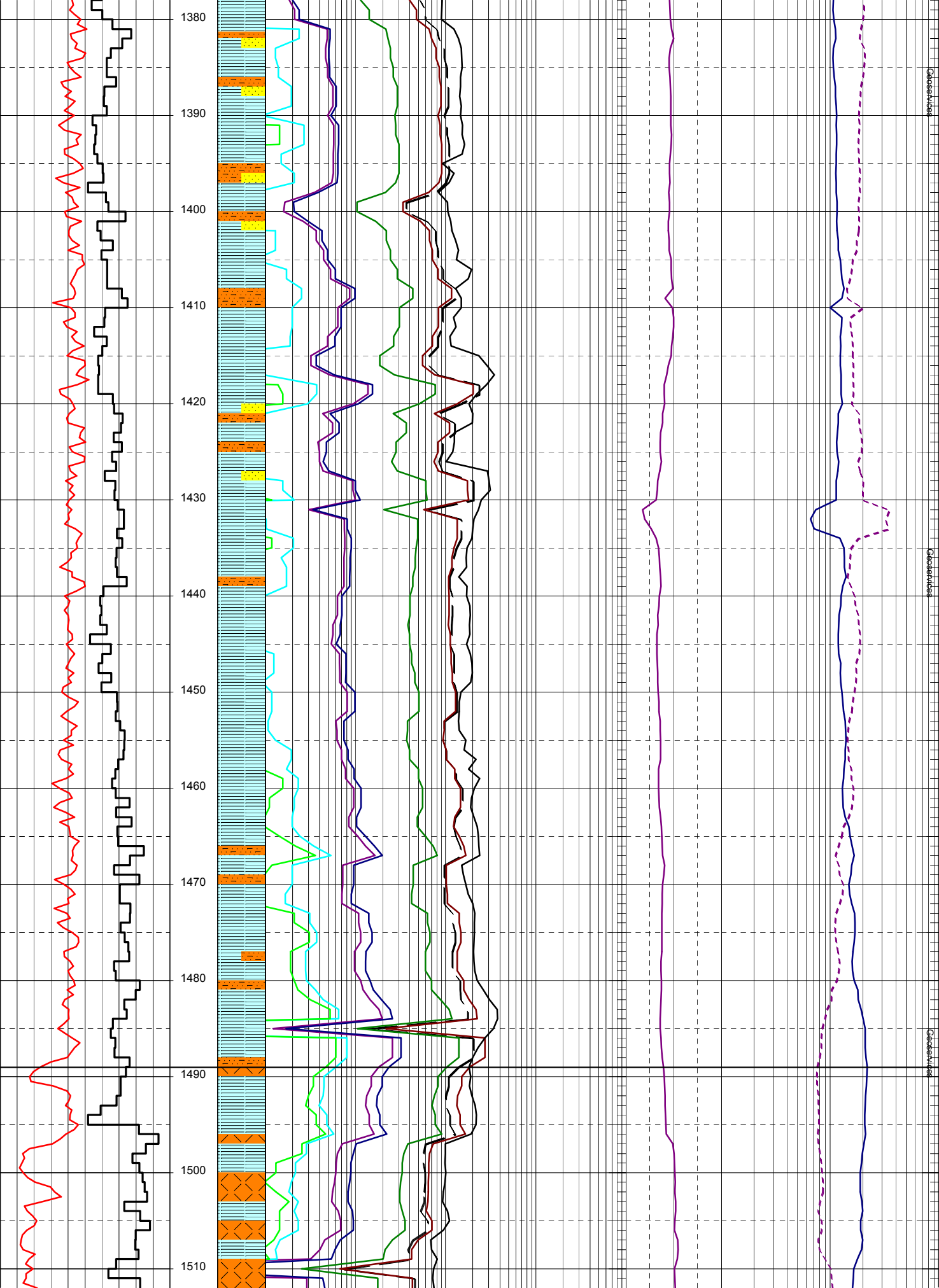

3260
3270
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3340
3350
3360
3370
3380
Unblock GZG
air inlet
Geoservices
Geoservices
Geose

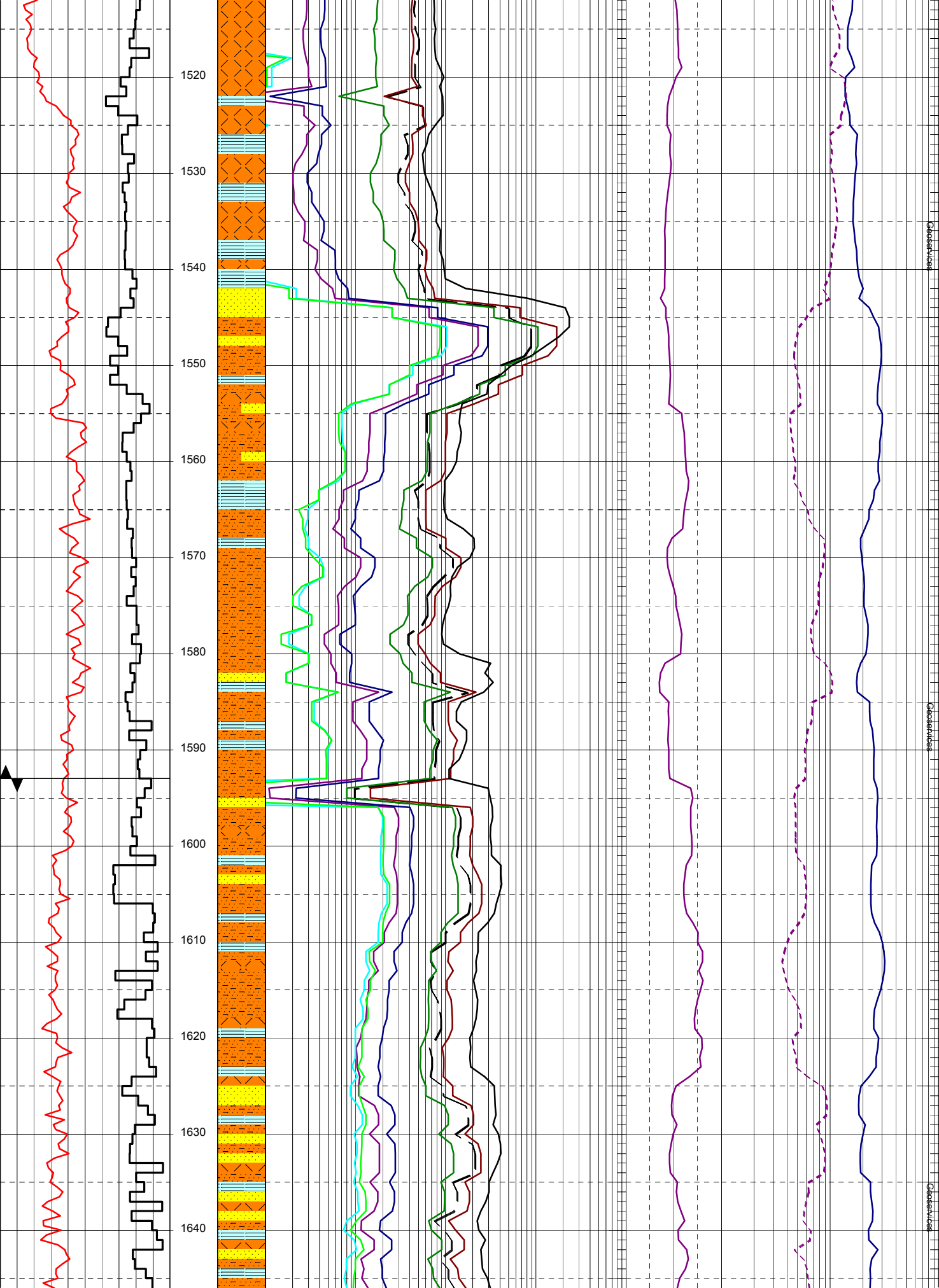

3390
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3510
Yolla-3 reached TD 3497m
@ 11:30 hrs, 04/09/2004

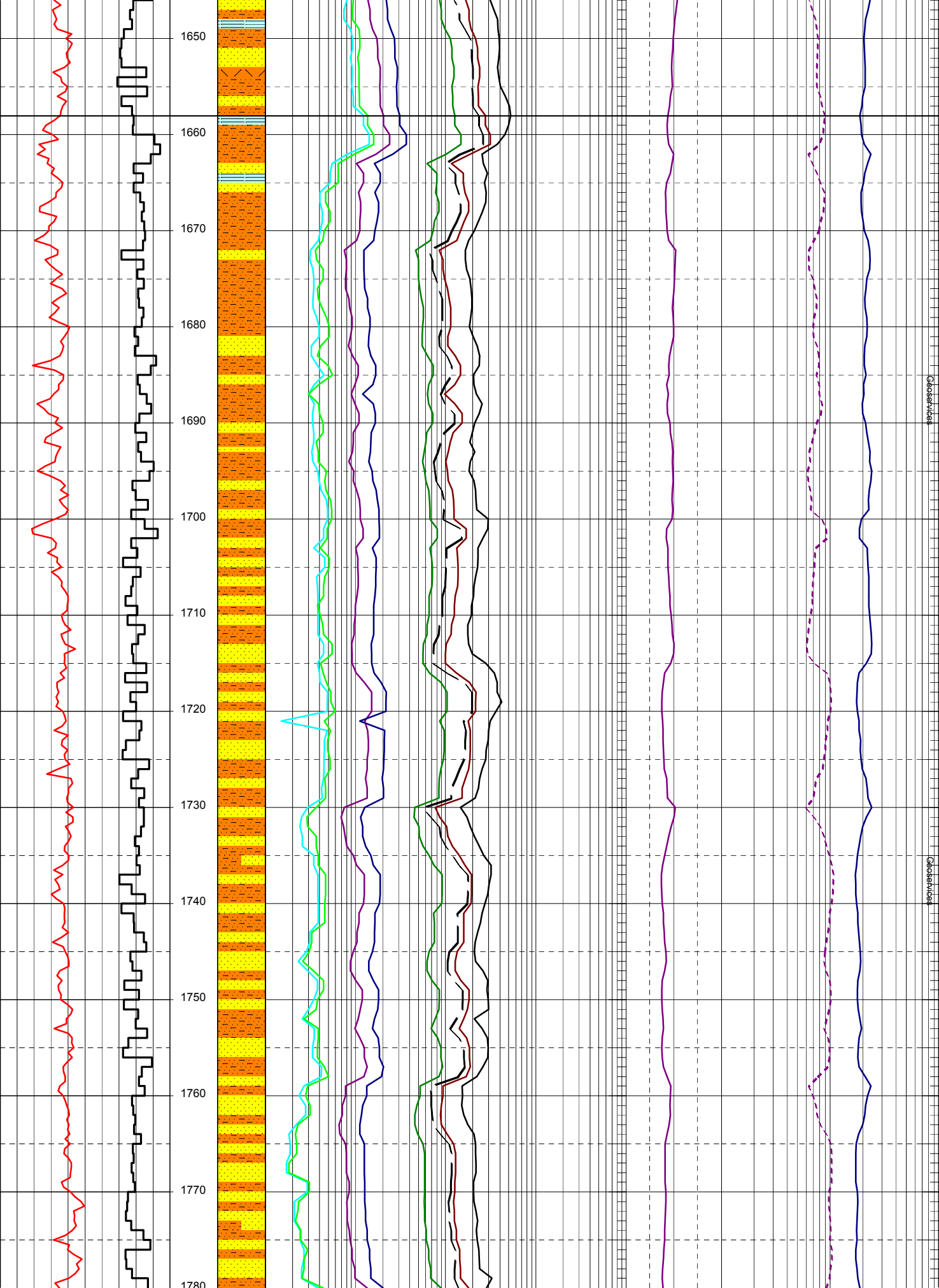

ROP (m/hr)
100 80 60 40 20 0
MWD Gamma Ray (api)
0 100 200
DEPTH (m)
LITHOLOGY %
T GAS & CHROMATOGRAPH AUX DATA
TG
C1
C2
C3
iC4
nC4
iC5
nC5
TGas aux in units
Chromatograph in ppm
.5 5 50 500 5K
100 1K 10K 100K 1000K
GAS RATIO
Yolla-3
Scale 1:500
CHARACTER
WETNESS
BALANCE
0 1 2
1 10 100
1000
1010
1020
1030
1040
1050
1060
1070
1080
1090
1100
1110
Cutting Blockage -Mud blocking tubes as increase flow
Geoservices

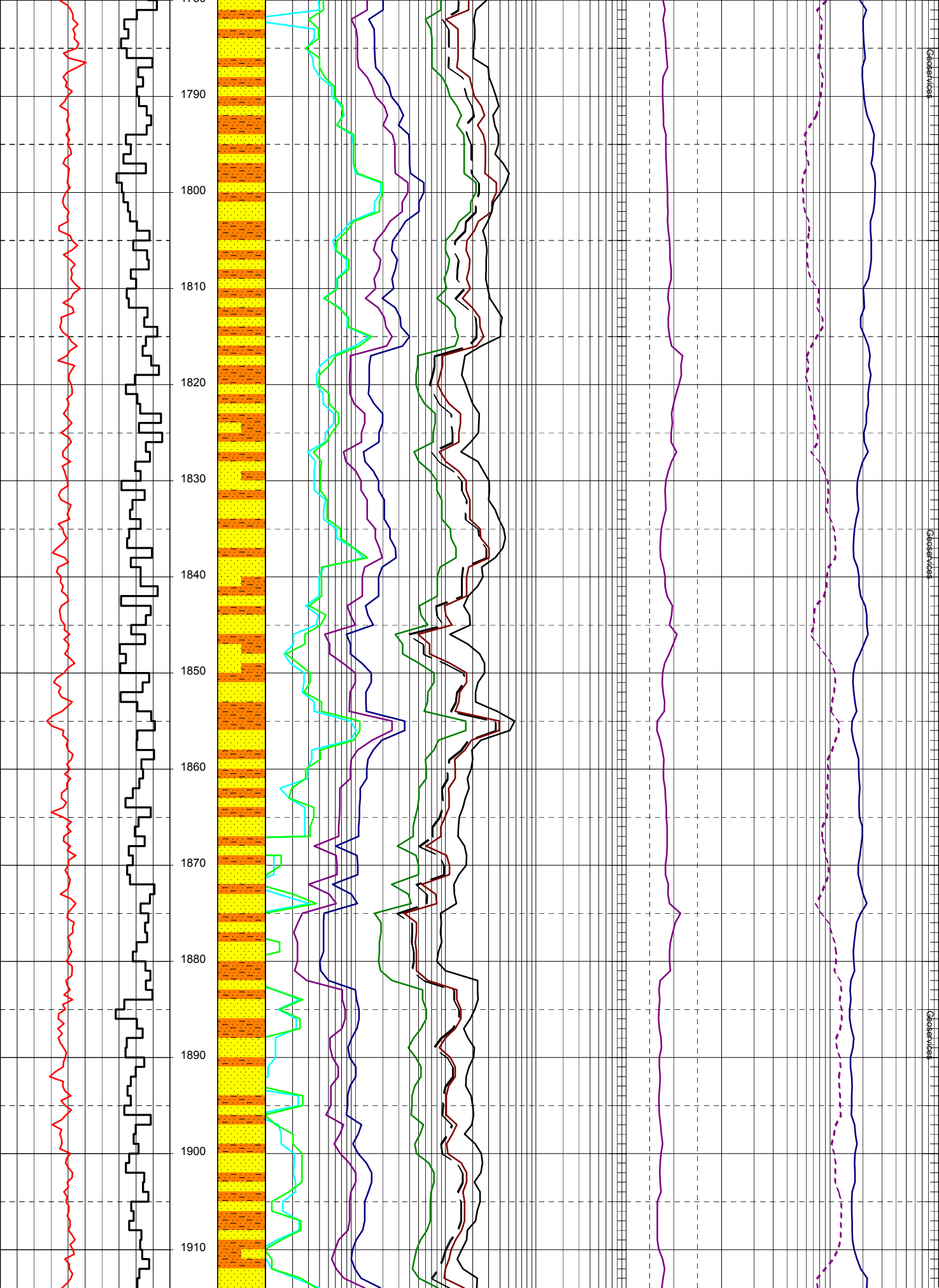

1120
1130
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1190
1200
1210
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1240
Cutting Blockage -Mud blocking tubes as increase flow
Geoservices
Geoservices
Geoservices

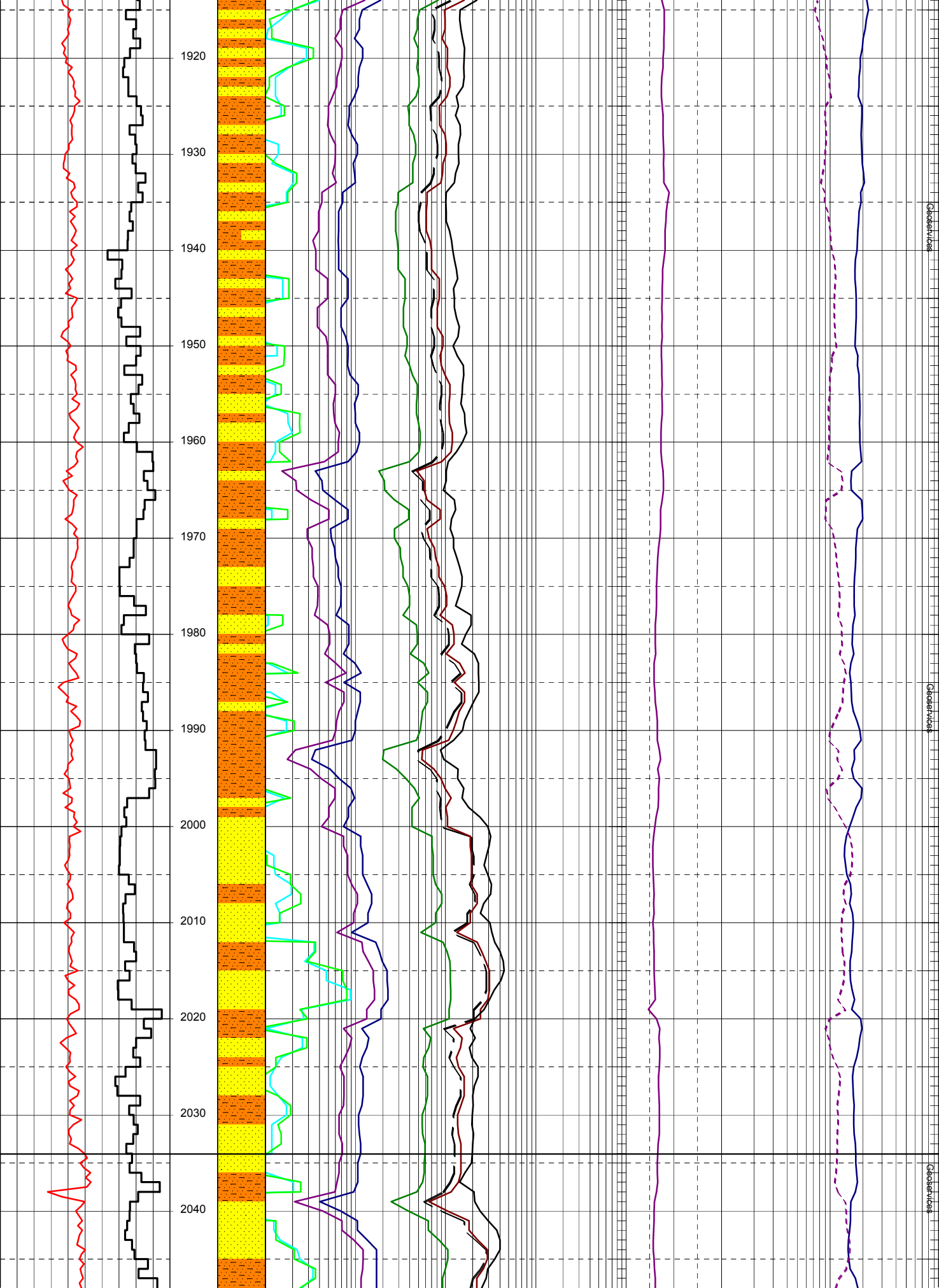

1250
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CLEAN OUT FLOW LINE
BYPASS DEGASSER

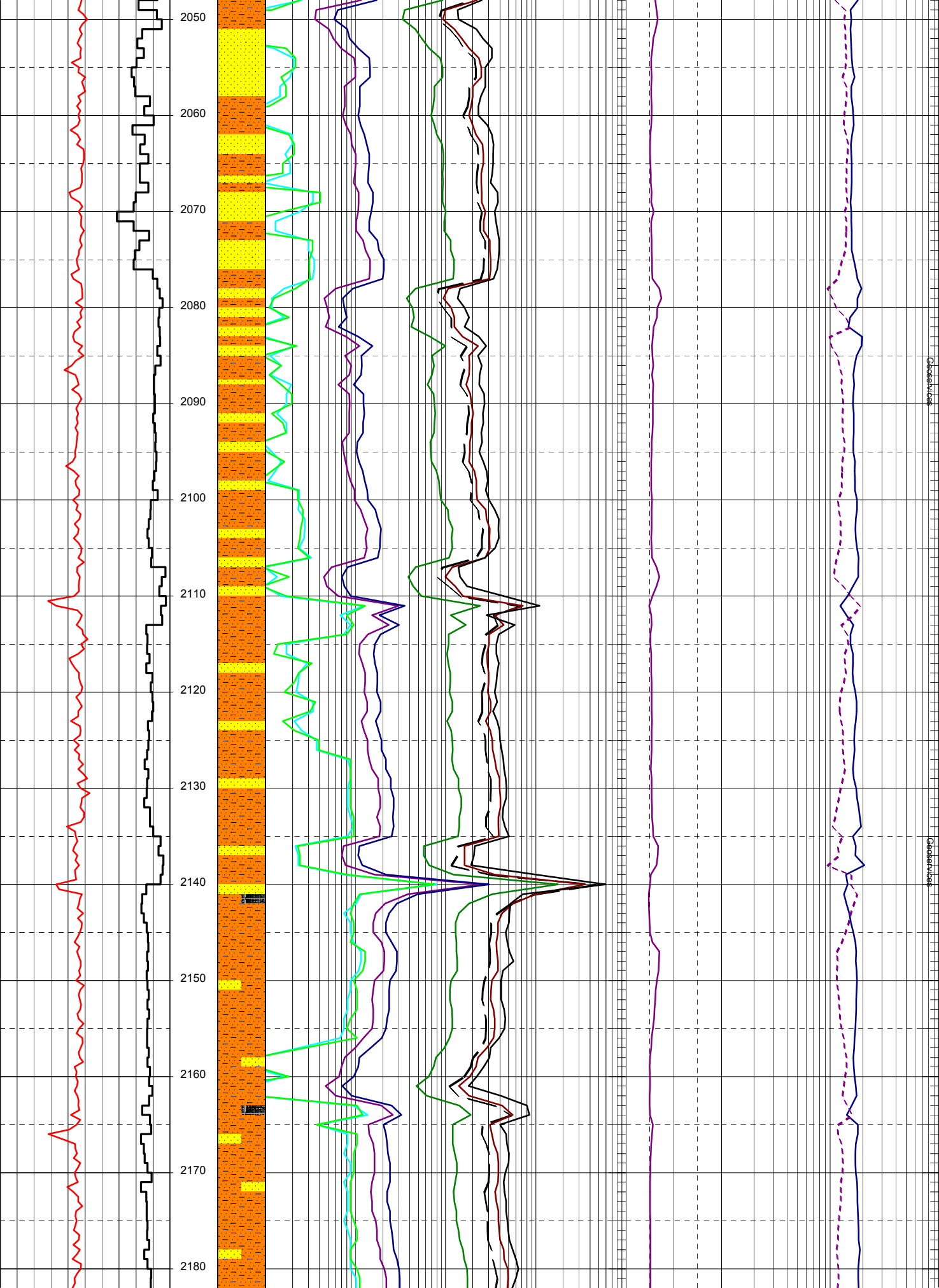

1380
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GeoServices
GeoServices
GeoServices

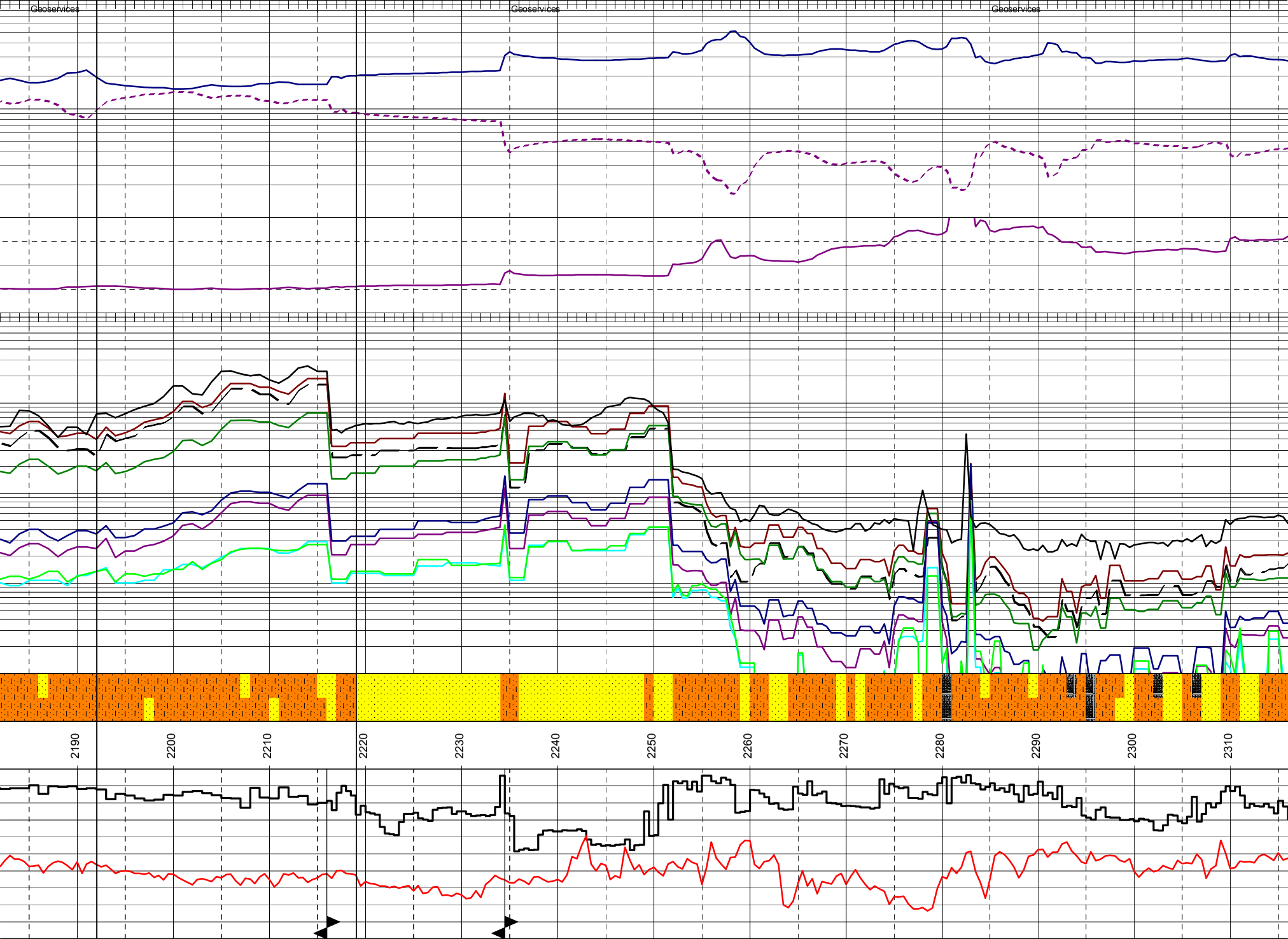

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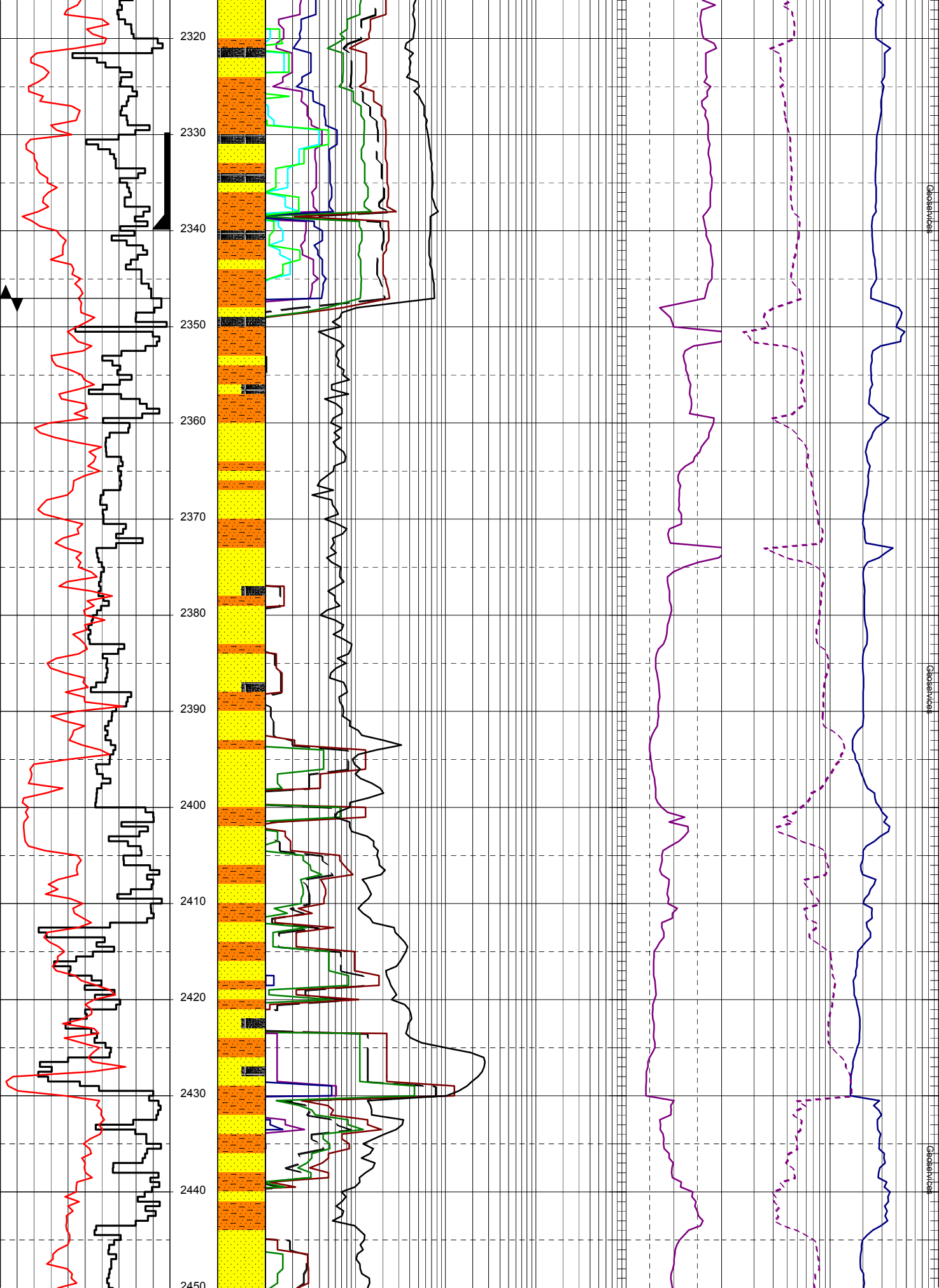

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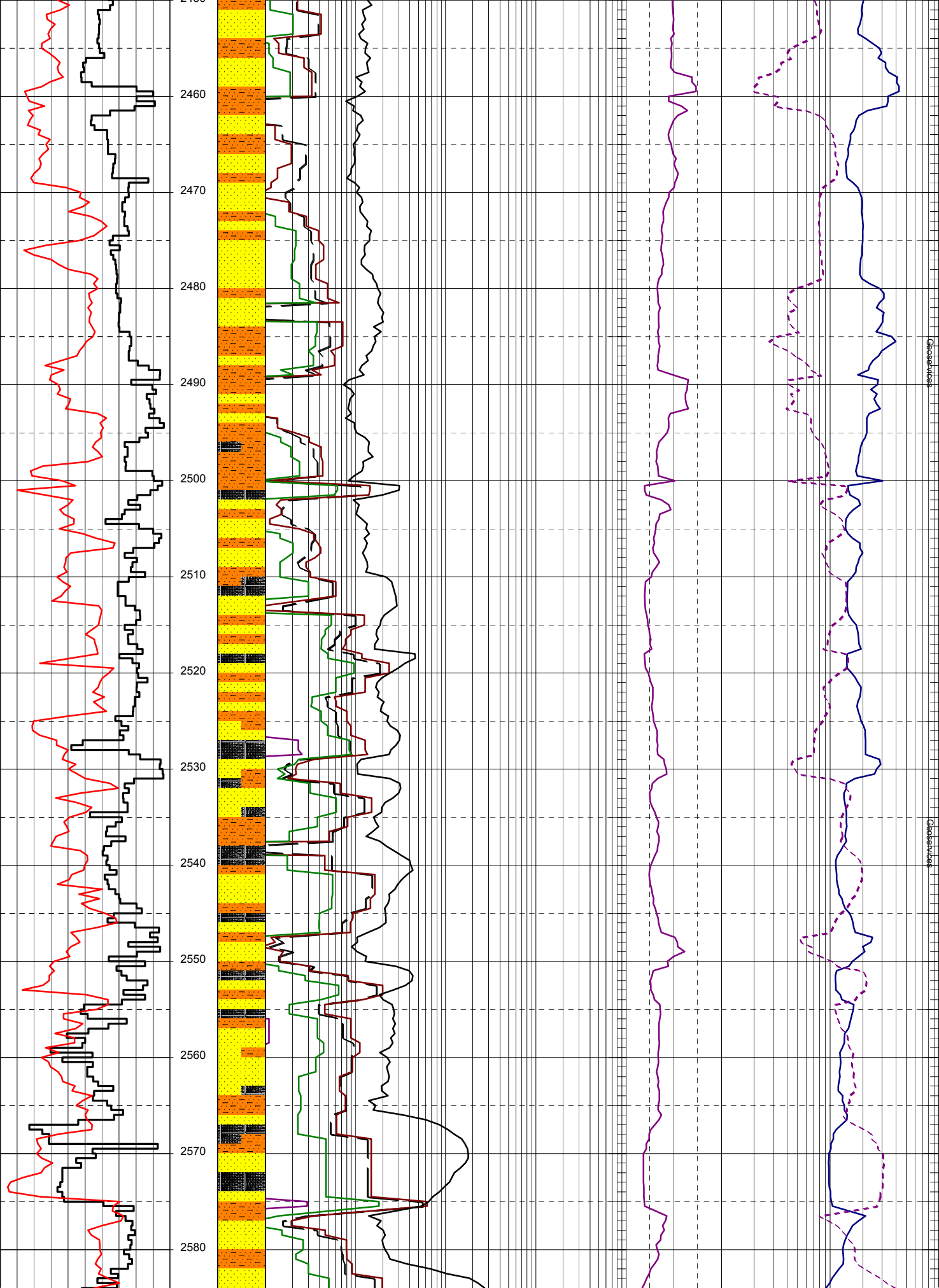

1790
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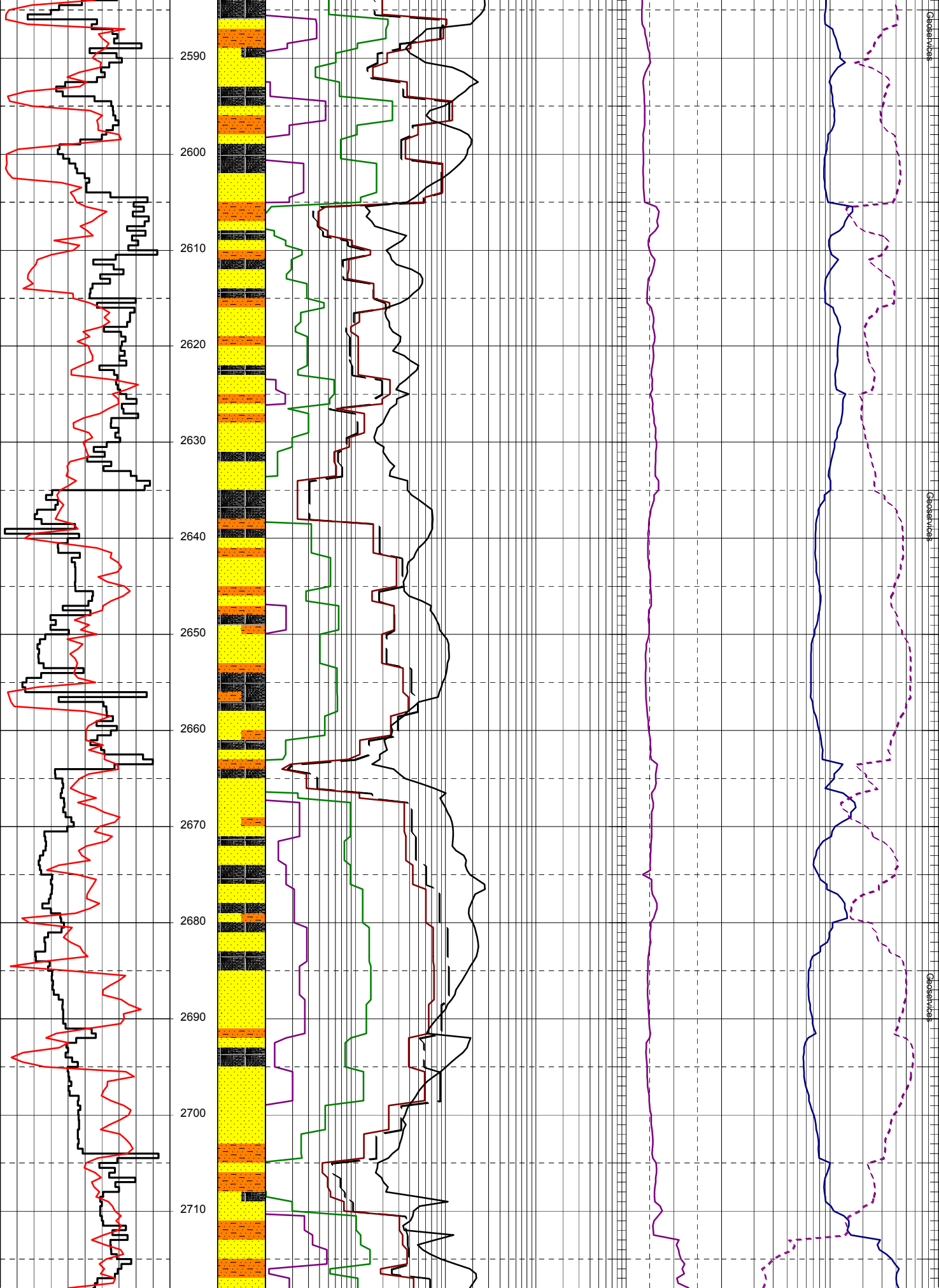

1920
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GeoServices
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GeoServices

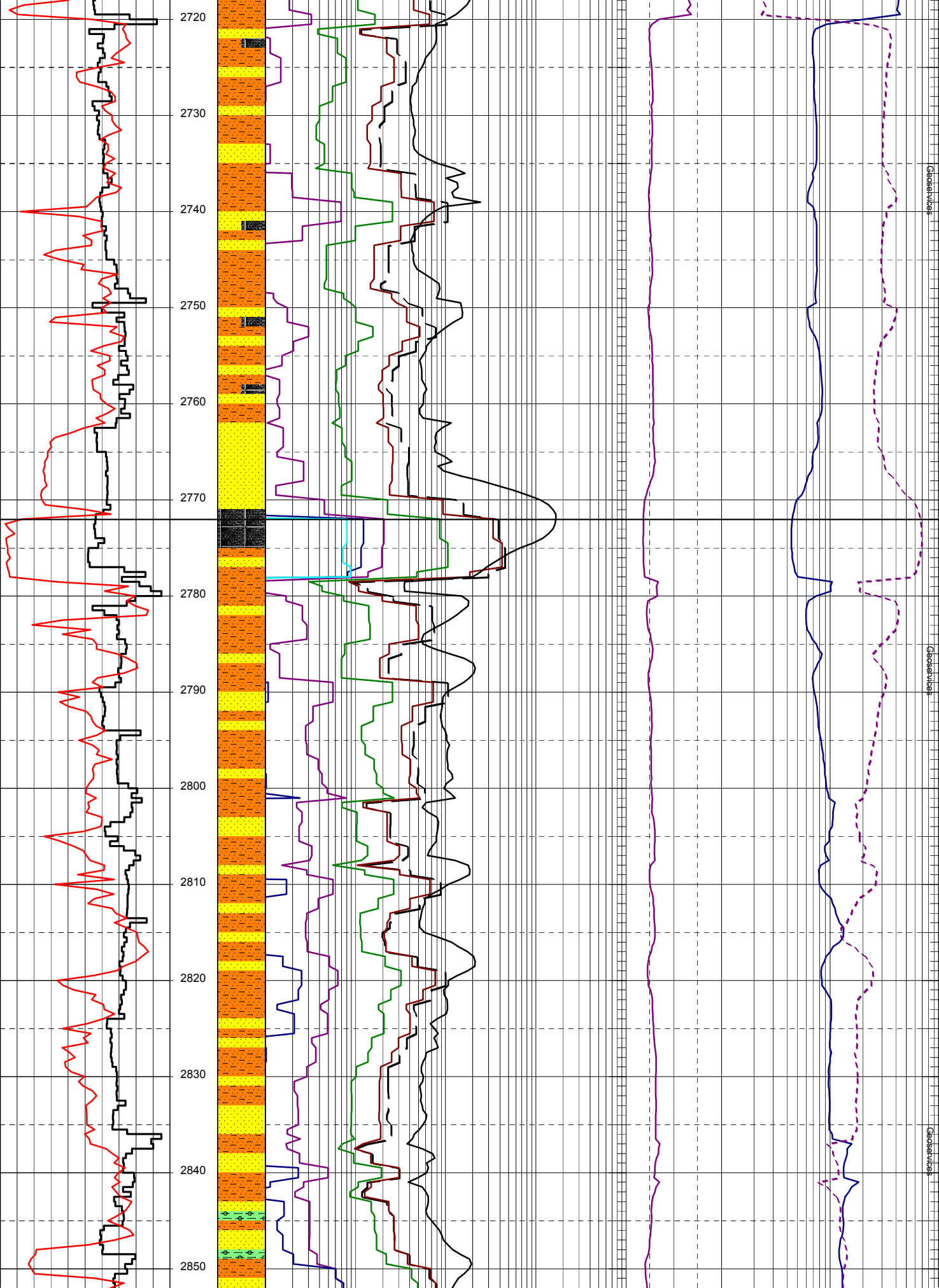

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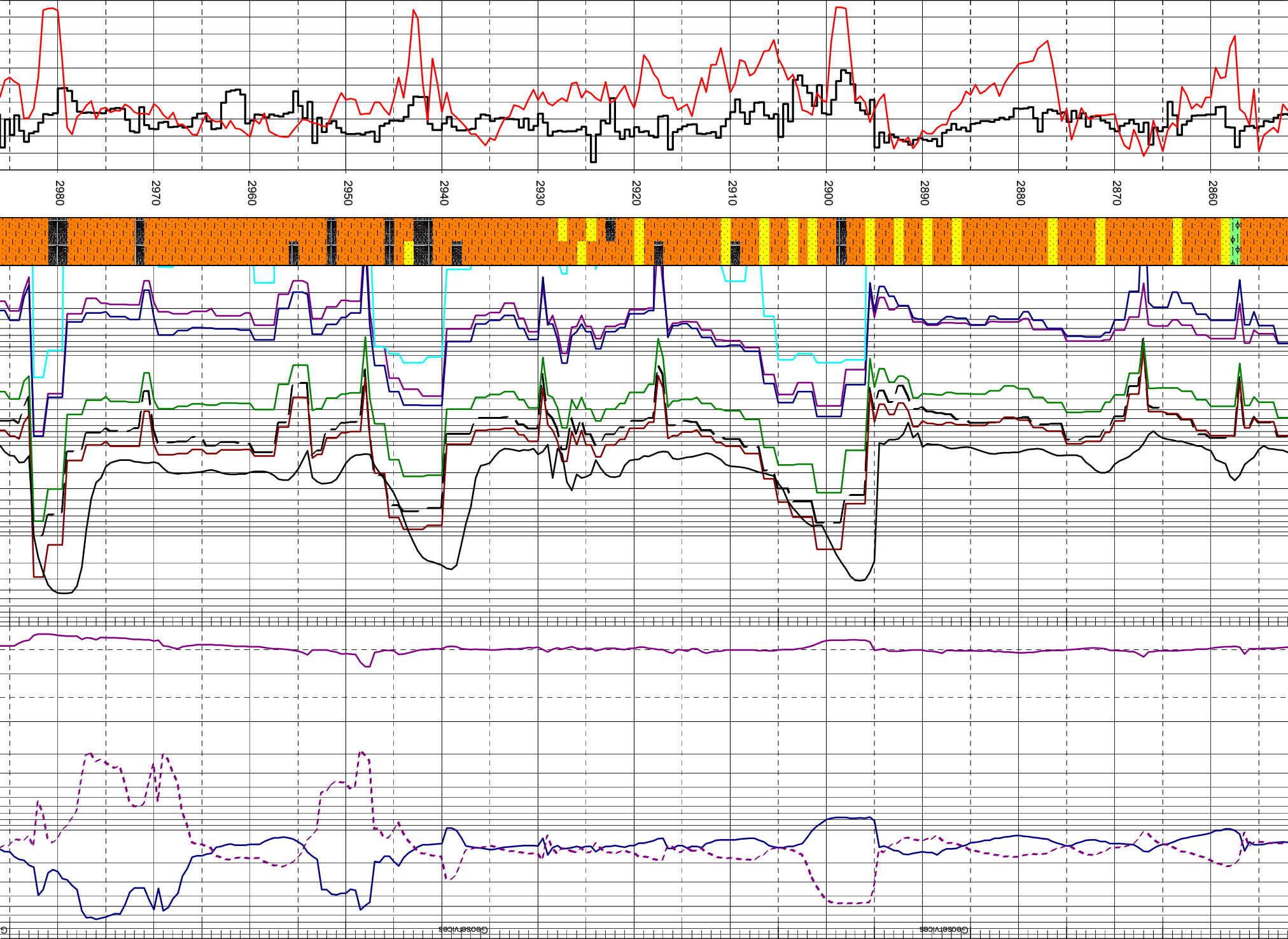

Geoservices
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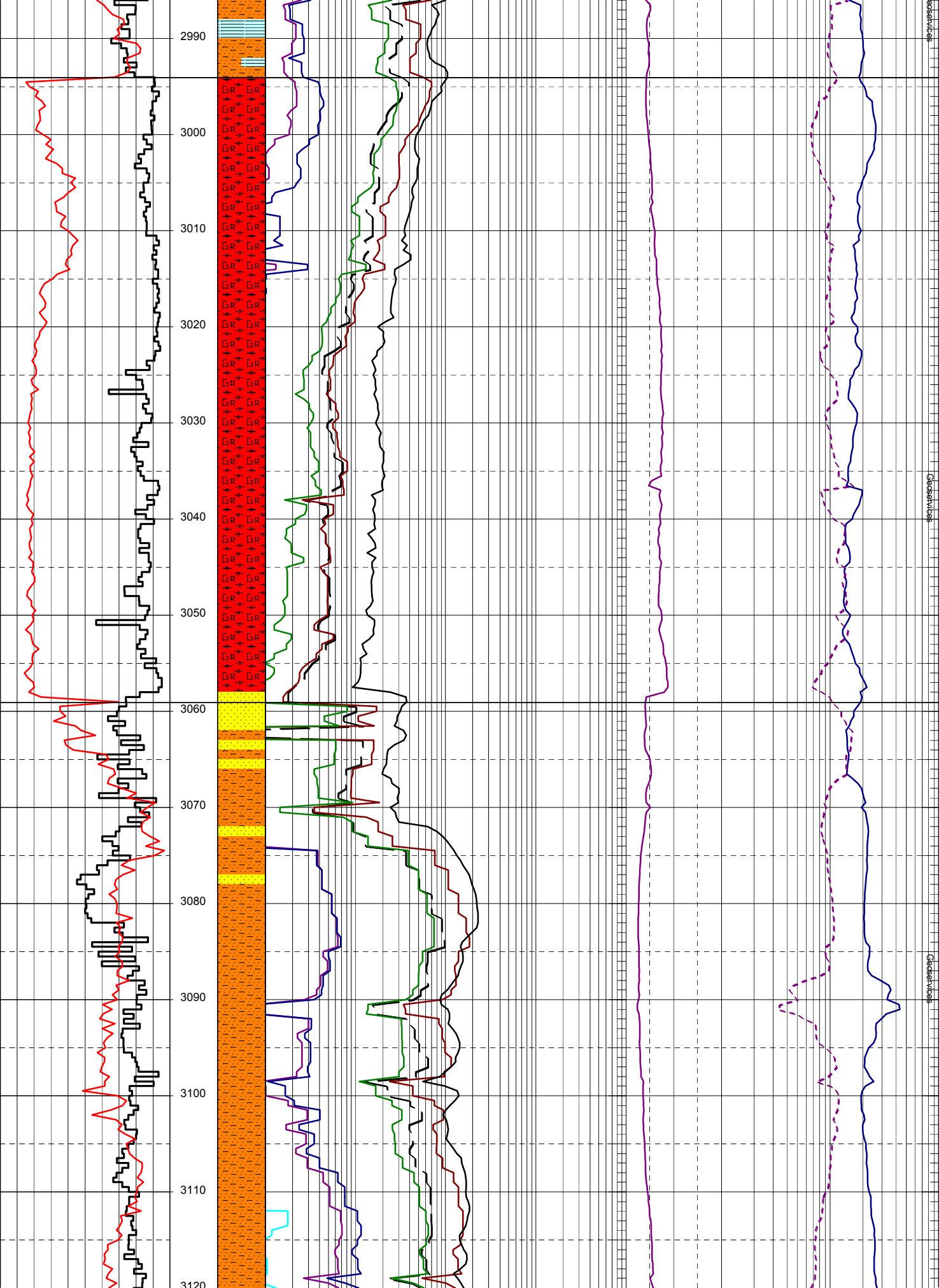

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Geoservices

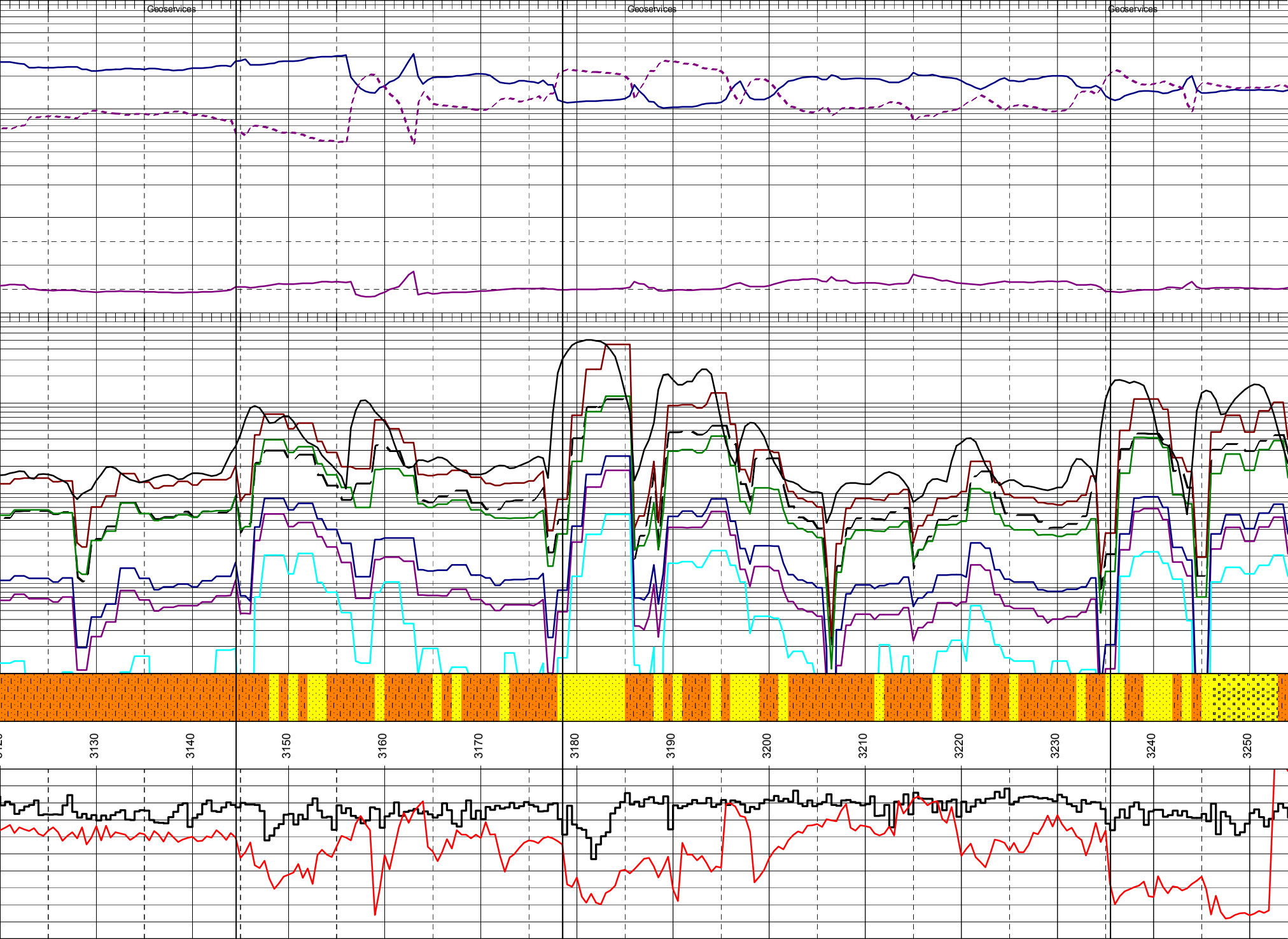

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Geoservices

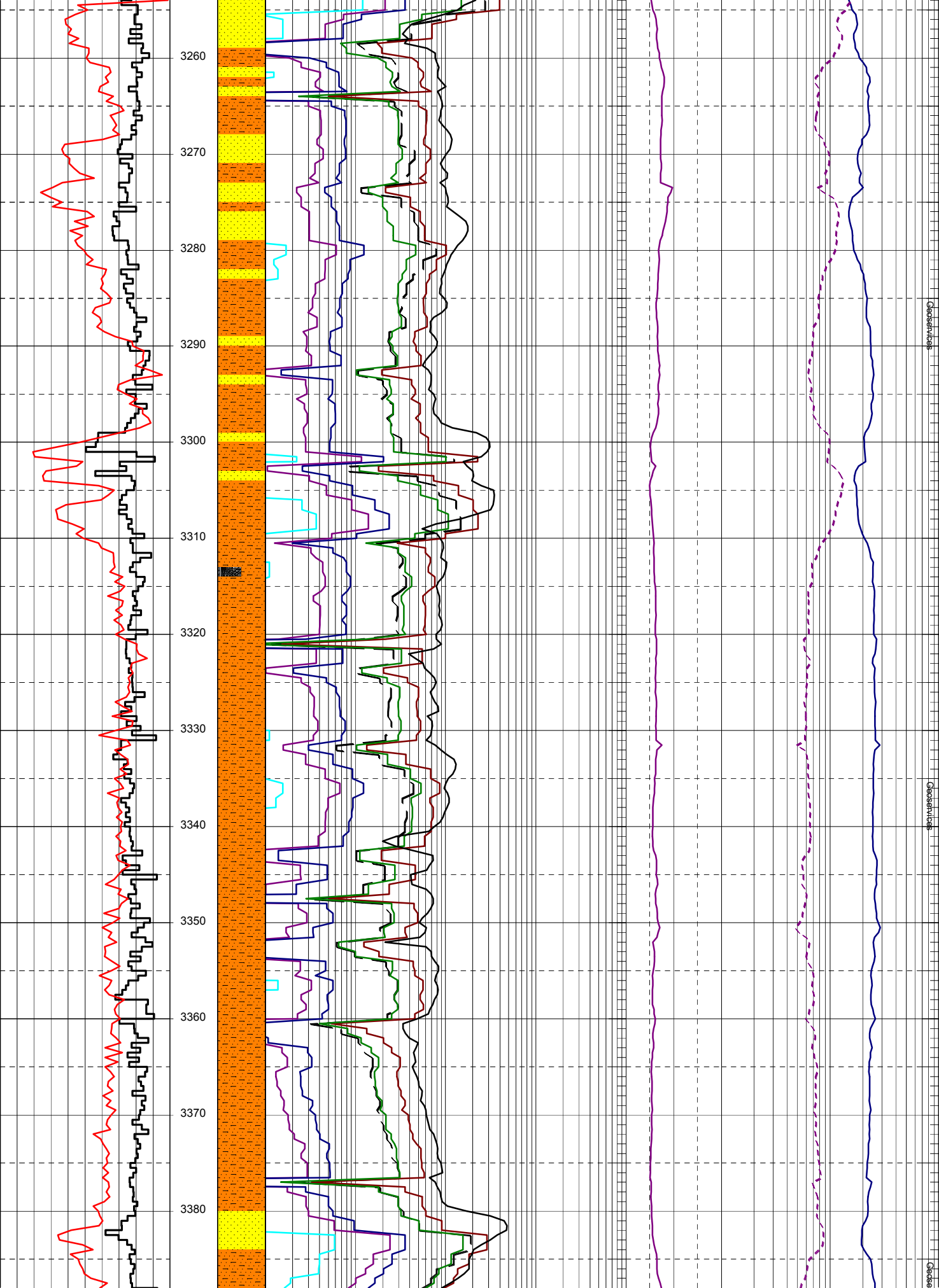

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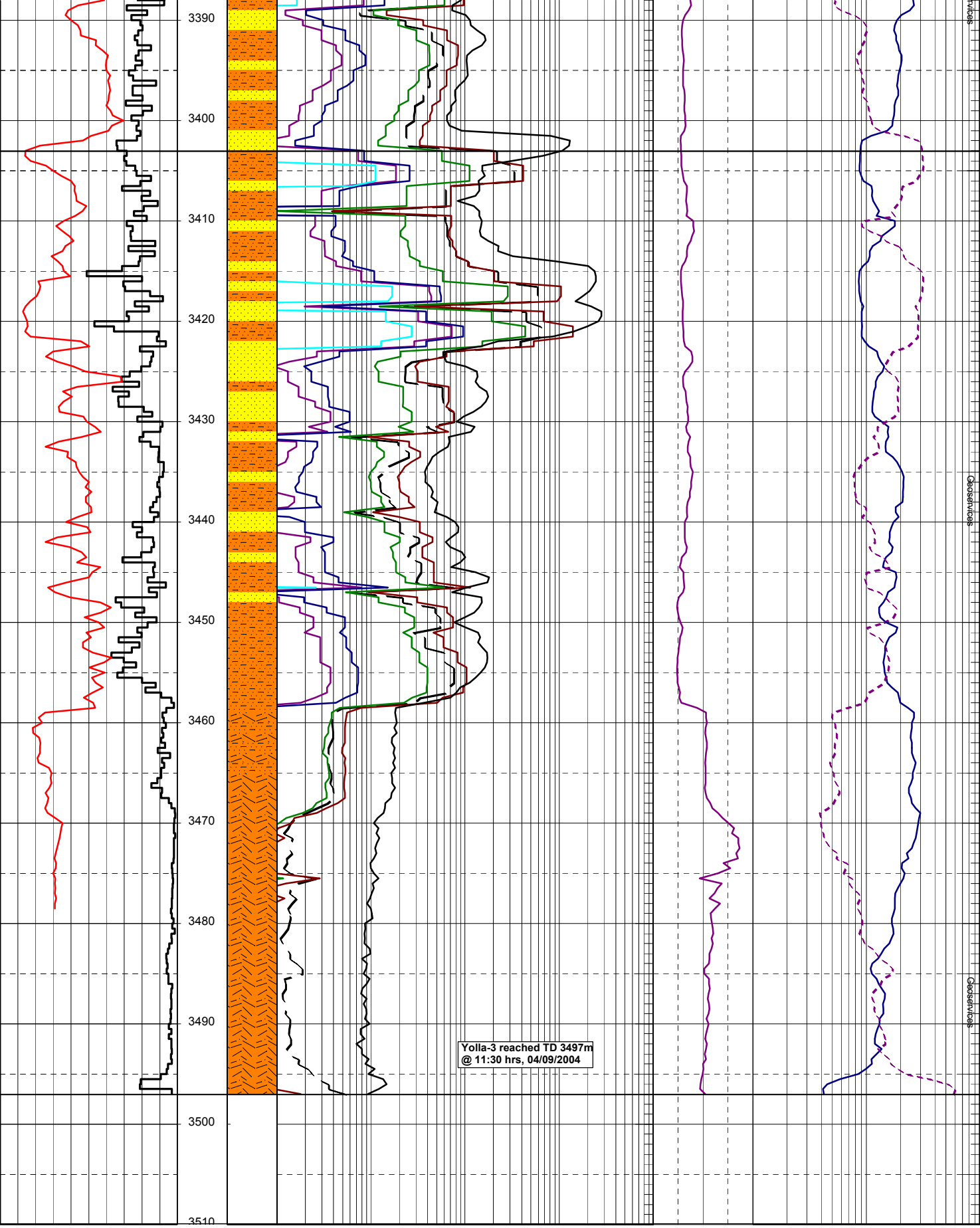

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Geoservices


Geoservices
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Geoservices
Geose


3390
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3500
3510
Yolla-3 reached TD 3497m
@ 11:30 hrs, 04/09/2004

HOLE STABILITY LOG

WELL : Yolla-3

FROM (m): 100 TO (m): 3520 SCALE: 1/ 1000

Country : AUSTRALIA	**POSITION**	**CASING**	
State : TASMANIA	Latitude : 039 50' 40.578"S	16" Hole to (mMDRT) : 1012.0m	Spud Date : 11-08-2004
Field : YOLLA	Longitude : 145 49' 06.186"E	12 1/4" Shoe @ (mMDRT) : 2340m	TD Date : 04-09-2004
Permit : T/L1	UTM : 398,905.07m E	8 1/2" Hole to (mMDRT) : 3497m	TD (mMDRT) : 3497 mRT
Well Type : Development	UTM : 5,588,821.47m N	20" Shoe at (mMDRT) : 215m	TVD (mTVDSS) : 3100.3 mRT
Rig Name : Ensco 102	RT-MSL (mRT) : 43.0m	13 3/8" Shoe (mMDRT) : 1006.8m	Status : Run 6 5/8"Liner
	RT-Seabed (m) : 124m	9 5/8" Shoe at (mMDRT) : 2339.8m	

ABBREVIATIONS

MW MUD WEIGHT
FV FUNNEL VISCOSITY
PV PLASTIC VISCOSITY
YP YIELD POINT
FC FILTER CAKE
SOL SOLIDS
WL FILTRATE
SD SAND - %
S SALINITY - PPM
RM MUD RESISTIVITY
RMF MUD FILTRATE
C CARBIDE TEST
LAT LOGGED AFTER TRIP
DS DEVIATION SURVEY

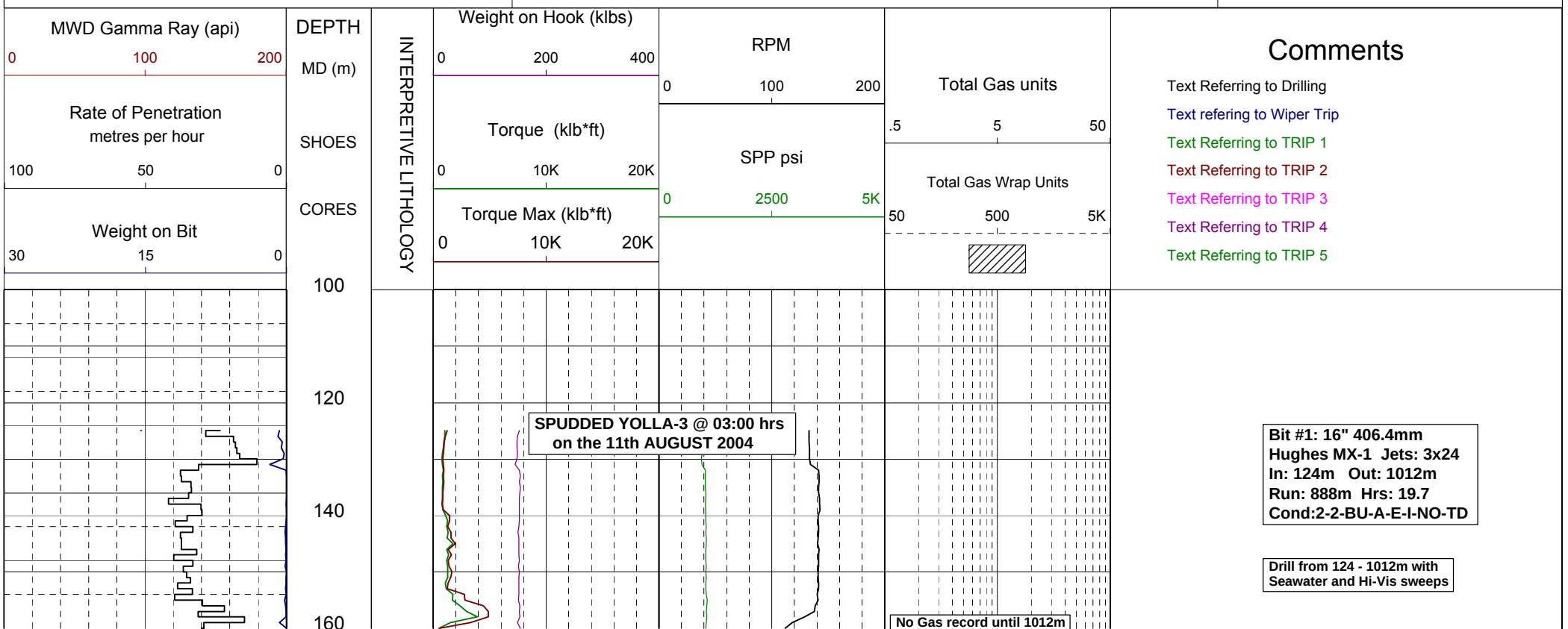
NB NEW BIT
RR RERUN BIT
CB CORE BIT
WOB WEIGHT ON BIT
RPM REVS PER MINUTE
FLC FLOW CHECK
CR CIRCULATE RETURNS
PR POOR RETURNS
NR NO RETURNS
BG BACKGROUND GAS
TG TRIP GAS
STG SHORT TRIP GAS
CG CONNECTION GAS
SG SWAB GAS
SVG SURVEY GAS

LITHOLOGY LEGEND

Claystone
Siltstone
f. Sandstone
me. Sandstone
co. Sandstone
Conglomerate
Marl
Limestone
Dolomite
Chert
Carb. Siltstone
Coal
Bryozoa
Roots and roots
Iron
Corals
Foraminifera
Volcanics
Bitumen
Lithic Fragment
Igneous
Glauconite
Pyrite
Cement

ENGINEERING LEGEND

Core
RFT
Mud Gain
Mud Loss
Shoe
Deviation Survey
SW Core Rec
SW Core Unrec



Comments

Text Referring to Drilling
Text refering to Wiper Trip
Text Referring to TRIP 1
Text Referring to TRIP 2
Text Referring to TRIP 3
Text Referring to TRIP 4
Text Referring to TRIP 5

Bit #1: 16" 406.4mm
Hughes MX-1 Jets: 3x24
In: 124m Out: 1012m
Run: 888m Hrs: 19.7
Cond:2-2-BU-A-E-I-NO-TD

Drill from 124 - 1012m with Seawater and Hi-Vis sweeps

180
200
220
240
260
280
300
320
340
360
380
400
420
440
460
480
500
520
540
560
580

Returns to sea via Ported Riser

20" Conductor driven to 215 m

SLIDE 280-300 m

SLIDE 305-320 m

SLIDE 333-350 m

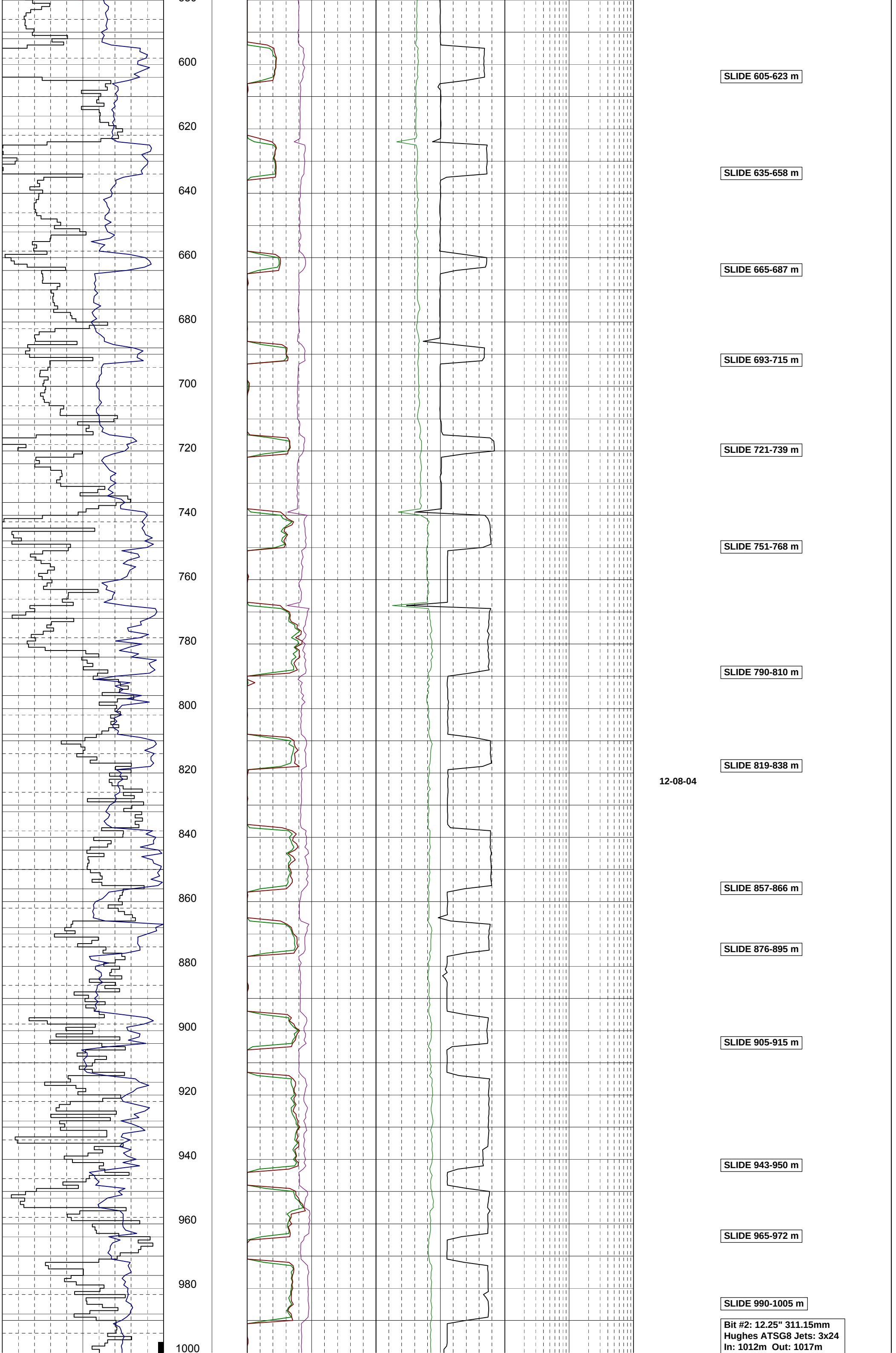
SLIDE 361-415 m

SLIDE 421-469 m

SLIDE 479-499 m

SLIDE 508-532 m

SLIDE 536-593 m


600
620
640
660
680
700
720
740
760
780
800
820
840
860
880
900
920
940
960
980
1000
SLIDE 605-623 m
SLIDE 635-658 m
SLIDE 665-687 m
SLIDE 693-715 m
SLIDE 721-739 m
SLIDE 751-768 m
SLIDE 790-810 m
SLIDE 819-838 m
12-08-04
SLIDE 857-866 m
SLIDE 876-895 m
SLIDE 905-915 m
SLIDE 943-950 m
SLIDE 965-972 m
SLIDE 990-1005 m
Bit #2: 12.25" 311.15mm
Hughes ATSG8 Jets: 3x24
In: 1012m Out: 1017m

17-08-04

1000
1020
1040
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1080
1100
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1420

16-08-04

1025m -Thick mud and abdt Clay cuttings blocking gas detectors.

Thick mud and abundant Clay cuttings blocking gas detectors.

Thick mud and abundant Clay cuttings blocking gas detectors.

Thick mud and abundant Clay cuttings blocking gas detectors.

Thick mud and abundant Clay cuttings blocking gas detectors.

LARGE CUTTINGS AT SHAKERS WHEN DRILLING ANGAHOOK FM

WIRELINE SUITE #1

Run #1 PEX Stuck at 1134 m
Run #2 PEX Hung up at 1172 m
Run #3 PEX Hung up at 1143 m

Run: 5.0m Hrs:0.4
Cond:2-2-WT-A-E-I-NO-TD

Bit #3: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 1017m Out: 1593m
Run: 576m Hrs: 17.7
Cond:2-2-NO-A-X-I-NO-DTF

Trip from 2216m
Tight spot at 1035m,
Reamed at 400gpm, SPP 750psi.

Trip in to 2216m
RIH Core: Tight spot-
wash and ream thru 1035m

Trip from 2234m
POOH Core:
Tight spots- wash and ream thru
1071m/1067m/1061m

STEERING FROM 1071-1084 m

Trip in to 2216m
RIH Core: Tight spot-
wash and ream thru 1090m

STEERING FROM 1090-1099 m

Trip from 2234m
POOH Fished Core :
Tight spots- 1095m/1075m/1055m

Trip from 2216m
Tight spot at 1107m,
Reamed at 400gpm, SPP 750psi.

WIRELINE RUN# 1
POOH-stuck at 1108m

Trip in to 2216m
RIH Core: Tight spot-
wash and ream thru 1117m

Trip from 2216m
Tight spot at 1117m,
Reamed at 400gpm, SPP 750psi.

WIRELINE RUN# 2
Hung up at 1123m

Trip in to 2216m
RIH Core: Tight spot-
wash and ream thru 1107m

WIRELINE RUN# 2
Hung up at 1143m

Trip from 2216m
Packed off 1170m
Regain returns-work thru to 1149m
Ream 1150-1003 m. Pack off 1136 m
& 1070 m. Circulate hole clean

STEERING FROM 1178-1194 m

WIRELINE RUN# 1
Hung up at 1200 m

ANGAHOOK FORMATION
1231 mMD (-1051 mTVDSS)

Trip from 2216m
Tight spots from 1245m
Back reamed to Shoe

Trip out 1593m, tight hole
@1226 m. 40-50K Overpull
Pump out 1226 m to 1212 m -
hole packing off
Backream 1212 m to 1006 m,
casing shoe. Circulate hole
clean prior to POOH

Trip in to 2216m
RIH Bit# 3RR2: Tight spot-
wash and ream thru 1255m

RIH to 1593 m, tight hole
resistance at 1259 m, 60K
Pump-wash through section

Trough blocked with soft Clay
cuttings. Drilling stopped &
cuttings cleared

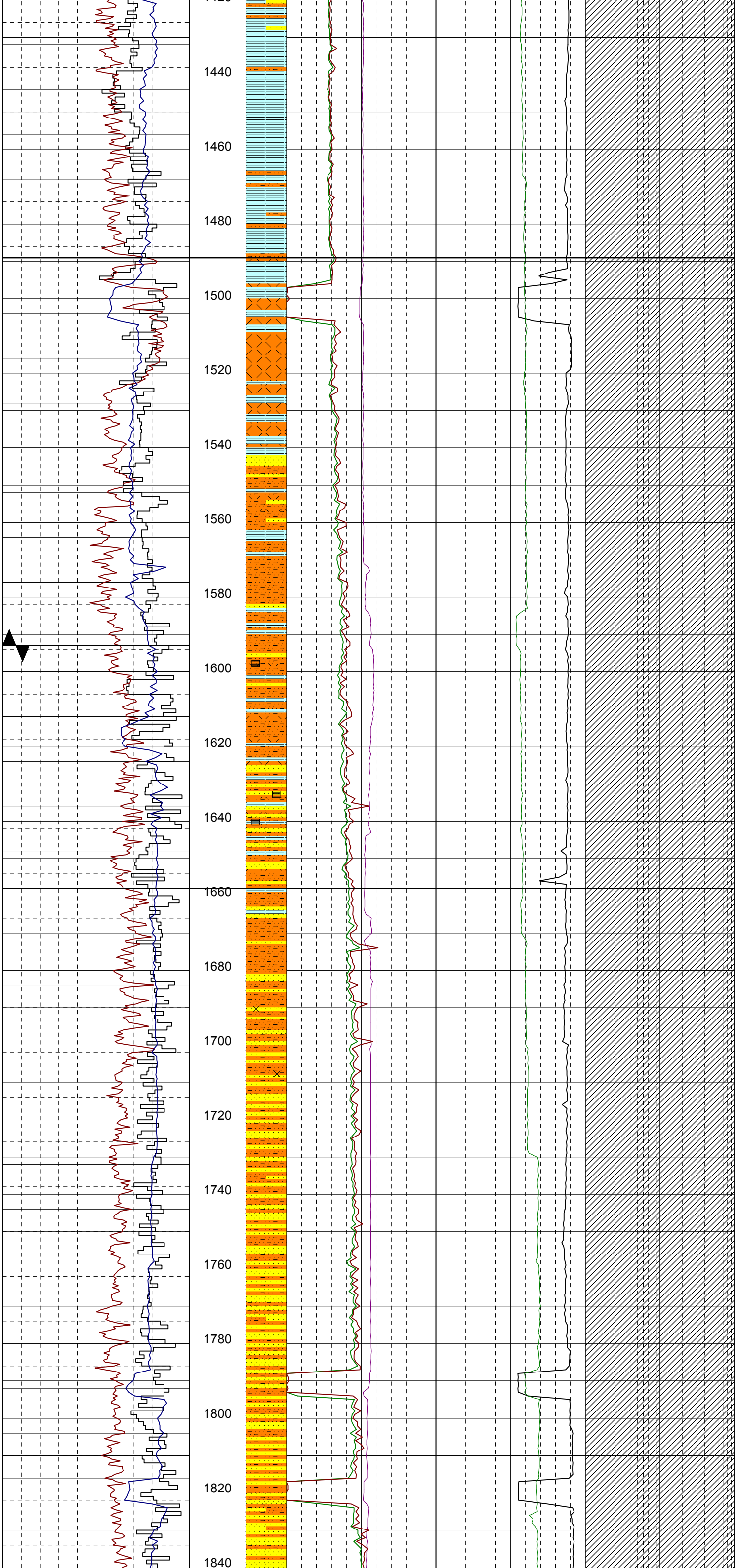
Common Large Cavings up to
70 mm rounded soft plastic
Claystone occasionally with
firm centres.

Trip from 2216m
Back ream from 1417m-1334m
Hole packed off. Work pipe
Backream to 1170 m

Common Large rounded Clay-
stone cavings to 70 mm
Generally soft & deformable,
occasionally firm.

Trip from 2216m
1390m hole packing off, work
pipe, regained returns at 1417,
circ bottoms up- gas recorded
380 units. Backream out to 1334m.

1420 m, Trough blocked with
soft Clay cuttings. Drilling
stopped and cuttings cleared



Trip from 2216m
1439m 65k overpull, jars fired,
hole packing off.

Occasional large rounded
Claystone cavings to 60 mm
soft & deformable with
firm centres.

Trip from 2216m
1463m hole tight, 55-60k overpull,
hole packing off.

Trip from 2216m
Tight spot at 1475m,
Reamed at 400gpm, SPP 750psi.

Trip in to 2216m
RIH Core: Tight spot-
wash and ream thru 1475m

MIOCENE VOLCANCS
1489 mMD (-1238 mTVDSS)

STEERING FROM 1496-1505m

Trip in to 2216m
RIH Bit# 3RR2: Tight spot-
wash and ream thru 1516m

Trip in to 2216m
RIH Bit# 3RR2: Tight spot-
wash and ream thru 1558m

WASH DOWN 1585m TO 1593m
maximum Trip gas 4418 units

2 % KCL added to mud

18-08-04

Bit #3RR2: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 1593m Out: 2216m
Run:623 m Hrs: 43.2
Cond:2-2-BT-S-X-I-ER-ER-CP

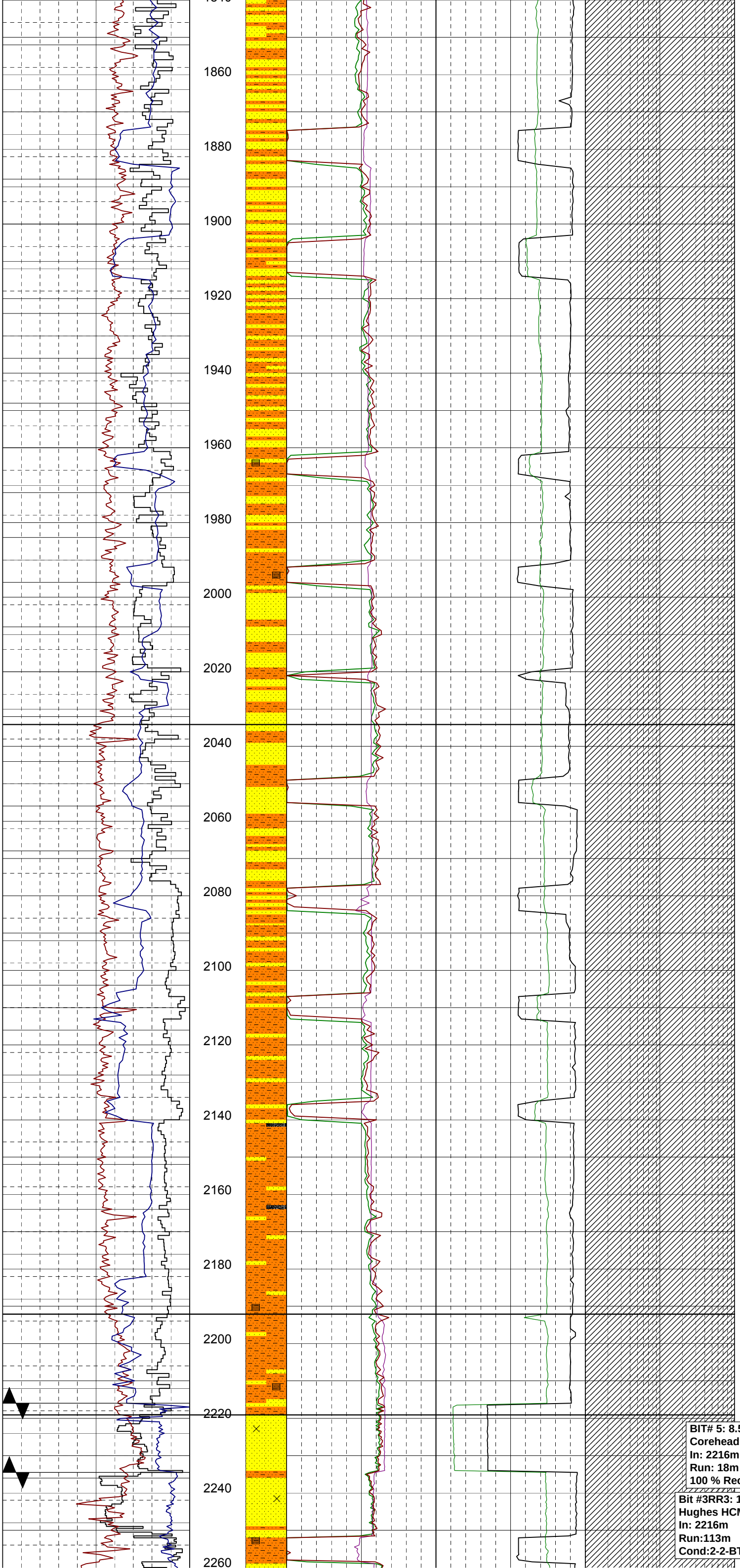
19-08-04

MW: 9.5
FV: 125
PV: 30
YP: 38
Gel:8/15
pH: 8.7
Cl: 26.5K

BASE VOLCANICS
1658 mMD(-1365 mTVDSS)

STEERING 1788m-1794m

STEERING 1817m-1824m



STEERING 1873m-1884m

MW: 9.45
FV: 78
PV: 29
YP: 31
Gel:7/13
pH: 8.5
Cl: 25.5K

20-08-04

STEERING 1962m-1968m

STEERING 1991m-1997m

STEERING 2019m-2022m

DEMONS BLUFF
2034 mMD (-1658 mTVDSS)

Poor hole cleaning observed at formation change, estimate 60 % of cuttings arriving at surface late.

STEERING 2048m-2056m

STEERING 2107m-2114m

STEERING 2135m-2140m

MW: 9.5
FV: 78
PV: 28
YP: 32
Gel:8/15
Cl: 30.5K
Ca: 280

Trip in to 2216m
RIH Core: Tight spot- wash and ream thru 2165m

21-08-04

EASTERN VIEW COAL MEASURES
2192 mMD (-1793 mTVDSS)

Trip from 2216m
Tight spots on POOH, Reamed and washed back to shoe
55-60k overpull

Poor hole cleaning observed at formation change, estimate 70 % of cuttings arriving at surface late.

22-08-04

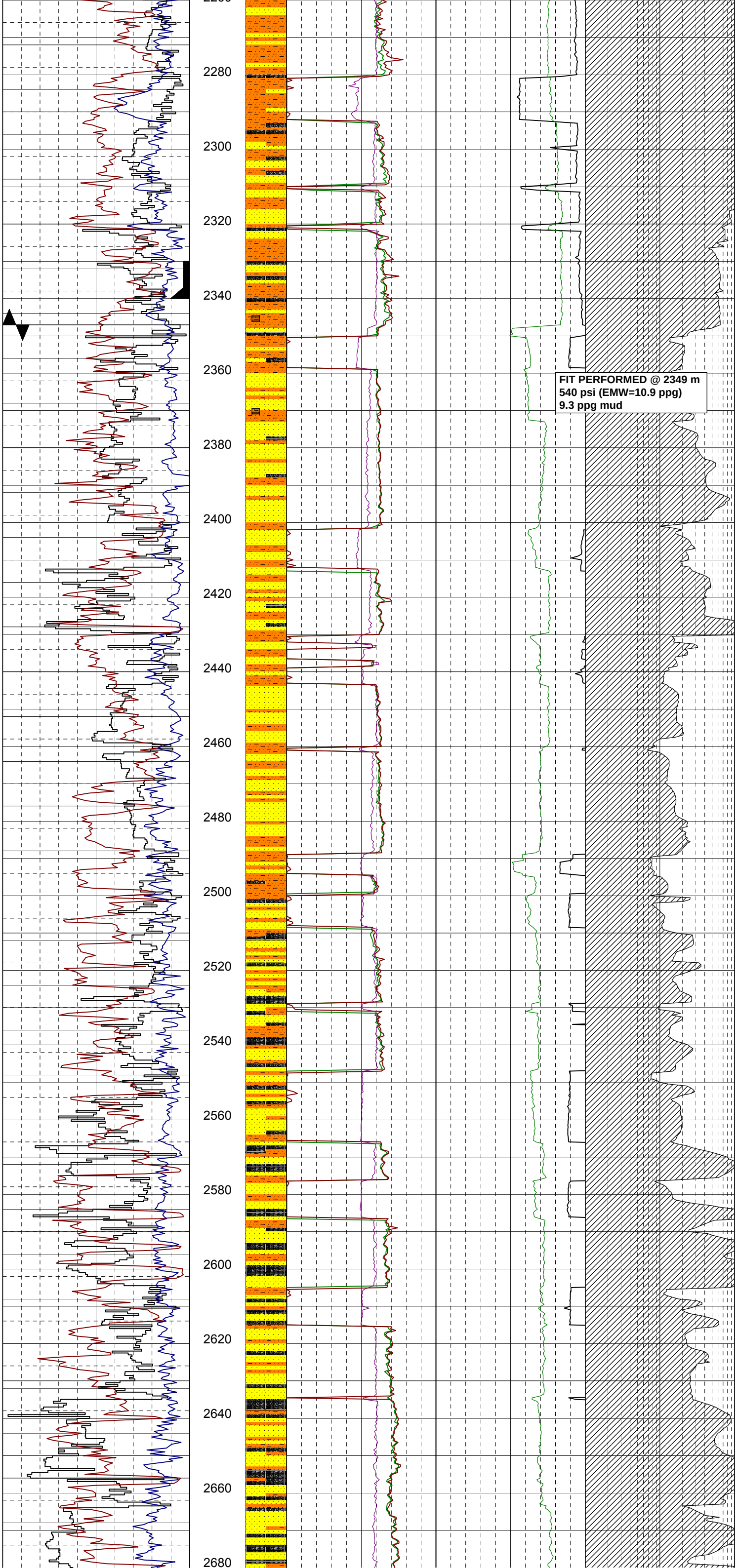
Whilst POOH @ 2216,the hole was packing off with arg mud,which has built up on the lowside of the hole,where the inc is 40-43°.This is in the Angahook Fm, @ 1243,1334,1390,1439 & 1463m MD. Also in calc SLTST in Lower Torquay Group @ 1070,1136 & 1070m MD

BIT# 5: 8.5" 215.9mm
Corehead CD93 4"ID
In: 2216m Out: 2234m
Run: 18m Hrs: 0.75
100 % Recovery

Bit #3RR3: 12.25" 311.15mm
Hughes HCM506 Jets: 6x18
In: 2216m Out: 2347m
Run:113m Hrs: 6.9
Cond:2-2-BT-S-X-I-CT-TD

TEV 4 SAND
2219 mMD (-1817m TVDSS)

STEERING 2249m-2258m



STEERING 2280m-2292m

STEERING 2309m-2311m

STEERING 2320m-2322m

WIPER TRIP @ 2347m

POOH @ 2347 m

9 5/8" Casing @ 2339.82 m

01-09-04

MW: 9.45
FV: 128
PV: 35
YP: 42
Gel:8/11
Cl: 22.5K
Ca: 960

Bit #4RR: 8.5" 215.90mm
HYCALOG DSX173 DG
Jets: 3x18, 3x16
In: 2347m Out: 3497m
Run: 1150m Hrs: 62.6
Cond: 2-3-WT-S-X-I-CT-TD

STEERING 2350m-2359m

DROPPING ANGLE, VERY LOW WOB

SLOW DRILLING WHEN SLIDING 2401m-2412m DUE TO ANGLE OF HOLE AND COAL STRINGERS

STEERING 2401m-2412m

SLOW DRILLING WHEN SLIDING 2430m-2443m DUE TO ANGLE OF HOLE AND COAL STRINGERS

STEERING 2430m-2443m

STEERING 2460m-2462m

STEERING 2489m-2495m

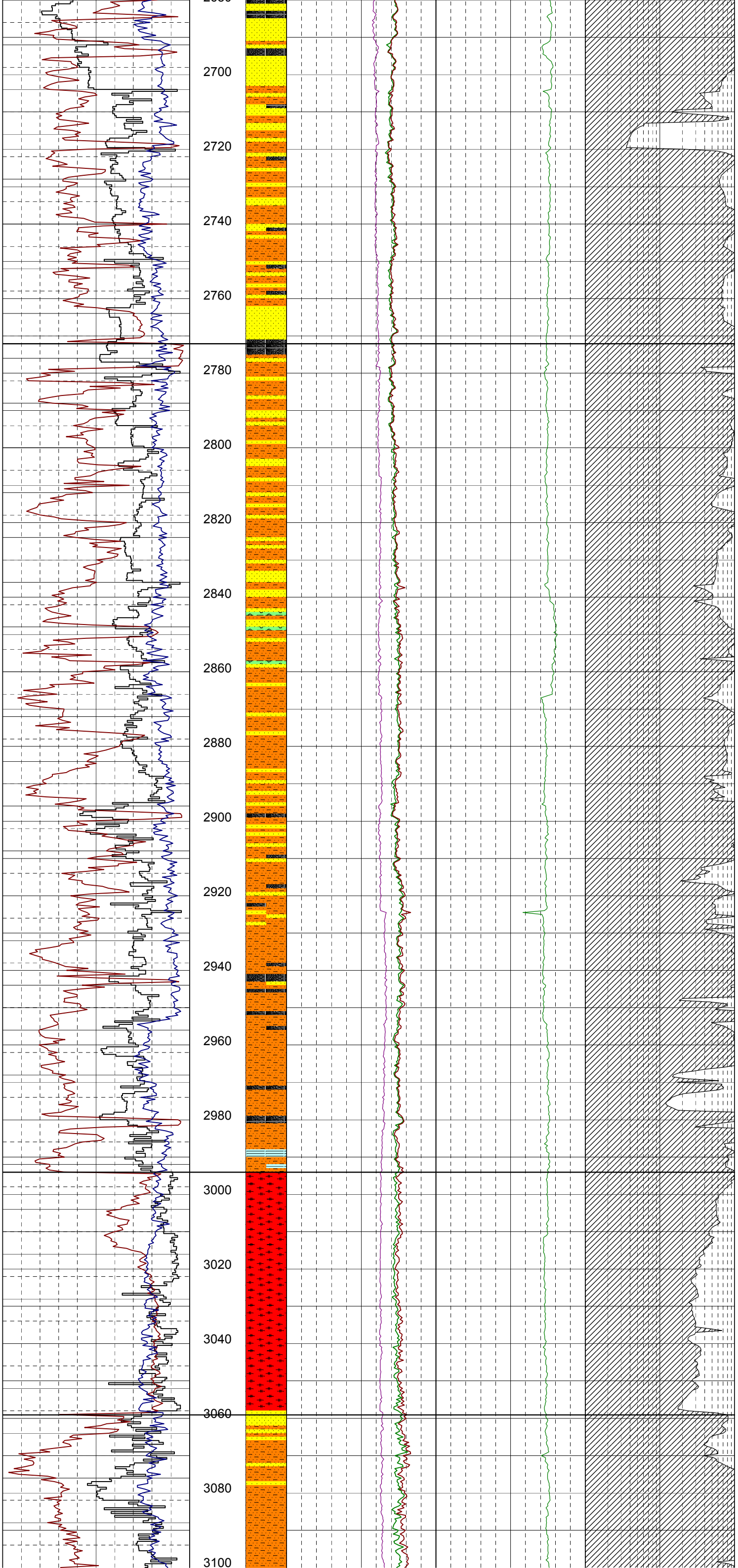
MW: 9.30
FV: 140
PV: 44
YP: 55
Gel:8/12
Cl: 20.5K
Ca: 820

STEERING 2547m-2566m

STEERING 2576m-2587m

MW: 9.25
FV: 145
PV: 44
YP: 56
Gel:8/12/15
Cl: 22.0K
Ca: 720

STEERING 2604m-2615m



02-09-04

Trip from 3497m
Tight spot at 2761m,

COAL MARKER
2772 mMD (-2334.5m TVDSS)

MW: 9.35
FV: 152
PV: 61
YP: 61
Gel:9/14
Cl: 19.5K
Ca: 400

CIRCULATE OUT GAS
1580 UNITS ON AUX GAS
@ 2899m

Trip from 3497m
Tight spot at 2900m - 2908m,

Trip from 3497m
Tight spot at 2935m,

TOP IGNEOUS INTRUSION
2994 mMD (-2555 mTVDSS)

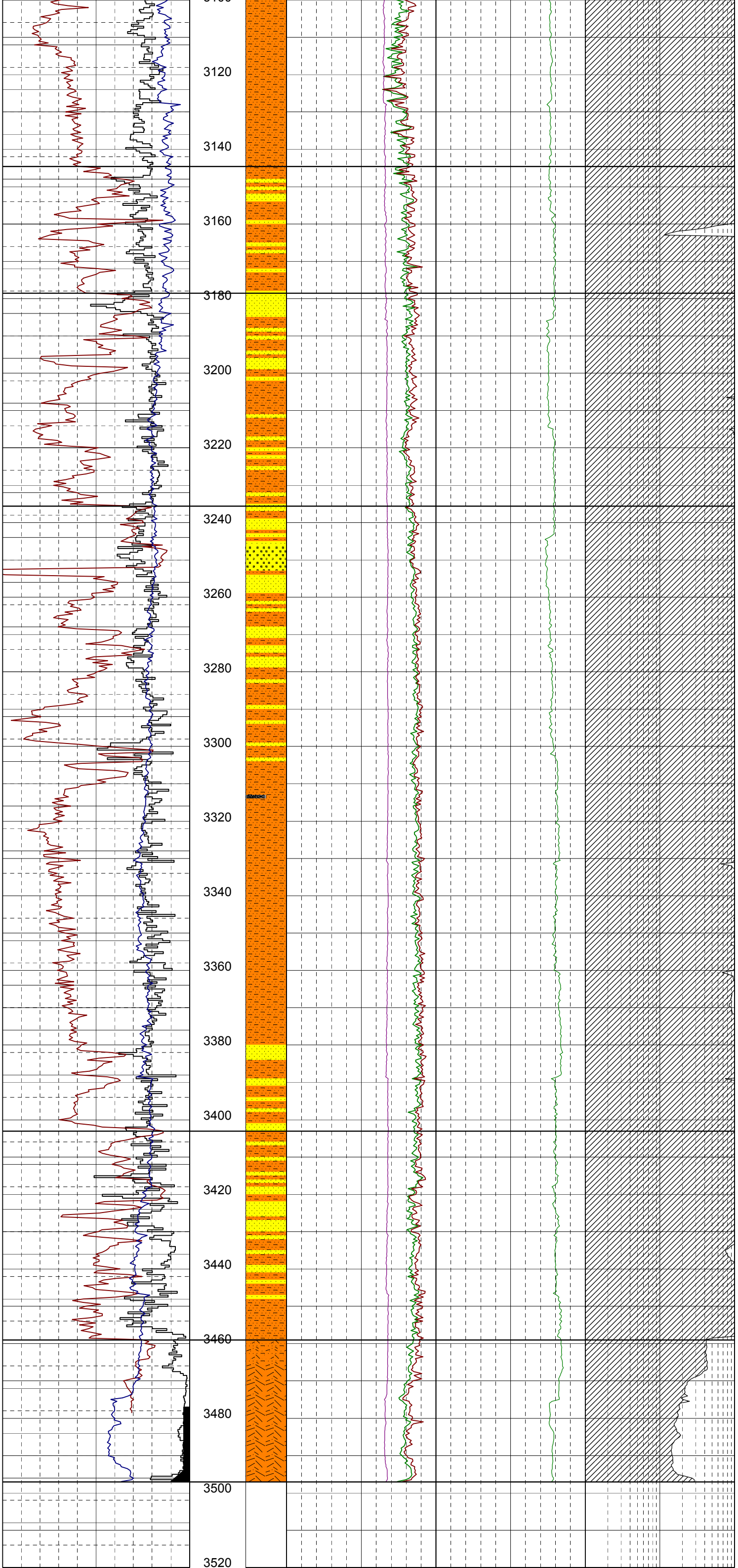
MW: 9.40
FV: 146
PV: 53
YP: 64
Gel:10/7
Cl: 21.0K
Ca: 440

WIRELINE LOGGING TOOL
HANGING UP SLIGHTLY
@ 3035m ON TRIP OUT
OF HOLE.

CALIPER LOGS SHOWED
HOLE UNDERGAUGE
AVERAGE 8" @ 3045m

BASE IGNEOUS INTRUSION
3059 mMD (-3059 mTVDSS)

MW: 9.40
FV: 110
PV: 52
YP: 50
Gel:8/11
Cl: 21.0K
Ca: 360



TOP 2718 SANDSTONE
3144.5 mMD (-2705 mTVDSS)

Trip from 3497m
Tight spot at 3149m,

Trip from 3497m
Tight spot at 3170m,

TOP 2755 SANDSTONE
3178.5 mMD (-2739m TVDSS)

Trip from 3497m
Tight spot at 3210m,

TOP 2809 SANDSTONE
3235.5 mMD (-2795.5 mTVDSS)

Trip from 3497m
Tight spot at 3260m,

MW: 9.40
FV: 106
PV: 50
YP: 53
Gel:8/13
Cl: 21.0K
Ca: 340

TOP 2973 SANDSTONE
3403 mMD (-2963 mTVDSS)

TOP BASALT
3459 mMD (-3019.5 mTVDSS)

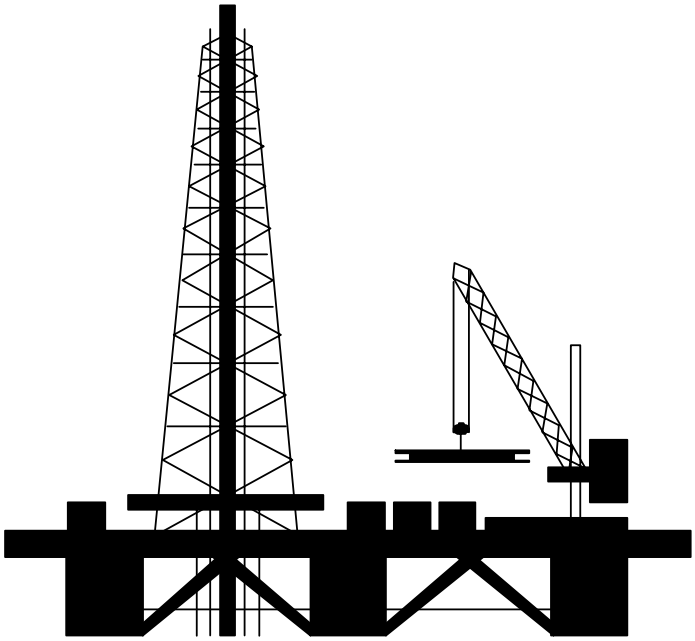
WIRELINE LOGS STUCK ON RUN #4
CABLE STUCK CLOSE TO SHOE
POSSIBLY DIFFERENTIALLY,
CUT CABLE AND TRIP IN HOLE
OVER CABLE TO RETRIEVE MDT
LOGGING ASSEMBLY SUCCESSFUL.
CABLE STUCK AT 3052m.

Yolla-3 reached TD 3497m
@ 11:30 hrs, 04/09/2004

APPENDIX 6: MWD REPORT

(A) Directional Drilling End of Well Report

Origin Energy Resources Ltd.



Directional Drilling End of Well Report

Well : Yolla #3

Date: August - September 2004

HALLIBURTON

Table of Contents

1. Well Summary
2. Definitive Survey Report and A4 plot
3. Survey and Drilling Parameters
4. BHA Data
5. Motor Performance Reports
6. Daily Directional Drilling Reports

Customer : Origin Energy Resources

Well Name : Yolla #3

Job Objectives:

Yolla 3 is an offset well designed to intersect the top EVCM (Eastern View Coal Measures) located 480 metres south-east of Yolla #1 and the top of the 2809 reservoir, located 150m S-SW of Yolla 1. The primary objectives of the well are the Paleocene reservoirs (2718,2755, 2809, and 2973 sand units) previously intersected and tested in Yolla #1 & Yolla #2.
The secondary objective of the well is the Upper EVCM which flowed gas and oil in Yolla #1. Further evaluation of this zone is required and Yolla #3 is designed to achieve this via a detailed logging and coring programme.
The well will be vertically drilled to 295m then built at 2°/30m to an inclination of 42° at 912 metres on an azimuth of 301.6 degrees, then held through a tangent section to 1795 metres where the angle will be dropped at 1°/30mto 2217m. From here we slowly dropped off to near vertical at a TD of 3498m.

Summary of Results:

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
1	1rr1	1	16.000	124	1012	124	932	0.4	40.6	243	302	30	4
2	2rr2	2	12.250	1012	1017	932	936	40.6	40.6	302	302	1	6
3	3rr3	3	12.250	1017	1593	936	1359	40.6	40.8	302	301	28	4
4	3rr4	4	12.250	1593	2216	1359	1858	40.8	29.6	301	301	56	17
5	5		9.250	2216	2234	1858	1873	29.6	29.4	301	301	1	12
6	3rr5	5	12.250	2234	2347	1873	1974	29.4	25.4	301	301	11	16
7	2rr3		12.250	2347	2347	1974	1974	25.4	25.4	301	301	0	16
8	8rr1	6	8.500	2347	3497	1974	3100	25.4	0.9	301	169	70	11

Table 1 - BHA Summary

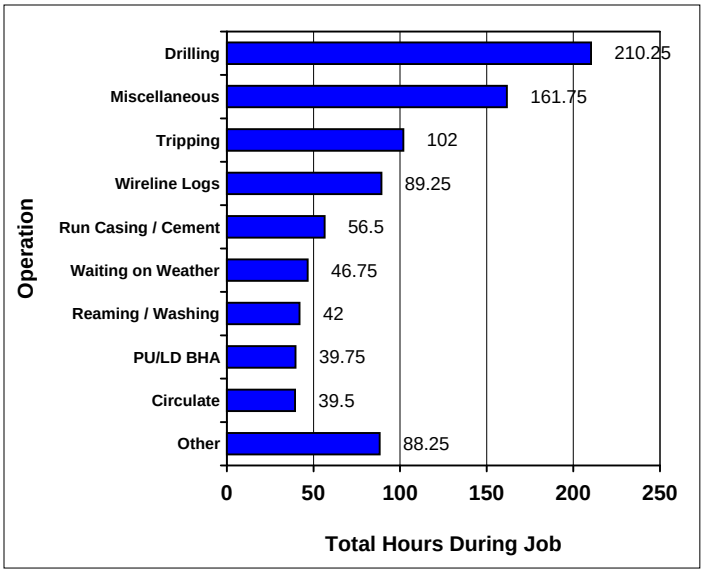
Motor Run #	Manufacturer	Type	Lobe	OD (in)	Gauge (in)	Bend (deg)	Adj	DLS (Ori) (°/30m)	ROP (Ori) (m/hr)	ROP (Rot) (m/hr)
1	SSDS	SperryDrill	6/7	9.625	15.750	1.15	Y		31	28
2	SSDS	SperryDrill	6/7	9.625	12.063	0.00	N		0	10
3	SSDS	SperryDrill	6/7	9.625	12.063	1.15	Y		16	21
4	SSDS	SperryDrill	6/7	9.625	12.063		Y		8	11
5	SSDS	SperryDrill	6/7	9.625	12.063		Y		3	12
6	SSDS	SperryDrill	7/8	7.000	8.250	0.93	Y	3.00	9	17

Table 2 - Motor Run Summary

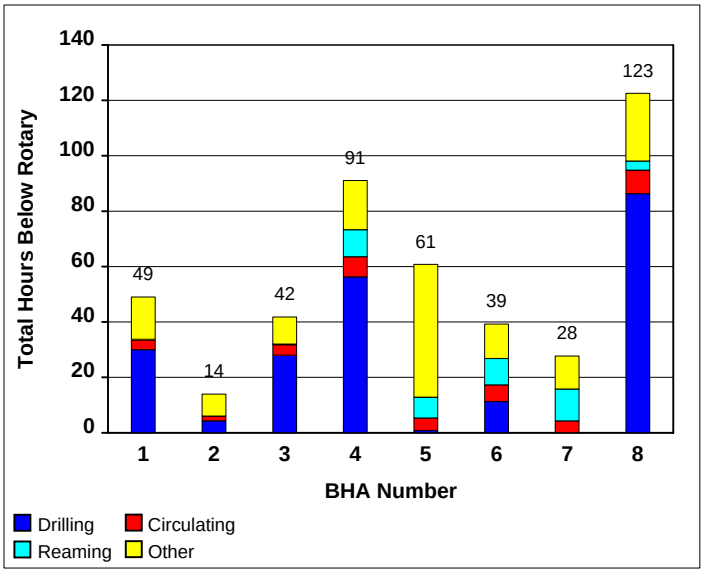
Bit #	Manufacturer	Style	OD (in)	Gge Len (in)	Nozzles (/32's)	TFA (in²)	Dull Grades I O D L B G O R	Ftge (m)	Drlg hrs	ROP (m/hr)
1rr1	Hughes Christensen	MX-1	16.000		3x24	1.325	2-2-WT- A-E-I-NO-TD	888	30.00	30
2rr2	Hughes Christensen	ATJ-G8	12.250		3x24	1.325	1-1-WT-H -E-I-NO-BHA	5	0.50	10
3rr3	Hughes Christensen	HCM506	12.250		6x18	1.491	1-1-NO-A -X-I-NO-DTF	576	28.00	21
3rr4	Hughes Christensen	HCM506	12.250	3.000	6x18	1.491	2-2-BT-S -X-I-ER-CP	623	56.25	11
5	Security DBS		9.250			0.000		18	0.75	24
3rr5	Hughes Christensen	HCM506	12.250	3.000	6x18	1.491	2-2-BT-S -X-I-CT-TD	113	11.25	10
2rr3	Hughes Christensen	ATJ-G8	12.250		3x24	1.325		0	0.00	
8rr1	Reed-Hycalog	DSX173	8.500	2.500	3x16, 3x18	1.335	2-3-WT-S -X-I-CT-TD	1150	69.93	16

Table 3 - Bit Run Summary

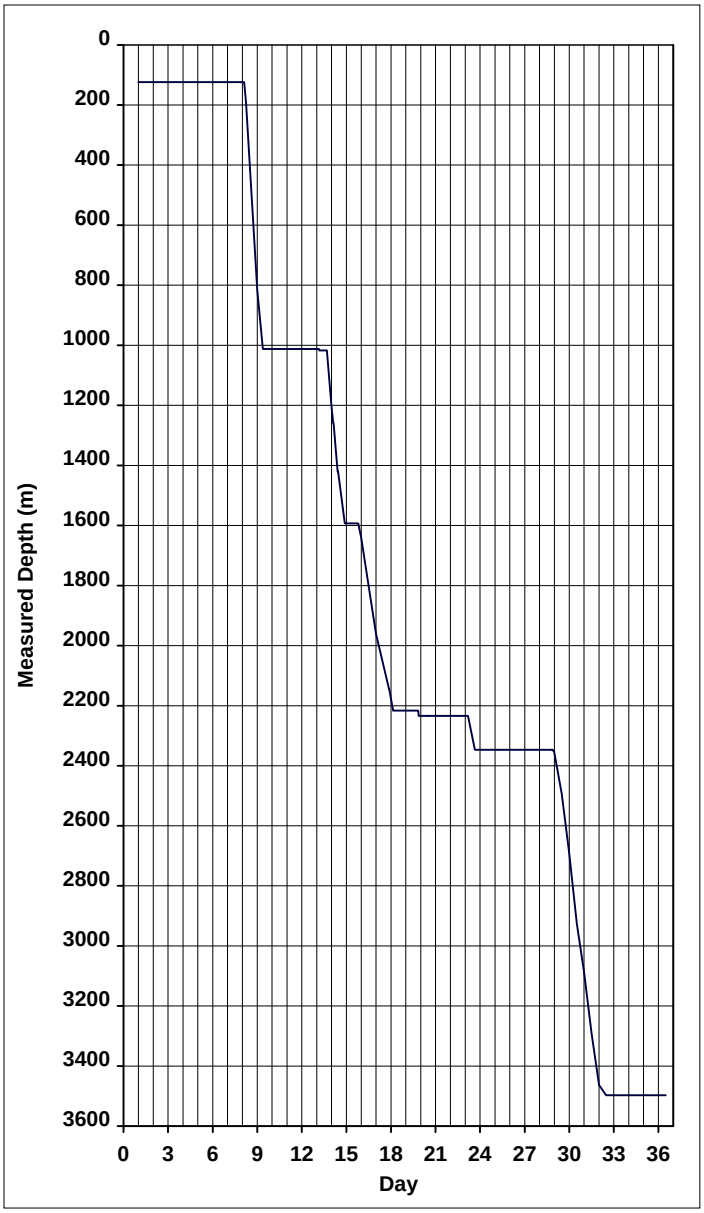
Hours by Operation Summary



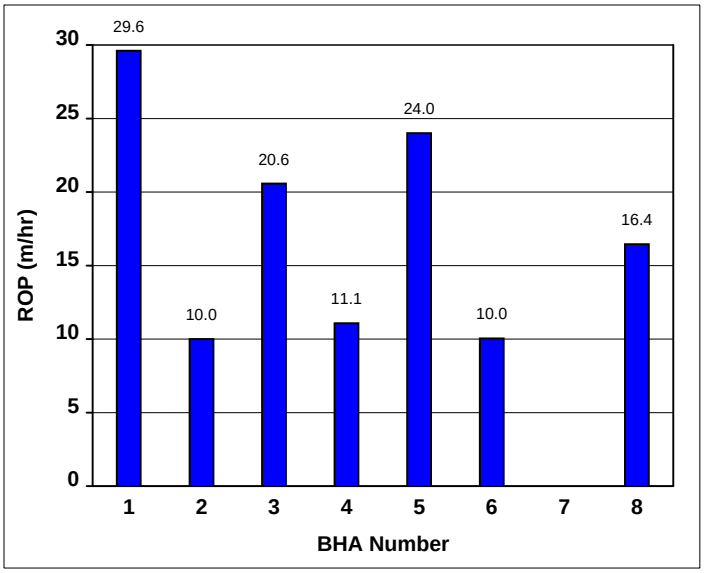
Hours per BHA Breakdown



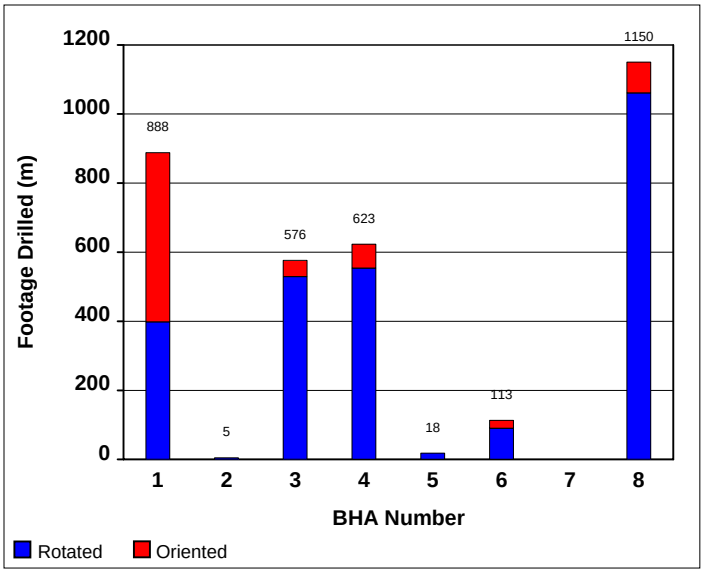
Days vs. Depth



Average Rate of Penetration per BHA



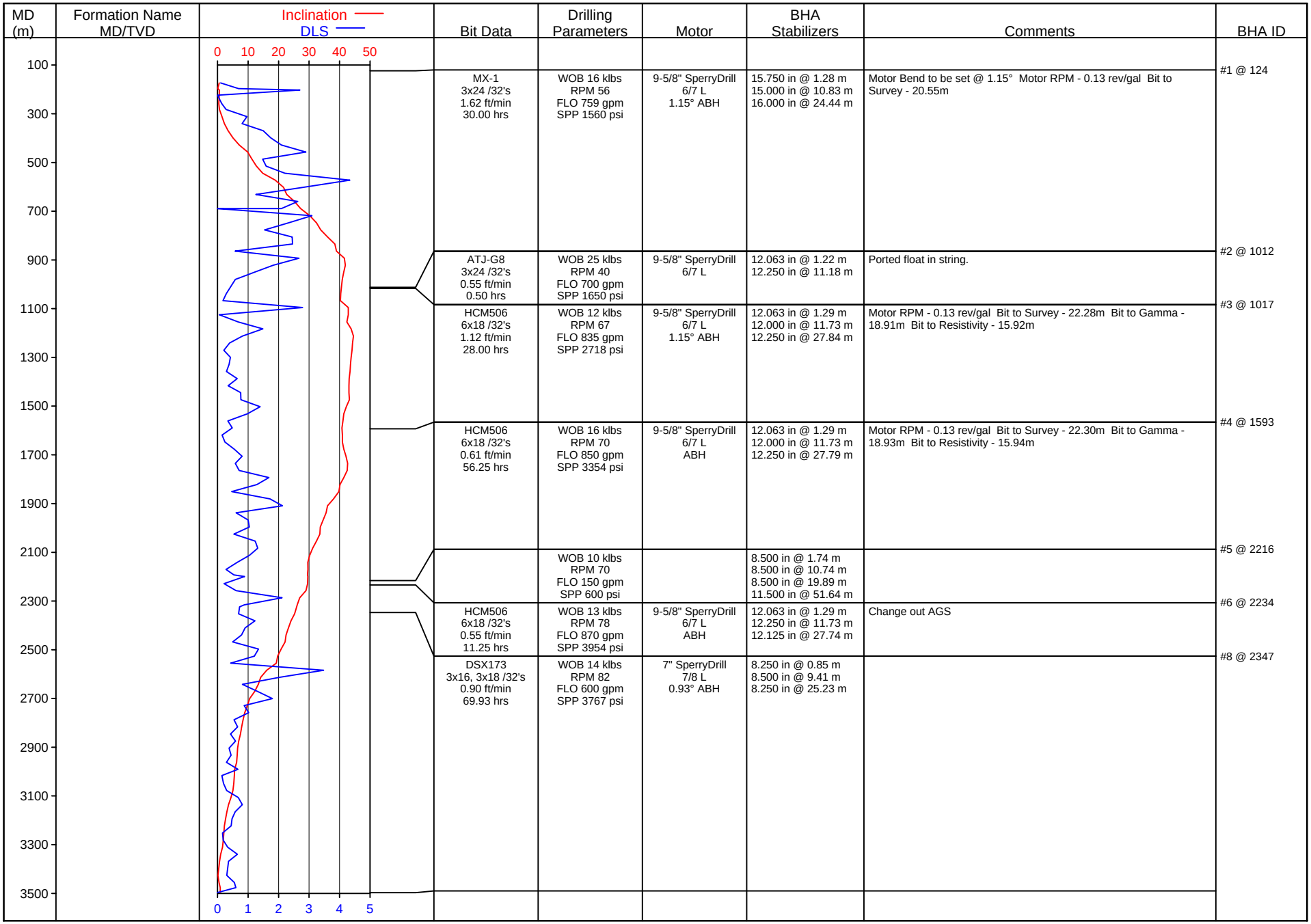
Footage per BHA



Sperry-Sun Drilling Services

Origin Energy Resources
Yolla #3
Ensco 102

Bass Strait
Yolla A Platform
AU-DD-0003007128



Bit Data	Drilling Parameters	Motor	BHA Stabilizers	Comments	BHA ID
MX-1 3x24 /32's 1.62 ft/min 30.00 hrs	WOB 16 klbs RPM 56 FLO 759 gpm SPP 1560 psi	9-5/8" SperryDrill 6/7 L 1.15° ABH	15.750 in @ 1.28 m 15.000 in @ 10.83 m 16.000 in @ 24.44 m	Motor Bend to be set @ 1.15° Motor RPM - 0.13 rev/gal Bit to Survey - 20.55m	#1 @ 124
ATJ-G8 3x24 /32's 0.55 ft/min 0.50 hrs	WOB 25 klbs RPM 40 FLO 700 gpm SPP 1650 psi	9-5/8" SperryDrill 6/7 L	12.063 in @ 1.22 m 12.250 in @ 11.18 m	Ported float in string.	#2 @ 1012
HCM506 6x18 /32's 1.12 ft/min 28.00 hrs	WOB 12 klbs RPM 67 FLO 835 gpm SPP 2718 psi	9-5/8" SperryDrill 6/7 L 1.15° ABH	12.063 in @ 1.29 m 12.000 in @ 11.73 m 12.250 in @ 27.84 m	Motor RPM - 0.13 rev/gal Bit to Survey - 22.28m Bit to Gamma - 18.91m Bit to Resistivity - 15.92m	#3 @ 1017
HCM506 6x18 /32's 0.61 ft/min 56.25 hrs	WOB 16 klbs RPM 70 FLO 850 gpm SPP 3354 psi	9-5/8" SperryDrill 6/7 L ABH	12.063 in @ 1.29 m 12.000 in @ 11.73 m 12.250 in @ 27.79 m	Motor RPM - 0.13 rev/gal Bit to Survey - 22.30m Bit to Gamma - 18.93m Bit to Resistivity - 15.94m	#4 @ 1593
	WOB 10 klbs RPM 70 FLO 150 gpm SPP 600 psi		8.500 in @ 1.74 m 8.500 in @ 10.74 m 8.500 in @ 19.89 m 11.500 in @ 51.64 m		#5 @ 2216
HCM506 6x18 /32's 0.55 ft/min 11.25 hrs	WOB 13 klbs RPM 78 FLO 870 gpm SPP 3954 psi	9-5/8" SperryDrill 6/7 L ABH	12.063 in @ 1.29 m 12.250 in @ 11.73 m 12.125 in @ 27.74 m	Change out AGS	#6 @ 2234
DSX173 3x16, 3x18 /32's 0.90 ft/min 69.93 hrs	WOB 14 klbs RPM 82 FLO 600 gpm SPP 3767 psi	7" SperryDrill 7/8 L 0.93° ABH	8.250 in @ 0.85 m 8.500 in @ 9.41 m 8.250 in @ 25.23 m		#8 @ 2347

Origin Energy Resources Ltd.
Yolla
Yolla Platform, slot A
Yolla #3 : Survey Data

Sperry-Sun

Survey Report

30 September, 2004

Surface Coordinates: 5588825.22 N, 398905.69 E (39° 50' 40.4707" S, 145° 49' 06.0849" E)
Grid Coordinate System: UTM Zone 55S on Geocentric Datum of Australia 1994

Surface Coordinates relative to Field Ref. Point: 3.22 N, 2.31 W (Grid)
Surface Coordinates relative to Structure: 3.22 N, 2.31 W (Grid)
Kelly Bushing Elevation: 43.00m above Mean Sea Level

Survey Ref: svy6986

HALLIBURTON

Survey Report for Yolla Platform - Yolla #3 : Survey Data

Measured Depth (m)	Incl.	Grid Azim.	Sub-Sea Depth (m)	Vertical Depth (m)	Local Coordinates Northings (m)	Local Coordinates Eastings (m)	Global Coordinates Northings (m)	Global Coordinates Eastings (m)	Dogleg Rate (°/30m)	Vertical Section (m)
0.00	0.000	0.000	-43.00	0.00	0.00 N	0.00 E	5588825.22 N	398905.69 E		0.00
174.00	0.590	242.790	131.00	174.00	0.41 S	0.80 W	5588824.81 N	398904.89 E	0.10	0.46
197.00	0.060	242.790	154.00	197.00	0.47 S	0.91 W	5588824.75 N	398904.78 E	0.69	0.53
203.00	0.600	242.790	160.00	203.00	0.49 S	0.94 W	5588824.73 N	398904.75 E	2.70	0.55
224.00	0.590	242.790	181.00	224.00	0.58 S	1.14 W	5588824.63 N	398904.55 E	0.01	0.66
258.45	0.430	242.790	215.44	258.44	0.73 S	1.41 W	5588824.49 N	398904.28 E	0.14	0.82
282.70	0.650	248.870	239.69	282.69	0.82 S	1.62 W	5588824.40 N	398904.07 E	0.28	0.95
311.77	1.480	273.860	268.76	311.76	0.85 S	2.15 W	5588824.37 N	398903.54 E	0.96	1.38
340.78	2.250	277.270	297.75	340.75	0.75 S	3.09 W	5588824.46 N	398902.61 E	0.80	2.23
369.82	3.480	293.000	326.76	369.76	0.34 S	4.46 W	5588824.88 N	398901.23 E	1.50	3.63
399.37	5.100	300.930	356.22	399.22	0.69 N	6.42 W	5588825.91 N	398899.28 E	1.75	5.83
428.43	7.120	298.670	385.12	428.12	2.22 N	9.10 W	5588827.43 N	398896.59 E	2.10	8.92
457.46	9.920	296.210	413.82	456.82	4.19 N	12.93 W	5588829.40 N	398892.76 E	2.92	13.20
486.47	11.290	298.060	442.34	485.34	6.62 N	17.67 W	5588831.84 N	398888.02 E	1.46	18.53
515.47	12.760	300.310	470.70	513.70	9.58 N	22.94 W	5588834.79 N	398882.75 E	1.60	24.56
544.40	14.820	302.650	498.79	541.79	13.19 N	28.82 W	5588838.40 N	398876.87 E	2.21	31.46
572.93	18.930	301.350	526.09	569.09	17.56 N	35.85 W	5588842.78 N	398869.85 E	4.34	39.74
602.47	21.650	299.970	553.79	596.79	22.78 N	44.66 W	5588848.00 N	398861.03 E	2.80	49.98
631.53	22.700	301.620	580.70	623.70	28.40 N	54.08 W	5588853.61 N	398851.61 E	1.26	60.94
660.59	25.230	302.370	607.26	650.26	34.65 N	64.09 W	5588859.87 N	398841.60 E	2.63	72.74
689.59	27.240	301.890	633.27	676.27	41.47 N	74.94 W	5588866.69 N	398830.75 E	2.09	85.56
718.62	30.230	301.580	658.72	701.72	48.81 N	86.81 W	5588874.03 N	398818.88 E	3.09	99.52
747.71	32.410	300.410	683.57	726.57	56.59 N	99.78 W	5588881.81 N	398805.92 E	2.33	114.64
776.77	33.840	299.590	707.91	750.91	64.53 N	113.53 W	5588889.75 N	398792.16 E	1.55	130.51
805.83	36.110	300.790	731.72	774.72	72.91 N	127.92 W	5588898.13 N	398777.77 E	2.45	147.16
834.87	38.460	301.430	754.82	797.82	82.00 N	142.98 W	5588907.22 N	398762.71 E	2.46	164.75
863.88	39.000	301.200	777.45	820.45	91.43 N	158.49 W	5588916.65 N	398747.20 E	0.58	182.90
892.95	41.570	301.650	799.63	842.63	101.23 N	174.53 W	5588926.45 N	398731.17 E	2.67	201.69
922.03	41.880	304.270	821.33	864.33	111.76 N	190.76 W	5588936.98 N	398714.93 E	1.83	221.04
951.10	41.350	302.710	843.07	886.07	122.42 N	206.86 W	5588947.63 N	398698.83 E	1.20	240.33
980.13	40.900	302.190	864.93	907.93	132.66 N	222.97 W	5588957.88 N	398682.72 E	0.58	259.42
1006.80	40.670	302.373	885.13	928.13	141.97 N	237.70 W	5588967.18 N	398667.99 E	0.29	276.84
~	13 3/8" Casing									
1038.17	40.400	302.590	908.97	951.97	152.91 N	254.90 W	5588978.13 N	398650.79 E	0.29	297.23
1067.25	40.280	302.790	931.13	974.13	163.08 N	270.74 W	5588988.30 N	398634.95 E	0.18	316.05
1095.63	42.870	302.030	952.36	995.36	173.17 N	286.64 W	5588998.39 N	398619.05 E	2.79	334.88
1125.32	42.880	301.940	974.12	1017.12	183.87 N	303.78 W	5589009.09 N	398601.92 E	0.06	355.08
1154.84	42.400	301.250	995.84	1038.84	194.35 N	320.81 W	5589019.57 N	398584.88 E	0.68	375.08
1183.37	43.810	301.110	1016.67	1059.67	204.44 N	337.49 W	5589029.66 N	398568.20 E	1.49	394.57
1212.90	44.550	301.560	1037.84	1080.84	215.14 N	355.06 W	5589040.36 N	398550.63 E	0.82	415.15
1240.82	44.260	301.230	1057.79	1100.79	225.32 N	371.74 W	5589050.54 N	398533.95 E	0.40	434.69
1271.00	44.100	301.040	1079.43	1122.43	236.20 N	389.74 W	5589061.41 N	398515.95 E	0.21	455.72
1300.06	43.800	300.640	1100.35	1143.35	246.54 N	407.06 W	5589071.75 N	398498.63 E	0.42	475.89
1329.10	43.590	300.200	1121.35	1164.35	256.69 N	424.36 W	5589081.91 N	398481.33 E	0.38	495.94
1358.13	43.450	300.560	1142.40	1185.40	266.80 N	441.61 W	5589092.02 N	398464.09 E	0.29	515.93
1387.17	43.160	299.750	1163.54	1206.54	276.81 N	458.83 W	5589102.03 N	398446.86 E	0.65	535.84
1416.20	43.090	299.270	1184.72	1227.72	286.58 N	476.10 W	5589111.80 N	398429.59 E	0.35	555.67
1444.73	43.100	300.330	1205.56	1248.56	296.27 N	493.01 W	5589121.49 N	398412.68 E	0.76	575.15
1473.80	43.220	299.260	1226.76	1269.76	306.15 N	510.27 W	5589131.37 N	398395.42 E	0.77	595.03
1502.86	42.220	300.610	1248.11	1291.11	315.99 N	527.35 W	5589141.20 N	398378.34 E	1.40	614.73
1531.90	41.390	301.290	1269.76	1312.76	325.94 N	543.95 W	5589151.16 N	398361.74 E	0.98	634.09
1560.93	41.100	301.520	1291.59	1334.59	335.91 N	560.29 W	5589161.13 N	398345.40 E	0.34	653.23
1589.81	40.800	300.980	1313.40	1356.40	345.73 N	576.47 W	5589170.95 N	398329.22 E	0.48	672.16
1618.85	40.920	301.110	1335.36	1378.36	355.53 N	592.75 W	5589180.75 N	398312.94 E	0.15	691.15
1647.90	40.940	300.750	1357.31	1400.31	365.31 N	609.07 W	5589190.53 N	398296.62 E	0.24	710.18
1676.97	41.390	300.320	1379.19	1422.19	375.03 N	625.55 W	5589200.25 N	398280.14 E	0.55	729.32
1706.03	42.120	299.910	1400.87	1443.87	384.74 N	642.29 W	5589209.96 N	398263.40 E	0.80	748.66
1735.04	42.670	300.100	1422.30	1465.30	394.52 N	659.23 W	5589219.74 N	398246.46 E	0.58	768.21
1764.06	42.520	299.110	1443.66	1486.66	404.23 N	676.31 W	5589229.45 N	398229.38 E	0.71	787.84
1793.12	41.380	300.860	1465.27	1508.27	413.93 N	693.13 W	5589239.15 N	398212.56 E	1.69	807.26
1822.17	40.150	301.200	1487.28	1530.28	423.71 N	709.39 W	5589248.93 N	398196.30 E	1.29	826.23
1850.80	39.760	301.540	1509.22	1552.22	433.28 N	725.09 W	5589258.50 N	398180.60 E	0.47	844.61
1881.06	38.030	301.800	1532.77	1575.77	443.26 N	741.26 W	5589268.47 N	398164.43 E	1.72	863.61
1909.02	36.060	302.180	1555.09	1598.09	452.18 N	755.54 W	5589277.39 N	398150.15 E	2.13	880.45
1938.07	35.580	302.760	1578.64	1621.64	461.30 N	769.89 W	5589286.52 N	398135.80 E	0.61	897.45
1967.41	34.620	302.400	1602.65	1645.65	470.39 N	784.10 W	5589295.61 N	398121.59 E	1.00	914.32
1996.46	33.680	303.060	1626.69	1669.69	479.20 N	797.82 W	5589304.42 N	398107.87 E	1.04	930.62
2025.46	33.570	302.150	1650.84	1693.84	487.86 N	811.35 W	5589313.08 N	398094.34 E	0.53	946.68
2054.50	32.430	302.830	1675.19	1718.19	496.35 N	824.69 W	5589321.57 N	398081.00 E	1.24	962.49
2083.52	31.200	302.190	1699.85	1742.85	504.58 N	837.59 W	5589329.79 N	398068.10 E	1.32	977.79
2112.57	30.200	301.860	1724.83	1767.83	512.44 N	850.16 W	5589337.66 N	398055.53 E	1.05	992.62

Survey Report for Yolla Platform - Yolla #3 : Survey Data

Measured Depth (m)	Incl.	Grid Azim.	Sub-Sea Depth (m)	Vertical Depth (m)	Local Coordinates Northings (m)	Local Coordinates Eastings (m)	Global Coordinates Northings (m)	Global Coordinates Eastings (m)	Dogleg Rate (°/30m)	Vertical Section (m)
2141.60	29.600	301.490	1749.99	1792.99	520.04 N	862.48 W	5589345.26 N	398043.21 E	0.65	1007.09
2170.62	29.650	300.950	1775.22	1818.22	527.48 N	874.75 W	5589352.69 N	398030.94 E	0.28	1021.44
2192.70	29.510	301.710	1794.42	1837.42	533.14 N	884.06 W	5589358.36 N	398021.63 E	0.54	1032.34
2199.47	29.610	301.350	1800.31	1843.31	534.89 N	886.90 W	5589360.11 N	398018.79 E	0.90	1035.68
2228.52	29.540	300.950	1825.58	1868.58	542.31 N	899.17 W	5589367.52 N	398006.52 E	0.22	1050.01
2257.54	29.000	301.430	1850.89	1893.89	549.65 N	911.31 W	5589374.87 N	397994.38 E	0.61	1064.20
2286.53	26.960	301.770	1876.49	1919.49	556.78 N	922.90 W	5589382.00 N	397982.80 E	2.12	1077.80
2315.56	26.110	301.700	1902.46	1945.46	563.60 N	933.93 W	5589388.82 N	397971.77 E	0.88	1090.77
2323.95	25.940	301.450	1910.00	1953.00	565.53 N	937.06 W	5589390.74 N	397968.63 E	0.72	1094.45
2340.00	25.569	301.478	1924.46	1967.46	569.17 N	943.01 W	5589394.38 N	397962.68 E	0.69	1101.43
~	9 5/8" Casing									
2352.54	25.280	301.500	1935.78	1978.78	571.98 N	947.60 W	5589397.20 N	397958.09 E	0.69	1106.81
2381.58	24.100	301.760	1962.17	2005.17	578.34 N	957.93 W	5589403.56 N	397947.76 E	1.22	1118.94
2409.95	23.250	301.460	1988.15	2031.15	584.31 N	967.63 W	5589409.53 N	397938.06 E	0.91	1130.33
2438.98	22.490	301.510	2014.90	2057.90	590.20 N	977.25 W	5589415.42 N	397928.44 E	0.79	1141.61
2468.04	22.160	300.590	2041.78	2084.78	595.90 N	986.71 W	5589421.12 N	397918.98 E	0.50	1152.65
2497.12	20.860	300.560	2068.84	2111.84	601.32 N	995.89 W	5589426.54 N	397909.80 E	1.34	1163.31
2526.18	19.690	300.610	2096.09	2139.09	606.45 N	1004.56 W	5589431.66 N	397901.13 E	1.21	1173.38
2555.19	19.270	300.620	2123.44	2166.44	611.37 N	1012.88 W	5589436.59 N	397892.81 E	0.43	1183.05
2584.24	16.120	296.700	2151.12	2194.12	615.63 N	1020.61 W	5589440.84 N	397885.08 E	3.48	1191.87
2613.32	14.160	296.480	2179.19	2222.19	619.03 N	1027.41 W	5589444.24 N	397878.29 E	2.02	1199.43
2642.34	13.370	296.420	2207.37	2250.37	622.10 N	1033.59 W	5589447.32 N	397872.10 E	0.82	1206.31
2671.48	12.200	298.740	2235.79	2278.79	625.08 N	1039.30 W	5589450.30 N	397866.39 E	1.32	1212.74
2700.58	10.520	301.170	2264.32	2307.32	627.94 N	1044.27 W	5589453.15 N	397861.42 E	1.80	1218.47
2729.31	9.780	303.390	2292.60	2335.60	630.64 N	1048.56 W	5589455.85 N	397857.14 E	0.87	1223.53
2758.61	8.910	306.430	2321.51	2364.51	633.35 N	1052.46 W	5589458.57 N	397853.23 E	1.02	1228.28
2787.63	8.390	306.830	2350.20	2393.20	635.96 N	1055.96 W	5589461.17 N	397849.73 E	0.54	1232.63
2816.68	7.920	309.880	2378.96	2421.96	638.51 N	1059.19 W	5589463.73 N	397846.50 E	0.66	1236.72
2845.75	7.520	310.630	2407.76	2450.76	641.03 N	1062.17 W	5589466.25 N	397843.52 E	0.43	1240.58
2874.81	6.950	310.460	2436.59	2479.59	643.41 N	1064.96 W	5589468.63 N	397840.74 E	0.59	1244.19
2903.84	6.590	311.130	2465.42	2508.42	645.65 N	1067.55 W	5589470.87 N	397838.14 E	0.38	1247.57
2932.80	6.470	307.520	2494.19	2537.19	647.74 N	1070.09 W	5589472.95 N	397835.60 E	0.44	1250.83
2961.87	6.250	305.900	2523.08	2566.08	649.66 N	1072.67 W	5589474.88 N	397833.02 E	0.29	1254.04
2990.91	5.630	307.780	2551.97	2594.97	651.46 N	1075.08 W	5589476.68 N	397830.61 E	0.67	1257.03
3016.37	5.510	307.660	2577.31	2620.31	652.97 N	1077.03 W	5589478.19 N	397828.66 E	0.14	1259.49
3048.91	5.330	306.460	2609.70	2652.70	654.82 N	1079.49 W	5589480.04 N	397826.20 E	0.20	1262.55
3077.85	5.050	307.240	2638.52	2681.52	656.39 N	1081.58 W	5589481.61 N	397824.11 E	0.30	1265.16
3106.89	4.400	308.400	2667.46	2710.46	657.86 N	1083.47 W	5589483.08 N	397822.22 E	0.68	1267.53
3135.95	3.620	309.910	2696.45	2739.45	659.14 N	1085.05 W	5589484.36 N	397820.64 E	0.81	1269.55
3164.96	3.080	312.610	2725.41	2768.41	660.26 N	1086.33 W	5589485.47 N	397819.37 E	0.58	1271.22
3194.05	2.640	315.470	2754.47	2797.47	661.26 N	1087.37 W	5589486.48 N	397818.32 E	0.48	1272.64
3223.06	2.250	311.130	2783.45	2826.45	662.11 N	1088.27 W	5589487.33 N	397817.42 E	0.45	1273.85
3252.11	2.090	311.320	2812.48	2855.48	662.84 N	1089.10 W	5589488.06 N	397816.60 E	0.17	1274.93
3281.17	1.910	311.400	2841.52	2884.52	663.51 N	1089.86 W	5589488.73 N	397815.83 E	0.19	1275.93
3310.24	1.650	305.290	2870.58	2913.58	664.07 N	1090.56 W	5589489.29 N	397815.13 E	0.33	1276.83
3339.24	1.020	303.720	2899.57	2942.57	664.46 N	1091.12 W	5589489.67 N	397814.57 E	0.65	1277.50
3368.27	0.670	302.370	2928.59	2971.59	664.69 N	1091.48 W	5589489.91 N	397814.22 E	0.36	1277.93
3426.31	0.130	257.230	2986.63	3029.63	664.86 N	1091.83 W	5589490.07 N	397813.87 E	0.30	1278.31
3455.33	0.500	160.200	3015.65	3058.65	664.73 N	1091.82 W	5589489.95 N	397813.88 E	0.55	1278.24
3476.47	0.910	169.300	3036.79	3079.79	664.48 N	1091.75 W	5589489.70 N	397813.94 E	0.60	1278.05
3497.00	0.910	169.300	3057.32	3100.32	664.16 N	1091.69 W	5589489.38 N	397814.00 E	0.00	1277.83

All data is in Metres unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to Well. Northings and Eastings are relative to Well.
Global Northings and Eastings are relative to UTM Zone 55S on Geocentric Datum of Australia 1994.

The Dogleg Severity is in Degrees per 30 metres.
Vertical Section is from Well and calculated along an Azimuth of 301.589° (Grid).

Coordinate System is UTM Zone 55S on Geocentric Datum of Australia 1994.
Grid Convergence at Surface is 0.757°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 3497.00m.,
The Bottom Hole Displacement is 1277.85m., in the Direction of 301.315° (Grid).

Casing depths are provisional, and should only be used as a guide.

Survey Report for Yolla Platform - Yolla #3 : Survey Data

Casing details

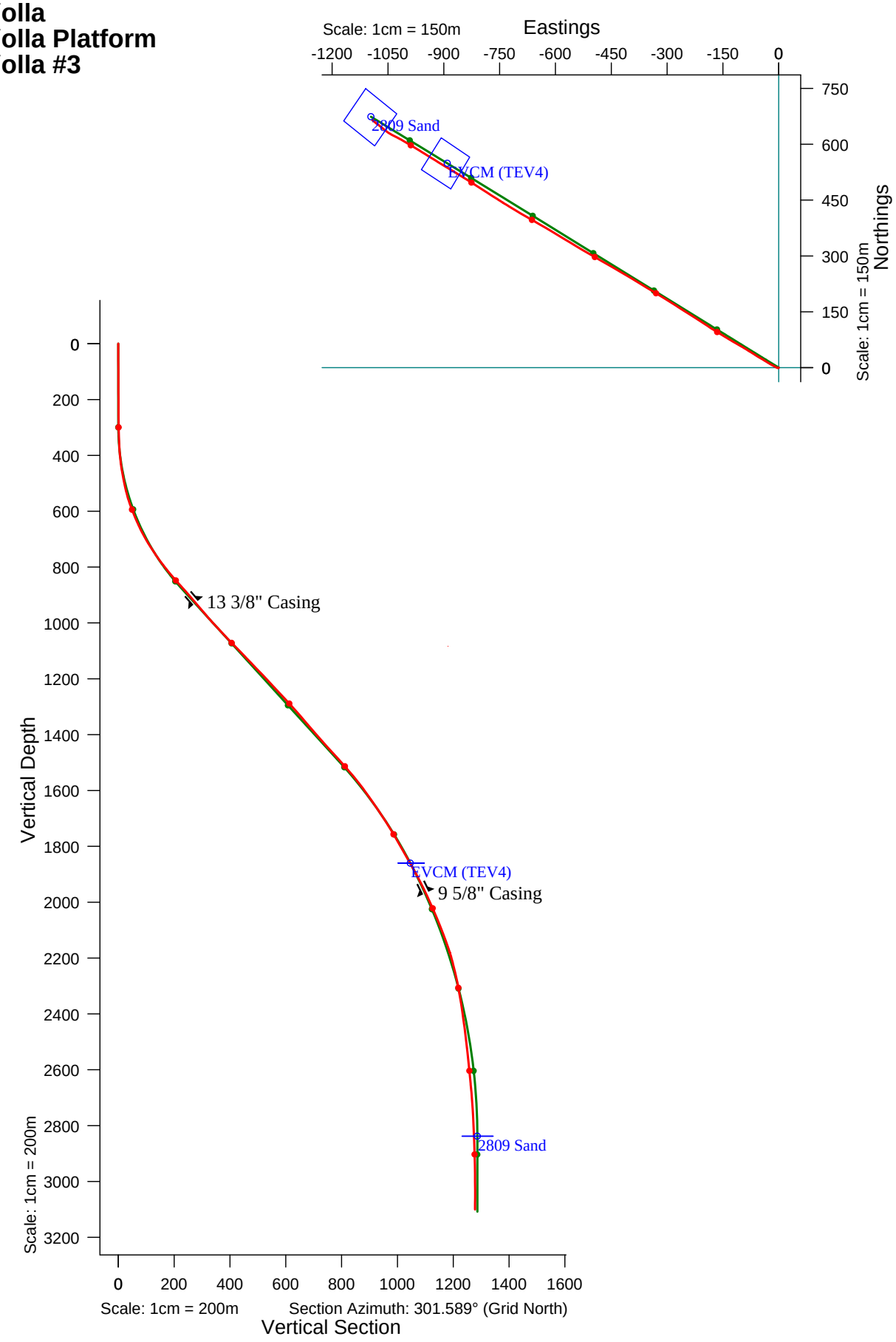
From		To		
Measured Depth (m)	Vertical Depth (m)	Measured Depth (m)	Vertical Depth (m)	Casing Detail
<Surface>	<Surface>	1006.80	928.13	13 3/8" Casing
<Surface>	<Surface>	2340.00	1967.46	9 5/8" Casing

HALLIBURTON

Origin Energy Resources Ltd.

DrillQuest™ Sperry-Sun

Yolla
Yolla Platform
Yolla #3



sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Origin Energy Resources
Well Name : Yolla #3
Rig : Ensco 102

Field : Bass Strait
Slot : Yolla A Platform
Job # : AU-DD-0003007128

North Ref : Grid **Declination :** ° **VS Dir :** 301.59° (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 (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (klbs)	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										
174.00	0.59	242.79	174.0	0.5	-0.4	-0.8	0.10	0.10	0.00	5	40	700	950				30	1	
197.00	0.06	242.79	197.0	0.5	-0.5	-0.9	0.69	-0.69	0.00	5	40	700	950				30	1	
203.00	0.60	242.79	203.0	0.5	-0.5	-0.9	2.70	2.70	0.00	5	40	700	950				30	1	
224.00	0.59	242.79	224.0	0.7	-0.6	-1.1	0.00	-0.01	0.00	5	40	700	950				30	1	
258.45	0.43	242.79	258.4	0.8	-0.7	-1.4	0.14	-0.14	0.00	5	40	700	950				30	1	
282.70	0.65	248.87	282.7	1.0	-0.8	-1.6	0.28	0.27	0.00	2		700	1100	280	283	53L	70	1	
311.77	1.48	273.86	311.8	1.4	-0.9	-2.1	0.96	0.86	0.00	10		700	1100	283	300	53L	100	1	
														304	312	53L		1	
340.78	2.25	277.27	340.8	2.2	-0.8	-3.1	0.80	0.80	3.53	5		700	1100	312	320	53L	85	1	
														333	341	10L		1	
369.82	3.48	293.00	369.8	3.6	-0.3	-4.5	1.50	1.27	16.25	5		650	950	341	350	10L	70	1	
														362	370	34L		1	
399.37	5.10	300.93	399.2	5.8	0.7	-6.4	1.75	1.64	8.05	10		700	1200	370	391	34L	70	1	
														391	399	HS		1	
428.43	7.12	298.67	428.1	8.9	2.2	-9.1	2.10	2.09	-2.33	8		700	1300	399	415	HS	70	1	
														420	428	HS		1	
457.46	9.90	296.21	456.8	13.2	4.2	-12.9	2.90	2.87	-2.54	10		700	1330	428	449	HS	60	1	
														449	457	10R		1	
486.47	11.29	298.06	485.3	18.5	6.6	-17.7	1.48	1.44	1.91	10		700	1350	457	469	10R	60	1	
														479	486	20R		1	
515.47	12.76	300.31	513.7	24.6	9.6	-22.9	1.60	1.52	2.33	15		750	1520	486	498	20R	50	1	
														508	515	10R		1	
544.40	14.82	302.65	541.8	31.4	13.2	-28.8	2.21	2.14	2.43	20		755	1600	515	532	10R	70	1	
														537	544	HS		1	
572.93	18.93	301.35	569.1	39.7	17.6	-35.8	4.34	4.32	-1.37	20		755	1600	544	565	HS	70	1	
														565	573	HS		1	
602.47	21.65	299.97	596.8	50.0	22.8	-44.7	2.80	2.76	-1.40	15	70	755	1600	573	594	HS	70	1	
631.53	22.70	301.62	623.7	60.9	28.4	-54.1	1.26	1.08	1.70	10	70	755	1600	605	624	HS	70	1	
660.59	25.23	302.37	650.3	72.7	34.6	-64.1	2.63	2.61	0.77	10	70	755	1650	634	659	HS	60	1	
689.59	27.24	301.89	676.3	85.6	41.5	-74.9	2.09	2.08	-0.50	20	70	755	1680	663	686	HS	60	1	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Origin Energy Resources
Well Name : Yolla #3
Rig : Ensco 102

Field : Bass Strait
Slot : Yolla A Platform
Job # : AU-DD-0003007128

North Ref : Grid **Declination :** ° **VS Dir :** 301.59° (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 (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (klbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
689.59	27.24	301.89	676.3	85.6	41.5	-74.9	0.00	0.00	0.00	20	70	755	1680				60	1	
718.62	30.23	301.58	701.7	99.5	48.8	-86.8	3.09	3.09	-0.32	15	70	755	1750	692	715	HS	60	1	
747.71	32.41	300.41	726.6	114.6	56.6	-99.8	2.33	2.25	-1.21	20	70	850	2100	721	740	HS	60	1	
776.77	33.84	299.59	750.9	130.5	64.5	-113.5	1.55	1.48	-0.85	20	70	850	2150	750	769	HS	60	1	
805.83	36.11	300.79	774.7	147.2	72.9	-127.9	2.45	2.34	1.24	30		850	2100	789	806	HS	20	1	
834.87	38.46	301.43	797.8	164.7	82.0	-143.0	2.46	2.43	0.66	30		850	2100	806	808	HS	14	1	
														818	835	HS		1	
863.88	39.00	301.20	820.5	182.9	91.4	-158.5	0.58	0.56	-0.24	30		850	2150	835	837	HS	24	1	
														856	864	HS		1	
892.95	41.57	301.65	842.6	201.7	101.2	-174.5	2.67	2.65	0.46	30		850	2150	864	866	HS	30	1	
														876	893	HS		1	
922.03	41.88	304.27	864.3	221.0	111.8	-190.8	1.83	0.32	2.70	30	70	850	2250	893	895	HS	50	1	
														905	914	HS		1	
951.10	41.35	302.71	886.1	240.3	122.4	-206.9	1.20	-0.55	-1.61	15	70	850	2250	943	949	HS	45	1	
980.13	40.90	302.19	907.9	259.4	132.7	-223.0	0.58	-0.47	-0.54	15	70	850	2250	963	972	HS	50	1	
1038.17	40.40	302.59	952.0	297.2	152.9	-254.9	0.29	-0.26	0.21	15	70	800	2075	990	1006	HS	60	3	
1067.25	40.28	302.79	974.1	316.0	163.1	-270.7	0.18	-0.12	0.21	15	70	800	2075				60	3	
1095.63	42.87	302.03	995.4	334.9	173.2	-286.6	2.79	2.74	-0.80	15		800	2070	1071	1083	HS	30	3	
														1091	1096	30L		3	
1125.32	42.88	301.94	1017.1	355.1	183.9	-303.8	0.06	0.01	-0.09	15	50	800	2475	1096	1101	30L	35	3	
1154.84	42.40	301.25	1038.8	375.1	194.3	-320.8	0.68	-0.49	-0.70	15	50	850	2780				40	3	
1183.37	43.81	301.11	1059.7	394.6	204.4	-337.5	1.49	1.48	-0.15	10		850	2830	1178	1183	HS	20	3	
1212.90	44.55	301.56	1080.8	415.1	215.1	-355.1	0.82	0.75	0.46	15	70	850	2400	1183	1193	HS	50	3	
1240.82	44.26	301.23	1100.8	434.7	225.3	-371.7	0.40	-0.31	-0.35	15	70	850	2400				50	3	
1271.00	44.10	301.04	1122.4	455.7	236.2	-389.7	0.21	-0.16	-0.19	10	70	850	2750				45	3	
1300.06	43.80	300.64	1143.4	475.9	246.5	-407.1	0.42	-0.31	-0.41	10	70	850	2750				30	3	
1329.10	43.59	300.20	1164.4	495.9	256.7	-424.4	0.38	-0.22	-0.45	10	70	850	2750				30	3	
1358.13	43.45	300.56	1185.4	515.9	266.8	-441.6	0.29	-0.14	0.37	10	70	850	2950				35	3	
1387.17	43.16	299.75	1206.5	535.8	276.8	-458.8	0.65	-0.30	-0.84	10	70	850	2950				35	3	
1416.20	43.09	299.27	1227.7	555.7	286.6	-476.1	0.35	-0.07	-0.50	12	70	840	3050				30	3	
1444.73	43.10	300.33	1248.6	575.1	296.3	-493.0	0.76	0.01	1.11	10	70	840	3140				30	3	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Origin Energy Resources
Well Name : Yolla #3
Rig : Ensco 102

Field : Bass Strait
Slot : Yolla A Platform
Job # : AU-DD-0003007128

North Ref : Grid **Declination :** ° **VS Dir :** 301.59° (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 (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (klbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
1473.80	43.22	299.26	1269.8	595.0	306.1	-510.3	0.77	0.12	-1.10	10	70	840	3140				30	3	
1502.86	42.22	300.61	1291.1	614.7	316.0	-527.3	1.40	-1.03	1.39	10		840	3150	1497	1503	120L	15	3	
1531.90	41.39	301.29	1312.8	634.1	325.9	-543.9	0.98	-0.86	0.70	12	70	840	3060	1503	1507	120L	27	3	
1560.93	41.10	301.52	1334.6	653.2	335.9	-560.3	0.34	-0.30	0.24	12	70	840	3190				18	3	
1589.81	40.80	300.98	1356.4	672.1	345.7	-576.5	0.48	-0.31	-0.56	12	70	840	2810				20	3	
1618.85	40.92	301.11	1378.4	691.1	355.5	-592.7	0.15	0.12	0.13	12	70	850	3000				13	4	
1647.90	40.94	300.75	1400.3	710.2	365.3	-609.1	0.24	0.02	-0.37	12	70	850	3000				13	4	
1676.97	41.39	300.32	1422.2	729.3	375.0	-625.5	0.55	0.46	-0.44	12	70	850	3000				13	4	
1706.03	42.12	299.91	1443.9	748.7	384.7	-642.3	0.80	0.75	-0.42	12	70	850	3000				13	4	
1735.04	42.67	300.10	1465.3	768.2	394.5	-659.2	0.58	0.57	0.20	12	70	850	3450				13	4	
1764.06	42.52	299.11	1486.7	787.8	404.2	-676.3	0.71	-0.16	-1.02	12	70	850	3450				13	4	
1793.12	41.38	300.86	1508.3	807.2	413.9	-693.1	1.69	-1.18	1.81	10		850	3250	1787	1793	120R	15	4	
1822.17	40.15	301.20	1530.3	826.2	423.7	-709.4	1.29	-1.27	0.35	12	70	850	3350	1793	1794	120R	15	4	
														1816	1822	140R		4	
1850.80	39.76	301.54	1552.2	844.6	433.3	-725.1	0.47	-0.41	0.36	12	70	850	3350				15	4	
1881.06	38.03	301.80	1575.8	863.6	443.3	-741.2	1.72	-1.72	0.26	12		850	3300	1875	1881	150R	12	4	
1909.02	36.06	302.18	1598.1	880.4	452.2	-755.5	2.13	-2.11	0.41	20		850	3000	1881	1884	150R	15	4	
														1903	1909	150R		4	
1938.07	35.58	302.76	1621.6	897.4	461.3	-769.9	0.61	-0.50	0.60	12	70	850	3450	1909	1914	150R	22	4	
1967.41	34.62	302.40	1645.6	914.3	470.4	-784.1	1.00	-0.98	-0.37	12	70	850	3450	1961	1967	160R	16	4	
1996.46	33.68	303.06	1669.7	930.6	479.2	-797.8	1.04	-0.97	0.68	14	70	850	3440	1990	1996	160R	18	4	
2025.40	33.57	302.15	1693.8	946.6	487.8	-811.3	0.53	-0.11	-0.94	14	70	850	3440	2019	2021	160R	15	4	
2054.50	32.43	302.83	1718.2	962.5	496.3	-824.7	1.24	-1.18	0.70	14	70	850	3450	2048	2054	160R	16	4	
2083.52	31.20	302.19	1742.9	977.8	504.6	-837.6	1.32	-1.27	-0.66	15		850	3440	2078	2084	160R	5	4	
2112.57	30.20	301.86	1767.8	992.6	512.4	-850.2	1.05	-1.03	-0.34	35		850	3400	2084	2084	160R	3	4	
														2107	2113	LS		4	
2141.60	29.60	301.49	1793.0	1007.1	520.0	-862.5	0.65	-0.62	-0.38	30	70	850	3630	2113	2113	LS	12	4	
														2136	2140	LS		4	
2170.62	29.65	300.95	1818.2	1021.4	527.5	-874.7	0.28	0.05	-0.56	30	70	850	3630				12	4	
2192.70	29.51	301.70	1837.4	1032.3	533.1	-884.0	0.54	-0.19	1.02	30	70	850	3630				12	4	
2199.47	29.61	301.35	1843.3	1035.7	534.9	-886.9	0.88	0.44	-1.55	30	70	850	3630				12	4	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Origin Energy Resources
Well Name : Yolla #3
Rig : Ensco 102

Field : Bass Strait
Slot : Yolla A Platform
Job # : AU-DD-0003007128

North Ref : Grid **Declination :** ° **VS Dir :** 301.59° (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 (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (klbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
2228.52	29.54	300.95	1868.6	1050.0	542.3	-899.2	0.22	-0.07	-0.41	10	70	150	600				16	5	
2257.54	29.00	301.43	1893.9	1064.2	549.6	-911.3	0.61	-0.56	0.50	10		850	3750	2252	2258	160R	4	6	
2286.53	26.96	301.77	1919.5	1077.8	556.8	-922.9	2.12	-2.11	0.35	20		860	3980	2258	2262	160R	6	6	
														2281	2287	170R		6	
2315.56	26.11	301.70	1945.5	1090.8	563.6	-933.9	0.88	-0.88	-0.07	10	80	890	4050	2287	2292	170R	14	6	
2323.95	25.94	301.45	1953.0	1094.4	565.5	-937.1	0.72	-0.61	-0.89	10	80	890	4050	2320	2322	LS	12	6	
2352.64	25.28	301.50	1978.9	1106.8	572.0	-947.6	0.69	-0.69	0.05	10		600	3100	2350	2353	160R	10	8	
2381.58	24.10	301.76	2005.2	1118.9	578.3	-957.9	1.23	-1.22	0.27	12	80	600	3200	2353	2362	160R	44	8	
2409.95	23.25	301.46	2031.2	1130.3	584.3	-967.6	0.91	-0.90	-0.32	10		650	3400	2402	2410	160R	12	8	
2438.98	22.49	301.51	2057.9	1141.6	590.2	-977.2	0.79	-0.79	0.05	10		655	3400	2410	2412	160R	5	8	
														2431	2439	LS		8	
2468.04	22.16	300.59	2084.8	1152.6	595.9	-986.7	0.50	-0.34	-0.95	10	80	605	3520	2439	2443	LS	20	8	
2497.12	20.86	300.56	2111.8	1163.3	601.3	-995.9	1.34	-1.34	-0.03	10	80	605	3520	2489	2494	LS	20	8	
2526.18	19.69	300.61	2139.1	1173.4	606.4	-1004.6	1.21	-1.21	0.05	5	80	605	3510	2499	2518	150R	20	8	
2555.19	19.27	300.62	2166.4	1183.0	611.4	-1012.9	0.43	-0.43	0.01	10		600	2250	2528	2531	150L	12	8	
														2549	2555	LS		8	
2584.24	16.12	296.70	2194.1	1191.9	615.6	-1020.6	3.48	-3.25	-4.05	5		600	3200	2555	2557	LS	30	8	
														2576	2584	LS		8	
2613.32	14.16	296.48	2222.2	1199.4	619.0	-1027.4	2.02	-2.02	-0.23	5		600	3300	2584	2586	LS	30	8	
														2605	2613	120R		8	
2642.34	13.37	296.42	2250.4	1206.3	622.1	-1033.6	0.82	-0.82	-0.06	20	80	600	3250	2613	2615	120R	50	8	
2671.48	12.20	298.74	2278.8	1212.7	625.1	-1039.3	1.32	-1.20	2.39	15	80	600	3550				50	8	
2700.58	10.52	301.17	2307.3	1218.5	627.9	-1044.3	1.80	-1.73	2.51	15	80	590	4200				30	8	
2729.31	9.78	303.39	2335.6	1223.5	630.6	-1048.5	0.87	-0.77	2.32	15	80	605	3840				36	8	
2758.61	8.91	306.43	2364.5	1228.3	633.3	-1052.5	1.02	-0.89	3.11	15	80	583	3800				33	8	
2787.63	8.39	306.83	2393.2	1232.6	636.0	-1056.0	0.54	-0.54	0.41	15	80	590	3770				25	8	
2816.68	7.92	309.88	2422.0	1236.7	638.5	-1059.2	0.66	-0.49	3.15	15	80	590	3790				20	8	
2845.75	7.52	310.63	2450.8	1240.6	641.0	-1062.2	0.43	-0.41	0.77	10	80	600	4030				23	8	
2874.81	6.95	310.46	2479.6	1244.2	643.4	-1064.9	0.59	-0.59	-0.18	10	80	600	3780				19	8	
2903.84	6.59	311.13	2508.4	1247.6	645.6	-1067.5	0.38	-0.37	0.69	10	80	600	3780				19	8	
2932.80	6.47	307.52	2537.2	1250.8	647.7	-1070.1	0.44	-0.12	-3.74	15	80	600	3800				25	8	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Origin Energy Resources
Well Name : Yolla #3
Rig : Ensco 102

Field : Bass Strait
Slot : Yolla A Platform
Job # : AU-DD-0003007128

North Ref : Grid **Declination :** ° **VS Dir :** 301.59° (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 (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (klbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	ROP (m/hr)	BHA No. (#)	Comment
2961.87	6.25	305.90	2566.1	1254.0	649.7	-1072.7	0.29	-0.23	-1.67	10	80	600	3800				26	8	
2990.91	5.63	307.78	2595.0	1257.0	651.5	-1075.1	0.67	-0.64	1.94	15	80	585	3800				12	8	
3016.37	5.51	307.66	2620.3	1259.5	653.0	-1077.0	0.14	-0.14	-0.14	15	100	600	3700				10	8	
3048.91	5.33	306.46	2652.7	1262.5	654.8	-1079.5	0.20	-0.17	-1.11	20	80	600	3600				30	8	
3077.85	5.05	307.24	2681.5	1265.1	656.4	-1081.6	0.30	-0.29	0.81	20	80	600	3550				40	8	
3106.89	4.40	308.40	2710.5	1267.5	657.9	-1083.5	0.68	-0.67	1.20	15	80	582	4000				24	8	
3135.95	3.62	309.91	2739.5	1269.5	659.1	-1085.0	0.81	-0.81	1.56	15	80	600	3850				21	8	
3164.96	3.08	312.61	2768.4	1271.2	660.3	-1086.3	0.58	-0.56	2.79	15	80	600	4010				25	8	
3194.05	2.64	315.47	2797.5	1272.6	661.3	-1087.4	0.48	-0.45	2.95	10	80	600	3860				18	8	
3223.06	2.25	311.13	2826.4	1273.8	662.1	-1088.3	0.45	-0.40	-4.49	15	80	600	4050				20	8	
3252.22	2.09	311.02	2855.6	1274.9	662.8	-1089.1	0.16	-0.16	-0.11	15	80	600	4050				20	8	
3281.17	1.91	311.40	2884.5	1275.9	663.5	-1089.9	0.19	-0.19	0.39	15	80	600	4050				20	8	
3310.24	1.65	305.29	2913.6	1276.8	664.1	-1090.6	0.33	-0.27	-6.31	10	80	600	4200				21	8	
3339.24	1.02	303.72	2942.6	1277.5	664.4	-1091.1	0.65	-0.65	-1.62	15	80	600	4300				18	8	
3368.27	0.67	302.37	2971.6	1277.9	664.7	-1091.5	0.36	-0.36	0.00	15	80	600	4300				18	8	
3426.31	0.13	257.23	3029.6	1278.3	664.8	-1091.8	0.30	-0.28	0.00	20	100	600	4200				22	8	
3455.33	0.50	160.20	3058.7	1278.2	664.7	-1091.8	0.55	0.38	0.00	20	80	600	4100				10	8	
3476.47	0.91	169.30	3079.8	1278.0	664.5	-1091.7	0.60	0.58	0.00	25	80	600	4010				3	8	
3497.00	0.91	169.30	3100.3	1277.8	664.1	-1091.7	0.00	0.00	0.00									8	Projected to TD

sperry-sun
DRILLING SERVICES

BHA Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128 **BHA# 1**

BHA# 1 : **Date In** :11/08/200 **MD In (m) :** 124 **TVD In (m) :** 124 **Date Out** 13/08/2004 **MD Out (m):** 1012 **TVD Out (m):** 932

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
1rr1	16.000	Hughes Christensen	MX-1	6023745	3x24	1.325	2-2-WT- A-E-I-NO-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
1	9.625	SSDS	SperryDrill	10538391	1.15°		72	33.75

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Hughes MX-1 Tricone	6023745	16.000	3.000	16.000	661.13	B 7-5/8" Reg	0.41	
2	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg	10538391	9.625	6.135	15.750	147.21	B 7-5/8" Reg	8.56	1.28
3	Float Sub	A-524	9.625	3.625		212.79	B 7-5/8" Reg	0.85	
4	15" String Stabilizer	22116	9.500	3.250	15.000	213.29	B 7-5/8" Reg	2.14	10.83
5	Non-Mag 1x NM Drill collar(1200 DWD)	57679	9.500	3.250		213.00	B 7-5/8" Reg	8.51	
6	Non-Mag Hang-off Sub	10599306	9.500	3.250		213.00	B 7-5/8" Reg	3.11	
7	16" Non-Mag Stabilizer	5050	9.690	3.000	16.000	227.24	B 7-5/8" Reg	1.91	24.44
8	2x 9 1/2" Drill collars		9.500	3.250		213.00	B 7-5/8" Reg	18.80	
9	Non-Mag Cross Over Sub	A598	9.500	3.063		216.45	B 6-5/8" Reg	1.23	
10	3x 8 1/4"Drill collars		8.250	2.875		160.05	B 6-5/8" Reg	28.60	
11	Hydra Drilling Jars	AH02220	8.250	3.000		158.09	B 6-5/8" Reg	9.79	
12	2x 8 1/4" Drill collars		8.250	2.875		160.05	B 6-5/8" Reg	18.82	
13	Cross Over Sub	GP7780-2H1 8292F	6.700	2.940		97.02	B 4-1/2" IF	0.75	
14	9x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	84.66	
								188.14	

Parameter	Min	Max	Ave
WOB (klbs) :	2	30	16
RPM (rpm) :	40	70	56
Flow (gpm) :	650	850	759
SPP (psi) :	950	2250	1560

Activity	Hrs
Drilling :	30.00
Reaming :	0.25
Circ-Other :	3.50
Total :	33.75

BHA Weight	(lb)
in Air (Total) :	74581
in Mud (Total) :	
in Air (Bel Jars) :	45688
in Mud (Bel Jars) :	

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	824

PERFORMANCE

	In	Out
Inclination (deg)	0.42	40.63
Azimuth (deg)	242.79	302.41

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	490.00	31			
Rotated :	398.00	28			
Total :	888.00	30	1.36	0.00	1.37

COMMENTS

Motor Bend to be set @ 1.15°
Motor RPM - 0.13 rev/gal
Bit to Survey - 20.55m

OBJECTIVES:

Clean out the 20" conductor and drill vertically to kick-off point at 295m, then build angle at 2°/30m to 42° inclination on an azimuth of 301 degrees. Once the tangent angle has been reached the assembly will be tripped to run 13 3/8" casing.

RESULTS:

The conductor was cleaned out and the well kicked off at 280m. Due to the softness of the formation the flow rate was initially kept to 700gpm to avoid washing out the well, and 100% sliding needed to achieve the required 2° doglegs, with very little WOB possible. As the formation firmed up and able to take more weight, the slide intervals were reduced to 60 - 70% and the flow rate increased to 850gpm, with gel sweeps pumped on the run after every single for hole cleaning. Initial ROPs at times exceeded 80m/hr due to the need to keep weight to the bit but overall averaged 70m/hr in rotary and 50m/hr sliding. By 920m the required tangent angle of 42° had been reached and the assembly rotated ahead to the proposed TD of 956m, with an instruction from town to keep the WOB to 15k. This reduced WOB produced a drop tendency of 0.5°/30m, and when TD was extended to 1012m further slides were needed to keep the inclination to around 42 degrees. A wiper trip was made to the shoe and the hole circulated clean before tripping out to run 13 3/8" casing.

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DRILLING SERVICES

BHA Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128 **BHA# 2**

BHA# 2 : **Date In** :15/08/200 **MD In (m) :** 1012 **TVD In (m) :** 932 **Date Out** 16/08/2004 **MD Out (m):** 1017 **TVD Out (m):** 936

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
2rr2	12.250	Hughes Christensen	ATJ-G8	6010776	3x24	1.325	1-1-WT-H -E-I-NO-BHA

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
2	9.625	SSDS	SperryDrill	963212	0.00°		250	6.00

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	12 1/4" Milled Tooth Bit	6010776	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	963212	9.625	6.135	12.063	147.21	B 6-5/8" Reg	8.59	1.22
3	Cross Over Sub	A-351	6.750	3.000		97.86	B 6-5/8" Reg	0.87	
4	Float Sub	718245	8.000	3.000		147.22	B 6-5/8" Reg	0.71	
5	12 1/4" String Stabiliser	207A190	8.250	2.810	12.250	161.04	B 6-5/8" Reg	1.99	11.18
6	5 x 8 1/4" Drill collars		8.000	2.810		150.00	B 6-5/8" Reg	47.53	
7	Hydra Drilling Jars	AH02220	8.250	3.000		158.09	B 6-5/8" Reg	9.79	
8	2 x 8 1/4" Drill collars		8.250	2.875		160.05	B 6-5/8" Reg	18.94	
9	Cross Over Sub	GP7780-2H1 8292F	6.700	2.940		97.02	B 4-1/2" IF	0.99	
10	9 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	84.66	
								174.37	

Parameter	Min	Max	Ave
WOB (klbs) :	25	25	25
RPM (rpm) :	40	40	40
Flow (gpm) :	700	700	700
SPP (psi) :	1650	1650	1650

Activity	Hrs
Drilling :	0.50
Reaming :	0.00
Circ-Other :	5.50
Total :	6.00

BHA Weight	(lb)
in Air (Total) :	58617
in Mud (Total) :	
in Air (Bel Jars) :	29585
in Mud (Bel Jars) :	

Drill String	OD(in)	Len (m)

PERFORMANCE

	In	Out
Inclination (deg)	40.63	40.58
Azimuth (deg)	302.41	302.44

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.00	0			
Rotated :	5.00	10			
Total :	5.00	10	-0.26	0.21	0.29

COMMENTS

Ported float in string.

OBJECTIVES:

Drill out shoetrack, shoe and rathole plus 3m of new formation. Perform F.I.T. then POOH to run motor/AGS assembly.

RESULTS:

A straight motor and re-run milled tooth bit was used in this cleanout BHA, with no MWD. The assembly was RIH and tagged the stage collar at 306m. Drilled out the collar and pumped a 30 bbl hi-vis pill to clean out the debris prior to resuming the trip in the hole. Drilled out float, shoe and rathole plus 5m of new formation, and performed F.I.T. Circulated bottoms up and POOH to run drilling assembly.

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DRILLING SERVICES

BHA Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128 **BHA# 3**

BHA# 3 : **Date In** :16/08/200 **MD In (m) :** 1017 **TVD In (m) :** 936 **Date Out** 18/08/2004 **MD Out (m):** 1593 **TVD Out (m):** 1359

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
3rr3	12.250	Hughes Christensen	HCM506	7003148	6x18	1.491	1-1-NO-A -X-I-NO-DTF

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
3	9.625	SSDS	SperryDrill	963212	1.15°		65	38.00

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	12 1/4" HCM506 PDC Bit	7003148	12.250	3.000	12.250	377.57	P 6-5/8" Reg	0.37	
2	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg	963212	9.625	6.135	12.063	147.21	B 6-5/8" Reg	8.59	1.29
3	Cross Over Sub	A-351	6.750	3.000		97.86	B 6-5/8" Reg	0.87	
4	Adjustable Gauge Stabilizer	512-007	8.250	3.250	12.000	153.91	B 6-5/8" Reg	3.33	11.73
5	Float Sub	718245	8.000	3.000		147.22	B 6-5/8" Reg	0.71	
6	8" MPT w/DGR + EWR + Dir	90047857	8.000	3.250		143.03	B 6-5/8" Reg	9.89	
7	8" Non Mag Hangoff Sub	10536014	8.000	4.015		128.16	B 6-5/8" Reg	3.11	
8	12 1/4" String Stabiliser	48448	8.000	3.000	12.250	147.22	B 6-5/8" Reg	1.99	27.84
9	5x 8 1/4" Drill collars		8.000	2.810		150.00	B 6-5/8" Reg	47.53	
10	Hydra Drilling Jars	AH02220	8.250	3.000		158.09	B 6-5/8" Reg	9.79	
11	2x 8 1/4" Drill collars		8.250	2.875		160.05	B 6-5/8" Reg	18.94	
12	Cross Over Sub	GP7780-2H1 8292F	6.700	2.940		97.02	B 4-1/2" IF	0.99	
13	9 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	84.66	
								190.77	

Parameter	Min	Max	Ave
WOB (klbs) :	10	15	12
RPM (rpm) :	50	70	67
Flow (gpm) :	800	850	835
SPP (psi) :	2050	3190	2718

Activity	Hrs
Drilling :	28.00
Reaming :	0.25
Circ-Other :	3.75
Total :	32.00

BHA Weight (lb)	
in Air (Total) :	66243
in Mud (Total) :	56954
in Air (Bel Jars) :	37211
in Mud (Bel Jars) :	31993

Drill String	OD(in)	Len (m)

PERFORMANCE

	In	Out
Inclination (deg)	40.58	40.81
Azimuth (deg)	302.44	300.99

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	47.00	16			
Rotated :	529.00	21			
Total :	576.00	21	0.01	-0.08	0.05

COMMENTS

Motor RPM - 0.13 rev/gal
Bit to Survey - 22.28m
Bit to Gamma - 18.91m
Bit to Resistivity - 15.92m

OBJECTIVES:

Drill the 12¼" tangent section to 1775m, then drop angle at 1°/30m to the first core point at the Top EVCM (2216m MD). The section will be drilled mainly in rotary mode, using the AGS for inclination control and slides as necessary.

RESULTS:

The 12¼" steerable assembly was RIH and drilling commenced in rotary from 1017m with the AGS in the undergauge position, as the inclination at the start of the section was almost 2° low of the wellplan. However the first 2 surveys showed a continuing drop of 0.2°/30m, so a couple of short slides were used to bring the wellpath back to proposal. No problems sliding or holding toolface but toolface updates were erratic due to the MWD frequently not responding to the PM, even though the tool was pulsing OK. The AGS then became stuck in full gauge following a connection, although this did not not present any big problem and it eventually cleared itself. By now the MWD was starting to shut off intermittently and could only be restarted by picking up off bottom and cycling the pumps.
After initially dropping at 0.2°/30m in 12" the assembly began to show a slight build as the formation firmed up, so the AGS was kept in full gauge for the remainder of the run. ROPs in the soft Torquay and Angahook claystones ranged from 30 to 50m/hr, and on several occasions drilling had to stop while the flow line and shakers were cleared of this sticky clay. Once into the Volcanics at 1489m the ROP dropped to 15 - 20m/hr with the torque becoming more erratic.
The MWD tool was by now shutting down more frequently and although it was still pulsing, considerable time was being spent cycling the pumps to restart it. Because of this it was decided to POOH to change the MWD.
On the trip out the hole was tight from 1265m to 1236m, which was the transition from the Torquay to Angahook formations, with some packing off occurring. After working through several times, continued POOH.

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DRILLING SERVICES

BHA Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128 **BHA# 4**

BHA# 4 : **Date In** :18/08/200 **MD In (m) :** 1593 **TVD In (m) :** 1359 **Date Out** 22/08/2004 **MD Out (m):** 2216 **TVD Out (m):** 1858

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
3rr4	12.250	Hughes Christensen	HCM506	7003148	6x18	1.491	2-2-BT-S -X-I-ER-CP

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
4	9.625	SSDS	SperryDrill	963212			72	111.25

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	12 1/4" HCM506 PDC Bit	7003148	12.250	3.000	12.250	377.57	P 6-5/8" Reg	0.37	
2	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg	963212	9.625	6.135	12.063	147.21	B 6-5/8" Reg	8.59	1.29
3	Cross Over Sub	A-351	6.750	3.000		97.86	B 6-5/8" Reg	0.87	
4	Adjustable Gauge Stabilizer	512-007	8.250	3.250	12.000	153.91	B 6-5/8" Reg	3.33	11.73
5	Float Sub	718245	8.000	3.000		147.22	B 6-5/8" Reg	0.71	
6	8" MPT w/DGR + EWR + Dir	90047858	8.000	3.250		143.03	B 6-5/8" Reg	9.84	
7	8" Non Mag Hangoff Sub	10562337	8.000	4.015		128.16	B 6-5/8" Reg	3.11	
8	12 1/4" String Stabiliser	48448	9.690	3.000	12.250	227.24	B 6-5/8" Reg	1.99	27.79
9	5x 8 1/4" Drill collars		8.000	2.810		150.00	B 6-5/8" Reg	47.53	
10	Hydra Drilling Jars	DAH02767	8.250	3.000		158.09	B 6-5/8" Reg	9.67	
11	2x 8 1/4" Drill collars		8.250	2.875		160.05	B 6-5/8" Reg	18.94	
12	Cross Over Sub	GP7780	6.700	2.940		97.02	B 4-1/2" IF	0.99	
13	9 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	84.66	
								190.60	

Parameter	Min	Max	Ave
WOB (klbs) :	10	35	16
RPM (rpm) :	70	70	70
Flow (gpm) :	850	850	850
SPP (psi) :	3000	3750	3354

Activity	Hrs
Drilling :	56.25
Reaming :	9.75
Circ-Other :	7.25
Total :	73.25

BHA Weight	(lb)
in Air (Total) :	66680
in Mud (Total) :	57025
in Air (Bel Jars) :	37710
in Mud (Bel Jars) :	32250

Drill String	OD(in)	Len (m)

PERFORMANCE

	In	Out
Inclination (deg)	40.81	29.57
Azimuth (deg)	300.99	301.12

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	69.00	8			
Rotated :	554.00	11			
Total :	623.00	11	-0.54	0.01	0.54

COMMENTS

Motor RPM - 0.13 rev/gal
Bit to Survey - 22.30m
Bit to Gamma - 18.93m
Bit to Resistivity - 15.94m

OBJECTIVES:

Drill the remainder of the tangent section to 1775m, then drop angle at 1°/30m to the first core point at the Top EVCM (2216m MD). The section will be drilled mainly in rotary mode, using the AGS for inclination control and slides as necessary.

RESULTS:

At surface the MWD and PM were changed out and the motor, AGS and bit cleaned of balled-up clay and inspected. The AGS was tested and run in the hole.The assembly took weight at 1252m and the hole reamed to 1259m, and again from 1585m to bottom at 1593m. During the washing/reaming to bottom high gas readings were recorded necessitating the closing of the annular BOP and circulating out the gas. The AGS was set in the undergague position to bring the inclination back up to 42°, and drilling continued at 12 - 15m/hr, the assembly building at an average 0.38°/30m. At 1787m the drop off was initiated by sliding on lowside for the first 6m on the stand and rotating the remaining 23m with the AGS in full gauge. This ratio provided the required 1°/30m drop and was repeated on each following stand, with ROP's 15-20m/hr. The first few slides were no problem but from 2080m became progressively more difficult with weight stacking and almost complete loss of toolface control. This was due to the formation becoming more ratty, the samples showing traces of Dolomite and Pyrite which not only affected sliding but slowed the ROP down to a maximum 10m/hr in rotary (with 30k WOB), and 2-3m/hr sliding. With 80m to drill to core point, sliding was abandoned due to the excessive time being spent, and also because the well was in good position relative to the wellplan. The last 2 stands were drilled in full gauge but the surveys showed no further drop due to the hard formation and WOB used. At 2216m circulated bottoms up and POOH.
On the trip out the string started pulling tight at 1436m (50-60k overpull). Attempts to work the pipe through proved unsuccessful so the top drive was made up to pump out through the tight spot, but almost immediately the hole packed off. Once rotation and circulation were re-established, continued to pump out, but the packing off problems persisted, and the hole had to be washed/backreamed all the way back to the shoe at 1006m, which took 13 hours. Circulated bottoms up at the shoe and continued POOH to surface.

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DRILLING SERVICES

BHA Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128 **BHA# 5**

BHA# 5 : **Date In** :22/08/200 **MD In (m) :** 2216 **TVD In (m) :** 1858 **Date Out** 25/08/2004 **MD Out (m):** 2234 **TVD Out (m):** 1873

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
5	9.250	Security DBS		7980532		0.000	

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 Head	7980532	9.250		9.250			1.28	
2	8½" Stabiliser		6.750		8.500			0.92	1.74
3	Core Barrel		6.750					7.93	
4	8½" Stabiliser		6.750		8.500			1.22	10.74
5	Core Barrel		6.750					7.93	
6	8½ Stabiliser		6.750		8.500			1.22	19.89
7	Cross Over Sub		6.750				B 4-1/2" IF	0.85	
8	Cross Over Sub	508A593	6.500	2.875		90.96	B 6-5/8" Reg	1.22	
9	3 x 8 1/4"Drill collars		8.000	2.810		150.00	B 6-5/8" Reg	28.46	
10	11½" String Stabiliser	7090449	8.000	3.000	11.500	147.22	B 6-5/8" Reg	1.64	51.64
11	6 x 8 1/4" Drill collars		8.000	2.810		150.00	B 6-5/8" Reg	57.19	
12	Hydra Drilling Jars	DAH02767	8.250	3.000		158.09	B 6-5/8" Reg	9.67	
13	2 x 8 1/4" Drill collars		8.250	2.875		160.05	B 6-5/8" Reg	18.94	
14	Cross Over Sub	GP7780-2H1 8292F	6.700	2.940		97.02	B 4-1/2" IF	0.99	
15	9 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	84.66	
								224.12	

Parameter	Min	Max	Ave
WOB (klbs) :	10	10	10
RPM (rpm) :	70	70	70
Flow (gpm) :	150	150	150
SPP (psi) :	600	600	600

Activity	Hrs
Drilling :	0.75
Reaming :	7.50
Circ-Other :	4.50
Total :	12.75

BHA Weight	(lb)
in Air (Total) :	
in Mud (Total) :	
in Air (Bel Jars) :	0
in Mud (Bel Jars) :	0

Drill String	OD(in)	Len (m)

PERFORMANCE

	In	Out
Inclination (deg)	29.57	29.44
Azimuth (deg)	301.12	301.04

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.00	0			
Rotated :	18.00	24			
Total :	18.00	24	-0.22	-0.14	0.23

COMMENTS

OBJECTIVES:

Cut an 18 metre core using an 8 1/2" posilock corebarrel assembly through the oil zone.

RESULTS:

The 8 1/2" coring barrels were picked up and run in the hole through tight spots from 1035m to 1475m.The assembly was washed and reamed from 2165m to 2216m then cored from 2216m to 2234m.The 2' ball for the posilock was dropped and pumped down with no sign of a pressure increase so the proceedure was repeated, again with no pressure increase. The core assembly was picked up and broke over with a 15000lb overpull. The assembly was pulled slowly out of the hole, partly because of the hole problems at 1200m and also to vent the core near surface. However at surface the core barrels were absent and had parted on the top cross-over from the dril collars to the barrels.
An overshot and grapple assembly was run in the hole and washed and reamed through the tight spots from 1061m to 1400m. It was then run down to 2189m and washed over the fish at 2199m.
The fish was pulled free and tripped out of the hole. At surface there was a 100% core recovery and the assemblies were laid out.

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DRILLING SERVICES

BHA Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128 **BHA# 6**

BHA# 6 : **Date In** :25/08/200 **MD In (m) :** 2234 **TVD In (m) :** 1873 **Date Out** 27/08/2004 **MD Out (m):** 2347 **TVD Out (m):** 1974

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
3rr5	12.250	Hughes Christensen	HCM506	7003148	6x18	1.491	2-2-BT-S -X-I-CT-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
5	9.625	SSDS	SperryDrill	963212			46	138.00

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	12 1/4" HCM506 PDC Bit	7003148	12.250	3.000	12.250	377.57	P 6-5/8" Reg	0.37	
2	9-5/8" SperryDrill Lobe 6/7 - 5.0 stg	963212	9.625	6.135	12.063	147.21	B 6-5/8" Reg	8.59	1.29
3	Cross Over Sub	A-351	6.750	3.000		97.86	B 6-5/8" Reg	0.87	
4	Adjustable Gauge Stabilizer	513-012	8.250	3.250	12.250	153.91	B 6-5/8" Reg	3.33	11.73
5	Float Sub	718245	8.000	3.000		147.22	B 6-5/8" Reg	0.71	
6	8" MPT w/DGR + EWR + Dir	90047858	8.000	3.250		143.03	B 6-5/8" Reg	9.84	
7	8" Non Mag Hangoff Sub	10562337	8.000	4.015		128.16	B 6-5/8" Reg	3.11	
8	12 1/8" String Stabilizer	694775	9.690	3.000	12.125	227.24	B 6-5/8" Reg	1.86	27.74
9	5 x 8 1/4" Drill Collars		8.000	2.810		150.00	B 6-5/8" Reg	47.40	
10	Hydra Drilling Jars	DAH02767	8.250	3.000		158.09	B 6-5/8" Reg	9.67	
11	2 x 8 1/4" Drill Collars		8.250	2.875		160.05	B 6-5/8" Reg	19.07	
12	Cross Over Sub	GP7780	6.700	2.940		97.02	B 4-1/2" IF	0.99	
13	9 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	84.66	
								190.47	

Parameter	Min	Max	Ave
WOB (klbs) :	10	20	13
RPM (rpm) :	70	80	78
Flow (gpm) :	850	890	870
SPP (psi) :	3720	4150	3954

Activity	Hrs
Drilling :	11.25
Reaming :	9.50
Circ-Other :	6.00
Total :	26.75

BHA Weight (lb)	
in Air (Total) :	66587
in Mud (Total) :	57047
in Air (Bel Jars) :	37549
in Mud (Bel Jars) :	32170

Drill String	OD(in)	Len (m)

PERFORMANCE

	In	Out
Inclination (deg)	29.44	25.41
Azimuth (deg)	301.04	301.49

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	23.00	3			
Rotated :	90.00	12			
Total :	113.00	10	-1.07	0.12	1.07

COMMENTS

Change out AGS

OBJECTIVES:

Ream out the cored section and drill ahead, continuing to drop angle at 1°/30m to section TD at 2347m.

RESULTS:

The hole had ongoing sticking problems just below the 13 3/8' shoe so on the trip in , the hole was reamed and washed from 1032m to 1613m while conditioning the mud, and cleaned with a 60bbl sweep.The cored section from 2216m to 2234m was then reamed out from 8½" to 12¼" before once again the hole was circulated clean and the mud conditioned, and a second 60bbl Barolift sweep circulated prior to drilling ahead. Initially the ROP was 35m/hr while still in the sands but slowed from 2251 metres when in the siltstone and sliding became increasingly difficult with an increase in weightstacking and slower ROP. The last 2 stands were rotated, and at TD (2347m) the assembly was tripped to run wireline logs.
On the first logging run the toolstring encountered resistance at 1200m and was pulled back to 1135m, where it became stuck. After 2 hours the string was pulled free and brought back to surface, to be re-run after a cleanout trip.

sperry-sun
DRILLING SERVICES

BHA Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128 **BHA# 7**

BHA# 7 : **Date In** :27/08/200 **MD In (m) :** 2347 **TVD In (m) :** 1974 **Date Out** 29/08/2004 **MD Out (m):** 2347 **TVD Out (m):** 1974

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
2rr3	12.250	Hughes Christensen	ATJ-G8	6010776	3x24	1.325	

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	12 1/4" Milled Tooth Bit	6010776	12.250	3.000	8.500	377.57	B 4-1/2" Reg	0.30	
2	12 1/4" Nearbit Stabiliser w/float	47605	8.250	3.000	12.250	158.09	B 4-1/2" IF	2.13	1.23
3	Pony collar	49059	8.250	2.750		161.94	B 4-1/2" IF	3.05	
4	12 1/4" String Stabiliser	48448	8.335	2.750	12.250	165.71	B 4-1/2" IF	1.99	6.45
5	1x 8 1/4" Drill collar		8.250	2.810		161.04	B 4-1/2" IF	9.52	
6	12 1/4" String Stabiliser	207A190	8.250	2.750	12.250	161.94	B 4-1/2" IF	1.72	17.69
7	5x 8 1/4" Drill collars		8.000	2.810		150.00	B 4-1/2" IF	47.40	
8	Drilling Jar	DAH02767	8.250	3.000		158.09	B 4-1/2" IF	9.67	
9	2x 8 1/4" Drill collars		8.250	2.880		159.98	B 4-1/2" IF	19.07	
10	Cross Over Sub	A154	8.000	3.000		147.22	B 4-1/2" IF	0.99	
11	6x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	56.41	
								152.25	

Parameter	Min	Max	Ave
WOB (klbs) :			
RPM (rpm) :			
Flow (gpm) :			
SPP (psi) :			

Activity	Hrs
Drilling :	0.00
Reaming :	11.50
Circ-Other :	4.25
Total :	15.75

BHA Weight	(lb)
in Air (Total) :	58075
in Mud (Total) :	49754
in Air (Bel Jars) :	33448
in Mud (Bel Jars) :	28656

Drill String	OD(in)	Len (m)

PERFORMANCE

	In	Out
Inclination (deg)	25.41	25.41
Azimuth (deg)	301.49	301.49

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :					
Rotated :					
Total :					

COMMENTS

OBJECTIVES:

Due to the problems getting the wireline tools down, the cleanout assembly will be run to ream the hole from the 13 3/8" shoe to 1600m, then continue RIH to bottom. Barolift pills will be pumped at 1600m and on bottom prior to POOH to re-run the wireline logs.

RESULTS:

The cleanout assembly was RIH and the hole washed/reamed from 1040m to 1600m. The hole was circulated clean and the assembly RIH, but several more tight spots not previously seen were encountered between 1600m and bottom at 2347m. After several circulations the assembly was tripped to surface with no further problems.

sperry-sun
DRILLING SERVICES

BHA Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128 **BHA# 8**

BHA# 8 : **Date In** :31/08/200 **MD In (m) :** 2347 **TVD In (m) :** 1974 **Date Cur**: 8/09/2004 **MD Cur (m):** 3497 **TVD Cur (m):** 3100

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
8rr1	8.500	Reed-Hycalog	DSX173	206589	3x16, 3x18	1.335	2-3-WT-S -X-I-CT-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
6	7.000	SSDS	SperryDrill	700021	0.93°		162	81.34

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	PDC Hycalog DSX173	206589	8.500	3.000	8.500	169.30	B 4-1/2" Reg	0.23	
2	7" SperryDrill Lobe 7/8 - 6.0 stg	700021	7.000	4.825	8.250	68.84	B 4-1/2" IF	7.39	0.85
3	Adjustable Gauge Stabilizer	450014	6.750	2.810	8.500	100.82	B 4-1/2" IF	3.24	9.41
4	Float Sub	190888	6.750	2.810		100.82	B 4-1/2" IF	0.98	
5	6-3/4" RLL + DGR	DM90049413	6.750	1.920		108.04	B 4-1/2" IF	7.06	
6	6-3/4" PM Tool	DM9007859	6.750	1.920		112.09	B 4-1/2" IF	2.74	
7	6-3/4" Hangoff Sub	12439	6.750	3.250		93.68	B 4-1/2" IF	3.06	
8	8 1/4" NM Stabiliser	47583	6.750	2.810	8.250	100.82	B 4-1/2" IF	1.31	25.23
9	6 x 6 3/4" Drill collars		6.750	2.250		108.00	B 4-1/2" IF	54.00	
10	Drilling Jar		6.500	2.875		90.96	B 4-1/2" IF	9.50	
11	2 x 6 3/4" Drill collars		6.750	2.250		108.00	B 4-1/2" IF	18.00	
12	6 x 5" HWDP		5.000	3.000		49.30	B 4-1/2" IF	54.00	
								161.51	

Parameter	Min	Max	Ave
WOB (klbs) :	5	25	14
RPM (rpm) :	70	100	82
Flow (gpm) :	500	655	600
SPP (psi) :	2250	4300	3767

Activity	Hrs
Drilling :	69.93
Reaming :	2.70
Circ-Other :	8.72
Total :	81.34

BHA Weight	(lb)
in Air (Total) :	45158
in Mud (Total) :	38688
in Air (Bel Jars) :	27210
in Mud (Bel Jars) :	23312

Drill String	OD(in)	Len (m)

PERFORMANCE

	In	Out
Inclination (deg)	25.41	0.91
Azimuth (deg)	301.49	169.30

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	89.00	9			3.00
Rotated :	1061.00	17	-0.30	0.00	
Total :	1150.00	16	-0.64	0.00	0.68

COMMENTS

OBJECTIVES:

Continue to drop at 1°/30m to vertical while maintaining azimuth through the primary target in the 2809 Sand, and continue to drill vertically to well TD at 3504m MD.

RESULTS:

Initially one joint steered lowside and 2 rotated per stand gave -1.2 to -0.7 degrees drop in inclination. The first slide out from the shoe drilled without any problem, but in the ratty sand/siltstone formation the hanging up problems soon returned, with weight stacking and dumping causing the motor to stall, and toolface very difficult to hold steady. Despite these problems, the required 1°/30m drop was somehow still being achieved, and from 2550m sliding became easier, to the extent that only 3 further slides were necessary by which time the assembly had began dropping in rotary at 1°/30m with the AGS in full gauge. Overall ROPs varied from 20 to 50m/hr, decreasing to 10m/hr in the Sill formation at 2994m then increasing again when back into sand. The primary target (2809 Sand) was intersected at 2.5° inclination and a gradual drop continued to TD, with the AGS alternating between gauges on each connection. 30m into the Basalt the ROP had dropped off almost to zero, so well TD was called and the assembly wiper tripped to the shoe prior to POOH to run wireline logs.

RECOMMENDATIONS:

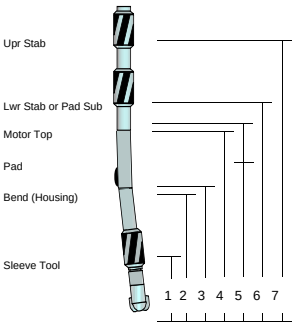
No problems were encountered with the assembly and all directional objectives were met.

MOTOR PERFORMANCE REPORT

M-AU-DD-0003007128-1

Motor Serial #	10538391	**Job #**	AU-DD-0003007128		
Directional Driller(s)	T.Gallagher, P.Gallagher	**Customer**	Origin Energy Resources		
Location	Yolla A Platform	**Rig**	Ensco 102		
Well Name	Yolla #3	**Bit Run #**	1rr1	**BHA #** : 1	**Motor Run #** : 1
Depth In/Out	124 / 1012 *m*	**Date In/Out**	11/08/2004 / 13/08/2004	**Hole Size**	16.000 *in*
Application Details	Kickoff				

MOTOR CONFIGURATION



	From Bit *(m)*	Component		Type	Diam In/Out *(in)*
1	1.28	Sleeve Stab/Pad	Yes	Stab: 4 W 0°	15.750 15.750
2	2.61	Bent Housing	Yes	Adjustable: 1.15° bend	
3		Housing Tool Used	No		
4	8.97	Stator Elastomer			
5		Bent Sub / 2nd Bent Hsg	No		
6	10.83	Lower String Stab	Yes	Stab: 3 270°	15.000 15.000
7	24.44	Upper String Stab	Yes	Stab: 3 270°	16.000 16.000

Additional Features :

Flex Collar : No **Short Brg Pack** : Yes **Rtr Noz / Size** : */32's*

Brg Cfg (Off/On) : **Lobe Cfg** : 6/7 **BHA OD/ID** : 9.625 / 3.625 *in*

	Arr	Ret
Pick Up Sub	Yes	No
Bit Box Protr	Yes	No

MOTOR RUN DATA

Max Dogleg While Rotating : 4.30 *°/30m*	**RPM** :	**Motor Stalled** : Yes	**Prev Job/Well Hrs**	0.00
Max Dogleg Overpulled In : *°/30m*	**Force** : *lbf*	**Float Valve** : Yes	**Drilling Hrs**	30.00
Max Dogleg Pushed Through : *°/30m*	**Force** : *lbf*	**DP Filter** : No	**Circ Hrs**	3.50
Hole Azimuth Start / End : 242.79° / 302.41°	**Inc Start / End** : 0.42° / 40.63°		**Reaming Hrs**	0.25
Interval Oriented / Rot. : 490 / 398 *m*	**Directional Perf Ori / Rot** : / *°/30m*		**Total Hrs This Run**	33.75
Jarring Occured : No			**New Cumulative Hrs**	33.75

	Diff Press *(psi)*	Str RPM	Rotn Torque *(ft-lbs)*	Drag Up/Dn *(lbf)*	WOB *(klbs)*	ROP Oriented *(m/hr)*	ROP Rotated *(m/hr)*
Avg	72	56	6833	5000 / 5000	16	31	28
Max	150	70	12000	5000 / 5000	30	100	130

PRE-RUN TESTS

Motor Tested Pre-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 2.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

POST-RUN TESTS

Motor Tested Post-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 3.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

Driveshaft Rotated to Drain Mud : No

Fluid Flushed : No **Fluid Used** :

MUD DATA

Base : Water **Additives** : **Mud Wt** : 8.7 *ppg* **SPP Start/End** : 950 / 2250 *psi*

% Oil/Water : / **% Solids** : 1.30 **% Sand** : 0.10 **PV** : 43 *cp* **YP** : 89.0 *lbf/100ft²* **pH** : 9.5

DH Temp Avg/Max : / **FlowRate Avg/Max** : 759 / 850 *gpm* **Chloride Content** : 19500 *ppm*

Principle Formation Name(s) : **Lithology** :

BIT DATA

Make : Hughes Christensen **Type** : MX-1 **Serial #** : 6023745

Pre Existing Hours From Other Wells: 35

Prev Drilling Hrs : 0.00 **Prev Reaming Hrs** : 0.00 **No of Runs This Bit** : 1

Jet Sizes *(/32's)* : 3x24 **TFA** : 1.325 *in²* **Gage Length** : *in*

Dull Grade	1	2	3	4	5	6	7	8
In	2	2	BU	A	E	I	NO	TD
Out	2	2	WT	A	E	I	NO	TD

PERFORMANCE COMMENTS

Problem Perceived : No **Problem Date** : **Service Interrupt** : No **Service Interrupt Hrs** :

Performance Motor : Yes **Tandem Motor** : No **LIH** : No **PPR Ref #** :

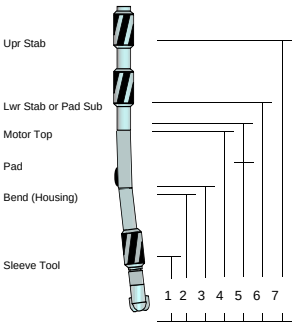
The motor was used to perform the kick-off and build up to 42° in the 16" hole section. No problems were encountered with the motor which was laid down at section TD.

MOTOR PERFORMANCE REPORT

M-AU-DD-0003007128-2

Motor Serial #	963212	**Job #**	AU-DD-0003007128		
Directional Driller(s)	T.Gallagher, P.Gallagher	**Customer**	Origin Energy Resources		
Location	Yolla A Platform	**Rig**	Ensco 102		
Well Name	Yolla #3	**Bit Run #**	2rr2	**BHA #** : 2	**Motor Run #** : 2
Depth In/Out	1012 / 1017 *m*	**Date In/Out**	15/08/2004 / 16/08/2004		**Hole Size** : 12.250 *in*
Application Details	Steerable Drilling				

MOTOR CONFIGURATION



	From Bit *(m)*	Component		Type	Diam In/Out *(in)*
1	1.22	Sleeve Stab/Pad	Yes	Stab: 4 W 0°	12.063 12.063
2		Bent Housing	No		
3		Housing Tool Used	No		
4	8.89	Stator Elastomer			
5		Bent Sub / 2nd Bent Hsg	No		
6	11.18	Lower String Stab	Yes	Stab: 3 270°	12.250 12.250
7		Upper String Stab	No		

Additional Features :

Flex Collar : No **Short Brg Pack** : Yes **Rtr Noz / Size** : */32's*

Brg Cfg (Off/On) : **Lobe Cfg** : 6/7 **BHA OD/ID** : 6.750 / 3.000 *in*

	Arr	Ret
Pick Up Sub	Yes	No
Bit Box Protr	Yes	No

MOTOR RUN DATA

Max Dogleg While Rotating : 2.79 *°/30m*	**RPM** : 70	**Motor Stalled** : No	**Prev Job/Well Hrs** : 0.00
Max Dogleg Overpulled In : *°/30m*	**Force** : *lbf*	**Float Valve** : Yes	**Drilling Hrs** : 0.50
Max Dogleg Pushed Through : *°/30m*	**Force** : *lbf*	**DP Filter** : No	**Circ Hrs** : 5.50
Hole Azimuth Start / End : 302.41° / 302.44°	**Inc Start / End** : 40.63° / 40.58°		**Reaming Hrs** : 0.00
Interval Oriented / Rot. : 0 / 5 *m*	**Directional Perf Ori / Rot** : / *°/30m*		**Total Hrs This Run** : 6.00
Jarring Occured : No			**New Cumulative Hrs** : 6.00

	Diff Press *(psi)*	Str RPM	Rotn Torque *(ft-lbs)*	Drag Up/Dn *(lbf)*	WOB *(klbs)*	ROP Oriented *(m/hr)*	ROP Rotated *(m/hr)*
Avg :	250	40		/	25	0	10
Max :	250	40		/	25		20

PRE-RUN TESTS

Motor Tested Pre-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 0.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

POST-RUN TESTS

Motor Tested Post-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 0.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

Driveshaft Rotated to Drain Mud : No

Fluid Flushed : No **Fluid Used** :

MUD DATA

Base : Water **Additives** : **Mud Wt** : 8.7 *ppg* **SPP Start/End** : 1650 / 1650 *psi*

% Oil/Water : / **% Solids** : 1.30 **% Sand** : 0.10 **PV** : 43 *cp* **YP** : 89.0 *lbf/100ft²* **pH** : 9.5

DH Temp Avg/Max : / **FlowRate Avg/Max** : 700 / 700 *gpm* **Chloride Content** : 19500 *ppm*

Principle Formation Name(s) : **Lithology** :

BIT DATA

Make : Hughes Christensen **Type** : ATJ-G8 **Serial #** : 6010776

Pre Existing Hours From Other Wells: 11

Prev Drilling Hrs : 0.00 **Prev Reaming Hrs** : 0.00 **No of Runs This Bit** : 1

Jet Sizes *(/32's)* : 3x24 **TFA** : 1.325 *in²* **Gage Length** : *in*

Dull Grade	1	2	3	4	5	6	7	8
In	1	1	WT	H	E	1	NO	BHA
Out	1	1	WT	H	E	I	NO	BHA

PERFORMANCE COMMENTS

Problem Perceived : No **Problem Date** : **Service Interrupt** : No **Service Interrupt Hrs** :

Performance Motor : Yes **Tandem Motor** : No **LIH** : No **PPR Ref #** :

The motor was used in the cleanout assembly and no problems were encountered.

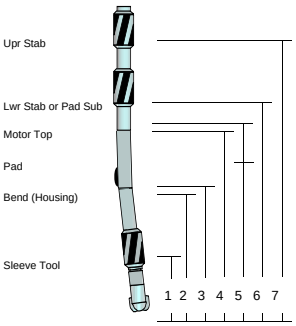
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MOTOR PERFORMANCE REPORT

M-AU-DD-0003007128-3

Motor Serial #	963212	**Job #**	AU-DD-0003007128		
Directional Driller(s)	T.Gallagher, P.Gallagher	**Customer**	Origin Energy Resources		
Location	Yolla A Platform	**Rig**	Ensco 102		
Well Name	Yolla #3	**Bit Run #**	3rr3	**BHA #** : 3	**Motor Run #** : 3
Depth In/Out	1017 / 1593 *m*	**Date In/Out**	16/08/2004 / 18/08/2004		**Hole Size** : 12.250 *in*
Application Details	Steerable Drilling				

MOTOR CONFIGURATION



	From Bit *(m)*	Component		Type	Diam In/Out *(in)*
1	1.29	Sleeve Stab/Pad	Yes	Stab: 4 W 0°	12.063 12.063
2	2.62	Bent Housing	Yes	Adjustable: 1.15° bend	
3		Housing Tool Used	No		
4	8.96	Stator Elastomer			
5		Bent Sub / 2nd Bent Hsg	No		
6	11.73	Lower String Stab	Yes	Stab: AGS	12.000
7	27.84	Upper String Stab	Yes	Stab: 3 270°	12.250 12.250

Additional Features :

Flex Collar : No **Short Brg Pack** : Yes **Rtr Noz / Size** : */32's*

Brg Cfg (Off/On) : **Lobe Cfg** : 6/7 **BHA OD/ID** : 6.750 / 3.000 *in*

	Arr	Ret
Pick Up Sub	Yes	No
Bit Box Protr	Yes	No

MOTOR RUN DATA

Max Dogleg While Rotating : 2.79 *°/30m*	**RPM** : 70	**Motor Stalled** : No	**Prev Job/Well Hrs** : 6.00
Max Dogleg Overpulled In : *°/30m*	**Force** : *lbf*	**Float Valve** : Yes	**Drilling Hrs** : 28.00
Max Dogleg Pushed Through : *°/30m*	**Force** : *lbf*	**DP Filter** : No	**Circ Hrs** : 3.75
Hole Azimuth Start / End : 302.44° / 300.99°	**Inc Start / End** : 40.58° / 40.81°		**Reaming Hrs** : 0.25
Interval Oriented / Rot. : 47 / 529 *m*	**Directional Perf Ori / Rot** : / *°/30m*		**Total Hrs This Run** : 32.00
Jarring Occured : Yes			**New Cumulative Hrs** : 38.00

	Diff Press *(psi)*	Str RPM	Rotn Torque *(ft-lbs)*	Drag Up/Dn *(lbf)*	WOB *(klbs)*	ROP Oriented *(m/hr)*	ROP Rotated *(m/hr)*
Avg :	65	67	8167	5000 / 5000	12	16	21
Max :	100	70	10000	1000 / 10000	15	50	60

PRE-RUN TESTS

Motor Tested Pre-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

POST-RUN TESTS

Motor Tested Post-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 4.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

Driveshaft Rotated to Drain Mud : No

Fluid Flushed : No **Fluid Used** :

MUD DATA

Base : Water **Additives** : **Mud Wt** : 9.2 *ppg* **SPP Start/End** : 2075 / 2810 *psi*

% Oil/Water : / **% Solids** : 4.20 **% Sand** : 0.10 **PV** : 28 *cp* **YP** : 34.0 *lbf/100ft²* **pH** : 8.6

DH Temp Avg/Max : / **FlowRate Avg/Max** : 835 / 850 *gpm* **Chloride Content** : 27000 *ppm*

Principle Formation Name(s) : **Lithology** :

BIT DATA

Make : Hughes Christensen **Type** : HCM506 **Serial #** : 7003148

Pre Existing Hours From Other Wells: 144

Prev Drilling Hrs : 0.00 **Prev Reaming Hrs** : 0.00 **No of Runs This Bit** : 1

Jet Sizes *(/32's)* : 6x18 **TFA** : 1.491 *in²* **Gage Length** : *in*

Dull Grade	1	2	3	4	5	6	7	8
In	1	1	NO	A	X	I	NO	TD
Out	1	1	NO	A	X	I	NO	DTF

PERFORMANCE COMMENTS

Problem Perceived : No **Problem Date** : **Service Interrupt** : No **Service Interrupt Hrs** :

Performance Motor : Yes **Tandem Motor** : No **LIH** : No **PPR Ref #** :

The motor performed to specification. No problems were encountered and the motor will be re-run to drill the 12¼" section to core point.

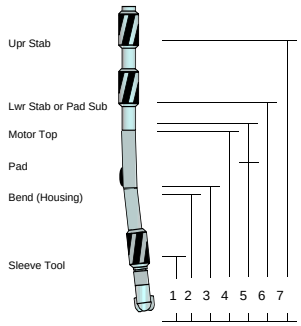
Customer Representative's Signature (optional) : ..... **Date:** .....

MOTOR PERFORMANCE REPORT

M-AU-DD-0003007128-4

Motor Serial #	963212	**Job #**	AU-DD-0003007128		
Directional Driller(s)	T.Gallagher, P.Gallagher	**Customer**	Origin Energy Resources		
Location	Yolla A Platform	**Rig**	Ensco 102		
Well Name	Yolla #3	**Bit Run #**	3rr4	**BHA #** : 4	**Motor Run #** : 4
Depth In/Out	1593 / 2216 *m*	**Date In/Out**	18/08/2004 / 22/08/2004		**Hole Size** : 12.250 *in*
Application Details	Steerable Drilling				

MOTOR CONFIGURATION



	From Bit *(m)*	Component		Type	Diam In/Out *(in)*
1	1.29	Sleeve Stab/Pad	Yes	Stab: 4 W 0°	12.063 12.063
2	2.62	Bent Housing	Yes	Adjustable: ° bend	
3		Housing Tool Used	No		
4	8.96	Stator Elastomer			
5		Bent Sub / 2nd Bent Hsg	No		
6	11.73	Lower String Stab	Yes	Stab: AGS	12.000
7	27.79	Upper String Stab	Yes	Stab: 3 270°	12.250 12.250

Additional Features :

Flex Collar : No **Short Brg Pack** : Yes **Rtr Noz / Size** : */32's*

Brg Cfg (Off/On) : **Lobe Cfg** : 6/7 **BHA OD/ID** : 6.750 / 3.000 *in*

	Arr	Ret
Pick Up Sub	Yes	No
Bit Box Protr	Yes	No

MOTOR RUN DATA

Max Dogleg While Rotating : 2.13 *°/30m*	**RPM** :	**Motor Stalled** : Yes	**Prev Job/Well Hrs**	:	38.00
Max Dogleg Overpulled In : *°/30m*	**Force** : *lbf*	**Float Valve** : Yes	**Drilling Hrs**	:	56.25
Max Dogleg Pushed Through : *°/30m*	**Force** : *lbf*	**DP Filter** : No	**Circ Hrs**	:	7.25
Hole Azimuth Start / End : 300.99° / 301.12°	**Inc Start / End** : 40.81° / 29.57°		**Reaming Hrs**	:	9.75
Interval Oriented / Rot. : 69 / 554 *m*	**Directional Perf Ori / Rot** : / *°/30m*		**Total Hrs This Run**	:	73.25
Jarring Occured : Yes			**New Cumulative Hrs**	:	111.25

	Diff Press *(psi)*	Str RPM	Rotn Torque *(ft-lbs)*	Drag Up/Dn *(lbf)*	WOB *(klbs)*	ROP Oriented *(m/hr)*	ROP Rotated *(m/hr)*
Avg :	72	70	13375	10000 / 10000	16	8	11
Max :	100	70	15000	60000 / 30000	35	15	22

PRE-RUN TESTS

Motor Tested Pre-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 4.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

POST-RUN TESTS

Motor Tested Post-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 6.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

Driveshaft Rotated to Drain Mud : No

Fluid Flushed : No **Fluid Used** :

MUD DATA

Base : Water **Additives** : **Mud Wt** : 9.6 *ppg* **SPP Start/End** : 3000 / 3630 *psi*

% Oil/Water : / **% Solids** : 6.60 **% Sand** : 0.10 **PV** : 26 *cp* **YP** : 36.0 *lbf/100ft²* **pH** : 8.4

DH Temp Avg/Max : / **FlowRate Avg/Max** : 850 / 850 *gpm* **Chloride Content** : 28000 *ppm*

Principle Formation Name(s) : **Lithology** :

BIT DATA

Make : Hughes Christensen **Type** : HCM506 **Serial #** : 7003148

Pre Existing Hours From Other Wells: 144

Prev Drilling Hrs : 28.0(**Prev Reaming Hrs** : 0.25 **No of Runs This Bit** : 2

Jet Sizes *(/32's)* : 6x18 **TFA** : 1.491 *in²* **Gage Length** : 3.000 *in*

Dull Grade	1	2	3	4	5	6	7	8
In	1	1	NO	A	X	I	NO	DTF
Out	2	2	BT	S	X	I	ER	CP

PERFORMANCE COMMENTS

Problem Perceived : No **Problem Date** : **Service Interrupt** : No **Service Interrupt Hrs** :

Performance Motor : Yes **Tandem Motor** : No **LIH** : No **PPR Ref #** :

The motor performed to specification with no problems, and was racked back to be used on the short section to casing point after the core run.

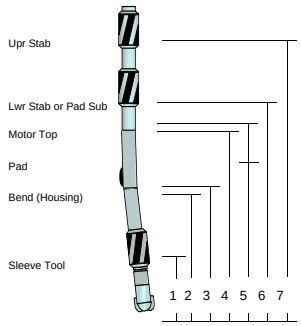
Customer Representative's Signature (optional) : ..... **Date:** .....

MOTOR PERFORMANCE REPORT

M-AU-DD-0003007128-6

Motor Serial #	963212	**Job #**	AU-DD-0003007128		
Directional Driller(s)	T.Gallagher, P.Gallagher	**Customer**	Origin Energy Resources		
Location	Yolla A Platform	**Rig**	Ensco 102		
Well Name	Yolla #3	**Bit Run #**	3rr5 **BHA #** : 6	**Motor Run #**	5
Depth In/Out	2234 / 2347 *m*	**Date In/Out**	25/08/2004 / 27/08/2004	**Hole Size**	12.250 *in*
Application Details	Steerable Drilling				

MOTOR CONFIGURATION



	From Bit *(m)*	Component		Type	Diam In/Out *(in)*
1	1.29	Sleeve Stab/Pad	Yes	Stab: 4 W 0°	12.063 12.063
2	2.62	Bent Housing	Yes	Adjustable: ° bend	
3		Housing Tool Used	No		
4	8.96	Stator Elastomer			
5		Bent Sub / 2nd Bent Hsg	No		
6	11.73	Lower String Stab	Yes	Stab: AGS	12.250
7	27.74	Upper String Stab	Yes	Stab: 3 360°	12.125 12.125

Additional Features :

Flex Collar : No **Short Brg Pack** : Yes **Rtr Noz / Size** : */32's*

Brg Cfg (Off/On) : **Lobe Cfg** : 6/7 **BHA OD/ID** : 6.750 / 3.000 *in*

	Arr	Ret
Pick Up Sub	Yes	No
Bit Box Protr	Yes	No

MOTOR RUN DATA

Max Dogleg While Rotating : *°/30m*	**RPM** : 80	**Motor Stalled** : No	**Prev Job/Well Hrs**	:	111.25
Max Dogleg Overpulled In : *°/30m*	**Force** : *lbf*	**Float Valve** : Yes	**Drilling Hrs**	:	11.25
Max Dogleg Pushed Through : *°/30m*	**Force** : *lbf*	**DP Filter** : No	**Circ Hrs**	:	6.00
Hole Azimuth Start / End : 301.04° / 301.49°	**Inc Start / End** : 29.44° / 25.41°		**Reaming Hrs**	:	9.50
Interval Oriented / Rot. : 23 / 90 *m*	**Directional Perf Ori / Rot** : / *°/30m*		**Total Hrs This Run**	:	26.75
Jarring Occured : No			**New Cumulative Hrs**	:	138.00

	Diff Press *(psi)*	Str RPM	Rotn Torque *(ft-lbs)*	Drag Up/Dn *(lbf)*	WOB *(klbs)*	ROP Oriented *(m/hr)*	ROP Rotated *(m/hr)*
Avg :	46	78	15000	/	13	3	12
Max :	70	80	15000	/	20	6	35

PRE-RUN TESTS

Motor Tested Pre-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 6.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

POST-RUN TESTS

Motor Tested Post-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 6.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

Driveshaft Rotated to Drain Mud : Yes

Fluid Flushed : No **Fluid Used** :

MUD DATA

Base : Water **Additives** : **Mud Wt** : 9.5 *ppg* **SPP Start/End** : 3750 / 4050 *psi*

% Oil/Water : / **% Solids** : 6.40 **% Sand** : 0.10 **PV** : 35 *cp* **YP** : 42.0 *lbf/100ft²* **pH** : 8.6

DH Temp Avg/Max : / **FlowRate Avg/Max** : 870 / 890 *gpm* **Chloride Content** : 21500 *ppm*

Principle Formation Name(s) : **Lithology** :

BIT DATA

Make : Hughes Christensen **Type** : HCM506 **Serial #** : 7003148

Pre Existing Hours From Other Wells: 144

Prev Drilling Hrs : 84.25 **Prev Reaming Hrs** : 10.0(**No of Runs This Bit** : 3

Jet Sizes *(/32's)* : 6x18 **TFA** : 1.491 *in²* **Gage Length** : 3.000 *in*

Dull Grade	1	2	3	4	5	6	7	8
In	2	2	BT	S	X	I	ER	CP
Out	2	2	BT	S	X	I	CT	TD

PERFORMANCE COMMENTS

Problem Perceived : No **Problem Date** : **Service Interrupt** : No **Service Interrupt Hrs** :

Performance Motor : Yes **Tandem Motor** : No **LIH** : No **PPR Ref #** :

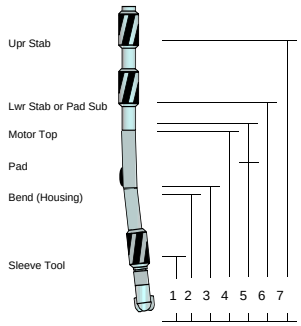
This motor was used on 4 runs and performed to specification with no problems. The motor was laid down at the end of the 12¼" section, having accumulated 127 circulating hours.

MOTOR PERFORMANCE REPORT

M-AU-DD-0003007128-8

Motor Serial # : 700021		**Job #** : AU-DD-0003007128	
Directional Driller(s) : T.Gallagher, P.Gallagher/SDroniak		**Customer** : Origin Energy Resources	
Location : Yolla A Platform		**Rig** : Ensco 102	
Well Name : Yolla #3	**Bit Run #** : 8rr1	**BHA #** : 8	**Motor Run #** : 6
Depth In/Out : 2347 / 3497 *m*	**Date In/Out** : 31/08/2004 / 8/09/2004		**Hole Size** : 8.500 *in*
Application Details : Steerable Drilling			

MOTOR CONFIGURATION



	From Bit *(m)*	Component		Type	Diam In/Out *(in)*
1	0.85	Sleeve Stab/Pad	Yes	Stab: 4 I 0°	8.250 8.250
2	2.04	Bent Housing	Yes	Adjustable: 0.93° bend	
3		Housing Tool Used	No		
4	7.62	Stator Elastomer			
5		Bent Sub / 2nd Bent Hsg	No		
6	9.41	Lower String Stab	Yes	Stab: AGS	8.500
7	25.23	Upper String Stab	Yes	Stab: 3 360°	8.250 8.250

Additional Features :

Flex Collar : No **Short Brg Pack** : Yes **Rtr Noz / Size** : */32's*

Brg Cfg (Off/On) : **Lobe Cfg** : 7/8 **BHA OD/ID** : 6.750 / 2.810 *in*

	Arr	Ret
Pick Up Sub :	Yes	No
Bit Box Protr :	Yes	No

MOTOR RUN DATA

Max Dogleg While Rotating : 3.48 *°/30m*	**RPM** : 80	**Motor Stalled** : No	**Prev Job/Well Hrs** : 0.00
Max Dogleg Overpulled In : *°/30m*	**Force** : *lbf*	**Float Valve** : Yes	**Drilling Hrs** : 69.93
Max Dogleg Pushed Through : *°/30m*	**Force** : *lbf*	**DP Filter** : No	**Circ Hrs** : 8.72
Hole Azimuth Start / End : 301.49° / 169.30°	**Inc Start / End** : 25.41° / 0.91°		**Reaming Hrs** : 2.70
Interval Oriented / Rot. : 89 / 1061 *m*	**Directional Perf Ori / Rot** : 3.00 / 0.30 *°/30m*		**Total Hrs This Run** : 81.34
Jarring Occured : No			**New Cumulative Hrs** : 81.34

	Diff Press *(psi)*	Str RPM	Rotn Torque *(ft-lbs)*	Drag Up/Dn *(lbf)*	WOB *(klbs)*	ROP Oriented *(m/hr)*	ROP Rotated *(m/hr)*
Avg :	162	82	17778	10000 / 10000	14	9	17
Max :	450	100	22000	40000 / 20000	25	36	60

PRE-RUN TESTS

Motor Tested Pre-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

POST-RUN TESTS

Motor Tested Post-Run : No **with** :

Dump Sub Operating : N/A **Brg Play** : 5.0 *mm*

Flow 1 : *gpm* **Pressure 1** : *psi*

Flow 2 : *gpm* **Pressure 2** : *psi*

Driveshaft Rotation Observed : No

Bearing Leakage Observed : No

Driveshaft Rotated to Drain Mud : Yes

Fluid Flushed : No **Fluid Used** :

MUD DATA

Base : Water **Additives** : **Mud Wt** : 9.4 *ppg* **SPP Start/End** : 2500 / 4010 *psi*

% Oil/Water : / **% Solids** : 6.70 **% Sand** : 0.15 **PV** : 51 *cp* **YP** : 49.0 *lbf/100ft²* **pH** : 8.8

DH Temp Avg/Max : / **FlowRate Avg/Max** : 600 / 655 *gpm* **Chloride Content** : 21000 *ppm*

Principle Formation Name(s) : **Lithology** :

BIT DATA

Make : Reed-Hycalog **Type** : DSX173 **Serial #** : 206589

Pre Existing Hours From Other Wells: 19.25

Prev Drilling Hrs : 0.00 **Prev Reaming Hrs** : 0.00 **No of Runs This Bit** : 1

Jet Sizes *(/32's)* : 3x16, 3x18 **TFA** : 1.335 *in²* **Gage Length** : 2.500 *in*

Dull Grade	1	2	3	4	5	6	7	8
In	1	1	CT	G	X	I	NO	TD
Out	2	3	WT	S	X	I	CT	TD

PERFORMANCE COMMENTS

Problem Perceived : No **Problem Date** : **Service Interrupt** : No **Service Interrupt Hrs** :

Performance Motor : Yes **Tandem Motor** : No **LIH** : No **PPR Ref #** :

The motor performed to specification and drilled the complete 8½" section to well TD in one run, having accumulated 81.5 circulating hours.

Customer Representative's Signature (optional) : ..... **Date:** .....

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 1 3/08/2004

Total Depth	**(m)**	: 124	**Casing Depth**	**(m)**	: 220.00	**Operator Reps**	: Henry Fink, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	: 0	**Casing Diameter**	**(in)**	: 20.000	**SSDS Reps**	: P.Gallagher (1)
Hole Size	**(in)**	:	**Casing ID**	**(in)**	:		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
0.00	0.00	0.00	0.00	0.00	N00.00E

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	230	43	89.0	14.0 / 16.0	6	9.5	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:00	24.00	124.00		W/L Fishing on Yolla #4

COMMENTS

Yolla-4

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 2 4/08/2004

Total Depth	**(m)**	: 124	**Casing Depth**	**(m)**	: 220.00	**Operator Reps**	: Henry Fink, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	: 0	**Casing Diameter**	**(in)**	: 20.000	**SSDS Reps**	: P.Gallagher (2)
Hole Size	**(in)**	:	**Casing ID**	**(in)**	:		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
0.00	0.00	0.00	0.00	0.00	N00.00E

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	230	43	89.0	14.0 / 16.0	6	9.5	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:00	24.00	124.00		Fishing for wire line on Yolla 4

COMMENTS

Yolla-4

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 3 5/08/2004

Total Depth	**(m)**	: 124	**Casing Depth**	**(m)**	: 220.00	**Operator Reps**	: Henry Fink, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	: 0	**Casing Diameter**	**(in)**	: 20.000	**SSDS Reps**	: P.Gallagher (3)
Hole Size	**(in)**	:	**Casing ID**	**(in)**	:		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
0.00	0.00	0.00	0.00	0.00	N00.00E

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	230	43	89.0	14.0 / 16.0	6	9.5	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:00	24.00	124.00		Fishing for wireline on Yolla-4

COMMENTS

Yolla-4

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 4 6/08/2004

Total Depth	**(m)**	: 124	**Casing Depth**	**(m)**	: 220.00	**Operator Reps**	: Henry Fink, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	: 0	**Casing Diameter**	**(in)**	: 20.000	**SSDS Reps**	: P.Gallagher (4)
Hole Size	**(in)**	:	**Casing ID**	**(in)**	:		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
0.00	0.00	0.00	0.00	0.00	N00.00E

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	230	43	89.0	14.0 / 16.0	6	9.5	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:00	24.00	124.00		W/L Fishing on Yolla #4/Open slide-sleeve @ 2980m and flow/flare zone.

COMMENTS

Yolla-4

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 5 7/08/2004

Total Depth	**(m)**	: 124	**Casing Depth**	**(m)**	: 220.00	**Operator Reps**	: Henry Fink, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	: 0	**Casing Diameter**	**(in)**	: 20.000	**SSDS Reps**	: P.Gallagher (5)
Hole Size	**(in)**	:	**Casing ID**	**(in)**	:		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
0.00	0.00	0.00	0.00	0.00	N00.00E

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	230	43	89.0	14.0 / 16.0	6	9.5	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:00	24.00	124.00		Con't to flo & flare Yolla #4. Close S/sleeve at 2980m;Prepare to set plugs.

COMMENTS

Yolla-4

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 6 8/08/2004

Total Depth	**(m)**	: 124	**Casing Depth**	**(m)**	: 220.00	**Operator Reps**	: Henry Fink, Hedley Amos
Drilled last 24 hrs	**(m)**	: 0	**Casing Diameter**	**(in)**	: 20.000	**SSDS Reps**	: P.Gallagher (6)
Hole Size	**(in)**	:	**Casing ID**	**(in)**	:		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
0.00	0.00	0.00	0.00	0.00	N00.00E

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	230	43	89.0	14.0 / 16.0	6	9.5	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	12:30	12.50	124.00		Set 3.813" plug @ 2594m:Bleed tbg pressure;close sssv,R/D & prepare to skid.
12:30	13:30	1.00	124.00		Skid Rig floor over to Yolla # 3.
13:30	15:00	1.50	124.00		Reconnect service lines,Erect scaffolding around Y-3 mezzanine deck.
15:00	16:00	1.00	124.00		Prepare to move PCU into position and secure same.
16:00	18:30	2.50	124.00		P/U riser tensioning frame & install on cylinders.
18:30	19:00	0.50	124.00		Prepare to pick up and rig up slings for conductor.
19:00	00:00	5.00	124.00		Waiting on Weather

COMMENTS

Skid from Yolla -4 to Yolla -3

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 7 9/08/2004

Total Depth	**(m)** :	124	**Casing Depth**	**(m)** :	220.00	**Operator Reps** :	Henry Fink, Hedley Amos
Drilled last 24 hrs	**(m)** :	0	**Casing Diameter**	**(in)** :	20.000	**SSDS Reps** :	T.Gallagher (1), P.Gallagher (7)
Hole Size	**(in)** :		**Casing ID**	**(in)** :			

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
0.00	0.00	0.00	0.00	0.00	N00.00E

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	230	43	89.0	14.0 / 16.0	6	9.5	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	13:15	13.25	124.00		Waiting on Weather: PMInspections on drilling equipment. MPI on TD.
13:15	20:15	7.00	124.00		Wind drop to 30 knts;P/U and run riser, m/u to 20" well-head, Run overshot packer and diverter box.Wind over 45knots,lay down cranes.
20:15	00:00	3.75	124.00		Waiting on Weather

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 8 10/08/2004

Total Depth	**(m)** :	124	**Casing Depth**	**(m)** :	220.00	**Operator Reps** :	Henry Fink, Hedley Amos
Drilled last 24 hrs	**(m)** :	0	**Casing Diameter**	**(in)** :	20.000	**SSDS Reps** :	T.Gallagher (2), P.Gallagher (8)
Hole Size	**(in)** :		**Casing ID**	**(in)** :			

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
0.00	0.00	0.00	0.00	0.00	N00.00E

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	230	43	89.0	14.0 / 16.0	6	9.5	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	14:15	14.25	124.00		Waiting on Weather/ Test BOP & standpipe manifold.
14:15	18:00	3.75	124.00		Off-load from boat; R/D testing equipment, install wearbushing.
18:00	21:00	3.00	124.00		Lay-out BHA: measure and caliper same.
21:00	00:00	3.00	124.00		PU and make up 16" BHA.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS **Report #** 9 11/08/2004

Total Depth	**(m)**	:	817	**Casing Depth**	**(m)**	: 215.00	**Operator Reps**	: Henry Fink, Hedley Amos
Drilled last 24 hrs	**(m)**	:	693	**Casing Diameter**	**(in)**	: 20.000	**SSDS Reps**	: T.Gallagher (3), P.Gallagher (9)
Hole Size	**(in)**	:	16.000	**Casing ID**	**(in)**	: 18.730		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
805.83	36.11	300.79	774.72	147.23	N60.32W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 1: 188.14 m; Bit #1rr1 (21. hrs), PDM #1 (21. hrs), Sub, Stab, DC, Pony, Stab, 2x DC, Sub, 3x DC, Jar, 2x DC, Sub, 9x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
					/					

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	01:00	1.00	124.00		Con't PU 16" BHA; bend motor 1.15*,scribe offset,M/U bit & RIH same.
01:00	03:00	2.00	124.00	1	Con't PU 9 1/2" DC's & jars and 8 1/4"DC's and RIH on HWDP, tag mudline @ 124m.
03:00	06:00	3.00	194.00	1	Drilling 16" hole 124 - 194m
06:00	00:00	18.00	817.00	1	Drilling 16" hole 194 - 817m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 10 12/08/2004

Total Depth	**(m)**	**:**	1012	**Casing Depth**	**(m)**	**:** 1006.00	**Operator Reps**	**:** Henry Fink, Hedley Amos
Drilled last 24 hrs	**(m)**	**:**	195	**Casing Diameter**	**(in)**	**:** 13.375	**SSDS Reps**	**:** T.Gallagher (4), P.Gallagher (10)
Hole Size	**(in)**	**:**	16.000	**Casing ID**	**(in)**	: 12.490		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
980.13	40.90	302.19	907.94	259.44	N59.25W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 1: 188.14 m; Bit #1rr1 (30.25 hrs), PDM #1 (33.75 hrs), Sub, Stab, DC, Pony, Stab, 2x DC, Sub, 3x DC, Jar, 2x DC, Sub, 9x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
					/					

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	09:00	9.00	1012.00	1	Drilling to TD at 1012m
09:00	10:15	1.25	1012.00	1	Circulate Displace holem to gel mud; spot KCL pill on bottom.
10:15	12:00	1.75	1012.00	1	Short Trip to inside 20" casing to 188m
12:00	17:00	5.00	1012.00	1	Waiting on Weather
17:00	18:45	1.75	1012.00	1	Short Trip in to 1000m
18:45	19:00	0.25	1012.00	1	Washing to bottom fm 1000m to 1012m; no fill.
19:00	21:15	2.25	1012.00	1	Circulate
21:15	00:00	2.75	1012.00	1	Trip Out

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 11 13/08/2004

Total Depth	**(m)**	**:**	1012	**Casing Depth**	**(m)**	**:**	1006.00	**Operator Reps** : Murray Jackson, Hedley Amos
Drilled last 24 hrs	**(m)**	**:**	0	**Casing Diameter**	**(in)**	**:**	13.375	**SSDS Reps** : T.Gallagher (5), P.Gallagher (11)
Hole Size	**(in)**	**:**	16.000	**Casing ID**	**(in)**	:	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
980.13	40.90	302.19	907.94	259.44	N59.25W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 1: 188.14 m; Bit #1rr1 (30.25 hrs), PDM #1 (33.75 hrs), Sub, Stab, DC, Pony, Stab, 2x DC, Sub, 3x DC, Jar, 2x DC, Sub, 9x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
					/					

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	02:00	2.00	1012.00	1	Con't to POOH. Pull probe; break-off bit , rack BHA.
02:00	02:45	0.75	1012.00		Remove insert 20" packer,Pull wearbushing,Insert 20" diverter packer.
02:45	04:45	2.00	1012.00		Rig up to run 13 3/8" casing
04:45	05:00	0.25	1012.00		Hold JSA on running 13 3/8" csg.
05:00	05:30	0.50	1012.00		Weatherford casing power tong failure c/o same.
05:30	11:00	5.50	1012.00		Run 13 3/8" casing to 517m.
11:00	16:30	5.50	1012.00		Wait on Weather
16:30	16:45	0.25	1012.00		Hold JSA on Running Casing
16:45	23:45	7.00	1012.00		Con't Running 13 3/8"casing. Land out with shoe at 1006.82m Stg collar @ 308m.
23:45	00:00	0.25	1012.00		Prepare for Cement job.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 12 14/08/2004

Total Depth	**(m)**	:	1012	**Casing Depth**	**(m)** :	1006.00	**Operator Reps** : Murray Jackson, Hedley Amos
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)** :	13.375	**SSDS Reps** : T.Gallagher (6), P.Gallagher (12)
Hole Size	**(in)**	:		**Casing ID**	**(in)** :	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
980.13	40.90	302.19	907.94	259.44	N59.25W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
					/					

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	05:00	5.00	1012.00		Perform 1st stage cementing of 13 3/8" casing
05:00	06:45	1.75	1012.00		Displace w/483 bbls seawater and bump plug
06:45	07:00	0.25	1012.00		Install and open stage collar
07:00	11:45	4.75	1012.00		Circulate while waiting for cement to set
11:45	12:00	0.25	1012.00		Pump 70 bbls seawater w/Dowell unit
12:00	13:45	1.75	1012.00		Perform 2nd stage cement job as per programme
13:45	16:15	2.50	1012.00		R/D cement head: Break out and lay-down landing joint.
16:15	18:00	1.75	1012.00		R/D 13 3/8" csg handling tools: c/o bails: clear floor.
18:00	21:30	3.50	1012.00		N/D diverter,overshot packer and riser.
21:30	23:15	1.75	1012.00		Cameron install side outlet valves@ w/h & test flanges to 5000psi.
23:15	00:00	0.75	1012.00		Nipple Up Riser and BOP

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 13 15/08/2004

Total Depth	**(m)**	:	1012	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Murray Jackson, Hedley Amos
SSDS Reps : T.Gallagher (7), P.Gallagher (13)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
980.13	40.90	302.19	907.94	259.44	N59.25W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 2: 174.37 m; Bit #2rr2 (1.5 hrs), PDM #2 (2. hrs), Sub, Sub, Stab, 5 x DC, Jar, 2 x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
					/					

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	09:30	9.50	1012.00		Nipple Up Riser and BOP
09:30	13:00	3.50	1012.00		Lay out 16" BHA
13:00	18:00	5.00	1012.00		Test BOP
18:00	19:30	1.50	1012.00	2	Make up 12 1/4" cleanout BHA
19:30	21:45	2.25	1012.00	2	RIH and tag top cement at 303m
21:45	23:15	1.50	1012.00	2	Drill plugs in stage collar to 308m
23:15	23:45	0.50	1012.00	2	Pump 30 bbl hi-vis pill
23:45	00:00	0.25	1012.00	2	Cont. RIH to 559m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 14 16/08/2004

Total Depth	**(m)**	:	1205	**Casing Depth**	**(m)** :	1006.00	**Operator Reps** : Murray Jackson, Hedley Amos
Drilled last 24 hrs	**(m)**	:	193	**Casing Diameter**	**(in)** :	13.375	**SSDS Reps** : T.Gallagher (8), P.Gallagher (14)
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)** :	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
1183.37	43.81	301.11	1059.67	394.57	N58.79W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 2: 174.37 m; Bit #2rr2 (4.25 hrs), PDM #2 (6. hrs), Sub, Sub, Stab, 5 x DC, Jar, 2 x DC, Sub, 9 x HWDP

BHA 3: 190.77 m; Bit #3rr3 (7.75 hrs), PDM #3 (13.75 hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5x DC, Jar, 2x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	8.7	240	34	48.0	7.0 / 9.0	6	8.9	1.30	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	01:00	1.00	1012.00	2	Cont. RIH f/559m to 980m
01:00	01:30	0.50	1012.00	2	Break circ. and test casing to 1500 psi
01:30	03:45	2.25	1012.00	2	Drill cmt f/980m to 1006m. Displ. hole to 8.6 ppg mud. Clean out rathole to 1012
03:45	04:15	0.50	1017.00	2	Drill 5m new formation to 1017m
04:15	05:00	0.75	1017.00	2	Circulate bottoms up
05:00	05:15	0.25	1017.00	2	POOH f/1017m to 986m
05:15	06:15	1.00	1017.00	2	Perform FIT
06:15	06:30	0.25	1017.00	2	Flow check and slug pipe
06:30	07:45	1.25	1017.00	2	POOH f/986m to 183m
07:45	08:00	0.25	1017.00	2	Remove PS21 slips and install rotary bushings
08:00	09:15	1.25	1017.00	2	Continue POOH w/ BHA to surface
09:15	09:30	0.25	1017.00	2	Recheck FIT
09:30	12:15	2.75	1017.00	2	M/up and test AGS. P/up and programme LWD tools.
12:15	12:30	0.25	1017.00	2	Break off tricone bit
12:30	14:30	2.00	1017.00	2	M/up steerable assy. Set bend to 1.15° & align MWD with motor
14:30	14:45	0.25	1017.00	3	RIH to HWDP. Shallow test MWD
14:45	16:15	1.50	1017.00	3	Cont. RIH to 1006m
16:15	16:30	0.25	1017.00	3	Wash / ream from 1006m to 1017m
16:30	00:00	7.50	1205.00	3	Drill 12¼" hole 1017 - 1205m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 15 17/08/2004

Total Depth	**(m)**	:	1593	**Casing Depth**	**(m)** :	1006.00	**Operator Reps** : Murray Jackson, Hedley Amos
Drilled last 24 hrs	**(m)**	:	388	**Casing Diameter**	**(in)** :	13.375	**SSDS Reps** : T.Gallagher (9), P.Gallagher (15)
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)** :	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
1589.81	40.80	300.98	1356.40	672.19	N59.05W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 3: 190.77 m; Bit #3rr3 (28.25 hrs), PDM #3 (36. hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5x DC, Jar, 2x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.2	117	28	34.0	7.0 / 18.0	15	8.6	4.20	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	02:45	2.75	1260.00	3	Drill 12¼" hole 1205 - 1260m
02:45	03:15	0.50	1260.00	3	Work pipe while clear cuttings from flow line
03:15	10:00	6.75	1420.00	3	Drill 12¼" hole 1260 - 1420m
10:00	10:30	0.50	1420.00	3	Work pipe while clear cuttings from flow line
10:30	21:30	11.00	1593.00	3	Drill 12¼" hole 1420 - 1593m
21:30	23:15	1.75	1593.00	3	LWD failure/Circulate bottoms up; flow check; pump slug
23:15	00:00	0.75	1593.00	3	Trip Out from 1593m to 1410m.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 16 18/08/2004

Total Depth	**(m)**	**:**	1642	**Casing Depth**	**(m)**	**:**	1006.00	**Operator Reps** : Murray Jackson, Hedley Amos
Drilled last 24 hrs	**(m)**	**:**	49	**Casing Diameter**	**(in)**	**:**	13.375	**SSDS Reps** : T.Gallagher (10), P.Gallagher (16)
Hole Size	**(in)**	**:**	12.250	**Casing ID**	**(in)**	:	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
1618.85	40.92	301.11	1378.36	691.19	N59.04W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 3: 190.77 m; Bit #3rr3 (28.25 hrs), PDM #3 (38. hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5x DC, Jar, 2x DC, Sub, 9 x HWDP
BHA 4: 190.60 m; Bit #3rr4 (34.25 hrs), PDM #4 (45.75 hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5x DC, Jar, 2x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.2	117	28	34.0	7.0 / 18.0	15	8.6	4.20	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	01:45	1.75	1593.00	3	Cont. POOH 1410 - 1226m. Hole tight 1265 - 1236m
01:45	03:15	1.50	1593.00	3	Pump OOH 1226 - 1212m. Hole packing off. B/ream 1212 - 1006m
03:15	03:45	0.50	1593.00	3	Flow ckeck and pump slug
03:45	04:45	1.00	1593.00	3	POOH 1006m to 190m
04:45	05:00	0.25	1593.00	3	Flow check
05:00	06:30	1.50	1593.00	3	POOH with BHA to 26m. Lay out jar
06:30	08:15	1.75	1593.00	3	Lay out failed LWD tools and p/up new tools
08:15	09:00	0.75	1593.00	3	Programme LWD
09:00	09:30	0.50	1593.00	3	Check bit and re-align motor with MWD
09:30	10:30	1.00	1593.00	4	RIH to 133m
10:30	10:45	0.25	1593.00	4	Shallow test MWD
10:45	12:45	2.00	1593.00	4	Cont. RIH F/133M to1006m
12:45	15:00	2.25	1593.00	4	Cut Drill Line
15:00	15:30	0.50	1593.00	4	Trip In to 1252m, taking weight.
15:30	15:45	0.25	1593.00	4	Wash down to 1259m
15:45	16:15	0.50	1593.00	4	Con;t to Trip In to 1585m tight.
16:15	17:00	0.75	1593.00	4	Reaming / Washing to 1593m
17:00	18:00	1.00	1593.00	4	Close Annular Circulate out gas through choke.
18:00	18:30	0.50	1593.00	4	Open annular, Monitor well on trip tank, and reciprocate pipe.
18:30	19:00	0.50	1593.00	4	Circulate bottoms up.
19:00	00:00	5.00	1642.00	4	Drilling 12 1/4" hole 1593 - 1642m.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 17 19/08/2004

Total Depth	**(m)**	:	1961	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	319	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Murray Jackson, Hedley Amos
SSDS Reps : T.Gallagher (11), P.Gallagher (17)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
1938.07	35.58	302.76	1621.65	897.50	N59.07W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 4: 190.60 m; Bit #3rr4 (58.25 hrs), PDM #4 (69.75 hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5x DC, Jar, 2x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	128	33	41.0	9.0 / 17.0	13	8.6	6.00	0.02	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:00	24.00	1961.00	4	Drilling 12 1/4" hole 1642 - 1961m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 18 20/08/2004

Total Depth	**(m)**	:	2178	**Casing Depth**	**(m)** :	1006.00	**Operator Reps** : Murray Jackson, Hedley Amos
Drilled last 24 hrs	**(m)**	:	217	**Casing Diameter**	**(in)** :	13.375	**SSDS Reps** : T.Gallagher (12), P.Gallagher (18)
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)** :	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2170.62	29.65	300.95	1818.22	1021.46	N58.91W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 4: 190.60 m; Bit #3rr4 (82. hrs), PDM #4 (93.75 hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5x DC, Jar, 2x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.5	78	28	32.0	8.0 / 15.0	13	8.3	6.10	0.05	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	21:00	21.00	2146.00	4	Drilling 12 1/4" hole 1961 - 2146m
21:00	21:15	0.25	2146.00	4	Circulate out gas cut mud.
21:15	00:00	2.75	2178.00	4	Drilling 12 1/4" hole 2146 - 2178m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 19 21/08/2004

Total Depth	**(m)**	:	2216	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	38	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Murray Jackson, Hedley Amos
SSDS Reps : T.Gallagher (13), P.Gallagher (19)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2199.47	29.61	301.35	1843.31	1035.70	N58.91W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 4: 190.60 m; Bit #3rr4 (94.25 hrs), PDM #4 (111.25 hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5x DC, Jar, 2x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.6	96	26	36.0	7.0 / 15.0	12	8.4	6.60	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	03:30	3.50	2216.00	4	Drill 12¼" hole 2178 - 2216m
03:30	05:45	2.25	2216.00	4	Circulate hole clean
05:45	09:00	3.25	2216.00	4	Flow check and POOH 2216 - 1505m
09:00	09:15	0.25	2216.00	4	Cont. POOH. Hole tight at 1463m (55-60k). Unable to work pipe through
09:15	09:30	0.25	2216.00	4	Attempt to pump out - hole packed off. Regain circ. & rotation and POOH to 1439m
09:30	11:00	1.50	2216.00	4	Hole packed off again. Rotate & reciprocate pipe while attempt to work free
11:00	12:00	1.00	2216.00	4	Re-establish circ. & incr. flow to 800 gpm. Circ. b/u while rotate & work pipe.
12:00	12:15	0.25	2216.00	4	Con't Circulate bottoms up
12:15	13:00	0.75	2216.00	4	Back Reaming / Washing from 1417m to 1334m (600gpm @ 1600psi)
13:00	14:15	1.25	2216.00	4	Hole packed off, RIH to 1351m, Circulate at 800gpm @ 2800psi.
14:15	16:00	1.75	2216.00	4	Back Reaming / Washing from 1351m to 1243m
16:00	16:15	0.25	2216.00	4	Hole packed off,work pipe till full returns.
16:15	17:30	1.25	2216.00	4	Back Reaming / Washing out of hole from 1243m to 1170m @ 800gpm/2800psi.
17:30	18:30	1.00	2216.00	4	Hole packed off at1170m Regain returns,Work pipe through 1170 to 1149m @ 43spm.
18:30	22:30	4.00	2216.00	4	Back Reaming/Washing from 1105m to 1003m, (packed off @ 1136m & 1071m)
22:30	23:45	1.25	2216.00	4	Circulate hole clean at 750gpm/2350psi.
23:45	00:00	0.25	2216.00	4	Flow check, static; pump slug: drop2 1/2" drift with 120' w/l down drillstring.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 20 22/08/2004

Total Depth	**(m)**	:	2234	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	18	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	9.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Murray Jackson, Hedley Amos
SSDS Reps : T.Gallagher (14), P.Gallagher (20)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2228.52	29.54	300.95	1868.58	1050.04	N58.91W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 4: 190.60 m; Bit #3rr4 (94.25 hrs), PDM #4 (111.25 hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5x DC, Jar, 2x DC, Sub, 9 x HWDP
BHA 5: 224.12 m; Bit #5 (1.75 hrs), Stab, Other, Stab, Other, Stab, Sub, Sub, 3 x DC, Stab, 6 x DC, Jar, 2 x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	98	36	49.0	9.0 / 15.0	12	8.5	6.10	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	03:45	3.75	2216.00	4	Cont. POOH f/1003m to surface. Lay out stab
03:45	04:30	0.75	2216.00	4	Download MWD
04:30	05:00	0.50	2216.00	4	Break off bit and rack BHA in the derrick
05:00	05:15	0.25	2216.00	4	Hold PJSM on core barrel BHA
05:15	07:45	2.50	2216.00	5	Make up core barrel assembly
07:45	11:45	4.00	2216.00	5	RIH with coring assembly to 997m
11:45	12:30	0.75	2216.00	5	Service Top Drive
12:30	13:00	0.50	2216.00	5	M/U core stand and ballsub and rack in derrick
13:00	18:15	5.25	2216.00	5	Con't to Trip In fm 979m to 2165m, Tight @ 1035,1090,1107,1117,1475,2165m.
18:15	19:15	1.00	2216.00	5	Reaming / Washing from 2165m to 2216m
19:15	20:00	0.75	2216.00	5	Circulate at 200gpm @ 500psi, Drop ball/pressure increase 200psi.
20:00	20:45	0.75	2234.00	5	Coring from 2216m to 2234m
20:45	22:15	1.50	2234.00	5	Drop 2" closure ball w/250gpm@ 850psi. Not seated, drop 2nd ball.
22:15	00:00	1.75	2234.00	5	Break core 15k overpull, Pooh to 2215m, Circ hole clean @ 350gpm / 900psi.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 21 23/08/2004

Total Depth	**(m)**	**:**	2234	**Casing Depth**	**(m)**	**:**	1006.00	**Operator Reps** : Murray Jackson, Hedley Amos
Drilled last 24 hrs	**(m)**	**:**	0	**Casing Diameter**	**(in)**	**:**	13.375	**SSDS Reps** : T.Gallagher (15), P.Gallagher (21)
Hole Size	**(in)**	**:**	9.250	**Casing ID**	**(in)**	:	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2228.52	29.54	300.95	1868.58	1050.04	N58.91W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 5: 224.12 m; Bit #5 (3. hrs), Stab, Other, Stab, Other, Stab, Sub, Sub, 3 x DC, Stab, 6 x DC, Jar, 2 x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	98	36	49.0	9.0 / 15.0	12	8.5	6.10	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:30	0.50	2234.00	5	Cont. circulate hole clean
00:30	00:45	0.25	2234.00	5	Flow check
00:45	05:15	4.50	2234.00	5	Pump slug and POOH. Hole tight at 1146m
05:15	06:30	1.25	2234.00	5	Pump out of hole to 998m
06:30	06:45	0.25	2234.00	5	Flow check
06:45	07:45	1.00	2234.00	5	Pump slug and POOH to 824m
07:45	08:00	0.25	2234.00	5	Flow check
08:00	12:00	4.00	2234.00	5	Cont. POOH 824m to 100m
12:00	14:00	2.00	2234.00	5	Cont. POOH, rack 8-1/4" , leaving 21.1m of core barrel assy in hole
14:00	18:00	4.00	2234.00	5	Waiting on instruction service, top drive PRS
18:00	20:30	2.50	2234.00	5	M/U fishing assy. w/6-3/4" grapple
20:30	22:45	2.25	2234.00	5	Install P521 slip, RIH w/5"HWDP & DP to 1061m.
22:45	00:00	1.25	2234.00	5	Wash & ream 1061-1096m. 30rpm, 200gpm, 310psi

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 22 24/08/2004

Total Depth	**(m)**	**:**	2234	**Casing Depth**	**(m)**	**:**	1006.00
Drilled last 24 hrs	**(m)**	**:**	0	**Casing Diameter**	**(in)**	**:**	13.375
Hole Size	**(in)**	**:**	9.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Murray Jackson, Mark Nasarczyk
SSDS Reps : T.Gallagher (16), P.Gallagher (22)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2228.52	29.54	300.95	1868.58	1050.04	N58.91W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 5: 224.12 m; Bit #5 (8.25 hrs), Stab, Other, Stab, Other, Stab, Sub, Sub, 3 x DC, Stab, 6 x DC, Jar, 2 x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	98	36	49.0	9.0 / 15.0	12	8.5	6.10	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	03:45	3.75	2234.00	5	Cont. wash & ream 1096m to 1400m
03:45	08:00	4.25	2234.00	5	RIH 1400m to 2189m. Break circ. every 5 stands
08:00	09:30	1.50	2234.00	5	Wash down to 2199m. Circ. bottoms up
09:30	11:00	1.50	2234.00	5	Tag fish @ 2199m, confirm w/340k o/pull. Press. up to confirm fish engaged
11:00	11:15	0.25	2234.00	5	Flow check
11:15	19:00	7.75	2234.00	5	POOH with fish to 109m Tight spots at 1095/1075/1055m.
19:00	20:30	1.50	2234.00	5	C/O slips and POOH with fish.
20:30	00:00	3.50	2234.00	5	Break off core bit and retrieve and L/D inner barrel and core.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 23 25/08/2004

Total Depth	**(m)**	:	2234	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Murray Jackson, Mark Nasarczyk
SSDS Reps : T.Gallagher (17), P.Gallagher (23)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2228.52	29.54	300.95	1868.58	1050.04	N58.91W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 5: 224.12 m; Bit #5 (8.25 hrs), Stab, Other, Stab, Other, Stab, Sub, Sub, 3 x DC, Stab, 6 x DC, Jar, 2 x DC, Sub, 9 x HWDP
BHA 6: 190.47 m; Bit #3rr5 (102. hrs), PDM #5 (120. hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5 x DC, Jar, 2 x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	98	36	49.0	9.0 / 15.0	12	8.5	6.10	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	04:15	4.25	2234.00	5	L/D Core & Fishing Assy.
04:15	05:45	1.50	2234.00	5	P/U BHA #6
05:45	10:15	4.50	2234.00	5	Align Sperry Motor, load MWD. RIH to 195m.
10:15	10:30	0.25	2234.00	6	Shallow test MWD
10:30	11:45	1.25	2234.00	6	Cont. RIH 190m - shoe
11:45	12:00	0.25	2234.00	6	P/U stand & B/O drop ball sub
12:00	13:30	1.50	2234.00	6	Service Top drive & PRS
13:30	13:45	0.25	2234.00	6	RIH 974 - 1032m.
13:45	20:45	7.00	2234.00	6	Reaming / Washing 1032 - 1613m.
20:45	21:45	1.00	2234.00	6	Pump 60 bbl Sweep, Circ. out
21:45	23:15	1.50	2234.00	6	RIH 1613 - 2193m.
23:15	00:00	0.75	2234.00	6	Reaming / Washing 2193 - 2216m.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 24 26/08/2004

Total Depth	**(m)**	:	2347	**Casing Depth**	**(m)** :	1006.00	**Operator Reps** : Murray Jackson, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	:	113	**Casing Diameter**	**(in)** :	13.375	**SSDS Reps** : T.Gallagher (18), P.Gallagher (24)
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)** :	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2323.95	25.94	301.45	1953.01	1094.48	N58.89W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 6: 190.47 m; Bit #3rr5 (115. hrs), PDM #5 (138. hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5 x DC, Jar, 2 x DC, Sub, 9 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.5	128	35	42.0	8.0 / 12.0	13	8.6	6.40	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	01:45	1.75	2234.00	6	Reaming / Washing core section from 2216m to 2234m.
01:45	04:15	2.50	2234.00	6	Pump 60bbl. sweep, Circ. hole clean
04:15	15:30	11.25	2347.00	6	Drill 12 1/4" hole 2234 - 2347m
15:30	18:00	2.50	2347.00	6	Pump 60bbl sweep and Circulate 3 bottoms up.
18:00	00:00	6.00	2347.00	6	Flo check/ Trip Out to 85m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 25 27/08/2004

Total Depth	**(m)**	:	2347	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Henry Flink, Mark Nasarczyk
SSDS Reps : T.Gallagher (19), P.Gallagher (25)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2323.95	25.94	301.45	1953.01	1094.48	N58.89W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 6: 190.47 m; Bit #3rr5 (115. hrs), PDM #5 (138. hrs), Sub, AGS, Sub, MWD, MWD, Stab, 5 x DC, Jar, 2 x DC, Sub, 9 x HWDP
BHA 7: 152.25 m; Bit #2rr3 (9. hrs), Stab, Pony, Stab, 1x DC, Stab, 5x DC, Jar, 2x DC, Sub, 6x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.5	128	35	42.0	8.0 / 12.0	13	8.6	6.40	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:45	0.75	2347.00	6	Cont. POOH 85 - 26m
00:45	01:30	0.75	2347.00	6	Download and read LWD
01:30	02:00	0.50	2347.00	6	Break off and lay out bit
02:00	02:15	0.25	2347.00	6	Hold PJSM on wireline operations
02:15	04:30	2.25	2347.00	6	Rig up Schlumberger
04:30	05:30	1.00	2347.00	6	RIH with wireline to 1200m. W/line tools stood up
05:30	10:00	4.50	2347.00	6	POOH to 1135m. Tools stuck. Work line to free tools
10:00	10:45	0.75	2347.00	6	Pull wireline to full tension. Toolstring free. POOH to shoe
10:45	12:00	1.25	2347.00	6	Cont. POOH to surface.
12:00	13:30	1.50	2347.00	6	Lay down logging tools
13:30	15:30	2.00	2347.00	6	Lay out 12¼" directional BHA
15:30	17:15	1.75	2347.00	7	M/U 12¼" cleanout BHA & RIH to 152m
17:15	18:30	1.25	2347.00	7	RIH with DP to 994m
18:30	19:00	0.50	2347.00	7	Service Top Drive
19:00	19:15	0.25	2347.00	7	Cont. RIH to 1040m
19:15	00:00	4.75	2347.00	7	Wash/ream from 1040m to 1459m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 26 28/08/2004

Total Depth	**(m)**	:	2347	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Henry Flink, Mark Nasarczyk
SSDS Reps : T.Gallagher (20), P.Gallagher (26)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2323.95	25.94	301.45	1953.01	1094.48	N58.89W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 7: 152.25 m; Bit #2rr3 (15.75 hrs), Stab, Pony, Stab, 1x DC, Stab, 5x DC, Jar, 2x DC, Sub, 6x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.5	128	35	42.0	8.0 / 12.0	13	8.6	6.40	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	03:15	3.25	2347.00	7	Cont. wash/ream from 1459m to 1633m
03:15	05:00	1.75	2347.00	7	Pump 60 bbl Barolift pill & circulate hole clean
05:00	05:15	0.25	2347.00	7	Continue RIH. String took weight at 1678m
05:15	05:30	0.25	2347.00	7	Wash/ream from 1678m to 1691m
05:30	06:00	0.50	2347.00	7	Continue RIH. String took weight at 1779m
06:00	07:15	1.25	2347.00	7	Wash/ream from 1779m to 1800m
07:15	08:15	1.00	2347.00	7	Continue RIH. String took weight at 2262m
08:15	10:15	2.00	2347.00	7	Wash/ream from 2262m to 2347m
10:15	12:45	2.50	2347.00	7	Pump 60 bbl Barolift pill & circulate hole clean
12:45	13:00	0.25	2347.00	7	Flow Check
13:00	13:15	0.25	2347.00	7	Trip Out to 2233m
13:15	16:00	2.75	2347.00	7	Pump slug Con't Trip Out to 984m
16:00	16:15	0.25	2347.00	7	Flow check
16:15	18:00	1.75	2347.00	7	Con't Trip Out to 152m
18:00	19:15	1.25	2347.00	7	Trip Out (at Surface) Pull BHA and rack in derrick
19:15	19:30	0.25	2347.00	7	Hold JSA on Schumberger wireline job
19:30	23:30	4.00	2347.00	7	Rig up and run W/L in hole ; Hung up at 1123m and stopped at 1172m.
23:30	00:00	0.50	2347.00	7	POOH with schumberger logging tools to 200m.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 27 29/08/2004

Total Depth	**(m)**	:	2347	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	12.250	**Casing ID**	**(in)**	:	12.490

Operator Reps : Henry Flink, Mark Nasarczyk
SSDS Reps : T.Gallagher (21), P.Gallagher (27)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2323.95	25.94	301.45	1953.01	1094.48	N58.89W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 7: 152.25 m; Bit #2rr3 (15.75 hrs), Stab, Pony, Stab, 1x DC, Stab, 5x DC, Jar, 2x DC, Sub, 6x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.5	128	35	42.0	8.0 / 12.0	13	8.6	6.40	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	01:15	1.25	2347.00	7	Cont. POOH with logging tools to surface
01:15	01:30	0.25	2347.00	7	Rearrange toolstring band prepare to RIH
01:30	02:45	1.25	2347.00	7	RIH to 1147m. AAtempt to work past restriction - no success
02:45	05:15	2.50	2347.00	7	POOH. Lay down logging tools and rig down w/line
05:15	05:45	0.50	2347.00	7	Retrieve wear bushing & change top rams to 9 5/8"
05:45	07:15	1.50	2347.00	7	RIH with jetting tool & clean wellhead
07:15	10:30	3.25	2347.00	7	Test BOP
10:30	12:00	1.50	2347.00	7	Install electrical cable on top drive. R/up to run 9 5/8" casing
12:00	13:30	1.50	2347.00	7	R/U filling tool & Casing equipment
13:30	13:45	0.25	2347.00	7	PJSM
13:45	14:45	1.00	2347.00	7	P/U M/U shoe track & Float equipment
14:45	18:30	3.75	2347.00		Run stand of 9-5/8" casing to 998m.
18:30	18:45	0.25	2347.00		Break Circulation
18:45	00:00	5.25	2347.00		Cont. RIH 9-5/8" casing to 1912m.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 28 30/08/2004

Total Depth	**(m)**	:	2347	**Casing Depth**	**(m)** :	1006.00	**Operator Reps** : Henry Flink, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)** :	13.375	**SSDS Reps** : T.Gallagher (22), P.Gallagher (28)
Hole Size	**(in)**	:		**Casing ID**	**(in)** :	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2323.95	25.94	301.45	1953.01	1094.48	N58.89W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.5	128	35	42.0	8.0 / 12.0	13	8.6	6.40	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	01:45	1.75	2347.00		Cont. running 9-5/8" Casing
01:45	02:30	0.75	2347.00		C/O Elevator to 10-3/4" P/U x-over C/O slip
02:30	04:15	1.75	2347.00		Cont. RIH 10-3/4" LBO & casing
04:15	04:45	0.50	2347.00		P/U Cameron hanger, running tool assy.
04:45	05:15	0.50	2347.00		Wash F/2337-2340m. land out Hanger
05:15	07:00	1.75	2347.00		Circ. & condition mud
07:00	08:00	1.00	2347.00		B/O, L/D Circ. Head, Install CMT Head
08:00	08:15	0.25	2347.00		Pre job safty meeting
08:15	08:45	0.50	2347.00		CMT Unit Pump, Test surface Line
08:45	10:15	1.50	2347.00		Pump 8 bbl. fresh water
10:15	11:45	1.50	2347.00		Drop top plug, desplace CMT w/rig pump
11:45	12:00	0.25	2347.00		CMT unit pressure test casing to 3500 psi.
12:00	12:30	0.50	2347.00		Pressure test 9-5/8" casing to 3500psi
12:30	13:30	1.00	2347.00		R/D CMT Head and landing J+S
13:30	15:00	1.50	2347.00		R/D CSG handling equip. Install drilling boil detector
15:00	16:15	1.25	2347.00		M/U Cameron Jetting tool
16:15	17:45	1.50	2347.00		M/U Cameron 10-3/4" casing pack off tool assy.
17:45	18:15	0.50	2347.00		Change out top set 9-5/8" casing rams to 5"x7" UBR
18:15	00:00	5.75	2347.00		R/U and test 18-3/4" BOP

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 29 31/08/2004

Total Depth	**(m)**	: 2358	**Casing Depth**	**(m)**	: 1006.00	**Operator Reps**	:	Henry Flink, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	: 11	**Casing Diameter**	**(in)**	: 13.375	**SSDS Reps**	:	T.Gallagher (23), P.Gallagher/SDroniak (1)
Hole Size	**(in)**	: 8.500	**Casing ID**	**(in)**	: 12.490			

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2352.64	25.28	301.50	1978.88	1106.88	N58.88W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (2.7 hrs), PDM #6 (3.32 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.5	128	35	42.0	8.0 / 12.0	13	8.6	6.40	0.10	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	04:15	4.25	2347.00		Cont. Test BOP
04:15	05:00	0.75	2347.00		M/U WBRT assy. Install wear bushing, L/D assy.
05:00	07:00	2.00	2347.00		L/D 12-1/4" BHA
07:00	07:30	0.50	2347.00		L/D excess equip. from Drill floor
07:30	08:15	0.75	2347.00		Service T.D. while handling Helicopter
08:15	08:45	0.50	2347.00		Finish L/D 2x8" DCs
08:45	10:45	2.00	2347.00		P/U BHA #8
10:45	12:00	1.25	2347.00		Allign MWD tools & 7" Motor, test AGS etc.
12:00	13:00	1.00	2347.00	8	TIH w/BHA# 8, Cahnge position of 8-1/4" SS
13:00	14:00	1.00	2347.00	8	Change out Jar & fininsh TIH w/BHA 166mtr.
14:00	14:30	0.50	2347.00	8	Shallow test MWD, 550gpm, 1500psi
14:30	18:30	4.00	2347.00	8	TIH filling up every 15std to 2286.
18:30	19:00	0.50	2347.00	8	Wash from 2286m, tag cement @ 2314m.
19:00	21:00	2.00	2347.00	8	Drill Cement & Rat Hole 2314 - 2347m.
21:00	21:15	0.25	2350.00	8	Drill 3 mtr. of new formation to 2350m.
21:15	22:00	0.75	2350.00	8	Circ. & Condition mud @ 2350m. pull up to 2334m.
22:00	23:30	1.50	2350.00	8	R/U Dowell lines, test line FIT to 540 psi
23:30	00:00	0.50	2358.00	8	Drill & slide 2359 - 2358m.

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 30 1/09/2004

Total Depth	**(m)**	:	2693	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	335	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	8.500	**Casing ID**	**(in)**	:	12.490

Operator Reps : Henry Flink, Mark Nasarczyk
SSDS Reps : T.Gallagher (24), S.Droniak (1)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
2671.48	12.20	298.74	2278.79	1212.79	N58.98W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (22.62 hrs), PDM #6 (23.24 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.3	145	44	56.0	8.0 / 12.0	13	9.3	5.00	0.25	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	12:00	12.00	2494.00	8	Drill 8½" hole 2358 - 2494m
12:00	00:00	12.00	2693.00	8	Drill 8½" hole 2494 - 2693m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 31 2/09/2004

Total Depth	**(m)**	:	3086	**Casing Depth**	**(m)**	:	1006.00
Drilled last 24 hrs	**(m)**	:	393	**Casing Diameter**	**(in)**	:	13.375
Hole Size	**(in)**	:	8.500	**Casing ID**	**(in)**	:	12.490

Operator Reps : Henry Flink, Mark Nasarczyk
SSDS Reps : T.Gallagher (25), S.Droniak (2)

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3077.85	5.05	307.24	2681.52	1265.17	N58.75W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (42.54 hrs), PDM #6 (43.16 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	146	53	54.0	8.0 / 12.0	13	9.0	6.20	0.20	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	12:00	12.00	2925.00	8	Drill 8½" hole 2693 - 2925m
12:00	00:00	12.00	3086.00	8	Cont. Drilling 8½" hole 2925 - 3086m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 32 3/09/2004

Total Depth	**(m)**	:	3463	**Casing Depth**	**(m)**	: 1006.00	**Operator Reps**	: Henry Flink, Mark Nasarczyk
Drilled last 24 hrs	**(m)**	:	377	**Casing Diameter**	**(in)**	: 13.375	**SSDS Reps**	: T.Gallagher (26), S.Droniak (3)
Hole Size	**(in)**	:	8.500	**Casing ID**	**(in)**	: 12.490		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3455.33	0.50	160.20	3058.65	1278.24	N58.67W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (62.46 hrs), PDM #6 (63.08 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	120	51	49.0	8.0 / 13.0	12	8.8	6.70	0.15	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	12:00	12.00	3290.00	8	Cont. Drilling 3086 - 3290m
12:00	00:00	12.00	3463.00	8	Cont. Drilling 3290 - 3463m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 33 4/09/2004

Total Depth	**(m)**	**:**	3497	**Casing Depth**	**(m)**	**:**	1006.00	**Operator Reps** : Henry Flink, Hedley Amos
Drilled last 24 hrs	**(m)**	**:**	34	**Casing Diameter**	**(in)**	**:**	13.375	**SSDS Reps** : T.Gallagher (27), S.Droniak (4)
Hole Size	**(in)**	**:**	8.500	**Casing ID**	**(in)**	:	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3497.00	0.91	169.30	3100.32	1277.84	N58.68W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (74.28 hrs), PDM #6 (77.61 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	120	51	49.0	8.0 / 13.0	12	8.8	6.70	0.15	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	11:30	11.50	3497.00	8	Cont. Drilling 3463 - 3497m
11:30	12:00	0.50	3497.00	8	Circ. w/600gpm, 4100psi
12:00	14:45	2.75	3497.00	8	Circulate hole clean 3xbottom up
14:45	15:00	0.25	3497.00	8	Flow check
15:00	20:45	5.75	3497.00	8	Short Trip 3497 to 9-5/8" casing shoe @ 2340mtr.
20:45	21:15	0.50	3497.00	8	Service Top Drive
21:15	00:00	2.75	3497.00	8	Reaming / Washing 2340 - 2722m

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 34 5/09/2004

Total Depth	**(m)**	:	3497	**Casing Depth**	**(m)**	: 1006.00	**Operator Reps**	: Henry Flink, Hedley Amos
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)**	: 13.375	**SSDS Reps**	: T.Gallagher (28), S.Droniak (5)
Hole Size	**(in)**	:	8.500	**Casing ID**	**(in)**	: 12.490		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3497.00	0.91	169.30	3100.32	1277.84	N58.68W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (74.28 hrs), PDM #6 (81.34 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	120	51	49.0	8.0 / 13.0	12	8.8	6.70	0.15	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	01:00	1.00	3497.00	8	Circulate bottoms up at 2722m
01:00	02:45	1.75	3497.00	8	RIH f/2722m to 3497m
02:45	06:15	3.50	3497.00	8	Pump 60 bbl hi-vis sweep & circ. bottoms up x 3
06:15	06:30	0.25	3497.00	8	Flow check
06:30	07:30	1.00	3497.00	8	POOH from 3497m to 3178m
07:30	09:45	2.25	3497.00	8	Pump slug & POOH from 3178m to 2334m
09:45	10:00	0.25	3497.00	8	Flow check
10:00	13:00	3.00	3497.00	8	Cont. POOH from 2334m to 166m
13:00	13:15	0.25	3497.00	8	Flow check
13:15	14:30	1.25	3497.00	8	Trip Out (at Surface)
14:30	14:45	0.25	3497.00	8	Plug in to MWD tool and shut down
14:45	16:00	1.25	3497.00	8	LD BHA, Stab, MWD, AGS and Motor
16:00	00:00	8.00	3497.00	8	R/U and run Wireline Logs. RIH to Bottm

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 35 6/09/2004

Total Depth	**(m)**	:	3497	**Casing Depth**	**(m)**	: 1006.00	**Operator Reps**	: Henry Flink, Hedley Amos
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)**	: 13.375	**SSDS Reps**	: T.Gallagher (29), S.Droniak (6)
Hole Size	**(in)**	:	8.500	**Casing ID**	**(in)**	: 12.490		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3497.00	0.91	169.30	3100.32	1277.84	N58.68W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (74.28 hrs), PDM #6 (81.34 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	120	51	49.0	8.0 / 13.0	12	8.8	6.70	0.15	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:00	24.00	3497.00	8	Run Wireline Logs

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 36 7/09/2004

Total Depth	**(m)**	:	3497	**Casing Depth**	**(m)** :	1006.00	**Operator Reps** : Henry Flink, Hedley Amos
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)** :	13.375	**SSDS Reps** : T.Gallagher (30), S.Droniak (7)
Hole Size	**(in)**	:	8.500	**Casing ID**	**(in)** :	12.490	

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3497.00	0.91	169.30	3100.32	1277.84	N58.68W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (74.28 hrs), PDM #6 (81.34 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	120	51	49.0	8.0 / 13.0	12	8.8	6.70	0.15	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	00:30	0.50	3497.00	8	M/U run #3
00:30	01:00	0.50	3497.00	8	RIH to 1400mtr. Tools failed, pull to surface
01:00	02:00	1.00	3497.00	8	L/D Sample catcher
02:00	04:00	2.00	3497.00	8	RIH to 800mtr. Tools failed, pull to surface
04:00	05:30	1.50	3497.00	8	L/D Sample tools
05:30	12:00	6.50	3497.00	8	RIH to 3149mtr., log f/3149-3194mtr.
12:00	20:15	8.25	3497.00	8	Cont. log in hole
20:15	22:30	2.25	3497.00	8	Pull back wire line to 3148mtr.
22:30	23:45	1.25	3497.00	8	POOH f/3149 to surface
23:45	00:00	0.25	3497.00	8	L/D Toolstring run #3

COMMENTS

sperry-sun
DRILLING SERVICES

Daily Drilling Report

Customer : Origin Energy Resources
Well Name : Yolla #3
Field : Bass Strait
Slot : Yolla A Platform
Rig : Ensco 102
Job # : AU-DD-0003007128

CURRENT STATUS Report # 37 8/09/2004

Total Depth	**(m)**	:	3497	**Casing Depth**	**(m)**	: 1006.00	**Operator Reps**	: Henry Flink, Hedley Amos
Drilled last 24 hrs	**(m)**	:	0	**Casing Diameter**	**(in)**	: 13.375	**SSDS Reps**	: T.Gallagher (31), S.Droniak (8)
Hole Size	**(in)**	:	8.500	**Casing ID**	**(in)**	: 12.490		

LAST SURVEY

Depth (m)	Inclination	Azimuth	TVD (m)	Displ (m)	Direction
3497.00	0.91	169.30	3100.32	1277.84	N58.68W

LAST FORMATION TOP

Formation Name	MD Top (m)	TVD Top (m)

BHA SUMMARY

BHA 8: 161.51 m; Bit #8rr1 (74.28 hrs), PDM #6 (81.34 hrs), AGS, Sub, MWD, MWD, MWD, Stab, 6 x DC, Jar, 2 x DC, 6 x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Polymer	9.4	120	51	49.0	8.0 / 13.0	12	8.8	6.70	0.15	

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA #	Activity
00:00	12:00	12.00	3497.00	8	Cont. running Wireline Logs

COMMENTS

(B) MWD Logging Report

Sperry-Sun

End of Well Report
for
Origin Energy Resources

Rig:	ENSCO 102
Well:	Yolla-3
Field:	Yolla
Country:	Australia
Job No:	AU-FE-0003007128
Date:	11-Aug-04
API No:	

HALLIBURTON

Table of Contents

1. General Information

2. Operational Overview

3. Summary of MWD Runs

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6. Service Interrupt Report

General Information

Company:	Origin Energy Resources	
Rig:	ENSCO 102	
Well:	Yolla-3	
Field:	Yolla	
Country:	Australia	
API Number:		
Sperry-Sun Job Number:	AU-FE-0003007128	
Job start date:	11-Aug-04	
Job end date:	05-Sep-04	
North reference:	Grid	
Declination:	12.74	deg
Dip angle:	-70.45	deg
Total magnetic field:	61063	nT
Date of magnetic data:	04-Aug-04	
Wellhead coordinates N:	39 deg. 50 min 40.471 sec South	
Wellhead coordinates E:	145 deg. 49 min 6.085 sec East	
Vertical section direction:	301.59	deg
MWD Engineers:	M. Lee	I. Hancock
	E. Dahlem	

Company Representatives:	H. Flink	M. Jackson
	M. Nasarczyk	H. Amos
Company Geologist:	M. Woodmansee	M. Tindale
Lease Name:	T/L1	
Unit Number:	040602	
State:	Tasmania	
County:		

Operational Overview

Sperry-Sun Drilling Services were contracted by Origin Energy Resources to provide Logging Whi
Drilling (LWD) services for the drilling of the Yolla-3 well from the jackup drilling rig ENSCO 102.

16" Hole Section:
This section was drilled in one bit run using Sperry-Sun's Drilling (LWD) tool suite
with a Pressure Case Directional (PCD-R) sonde for deviation control. The section
at 1012.0 mMDRT.

12¼" Hole Section:
This section was drilled in three bit runs using Sperry-Sun's P4M Formation Evaluation While
Drilling (FEWD) tool suite, comprising the Dual Gamma Ray (DGR) and Electromagnetic Wave
Resistivity (EWR-P4) tools for logging purposes, with a Position Monitor (PM) for deviation control.
A clean out assembly drilled 5m of new hole before running in hole with the LWD tool suite. The
first run drilled to 1593.0 mMDRT. The second run was an 8½" coring run to the core point of
2216.0 mMDRT. The third run opened up the 8½" cored section and drilled to section TD at 2347.
mMDRT.

8½" Hole Section:
This section was drilled in one bit run using Sperry-Sun's P4M Formation Evaluation While Drilling
(FEWD) tool suite, comprising the Dual Gamma Ray (DGR) and Electromagnetic Wave Resistivity
(EWR-P4) tools for logging purposes, with a Position Monitor (PM) for deviation control. The
section was drilled to well TD at 3497.0 mMDRT.

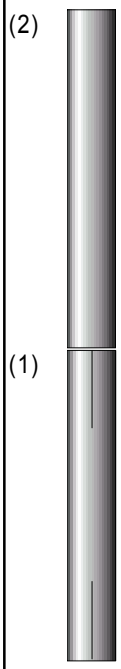
Summary of MWD runs

Run No.	Bit No.	Hole Size (in)	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
0100	1	16.00	DIR	215.00	1012.00	797.00	11-Aug-04 00:00	13-Aug-04 01:30	49.50	49.50	30.87	23.40	No	No	
0300	3	12.25	DIR-FE	1017.00	1593.00	576.00	16-Aug-04 12:00	18-Aug-04 06:30	42.49	42.49	24.40	57.00	Yes	Yes	PM
0400	4	12.25	DIR-FE	1593.00	2216.00	623.00	18-Aug-04 08:51	22-Aug-04 03:55	91.07	91.07	69.39	72.00	No	No	
0600	6	12.25	DIR-FE	2216.00	2347.00	131.00	25-Aug-04 06:44	27-Aug-04 00:46	42.03	42.03	25.33	82.00	No	No	
0700	7	8.50	DIR-FE	2347.00	3497.00	1150.00	31-Aug-04 10:58	05-Sep-04 14:40	123.70	123.30	93.97	96.00	No	No	

Bitrun Summary

Run Time Data		Drilling Data			Mud Data				
MWD Run :	0100	Start Depth :	215.00	m	Mud Type :	Seawater/Sweeps			
Rig Bit No:	1	End Depth :	1012.00	m	Weight / Visc :	8.80	ppg/	165.00	spqt
Hole Size :	16.00 in	Footage :	797.00	m	Chlorides :	N/A	ppm		
Run Start :	11-Aug-04 00:00	Avg. Flow Rate :	860.00	gpm	PV / YP :	14.00	cp /	42.00	pa
Run End :	13-Aug-04 01:30	Avg. RPM :	60.00	rpm	Solids/Sand :	N/A	% /	N/A	%
BRT Hrs :	49.50	Avg. WOB :	10.00	klb	%Oil / O:W :	N/A	% /	N/A	
Circ. Hrs :	30.87	Avg. ROP :	45.00	m/hr	pH/Fluid Loss :	9.00	pH /	0.00	cptm
Oper. Hrs :	49.50	Avg. SPP :	2000.00	psig	Max. Temp. :	23.4	degC		

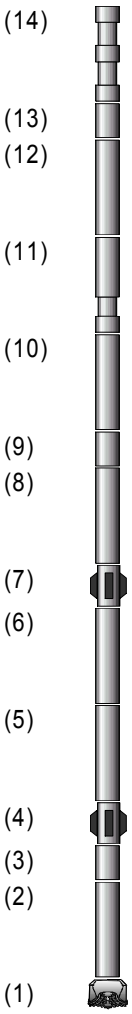
MWD Schematics



2. 9½" DWD 1200 System
SN: 10680154
0.00 m From Bit

1. PCD
SN: 538
20.55 m From Bit

BHA Schematics



	Component	Length (m)	O.D. (in)	I.D. (in)
14.	9 x HWDP	84.66	5.000	3.000
13.	Cross Over Sub	0.75	6.688	3.063
12.	2 x Drill Collar	18.82	8.500	2.880
11.	Drilling Jars	9.79	8.250	3.125
10.	3x Drill Collar	28.60	8.500	2.875
09.	Cross Over Sub	1.23	8.250	2.938
08.	2 x Drill Collar	18.80	9.500	3.000
07.	Integral Blade Stabilizer	1.91	9.625	3.063
06.	MWD	3.11	9.500	3.250
05.	NMDC	8.51	9.500	3.250
04.	Integral Blade Stabilizer	2.14	9.688	3.060
03.	Float Sub	0.85	9.630	3.250
02.	9-5/8" SperryDrill Lobe 7/	8.56	9.625	6.135
01.	Hughes MX-1	0.41	16.000	3.000

Comments

Drilled 16" hole to TD at 1012.0 mMDRT. Good detection throughout run.

MWD Performance

Tool OD / Type :	9.50	in /	DWD
MWD Real-time% :	99.00	%	
MWD Recorded% :	100.00	%	
Min. Inc. :	0.43	deg/	258.45 m
Max. Inc. :	41.88	deg/	922.03 m
Final Az. :	302.19	deg	
Max Op. Press. :	1360	psig	

Bitrun Summary

Run Time Data

MWD Run :	0300
Rig Bit No:	3
Hole Size :	12.25 in
Run Start :	16-Aug-04 12:00
Run End :	18-Aug-04 06:30
BRT Hrs :	42.49
Circ. Hrs :	24.40
Oper. Hrs :	42.49

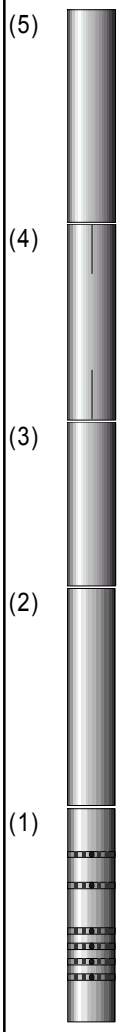
Drilling Data

Start Depth :	1017.00	m
End Depth :	1593.00	m
Footage :	576.00	m
Avg. Flow Rate :	830.00	gpm
Avg. RPM :	70.00	rpm
Avg. WOB :	10.00	klb
Avg. ROP :	33.35	m/hr
Avg. SPP :	2700.00	psig

Mud Data

Mud Type :	Drispac/Soltex			
Weight / Visc :	9.20	ppg/	122.00	spqt
Chlorides :	19500	ppm		
PV / YP :	34.00	cp /	43.00	pa
Solids/Sand :	4.9	% /	0.10	%
%Oil / O:W :	0.0	% /	0:94	
pH/Fluid Loss :	8.50	pH /	3.70	cptm
Max. Temp. :	57.0	degC		

MWD Schematics



5. 8" P4M 1200 Syste
SN: 8099
0.00 m From Bit

4. PM
SN: 73280
22.28 m From Bit

3. HCM
SN: 108149

2. DGR
SN: 050437
18.91 m From Bit

1. EWR-P4
SN: 77242
15.92 m From Bit

BHA Schematics



	Component	Length (m)	O.D. (in)	I.D. (in)
12.	9 x HWDP	84.66	5.000	3.060
11.	Cross Over Sub	0.99	8.000	3.000
10.	2 x Drill Collar	18.94	8.500	2.810
09.	Drilling Jars	9.82	8.250	3.125
08.	5 x Drill Collar	47.53	8.250	2.813
07.	Integral Blade Stabilizer	1.99	9.625	3.000
06.	MWD	12.94	8.300	3.050
05.	Float Sub	0.71	8.000	3.000
04.	Adjustable Gauge Stabilizer	3.33	8.250	2.810
03.	Cross Over Sub	0.87	8.250	3.000
02.	9-5/8" SperryDrill Lobe 6/7	8.59	9.625	6.135
01.	Hughes HCM 506	0.37	12.250	3.000

Comments

Drilled 12¼" hole ahead to 1593.0 mMDRT and POOH for LWD tool failure (see failure report). All recorded data recovered at surface.

MWD Performance

Tool OD / Type :	8.00	in /	P4M
MWD Real-time% :	85.75	%	
MWD Recorded% :	100.00	%	
Min. Inc. :	40.28	deg/	1067.25 m
Max. Inc. :	44.55	deg/	1212.90 m
Final Az. :	301.52	deg	
Max Op. Press. :	2155	psig	

Bitrun Summary

Run Time Data		Drilling Data			Mud Data			
MWD Run :	0400	Start Depth :	1593.00	m	Mud Type :	Drispac/Soltex		
Rig Bit No:	4	End Depth :	2216.00	m	Weight / Visc :	9.50	ppg/ 84.00	spqt
Hole Size :	12.25 in	Footage :	623.00	m	Chlorides :	30000	ppm	
Run Start :	18-Aug-04 08:51	Avg. Flow Rate :	850.00	gpm	PV / YP :	29.00	cp / 38.00	pa
Run End :	22-Aug-04 03:55	Avg. RPM :	70.00	rpm	Solids/Sand :	6.1	% / 0.02	%
BRT Hrs :	91.07	Avg. WOB :	15.00	klb	%Oil / O:W :	0.0	% / 0:91.5	
Circ. Hrs :	69.39	Avg. ROP :	14.40	m/hr	pH/Fluid Loss :	8.40	pH / 4.30	cptm
Oper. Hrs :	91.07	Avg. SPP :	3500.00	psig	Max. Temp. :	72.0	degC	

MWD Schematics



5. 8" P4M 1200 System
SN: 8180
0.00 m From Bit

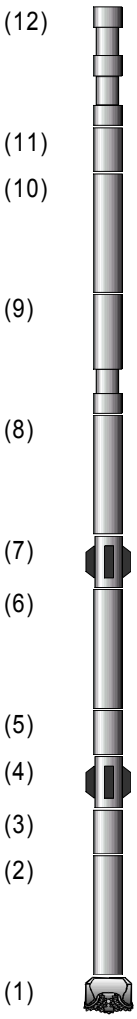
4. PM
SN: 97847
22.30 m From Bit

3. HCM
SN: 160772

2. DGR
SN: 1084171
18.93 m From Bit

1. EWR-P4
SN: 144719
15.94 m From Bit

BHA Schematics



	Component	Length (m)	O.D. (in)	I.D. (in)
12.	9 x HWDP	84.66	5.000	3.060
11.	Cross Over Sub	0.99	8.000	3.000
10.	2 x Drill Collar	18.94	8.500	2.810
09.	Drilling Jars	9.67	8.250	3.125
08.	5 x Drill Collar	47.53	8.250	2.813
07.	Integral Blade Stabilizer	1.99	9.625	3.000
06.	MWD	12.95	8.300	3.050
05.	Float Sub	0.71	8.000	3.000
04.	Adjustable Gauge Stabilizer	3.33	8.250	2.810
03.	Cross Over Sub	0.87	8.250	3.000
02.	9-5/8" SperryDrill Lobe 6/7	8.59	9.625	6.135
01.	Hughes HCM 506	0.37	12.250	3.000

Comments

Drilled 12¼" hole ahead to core point at 2216.0 mMDRT. POOH to core.
All recorded data recovered at surface.

MWD Performance

Tool OD / Type :	8.00	in /	P4M
MWD Real-time% :	99.00	%	
MWD Recorded% :	100.00	%	
Min. Inc. :	29.51	deg/	2192.70 m
Max. Inc. :	42.67	deg/	1735.04 m
Final Az. :	301.71	deg	
Max Op. Press. :	3592	psig	

Bitrun Summary

Run Time Data

MWD Run :	0600
Rig Bit No:	6
Hole Size :	12.25 in
Run Start :	25-Aug-04 06:44
Run End :	27-Aug-04 00:46
BRT Hrs :	42.03
Circ. Hrs :	25.33
Oper. Hrs :	42.03

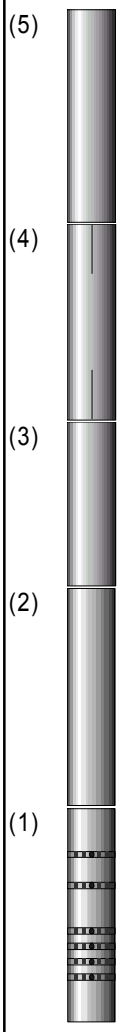
Drilling Data

Start Depth :	2216.00	m
End Depth :	2347.00	m
Footage :	131.00	m
Avg. Flow Rate :	880.00	gpm
Avg. RPM :	80.00	rpm
Avg. WOB :	10.00	klb
Avg. ROP :	16.15	m/hr
Avg. SPP :	3900.00	psig

Mud Data

Mud Type :	Drispac/Soltex			
Weight / Visc :	9.35	ppg/	190.00	spqt
Chlorides :	23000	ppm		
PV / YP :	39.00	cp /	53.00	pa
Solids/Sand :	5.5	% /	0.10	%
%Oil / O:W :	0.0	% /	0:92.6	
pH/Fluid Loss :	8.10	pH /	4.00	cptm
Max. Temp. :	82.0	degC		

MWD Schematics



5. 8" P4M 1200 System
SN: 8180
0.00 m From Bit

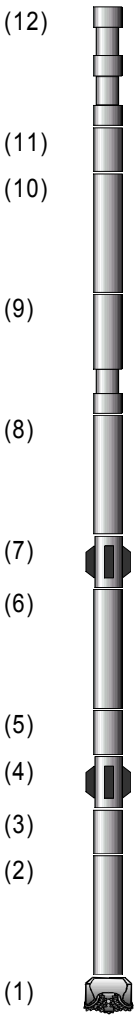
4. PM
SN: 97847
22.30 m From Bit

3. HCM
SN: 160772

2. DGR
SN: 1084171
18.93 m From Bit

1. EWR-P4
SN: 144719
15.94 m From Bit

BHA Schematics



	Component	Length (m)	O.D. (in)	I.D. (in)
12.	9 x HWDP	84.66	5.000	3.060
11.	Cross Over Sub	0.99	8.000	3.000
10.	2 x Drill Collar	18.94	8.500	2.810
09.	Drilling Jars	9.67	8.250	3.125
08.	5 x Drill Collar	47.53	8.250	2.813
07.	Integral Blade Stabilizer	1.86	9.625	3.000
06.	MWD	12.95	8.300	3.050
05.	Float Sub	0.71	8.000	3.000
04.	Adjustable Gauge Stabilizer	3.33	8.250	2.810
03.	Cross Over Sub	0.87	8.250	3.000
02.	9-5/8" SperryDrill Lobe 6/7	8.59	9.625	6.135
01.	Hughes HCM 506	0.37	12.250	3.000

Comments

Drilled 12¼" hole ahead to casing point at 2347.0 mMDRT. All recorded data recovered at surface.

MWD Performance

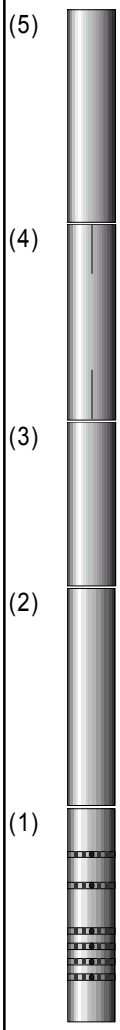
Tool OD / Type :	8.00	in /	P4M
MWD Real-time% :	99.25	%	
MWD Recorded% :	100.00	%	
Min. Inc. :	25.94	deg/	2323.95 m
Max. Inc. :	29.61	deg/	2199.47 m
Final Az. :	301.45	deg	
Max Op. Press. :	3159	psig	

HALLIBURTON Sperry-Sun

Bitrun Summary

Run Time Data		Drilling Data			Mud Data			
MWD Run :	0700	Start Depth :	2347.00	m	Mud Type :	Drispac/Soltex		
Rig Bit No:	7	End Depth :	3497.00	m	Weight / Visc :	9.40	ppg/ 106.00	spqt
Hole Size :	8.50 in	Footage :	1150.00	m	Chlorides :	21000	ppm	
Run Start :	31-Aug-04 10:58	Avg. Flow Rate :	600.00	gpm	PV / YP :	50.00	cp / 53.00	pa
Run End :	05-Sep-04 14:40	Avg. RPM :	80.00	rpm	Solids/Sand :	6.3	% / 0.10	%
BRT Hrs :	123.70	Avg. WOB :	10.50	klb	%Oil / O:W :	0.0	% / 0:92.0	
Circ. Hrs :	93.97	Avg. ROP :	19.02	m/hr	pH/Fluid Loss :	8.90	pH / 3.70	cptm
Oper. Hrs :	123.30	Avg. SPP :	3735.00	psig	Max. Temp. :	96.0	degC	

MWD Schematics



5. 6-3/4" P4M 650 System
SN: 8321
0.00 m From Bit

4. PM
SN: 34827
20.53 m From Bit

3. HCIM
SN: 160772

2. DGR
SN: 184694
17.22 m From Bit

1. EWR-P4
SN: 81550
14.21 m From Bit

BHA Schematics



	Component	Length (m)	O.D. (in)	I.D. (in)
10.	6 x HWDP	56.41	5.000	3.060
09.	2 x Drill Collars	18.65	6.750	2.810
08.	Drilling Jars	9.42	6.750	2.880
07.	6 x Drill Collars	56.08	6.750	2.813
06.	Integral Blade Stabilizer	1.31	6.750	2.940
05.	MWD	12.87	6.750	2.251
04.	Float Sub	0.98	6.750	2.810
03.	Adjustable Gauge Stabilizer	3.24	6.750	2.810
02.	6-3/4" SperryDrill Lobe 1/2	7.67	7.000	4.825
01.	Hycalog DSX173 DG	0.26	8.500	1.560

Comments

Drilled 8½" hole to well TD of 3497.0 mMDRT in one bit run. All recorded data recovered at surface.

MWD Performance

Tool OD / Type :	6.75	in /	P4M
MWD Real-time% :	98.50	%	
MWD Recorded% :	0.00	%	
Min. Inc. :	0.13	deg/	3426.31 m
Max. Inc. :	25.28	deg/	2352.54 m
Final Az. :	169.30	deg	
Max Op. Press. :	4972	psig	

Directional Survey Data

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
174.00	0.59	242.79	174.00	0.41S	0.80W	0.46	TIE-IN
197.00	0.06	242.79	197.00	0.47S	0.91W	0.53	0.69
203.00	0.60	242.79	203.00	0.49S	0.94W	0.55	2.70
224.00	0.59	242.79	224.00	0.58S	1.14W	0.66	0.01
258.45	0.43	242.79	258.44	0.72S	1.41W	0.82	0.14
282.70	0.65	248.87	282.69	0.82S	1.62W	0.95	0.28
311.77	1.48	273.86	311.76	0.85S	2.15W	1.38	0.96
340.78	2.25	277.27	340.75	0.75S	3.08W	2.23	0.80
369.82	3.48	293.00	369.76	0.34S	4.46W	3.62	1.50
399.37	5.10	300.93	399.22	0.69N	6.42W	5.83	1.75
428.43	7.12	298.67	428.12	2.22N	9.11W	8.92	2.10
457.46	9.92	296.21	456.82	4.19N	12.93W	13.21	2.92
486.47	11.29	298.06	485.34	6.63N	17.68W	18.53	1.45
515.47	12.76	300.31	513.70	9.58N	22.95W	24.57	1.60
544.40	14.82	302.65	541.79	13.19N	28.82W	31.46	2.21
572.93	18.93	301.35	569.09	17.57N	35.85W	39.74	4.34
602.47	21.65	299.97	596.79	22.78N	44.66W	49.98	2.81
631.53	22.70	301.62	623.70	28.40N	54.08W	60.95	1.26
660.59	25.23	302.37	650.26	34.66N	64.09W	72.75	2.63
689.59	27.24	301.89	676.27	41.47N	74.95W	85.57	2.09
718.62	30.23	301.58	701.72	48.81N	86.82W	99.52	3.09
747.71	32.41	300.41	726.57	56.60N	99.78W	114.64	2.34
776.77	33.84	299.59	750.91	64.53N	113.53W	130.51	1.55
805.83	36.11	300.79	774.72	72.92N	127.92W	147.16	2.45
834.87	38.46	301.43	797.82	82.01N	142.98W	164.75	2.46
863.88	39.00	301.20	820.45	91.44N	158.49W	182.90	0.58
892.95	41.57	301.65	842.63	101.24N	174.52W	201.70	2.67
922.03	41.88	304.27	864.33	111.77N	190.76W	221.04	1.83
951.10	41.35	302.71	886.07	122.42N	206.86W	240.34	1.20
980.13	40.90	302.19	907.93	132.67N	222.97W	259.43	0.59
1038.17	40.40	302.59	951.97	152.92N	254.89W	297.23	0.29
1067.25	40.28	302.79	974.14	163.09N	270.74W	316.05	0.18
1095.63	42.87	302.03	995.37	173.18N	286.64W	334.88	2.80
1125.32	42.88	301.94	1017.13	183.88N	303.77W	355.08	0.06
1154.84	42.40	301.25	1038.84	194.36N	320.80W	375.07	0.68
1183.37	43.81	301.11	1059.67	204.45N	337.48W	394.57	1.49
1212.90	44.55	301.56	1080.84	215.15N	355.06W	415.15	0.82
1240.82	44.26	301.23	1100.79	225.33N	371.74W	434.69	0.40
1271.00	44.10	301.04	1122.43	236.20N	389.74W	455.72	0.21
1300.06	43.80	300.64	1143.36	246.54N	407.06W	475.89	0.41

Directional Survey Data

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
1329.10	43.59	300.20	1164.35	256.70N	424.36W	495.95	0.38
1358.13	43.45	300.56	1185.40	266.81N	441.60W	515.93	0.30
1387.17	43.16	299.75	1206.54	276.82N	458.82W	535.84	0.64
1416.20	43.09	299.27	1227.72	286.59N	476.09W	555.67	0.35
1444.73	43.10	300.33	1248.56	296.28N	493.01W	575.16	0.76
1473.80	43.22	299.26	1269.76	306.16N	510.26W	595.03	0.76
1502.86	42.22	300.61	1291.11	315.99N	527.35W	614.74	1.40
1531.90	41.39	301.29	1312.76	325.95N	543.95W	634.09	0.98
1560.93	41.10	301.52	1334.59	335.92N	560.29W	653.23	0.34
1589.81	40.80	300.98	1356.40	345.74N	576.47W	672.16	0.48
1618.85	40.92	301.11	1378.36	355.54N	592.74W	691.16	0.16
1647.90	40.94	300.75	1400.31	365.32N	609.07W	710.19	0.24
1676.97	41.39	300.32	1422.19	375.04N	625.55W	729.32	0.54
1706.03	42.12	299.91	1443.87	384.75N	642.29W	748.66	0.81
1735.04	42.67	300.10	1465.30	394.54N	659.23W	768.22	0.58
1764.06	42.52	299.11	1486.66	404.24N	676.31W	787.85	0.71
1793.12	41.38	300.86	1508.27	413.94N	693.13W	807.26	1.69
1822.17	40.15	301.20	1530.27	423.72N	709.39W	826.23	1.30
1850.80	39.76	301.54	1552.22	433.29N	725.09W	844.62	0.47
1881.06	38.03	301.80	1575.77	443.27N	741.26W	863.61	1.72
1909.02	36.06	302.18	1598.09	452.19N	755.54W	880.46	2.13
1938.07	35.58	302.76	1621.64	461.31N	769.89W	897.46	0.61
1967.41	34.62	302.40	1645.65	470.40N	784.10W	914.32	1.00
1996.46	33.68	303.06	1669.69	479.22N	797.82W	930.63	1.04
2025.46	33.57	302.15	1693.83	487.87N	811.35W	946.69	0.53
2054.50	32.43	302.83	1718.19	496.36N	824.69W	962.50	1.24
2083.52	31.20	302.19	1742.85	504.59N	837.59W	977.80	1.32
2112.57	30.20	301.86	1767.83	512.45N	850.16W	992.63	1.04
2141.60	29.60	301.49	1792.99	520.05N	862.48W	1007.10	0.65
2170.62	29.65	300.95	1818.22	527.49N	874.75W	1021.44	0.29
2192.70	29.51	301.71	1837.42	533.15N	884.06W	1032.34	0.55
2199.47	29.61	301.35	1843.31	534.90N	886.90W	1035.68	0.91
2228.52	29.54	300.95	1868.58	542.32N	899.17W	1050.02	0.21
2257.54	29.00	301.43	1893.89	549.66N	911.31W	1064.21	0.61
2286.53	26.96	301.77	1919.49	556.79N	922.90W	1077.81	2.12
2315.56	26.11	301.70	1945.46	563.61N	933.93W	1090.78	0.88
2323.95	25.94	301.45	1953.00	565.54N	937.06W	1094.46	0.71
2352.54	25.28	301.50	1978.78	571.99N	947.60W	1106.82	0.69
2381.58	24.10	301.76	2005.17	578.35N	957.93W	1118.95	1.23
2409.95	23.25	301.46	2031.15	584.32N	967.63W	1130.34	0.91

Directional Survey Data

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
2438.98	22.49	301.51	2057.90	590.21N	977.25W	1141.62	0.78
2468.04	22.16	300.59	2084.78	595.90N	986.71W	1152.65	0.49
2497.12	20.86	300.56	2111.83	601.33N	995.89W	1163.31	1.35
2526.18	19.69	300.61	2139.09	606.45N	1004.56W	1173.38	1.21
2555.19	19.27	300.62	2166.44	611.38N	1012.88W	1183.05	0.43
2584.24	16.12	296.70	2194.12	615.63N	1020.61W	1191.87	3.47
2613.32	14.16	296.48	2222.19	619.03N	1027.40W	1199.43	2.03
2642.34	13.37	296.42	2250.37	622.11N	1033.58W	1206.31	0.81
2671.48	12.20	298.74	2278.79	625.09N	1039.30W	1212.74	1.32
2700.58	10.52	301.17	2307.32	627.94N	1044.27W	1218.47	1.80
2729.63	9.78	303.39	2335.91	630.67N	1048.60W	1223.58	0.87
2758.61	8.91	306.43	2364.51	633.36N	1052.46W	1228.28	1.04
2787.63	8.39	306.83	2393.20	635.96N	1055.96W	1232.63	0.54
2816.68	7.92	309.88	2421.96	638.52N	1059.19W	1236.72	0.66
2845.75	7.52	310.63	2450.76	641.04N	1062.17W	1240.58	0.43
2874.81	6.95	310.46	2479.59	643.42N	1064.95W	1244.19	0.59
2903.84	6.59	311.13	2508.42	645.65N	1067.55W	1247.57	0.38
2932.80	6.47	307.52	2537.19	647.74N	1070.09W	1250.83	0.44
2961.87	6.25	305.90	2566.08	649.67N	1072.67W	1254.04	0.29
2990.91	5.63	307.78	2594.97	651.47N	1075.08W	1257.03	0.67
3016.37	5.51	307.66	2620.31	652.98N	1077.03W	1259.49	0.15
3048.91	5.33	306.46	2652.70	654.83N	1079.49W	1262.55	0.19
3077.85	5.05	307.24	2681.52	656.40N	1081.58W	1265.16	0.31
3106.89	4.40	308.40	2710.46	657.86N	1083.47W	1267.53	0.68
3135.95	3.62	309.91	2739.45	659.14N	1085.05W	1269.55	0.81
3164.96	3.08	312.61	2768.41	660.26N	1086.32W	1271.22	0.58
3194.05	2.64	315.47	2797.46	661.27N	1087.37W	1272.64	0.48
3223.06	2.25	311.13	2826.45	662.12N	1088.26W	1273.84	0.45
3252.11	2.09	311.32	2855.48	662.84N	1089.09W	1274.93	0.16
3281.17	1.91	311.40	2884.52	663.51N	1089.85W	1275.93	0.18
3310.24	1.65	305.29	2913.58	664.07N	1090.56W	1276.82	0.33
3339.24	1.02	303.72	2942.57	664.46N	1091.11W	1277.50	0.65
3368.27	0.67	302.37	2971.59	664.69N	1091.47W	1277.93	0.36
3426.31	0.13	257.23	3029.63	664.86N	1091.82W	1278.31	0.30
3455.33	0.50	160.20	3058.65	664.73N	1091.81W	1278.24	0.55
3476.47	0.91	169.30	3079.79	664.48N	1091.75W	1278.05	0.60
3497.00	0.91	169.30	3100.32	664.16N	1091.69W	1277.83	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 301.59 DEGREES (GRID)
A TOTAL CORRECTION OF 11.98 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 3497.00 METRES
IS 1277.85 METRES ALONG 301.32 DEGREES (GRID)

Final survey is projected to TD.
RT - AHD = 43.0m

Service Interrupt Report

MWD run number :	0300	Time/Date of Failure :	17-Aug-04 17:42
Rig Bit Number :	3	Depth at time of Failure :	1052.00 m
MWD Run start time/date :	16-Aug-04 12:00	Lost Rig Hours :	12.00
MWD Run end time/date :	18-Aug-04 06:30		

Rig Activity

Drilling 12¼" hole.

Description of Failure

Tool intermittently stopped pulsing.

Action Taken

Cycled pumps to switch tool back on.

Operation Impact

POOH and changed out MWD tool.

Reason for Failure

Unknown. Tool sent to R& M facility in Dampier, WA for analysis.

WELL INFORMATION

MWD Run Number	100	300	400	600	700
Date run completed	13-Aug-04	18-Aug-04	22-Aug-04	27-Aug-04	05-Sep-04
Rig Bit Number	1	3	4	6	7
Bit Size (in)	16	12.25	12.25	12.25	8.5
Tool Nominal OD (in)	9.5	8	8	8	6.75
Log Start Depth (MD, m)	215.00	1,017.00	1,593.00	2,216.00	2,347.00
Log End Depth (MD, m)	1,012.00	1,593.00	2,216.00	2,347.00	3,497.00
Drill or Wipe	Drilling	Drilling	Drilling	Drilling	Drilling
Drill/Wipe Start Date and Time	11-Aug-04 03:00	16-Aug-04 16:33	18-Aug-04 16:36	26-Aug-04 00:04	31-Aug-04 21:00
Drill/Wipe End Date and Time	12-Aug-04 09:00	17-Aug-04 21:34	21-Aug-04 03:40	26-Aug-04 15:16	04-Sep-04 11:10
Min Inc (deg) @ Depth (MD, m)	0.43 @ 258.45	40.28 @ 1,067.25	29.51 @ 2,192.70	25.94 @ 2,323.95	0.13 @ 3,426.31
Max Inc (deg) @ Depth (MD, m)	41.88 @ 922.03	44.55 @ 1,212.90	42.67 @ 1,735.04	29.61 @ 2,199.47	25.28 @ 2,352.54
Bit TFA(in2) / Bit Type	1.325 / Hughes MX-1	1.491 / Hughes HCM506	1.491 / Hughes HCM506	1.491 / Hughes HCM506	1.335 / Hycalog DSX173DG
Flow Rate (gpm)	860	830	850	880	600
Max AV (mpm) / CV (mpm) @ MWD	29.4 / 139.8	72.0 / 110.4	110.6 / 323.5	76.2 / 190.2	181.8 / 282.0
Fluid Type	Seawater/Sweeps	Drispac/Soltex	Drispac/Soltex	Drispac/Soltex	Drispac/Soltex
Density (ppg) / Viscosity (spqt)	8.8 / 165	9.2 / 122	9.5 / 84	9.4 / 190	9.4 / 106
Filtrate CL (ppm)	N/A	19,500	30,000	23,000	21,000
pH / Fluid Loss (cptm)	N/A / N/A	8.50 / 3.7	8.40 / 4.3	8.10 / 4.0	8.90 / 3.7
PV (cp) / YP (pa)	14 / 42	34 / 43	29 / 38	39 / 53	50 / 53
% Solids / % Sand	N/A / N/A	4.9 / 0.10	6.1 / 0.02	5.5 / 0.10	6.3 / 0.10
% Oil / Oil:Water Ratio	N/A / N/A	0.0 / 0.0:94.0	0.0 / 0.0:91.5	0.0 / 0.0:92.6	0.0 / 0.0:92.0
Rm @ Measured Temp (degC)	N/A @ N/A	1.60 @ 14.00	1.20 @ 14.00	1.30 @ 19.00	0.18 @ 20.00
Rmf @ Measured Temp (degC)	N/A @ N/A	1.50 @ 14.00	1.10 @ 14.00	1.20 @ 19.00	0.20 @ 20.00
Rmc @ Measured Temp (degC)	N/A @ N/A	1.70 @ 14.00	1.40 @ 14.00	1.40 @ 19.00	0.28 @ 20.00
Max Tool Temp (degC) / Source	23.40 / PCD-R	57.00 / EWR-P4	72.00 / EWR-P4	82.00 / EWR-P4	96.00 / EWR-P4
Rm @ Max Tool Temp (degC)	N/A @ N/A	0.72 @ 57.00	0.46 @ 72.00	0.51 @ 82.00	0.42 @ 96.00
Lead MWD Engineer	M. Lee	M. Lee	M. Lee	M. Lee	E. Dahlem
Customer Representative	H. Flink	M. Jackson	M. Jackson	M. Jackson	H. Flink

SENSOR INFORMATION

Downhole Processor Information

Tool Type	PCD	HCIM	HCIM	HCIM	HCIM
Software Version	3.32	66.37	67.88	67.88	67.88
Sub Serial Number	10599306	182692	154547	154547	43989
Insert Serial Number	538	108149	160772	160772	160772
Logging String Serial Number	10599306	DM90047857H1GR8	DM90047858HGR8	DM90047858HGR8	DM90049413H1GR6
Date and Time Initialized	11-Aug-04 00:00	16-Aug-04 12:02	18-Aug-04 08:54	25-Aug-04 06:47	31-Aug-04 11:25
Date and Time Read	20-Jun-04 12:00	18-Aug-04 06:30:18	22-Aug-04 03:55:00	27-Aug-04 00:44:21	05-Sep-04 14:40:00

Directional Sensor Information

Tool Type	PCD	PM	PM	PM	PM
Distance From Bit (m)	20.55	22.28	22.30	22.30	20.53
Software Version	3.32	N/A	N/A	N/A	N/A
Sub Serial Number	10599306	91818	61119	61119	95764
Sonde Serial Number	538	73280	97847	97847	34827
Sensor ID Number	10599306	563	688	688	500
Survey String Serial Number	10599306	DM90047861M8	DM90047862M8	DM90047862M8	DM90047859M6
Toolface Offset (deg)	308	331	42	233	255

Gamma Ray Sensor Information

Tool Type		DGR	DGR	DGR	DGR
Distance From Bit (m)		18.91	18.93	18.93	17.22
Recorded Sample Period (sec)		14	14	14	14
Software Version		N/A	N/A	N/A	N/A
Sub Serial Number		106149	102971	102971	70755
Insert/Sonde Serial Number		050437	1084171	1084171	184694

Resistivity Sensor Information

Tool Type		EWR-P4	EWR-P4	EWR-P4	EWR-P4
Distance From Bit (m)		15.92	15.94	15.94	14.21
Recorded Sample Period (sec)		16	16	16	16
Software Version		1.38	1.38	1.38	1.38
Sub Serial Number		96508	82377	82377	81799
Receiver Insert Serial Number		77242	144719	144719	81550
Transmitter Insert Serial Number		135158	79562	79562	122049
Receiver Orientation		Down	Down	Down	Down

REMARKS

1. All depths are bit depths and referenced to the drillers pipe tally.

2. AV/CV is calculated at the MWD collar using the Power Law for water based muds and the Binghams Plastic Law for oil based muds.

3. Curve mnemonics are :

SGRC - Smoothed Gamma Ray Combined, api
SEXP - Smoothed Extra Shallow Phase-Shift Derived Resistivity, ohm-m
SESP - Smoothed Shallow Phase-Shift Derived Resistivity, ohm-m
SEMP - Smoothed Medium Phase-Shift Derived Resistivity, ohm-m
SEDP - Smoothed Deep Phase-Shift Derived Resistivity, ohm-m
SROP - Smoothed Rate of Penetration, m/hr
SFXE - Smoothed Resistivity Formation Exposure Time, hr
STEM - Smoothed Temperature from Resistivity tool, degrees C

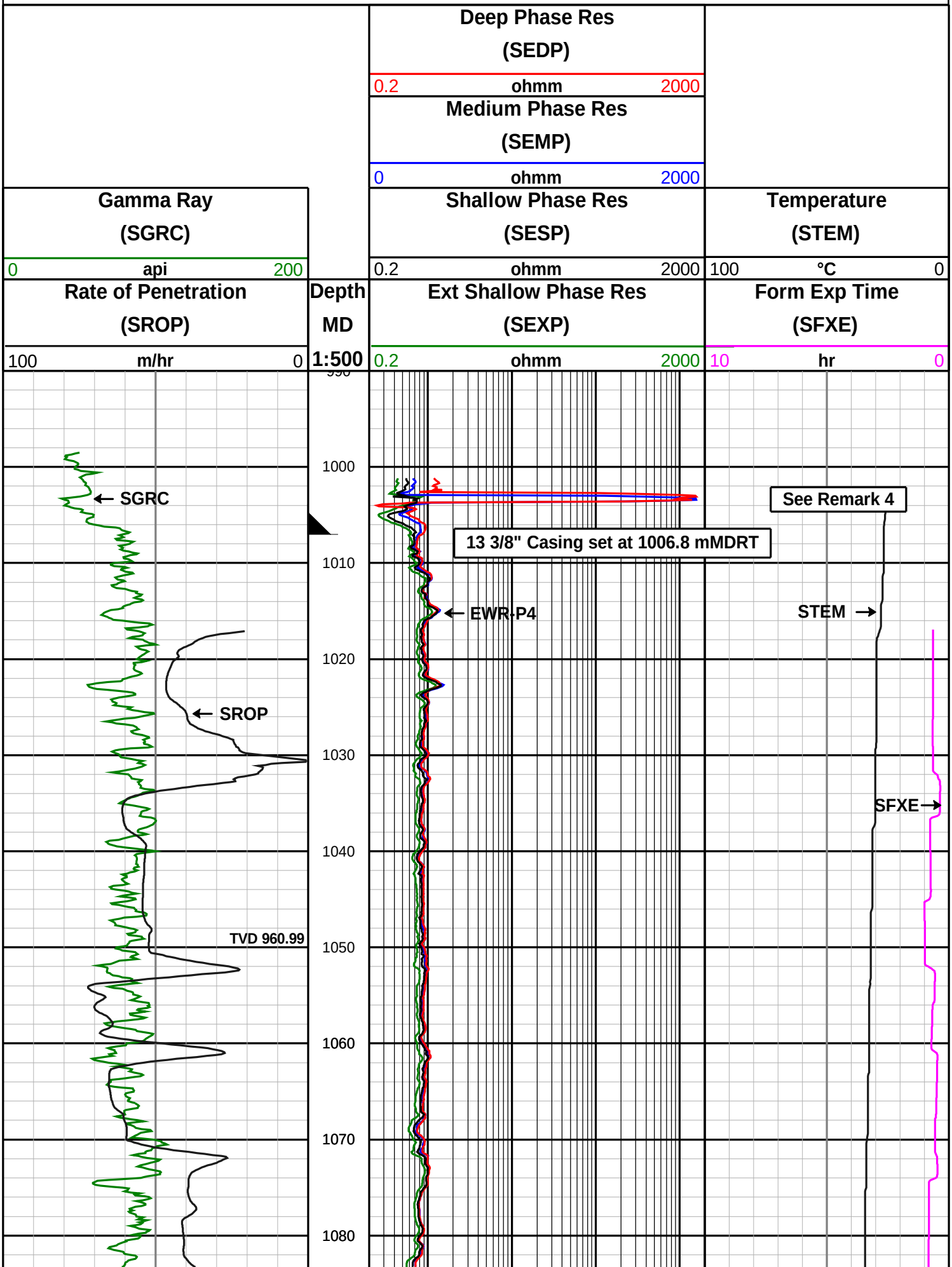
4. The second bit run drilled from 1012.0 to 1017.0 mMDRT without the use of the MWD tool.

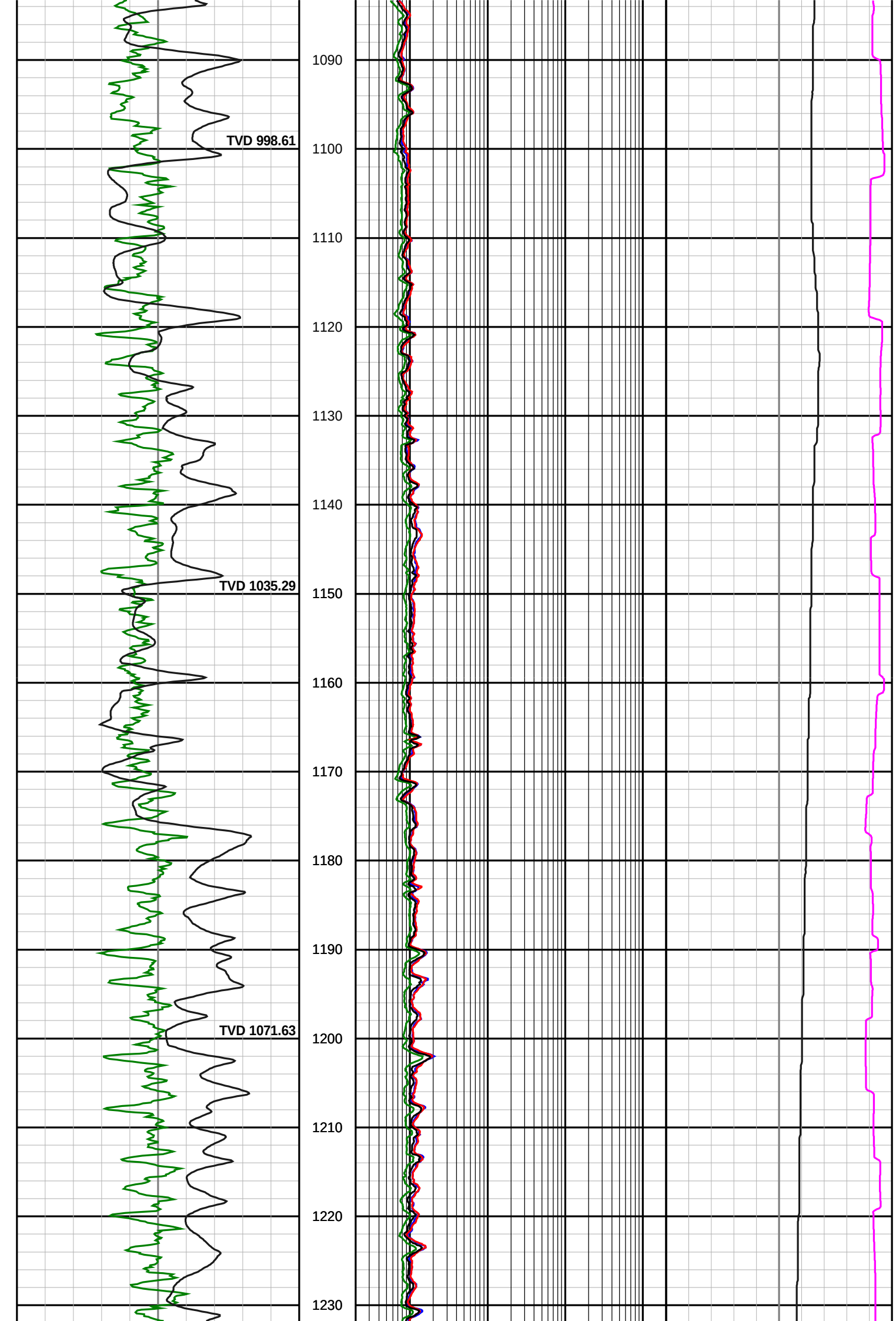
5. Run 500 was an 8½" coring run from 2216.0 to 2234.0 mMDRT, which was opened up in run 600.

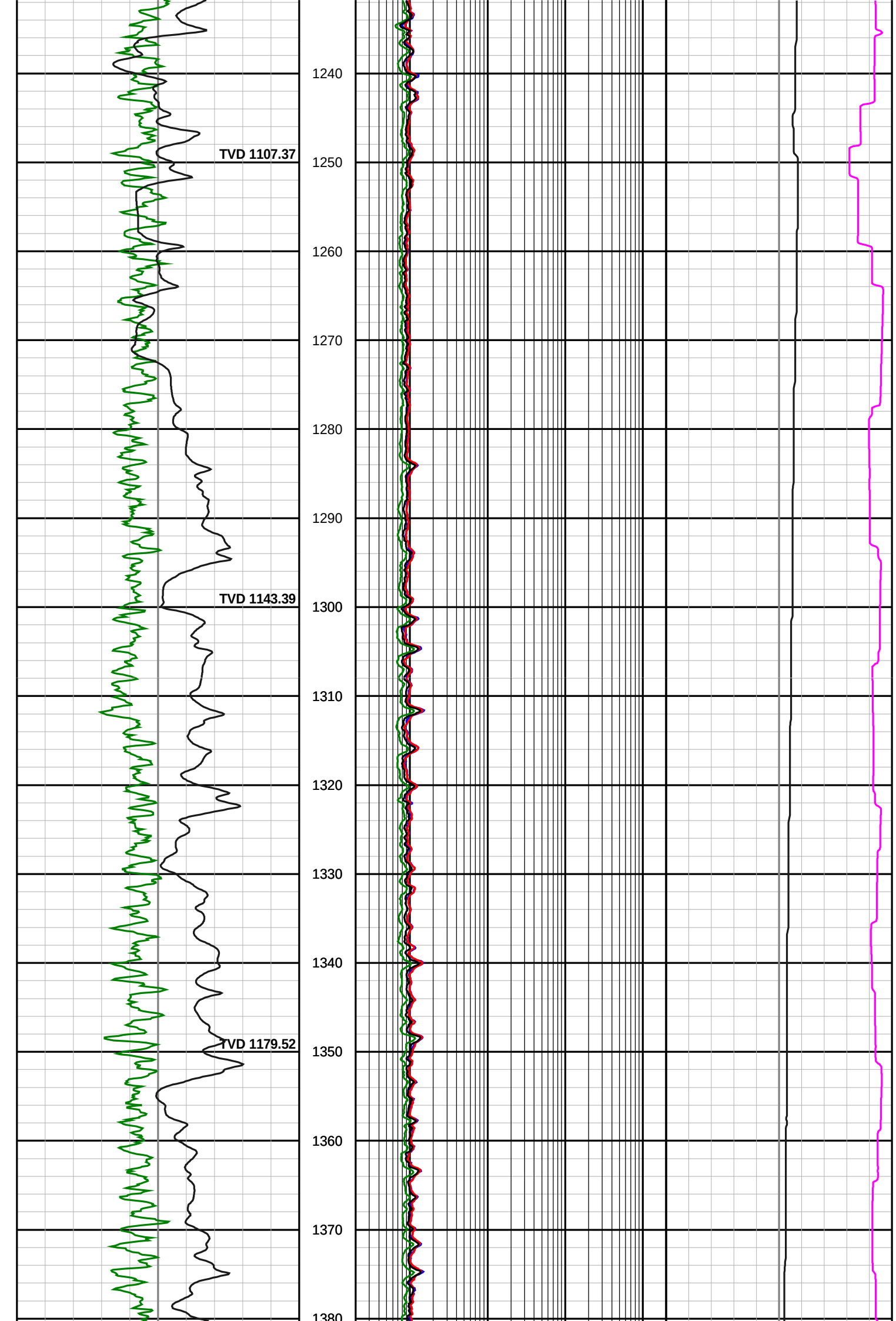
WARRANTY

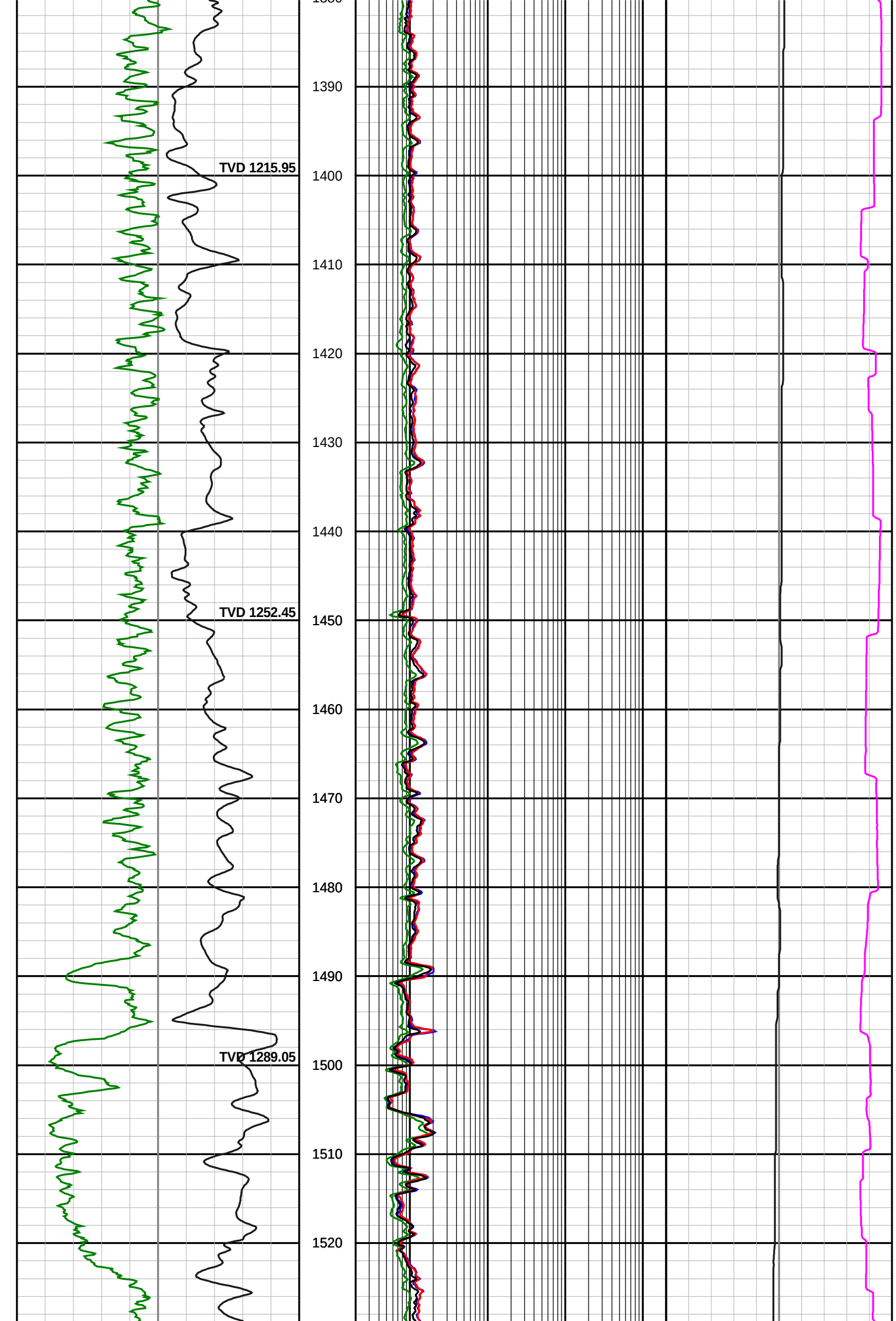
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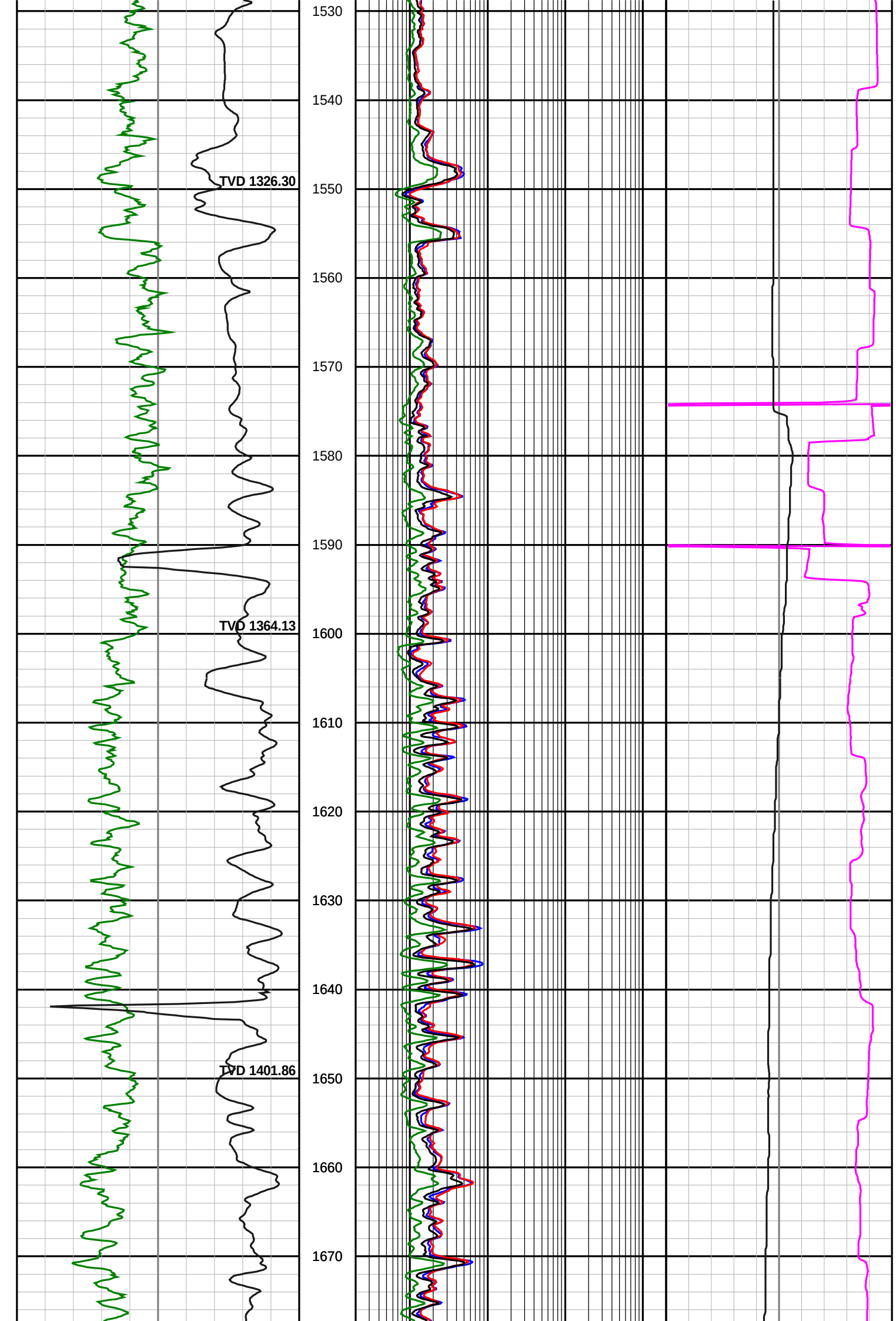
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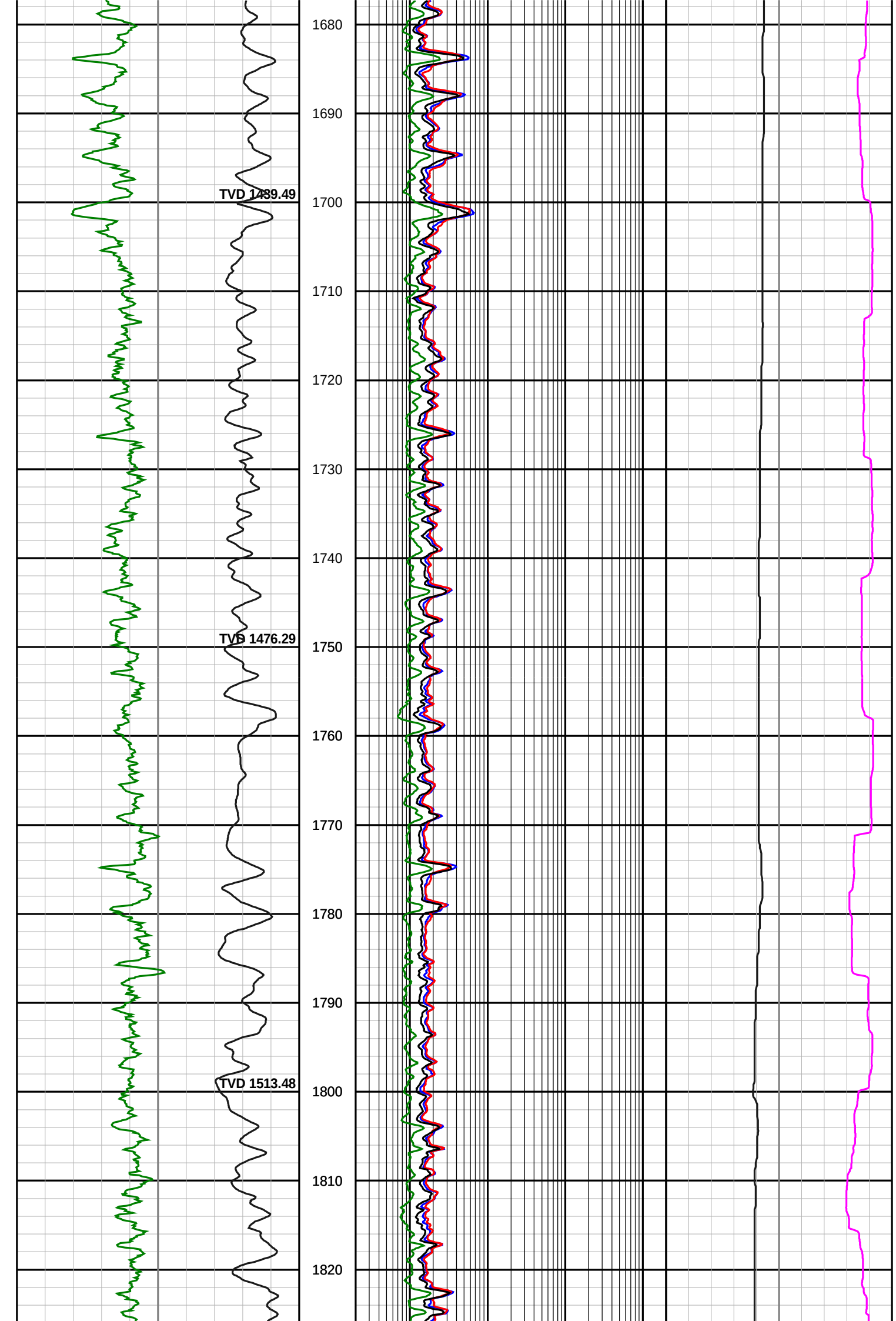


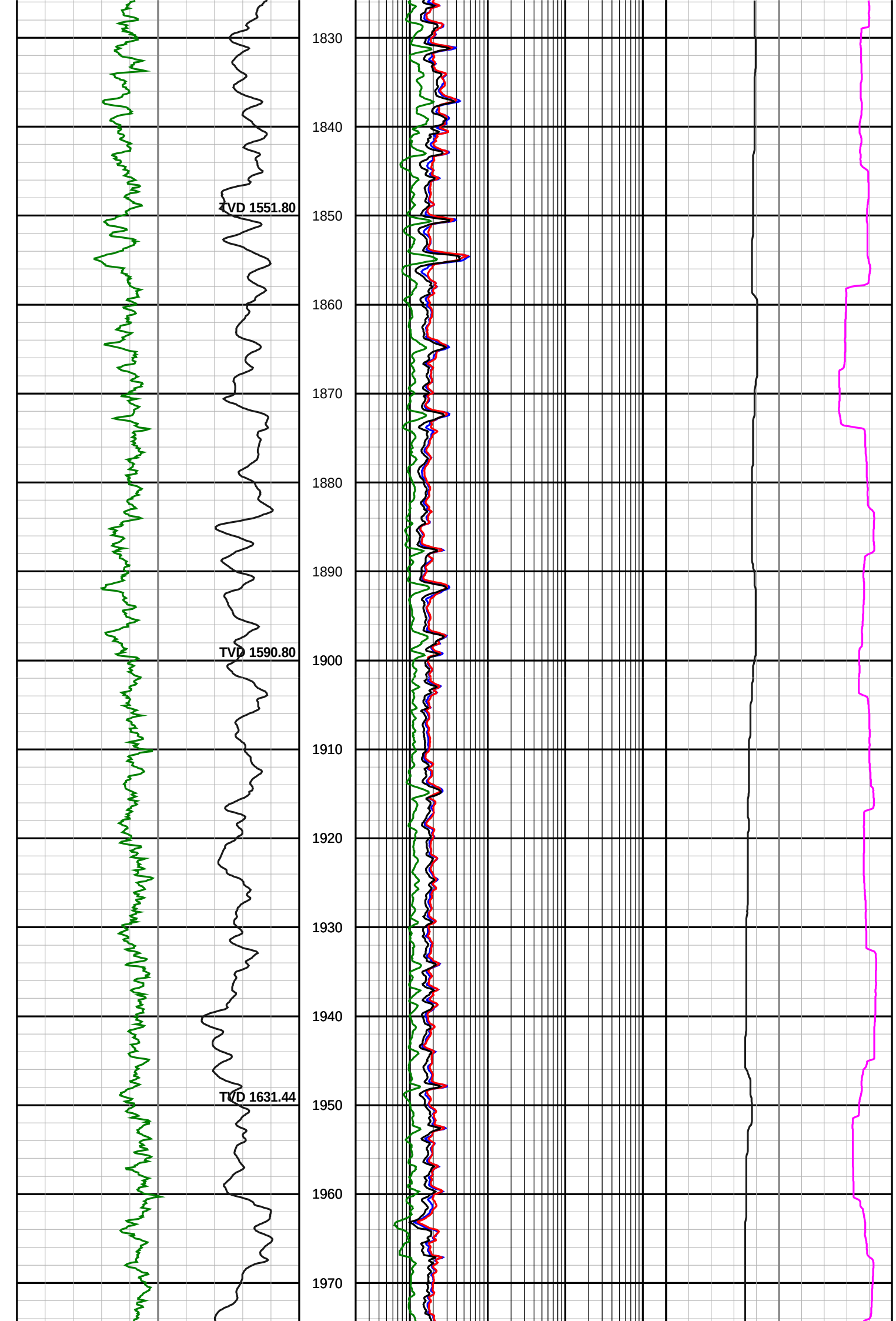

TVD 998.61
TVD 1035.29
TVD 1071.63
1090
1100
1110
1120
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1140
1150
1160
1170
1180
1190
1200
1210
1220
1230

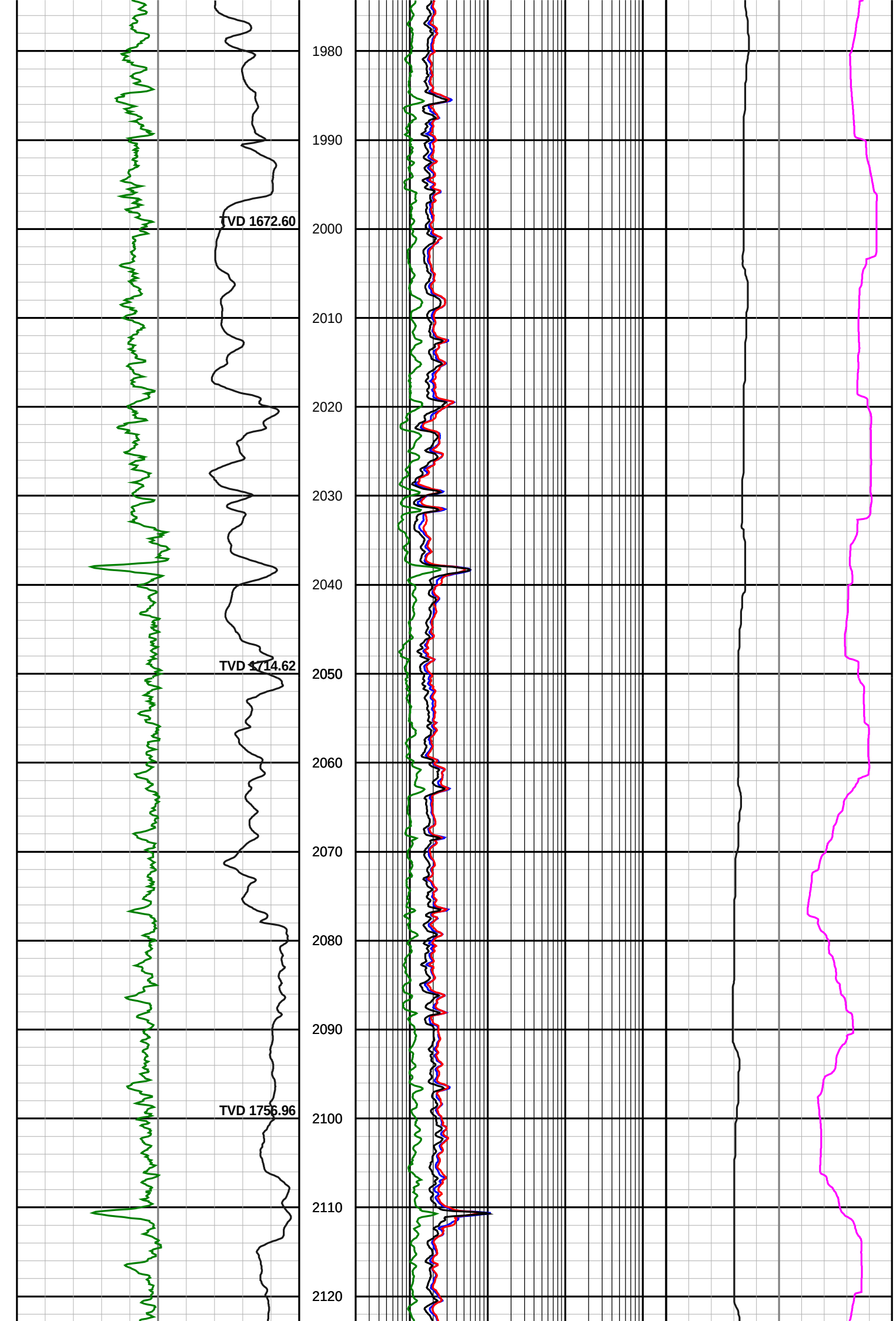

TVD 1107.37
TVD 1143.39
TVD 1179.52
1240
1250
1260
1270
1280
1290
1300
1310
1320
1330
1340
1350
1360
1370
1380

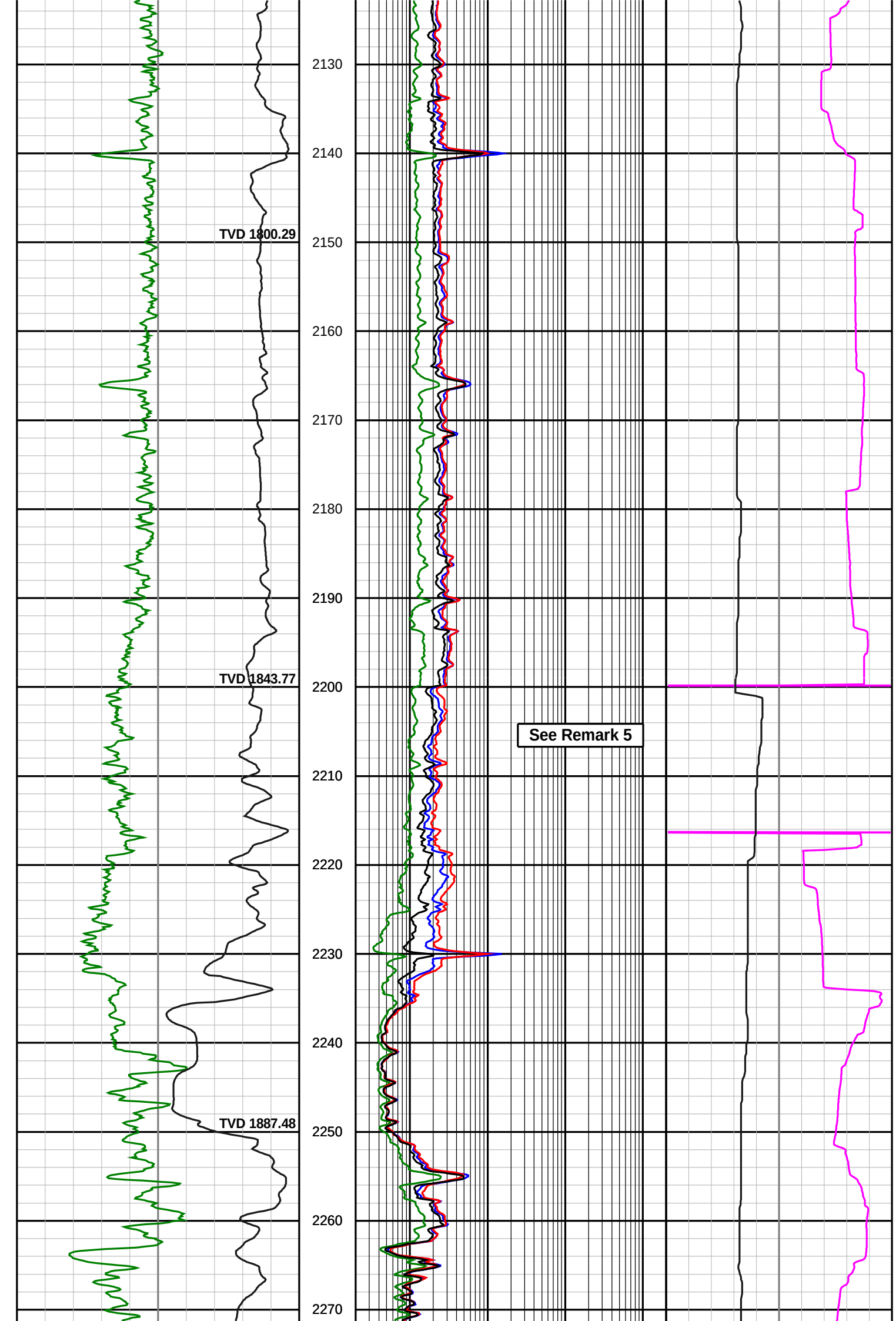

1390
1400
1410
1420
1430
1440
1450
1460
1470
1480
1490
1500
1510
1520
TVD 1215.95
TVD 1252.45
TVD 1289.05

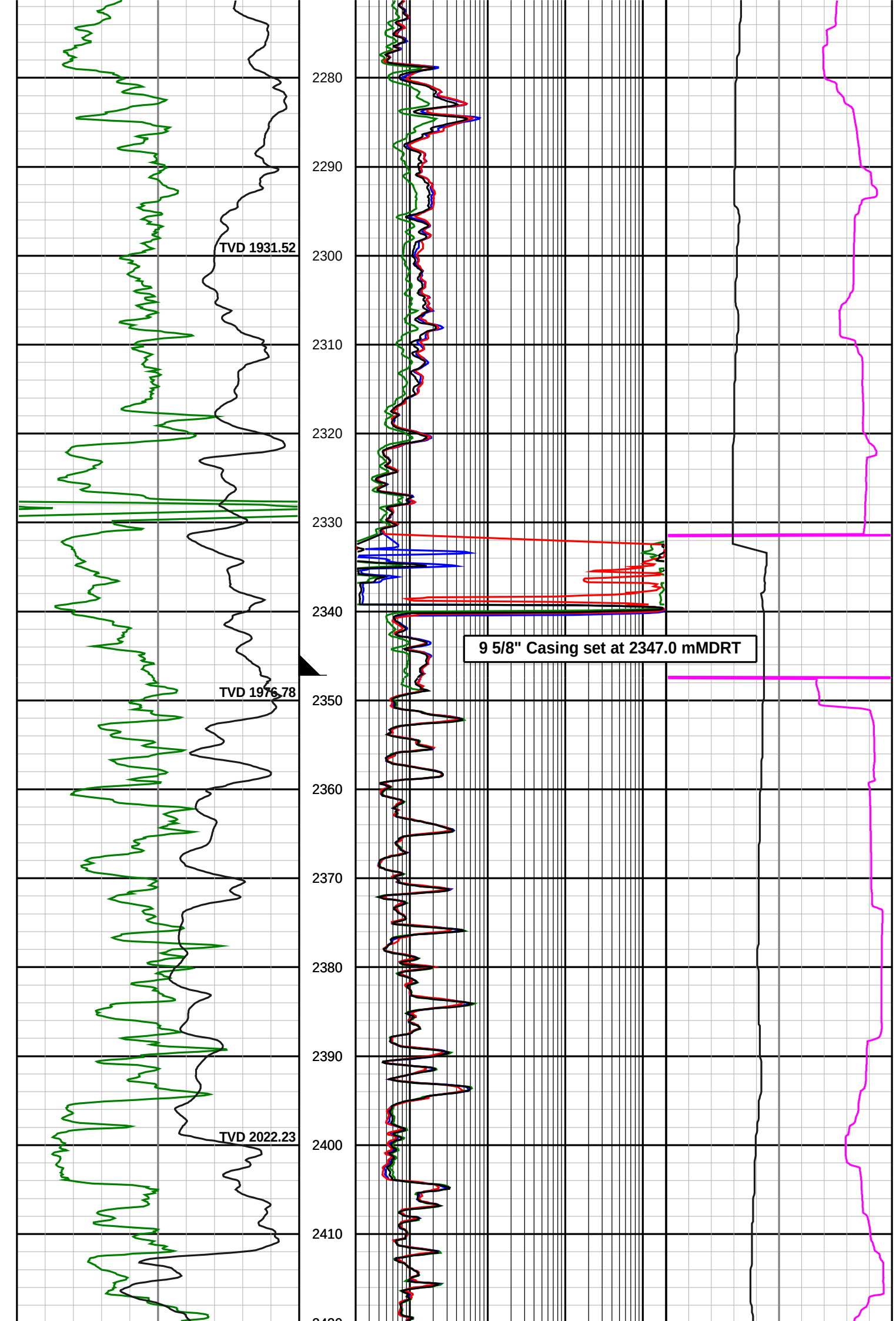

1530
1540
TVD 1326.30
1550
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1570
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TVD 1364.13
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1610
1620
1630
1640
TVD 1401.86
1650
1660
1670

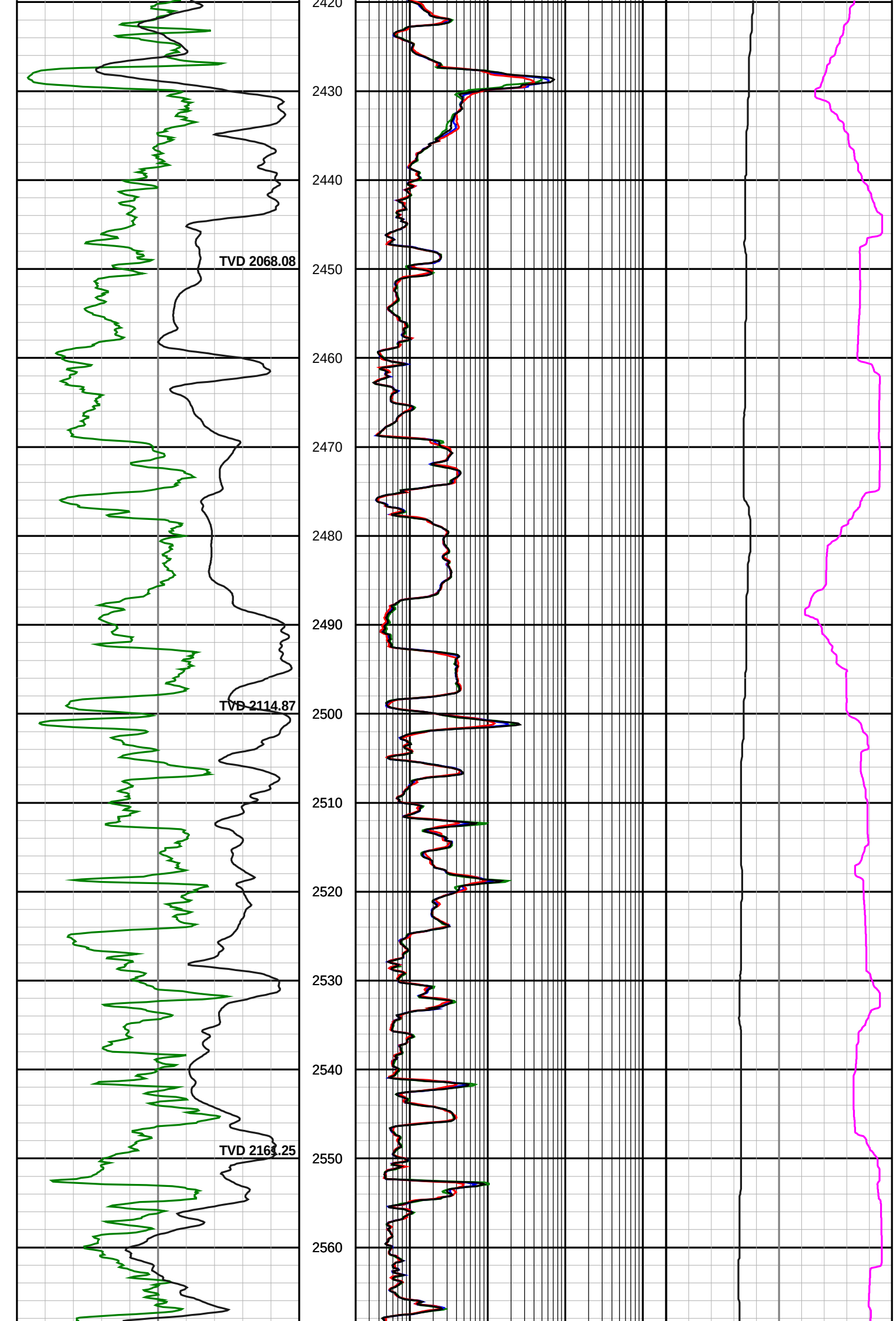

TVD 1489.49
TVD 1476.29
TVD 1513.48
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1690
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1710
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1770
1780
1790
1800
1810
1820

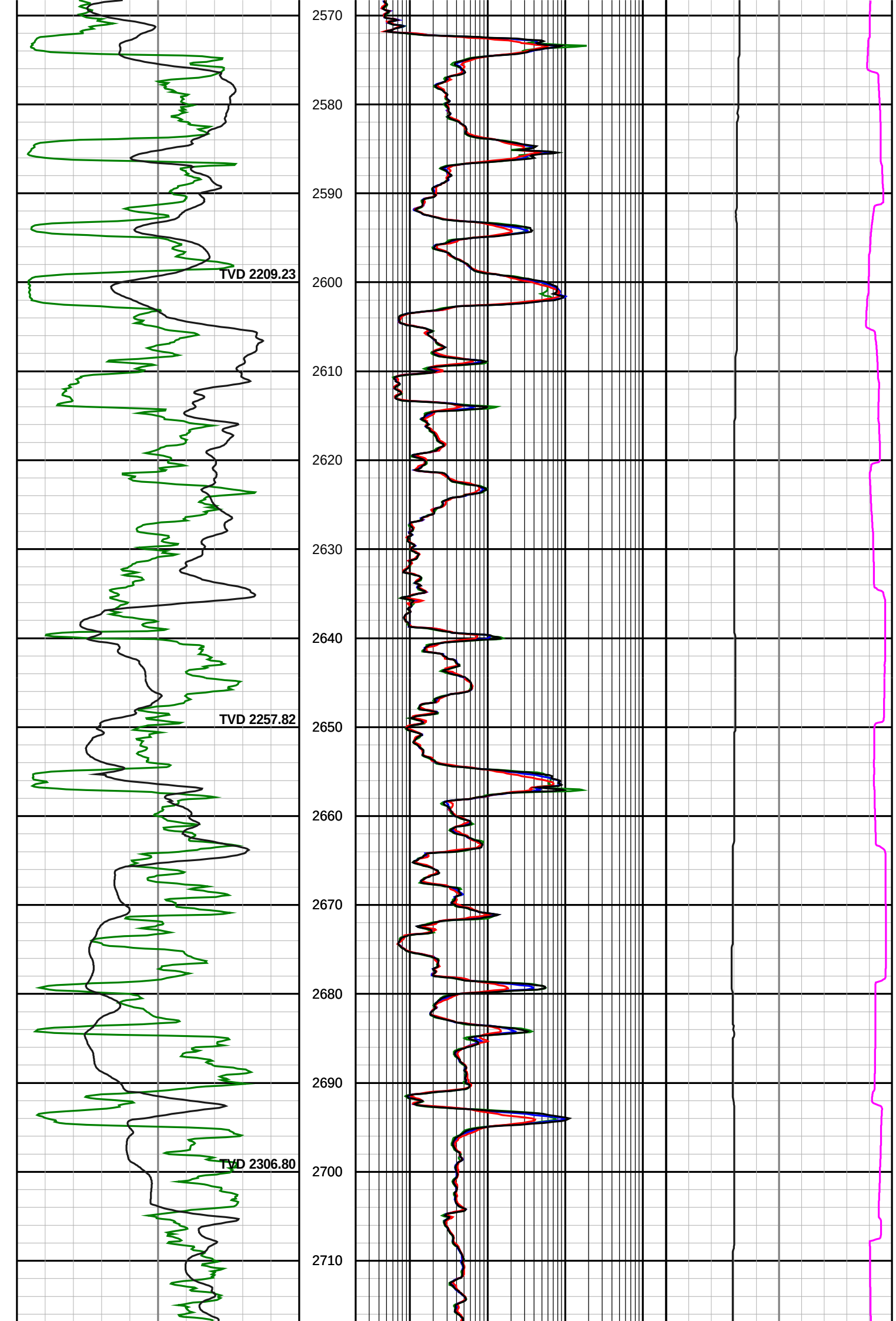

1830
1840
TVD 1551.80
1850
1860
1870
1880
1890
TVD 1590.80
1900
1910
1920
1930
1940
TVD 1631.44
1950
1960
1970

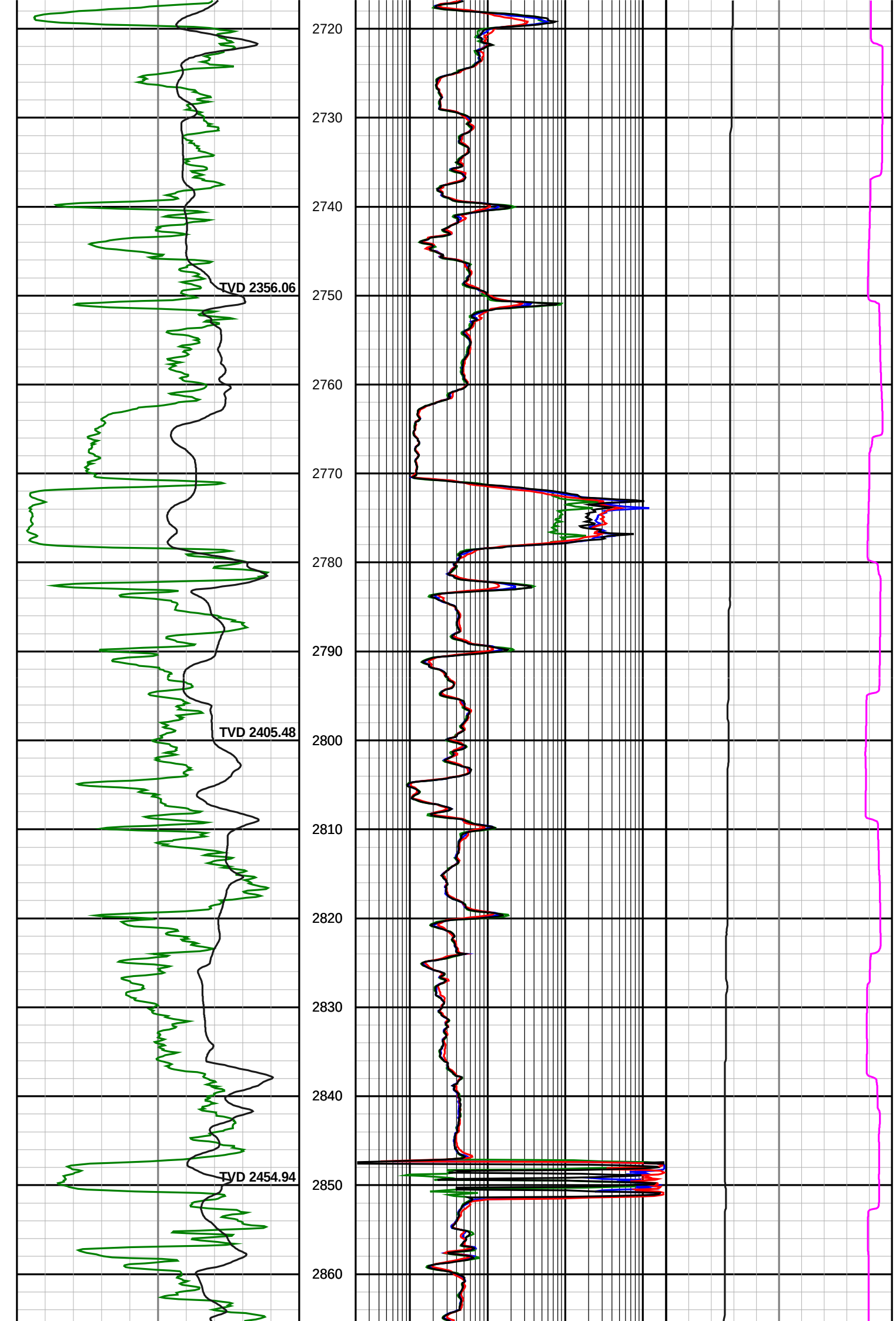

1980
1990
TVD 1672.60
2000
2010
2020
2030
2040
TVD 1714.62
2050
2060
2070
2080
2090
TVD 1756.96
2100
2110
2120

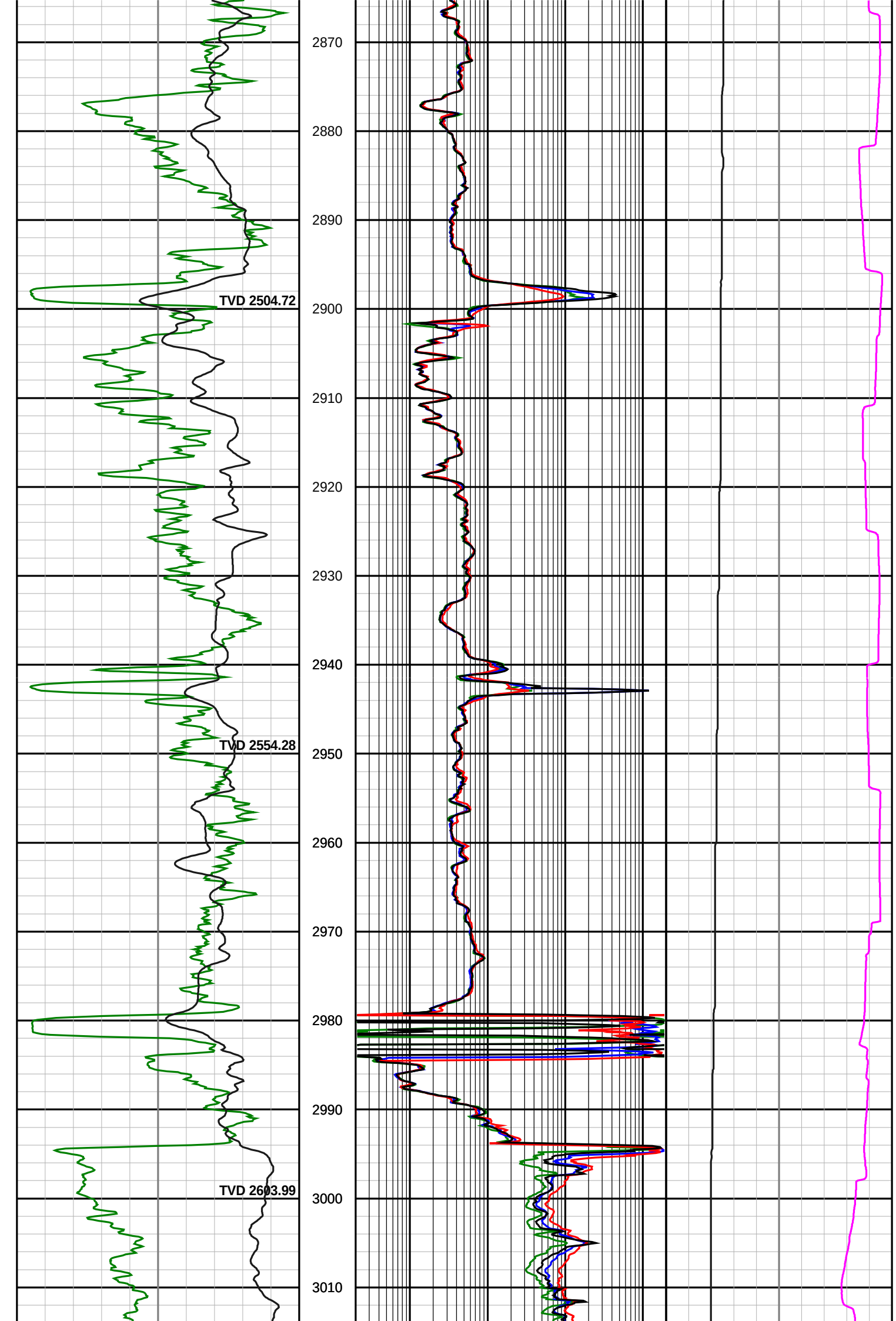

2130
2140
TVD 1800.29
2150
2160
2170
2180
2190
TVD 1843.77
2200
See Remark 5
2210
2220
2230
2240
TVD 1887.48
2250
2260
2270

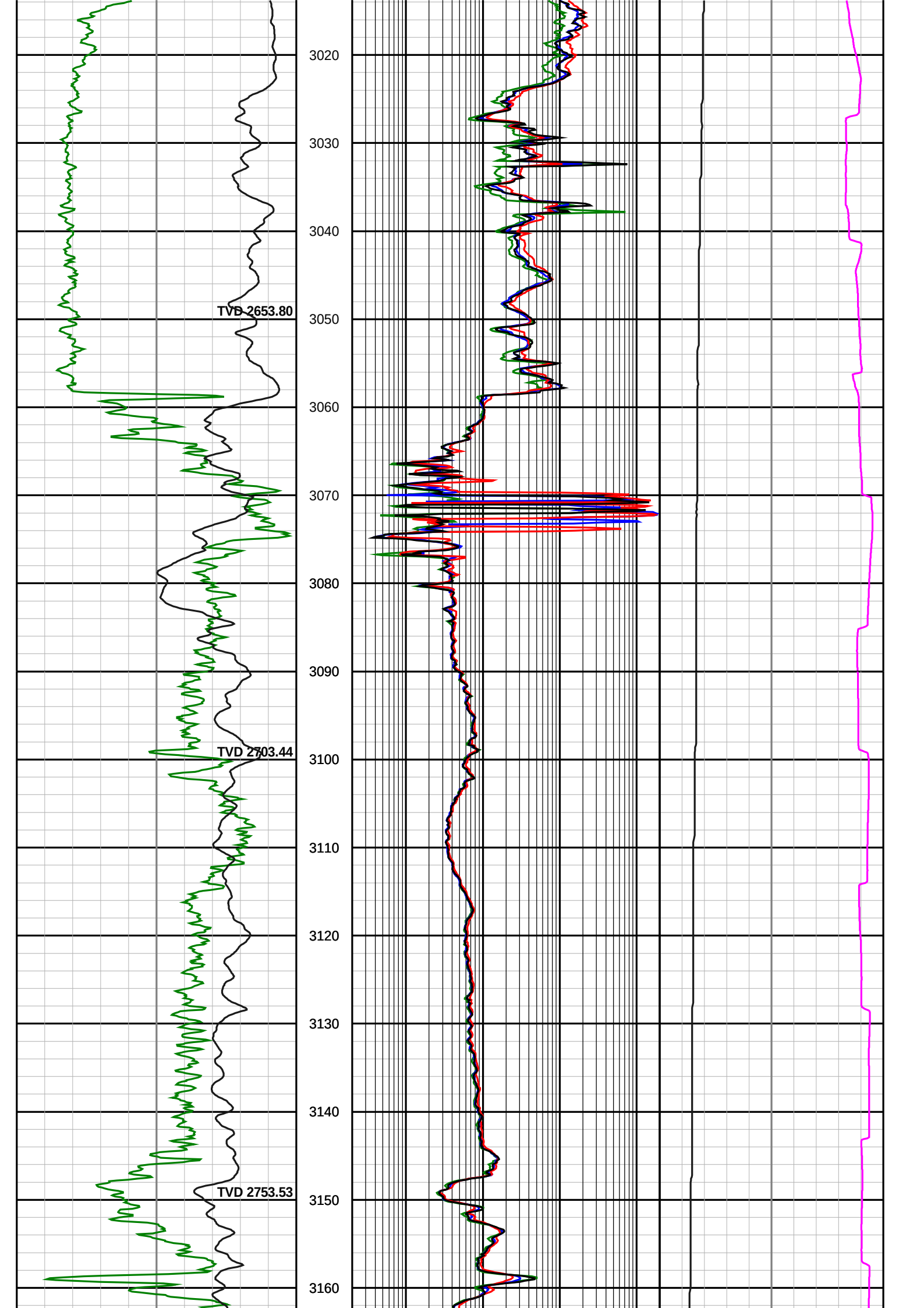

2280
2290
2300
2310
2320
2330
2340
2350
2360
2370
2380
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2400
2410
TVD 1931.52
TVD 1976.78
TVD 2022.23
9 5/8" Casing set at 2347.0 mMDRT

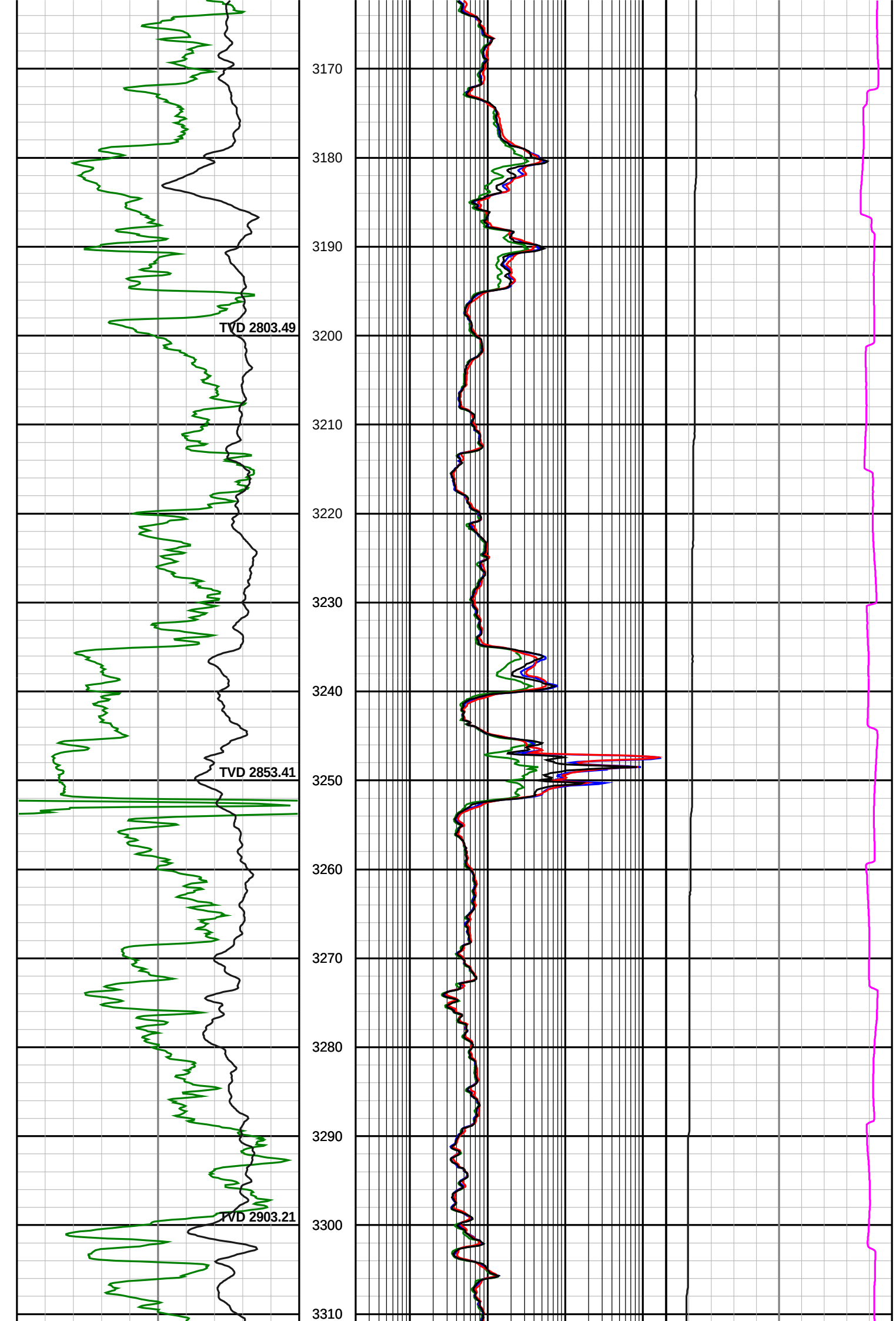

2420
2430
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TVD 2068.08
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2480
2490
TVD 2114.87
2500
2510
2520
2530
2540
TVD 2163.25
2550
2560

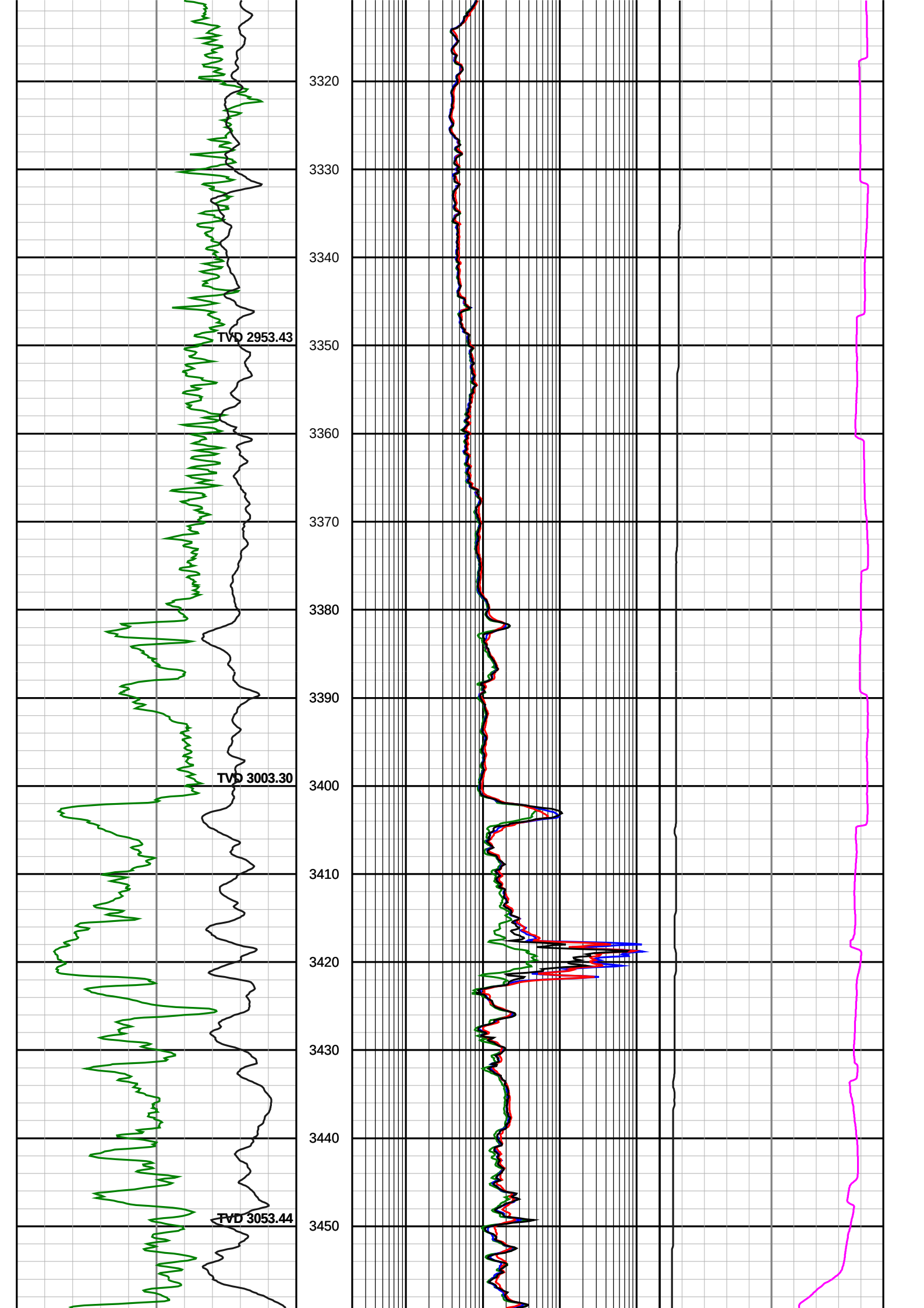

2570
2580
2590
TVD 2209.23
2600
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2620
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2640
TVD 2257.82
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2660
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2680
2690
TVD 2306.80
2700
2710

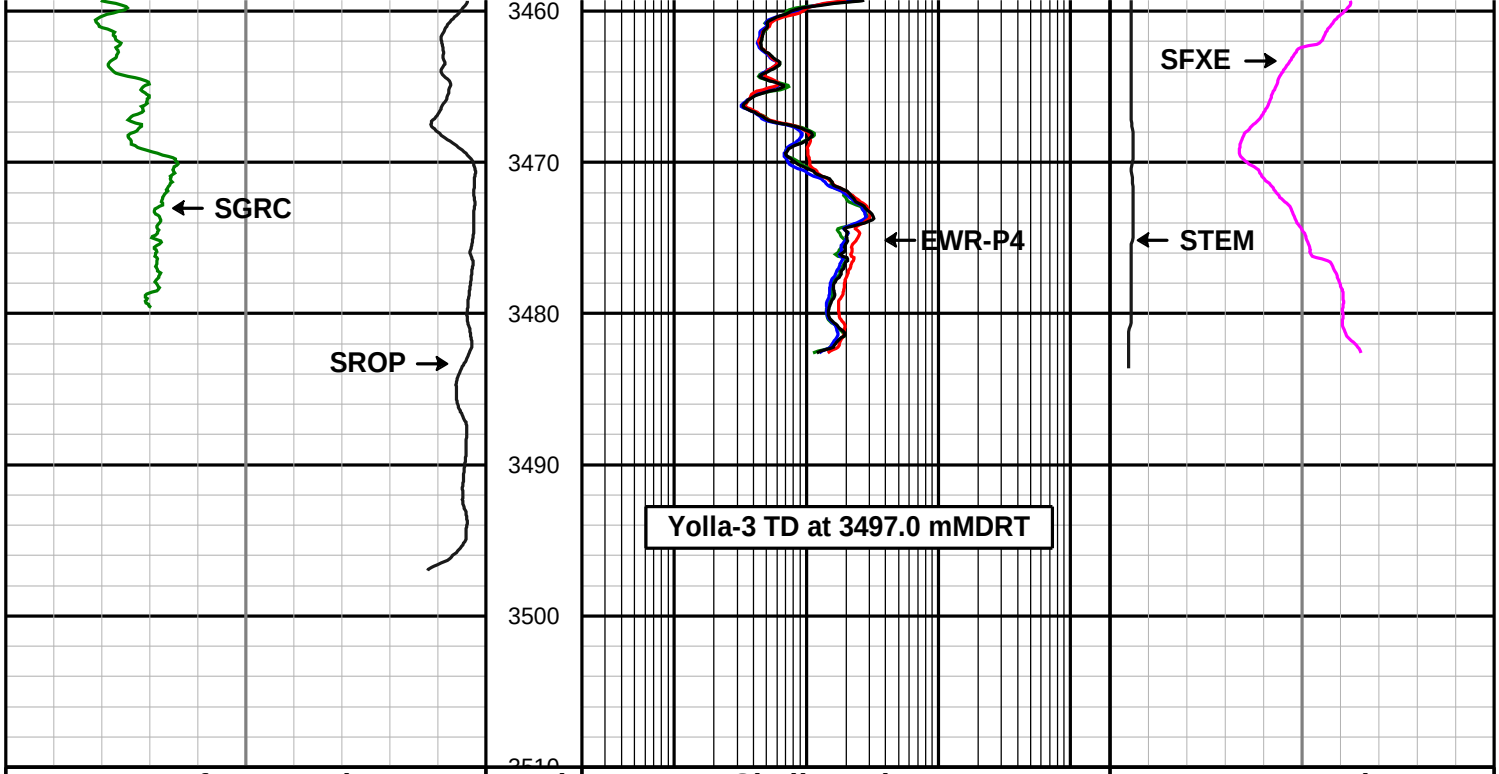

2720
2730
2740
TVD 2356.06
2750
2760
2770
2780
2790
TVD 2405.48
2800
2810
2820
2830
2840
TVD 2454.94
2850
2860


2870
2880
2890
2900
2910
2920
2930
2940
2950
2960
2970
2980
2990
3000
3010
TVD 2504.72
TVD 2554.28
TVD 2603.99


3020
3030
3040
TVD 2653.80
3050
3060
3070
3080
3090
TVD 2703.44
3100
3110
3120
3130
3140
TVD 2753.53
3150
3160


3170
3180
3190
TVD 2803.49
3200
3210
3220
3230
3240
TVD 2853.41
3250
3260
3270
3280
3290
TVD 2903.21
3300
3310


3320
3330
3340
TVD 2953.43
3350
3360
3370
3380
3390
TVD 3003.30
3400
3410
3420
3430
3440
TVD 3053.44
3450



Rate of Penetration (SROP)	Depth MD	Ext Shallow Phase Res (SEXP)	Form Exp Time (SFXE)
100 m/hr 0	1:500	0.2 ohmm 2000	10 hr 0
Gamma Ray (SGRC)		**Shallow Phase Res (SESP)**	**Temperature (STEM)**
0 api 200		0.2 ohmm 2000	100 °C 0
		Medium Phase Res (SEMP)	
		0 ohmm 2000	
		Deep Phase Res (SEDP)	
		0.2 ohmm 2000	

DIRECTIONAL SURVEY REPORT

Origin Energy Resources
Yolla-3
Yolla
Tasmania
Australia
AU-FE-0003007128
RT-AHD=43.0m. Final survey is projected to TD.

Measured Depth (metres)	*Inclination (degrees)*	*Direction (degrees)*	*Vertical Depth (metres)*	*Latitude (metres)*	*Departure (metres)*	*Vertical Section (metres)*	*Dogleg (deg/30m)*
0.000	0.00	0.00	0.000	0.000 N	0.000 E	0.000	TIE-IN
174.000	0.59	242.79	173.997	0.410 S	0.797 W	0.464	0.10
197.000	0.06	242.79	196.996	0.469 S	0.913 W	0.532	0.69
203.000	0.60	242.79	202.996	0.485 S	0.943 W	0.550	2.70
224.000	0.59	242.79	223.995	0.585 S	1.137 W	0.663	0.01

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
258.450	0.43	242.79	258.444	0.725 S	1.410 W	0.821	0.14
282.700	0.65	248.87	282.693	0.816 S	1.618 W	0.951	0.28
311.770	1.48	273.86	311.758	0.850 S	2.146 W	1.383	0.96
340.780	2.25	277.27	340.752	0.753 S	3.084 W	2.233	0.80
369.820	3.48	293.00	369.756	0.336 S	4.462 W	3.625	1.50
399.370	5.10	300.93	399.222	0.691 N	6.416 W	5.827	1.75
428.430	7.12	298.67	428.115	2.220 N	9.106 W	8.919	2.10
457.460	9.92	296.21	456.822	4.189 N	12.930 W	13.208	2.92
486.470	11.29	298.06	485.336	6.628 N	17.678 W	18.531	1.45
515.470	12.76	300.31	513.699	9.579 N	22.947 W	24.565	1.60
544.400	14.82	302.65	541.794	13.188 N	28.820 W	31.458	2.21
572.930	18.93	301.35	569.090	17.565 N	35.847 W	39.737	4.34
602.470	21.65	299.97	596.794	22.781 N	44.663 W	49.978	2.81
631.530	22.70	301.62	623.704	28.400 N	54.083 W	60.946	1.26
660.590	25.23	302.37	650.256	34.658 N	64.092 W	72.750	2.63
689.590	27.24	301.89	676.267	41.474 N	74.948 W	85.568	2.09
718.620	30.23	301.58	701.720	48.813 N	86.816 W	99.521	3.09
747.710	32.41	300.41	726.570	56.595 N	99.778 W	114.640	2.34
776.770	33.84	299.59	750.907	64.534 N	113.531 W	130.514	1.55
805.830	36.11	300.79	774.718	72.915 N	127.925 W	147.164	2.45
834.870	38.46	301.43	797.822	82.006 N	142.983 W	164.753	2.46
863.880	39.00	301.20	820.454	91.440 N	158.487 W	182.902	0.58
892.950	41.57	301.65	842.628	101.240 N	174.523 W	201.696	2.67
922.030	41.88	304.27	864.334	111.769 N	190.759 W	221.041	1.83
951.100	41.35	302.71	886.067	122.423 N	206.859 W	240.336	1.20
980.130	40.90	302.19	907.935	132.669 N	222.969 W	259.426	0.59
1038.170	40.40	302.59	951.971	152.923 N	254.894 W	297.230	0.29
1067.250	40.28	302.79	974.137	163.090 N	270.735 W	316.050	0.18
1095.630	42.87	302.03	995.367	173.179 N	286.635 W	334.879	2.80
1125.320	42.88	301.94	1017.125	183.879 N	303.769 W	355.079	0.06
1154.840	42.40	301.25	1038.841	194.355 N	320.801 W	375.075	0.68
1183.370	43.81	301.11	1059.669	204.448 N	337.482 W	394.571	1.49
1212.900	44.55	301.56	1080.845	215.151 N	355.061 W	415.152	0.82
1240.820	44.26	301.23	1100.791	225.329 N	371.737 W	434.689	0.40
1271.000	44.10	301.04	1122.435	236.204 N	389.740 W	455.720	0.21
1300.060	43.80	300.64	1143.357	246.544 N	407.057 W	475.887	0.41
1329.100	43.59	300.20	1164.352	256.703 N	424.356 W	495.945	0.38
1358.130	43.45	300.56	1185.403	266.813 N	441.602 W	515.931	0.30
1387.170	43.16	299.75	1206.536	276.819 N	458.823 W	535.842	0.64
1416.200	43.09	299.27	1227.723	286.594 N	476.095 W	555.675	0.35
1444.730	43.10	300.33	1248.557	296.279 N	493.009 W	575.156	0.76
1473.800	43.22	299.26	1269.762	306.159 N	510.265 W	595.031	0.76
1502.860	42.22	300.61	1291.111	315.995 N	527.351 W	614.737	1.40
1531.900	41.39	301.29	1312.758	325.949 N	543.953 W	634.094	0.98
1560.930	41.10	301.52	1334.587	335.922 N	560.287 W	653.231	0.34
1589.810	40.80	300.98	1356.400	345.741 N	576.468 W	672.158	0.48
1618.850	40.92	301.11	1378.363	355.539 N	592.745 W	691.156	0.16
1647.900	40.94	300.75	1400.310	365.323 N	609.070 W	710.187	0.24
1676.970	41.39	300.32	1422.194	375.045 N	625.551 W	729.318	0.54
1706.030	42.12	299.91	1443.873	384.754 N	642.290 W	748.663	0.81
1735.040	42.67	300.10	1465.297	394.535 N	659.229 W	768.216	0.58
1764.060	42.52	299.11	1486.660	404.238 N	676.306 W	787.845	0.71
1793.120	41.38	300.86	1508.272	413.944 N	693.133 W	807.263	1.69
1822.170	40.15	301.20	1530.273	423.721 N	709.388 W	826.231	1.30
1850.800	39.76	301.54	1552.220	433.291 N	725.086 W	844.616	0.47
1881.060	38.03	301.80	1575.771	443.266 N	741.256 W	863.615	1.72
1909.020	36.06	302.18	1598.086	452.188 N	755.542 W	880.458	2.13
1938.070	35.58	302.76	1621.642	461.313 N	769.886 W	897.456	0.61
1967.410	34.62	302.40	1645.646	470.398 N	784.102 W	914.325	1.00
1996.460	33.68	303.06	1669.686	479.215 N	797.822 W	930.630	1.04
2025.460	33.57	302.15	1693.833	487.869 N	811.351 W	946.687	0.53
2054.500	32.43	302.83	1718.188	496.363 N	824.691 W	962.500	1.24
2083.520	31.20	302.19	1742.849	504.586 N	837.589 W	977.795	1.32
2112.570	30.20	301.86	1767.827	512.451 N	850.163 W	992.626	1.04
2141.600	29.60	301.49	1792.993	520.051 N	862.478 W	1007.097	0.65

HALLIBURTON®

Yolla-3

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
2170.620	29.65	300.95	1818.219	527.487 N	874.747 W	1021.443	0.29
2192.700	29.51	301.71	1837.421	533.154 N	884.057 W	1032.342	0.55
2199.470	29.61	301.35	1843.310	534.900 N	886.903 W	1035.681	0.91
2228.520	29.54	300.95	1868.575	542.317 N	899.174 W	1050.019	0.21
2257.540	29.00	301.43	1893.890	549.664 N	911.313 W	1064.207	0.61
2286.530	26.96	301.77	1919.490	556.789 N	922.897 W	1077.808	2.12
2315.560	26.11	301.70	1945.462	563.610 N	933.927 W	1090.776	0.88
2323.950	25.94	301.45	1953.001	565.538 N	937.063 W	1094.457	0.71
2352.540	25.28	301.50	1978.782	571.990 N	947.604 W	1106.816	0.69
2381.580	24.10	301.76	2005.167	578.350 N	957.932 W	1118.946	1.23
2409.950	23.25	301.46	2031.150	584.319 N	967.632 W	1130.335	0.91
2438.980	22.49	301.51	2057.898	590.211 N	977.252 W	1141.616	0.78
2468.040	22.16	300.59	2084.780	595.905 N	986.709 W	1152.654	0.49
2497.120	20.86	300.56	2111.834	601.328 N	995.889 W	1163.314	1.35
2526.180	19.69	300.61	2139.094	606.451 N	1004.556 W	1173.381	1.21
2555.190	19.27	300.62	2166.443	611.378 N	1012.881 W	1183.054	0.43
2584.240	16.12	296.70	2194.116	615.633 N	1020.612 W	1191.868	3.47
2613.320	14.16	296.48	2222.185	619.034 N	1027.403 W	1199.434	2.03
2642.340	13.37	296.42	2250.372	622.109 N	1033.584 W	1206.310	0.81
2671.480	12.20	298.74	2278.789	625.088 N	1039.300 W	1212.740	1.32
2700.580	10.52	301.17	2307.318	627.942 N	1044.269 W	1218.467	1.80
2729.630	9.78	303.39	2335.914	630.672 N	1048.598 W	1223.584	0.87
2758.610	8.91	306.43	2364.509	633.358 N	1052.457 W	1228.279	1.04
2787.630	8.39	306.83	2393.199	635.961 N	1055.959 W	1232.625	0.54
2816.680	7.92	309.88	2421.956	638.516 N	1059.192 W	1236.718	0.66
2845.750	7.52	310.63	2450.762	641.039 N	1062.173 W	1240.579	0.43
2874.810	6.95	310.46	2479.590	643.419 N	1064.955 W	1244.195	0.59
2903.840	6.59	311.13	2508.418	645.654 N	1067.545 W	1247.572	0.38
2932.800	6.47	307.52	2537.190	647.740 N	1070.090 W	1250.833	0.44
2961.870	6.25	305.90	2566.081	649.665 N	1072.671 W	1254.039	0.29
2990.910	5.63	307.78	2594.965	651.466 N	1075.078 W	1257.033	0.67
3016.370	5.51	307.66	2620.305	652.978 N	1077.033 W	1259.491	0.15
3048.910	5.33	306.46	2652.699	654.830 N	1079.485 W	1262.550	0.19
3077.850	5.05	307.24	2681.521	656.400 N	1081.581 W	1265.158	0.31
3106.890	4.40	308.40	2710.462	657.865 N	1083.470 W	1267.534	0.68
3135.950	3.62	309.91	2739.451	659.145 N	1085.046 W	1269.547	0.81
3164.960	3.08	312.61	2768.411	660.260 N	1086.322 W	1271.218	0.58
3194.050	2.64	315.47	2797.465	661.266 N	1087.367 W	1272.635	0.48
3223.060	2.25	311.13	2826.449	662.117 N	1088.264 W	1273.844	0.45
3252.110	2.09	311.32	2855.478	662.841 N	1089.090 W	1274.928	0.16
3281.170	1.91	311.40	2884.520	663.511 N	1089.852 W	1275.927	0.18
3310.240	1.65	305.29	2913.576	664.073 N	1090.557 W	1276.823	0.33
3339.240	1.02	303.72	2942.568	664.458 N	1091.113 W	1277.498	0.65
3368.270	0.67	302.37	2971.595	664.694 N	1091.473 W	1277.928	0.36
3426.310	0.13	257.23	3029.633	664.861 N	1091.824 W	1278.315	0.30
3455.330	0.50	160.20	3058.653	664.734 N	1091.813 W	1278.238	0.55
3476.470	0.91	169.30	3079.791	664.481 N	1091.750 W	1278.053	0.60
3497.000	0.91	169.30	3100.318	664.161 N	1091.689 W	1277.833	0.00

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 301.59 DEGREES (GRID)
A TOTAL CORRECTION OF 11.98 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

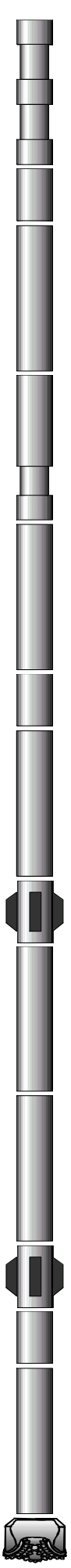
HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 3497.000 METRES
IS 1277.848 METRES ALONG 301.32 DEGREES (GRID)

MWD RUN 100 - BHA

Component	Length (m)

MWD RUN 100 - MWD

Sensor	Measure



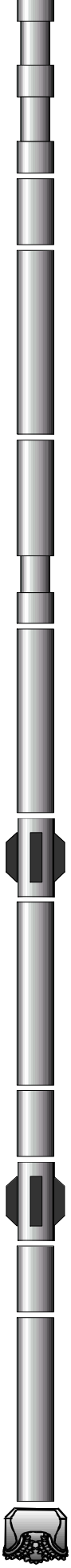
	Component Length (m)
HWDP	84.660
Sub	.750
Drill Collar	18.820
Jar	9.790
Drill Collar	28.600
Sub	1.230
Drill Collar	18.800
Stabilizer	1.910
MWD	3.110
Drill Collar	8.510
Stabilizer	2.140
Sub	.850
Motor	8.560
Bit	.410

MWD RUN 300 - BHA



	Sensor Measure Point Distance To Bit (m)
MWD	
Directional	20.550

MWD RUN 300 - MWD



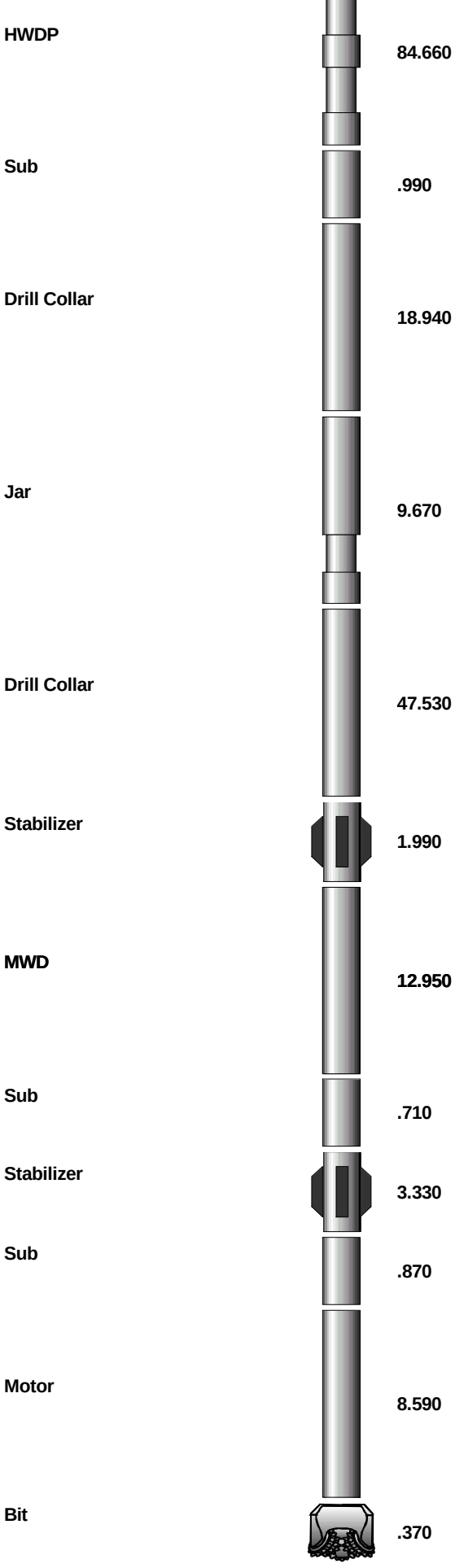
	Component Length (m)
HWDP	84.660
Sub	.990
Drill Collar	18.940
Jar	9.820
Drill Collar	47.530
Stabilizer	1.990
MWD	12.940
Sub	.710
Stabilizer	3.330
Sub	.870
Motor	8.590
Bit	.370

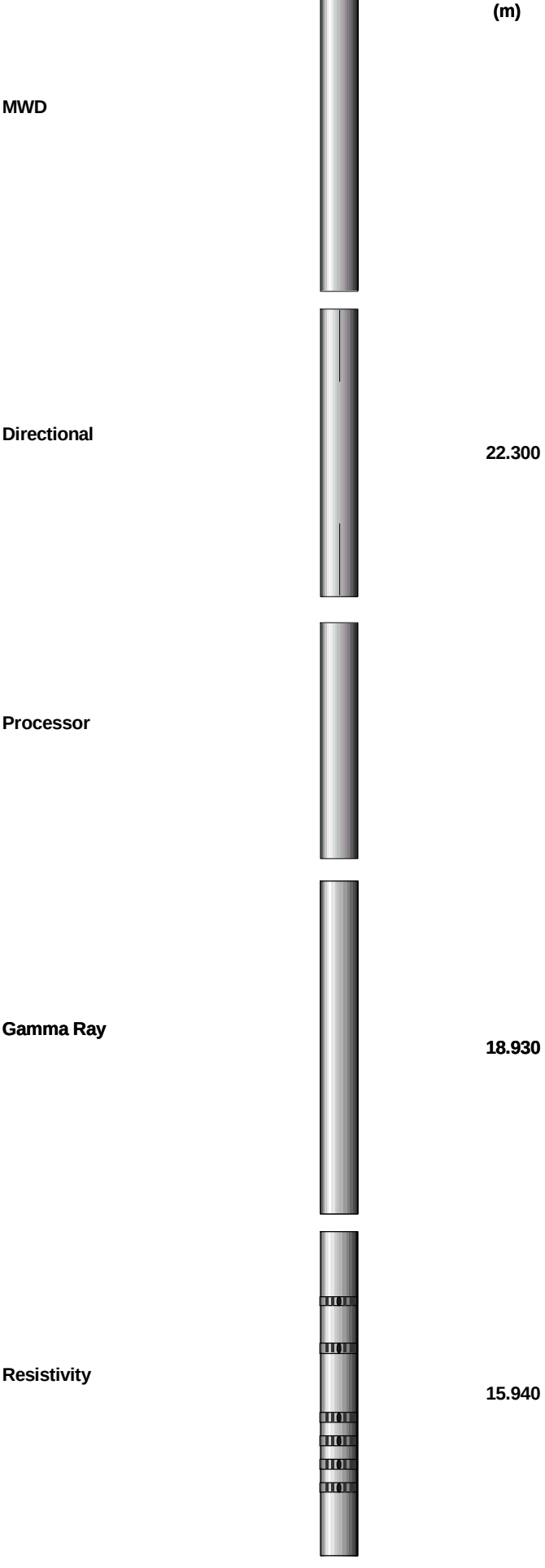
MWD RUN 400 - BHA



	Sensor Measure Point Distance To Bit (m)
MWD	
Directional	22.280
Processor	
Gamma Ray	18.910
Resistivity	15.920

MWD RUN 400 - MWD



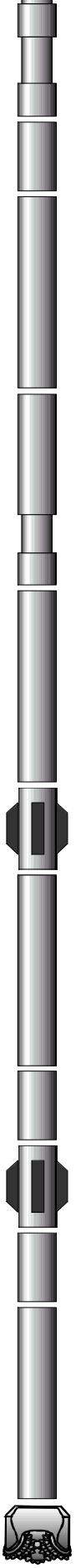


MWD RUN 600 - BHA

MWD RUN 600 - MWD







HWDP	84.660
Sub	.990
Drill Collar	18.940
Jar	9.670
Drill Collar	47.530
Stabilizer	1.860
MWD	12.950
Sub	.710
Stabilizer	3.330
Sub	.870
Motor	8.590
Bit	.370

MWD RUN 700 - BHA

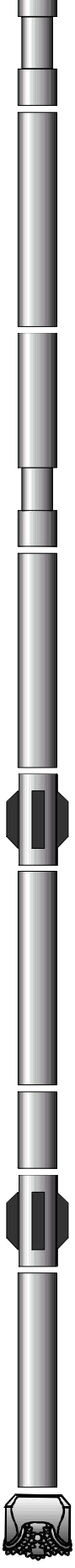


MWD	
Directional	22.300
Processor	
Gamma Ray	18.930
Resistivity	15.940

MWD RUN 700 - MWD

	Component Length (m)
HWDP	56.410

Sensor Measure Point Distance To Bit (m)



Drill Collar 18.650

Jar 9.420

Drill Collar 56.080

Stabilizer 1.310

MWD 12.870

Sub .980

Stabilizer 3.240

Motor 7.670

Bit .260

MWD



Directional 20.530

Processor

Gamma Ray 17.220

Resistivity 14.210

WELL INFORMATION

MWD Run Number	100	300	400	600	700
Date run completed	13-Aug-04	18-Aug-04	22-Aug-04	27-Aug-04	05-Sep-04
Rig Bit Number	1	3	4	6	7
Bit Size (in)	16	12.25	12.25	12.25	8.5
Tool Nominal OD (in)	9.5	8	8	8	6.75
Log Start Depth (TVD, m)	215.00	935.87	1358.81	1857.68	1973.77
Log End Depth (TVD, m)	932.07	1358.81	1857.68	1973.77	3100.32
Drill or Wipe	Drilling	Drilling	Drilling	Drilling	Drilling
Drill/Wipe Start Date and Time	11-Aug-04 03:00	16-Aug-04 16:33	18-Aug-04 16:36	26-Aug-04 00:04	31-Aug-04 21:00
Drill/Wipe End Date and Time	12-Aug-04 09:00	17-Aug-04 21:34	21-Aug-04 03:40	26-Aug-04 15:16	04-Sep-04 11:10
Min Inc (deg) @ Depth (TVD, m)	0.43 @ 246.29	40.28 @ 946.34	29.51 @ 2,071.65	25.94 @ 2,202.88	0.13 @ 3,305.11
Max Inc (deg) @ Depth (TVD, m)	41.88 @ 801.30	44.55 @ 1,091.97	42.67 @ 1,614.05	29.61 @ 2,078.42	25.28 @ 2,231.47
Bit TFA(in2) / Bit Type	1.325 / Hughes MX-1	1.491 / Hughes HCM506	1.491 / Hughes HCM506	1.491 / Hughes HCM506	1.335 / Hycalog DSX173DG
Flow Rate (gpm)	860	830	850	880	600
Max AV (mpm) / CV (mpm) @ MWD	29.4 / 139.8	72.0 / 110.4	110.6 / 323.5	76.2 / 190.2	181.8 / 282.0
Fluid Type	Seawater/Sweeps	Drispac/Soltex	Drispac/Soltex	Drispac/Soltex	Drispac/Soltex
Density (ppg) / Viscosity (spqt)	8.8 / 165	9.2 / 122	9.5 / 84	9.4 / 190	9.4 / 106
Filtrate CL (ppm)	N/A	19,500	30,000	23,000	21,000
pH / Fluid Loss (cptm)	N/A / N/A	8.50 / 3.7	8.40 / 4.3	8.10 / 4.0	8.90 / 3.7
PV (cp) / YP (pa)	14 / 42	34 / 43	29 / 38	39 / 53	50 / 53
% Solids / % Sand	N/A / N/A	4.9 / 0.10	6.1 / 0.02	5.5 / 0.10	6.3 / 0.10
% Oil / Oil:Water Ratio	N/A / N/A	0.0 / 0.0:94.0	0.0 / 0.0:91.5	0.0 / 0.0:92.6	0.0 / 0.0:92.0
Rm @ Measured Temp (degC)	N/A @ N/A	1.60 @ 14.00	1.20 @ 14.00	1.30 @ 19.00	0.18 @ 20.00
Rmf @ Measured Temp (degC)	N/A @ N/A	1.50 @ 14.00	1.10 @ 14.00	1.20 @ 19.00	0.20 @ 20.00
Rmc @ Measured Temp (degC)	N/A @ N/A	1.70 @ 14.00	1.40 @ 14.00	1.40 @ 19.00	0.28 @ 20.00
Max Tool Temp (degC) / Source	23.40 / PCD-R	57.00 / EWR-P4	72.00 / EWR-P4	82.00 / EWR-P4	96.00 / EWR-P4
Rm @ Max Tool Temp (degC)	N/A @ N/A	0.72 @ 57.00	0.46 @ 72.00	0.51 @ 82.00	0.42 @ 96.00
Lead MWD Engineer	M. Lee	M. Lee	M. Lee	M. Lee	E. Dahlem
Customer Representative	H. Flink	M. Jackson	M. Jackson	M. Jackson	H. Flink

SENSOR INFORMATION

Downhole Processor Information

Tool Type	PCD	HCIM	HCIM	HCIM	HCIM
Software Version	3.32	66.37	67.88	67.88	67.88
Sub Serial Number	10599306	182692	154547	154547	43989
Insert Serial Number	538	108149	160772	160772	160772
Logging String Serial Number	10599306	DM90047857H1GR8	DM90047858HGR8	DM90047858HGR8	DM90049413H1GR6
Date and Time Initialized	11-Aug-04 00:00	16-Aug-04 12:02	18-Aug-04 08:54	25-Aug-04 06:47	31-Aug-04 11:25
Date and Time Read	20-Jun-04 12:00	18-Aug-04 06:30:18	22-Aug-04 03:55:00	27-Aug-04 00:44:21	05-Sep-04 14:40:00

Directional Sensor Information

Tool Type	PCD	PM	PM	PM	PM
Distance From Bit (m)	20.55	22.28	22.30	22.30	20.53
Software Version	3.32	N/A	N/A	N/A	N/A
Sub Serial Number	10599306	91818	61119	61119	95764
Sonde Serial Number	538	73280	97847	97847	34827
Sensor ID Number	10599306	563	688	688	500
Survey String Serial Number	10599306	DM90047861M8	DM90047862M8	DM90047862M8	DM90047859M6
Toolface Offset (deg)	308	331	42	233	255

Gamma Ray Sensor Information

Tool Type		DGR	DGR	DGR	DGR
Distance From Bit (m)		18.91	18.93	18.93	17.22
Recorded Sample Period (sec)		14	14	14	14
Software Version		N/A	N/A	N/A	N/A
Sub Serial Number		106149	102971	102971	70755
Insert/Sonde Serial Number		050437	1084171	1084171	184694

Resistivity Sensor Information

Tool Type		EWR-P4	EWR-P4	EWR-P4	EWR-P4
Distance From Bit (m)		15.92	15.94	15.94	14.21
Recorded Sample Period (sec)		16	16	16	16
Software Version		1.38	1.38	1.38	1.38
Sub Serial Number		96508	82377	82377	81799
Receiver Insert Serial Number		77242	144719	144719	81550
Transmitter Insert Serial Number		135158	79562	79562	122049
Receiver Orientation		Down	Down	Down	Down

REMARKS

1. All depths are bit depths and referenced to the driller's pipe tally.

2. AV/CV is calculated at the MWD collar using the Power Law for water based muds and the Bingham's Plastic Law for oil based muds.

3. Curve mnemonics are :

SGRC - Smoothed Gamma Ray Combined, api
SEXP - Smoothed Extra Shallow Phase-Shift Derived Resistivity, ohm-m
SESP - Smoothed Shallow Phase-Shift Derived Resistivity, ohm-m
SEMP - Smoothed Medium Phase-Shift Derived Resistivity, ohm-m
SEDP - Smoothed Deep Phase-Shift Derived Resistivity, ohm-m
SROP - Smoothed Rate of Penetration, m/hr
SFXE - Smoothed Resistivity Formation Exposure Time, hr
STEM - Smoothed Temperature from Resistivity tool, degrees C

4. The second bit run drilled from 1012.0 to 1017.0 mMDRT without the use of the MWD tool.

5. Run 500 was an 8½" coring run from 2216.0 to 2234.0 mMDRT, which was opened up in run 600.

WARRANTY

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Deep Phase Res (SEDP)
0.2 ohmm 2000

Medium Phase Res (SEMP)
0 ohmm 2000

Gamma Ray (SGRC)
0 api 200

Shallow Phase Res (SESP)
0.2 ohmm 2000

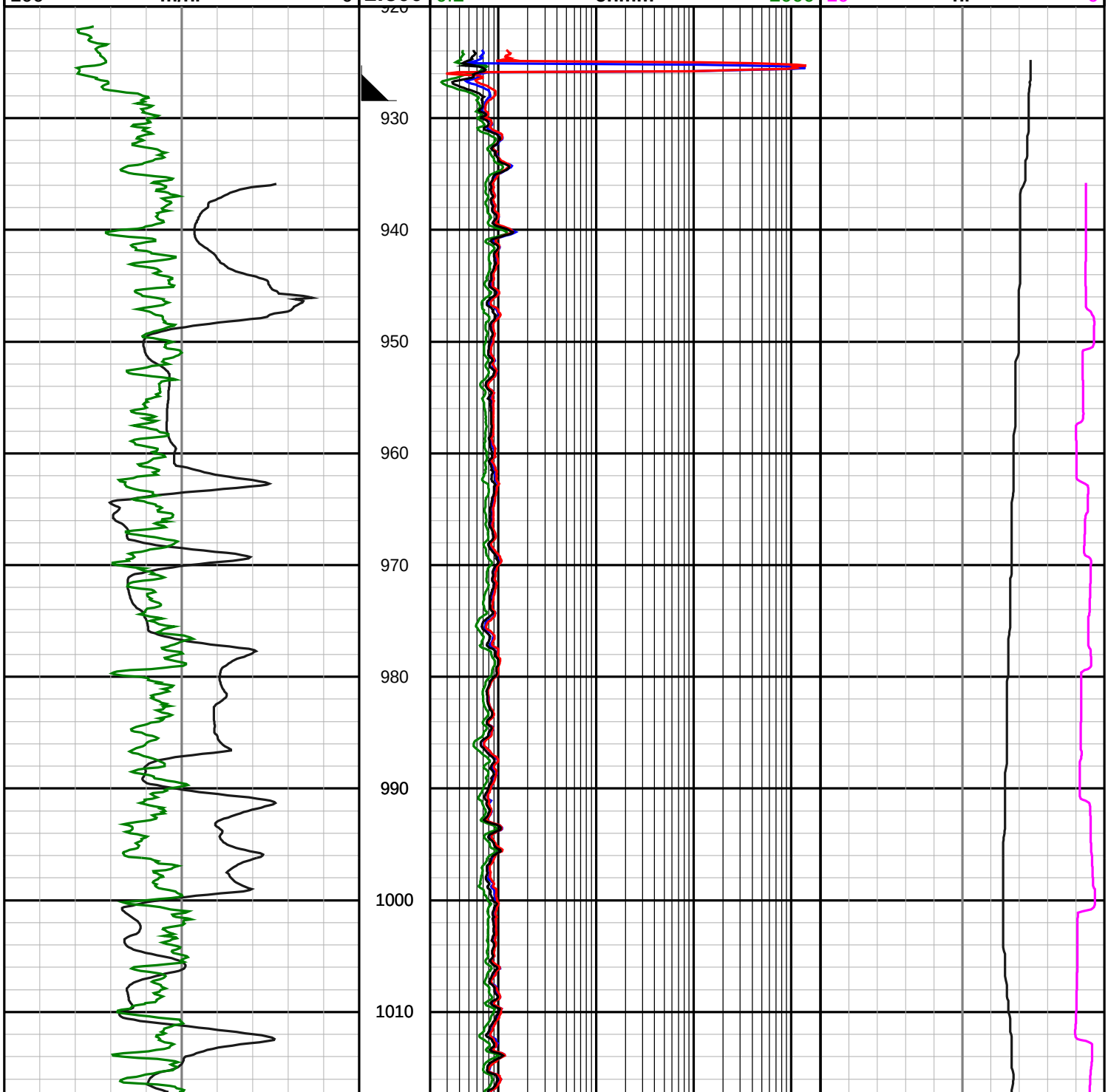
Temperature (STEM)
100 °C 0

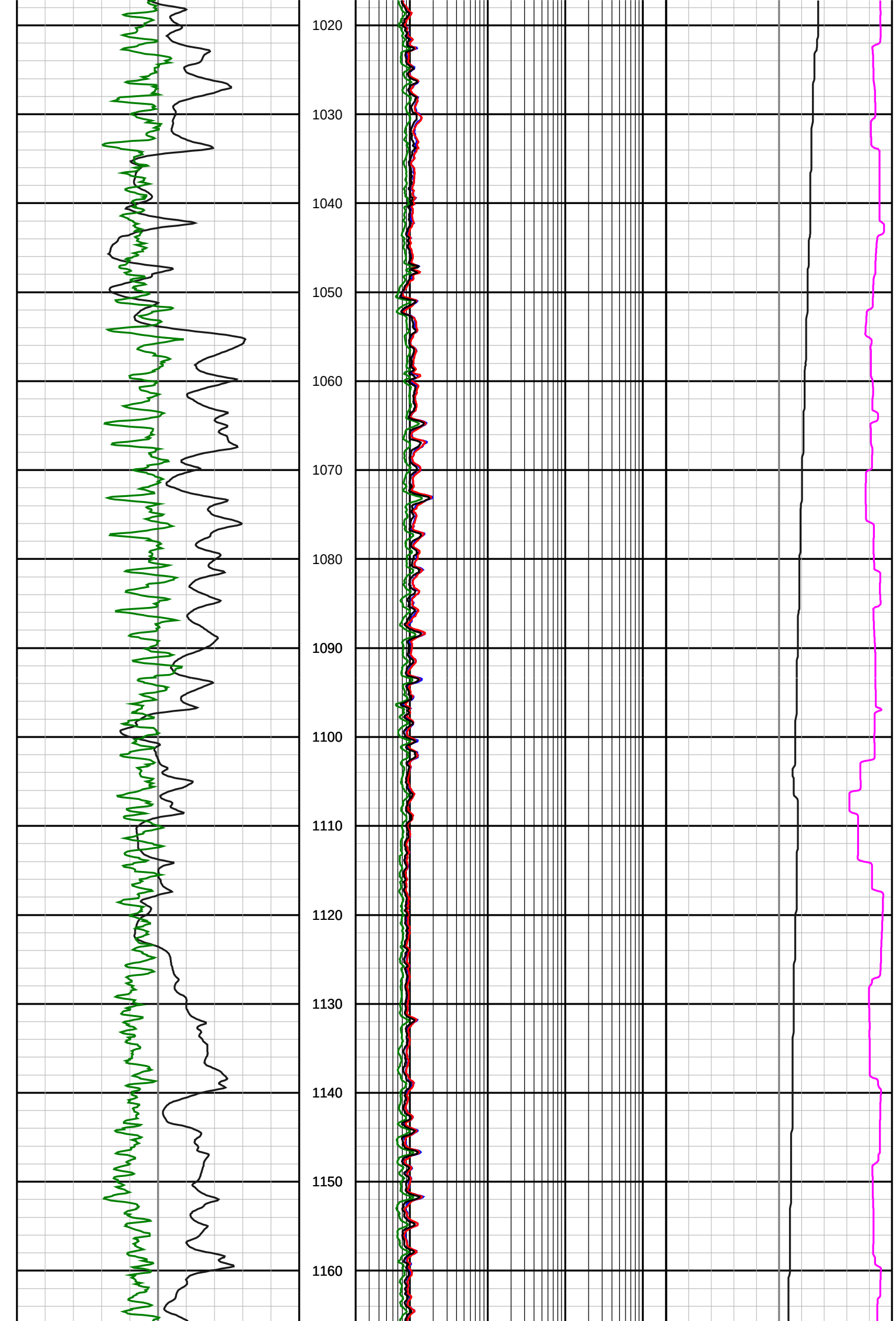
Rate of Penetration (SROP)
100 m/hr 0

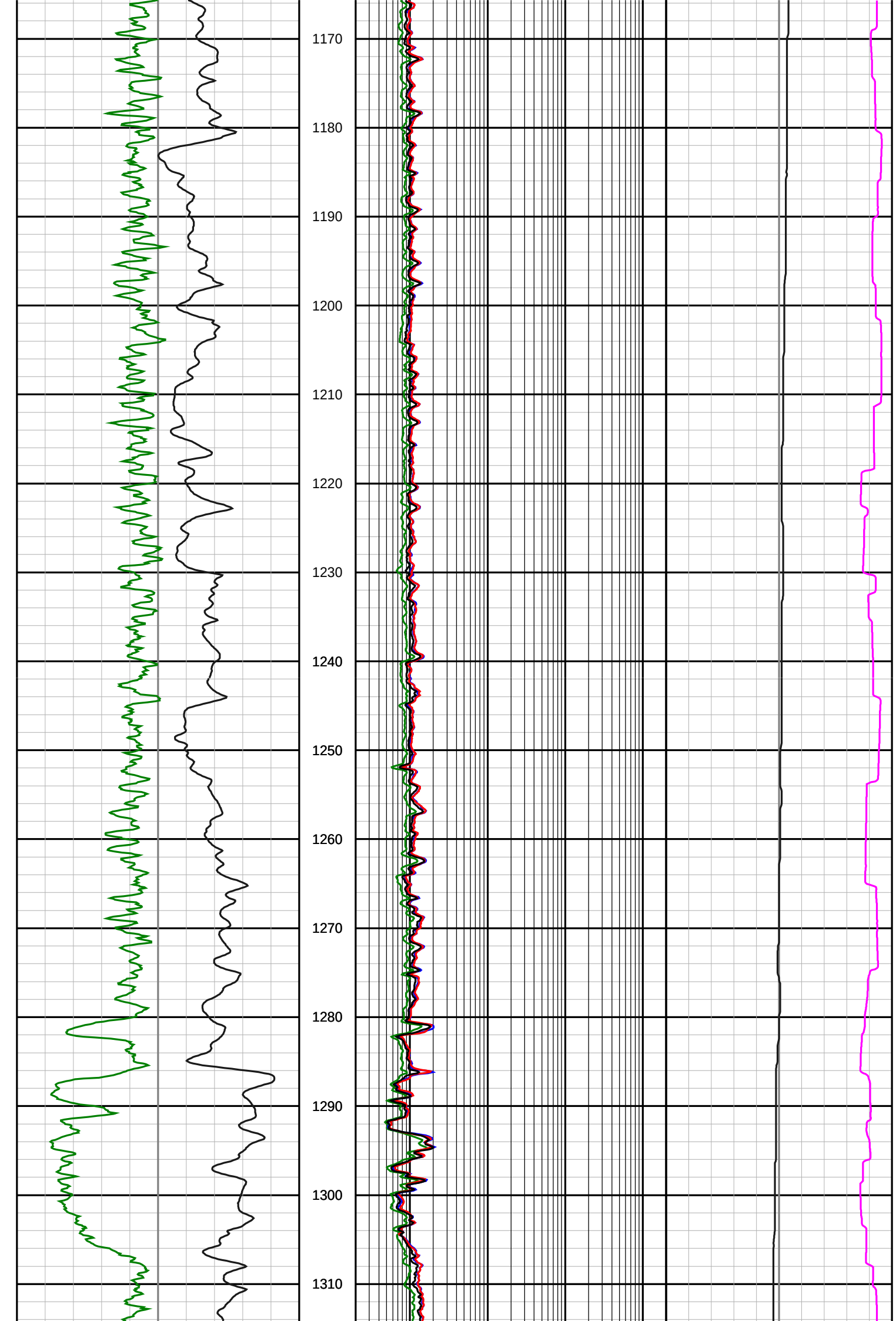
Depth TVD 1:500

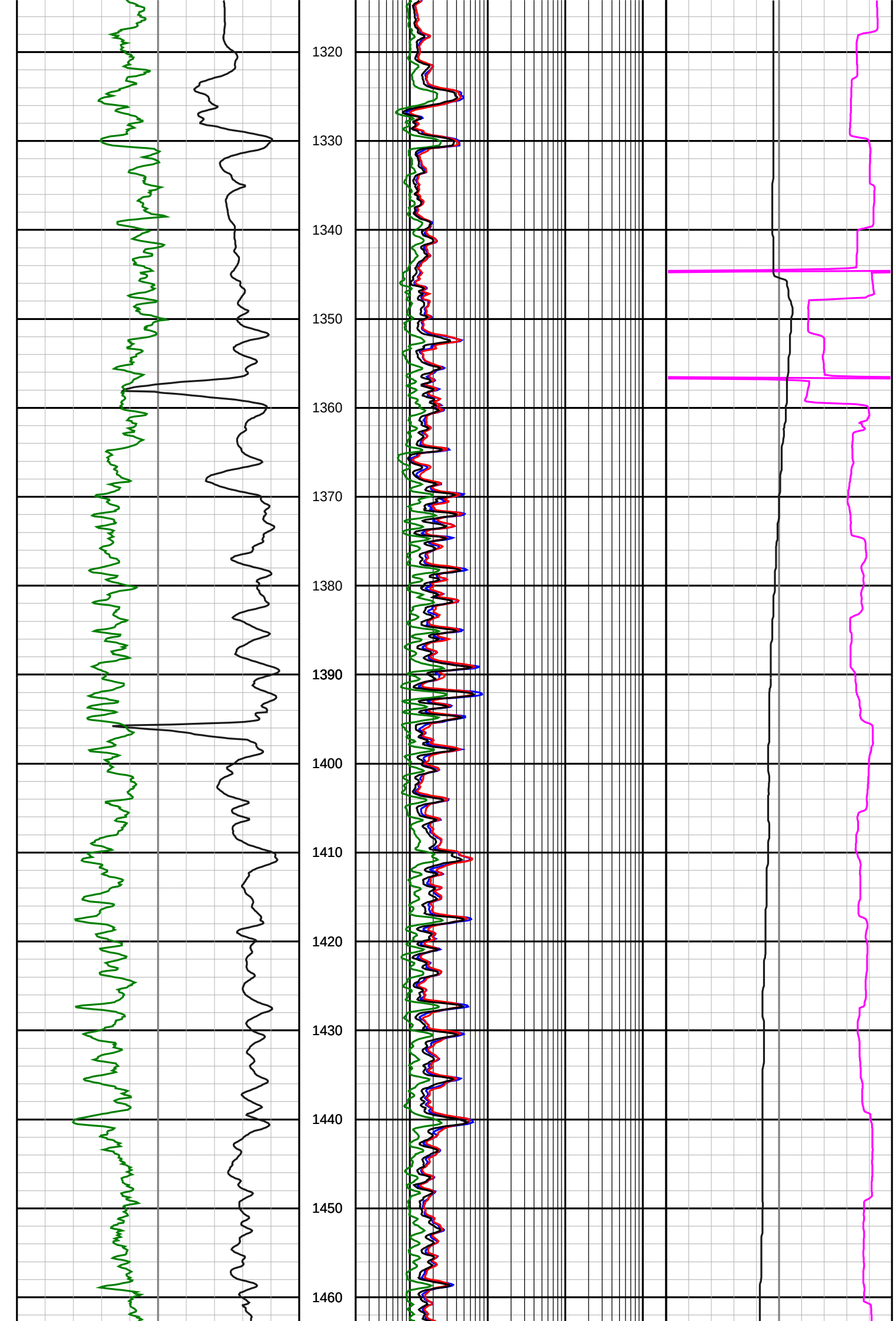
Ext Shallow Phase Res (SEXP)
0.2 ohmm 2000

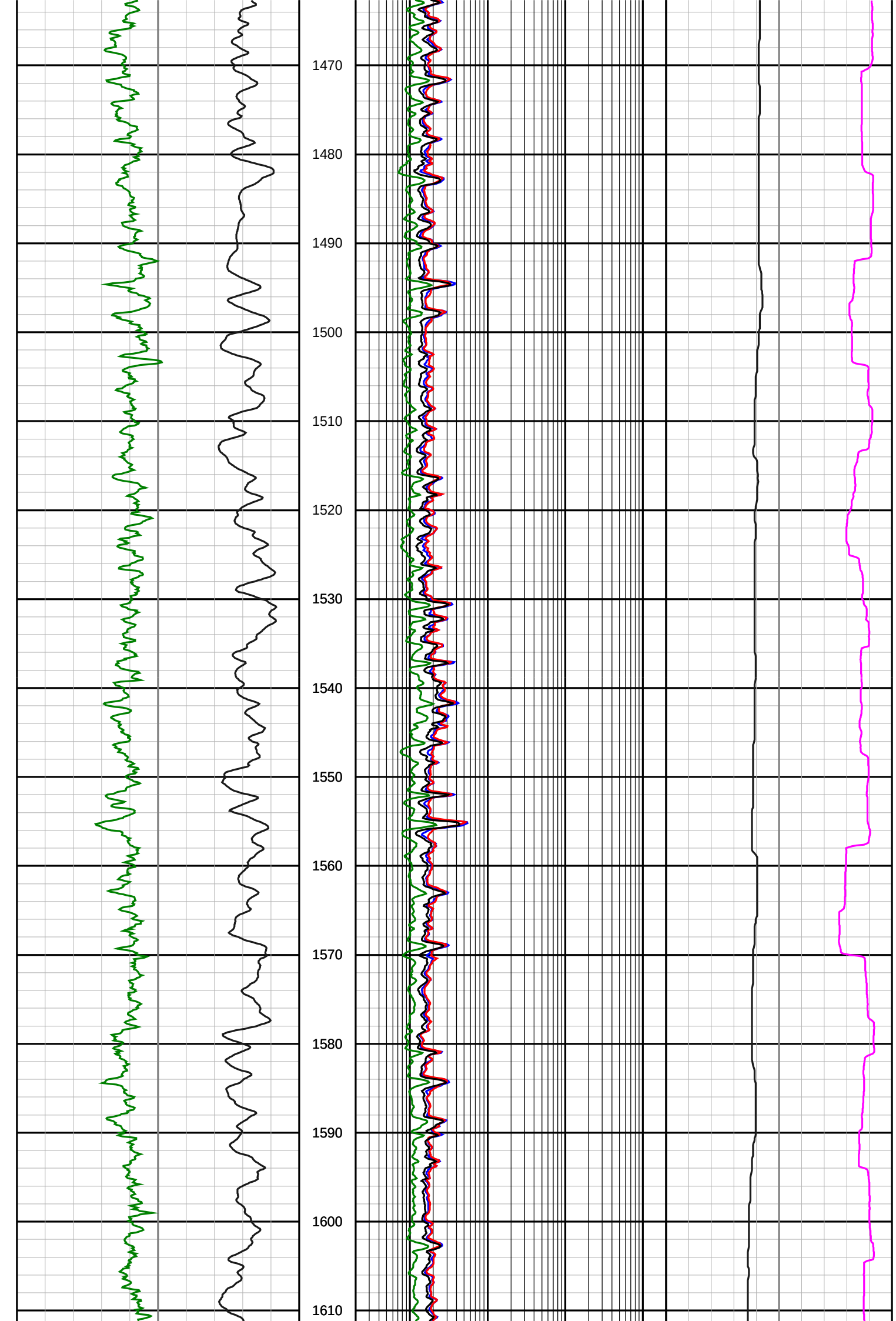
Form Exp Time (SFXE)
10 hr 0

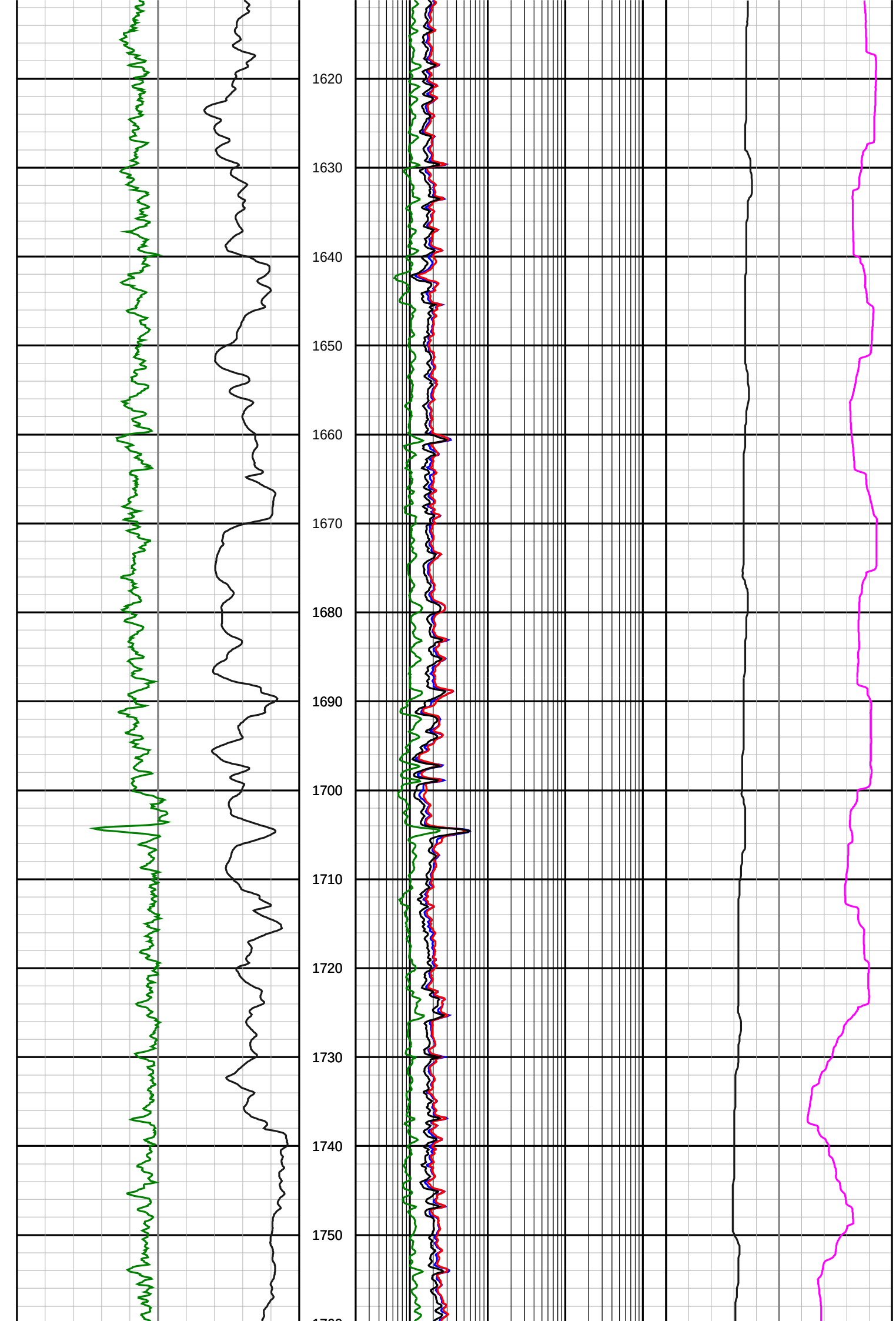


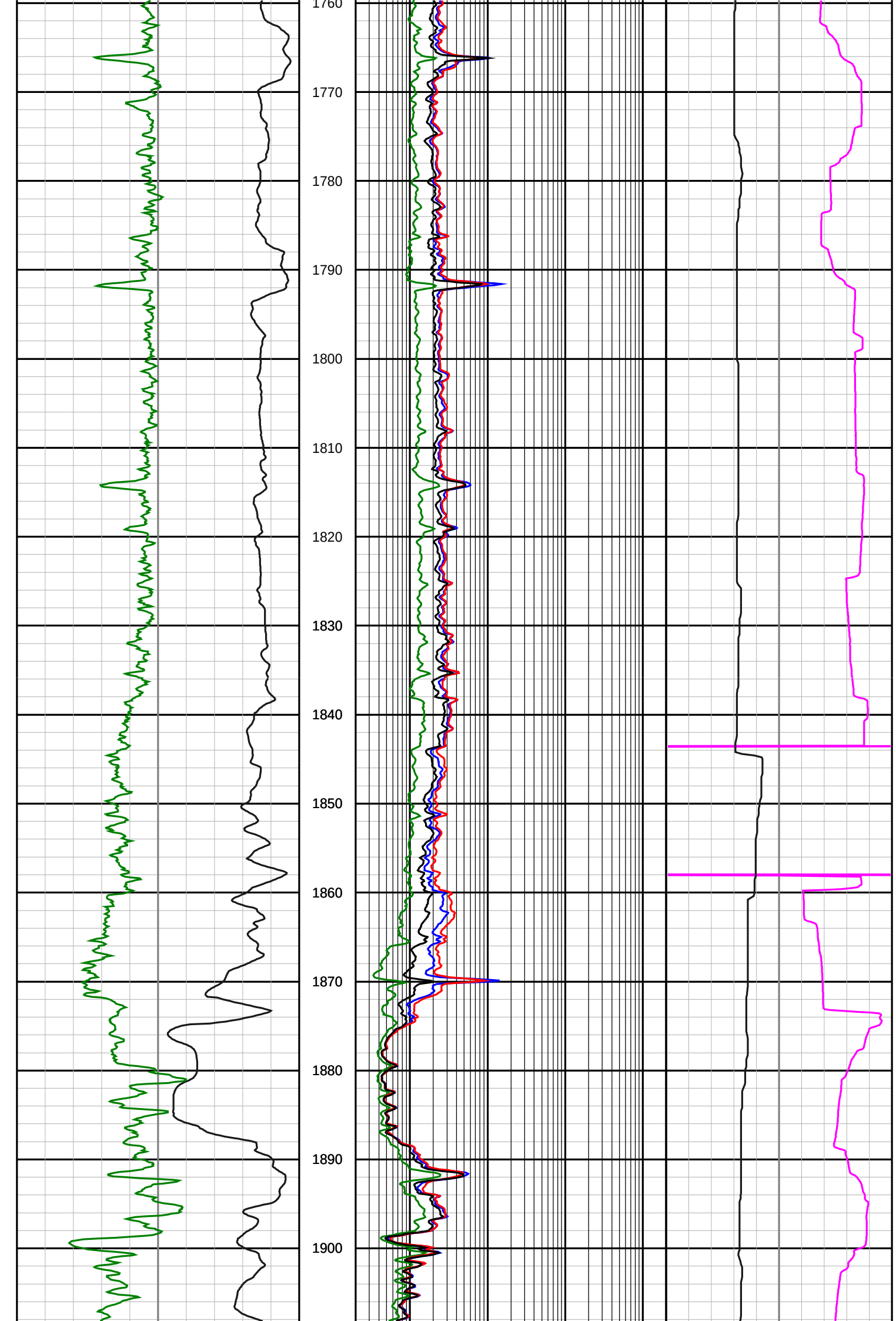

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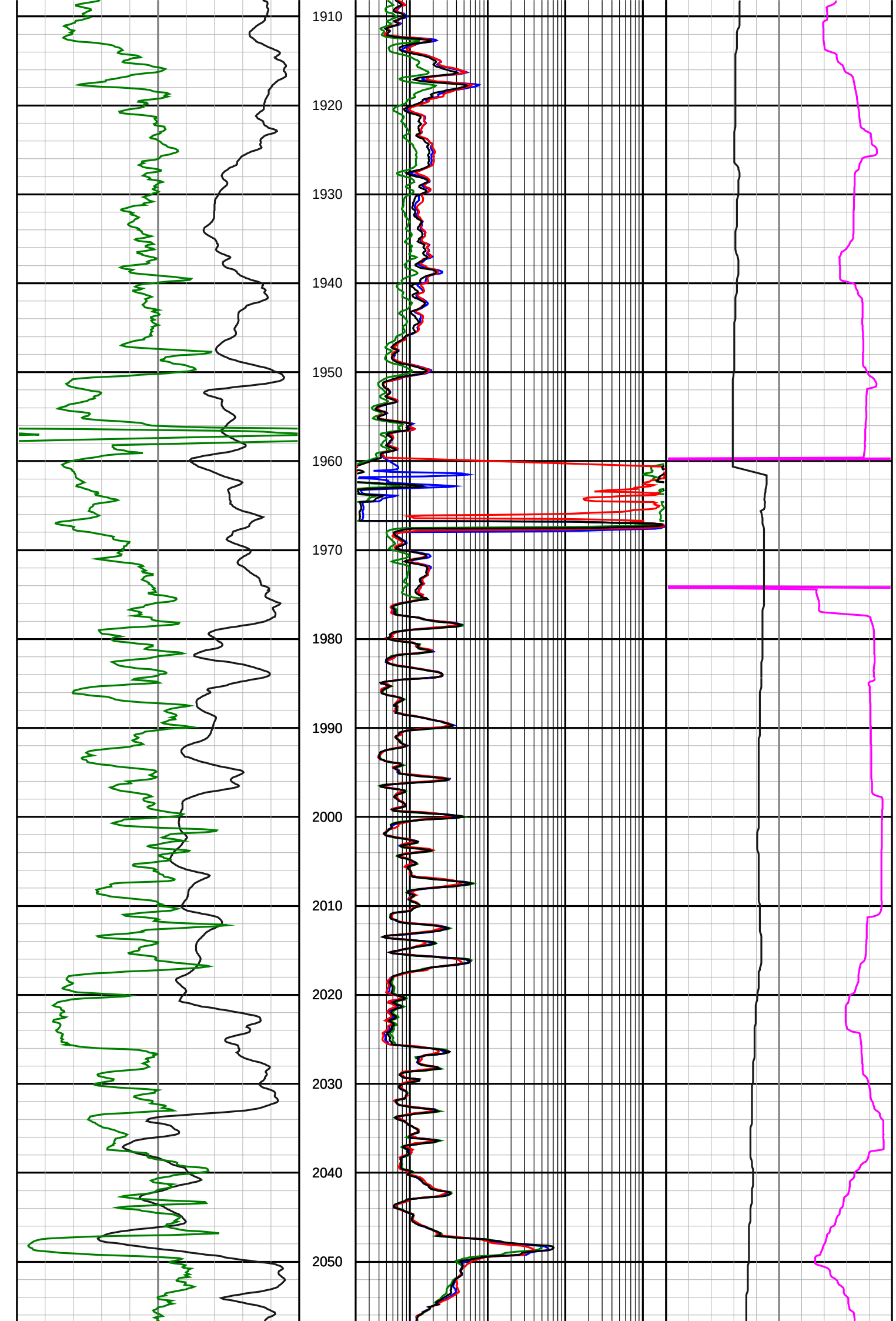

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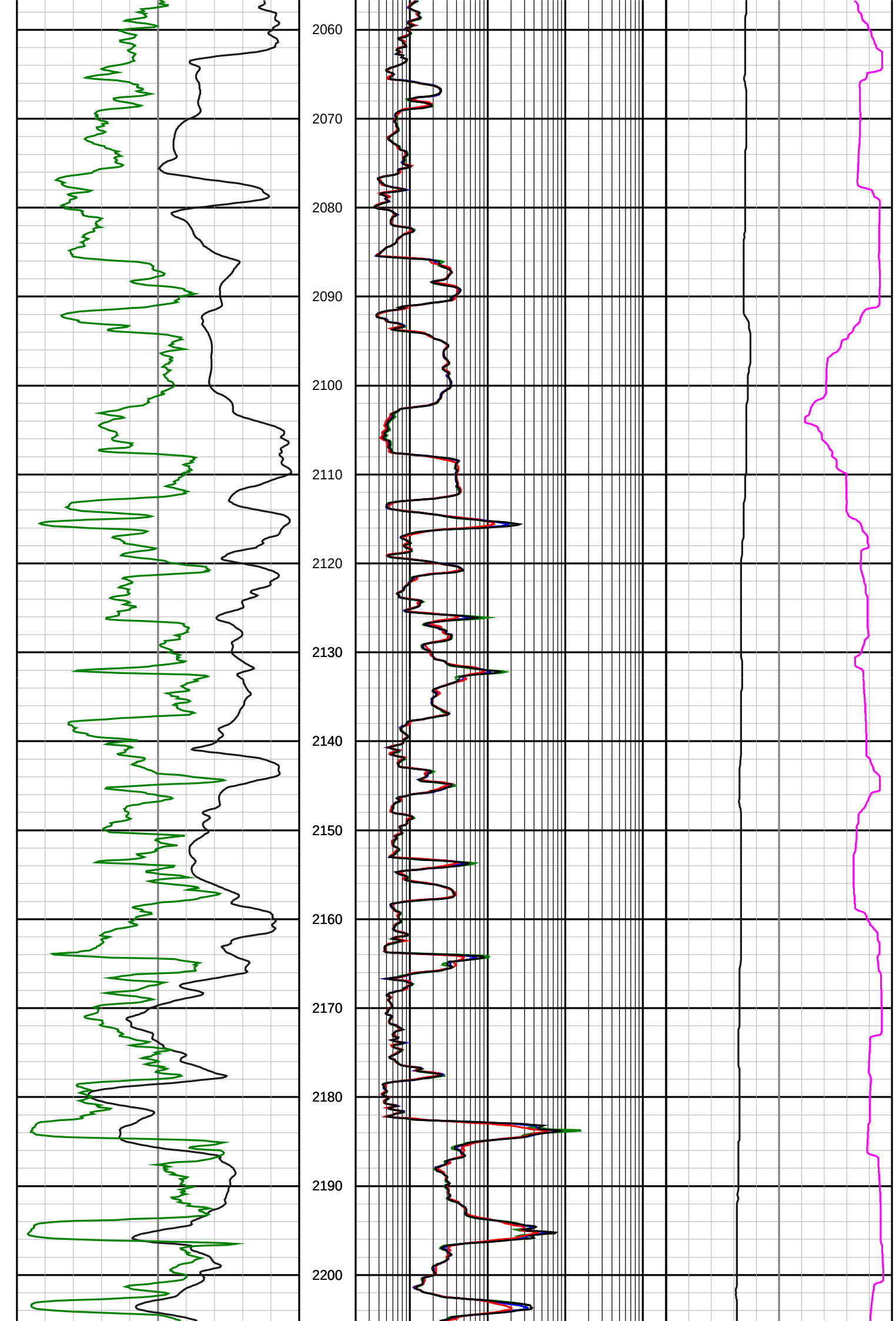

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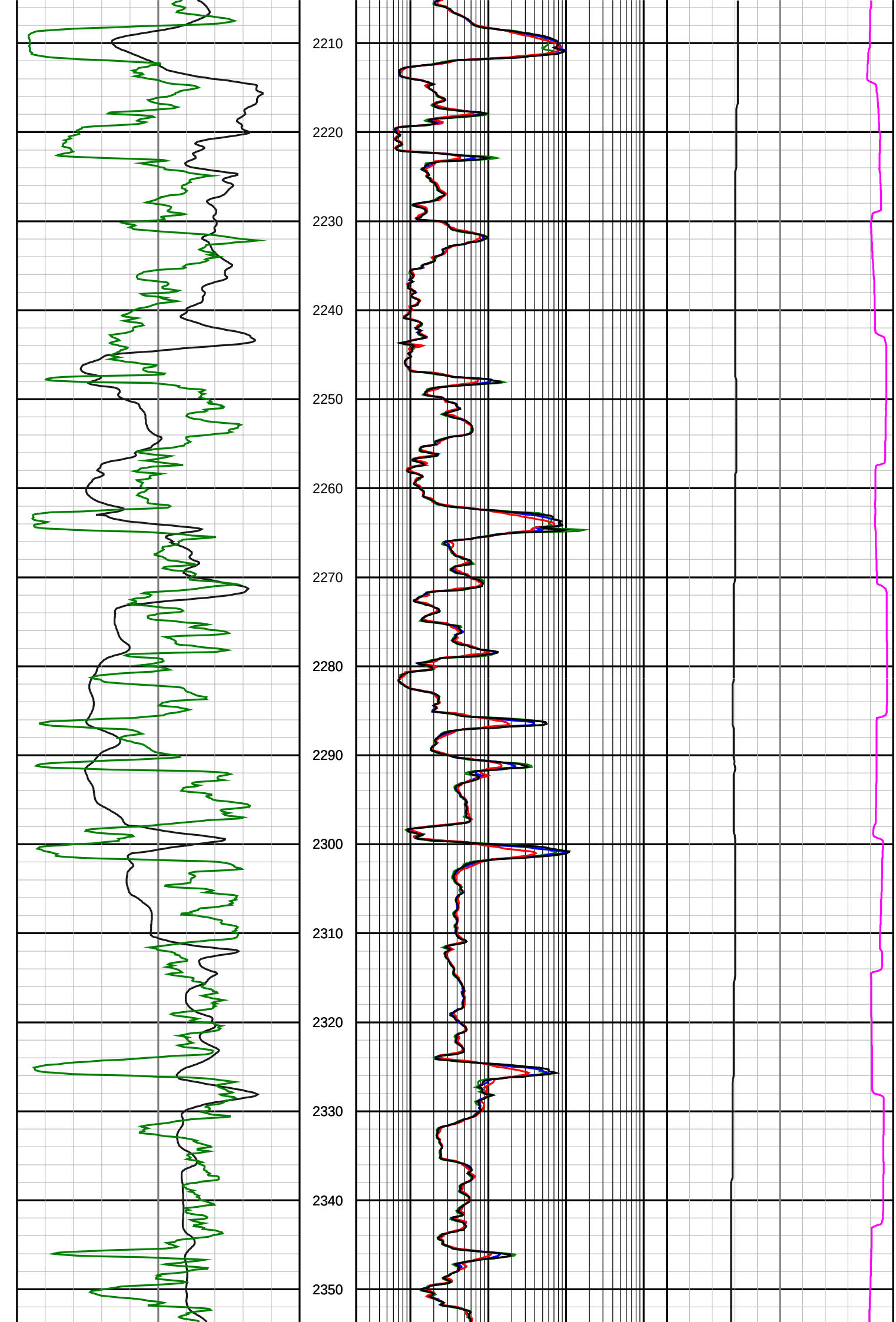

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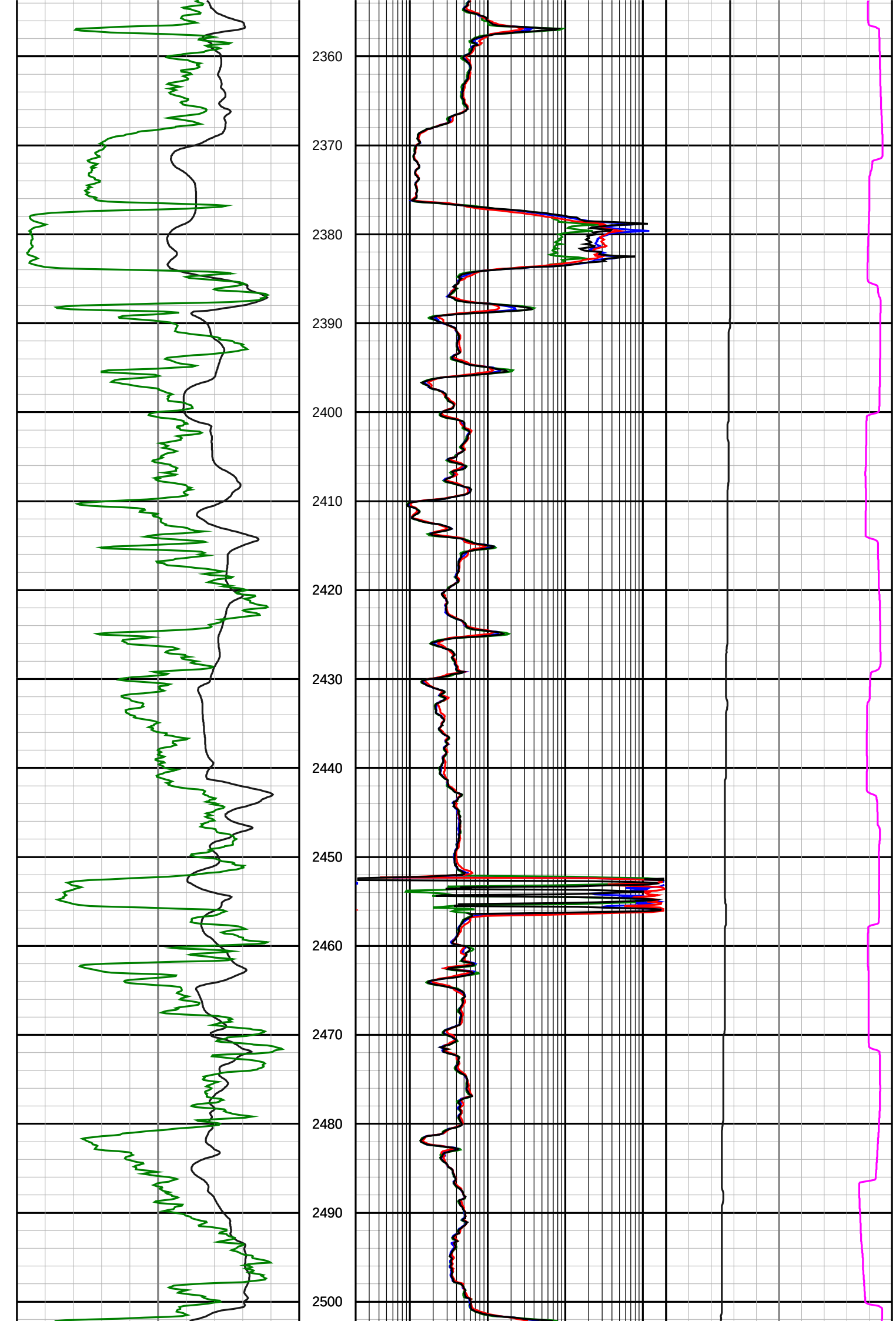

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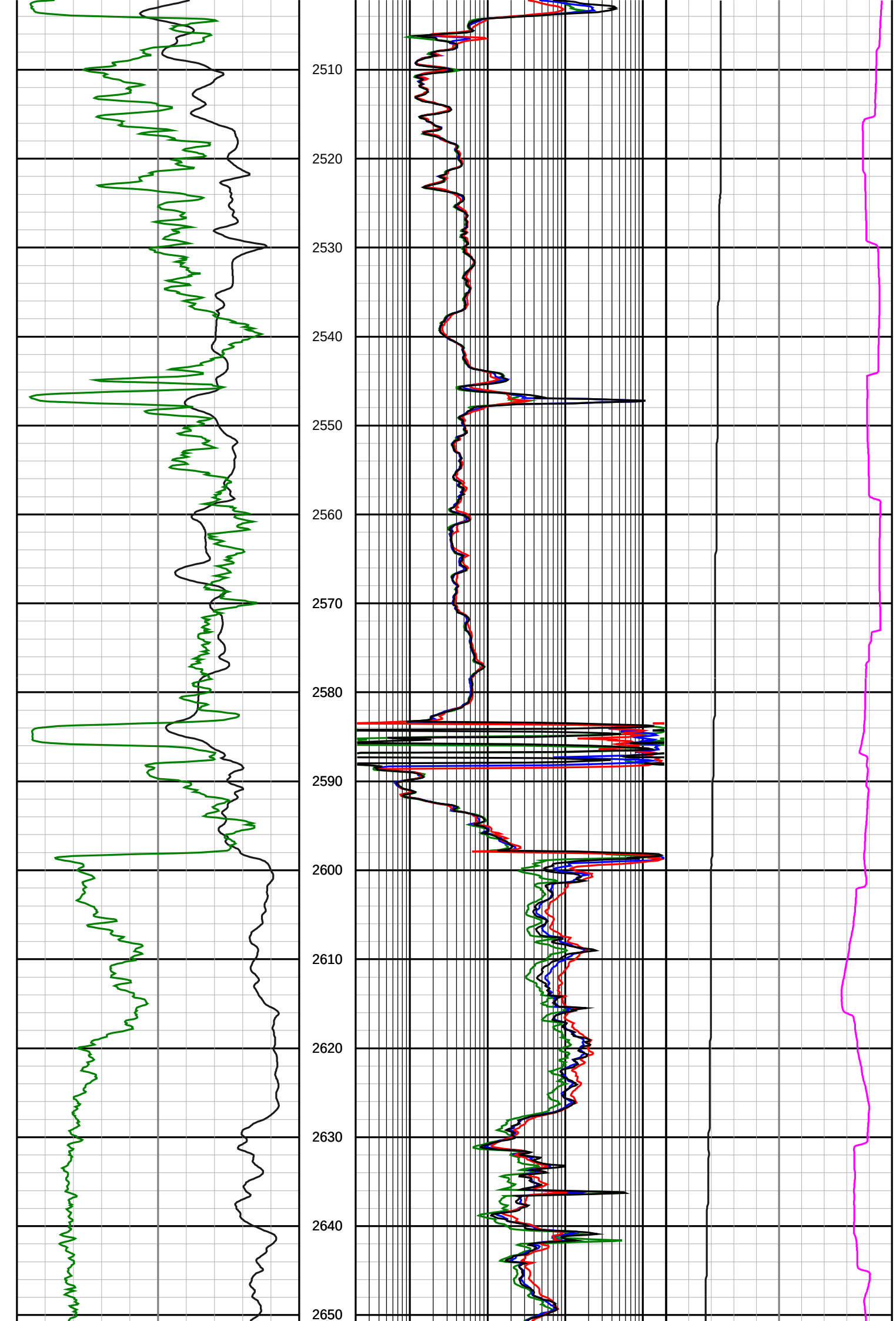

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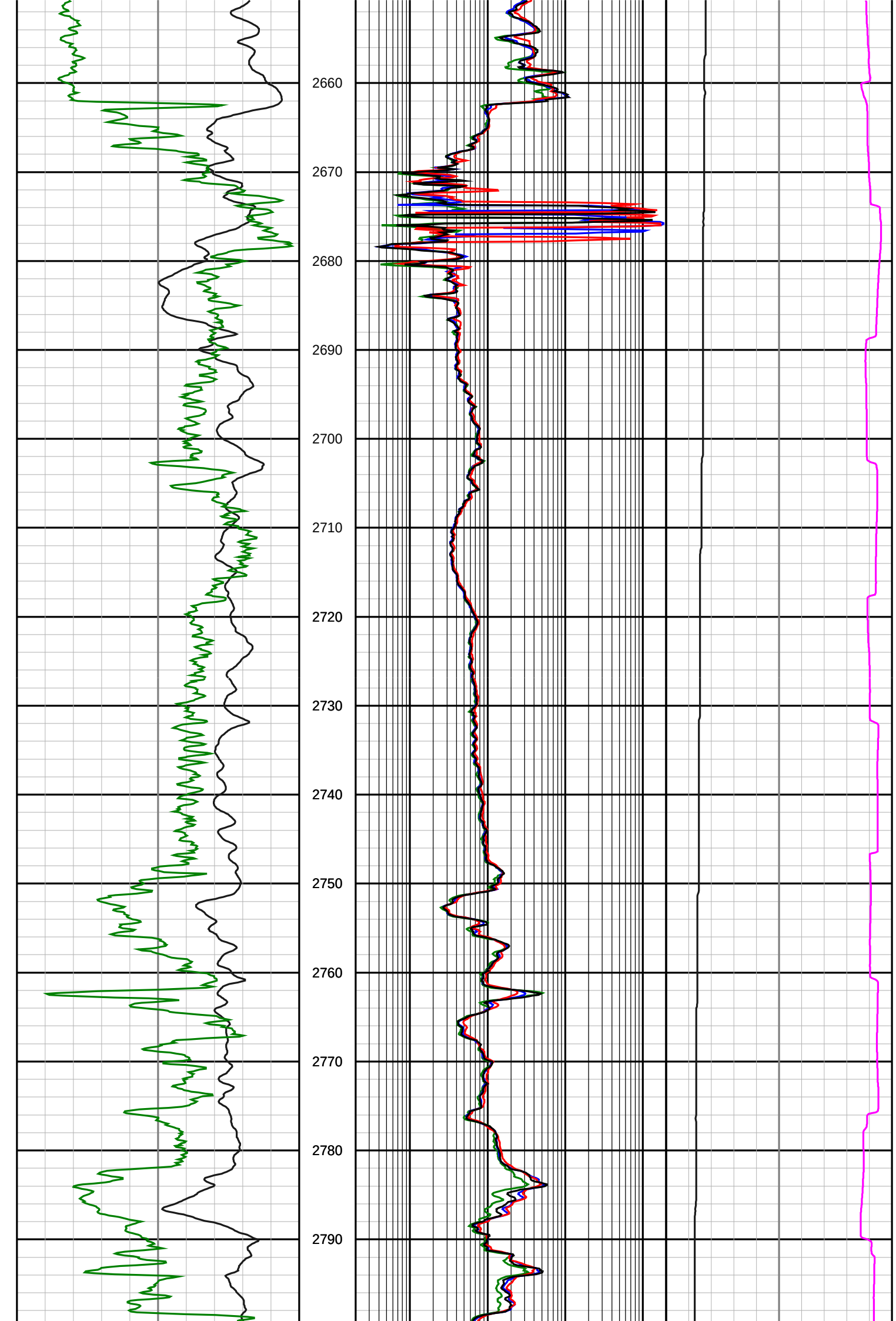

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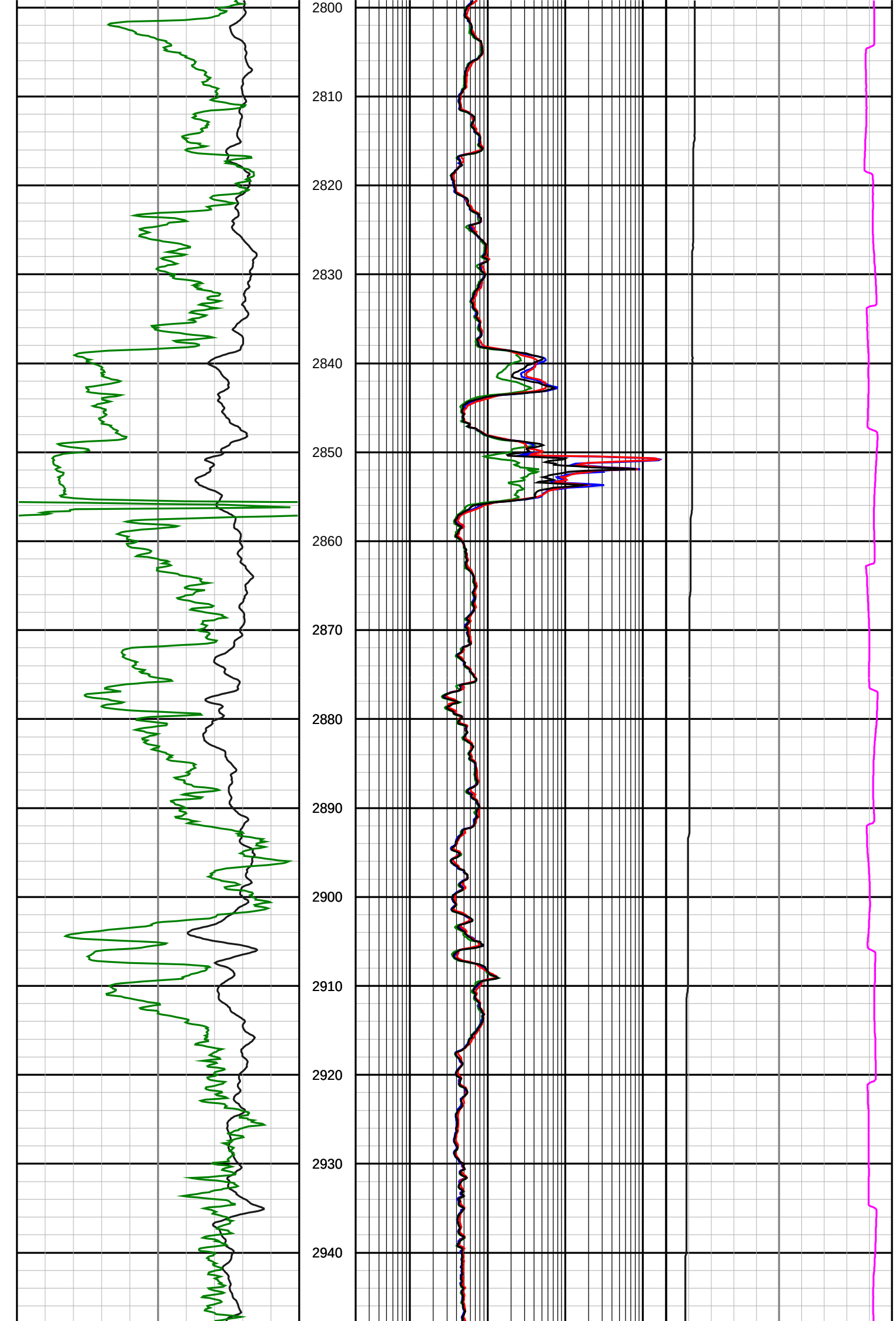

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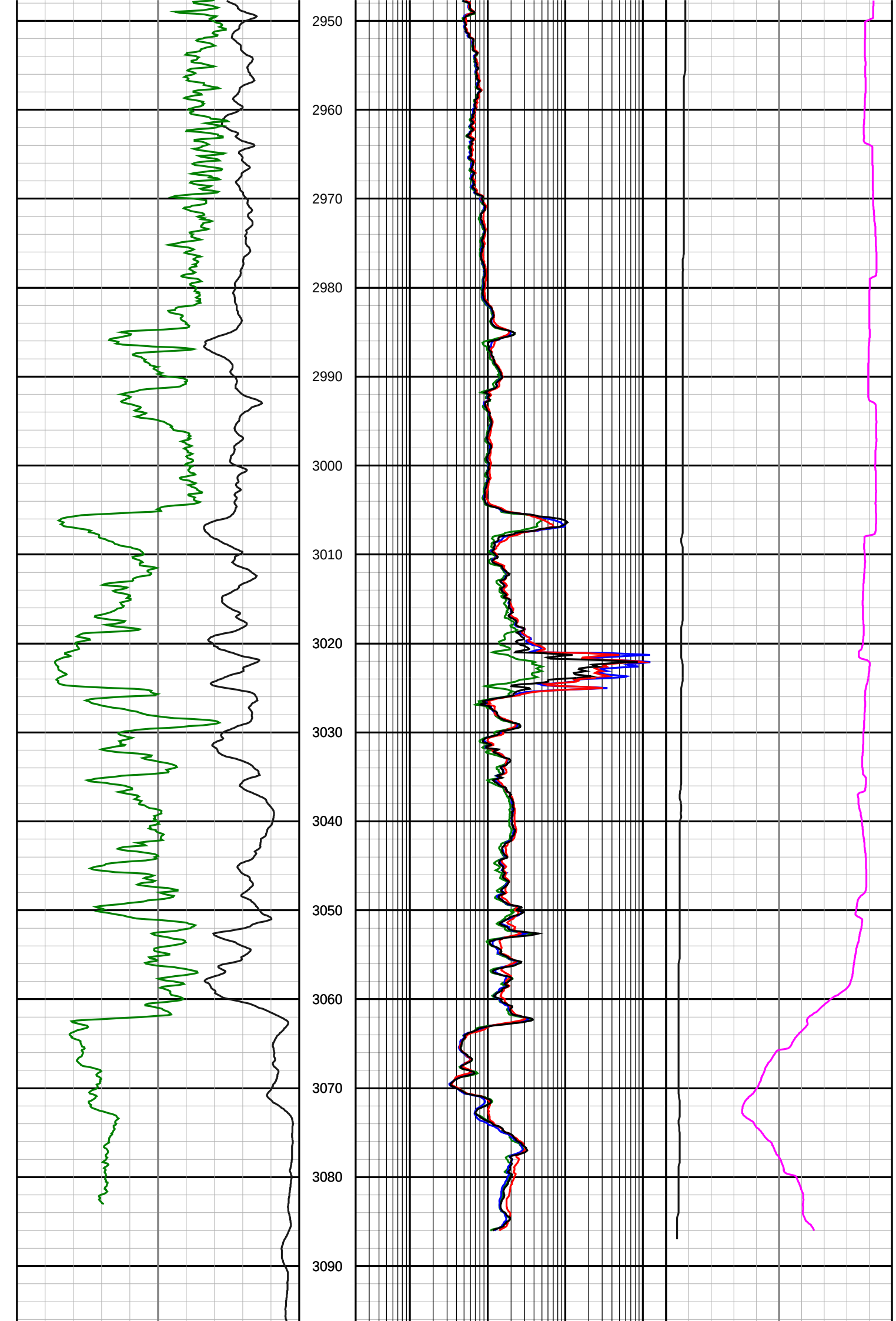

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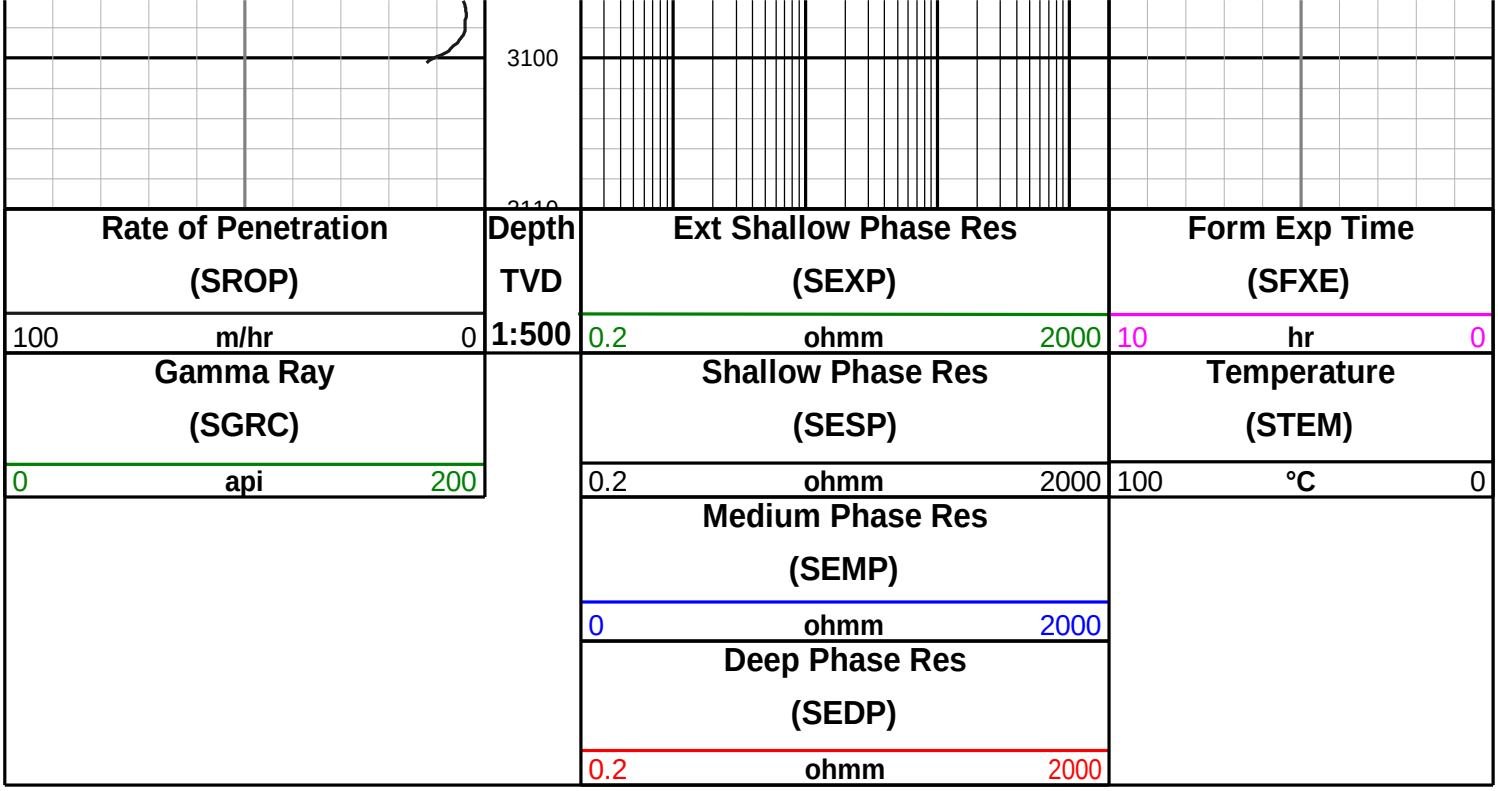

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INSITE

HALLIBURTON

DIRECTIONAL SURVEY REPORT

Origin Energy Resources
Yolla-3
Yolla
Tasmania
Australia
AU-FE-0003007128
RT-AHD=43.0m. Final survey is projected to TD.

Measured Depth (metres)	*Inclination (degrees)*	*Direction (degrees)*	*Vertical Depth (metres)*	*Latitude (metres)*	*Departure (metres)*	*Vertical Section (metres)*	*Dogleg (deg/30m)*
0.000	0.00	0.00	0.000	0.000 N	0.000 E	0.000	TIE-IN
174.000	0.59	242.79	173.997	0.410 S	0.797 W	0.464	0.10
197.000	0.06	242.79	196.996	0.469 S	0.913 W	0.532	0.69
203.000	0.60	242.79	202.996	0.485 S	0.943 W	0.550	2.70
224.000	0.59	242.79	223.995	0.585 S	1.137 W	0.663	0.01
258.450	0.43	242.79	258.444	0.725 S	1.410 W	0.821	0.14
282.700	0.65	248.87	282.693	0.816 S	1.618 W	0.951	0.28
311.770	1.48	273.86	311.758	0.850 S	2.146 W	1.383	0.96
340.780	2.25	277.27	340.752	0.753 S	3.084 W	2.233	0.80
369.820	3.48	293.00	369.756	0.336 S	4.462 W	3.625	1.50
399.370	5.10	300.93	399.222	0.691 N	6.416 W	5.827	1.75
428.430	7.12	298.67	428.115	2.220 N	9.106 W	8.919	2.10
457.460	9.92	296.21	456.822	4.189 N	12.930 W	13.208	2.92
486.470	11.29	298.06	485.336	6.628 N	17.678 W	18.531	1.45
515.470	12.76	300.31	513.699	9.579 N	22.947 W	24.565	1.60
544.400	14.82	302.65	541.794	13.188 N	28.820 W	31.458	2.21
572.930	18.93	301.35	569.090	17.565 N	35.847 W	39.737	4.34
602.470	21.65	299.97	596.794	22.781 N	44.663 W	49.978	2.81
631.530	22.70	301.62	623.704	28.400 N	54.083 W	60.946	1.26
660.590	25.23	302.37	650.256	34.658 N	64.092 W	72.750	2.63
689.590	27.24	301.89	676.267	41.474 N	74.948 W	85.568	2.09
718.620	30.23	301.58	701.720	48.813 N	86.816 W	99.521	3.09
747.710	32.41	300.41	726.570	56.595 N	99.778 W	114.640	2.34
776.770	33.84	299.59	750.907	64.534 N	113.531 W	130.514	1.55
805.830	36.11	300.79	774.718	72.915 N	127.925 W	147.164	2.45

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
834.870	38.46	301.43	797.822	82.006 N	142.983 W	164.753	2.46
863.880	39.00	301.20	820.454	91.440 N	158.487 W	182.902	0.58
892.950	41.57	301.65	842.628	101.240 N	174.523 W	201.696	2.67
922.030	41.88	304.27	864.334	111.769 N	190.759 W	221.041	1.83
951.100	41.35	302.71	886.067	122.423 N	206.859 W	240.336	1.20
980.130	40.90	302.19	907.935	132.669 N	222.969 W	259.426	0.59
1038.170	40.40	302.59	951.971	152.923 N	254.894 W	297.230	0.29
1067.250	40.28	302.79	974.137	163.090 N	270.735 W	316.050	0.18
1095.630	42.87	302.03	995.367	173.179 N	286.635 W	334.879	2.80
1125.320	42.88	301.94	1017.125	183.879 N	303.769 W	355.079	0.06
1154.840	42.40	301.25	1038.841	194.355 N	320.801 W	375.075	0.68
1183.370	43.81	301.11	1059.669	204.448 N	337.482 W	394.571	1.49
1212.900	44.55	301.56	1080.845	215.151 N	355.061 W	415.152	0.82
1240.820	44.26	301.23	1100.791	225.329 N	371.737 W	434.689	0.40
1271.000	44.10	301.04	1122.435	236.204 N	389.740 W	455.720	0.21
1300.060	43.80	300.64	1143.357	246.544 N	407.057 W	475.887	0.41
1329.100	43.59	300.20	1164.352	256.703 N	424.356 W	495.945	0.38
1358.130	43.45	300.56	1185.403	266.813 N	441.602 W	515.931	0.30
1387.170	43.16	299.75	1206.536	276.819 N	458.823 W	535.842	0.64
1416.200	43.09	299.27	1227.723	286.594 N	476.095 W	555.675	0.35
1444.730	43.10	300.33	1248.557	296.279 N	493.009 W	575.156	0.76
1473.800	43.22	299.26	1269.762	306.159 N	510.265 W	595.031	0.76
1502.860	42.22	300.61	1291.111	315.995 N	527.351 W	614.737	1.40
1531.900	41.39	301.29	1312.758	325.949 N	543.953 W	634.094	0.98
1560.930	41.10	301.52	1334.587	335.922 N	560.287 W	653.231	0.34
1589.810	40.80	300.98	1356.400	345.741 N	576.468 W	672.158	0.48
1618.850	40.92	301.11	1378.363	355.539 N	592.745 W	691.156	0.16
1647.900	40.94	300.75	1400.310	365.323 N	609.070 W	710.187	0.24
1676.970	41.39	300.32	1422.194	375.045 N	625.551 W	729.318	0.54
1706.030	42.12	299.91	1443.873	384.754 N	642.290 W	748.663	0.81
1735.040	42.67	300.10	1465.297	394.535 N	659.229 W	768.216	0.58
1764.060	42.52	299.11	1486.660	404.238 N	676.306 W	787.845	0.71
1793.120	41.38	300.86	1508.272	413.944 N	693.133 W	807.263	1.69
1822.170	40.15	301.20	1530.273	423.721 N	709.388 W	826.231	1.30
1850.800	39.76	301.54	1552.220	433.291 N	725.086 W	844.616	0.47
1881.060	38.03	301.80	1575.771	443.266 N	741.256 W	863.615	1.72
1909.020	36.06	302.18	1598.086	452.188 N	755.542 W	880.458	2.13
1938.070	35.58	302.76	1621.642	461.313 N	769.886 W	897.456	0.61
1967.410	34.62	302.40	1645.646	470.398 N	784.102 W	914.325	1.00
1996.460	33.68	303.06	1669.686	479.215 N	797.822 W	930.630	1.04
2025.460	33.57	302.15	1693.833	487.869 N	811.351 W	946.687	0.53
2054.500	32.43	302.83	1718.188	496.363 N	824.691 W	962.500	1.24
2083.520	31.20	302.19	1742.849	504.586 N	837.589 W	977.795	1.32
2112.570	30.20	301.86	1767.827	512.451 N	850.163 W	992.626	1.04
2141.600	29.60	301.49	1792.993	520.051 N	862.478 W	1007.097	0.65
2170.620	29.65	300.95	1818.219	527.487 N	874.747 W	1021.443	0.29
2192.700	29.51	301.71	1837.421	533.154 N	884.057 W	1032.342	0.55
2199.470	29.61	301.35	1843.310	534.900 N	886.903 W	1035.681	0.91
2228.520	29.54	300.95	1868.575	542.317 N	899.174 W	1050.019	0.21
2257.540	29.00	301.43	1893.890	549.664 N	911.313 W	1064.207	0.61
2286.530	26.96	301.77	1919.490	556.789 N	922.897 W	1077.808	2.12
2315.560	26.11	301.70	1945.462	563.610 N	933.927 W	1090.776	0.88
2323.950	25.94	301.45	1953.001	565.538 N	937.063 W	1094.457	0.71
2352.540	25.28	301.50	1978.782	571.990 N	947.604 W	1106.816	0.69
2381.580	24.10	301.76	2005.167	578.350 N	957.932 W	1118.946	1.23
2409.950	23.25	301.46	2031.150	584.319 N	967.632 W	1130.335	0.91
2438.980	22.49	301.51	2057.898	590.211 N	977.252 W	1141.616	0.78
2468.040	22.16	300.59	2084.780	595.905 N	986.709 W	1152.654	0.49
2497.120	20.86	300.56	2111.834	601.328 N	995.889 W	1163.314	1.35
2526.180	19.69	300.61	2139.094	606.451 N	1004.556 W	1173.381	1.21
2555.190	19.27	300.62	2166.443	611.378 N	1012.881 W	1183.054	0.43
2584.240	16.12	296.70	2194.116	615.633 N	1020.612 W	1191.868	3.47
2613.320	14.16	296.48	2222.185	619.034 N	1027.403 W	1199.434	2.03
2642.340	13.37	296.42	2250.372	622.109 N	1033.584 W	1206.310	0.81
2671.480	12.20	298.74	2278.789	625.088 N	1039.300 W	1212.740	1.32

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Yolla-3

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
2700.580	10.52	301.17	2307.318	627.942 N	1044.269 W	1218.467	1.80
2729.630	9.78	303.39	2335.914	630.672 N	1048.598 W	1223.584	0.87
2758.610	8.91	306.43	2364.509	633.358 N	1052.457 W	1228.279	1.04
2787.630	8.39	306.83	2393.199	635.961 N	1055.959 W	1232.625	0.54
2816.680	7.92	309.88	2421.956	638.516 N	1059.192 W	1236.718	0.66
2845.750	7.52	310.63	2450.762	641.039 N	1062.173 W	1240.579	0.43
2874.810	6.95	310.46	2479.590	643.419 N	1064.955 W	1244.195	0.59
2903.840	6.59	311.13	2508.418	645.654 N	1067.545 W	1247.572	0.38
2932.800	6.47	307.52	2537.190	647.740 N	1070.090 W	1250.833	0.44
2961.870	6.25	305.90	2566.081	649.665 N	1072.671 W	1254.039	0.29
2990.910	5.63	307.78	2594.965	651.466 N	1075.078 W	1257.033	0.67
3016.370	5.51	307.66	2620.305	652.978 N	1077.033 W	1259.491	0.15
3048.910	5.33	306.46	2652.699	654.830 N	1079.485 W	1262.550	0.19
3077.850	5.05	307.24	2681.521	656.400 N	1081.581 W	1265.158	0.31
3106.890	4.40	308.40	2710.462	657.865 N	1083.470 W	1267.534	0.68
3135.950	3.62	309.91	2739.451	659.145 N	1085.046 W	1269.547	0.81
3164.960	3.08	312.61	2768.411	660.260 N	1086.322 W	1271.218	0.58
3194.050	2.64	315.47	2797.465	661.266 N	1087.367 W	1272.635	0.48
3223.060	2.25	311.13	2826.449	662.117 N	1088.264 W	1273.844	0.45
3252.110	2.09	311.32	2855.478	662.841 N	1089.090 W	1274.928	0.16
3281.170	1.91	311.40	2884.520	663.511 N	1089.852 W	1275.927	0.18
3310.240	1.65	305.29	2913.576	664.073 N	1090.557 W	1276.823	0.33
3339.240	1.02	303.72	2942.568	664.458 N	1091.113 W	1277.498	0.65
3368.270	0.67	302.37	2971.595	664.694 N	1091.473 W	1277.928	0.36
3426.310	0.13	257.23	3029.633	664.861 N	1091.824 W	1278.315	0.30
3455.330	0.50	160.20	3058.653	664.734 N	1091.813 W	1278.238	0.55
3476.470	0.91	169.30	3079.791	664.481 N	1091.750 W	1278.053	0.60
3497.000	0.91	169.30	3100.318	664.161 N	1091.689 W	1277.833	0.00

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 301.59 DEGREES (GRID)
A TOTAL CORRECTION OF 11.98 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 3497.000 METRES
IS 1277.848 METRES ALONG 301.32 DEGREES (GRID)

MWD RUN 100 - BHA



Component Length (m)

HWDP 84.660

Sub .750

Drill Collar 18.820

Jar

MWD RUN 100 - MWD



Sensor Measure Point Distance To Bit (m)

MWD



Drill Collar	28.600
Sub	1.230
Drill Collar	18.800
Stabilizer	1.910
MWD	3.110
Drill Collar	8.510
Stabilizer	2.140
Sub	.850
Motor	8.560
Bit	.410



Directional	20.550

MWD RUN 300 - BHA



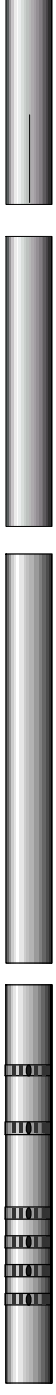
Component	Length (m)
HWDP	84.660
Sub	.990
Drill Collar	18.940

MWD RUN 300 - MWD

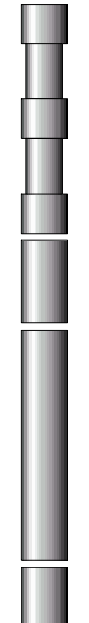


	Sensor Measure Point Distance To Bit (m)
MWD	





MWD RUN 400 - BHA



MWD RUN 400 - MWD





Jar 9.670

Drill Collar 47.530

Stabilizer 1.990

MWD 12.950

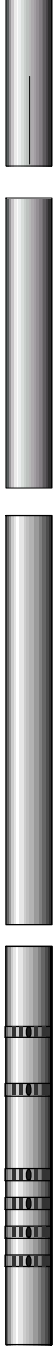
Sub .710

Stabilizer 3.330

Sub .870

Motor 8.590

Bit .370



Processor

Gamma Ray 18.930

Resistivity 15.940

MWD RUN 600 - BHA

Component Length (m)

HWDP 84.660

Sub .990

Drill Collar 18.940

Jar

MWD RUN 600 - MWD

Sensor Measure Point Distance To Bit (m)

MWD

Directional 22.300



Jar 9.670

Drill Collar 47.530

Stabilizer 1.860

MWD 12.950

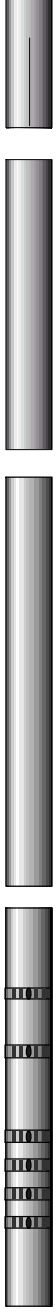
Sub .710

Stabilizer 3.330

Sub .870

Motor 8.590

Bit .370



Processor

Gamma Ray 18.930

Resistivity 15.940

MWD RUN 700 - BHA

Component Length (m)

HWDP 56.410

Drill Collar 18.650

Jar 9.420

MWD RUN 700 - MWD

Sensor Measure Point Distance To Bit (m)

MWD

Directional 20.530



Drill Collar

56.080

Stabilizer

1.310

MWD

12.870

Sub

.980

Stabilizer

3.240

Motor

7.670

Bit

.260

Processor

Gamma Ray

17.220

Resistivity

14.210

APPENDIX 7: WIRELINE LOGGING REPORT

(A) Schlumberger DSI Report

Schlumberger

Cased Hole
DSI* Sonic Processing
Report

Products:	• MPS: Compressional Slowness • LDP: Shear Slowness
Company:	• Origin Energy
Well(s):	• Yolla-3
Interval:	• 2370 to 1400m MD (970m)
Analysis Date:	• Oct 2nd, 2004
Logging Date:	• Sep 6th, 2004
Location:	• Schlumberger Data Services Centre • Perth, Western Australia
Analyst(s):	• Francis Advent
Logging Engineer:	• Greg Ruthven

Prepared by:
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*Mark of Schlumberger

1 Executive Summary

The DSI* (Dipole Shear Sonic Imager tool with Upper Dipole (UDP), Lower Dipole (LDP) and Monopole (MPS) mode) logs were acquired in deviated appraisal well Yolla-3 (Longitude 145°49′ 06.0849″ East and Latitude 39°50′ 40.4707″ South) logged on the 6th of September 2004 and processed on the 2nd of October, 2004.

The data was acquired in both 8.5-in open hole and 9.625-in cased hole sections, with water-based mud (Sea Water/Drispac/Soltex). Subsequently, the cased hole interval 1400 to 2370m was processed and analysed to obtain a continuous compressional and shear slowness. Both MPS mode and Dipole (UDP/LDP mode) were recorded. Compressional slowness was extracted from MPS while shear from Dipole-LDP mode.

Overall, cased hole data quality was good. For the dipole mode, both the Upper Dipole (UDP) and Lower Dipole (LDP) had strong coherency and continuity from bottom of the logged interval to about 1500m. However, the last 100m of log to 1400m were generally poor, with significant deterioration of log seen on the Upper Dipole data. For this reason, only the Lower Dipole data was used to extract the shear slowness. Similarly, the MPS data had strong coherency and continuity from bottom logged interval to about 1700m, then became generally poor to non-coherent in places up to 1580m. The rest of the MPS data up to 1400m was fine. No immediate cause could be established to explain the poor data quality, however, such has been seen to occur where cement bond behind casing has been poor or if there are washed out sections behind casing.

For both recorded modes (MPS and Dipole), the BestDT processing used DDBHC (Depth Derived Borehole Compensated) to compensate for borehole effects, such as minor eccentering of the tool. Overall, BestDT has significantly improved the quality of the results; the compressional slowness saw improvement over intervals where the field logs had picked up casing arrival, contamination and improvement for both the compressional and shear slowness in zones of poor data quality.

Schlumberger

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2 Processing Result and Evaluation

2.1 Cased Hole Lower Dipole (LDP) and Monopole P & S (MPS) Results

Compressional slowness was obtained from the MPS mode processing using both the *Receiver* and *Transmitter Arrays* and used to produce Depth Derived Borehole Compensated (DDBHC) final output. Processing used the latest BestDT-3* technique that is based on STC (Slowness Time Coherence) computation, on Schlumberger's GeoFrame 4.0.3 platform. The final DT compressional (DTCO) is therefore an average of DT output from receiver and transmitter array processing, and used in the computation of the Poisson's ratio and VpVs ratio on the final DSI presentation. **Figure 1** shows a section of the results. Using the DDBHC method corrects for any slight eccentralising and unfavourable borehole conditions such as small washouts, tool tilt and changes in borehole size

Shear data were obtained from Lower Dipole (LDP) Processing. In this case to get shear, a dipole (UDP & LDP mode) needs to be run in order to get formation shear as it is slower than the mud, therefore monopole (MPS mode) would not work. Unlike MPS, dipole shear is usually derived using receiver array only. Here, both the Receiver and Transmitter Arrays were used to produce DDBHC final output in order to minimise layer boundary effects as both curves show good coherence and cable motion was uniform. Shear BestDT-3* processing uses sophisticated dispersion correction to give a more accurate true formation shear slowness. This is based on using the entire waveform as opposed to part of a waveform and look up chart, which is used in the field. Refer to **Appendix C** for theory and **Appendix A** for mnemonics description.

Figure 2 shows the STC versus depth for the Lower Dipole. Note the strong and consistent coherence.

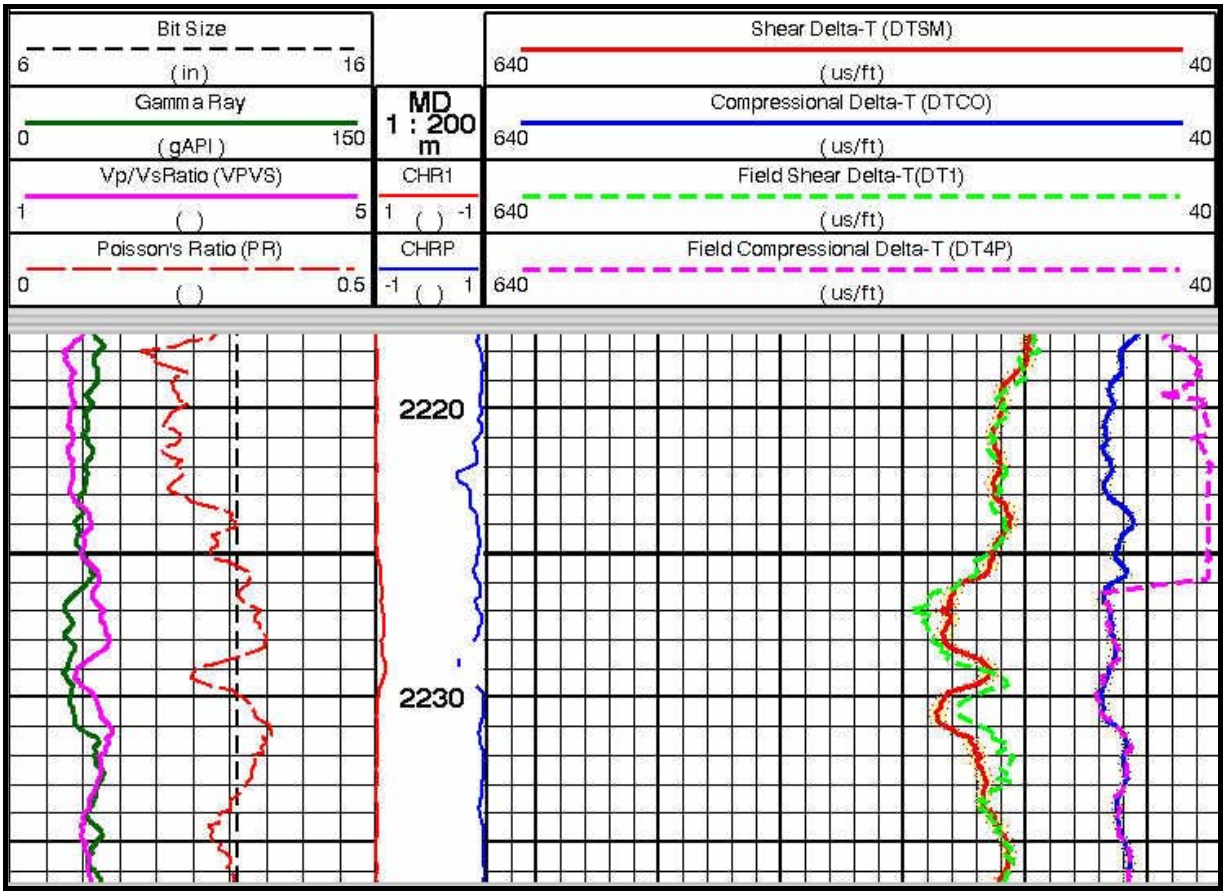


Figure 1: Cased Hole Best DT-3* Results for part of the log

Track 1 shows GR, Poisson's Ratio and VpVS Ratio. The VpVs ratio tends towards 1.6 to 2.1 in the reservoir zone. See attached print for entire depth section. The last track compares the BestDT-3* results to that of the field. Results indicate that field data was not 'picked' correctly and hence BestDT-3* processing provided a higher quality answer product.

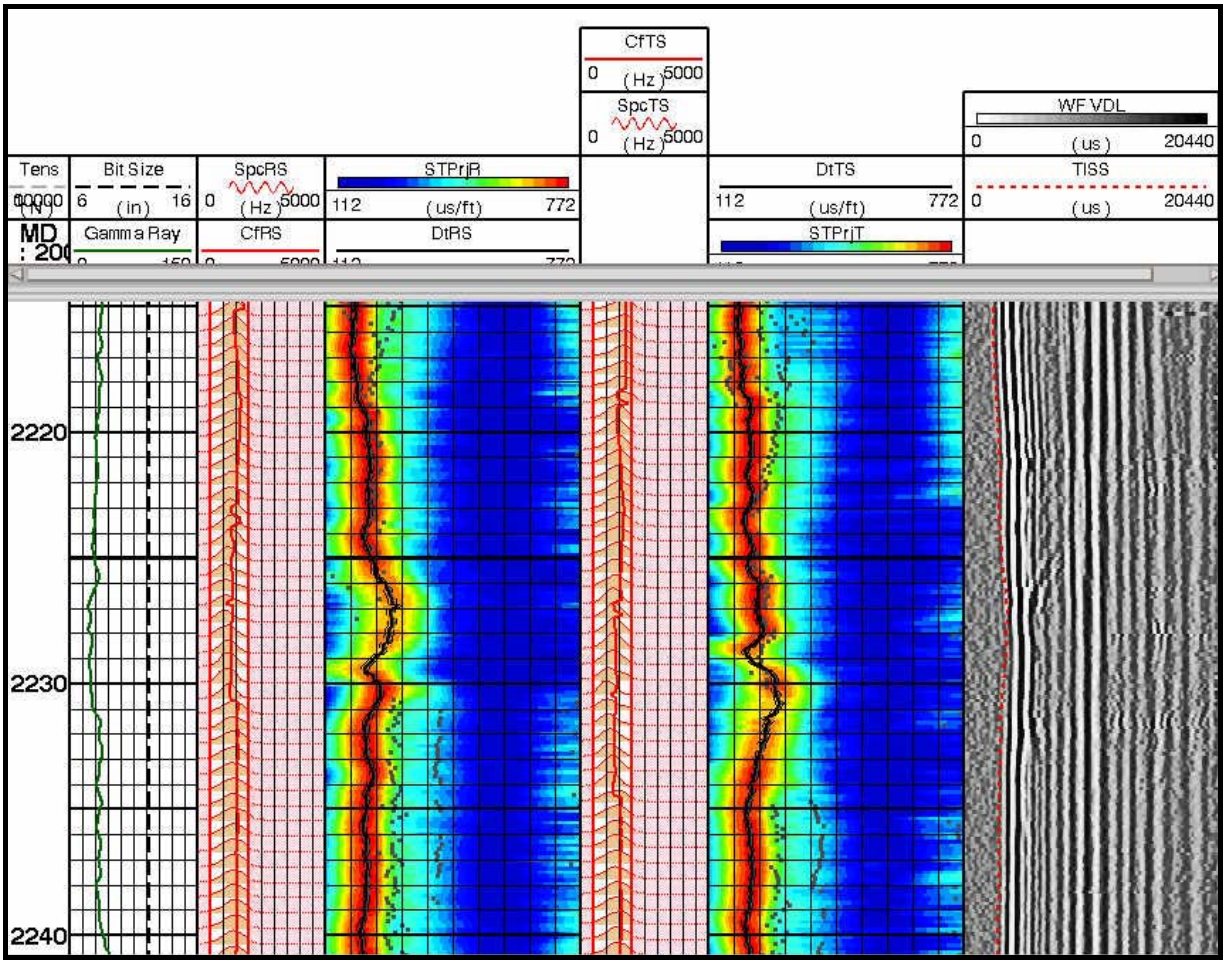


Figure 2: Cased Hole LDP Quality Control for part log

Figure 2, representing the STC quality for cased hole**,** shows that overall, output quality is good, shear arrivals were shown by strong coherency on both receiver and transmitter array.

Track 1 shows the GR and BS. Tracks 2 and 4 show the shear curves and the frequency windows, which the data was processed. The processing window in this example is 0.5 to 2 KHz. Tracks 3 and 5 show the STC plane in relation to depth. In this example the shear is very coherent, represented here by a red band. Where the band is not red, the coherency is not as good. The software then selects the most coherent path by using a similar method to 'Tracking and Classification' as discussed in **Appendix C**. Track 5 represents the waveform in variable density log format (VDL). The TISS curve is the shear transit time. Note that the shear transit curve matches very well with the first formation arrivals, indicating good quality data whereby the STC semblance processing has detected the correct shear.

To help interpret the data, a crossplot of Vp/Vs versus DTCO can be examined (**Figure 3**). The x-axis can also be seen as a porosity axis since DTCO increases with porosity, while the Vp/Vs axis provides indication of consolidation of material. The trends represented by the data consist of: 1) the blue line indicating water-wet sands; 2) the green dashed line representing the average shale trend; and 3) the red-dashed line representing the trend for gas-bearing sandstone and is drawn at a constant Vp/Vs value of 1.58.

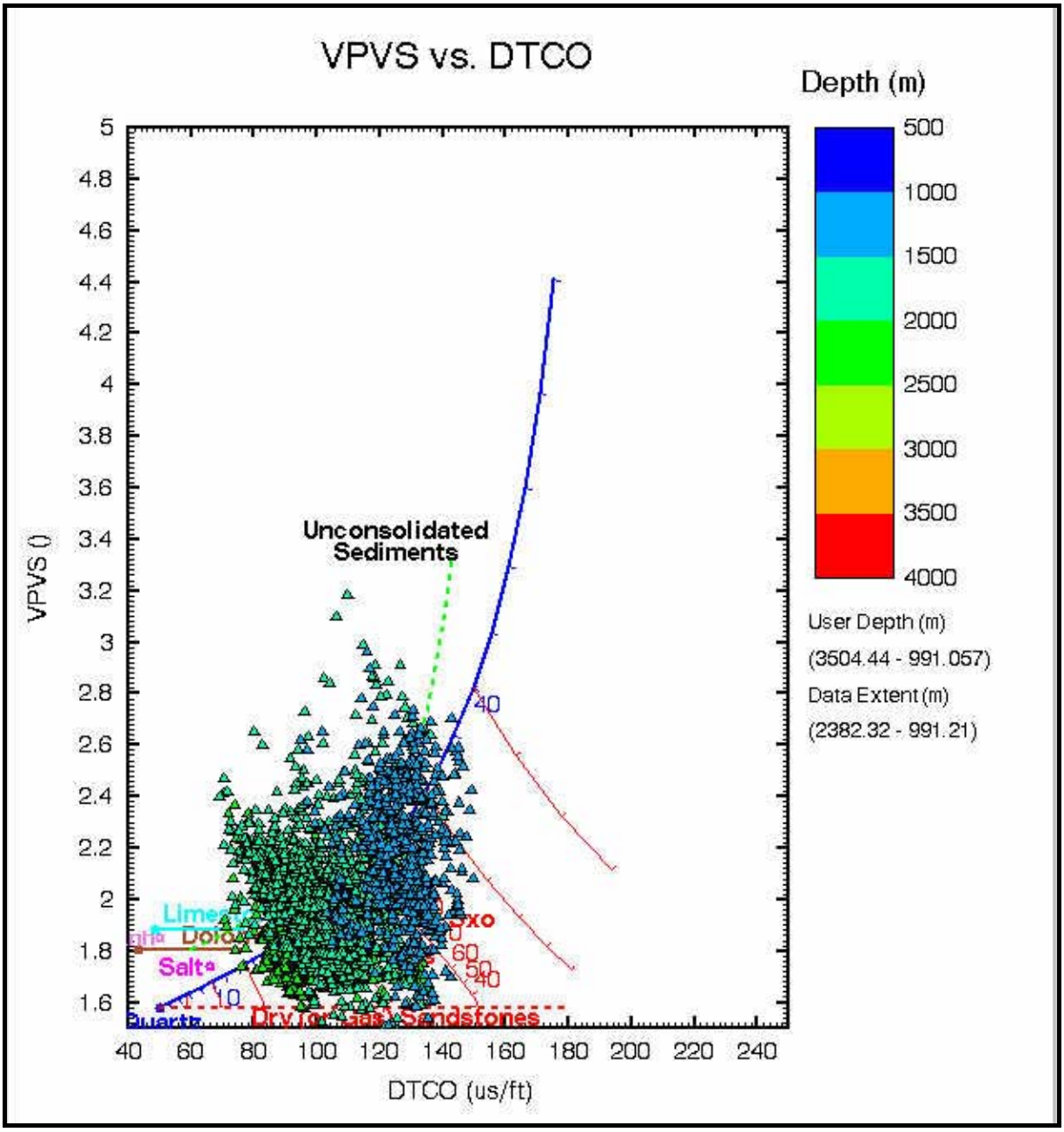


Figure 3: Display of DTCO versus VpVs ratio from (DSI shear and compressional curves)

Appendix A: Mnemonics

CfRC	Coherency (Stacked Signal Center Frequency – Receiver Array)
CfTC	Coherency (Stacked Signal Center Frequency – Transmitter Array)
CHRP	Label peak coherence, receiver array – monopole.
CHR2	Label peak coherence, receiver array – upper dipole
CHTP	Label peak coherence, transmitter array – monopole
DDBHC	Depth derived borehole compensated
DT1	Delta-T Shear – Lower Dipole
DT2	Delta-T Shear – Upper Dipole
DT4P	Delta-T Compressional – Monopole P&S
DtRC	Delta-T Compressional – Receiver Array
DtRS	Delta-T Shear – Receiver Array
DtTC	Delta-T Compressional – Transmitter Array
DtTS	Delta-T Shear – Transmitter Array
DTCO	Final BestDT-3* Delta-T Compressional Curve
DTSM	Final BestDT-3* Delta-T Shear Curve
LDP	Lower Dipole Mode
MPS	Monopole P&S Mode
PR	Poisson's Ratio
REC	Receiver
SPcRC	Frequency Spectrum – Receiver Array
SPcTC	Frequency Spectrum – Transmitter Array
STPrjR	STC Slowness Projection – Receiver Array
STPrjT	STC Slowness Projection – Transmitter Array
TICS	Compressional Integrated Transit Time
TISS	Shear Integrated Transit Time
TENS	Tension
UDP	Upper Dipole Mode
VPVS	Ratio of Compressional Velocity to Shear Velocity

Appendix B: Parameters

Table 1: Cased Hole MPS

Parameter	Value	Description
DTmud	240 us/ft	Mud Slowness
SFTY	Slow	Formation Type
HD	12.25 in	Hole diameter
CSIZ	9.625 in	Casing Size
BHS	Cased	Borehole Status
TWI	504 ms	Integrated Time Window
SLL	60 us/ft	Slowness Lower Limit
SUL	190 us/ft	Slowness Upper Limit
SST	2 us/ft	Slowness Step
TLL	504 us	Time Lower Limit
TUL	4536 us	Time Upper Limit
TST	168 us	Time Step
SBW	2790 us	Search Band Width
SBO	550 us	Search Band Offset
SWD	20 us/ft	Slowness Width
TWD	2092 us	Time Width
SEM	0.35	Semblance Threshold
FLENG	49	Filter Length
FLOW	3000 Hz	Filter Band Low
FHIGH	10486 Hz	Filter Band High

Table 2: Cased Hole LDP

Parameter	Value	Description
DTmud	240 us/ft	Mud Slowness
SFTY	Slow	Formation Type
HD	12.25 in	Hole diameter
CSIZ	9.625 in	Casing Size
BHS	Cased	Borehole Status
TWI	2160 us	Integrated Time Window
SLL	112 us/ft	Slowness Lower Limit
SUL	772 us/ft	Slowness Upper Limit
SST	4 us/ft	Slowness Step
TLL	1680 us	Time Lower Limit
TUL	17360 us	Time Upper Limit
TST	560 us	Time Step
SBW	9680 us	Search Band Width
SBO	2240 us	Search Band Offset
SWD	60 us/ft	Slowness Width
TWD	7260 us	Time Width
SEM	0.35	Semblance Threshold
FLENG	71	Filter Length
FLOW	500 Hz	Filter Band Low
FHIGH	2000 Hz	Filter Band High

Appendix C: Theory

Monopole P and S Mode (MPS)

A set of eight monopole sonic waveforms is shown in **Figure 4**. As expected the arrival time of the various arrivals in the waveforms increases with the transmitter-receiver spacing. The slope of a line drawn through the arrival of the same component at each waveform is called the move-out. It represents how much the arrival time is moving out as the distance from the transmitter increases. The moveout can be expressed in µsec/ft and actually represents the slowness of the wave component over the interval covered by the array.

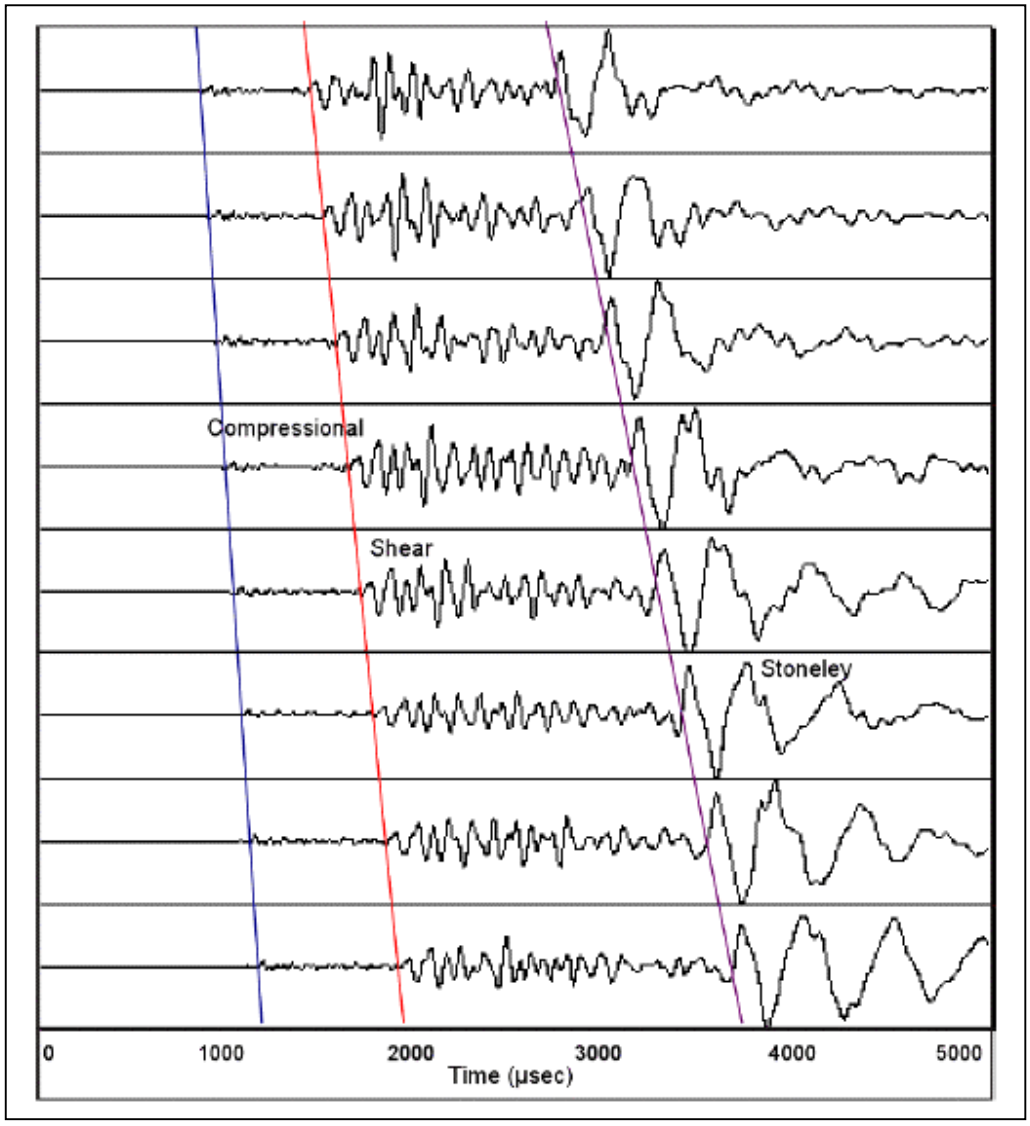


Figure 4: Move-out determination on a set of monopole array waveforms

Slowness time coherence processing, STC, is a processing technique based on semblance that performs this operation automatically. It searches for coherent components along all moveouts in a waveform array. We start by positioning a time window on the reference waveform at time *T* and then defining a corridor through the array with a move-out *S* (**Figure 5**). The total or incoherent energy, *Ei*, is calculated as the sum of the squares of the samples within the corridor (**Eq. 2-1**). The coherent energy, *Ec*, is then calculated as the arithmetic sum of the samples along the moveout squared (**Eq. 2-2**). When the signal on all waveforms within the window are perfectly correlated, the coherent energy is equal to the total energy times the number of waveforms.

$$E_i(T,S)=\sum_{i=1}^{n}\int_0^{Tw}\left[x_i\left(t-\left[T+S(z_i-z_1)\right]\right)\right]^2 dt \qquad (2\text{-}1)$$

$$E_c(T,S)=\int_0^{Tw}\left[\sum_{i=1}^{n}x_i\left(t-\left[T+S(z_i-z_1)\right]\right)\right]^2 dt \qquad (2\text{-}2)$$

Where *i* is the waveform number, *xi* is the value of the waveform sample at time *t*, *Tw* the length of the integration time window and *zi* the waveform depth.
The coherence is defined as:

$$Coh(T,S)=\frac{1}{n}\frac{E_c(T,S)}{E_i(T,S)} \qquad (2\text{-}3)$$

The coherence varies between 0 and 1. A value of 0 means that there is no correlated arrival in the window. On the opposite, a value of 1 means that the waveform components in the window correlate perfectly.

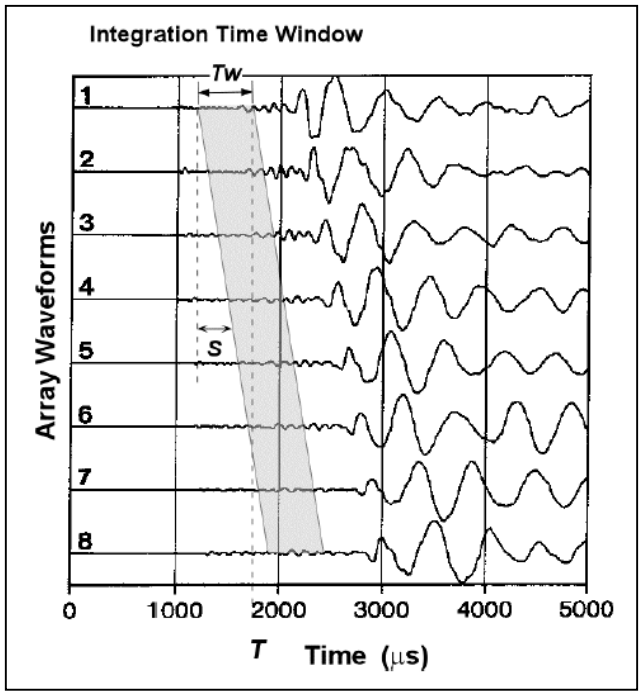
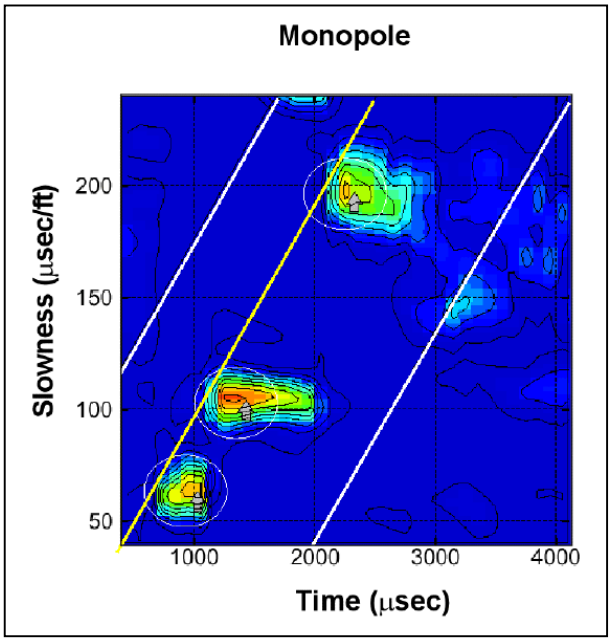


Figure 5: Slowness time coherence computation principle

The computation is done for a range of moveout *S*, for every possible position of the window in time *T*. A convenient representation of the coherence results is to display them on a contour plot versus time and slowness, the ST-Plane (**Figure. 6**). On such a plot each point represents the value of the coherence for a specific time and move out (slowness).

Coherence has a low value unless the integration corridor is positioned over a wave propagating at the considered moveout. Therefore, most of the ST plane is filled with coherence values close to 0 (blue). However, when a coherent arrival is present in the waveforms it shows as a peak of coherence with values that can go up to 1. The process locates the position of the maximum coherence at each peak and outputs the value of slowness, time and coherence in a list. For a given tool configuration, we expect that the time of arrival of a wave will be approximately the product of the slowness by the spacing between the transmitter and the reference receiver. This relation is represented on the plot by the TR line. The ST-plane shown on the example is from a set of monopole waveforms. The three main peaks observed, starting from bottom left, probably represent the compressional, the shear and the Stoneley arrivals. However, at this stage the peaks only represent coherent arrivals in the waveforms and are not identified. The process is repeated for each set of waveforms acquired by the tool at each depth sample.



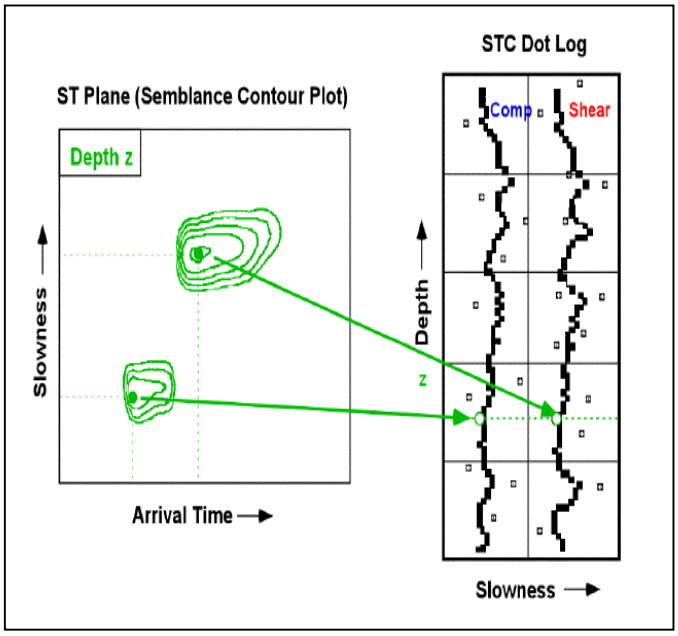


Figure 6: Slowness-Time Plane monopole example. Figure 7: Coherence peak labelling and slowness dot-logs generation

STC processing outputs a list of coherence peaks at every measurement depth. We can represent these peaks as dots on slowness versus depth plot (**Figure 7**). On such a plot, coherent arrivals display as continuous series of dots. There may also be scattered coherence peaks caused by noise, bed boundaries or other spurious effects that do not match with continuous trends. 'Tracking and classification' identifies the peaks that belong to consistent arrivals versus depth, assigns them to a specific wave type, for example compressional or shear, and output the values in the form of a continuous slowness log. Tracking and classification uses rules to identify the different waves. Typical rules used by tracking and classification are that the peaks have sufficient continuity in depth, sufficient coherence, that the compressional is faster than the shear arrival and that the ratio of their respective slowness is larger than 1.45.

Sometimes, dots are missing and there are gaps in the trends. These may originate among other causes from unfavourable borehole conditions, layering or noise. As long as the gap is small, tracking and classification interpolates in between existing peaks to obtain a continuous log, but if the gap is larger than a couple of feet, the log is set to absent.

Upper and Lower Dipole Mode (UDP & LDP)

A flexural wave is propagated through the borehole by inducing a pressure wave perpendicular to the borehole wall and propagates throughout the borehole wall. The borehole wall then experiences a transverse displacement as indicated in **Figure 8,** which is similar to the shear velocity of the formation.

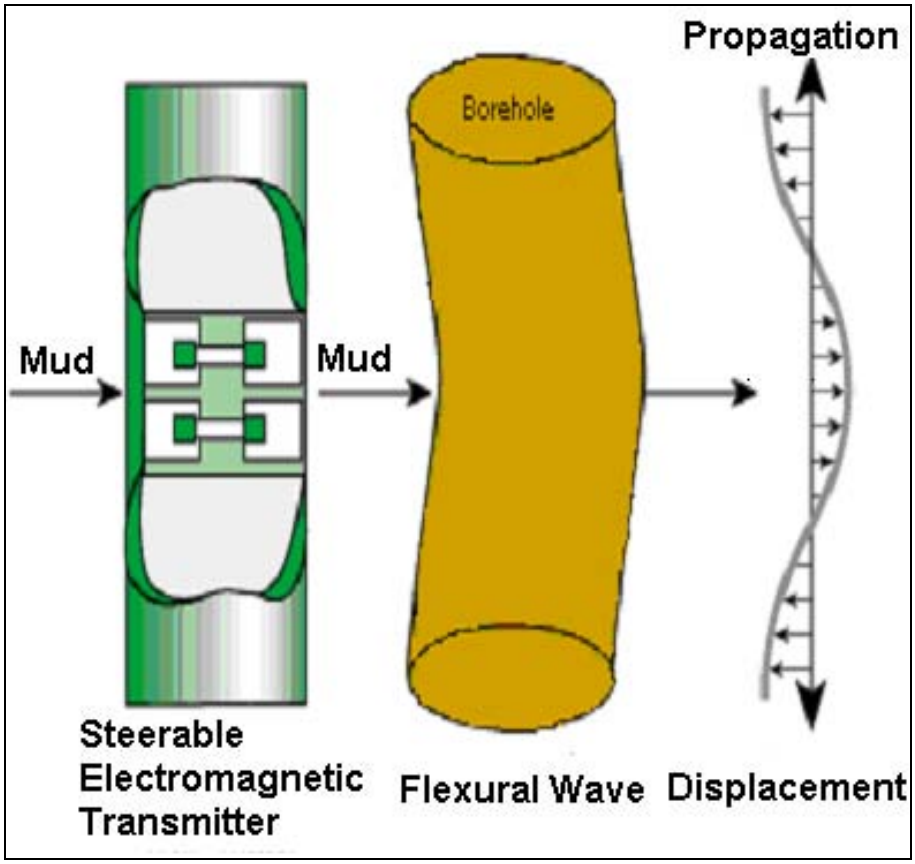


Figure 8: Flexural wave propagation to measure shear velocity

A problem of dispersion effects occurs with shear velocity measurements. Dispersion is the effect of variation of velocity with frequency and makes it difficult to determine a true formation shear. The higher the frequency, the more dispersion occurs. A method known as Bias Correction is applied real time in the field, which basically uses a correction based on numerical modelling. It is also based on a narrow frequency band at low frequencies where dispersion effect is less and so does not take into account the entire waveform. Although this is a fast and simple technique, it is not the best. Best-DT 3* uses a more advanced technique known as Dispersive STC Processing and is based on the entire waveform and uses model dispersion curves to correct for dispersion rather than a look up table, as with Bias correction. Correction is therefore more refined and accurate.

Dispersion depends on frequency, borehole size, formation shear slowness, mud slowness and formation to mud density ratio. In hard formations, mud slowness has less of an effect on dispersion.

Shear Anisotropy Measurement

For sonic measurements, it is well recognized that sedimentary rocks generally exhibit some degree of anisotropy. Anisotropy may arise from intrinsic structural effects, such as aligned fractures and layering of thin zones, or from unequal stresses within the formation. These effects lead to differences in formation elastic properties, and if they are on a smaller scale than the sonic wavelengths, then sonic wave propagation can be used to detect and quantify the anisotropy.

Sonic waves travel fastest when the direction of particle motion (polarization) is aligned with the material's stiffest direction. Shear-wave particle motion is in a plane perpendicular to the wave propagation direction. If the formation is anisotropic in this plane, meaning that there is one direction that is stiffer than another, then the shear-wave polarization aligned in the stiff direction will travel faster than one aligned in the other, more compliant direction. As a result, the shear wave splits into two components, one polarized along the formation's stiff (or fast) direction, and the other polarized along the formation's compliant (or slow) direction.

For example, in the case of vertically aligned dense micro-cracks or fractures, a shear wave that is polarized parallel to the fracture strike will propagate faster than a shear wave polarized perpendicular to it (**Figure 9**). In general, a shear (or flexural) wave, generated by a dipole source, will split into two orthogonal components polarized along the X- and Y-directions in the formation. As they propagate along the borehole, the fast wave will be polarized along the direction parallel to the fracture strike and a slow wave in the direction perpendicular to it.

With two orthogonal dipole transmitters and multiple receiver pairs aligned in orthogonal directions, the DSI Dipole Shear Sonic Imager tool can measure the components of shear slowness in any direction in a plane perpendicular to the borehole axis (**Figure 10**). The measurement involves recording the waveforms on receivers pointing in directions parallel and normal to each transmitter along the tool x- and y-axes.

Four sets of waveforms are recorded at each depth and receiver level. These measurements are labelled xx, xy, yx and yy. The first direction refers to the transmitter and the second direction to the receiver. The direction and speed of the fast and slow split shear waveforms travelling in the formation can be easily determined by mathematically rotating the measured waveforms through an azimuthal angle so that they line up with the two orthogonal formation X- and Y-directions. This is done by minimizing the cross-receiver energies, xy and yx.

The rotated direction of the fastest shear wave becomes the fast-shear tool azimuth; and the tool orientation, measured by a magnetometer, is used to determine the fast shear azimuth relative to true north. This rotation, called the Alford method, uses the fact that the anisotropy model expects the amplitude of the cross-receiver measurements to vanish when the measured axes x and y align with the anisotropy axes X and Y.

In addition to the fast and slow shear-wave velocities, determined by a slowness time coherence (STC) processing on the rotated waveforms, three measurements of anisotropy are computed. These are **energy anisotropy, slowness anisotropy** and **time anisotropy.**

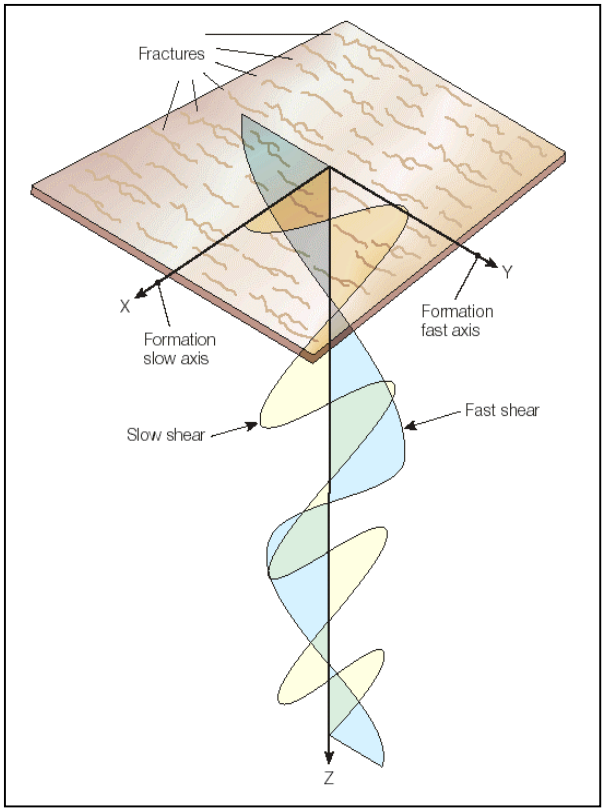


Figure 9: Shear wave splitting

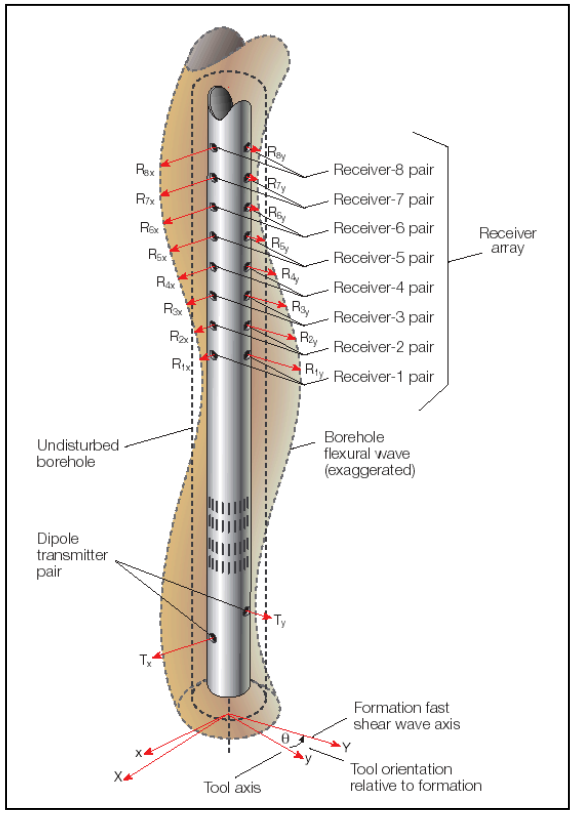


Figure 10: DSI tool showing X-Dipole (BCR) Mode

Figure 9. Shear-wave splitting. Shear waves travel in an anisotropic formation with different speeds along the directions of the formation anisotropy. In this example, anisotropy is caused by the vertical fractures (or micro-cracks) with a strike direction along the formation Y-axis, and the fastest shear wave, with the longer wavelength component, will be polarized along the fracture strike direction as it propagates along the borehole (Z-axis). When shear wave splitting is the result of stress anisotropy, the Y-axis corresponds to the direction of maximum stress, and the X-axis corresponds to the direction of minimum stress.

Figure 10. During logging, flexural waves are induced by dipole transmitters fired sequentially in two perpendicular directions, first along the tool x and then the tool y-axes. In this example, the fastest component of the induced shear wave is polarized along the formation Y-axis direction, which is aligned along the fracture strike or maximum stress direction. The slowest component of the shear wave is polarized along the formation X-axis. Projections of these two shear-wave components are received by each of the dipole sonic tool x- and y-receiver pairs. The inline signals xx and yy are the x-receiver and y-receiver waveforms received when the x and y- transmitters are fired. Cross-signal components xy and yx are the y- and x-receiver waveforms received as the x- and y-transmitters are fired. The Alford rotation angle, q, is determined by minimizing the cross signal components. This would happen automatically if the tool axes were rotated through an angle, q, and aligned with the two orthogonal directions in the anisotropic formation.

Slowness anisotropy is the difference between the fast and slow slownesses calculated by STC on the rotated waveforms. It yields a quantitative measure of slowness anisotropy, and has the best vertical resolution at about 3 ft [1 m]; the size of the receiver array. It can be compared directly with seismic or core measurements of slowness anisotropy.

Travel time anisotropy is the arrival-time difference between the fast- and slow-shear waves at the receivers. It is obtained from a cross-correlation between fast and slow shear-wave arrivals at each receiver spacing. Time lags computed at each receiver are referenced to the largest offset receiver and averaged across the receiver array. This is divided by the average of the fast and slow arrival times to compute a percentage difference. The travel time anisotropy indicator is robust and quantitative, and has the vertical resolution of the average transmitter-receiver spacing, 13 ft [4 m]. Slowness and travel time anisotropy indicators are identical in formations with homogeneous beds thicker than 13 ft.

Energy anisotropy is the energy in the cross component waveforms as a percentage of energy in all four components. In an isotropic formation, energy anisotropy reads zero. In an anisotropic formation, the reading depends on the degree of anisotropy. Two curves are computed from the waveforms: minimum and maximum cross-energy.

The minimum cross-energy is the energy in the cross-components when the tool measurement axis lines up with the formation anisotropy axis. Minimum cross-energy reads zero in an ideal formation whether anisotropic or not. This curve is a good relative measure of whether the assumed model for anisotropy inversion fits the real formation.

The maximum cross-energy is a measure of the amount or strength of anisotropy. Unlike the two previous anisotropy measurements (slowness and time), energy anisotropy is a measure of both slowness and amplitude differences of the fast and slow shear waves. Large differences between the maximum and minimum values, especially when the minimum energy is low, indicate zones of significant anisotropy. Energy anisotropy, though qualitative, is little affected by processing, and is the principal measure of anisotropy.

(B) Schlumberger Operation Report

Schlumberger

Schlumberger - Reservoir EvaluationWireline

Yolla –3 Operation Report

Greg Ruthven
Senior Field Engineer
October 2004

1 Yolla-3 Run Operation

1.1 Executive Summary

Highlights:

- All Wireline operations were completed safely with no incidents or injuries.
- Lessons learned during Yolla-4 logging operations yielded smooth tuning and logging of CMR.
- Excellent, high quality FMI images, DSI compressional and shear data, USIT cement images were recorded.
- The MDT was used to retrieve 1x1-gallon gas sample, 4x450cc gas samples and 1x450cc water sample.
- The MDT tool was fished successfully with no damage on the first fishing operation aboard Ensco 102.
- All perforating runs were performed with zero lost time and no misfires, including the new PURE perforating service, which was run for the first time in Australia.

Lowlights:

- Lost time failures during the HRLA, MDT and packer setting runs resulted in a reduced operating efficiency of 90.8%. These included HRLA signal loss, MDT bulkhead connector failures, and an igniter failure during the packer setting run.
- One 450cc MDT sample bottle did not open reducing the number of samples taken.
- During the final MDT sampling point, the cable became stuck, which resulted in a 48-hour fishing operation.
- Multiple junk basket runs were required due to tight hole conditions.
- The PEX was run above its maximum operating temperature, which will result in tool degradation.

1.2 Run 1: SP-HRLA-PEX-CMR-GR-LEHQT

- 19.2 hours of operating time
- Successful combination of CMR with HRLA
- Successful down-hole tuning of CMR at first attempt due to pre-job planning
- 40 minutes of lost time resulting from intermittent HRLA failure
- BHT above maximum temperature rating for Platform Express

CMR acquisition was significantly smoother than on Yolla-4. A suitable depth for tool tuning was found prior to rigging up (2460m MD).

The maximum recorded temperature for this run was 132ºC, significantly higher than the Platform Express maximum rating of 125ºC. This is higher than the Run 1 temperature from Yolla-4 of 126ºC, even though the time since the last circulation was similar. The high temperature did not lead to a tool failure on this occasion but the risk of a failure was greatly increased, and a high-temperature

alternative to the Platform Express should be considered for future operations that are expected to reach this temperature.

While logging upwards, HRLA signals were lost on two separate occasions. This forced the logs to be stopped for tool resetting. The tool was then lowered below the point where the log was stopped and a new log was started. The data was spliced before being submitted to town, however forty minutes of lost time was recorded as a result of the telemetry errors. This failure has been reproduced in the Schlumberger workshop and a capacitor block on a power supply board was found to be cracked, possibly a result of incorrect tool handling or shipment. Vibration of one of these components causes instability in a +5V DC supply, leading to this failure. A replacement board has been ordered for this tool.

1.3 Run 2: FMI-DSI-HNGS-LEHQT

- 12.2 hours of operating time
- Smooth run with excellent quality data

Excellent quality data was recorded during this run with zero lost time. However, the large size of the 1:40 scale FMI logs prohibited these from being sent to town in all formats – this could be overcome by the use of Schlumberger's InterACT service on future runs.

1.4 Runs 3 and 4: MDT-GR-LEHQT, commenced Sept 6

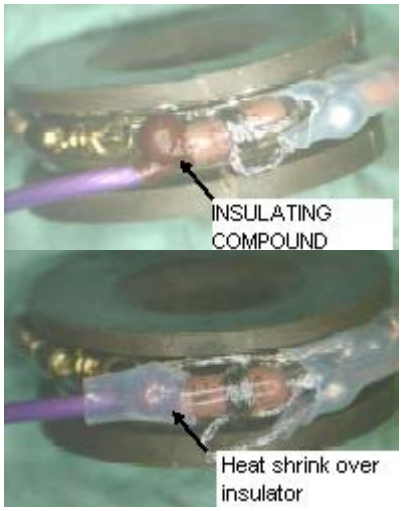
- 91.2 hours of operating time
- 8.3 hours of lost time due to bad connectors in MDT
- Tools fished successfully after becoming stuck, first Wireline fishing job on Ensco 102
- 1 x 1 gallon and 5 x 450cc samples were collected, but 1 x 450cc chamber failed to open

The MDT program involved a single run for taking pressure measurements and collecting samples, but a tool failure occurred while running in at 300m MD. A drop in current was observed, indicating an open circuit at one of the tool connections. The tools were retrieved to surface and a 1-gallon sample chamber was found to be the source of the problem. This chamber was removed and the tools were run in hole again to 1400m MD, but a similar failure recurred. On this occasion the tools were functioning correctly when they reached surface, which made troubleshooting difficult.

The latter problem was thought to be in one of the sampling components (LFA or the remaining 1-gallon chamber) so the tool was reduced to a basic MDT string for pressure measurements and run in hole. This enabled more extensive troubleshooting to be performed at surface while logging was continued, including the replacement of the bulkhead connectors at the top of each module. An additional LFA and 1-gallon sample chamber were mobilised from Sale during the Pretests run. Upon completion of the pretests, the tools were brought back to surface, the sampling components were added into the string and the job continued without further connector-related problems.



The source of these problems was found to be the bulkhead connectors at the top of each MDT module. Recent practice is showing that the pin retention force for these connectors degrades more quickly than earlier bulkheads (resulting in a poor electrical connection) and they need to be replaced more frequently. The tools used on Yolla-3 were checked for adequate pin retention force immediately prior to load-out, but recent experience now demonstrates that the degradation can occur after only a few connections. Consequently, additional pin alignment and test equipment is being ordered so that this equipment can be taken offshore and checks can be performed on the rig floor prior to each run. A newer version of the bulkhead connector that addresses this issue is currently under field test.



The pretest survey was completed with a good seal achieved on all but one attempted pretest. In addition, sampling yielded a 1-gallon gas sample, 4 x 450cc gas samples and 1 x 450cc water sample for fluid analysis. Unfortunately one 450cc sample chamber failed to open. This is linked to a recent technical alert regarding the release washers for the single-shot valves in the multi-sampler module (MRMS). An insulating compound used in this washer has been found to leak on occasion, causing a short circuit around the resistor that prevents the resistor from burning. This will be overcome on future jobs by placing heat shrink tube around the insulating compound.

After sampling was completed at the last point (3149m MD), the tool was unable to be moved. The head tension sensor in the LEH-QT showed that the cable was stuck rather than the tool string. After attempting to work the cable free for almost 5 hours, it was decided to fish the tools using the cut-and-thread method. This type of fishing operation had not been attempted previously on the Ensco 102 so a new procedure was formulated to overcome the lack of a monkeyboard. After thorough planning and a Job Safety Analysis, the fishing operation was completed successfully in 48.8 hours. No tools were damaged during fishing (the fins from one rubber stand-off were broken off and left in hole) and the MDT samples were retrieved.

1.5 Runs 5 and 6: USIT-CBL-VDL-CCL-GR-LEHQT

- 14.5 hours of operating time
- Good quality data acquired indicating adequate cement coverage
- Small delay in getting tool down due to centraliser drag

Two runs of USIT-CBL-VDL were performed to examine the cement quality behind the 6-5/8" liner and the 9-5/8" casing. While the logs showed patchy cement in some zones, it appeared to be

sufficient to achieve zonal isolation around the proposed perforation zones. The tools hung up at approximately 800m MD while running in hole with the tools for logging the 9-5/8" casing. When they reached surface it was found that the lowest Gemco centraliser had an outer diameter of approximately 9.5", despite being measured at 8.9" before running in hole (standard practice is to configure these centralisers with an outer diameter that is between the no more than 0.25" larger than the nominal casing ID). While running in, the tools briefly hung up at the cross-over from 10-3/4" to 9-5/8" casing and it is possible that the impact here, plus the additional drag while running in the deviated hole, opened it up further. This centraliser was set aside and the tools were run in hole again successfully.

1.6 Runs 7 to 11: 4½"HSD Perforating guns (Runs 7 to 10 with PURE)

- 35.0 hours of operating time
- 5 successful runs without misrun
- First use of PURE wireline perforating in Australia

The first four HSD perforating runs incorporated PURE guns. The crew were unfamiliar with these guns and the specific loading technique, but successfully performed the additional loading in time for the perforating runs. A noticeably larger tension decrease occurred at the time of firing the guns with PURE. A slight delay in changing over between runs occurred when one of the firing heads was unable to be disconnected from one of the casing collar locator (CCL) tools after the first run, but these were disconnected later with the assistance of the rig mechanic.

1.7 Runs 12 to 17: Junk Basket-Gauge Ring

- 23.2 hours of operating time
- 6 runs performed due to tight tolerance on casing ID (problems during cement job)
- 2 different gauge ring sizes used (5.775" and 5.71")

Multiple junk basket runs were performed due to the inability of the larger gauge ring (5.775") to pass through to 3300m MD. On the first run it held up at 2553m MD, so the smaller gauge ring was used on the second run and after hanging up initially at 3111m MD it was worked down to 3300m MD. The larger gauge ring was installed again and was worked down to 3064m MD on the third run after hanging up at numerous points. It was pulled out of hole and run in again, this time being worked down to 3111m MD before being retrieved to surface. A wiper trip was then performed in an attempt to clean the inside of the casing further, with the drillers reporting that the hole was tight. The larger gauge ring was run immediately after the wiper trip but it again hung up at 3111m MD. Finally, the smaller gauge ring was run successfully to 3300m MD and the decision was made to run the packer and tail pipe assembly.

1.8 Run 18: CPST (packer and tail pipe assembly)

- 18.8 hours of operating time
- 1 misrun due to failure of SECURE igniter (11.8 hours lost time)

When the Schlumberger engineer attempted to set the packer at the first attempt, he received a positive indication of a short circuit occurring at the igniter but no other indication of the packer

setting. The packer and tail pipe assembly was pulled out of hole slowly due to the swabbing effect (small clearance between the packer and the casing ID) until the liner hanger was reached. When the assembly reached surface it was observed that the igniter had apparently functioned electrically but that no explosive detonation had taken place. A new igniter typically has a resistance of between 60kΩ and 150kΩ (this igniter measured 100kΩ prior to installation), and will appear as a short circuit after firing, as the failed igniter did in this case. The back-up setting tool was prepared with fresh explosive components and run back in hole for a successful setting run.

The failed igniter will be returned to the Schlumberger product center in Houston for further investigation.

1.8.1 Run 19: 2-1/8" Phased Enerjet Perforating gun

- 12.0 hours of operating time
- 1 successful run without misrun

After a successful pressure test, this perforating run was completed smoothly. After some initial discussions it was decided to keep two Wireline crews on board for this run, maintaining 24-hour crew coverage in the event of a delay.

2 General Comments and Conclusions

It is clear from operations on Yolla-3 that the lessons learned after logging on Yolla-4 were applied. There was no recurrence of the lost time failures that occurred on Yolla-4 and there were significant improvements in CMR acquisition (first successful combination with HRLA in Sale location) and the generation of TVDSS logs.

However, equipment failures marred operations on Yolla-3. In each case, the Schlumberger crew were able to eliminate the failed components and continue the operation. All requested data was recorded except for the failure of one of the MDT samples. Clear diagnoses have been made for the lost-time failures from Yolla-3, which enable repair of the HRLA, new maintenance procedures for the MDT connection bulkheads and modification of the MRMS release washers so that future failure recurrences can be averted. Unfortunately the failure of the SECURE igniter is beyond the control of field personnel, but the igniter will be returned to the manufacturing centre where an investigation may assist with manufacturing improvements.

As with Yolla-4, the mobilisation of the Schlumberger crew to the rig was not well planned and was extremely rushed. Drilling proceeded faster than expected, and the unavailability of helicopters on one day meant that the Schlumberger crew was given only 6 hours notice to mobilise from Sale. This also forced the crew to take taxis instead of the preferred option of train travel. Schlumberger requests that crew planning be improved to avoid this situation in future.

Once again, the communication tools in the logging unit allowed fast communications with town and timely decision-making. However, some large files were unable to be transmitted to town over the network connection provided and this could be improved through the use of Schlumberger's InterACT service. Schlumberger personnel attempted to access the online support facilities on the Schlumberger internal network through the use of Virtual Private Network software, but it appears that access may have been blocked by a firewall.

3 Time Summary and Personnel

3.1 Time Analysis

Run	Operating Time (Hrs)	Lost Time (Hrs)
1: SP-HRLA-PEX-CMR-GR-LEHQT	19.2	0.7
2: FMI-DSI-HNGS-LEHQT	12.2	0.0
3: MDT-GR-LEHQT (Pretests)	24.2	6.2
4: MDT-GR-LEHQT (Samples)	67.0	2.1
5: USIT-CBL-VDL-CCL-GR-LEHQT (6-5/8")	7.5	0.0
6: USIT-CBL-VDL-CCL-GR-LEHQT (9-5/8")	7.0	0.0
7: HSD 4½" w/PURE (3246.5-3248.5m MD)	9.5	0.0
8: HSD 4½" w/PURE (3236.5-3242.5m MD)	7.3	0.0
9: HSD 4½" w/PURE (3190-3196m MD)	6.9	0.0
10: HSD 4½" w/PURE (3180-3186m MD)	5.2	0.0
11: HSD 4½" (2210.2-2225.2m MD)	6.0	0.0
12: Junk Basket-Gauge Ring (5.775")	4.2	0.0
13: Junk Basket-Gauge Ring (5.71")	3.4	0.0
14: Junk Basket-Gauge Ring (5.775")	4.0	0.0
15: Junk Basket-Gauge Ring (5.775")	4.1	0.0
16: Junk Basket-Gauge Ring (5.775")	4.2	0.0
17: Junk Basket-Gauge Ring (5.71")	3.2	0.0
18: CPST (completion packer)	18.8	11.8
19: Enerjet 2-1/8" (3404-3407m MD)	12.0	0.0
Total	**226.2**	**20.8**
Lost Time / Total Operating Time = 9.2%		

3.2 Crew Members

Open Hole Logging

Title	1st Crew	2nd Crew
Engineer	Greg Ruthven	Ron Clark
Trainee Engineer	Matthew Webb	
Crew Chief	Rick Murray	Darren Watts
Operator	David Stuckey	Steve Giffin
Operator (crew change)	Craig Armstrong	
MDT Specialist	Marcus Cave	

Cased Hole Logging/Perforating

Title	1st Crew	2nd Crew
Engineer/Technician	Greg Ruthven	Rod Miller
Engineer (crew change)	Dmitry Molokhov	
Trainee Engineer	Matthew Webb	
Crew Chief	Rob Duncan	Ben Taylor
Operator	Nathan Simmons	Craig Armstrong
Operator (crew change)	Rick Murray	Darren Watts

APPENDIX 8: MDT PRESSURE DATA

APPENDIX 8: MDT PRESSURE DATA

			STRAIN GAUGE (PSIG)				QUARTZ GAUGE (PSIA)					STRAIN GAUGE	QUARTZ GAUGE		
Sample No.	Depth mMD	Depth mTVDSS	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Temp °C	Hydrostatic Pressure After	Hydrostatic Pressure After	Comments	Mobility
1	3149.0	2709.48	4422.0	9.6	4088.4	8.8	4436.95	9.6	4103.11	8.9	132.20	4421.80	4436.49	20ccDD gauges erratic.	9.8
2	3150.0	2710.47	4423.6	9.6		0.0	4438.15	9.6		0.0	132.50			20ccDD Super charged,abort,gauges erratic.	
3	3150.2	2710.67	4423.8	9.6	4092.3	8.8	4438.32	9.6	4106.59	8.9	132.60	4423.60	4438.01	20ccDD, poor stability	1.2
4	3150.7	2711.17	4424.3	9.6	4090	8.8	4439.97	9.6	4104.52	8.9	132.90	4424.20	4439.50	10ccDD/1000psi limited+additional 10cc. Good.	10.0
5	3152.2	2712.67	4426.5	9.6		0.0		0.0		0.0	133.90	4425.20	4439.90	10ccDD/1000psi limited. Tight abort	
6	3152.5	2712.97	4426.0	9.6	4096.4	8.9	4441.69	9.6	4111.08	8.9	133.20	4426.80	4441.54	10ccDD/1000psi limited, additional 10cc. Super charged	2.2
7	3152.3	2712.77	4426.6	9.6		0.0	4441.42	9.6		0.0	133.30	4425.30	4441.82	10ccDD/1000psi limited. Tight, abort.	0.6
8	3153.1	2713.57	4427.8	9.6		0.0	4442.65	9.6		0.0	133.30	4426.50	4443.10	10ccDD/1000psi limited. Tight abort.	
9	3153.0	2713.47	4427.6	9.6		0.0	4442.51	9.6		0.0	133.40	4426.60	4443.80	10ccDD/1000psi limited.Tight abort.	
10	3154.9	2715.37	4430.6	9.6		0.0	4445.40	9.6		0.0	133.50	4430.30	4445.51	10ccDD/1000psi limited.Tight abort.	
11	3155.0	2715.27	4430.7	9.6		0.0	4445.66	9.6		0.0	133.60	4431.30	4445.84	10ccDD/1000psi limited.Tight abort.	
12	3180.1	2740.53	4470.9	9.6		0.0	4485.61	9.6		0.0	133.60	4470.90	4485.68	10ccDD/1000psi limited.Tight abort.	
13	3180.3	2740.73	4470.9	9.6		0.0	4485.86	9.6		0.0	133.80	4470.80	4485.69	10ccDD/1000psi limited.Tight abort.	
14	3181.7	2742.13	4473.1	9.6	4132.9	8.8	4488.15	9.6	4147.82	8.9	134.00	4473.10	4488.07	10ccDD/1000psi limited, lost seal, additional 10cc. Good Test.	108.0
15	3183.1	2743.53	4475.4	9.6		0.0	4490.41	9.6	4155.00	8.9	134.20	4475.40	4490.37	10ccDD/1000psi limited, additional 10cc. Slow build up.	
16	3183.3	2743.53	4475.7	9.6	4139.6	8.8	4490.70	9.6	4154.47	8.9	134.40	4475.60	4490.53	10ccDD/1000psi limited, additional 10cc.	0.7

			STRAIN GAUGE (PSIG)				QUARTZ GAUGE (PSIA)					STRAIN GAUGE	QUARTZ GAUGE		
Sample No.	**Depth mMD**	**Depth mTVDSS**	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Temp °C	Hydrostatic Pressure After	Hydrostatic Pressure After	Comments	Mobility
17	3184.9	2745.33	4478.1	9.6	4161.7	8.9	4493.11	9.6	4176.50	8.9	134.70	4478.20	4493.15	20ccDD,1000psi limit, super charged.	0.7
18	3185.0	2745.43	4478.2	9.6		0.0	4493.32	9.6	4171.86	8.9	134.80	4478.30	4493.31	20ccDD, super charged.	
														GR correlation, 1st down 0.3m, 2nd on depth.	
19	3189.5	2749.92	4485.9	9.6		0.0	4500.78	9.6		0.0	135.10	4485.90	4500.87	20ccDD, 1000psi limit. Tight.	
20	3191.5	2751.92	4488.9	9.6	4137.2	8.8	4503.91	9.6	4151.92	8.8	135.30	4488.80	4503.77	20ccDD, 1000psi limit. Gauge erratic but test Good.	3.6
21	3193.9	2754.31	4493.0	9.6	4154	8.8	4507.99	9.6	4169.30	8.9	135.40	4492.90	4507.83	20ccDD, 1000psi limit. Super charged	0.6
22	3195.2	2755.61	4494.6	9.6	4141	8.8	4509.71	9.6	4155.83	8.8	135.50	4494.50	4509.61	20ccDD, 1000psi limit. Gauge erratic but test Good.	8.0
23	3199.6	2760.01	4501.8	9.6		0.0	4516.80	9.6		0.0	134.70	4502.30	4516.57	20ccDD. Abort. Tight.	
24	3200.5	2760.91	4503.3	9.6		0.0	4518.22	9.6		0.0	135.90	4503.30	4518.41	10ccDD, 1000psi limit.Abort. Tight.	
25	3222.7	2783.09	4538.4	9.6		0.0	4553.53	9.6		0.0	135.20	4538.50	4553.40	10ccDD, 1000psi limit.Abort. Tight.	
26	3222.8	2783.10	4538.8	9.6		0.0	4553.96	9.6		0.0	136.30	4539.10	4554.00	10ccDD, 1000psi limit.Abort. Tight.	
27	3237.5	2797.88	4562.6	9.6	4145.5	8.7	4577.76	9.6	4160.47	8.7	136.60	4563.10	4578.14	10ccDD, 1000psi, lost stability additional 10ccDD. Good Test	38.9
28	3238.5	2798.88	4564.9	9.6	4148	8.7	4580.26	9.6	4162.96	8.7	136.90	4565.30	4580.36	20ccDD, 1000psi limit. Gauge erratic but test Good.	6.1
29	3240.8	2801.18	4569.1	9.6	4146.7	8.7	4584.17	9.6	4161.63	8.7	137.20	4569.20	4584.28	1000ccDD. Good Test	99.4
30	3243.0	2803.37	4572.6	9.6	4438.8	9.3	4587.80	9.6	4443.87	9.3	137.40	4572.80	4587.91	10ccDD, 1000psi limit, additional 10ccDD. Supercharged	
31	3243.3	2803.67	4573.4	9.6	4447.3	9.3	4588.57	9.6	4453.16	9.3	137.90	4573.50	4588.54	10ccDD, 1000psi limit.Super charged	
32	3247.1	2807.47	4579.5	9.6	4148.8	8.7	4594.73	9.6	4163.76	8.7	137.80	4579.50	4594.59	10ccDD, 1000psi, lost stability additional 10ccDD. Good Test.	29.8

			STRAIN GAUGE (PSIG)				QUARTZ GAUGE (PSIA)					STRAIN GAUGE	QUARTZ GAUGE		
Sample No.	**Depth mMD**	**Depth mTVDSS**	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Temp °C	Hydrostatic Pressure After	Hydrostatic Pressure After	Comments	Mobility
33	3249.0	2809.37	4582.7	9.6	4149.5	8.7	4597.77	9.6	4164.37	8.7	138.00	4582.80	4597.81	10ccDD, 1000psi, additional 10ccDD. Good test.	153.1
34	3252.0	2812.37	4587.5	9.6	4150.8	8.7	4602.71	9.6	4165.59	8.7	138.00	4587.70	4602.78	10ccDD, 1000psi, additional 10ccDD. Good test.	87.6
35	3255.5	2815.87	4593.0	9.6		0.0	4608.11	9.6		0.0	138.10	4593.90	4608.76	10ccDD, 1000psi limit. Aborted. Tight.	
36	3257.0	2817.36	4595.8	9.6		0.0	4611.04	9.6		0.0	137.70	4596.40	4611.32	10ccDD, 1000psi limit. Aborted. Tight.	
37	3274.1	2834.45	4623.2	9.6	4213	8.7	4638.59	9.6	4227.00	8.7	138.40	4623.30	4638.37	10ccDD, 1000psi limit.Super charged	
38	3275.1	2835.45	4624.9	9.6	4171	8.6	4640.25	9.6	4185.91	8.7	138.80	4624.90	4640.26	10ccDD, 1000psi, additional 10ccDD. Good test.	5.6
39	3276.5	2836.85	4627.6	9.6	4175.7	8.6	4642.72	9.6	4190.52	8.7	139.10	4627.50	4642.51	10ccDD, 1000psi, additional 10ccDD. Erratic gauge probably valid test.	1.8?
40	3302.3	2862.64	4668.4	9.6	4230.7	8.7	4683.62	9.6	4245.62	8.7	139.30	4668.10	4683.25	10ccDD, 1000psi, additional 10ccDD. Erratic gauge but valid test.	2.0
41	3304.5	2864.84	4671.7	9.6	4424	9.1	4686.81	9.6	4439.00	9.1	139.90	4671.60	4686.85	10ccDD, 1000psi, additional 10ccDD. Supercharged.	
42	3304.8	2865.04	4671.9	9.6	4401	9.0	4687.38	9.6	4417.00	9.0	140.10	4672.10	4687.41	10ccDD, 1000psi. Supercharged.	
														GR correlation, 1st down 1.4m, 2nd down 0.3m, 3rd	
43	3383.1	2943.42	4793.4	9.5		0.0	4808.99	9.6		0.0	144.60	4794.90	4809.10	10ccDD, 1000psi. Tight.	
44	3383.5	2943.82	4793.9	9.5		0.0	4809.41	9.6		0.0	144.70	4794.20	4809.77	10ccDD, 1000psi. Tight.	
45	3384.5	2944.82	4795.5	9.5	4394.1	8.7	4811.13	9.6	4409.66	8.8	144.60	4795.10	4810.79	10ccDD, 1000psi, additional 10ccDD. Stabilized, good test.	1.0
46	3404.8	2965.12	4827.1	9.5	4369.4	8.6	4842.80	9.6	4385.25	8.7	144.40	4826.30	4842.40	10ccDD, 1000psi. Good test	17.6

			STRAIN GAUGE (PSIG)				QUARTZ GAUGE (PSIA)					STRAIN GAUGE	QUARTZ GAUGE		
Sample No.	**Depth mMD**	**Depth mTVDSS**	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Temp °C	Hydrostatic Pressure After	Hydrostatic Pressure After	Comments	Mobility
47	3405.8	2966.12	4828.2	9.5	4370.8	8.6	4844.22	9.6	4386.49	8.7	144.70	4828.20	4844.15	10ccDD, 1000psi, additional 10ccDD. Good test.	5.7
48	3406.8	2967.12	4829.8	9.5	4657.8	9.2	4845.80	9.6	4673.47	9.2	144.90	4829.90	4845.79	10ccDD, 1000psi. Supercharged.	
49	3418.5	2978.82	4848.3	9.5	4378.9	8.6	4864.21	9.6	4394.66	8.6	145.00	4848.10	4864.02	10ccDD, 1000psi. Good test	5.3
50	3420.6	2980.92	4851.3	9.5	4307.6	8.5	4867.48	9.6	4386.44	8.6	145.40	4851.30	4867.35	10ccDD, 1000psi. Good test	296.8
51	3421.9	2982.22	4853.5	9.5	4371.1	8.6	4869.51	9.6	4386.92	8.6	145.60	4853.40	4869.35	20ccDD, 1000psi, Good Test.	126.5
52	3422.8	2983.12	4854.8	9.5	4371.5	8.6	4870.88	9.6	4387.24	8.6	145.80	4854.70	4870.65	20ccDD, 1000psi, Good Test.	43.2
53	3425.0	2985.32	4858.2	9.5		0.0	4874.25	9.6		0.0	145.90	4858.20	4874.19	10ccDD, Blown Seal	
54	3425.1	2985.42	4858.4	9.5	4567	9.0	4874.48	9.6	4555.00	8.9	146.00	4858.50	4874.31	10ccDD, 1000psi. Supercharged.	
55	3430.2	2990.52	4866.2	9.5	4409	8.6	4882.23	9.6	4432.00	8.7	146.20	4866.10	4882.02	10ccDD, 1000psi. Supercharged.	
56	3433.9	2994.22	4871.9	9.5	1047.2	2.1	4887.93	9.6	1066.14	2.1	146.40	4872.30	4871.94	10ccDD, 1000psi. Tight.	
57	3443.5	3003.82	4887.0	9.5	1114.6	2.2	4903.13	9.6	1124.81	2.2	146.60	4887.40	4902.82	10ccDD, 1000psi. Tight.	
58	3448.2	3008.53	4893.4	9.5	1045.6	2.0	4909.51	9.6	1061.40	2.1	146.80	4893.80	4909.31	10ccDD, 1000psi. Tight.	
59	3479.5	3039.82	4940.9	9.5	1061	2.0	4967.26	9.6	1075.81	2.1	147.00	4941.00	4957.00	10ccDD, 1000psi. Tight.	
60	3149.5	2709.98	4425.8	9.6	4088.7	8.8	4438.85	9.6	4102.85	8.9	136.70	4424.30	4438.68	10ccDD initial + 10ccDD additional. Slightly fluctuating, high temp, good test.	7.5
61	3150.9	2711.27	4426.8	9.6	4090.7	8.8	4441.32	9.6	4105.20	8.9	135.00	4426.50	4441.17	10ccDD initial + 10ccDD additional. Slightly fluctuating, good test.	5.4
62	3148.6	2709.10	4423.0	9.6	1057.2	2.3	4437.81	9.6	1060.63	2.3	134.90	4223.40	4337.77	10ccDD, 1000psi. Tight.	1.4
63	3148.9	2709.40	4423.4	9.6	2218.1	4.8	4438.00	9.6	2227.84	4.8	134.30	4423.80	4438.38	10ccDD, 1000psi. Tight.	
64	3148.8	2709.30	4423.4	9.6	4102.5	8.9	4438.25	9.6	4117.04	8.9	135.00	4423.30	4438.13	10ccDD initial + 10ccDD additional. Supercharged.	1.5
65	3148.7	2739.20	4423.4	9.5	4092.6	8.8	4438.40	9.5	4107.13	8.8	135.00	4423.20	4437.90	10ccDD initial + 10ccDD additional. Supercharged.	3.0

			STRAIN GAUGE (PSIG)				QUARTZ GAUGE (PSIA)					STRAIN GAUGE	QUARTZ GAUGE		
Sample No.	**Depth mMD**	**Depth mTVDSS**	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Hydrostatic Pressure Before	PPG	Reservoir Pressure	PPG	Temp °C	Hydrostatic Pressure After	Hydrostatic Pressure After	Comments	Mobility
Pumpout OFA and sampling program							Post sampling reservoir pressures usually are not stabilised								
1	3420.6	2980.92	4852.2	9.5	4371.4	8.6	4867.65	9.6	4386.74	9.6	146.10		4866.57	20ccDD, 1000psi. Good Test. 2 x 450cc samples taken.	
2	3384.5	2944.82	4796.3	9.5	4407.9	8.8	4811.98	9.6	4423.16	8.8	145.90	4795.30	4810.81	10ccDD initial + 10ccDD additional. Failed to stabilise. Supercharged.	
3	3302.3	2862.64	4669.0	9.6	2700	5.5	4386.03	9.0	2712.00	5.6	143.50	4668.80	4682.88	10ccDD. Tight Formation, abandon test	
4	3302.5	2862.82	4668.7	9.6	3512.3	7.2	4883.49	10.0	3593.92	7.4	142.70	4668.60	4683.04	10ccDD. Tight Formation, abandon test	
5	3302.1	2862.44	4667.8	9.6	4304.7	8.8	4682.62	9.6	4319.44	8.8	143.20	4668.00	4682.38	10ccDD. Supercharged.	
6	3275.1	2835.45	4625.4	9.6	4330.8	9.0	4640.03	9.6	4345.11	9.0	142.10	4625.30	4639.82	10ccDD. Supercharged, abandoned	
7	3275.3	2835.65	4635.8	9.6	4200.9	8.7	4640.34	9.6	4206.51	8.7	141.50	4625.7	4640.09	10ccDD. Supercharged, abandoned	
8	3274.9	2835.25	4624.8	9.6	1864.7	3.9	4639.58	9.6	1868.45	3.9	141.10	4625.10	4639.44	10ccDD. Tight, abandoned	
9	3249.0	2809.37	4583.0	9.6	4150.1	8.7	4597.44	9.6	4164.37	8.7	140.60	4581.40	4596.49	20ccDD. Good test fast, 1gall + 450cc sample taken	
10	3222.7	2783.09	4539.9	9.6	2857	6.0	4553.57	9.6	2871.00	6.0	139.70	4540.50	4554.91	10ccDD, 1000psi.Tight not pumpable.	
11	3223.0	2783.39	4540.9	9.6	2712	5.7	4555.43	9.6	2726.00	5.7	139.40	4541.10	4555.57	10ccDD, 1000psi.Tight not pumpable.	
12	3222.5	2782.89	4540.0	9.6	2553	5.4	4554.72	9.6	2569.00	5.4	139.10	4540.30	4554.78	10ccDD, 1000psi.Tight not pumpable.	
13	3181.7	2742.13	4475.6	9.6	4475.8	9.6	4490.10	9.6	4489.93	9.6	139.00	4473.80	4489.20	20ccDD, poor seal, retract reset, collected 1x 450cc, 1x450cc malfunction	
14	3149.0	2709.48	4423.1	9.6	4089.9	8.8	4437.82	9.6	4104.27	8.9	136.50	4422.90	4438.22	10ccDD, additional 10ccDD,1 x 450cc sample	
Summary sampled 2 x 450cc at 3420.6m in the 2793sand, sampled 1 x 450cc 1 x 1gall at 3349m in the 2809sand, sampled 2 x 450cc at 3181.7m in the 2755sand, sampled 1 x 450cc at 3149m in the 2718sand. Attempted to do a pump out and OFA analysis in the 2952sand, 2873sand, 2844sand and at 3222.7m but the formation was too tight. Total pretests 14; 4 pumpable and samples taken, 10 tight/supercharges and not pumpable.															

APPENDIX 9: RIG MOVE & POSITIONING REPORT

REPORT FOR THE ENSCO 102 RIG MOVE TO THE YOLLA A PLATFORM

FUGRO SURVEY JOB NO. – P0051

Client	:	Origin Energy Resources Ltd C/o Australian Drilling Associates Pty Ltd Suite 2, Level 9 470 Collins Street Melbourne, 3000 Victoria
Date of Survey	:	25 May – 13 June, 2004
Date of Report	:	30 June, 2004
Checked	:	_____
Authorised	:	_____

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APPENDIX C : FINAL POSITION DATA
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APPENDIX E : ENSCO 102 ROTARY TABLE HEIGHT DIAGRAM AT YOLLA PLATFORM
APPENDIX F : DGPS AND GYRO CHECKS

ABSTRACT

Between 23 May and 13 June, 2004, Fugro Survey Pty Ltd provided equipment and personnel for the jack-up Mobile Offshore Drilling Unit, Ensco 102, rig move to the Yolla A Platform in the Bass Strait, Australia.

Primary surface positioning was achieved utilising a Trimble Real Time Kinematic (RTK) system and GNS2 Navigation Software. Fugro's Skyfix XP and Skyfix Spot DGPS systems were used as secondary systems.

The final position for the centre stern derived from RTK observations at the Yolla A Platform location was:

Location Name:	**Yolla A**
Easting:	398923.94m
Northing:	5588819.35m
Latitude:	39º 50' 40.669" S
Longitude:	145º 49' 06.849" E
Rig Heading:	101.0º T

This position is 0.50m on a bearing of 278.8° (grid) from the proposed Yolla A location.

The calculated final height of the Rotary Table of the Ensco 102 at the Yolla A location was 43.31m above AHD.

All coordinates in this report are quoted in GDA94 datum and MGA Zone 55 (CM 147° E) projection, unless otherwise stated.

1.0 INTRODUCTION

Fugro Survey Pty Ltd (Fugro) was contracted by Origin Energy Resources Ltd (Origin) to provide positioning survey services onboard the jack-up Mobile Offshore Drilling Unit (MODU), *Ensco 102*, for the rig move from the West Whiptail-1 location to the Yolla A location in Bass Strait, Australia.

A general location diagram is shown as 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

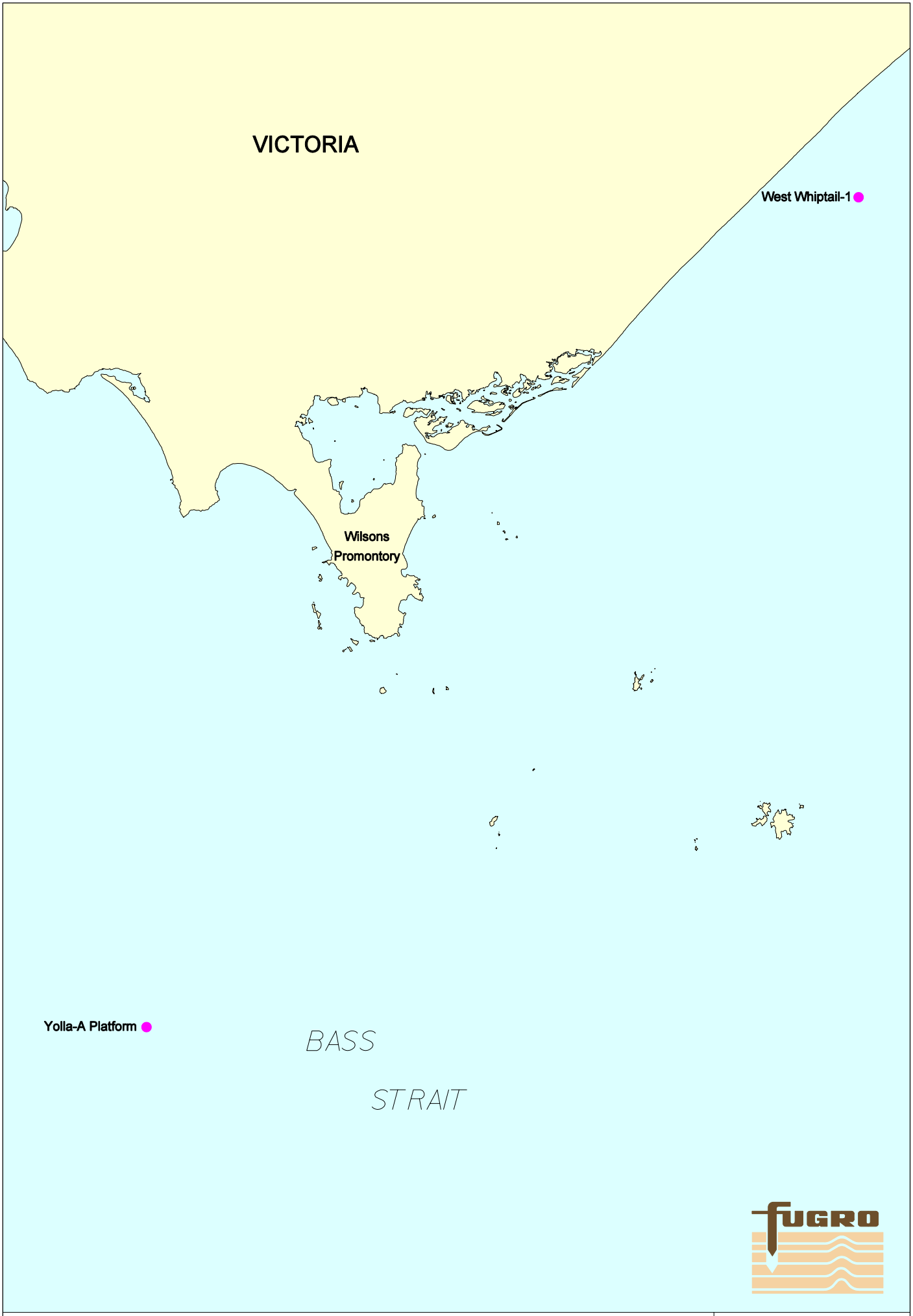
Personnel and equipment were provided on a 24-hour per day basis for:

- Final rig surface positioning for the Yolla A location using RTK observations.

Final reporting of the positioning results.

Sequence of Events

23 May, 2004	Fugro personnel R. Bright and N. Gregory in transit from Perth to Melbourne.
24 May, 2004	Personnel arrive on rig. R. Bright attended safety induction. Completed setting up of equipment on rig.
25 to 26 May, 2004	Checked offsets and setup of Tracs system on rig. Standing by for rig move operations. Carried out check fix at West Whiptail-1 location.
27 May, 2004	Rig move delayed due to problems with winch on rig. Fugro personnel depart rig for transit to Perth until further notice.
3 June, 2004	Fugro personnel R. Bright and N. Gregory in transit from Perth to Melbourne.
4 June, 2004	Personnel arrive on rig. Powered up equipment. Standing by on weather.
5 June, 2004	Mobilised positioning equipment on AHV *Invincible Tide* for anchor operations. Rig departed West Whiptail-1 location for transit to Yolla A Platform. Fugro personnel attended muster drill and rig move meeting.
6 June, 2004	Conducted gyro calibration by sunshot. Arrived at 100m stand off location from platform. Commenced deployment of anchors by AHV *Invincible Tide.*
7 June, 2004	Completed anchor deployment. Tensioned anchors. Rig moved from 100m stand off location to intended location. Issued client with preliminary position fix. Commenced preload operations.



GENERAL LOCATION DIAGRAM

FIGURE 1–1

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8 to 10 June, 2004	Continued with preload operations. Demobilised positioning equipment on AHV *Invincible Tide*. Recovered anchor spread.
11 June, 2004	Completed preload operations. Rig jacked up to final height.
12 June, 2004	Carried out final fix of centre line stern. Final position accepted by client representative. Logged data for heighting. Received approval from client to commence demobilisation of survey equipment. Demobilised RTK Base Station on platform. All survey equipment demobilised and safely secured.
13 June, 2004	Fugro personnel depart rig for transit to Perth.

Further details of Fugro's involvement in the rig move are presented in Appendix A.

2.0 RESULTS

2.1 Final Position

The final position of the *Ensco 102* centre stern was established by calculating the mean position from one hour of RTK GPS data between 07:30 and 08:30 on 12 June, 2004. During this period, calculated centre stern coordinates from the primary positioning system were logged at five-second intervals in GNS2.

Corrections for the GPS positioning system were derived by the RTK Base Station located on the Yolla A Platform. These corrections were then broadcast to the rig via a radio telemetry link and applied to the observed position.

Information regarding RTK Base Station on Yolla A Platform can be found in Appendix B of this report.

GDA94 geographical position for the *Ensco 102* at the Yolla A final location is shown in Table 2-1.

Position	Method	Latitude	Longitude
Centre Stern at Surface	RTK	39° 50' 40.669" S	145° 49' 06.849" E

TABLE 2-1 : GEOGRAPHICAL POSITION FOR ENSCO 102 AT YOLLA A PLATFORM (GDA94)

GDA94 grid coordinate (CM 147° E) for the *Ensco 102* at the Yolla A Platform location is shown in Table 2-2.

Position	Method	Easting	Northing
Centre Stern at Surface	RTK	398923.94m	5588819.35m

TABLE 2-2 : GRID COORDINATES FOR ENSCO 102 AT YOLLA A PLATFORM (GDA94)

This position is 0.50m at a bearing of 278.8° (grid) from the design location (see Section 6.3 for design position).

A copy of the original final position fix of the rig is contained in Appendix C.

2.2 Rig Heading

The heading of the *Ensco 56* was established by calculating the average heading during one hour of corrected gyro compass readings logged between 07:30 and 08:30 on 12 June, 2004. During this period gyro readings were logged at five-second intervals in GNS2.

The *Ensco 56* rig heading is shown in Table 2-3.

Description	Method	True	Grid
Rig Heading	Gyro	101.0°	100.3°
Proposed Heading	-	100.1°	-

TABLE 2-3 : RIG HEADING

2.3 Anchor Positions

Once the *Ensco 102* was positioned at the 100m stand off location, the *Invincible Tide* deployed four anchors to assist the rig with final positioning.

The locations of the *Ensco 102* anchors at Yolla A Platform are shown in Table 2-4.

Anchor	Easting	Northing	Deployed By
P1	399607m	5589171m	*Invincible Tide*
P2	398553m	5589337m	*Invincible Tide*
S1	399467m	5588245m	*Invincible Tide*
S2	398484m	5588364m	*Invincible Tide*

TABLE 2-4 : ANCHOR POSITIONS (GDA94)

A drawing displaying proposed *Ensco 102* and anchor locations can be found in Appendix D of this report.

2.4 Rotary Table Heighting

Calculation of *Ensco 102* Rotary Table AHD Height

WGS84 Ellipsoidal Height of GPS Antenna	:	48.00m
Ausgeoid98 - WGS84 Ellipsoid Separation	:	+0.53m
Vertical Distance GPS Antenna to Rotary Table	:	-5.22m
AHD Height of *Ensco 102* Rotary Table	**:**	**43.31m**

Check – Sea Surface Measurements

Main Deck to Sea Level	:	31.70m
Main Deck to Rotary Table	:	+12.392m
Tidal Correction	:	+0.9m
LAT to AHD	:	-1.75m
AHD Height of *Ensco 102* Rotary Table	**:**	**43.24m (Sea Surface)**

A diagram of these results is contained in Appendix E.

Final AHD Height of the *Ensco 102* Rotary Table at the Yolla A Platform Location	**:**	**43.31m**

3.0 SAFETY

All work undertaken by Fugro personnel during the project was performed within the guidelines of Fugro's Safety Policy, as defined in Fugro's Safety Manual (FSSM01) and Offshore Survey Safety Practices (FSSM06). Fugro personnel worked within all project safety guidelines and plans adopted by Origin.

No injuries involving Fugro personnel were reported during the project. Fugro personnel attended a Rig Induction upon arrival at the rig and also attended all rig safety meetings and drills.

4.0 SURVEY PROCEDURES

4.1 Mobilisation

The RTK Base Station was setup on the Yolla A Platform on 12 May, 2004. Fugro personnel R. Bright and P. Wells were involved with this phase of the operation. A survey was carried out in order to tie-in the RTK Base GPS antenna to the Yolla A as-built position.

Fugro personnel R. Bright and N. Gregory joined the rig on 24 May, 2004, in preparation for the move to Yolla A Platform. Survey equipment was mobilised and checks were carried out to ensure equipment was functioning correctly. Due to the rig experiencing difficulties, Fugro personnel were demobilised back to Perth on 27 May, 2004, until further notice.

Fugro personnel returned to the rig on 4 June, 2004. Equipment checks were carried out to ensure all equipment was still functioning correctly.

4.2 General Survey Procedures

Jack-down operations at West Whiptail-1 commenced on 5 June, 2004, after which the tow commenced. Upon arrival at the stand off location near Yolla A Platform on 6 June, 2004, the anchors were deployed by the *Invincible Tide* and pre-tensioned. The rig was pinned at the final location on 7 June, 2004. Preloading operations were conducted between 7 and 11 June, 2004. Final position data was logged between 07:30 and 08:30 on 12 June, 2004. A final position report was issued to the Origin Company Representative (see Appendix C).

4.3 Demobilisation

All survey equipment onboard the *Ensco 102*, *Invincible Tide* and Yolla A Platform was demobilised by 13:30 on 12 June, 2004. Equipment remaining onboard the rig was safely secured and stored inside the Fugro container. Remaining equipment was securely stored inside an Origin container that departed the rig on 12 June, 2004, for transit to Melbourne.

Fugro personnel departed the rig on 13 June, 2004, for transit to Perth.

5.0 EQUIPMENT CALIBRATIONS

5.1 DGPS Navigation Integrity Check

A Differential GPS check fix of the centre stern position of the *Ensco 102* at the West Whiptail-1 location was computed using SkyFix XP Satellite Differential GPS. 120 fixes were taken.

The calculated Differential GPS coordinate of the *Ensco 102* at the West Whiptail-1 location is located in Table 5-1.

Latitude	Longitude	Easting	Northing
38° 19' 29.150" S	147° 30' 17.167" E	544121.32m	5758030.22m

TABLE 5-1 : CALCULATED DGPS COORDINATES (GDA94)

The computed Differential GPS check fix coordinate of the *Ensco 102* is located in Table 5-2.

Latitude	Longitude	Easting	Northing
38° 19' 29.138" S	147° 30' 17.178" E	544121.60m	5758030.60m

TABLE 5-2 : COMPUTED DGPS COORDINATES (GDA94)

The Differential GPS check fix of the *Ensco 102* is 0.47m on a bearing of 35.9°(G) from the calculated West Whiptail-1 location.

This check was carried out to confirm the positioning equipment was functioning correctly and to ensure that the correct geodetic datum, transformation and projection parameters were being used. Geodetic calculations were performed using Fugro's GNS2 software.

5.2 Gyro Compass Calibration

A series of sun observations were made from which the rig heading was calculated. The calculated values were then compared to the observed gyro compass values logged in GNS2 and a mean C-O value of +90.21° was determined. This value was applied in GNS2.

Details of the DGPS integrity check and gyro calibrations results are enclosed in Appendix F.

6.0 SURVEY PARAMETERS

6.1 Geodetic Parameters

All coordinates supplied in this report are referenced to the Geodetic Datum of Australia 1994 (GDA94). Global Positioning System (GPS) operates in reference to the World Geodetic System 1984 whilst the SkyFix/SkyFix Spot DGPS reference stations are referenced to the International Terrestrial Reference Frame 2000 (ITRF2000).

Recent research (September, 2002) has shown that the WGS84 (G1150, Epoch 2001.0) and ITRF2000 (Epoch 1997.0) reference frames are essentially identical.

Datum	**:**	**ITRF2000 (Current Epoch: 1 January 2004)**
Reference Spheroid	:	Geocentric Reference System 1980 (GRS80)
Semi-Major Axis	:	6378137.000m
Inverse flattening	:	298.257222101

Datum	**:**	**Geodetic Datum of Australia 1994 (GDA94)**
Reference Spheroid	:	Geocentric Reference System 1980 (GRS80)
Semi-Major Axis	:	6378137.000m
Inverse flattening	:	298.257222101

The following 7-parameter datum transformation was used by Fugro's GNS2 software to convert ITRF2000 (Current Epoch: 1 January, 2004) coordinates to GDA94 coordinates.

X Axis Shift (ΔX)	-0.032m	X Axis Rotation (rX)	+0.0129"
Y Axis Shift (ΔY)	-0.028m	Y Axis Rotation (rY)	+0.0120"
Z Axis Shift (ΔZ)	-0.025m	Z Axis Rotation (rZ)	+0.0135"
Scale Factor (kO)	+0.0058p.p.m.		

The proposed drilling location and all project coordinates are grid coordinates on the Map Grid of Australia.

Projection	**:**	**Universal Transverse Mercator (UTM)**
Grid	:	Map Grid of Australia (MGA)
Latitude of Origin	:	0°
Central Meridian	:	147° E (Zone 55)
Central Scale Factor	:	0.9996
False Easting	:	500000m
False Northing	:	10000000m
Units	:	Metres

6.2 Differential GPS Reference Stations

The reference stations listed in Table 6-1 were used in the computation of the backup MultiFix 4 Differential GPS (DGPS) position. All coordinates are in WGS84.

Description	Site ID	Latitude	Longitude
Melbourne	203	37° 53' 47.944" S	145° 07' 56.688" E

Adelaide	205	35° 17’ 30.127” S	138° 34’ 50.582” E
Sydney	206	33° 59’ 12.479” S	151° 14’ 24.222” E

TABLE 6-1 : DGPS REFERENCE STATIONS (WGS84)

6.3 Project Coordinates

The project target coordinates for the *Ensco 102* at Yolla A Platform location were derived from data supplied by Origin and Ensco Offshore and are shown in Table 6-2.

Location	Easting	Northing	Heading
Yolla A	398924.43m	5588819.27m	101.1° (True)

TABLE 6-2 : PROJECT DESIGN COORDINATES (GDA94)

7.0 EQUIPMENT & PERSONNEL

7.1 Equipment Listing

Survey equipment used for the positioning of the *Ensco 102* was as follows:

Ensco 102

1 x Compaq Desktop Pentium Computer (for GNS2)
1 x Compaq Desktop Pentium Computer (for MultiFix 4)
1 x Compaq Desktop Pentium Computer (Spare)
1x Toshiba Laptop (Remote on Stern of Rig)
1x Trimble RTK System (Rover System)
1x SGB1000 Gyrocompass
1x Trimble GPS Receiver
1x Ashtech GPS Receiver
2x Fugro Skyfix Spot Receivers
1x Nikon Total Station with Prisms
1x TracsComm Telemetry System
1x Tracs TDMA System (Master)

GNS2 version 2.60b, MultiFix 4 version 1.05, plus associated cables and manuals.

Invincible Tide

1x Compaq Desktop Pentium Computer (for GNS2 Remote)
1x Tracs Geopod
1x Fluxgate Compass

Yolla A Platform

1x Trimble RTK Base Station

All systems were provided complete with all necessary cabling, connectors, power supplies, antennae, accessories, manuals and consumables.

7.2 Vessels

The primary vessel for anchor handling was the *Invincible Tide.* Assistance was provided by the *Ray Jay Hope* and the *Keera* during the rig move. Refer to Figure 7-1 and Figure 7-2, for vessel offset diagrams.

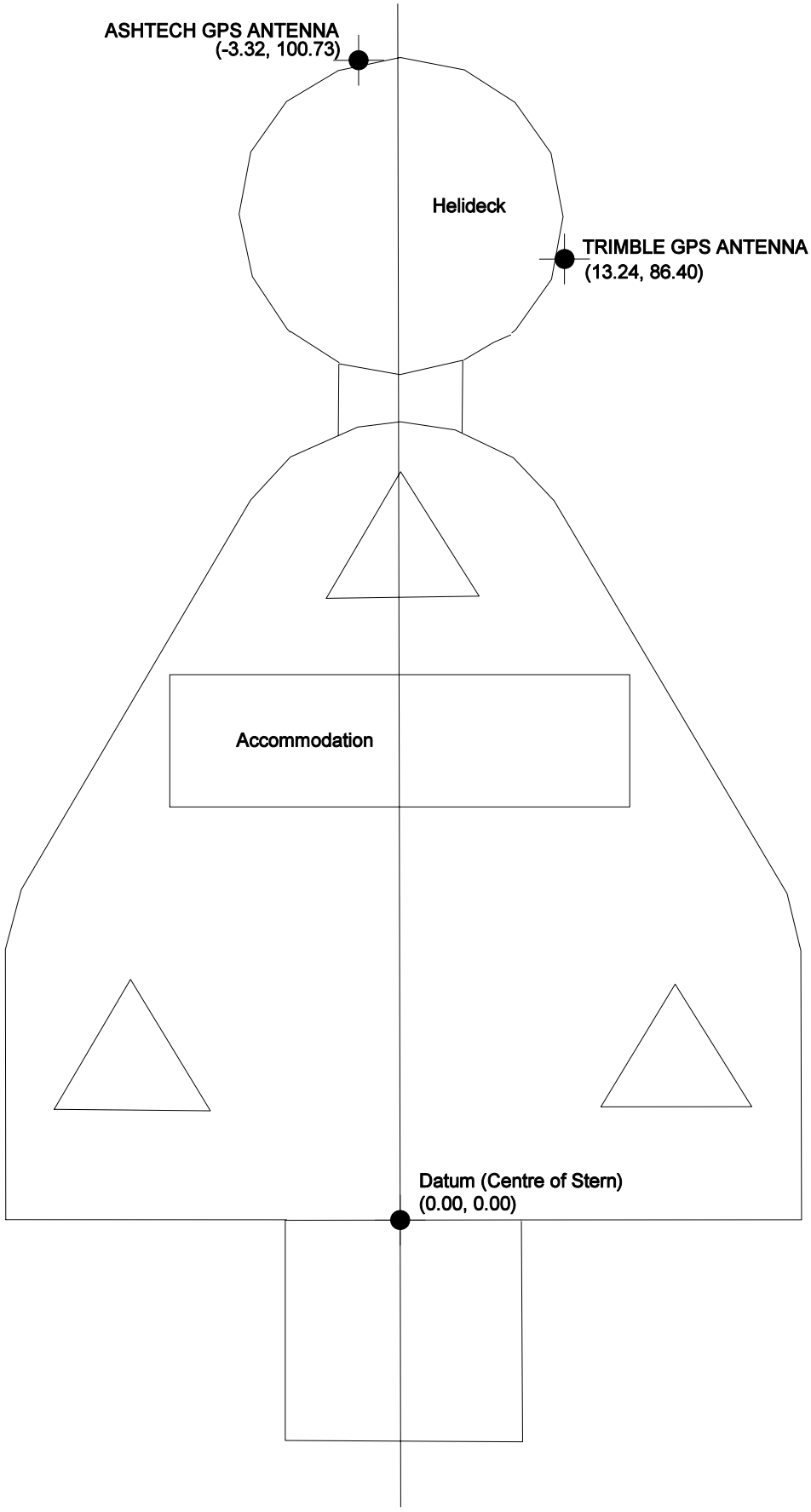
7.3 Personnel

Fugro personnel involved in the rig positioning operation were as follows:

R. Bright	Surveyor	11 May – 13 June, 2004
N. Gregory	Engineer	23 May – 13 June, 2004
P. Wells	Surveyor	11 – 13 May, 2004

Origin was represented during the rig move by:

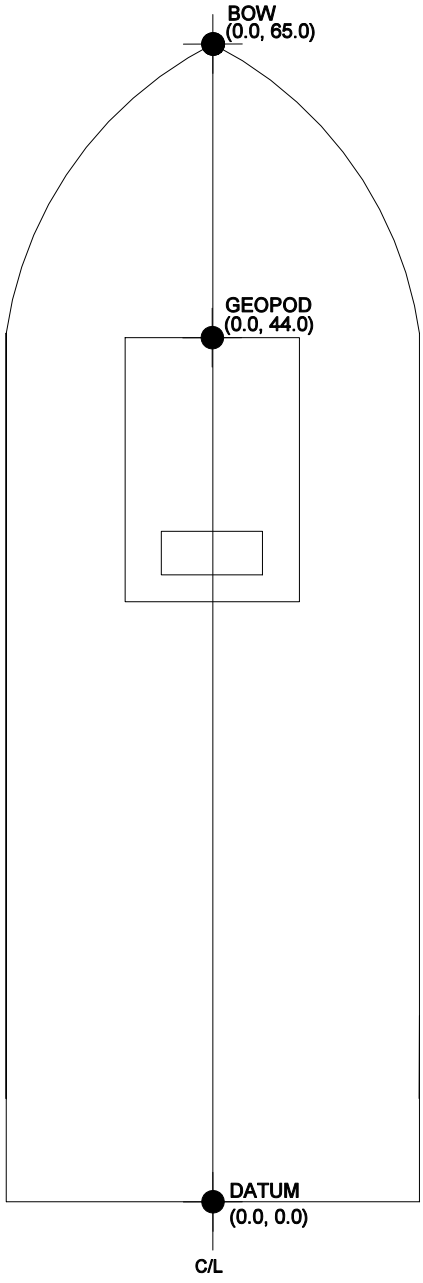
K. O' Halloran	Company Representative	4 – 13 June, 2004



ENSCO 102 RIG OFFSET DIAGRAM

FIGURE 7–1

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VESSEL OFFSET DIAGRAM – MV INVINCIBLE TIDE

FIGURE 7–2

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8.0 CONCLUSIONS

On reviewing the rig move and positioning operations undertaken by Fugro onboard the *Ensco 102*, the conclusion was reached that the *Ensco 102* was successfully positioned at the Yolla A Platform location.

9.0 DISTRIBUTION

Copies of this report have been distributed as follows:

Australian Drilling Associates Pty Ltd	: 3 hard copies
Attn: Mr Michael Lanzer	: 1 electronic copy
Fugro Survey Pty Ltd	: 1 hard copy
	: 1 electronic copy

APPENDIX A
DAILY OPERATIONS REPORTS

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:23/05/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0750	1115	Fugro Personnel depart Perth for transit to Melbourne
1115	2400	Standing by in Melbourne

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
				R. Bright	Surveyor
				N.Gregory	Engineer

VEHICLES:		
CONSUMABLES:		
ACCOMMODATION:HOLIDAY INN		

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		1

DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:24/05/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0800	1100	Fugro personnel transited from Melbourne to Longford
1230		Departed Longford by heli for Ensco 102 at West Whiptail-1 location
1240		Arrived on board Ensco 102
1330		Commenced setting up of survey equipment in radio control room
1330	1600	R. Bright attended safety induction
1800		Completed setting up of survey equipment (excl Tracs on board Invincible Tide)

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK System	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1		
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				

VEHICLES:		
CONSUMABLES:		
ACCOMMODATION:		

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		2

DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:25/05/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000	2400	• Checked offsets by means of Total Station observations
		• Setup of Tracs equipment on Ensco 102
		• Unable to conduct gyrocompass calibration by means of sunshot due to weather conditions

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK System	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1		
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		3

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:26/05/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000	2400	Checked Tracs equipment for Invincible Tide on board Ensco 102
		Conducted Gyro calibration by means of sun observation. Result = +89.76º
		Standing by for rig move operations

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK System	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1		
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		4

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:27/05/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000	0900	Standing by for rig move operations
0900		Informed by Esso logistics that Fugro personnel are to depart rig at 1240 for
		Longford.
		Fugro personnel to return to Perth to stand by until further notice

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK System	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1		
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		5

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:03/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
		Fugro personnel in transit from Perth to Melbourne

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK System	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1		
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				

VEHICLES:		
CONSUMABLES:		
ACCOMMODATION:		

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		6

DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:04/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0530		Fugro personnel and Survey rep depart Melbourne for Longford
0945		Depart Longford by heli for Ensco 102 at West Whiptail-1 location
1000		Arrive on board Ensco 102. Powered up equipment and carried out checks
2400		Standing by for weather

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK System	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		7

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:05/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0750		Commenced skidding-in of drill floor
0820		N. Gregory transferred to Invincible Tide to mob positioning equipment for anchor
		operations at Yolla A location
0910		Completed skidding-in
1115		N. Gregory returned from Invincible Tide. Positioning equipment operational
1200		Commenced jacking down
1233		At 20ft air gap
1254		Ray J Hope connected to tow bridal
1450		Rig at tow draft
1452		Under tow to location
1530		Ensco 102 1nm from West Whiptail-1 location
1610		Attended muster drill and rig move meeting
2400		In transit to Yolla A location.
		Position @ midnight: 38º 49.4' S 146º 58.2' E

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK System	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		8

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:06/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000		In transit to Yolla A location
0600		Location: 39º 07.9' S 146º 31.7' E
1200		Location: 39º 29.8' S 146º 03.5' E
1600		Attended meeting with ENSCO reps and client to discuss upcoming operations
1650		Conducted gyro cal by means of sunshot. Result = +90.21º
1730		Rig 1nm from Yolla A location
1810		Invincible Tide connected to rig
1925		Keera connected to rig
2000		Tagged bottom
2005		Rig pinned at 100m stand off location
2010		Keera clear of rig
2030		Invincible Tide disconnected from rig
2159		Port Aft anchor deployed by Invincible Tide. E 398 553m N 5 589 337m
2220		Port Aft anchor buoy splashed
2243		Stbd Aft anchor passed to Invincible Tide
2335		Commenced running of Stbd Aft anchor
2345		Stbd Aft anchor deployed by Invincible Tide. E 398 484m N 5 588 364m
2353		Stbd Aft anchor buoy splashed

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK Rover	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		9

DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:07/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000		Rig at 100m stand off location.
0035		Stbd fwd anchor passed to Invincible Tide and made secure
0200		Commenced running out of Stbd fwd anchor
0205		Stbd Fwd anchor deployed by Invincible Tide. E 399 467m N 5 588 245m
0213		Splashed buoy
0230		Port fwd anchor passed to Invincible Tide and made secure
0325		Commenced running out of Port fwd anchor
0332		Port Fwd anchor deployed by Invincible Tide. E 399 607m N 5 589 171m
0340		Splashed buoy
0400		All anchors tensioned at 35 metric tonne
0435		Keera connected to Stbd side of rig in prep for move to final location
0437		Invincible Tide connected to Port side of rig in prep for move to final location
0500		Commenced jacking up of legs
0507		Rig afloat
0510		Commenced final positioning of rig
0600		Rig on location. Lowering legs
0705		Legs at 9ft penetration
0707	0722	Preliminary RTK position fix of rig at 9ft leg penetration
0740		**Issued results of RTK prelim fix to Survey rep and ENSCO pers**
		Result: GDA94 MGA Zone 55 CM 147º East. Centre line of stern position:-
		E 398 925.20m N 5 588 819.46m. Position is 0.79m on a bearing of 77.1º (True)
		from intended location
0830		Keera let go of rig
0845		Invincible Tide let go of rig
1145		Jacked up to 10ft draft penetration 24ft
1435		Rig at 10ft draft penetration 58ft
2055		Rig at 3ft draft
2100		Commenced preload
2400		Continuing preload ops

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK Rover	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		10

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:08/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000	2400	Preload Operations
2055		Excessive leg penetration on Port leg. Minimum observed range from stern to
		East face of platform = 2.7m
2400		Continuing with preload operations

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK Rover	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		11

DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:09/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000		Continuing with preload ops
1330		Stopped preloading ops. Standing by due to weather conditions
2100	2400	Continuing with preload ops

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK Rover	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		12

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:10/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000		Continuing with preload ops
1320		Commenced recovery of anchor spread
1545		N. Gregory transferred to Invincible Tide to demob positioning equipment
1740		N. Gregory back on rig. Demob complete
2400		Continuing with preload ops. All anchors recovered and racked

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK Rover	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		13

DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:11/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0000		Continuing with preload ops
1430		Dumped preload
????		Commenced jacking up to final height
1500		Ray Jay Hope released from rig.
1530		Commenced jacking up of rig to working height.
1700		At final height
2400		Standing by to carry out final fix

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK Rover	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		14

DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:12/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
0730	0830	Carried out final fix of centre line stern
		Result: Datum - GDA94, Projection - MGA Zone 55 CM 147º East
		E 398 923.94m 5 588 819.35m Final Heading 101.04º True
		Final Position is 0.50m on a bearing of 279.6º True from intended location
0920		Above position accepted by client
0900	1000	Logged data for heighting survey (Trimble & Ashtech Receivers)
1045		Received permission from client to commence demob of equipment
1100	1145	Demob of RTK Base Station on Yolla A Platform
1330		Completed demob of positioning equipment on rig. All equipment stored securely
		in survey container
		Fugro personnel standing by to depart rig by heli for Melbourne.

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK Rover	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		15

DAILY OPERATIONS REPORT

CLIENT:ORIGIN ENERGY LTD	LOCATION:YOLLA A PLATFORM	DATE:13/06/04
PROJECT:RIG MOVE	VESSEL:ENSCO 102	JOB NO:P0051

FROM	TO	SUMMARY OF OPERATIONS (UTC+10HRS)
		Fugro personnel and survey rep depart rig by heli for Melbourne

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
Ashtec GPS Receiver	1	Trimble RTK Rover	1	R. Bright	Surveyor
Trimble GPS Receiver	1	Tracs TDMA	1	N.Gregory	Engineer
Multifix4	1	Remote GNS2	1	K. O'Halloran	Survey Rep
GNS2	1				
Skyfix Spot	2				
Total Station	1				
Gyrocompass	1				

VEHICLES:		
CONSUMABLES:		
ACCOMMODATION:		

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		16

APPENDIX B

RTK BASE STATION – YOLLA A PLATFORM

Yolla-A Platform RTK GPS Base Station Installation and Slot Measurement
May 2004

To assist with positioning of the Ensco 102 jack-up drilling rig adjacent to the east face of the Yolla-A platform an RTK GPS base station was established on the platform 12 May 2004.

Trimble GPS antenna, Trimtalk radio and antenna were installed on the helideck with Trimble 4000 series GPS receiver and power supply installed on the deck immediately below. Continuous 240v AC power supply was supplied by platform operators (refer attached photographs).

The reference position of the RTK Base Station was computed using:

- Published platform installation carrier phase GPS antenna position (Fugro report 3623D2).
- Published platform heading (Fugro report 3623D2).
- Published offsets from the platform installation carrier phase GPS antenna to the platform Set Out Point (SOP) (Fugro report 3623D2).
- Field observations conducted during RTK Base Station installation.

Field observations are detailed in the attached drawing.

RTK GPS Reference Position

The reference position entered into the RTK GPS Base Station GPS receiver is as follows:

Datum: WGS84

Latitude: 39° 50′ 39.6990″ South
Longitude: 145° 49′ 05.3270″ East
Ellipsoidal Height: 31.300m

RTK GPS system installation reference sketches and photographs are included below:

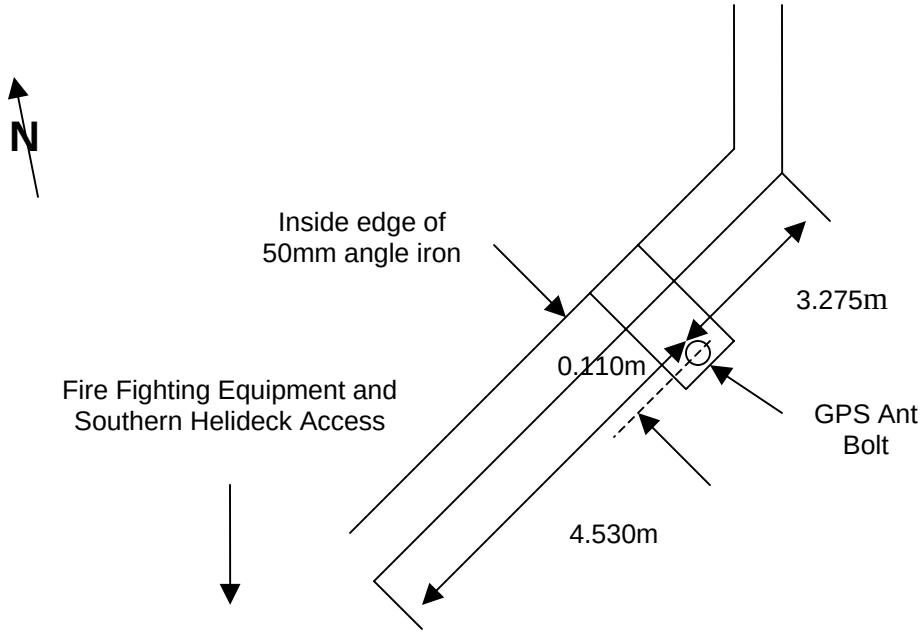
RTK GPS Base Station

The following referencing sketch and photographs detail the installation of a Trimble 4000 series RTK GPS and Trimtalk telemetry system on the Yolla-A platform.



RTK GPS antenna mounted on the southeast side of the helideck. The GPS antenna bracket was secured to the 50mm angle iron supporting the helideck lighting cabling.

The following reference sketch details the location GPS antenna position.







Trimtalk telemetry system antenna and radio mounted on safety railing adjacent to firefighting equipment located on south side of helideck. Trimtalk radio placed inside Racal weather-proof box. Antenna and data cabling routed directly down from this point to GPS receiver on deck below. GPS receiver and power supply stored inside Syledis box adjacent to locker below helideck.

Power supply provided by platform electrician. Note that power extension lead required direct hardwire into external power socket located on underside of stairway to helideck (approx 10m lead required).

Well Bay Deck Bench Mark





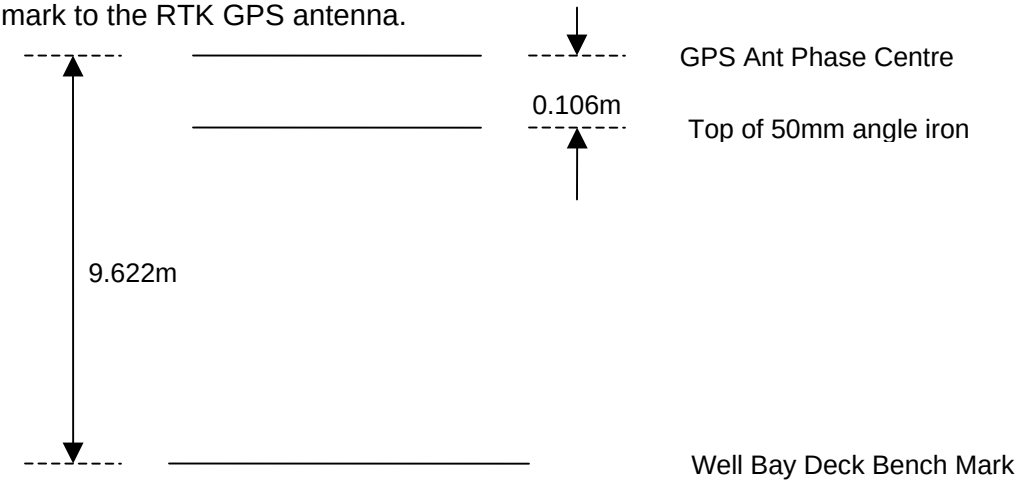
The Yolla-A Well Bay Deck Bench Mark is located on the north side of the northern well bay deck stairway. Bench mark is top of 150mm x 50mm angle iron supporting the safety railing just below the well bay deck flowmesh.

Published height of the Yolla-A Well Bay Deck Bench Mark is:

Datum: WGS84
Ellipsoidal Height: 21.678m
AHD Height: 22.210m

Refer to Fugro Report 3623D2 for details of Carrier Phase GPS processing and geoid-ellipsoid separation.

The following sketch details the height transfer from the Yolla-A Well Bay Deck Bench mark to the RTK GPS antenna.



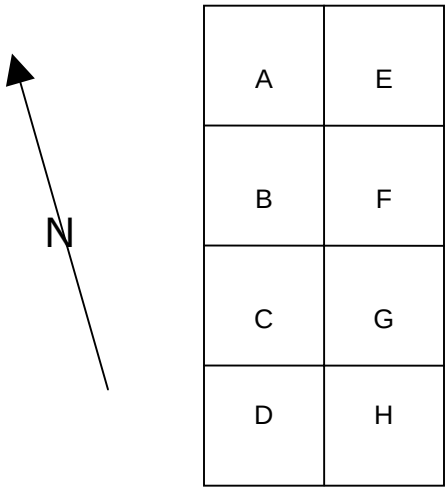
For future reference the height of top of 50mm angle iron below RTK GPS antenna at the RTK GPS antenna location is:

Datum: WGS84
Ellipsoidal Height: 31.194m

Slot Measurement

During installation of the RTK GPS base station check measurements were made to the Yolla-A slot hatch locations. Field observations are detailed in the attached drawing.

The results are tabled below:
Slot hatch naming convention has been derived on site and not referenced to platform design drawings. The slot naming convention is as per the following sketch.



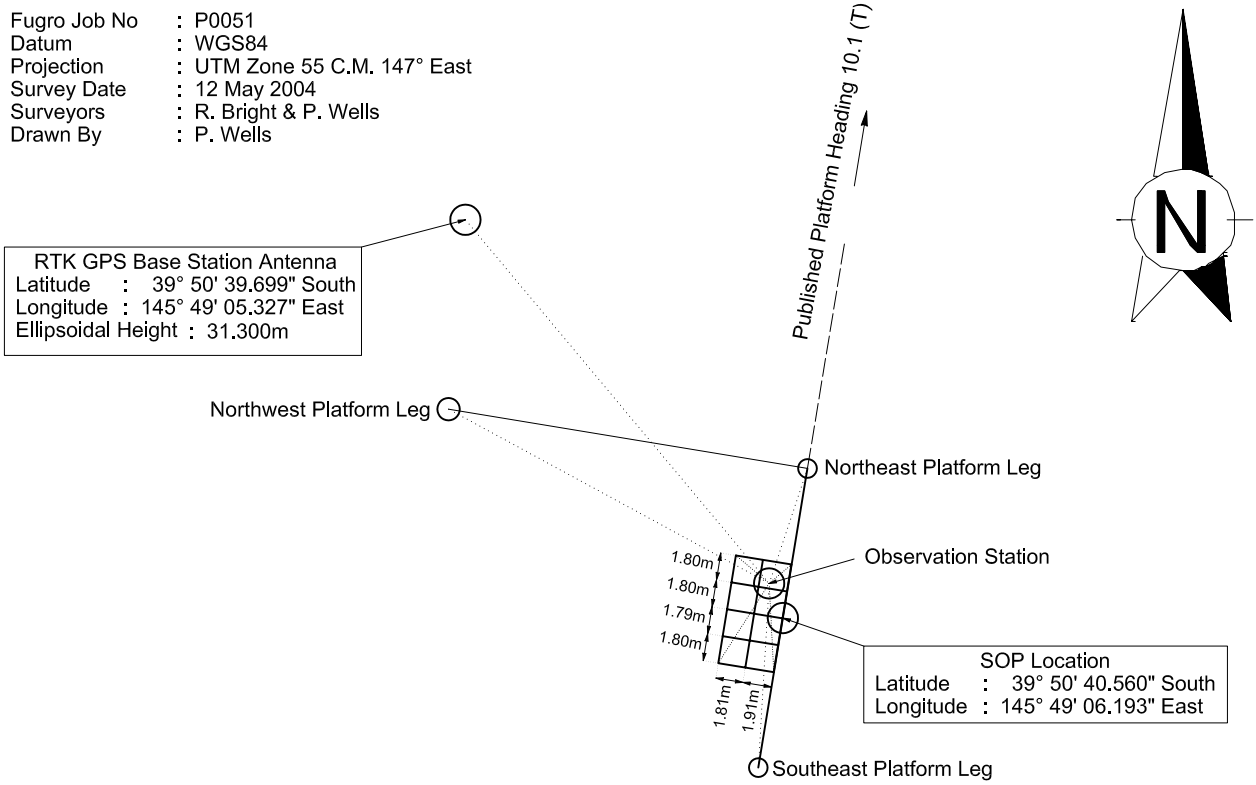
Datum: **WGS84**

Slot Hatch Centre	Latitude (South)	Longitude (East)
A	39° 50' 40.460"	145° 49' 06.097"
B	39° 50' 40.516"	145° 49' 06.083"
C	39° 50' 40.573"	145° 49' 06.070"
D	39° 50' 40.631"	145° 49' 06.056"
E	39° 50' 40.469"	145° 49' 06.173"
F	39° 50' 40.525"	145° 49' 06.152"
G	39° 50' 40.584"	145° 49' 06.146"
H	39° 50' 40.641"	145° 49' 06.133"

Yolla-A RTK GPS Base Station Installation
Platform Observations

Fugro Drawing No P0051-RTK_GPS_Base_Stn_Obs
Not to Scale

Fugro Job No : P0051
Datum : WGS84
Projection : UTM Zone 55 C.M. 147° East
Survey Date : 12 May 2004
Surveyors : R. Bright & P. Wells
Drawn By : P. Wells



Observations

Observations From: Observation Station
Reference Object: RTK GPS Antenna (phase centre)
Reference Bearing Set: 0° 00' 00"

Observation To	Observed Horizontal Angle	Observed Horizontal Distance (m)
RTK GPS Ae	00° 00' 00"	31.244
edge NE leg	53° 56' 43"	7.899
edge NE leg	58° 53' 26"	7.383
edge NE leg	62° 28' 07"	7.760
ctr NE leg	58° 22' 14"	7.993
edge SE leg	226° 05' 36"	12.057
edge SE leg	223° 10' 32"	11.555
edge SE leg	220° 39' 06"	11.881
ctr NE leg	223° 15' 00"	12.166
edge NW leg	339° 34' 58"	23.514
edge NW leg	339° 59' 06"	24.366
edge NW leg	337° 24' 33"	24.671
ctr NW leg	338° 23' 00"	24.056
SW cnr well bay slots	252° 25' 40"	6.238
NW cnr well bay slots	349° 55' 49"	2.867
NE cnr well bay slots	89° 33' 10"	1.929
SE cnr well bay slots	216° 56' 06"	5.855

Observed Height Difference:
Well Bay Deck Bench Mark to RTK GPS Antenna (phase centre) = 9.622m

Fugro Survey Pty Ltd
Hydrographic House, 4 Ledgar Road, BALCATTA WA 6021
Telephone: +61 (0) 8 9344 7166 Fax: +61 (0) 8 9344 8783

APPENDIX C
FINAL POSITION DATA

Fugro Survey Pty Ltd

FINAL POSITION FIX – REAL TIME KINEMATIC (RTK) GPS

Job Decription: Yolla A Platform Rig Move
Job Number: P0051
Thales Surveyor: R. Bright
Client: Origin Energy
Client Representative: K. O'Halloran

Sampling started: 12 Jun 2004 07:30:56
Sampling end: 12 Jun 2004 08:30:50

Ensco102

Intended datum location

Datum: GDA94 (GRS80)
Latitude: 39°50'40.672"S Longitude: 145°49'06.870"E
Projection: MGA Zone 55
Easting: 398924.43 m Northing: 5588819.27 m

Final Antenna Position (T4 Trimble):

Sample size: 720 fixes used out of a total of 720.

Antenna offset

X: 13.24m Y: 86.40m Z: 17.61m
Range: 87.41m Rel Brg from datum to antenna: 8.7°

Datum: ITRF2000 (GRS80)
Latitude: 39°50'41.609"S Longitude: 145°49'10.319"E Spheroidal Ht: 48.12m
Datum: GDA94 (GRS80)
Latitude: 39°50'41.627"S Longitude: 145°49'10.311"E Spheroidal Ht: 48.19m
Projection: MGA Zone 55
Easting: 399006.59 Northing: 5588790.89 Spheroidal Ht: 48.19m

Standard deviations

Long or E: 0.01m
Lat or N: 0.01m
Height: 0.01m
Position: 0.01m

Final Datum Position

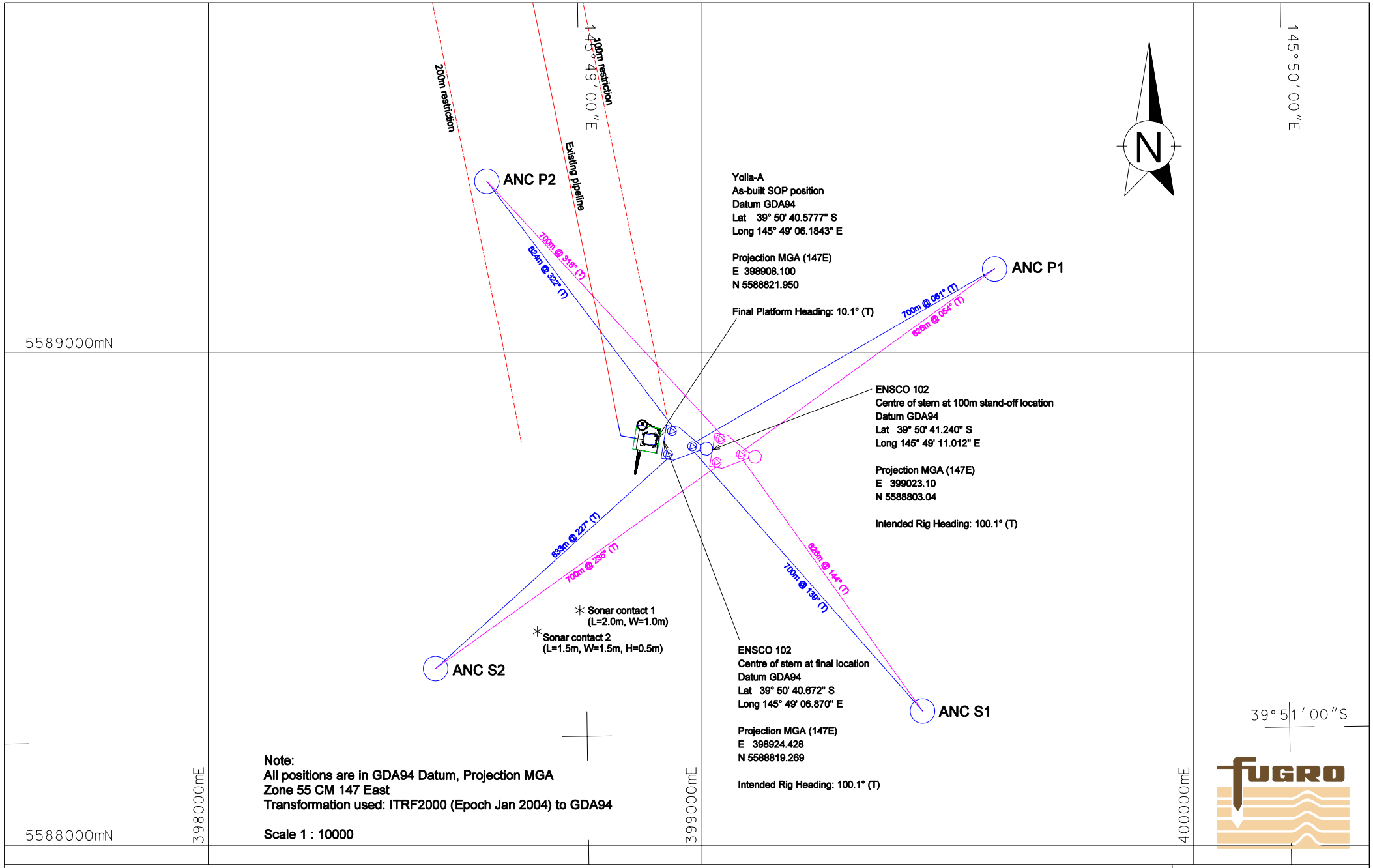
Datum: GDA94 (GRS80)
Latitude: 39°50'40.669"S Longitude: 145°49'06.849"E

Projection: MGA Zone 55
Easting: 398923.94 m Northing: 5588819.35 m

Mean corrected heading: 101.04°T
SD heading: 0.0°T
Intended heading: 100.1°T
Difference from intended: 0.9°
Gyro C-O: 90.2°
Convergence: 0.76°

Final Datum Position is 0.50m on a bearing of 279.6°T (278.8°G) from the intended location.

APPENDIX D
PROPOSED ENSCO 102 AND ANCHOR LOCATIONS



ENSCO 102 PROPOSED ANCHOR PATTERN AT YOLLA–A PLATFORM

FIGURE 2

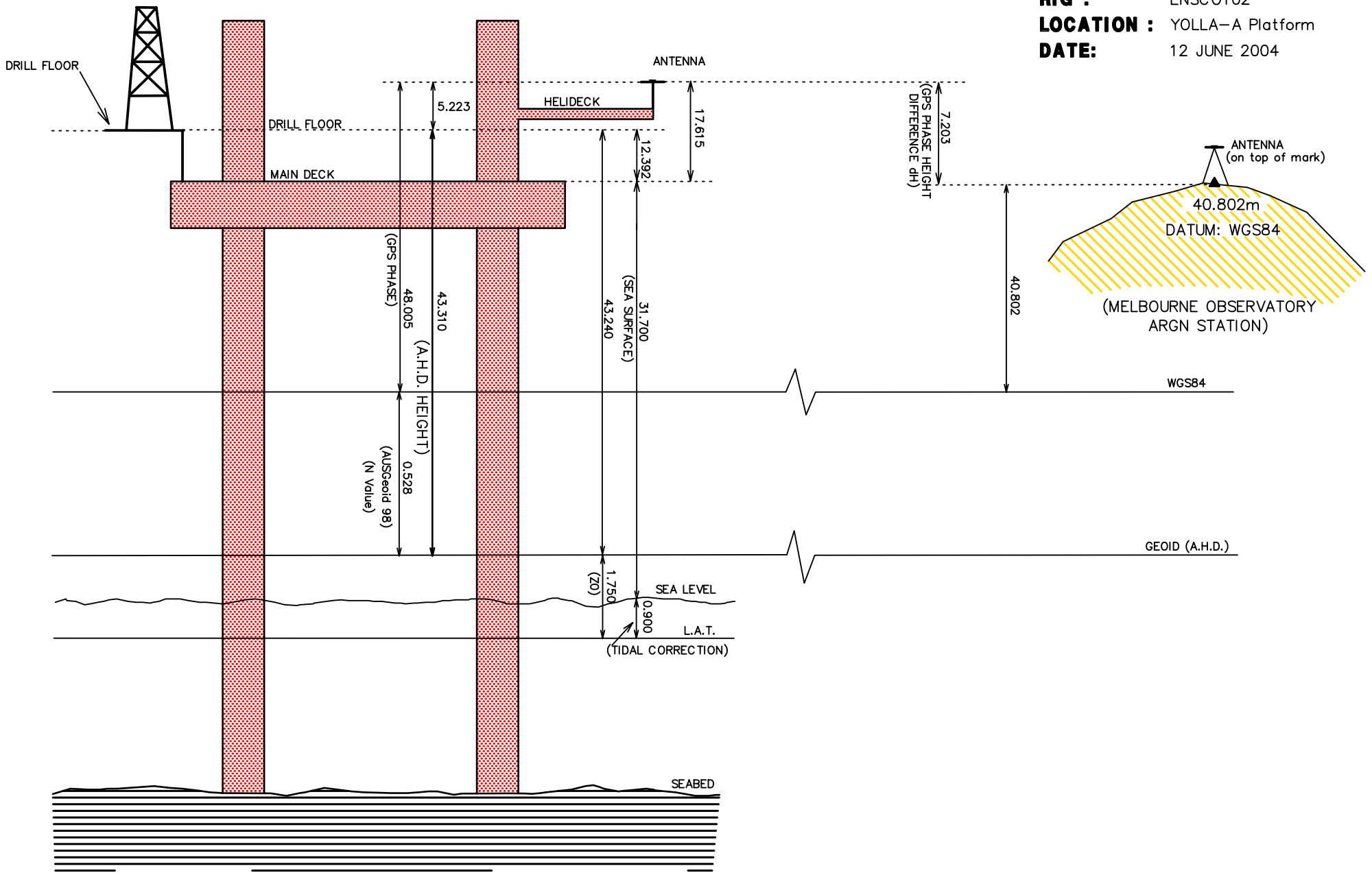
U:\P0051\dgn\figures\frame_figure-2_rev2.dgn

APPENDIX E

ENSCO 102 ROTARY TABLE HEIGHT DIAGRAM AT YOLLA PLATFORM

HEIGHTING OF DRILL FLOOR USING GPS PHASE CARRIER OBSERVATIONS

RIG : ENSC0102
LOCATION : YOLLA–A Platform
DATE: 12 JUNE 2004



Metres : Not to Scale

APPENDIX F
DGPS AND GYRO CHECKS

CHECK FIX AT WEST WHIPTAIL-1 LOCATION

Job Decription: Yolla A Platform Rig Move
Job Number: P0051
Thales Surveyor: R. Bright
Client: Origin Energy Ltd
Client Representative: K.O'Halloran

Sampling started: 25 May 2004 18:35:38
Sampling end: 25 May 2004 18:45:36

Ensco102

Intended datum location

Datum: GDA94 (GRS80)
Latitude: 38°19'29.150"S Longitude: 147°30'17.167"E
Projection: MGA Zone 55
Easting: 544121.32 m Northing: 5758030.22 m

Final Antenna Position (T1 Fugro UKOOA):

Sample size: 120 fixes used out of a total of 120.

Antenna offset

X: -3.33m Y: 118.99m Z: 0.00m
Range: 119.04m Rel Brg from datum to antenna: 358.4°

Datum: ITRF2000 (GRS80)
Latitude: 38°19'31.483"S Longitude: 147°30'21.073"E Spheroidal Ht: 48.83m
Datum: GDA94 (GRS80)
Latitude: 38°19'31.483"S Longitude: 147°30'21.073"E Spheroidal Ht: 48.83m
Projection: MGA Zone 55
Easting: 544215.77 Northing: 5757957.79 Spheroidal Ht: 48.83m

Standard deviations

Long or E: 0.02m
Lat or N: 0.03m
Height: 0.07m
Position: 0.04m

Final Datum Position

Datum: GDA94 (GRS80)
Latitude: 38°19'29.138"S Longitude: 147°30'17.178"E

Projection: MGA Zone 55
Easting: 544121.60 m Northing: 5758030.60 m

Mean corrected heading: 129.00°T
SD heading: 0.0°T
Intended heading: 129.0°T
Difference from intended: 0.0°
Gyro C-O: 89.5°
Convergence: -0.31°

Final Datum Position is 0.47m on a bearing of 35.5°T (35.9°G) from the intended location.

FUGRO SURVEY PTY LTD
Hydrographic House
4 Ledgar Road
Balcatta 6021
Western Australia

Solar Observation for Azimuth (Hour Angle) 2004

Fugro TGS Job Number: P0051
Job Description: Ensco 102 Rig Move to Yolla A Platform
Client: Origin Energy Ltd
Party Chief: R. Bright
Surveyor: R. Bright
Rig Name: Ensco 102
Date: 6 June 2004

Control Point Co-ordinates

Datum: GDA94 Projection: MGA Zone 55 CM 147° East

Latitude (DMS):	-038	49	37
Longitude (DMS):	145	51	22
UTC Correction (HMS):	10.00		

Total Station Observations:

Face	Local Time (HMS)			Observed Direction to R.O. (DMS)			Observed Direction to Sun (DMS)			Observed (O) True Heading (D.D)
Left	16	45	39	000	00	00	243	00	24	328.30
Right	16	45	39	180	00	00	063	00	24	
Left	16	46	04	000	00	00	243	09	25	328.00
Right	16	46	04	180	00	00	063	09	25	
Left	16	46	44	000	00	00	244	15	43	326.80
Right	16	46	44	180	00	00	064	15	43	
Left	16	46	57	000	00	00	244	26	54	326.50
Right	16	46	57	180	00	00	064	26	54	
Left	16	47	18	000	00	00	245	15	38	325.70
Right	16	47	18	180	00	00	065	15	38	
Left	16	47	31	000	00	00	245	56	57	325.00
Right	16	47	31	180	00	00	065	56	57	
Left	16	47	47	000	00	00	246	59	13	323.80
Right	16	47	47	180	00	00	066	59	13	
Left	16	48	05	000	00	00	247	43	06	323.00
Right	16	48	05	180	00	00	067	43	06	
Left	16	48	19	000	00	00	247	55	21	322.80
Right	16	48	19	180	00	00	067	55	21	
Left	16	48	32	000	00	00	247	51	50	322.80
Right	16	48	32	180	00	00	067	51	50	
Left	16	48	47	000	00	00	247	37	50	323.20
Right	16	48	47	180	00	00	067	37	50	
Left										
Right										

Signature

SURVEYOR/PARTY CHIEF

CLIENT SURVEY REPRESENTATIVE

FUGRO SURVEY PTY LTD
Hydrographic House
4 Ledgar Road
Balcatta 6021
Western Australia

Solar Observation for Azimuth (Hour Angle) 2004

Fugro TGS Job Number: P0051
Job Description: Ensco 102 Rig Move to Yolla A Platform
Client: Origin Energy Ltd
Party Chief: R. Bright
Surveyor: R. Bright
Rig Name: Ensco 102
Date: 6 June 2004

Datum: GDA94 Projection: MGA Zone 55 CM 147° East

Average Local Time (HMS)			Average Horizontal Angle (DMS)			Azimuth Sun (DMS)			Azimuth RO (DMS)			Calculated (C) True Heading (D.D)	Observed (O) True Heading (D.D)	C-O (D.D)
16	45	39.0	243	00	24	301	24	54	058	24	30	58.41	328.30	90.11
16	46	04.0	243	09	25	301	20	55	058	11	30	58.19	328.00	90.19
16	46	44.0	244	15	43	301	14	31	056	58	48	56.98	326.80	90.18
16	46	57.0	244	26	54	301	12	27	056	45	33	56.76	326.50	90.26
16	47	18.0	245	15	38	301	09	06	055	53	28	55.89	325.70	90.19
16	47	31.0	245	56	57	301	07	02	055	10	05	55.17	325.00	90.17
16	47	47.0	246	59	13	301	04	29	054	05	16	54.09	323.80	90.29
16	48	05.0	247	43	06	301	01	37	053	18	31	53.31	323.00	90.31
16	48	19.0	247	55	21	300	59	23	053	04	02	53.07	322.80	90.27
16	48	32.0	247	51	50	300	57	19	053	05	29	53.09	322.80	90.29
16	48	47.0	247	37	50	300	54	56	053	17	06	53.28	323.20	90.08

Mean C-O **90.21**

Signature

SURVEYOR/PARTY CHIEF

CLIENT SURVEY REPRESENTATIVE

APPENDIX 10: CASING & CEMENTING REPORTS

(A) Casing Running Tallies

20" Conductor Running List Yolla 3

Pipe Data	
Size (In)	20
Grade	Grade B / X56
Weight (lb/ft)	203
Coupling	RL4S / E60MT
M/up torque (kftlbs)	20
OD (in)	20
ID (in)	18
Capacity (bbl/m)	1.033
M/up loss (m)	0.145
Total number of joints	18.000
Joints Left on Deck	4.00

Well data	
Well Name	Yolla 3
Date	15/06/2004
Stickup above RKB (m)	8.80
Bottom of hang off padeye (mRKB)	28.61
Top of guide funnel (mRKB)	28.88
Water Depth (mMSL)	81.00

Rig Data	
Name	Ensco 102
D.F.E (mMSL)	43.88
Personnel	Flink / Holgate
Block Weight (Klbs)	80
Platform Data	
Platform Name	Yolla
Top weather deck elevation (mMSL)	22.75
Top mezzanine deck elevation (mMSL	16.63
Top cellar deck elevation (mMSL)	15.17

Tally

	Joint	Gross Length (m)	Net Length (m)	Total Length (m)	Top when landed (mAHD)	Bottom when landed (mAHD)	Comment
1	Joint 11	13.227	13.082	13.08	202.40	215.49	RL4S box x pin
2	Joint 12	12.231	12.086	25.17	190.32	202.40	RL4S box x pin
3	Joint 13	12.226	12.081	37.25	178.24	190.32	RL4S box x pin
4	Landing joint 1 Yolla 4	13.410	13.410	50.66	164.83	178.24	RL4S box x EM60 box
5	Landing joint 2 Yolla 4	11.430	11.140	61.80	153.69	164.83	EM60 pin x RL4S pin
6	Joint 14	12.233	12.088	73.89	141.60	153.69	RL4S box x pin
7	Joint 15	12.224	12.079	85.97	129.52	141.60	RL4S box x pin
8	Joint 16	12.91	12.765	98.73	116.76	129.52	RL4S box x pin
9	Joint 17	12.24	12.095	110.83	104.66	116.76	RL4S box x pin
10	Joint 18	12.244	12.099	122.93	92.56	104.66	RL4S box x pin
11	Joint A	12.22	12.075	135.00	80.49	92.56	RL4S box x pin
12	Joint B	12.24	12.095	147.10	68.39	80.49	RL4S box x pin
13	Epoxy joint 1 Yolla 3	13.78	13.635	160.73	54.76	68.39	RL4S box x pin, epoxy coated, shoe penetrates seabed on this joint.
14	Epoxy joint 2 Yolla 3	13.78	13.635	174.37	41.12	54.76	RL4S box x pin, epoxy coated.
15	Wellhead Joint Yolla 3	13.780	13.635	188.00	27.49	41.12	RL4S box x pin, Epoxy coated, 2 x threaded outlets, 8 x 25 tonne pad eyes.
16	Joint C	12.24	12.095	200.10	15.39	27.49	RL4S box x pin
17	Joint D	12.25	12.096	212.19	3.30	15.39	RL4S box x pin
18	Joint E	12.24	12.095	224.29	-8.80	3.30	RL4S box x pin, approximate stickup to drive sub connection.

Notes:

Activate all anti rotation tabs.
Stickup height is approximate, drive conductor until hang off pad eyes are approximately 4" above top of guide funnel (roughly level with cellar deck grating).
Threaded outlets on epoxy joint 3 allow returns directly to sea during 16" section drilling, bullplugs to be fitted once surface casing installed.
Pad eyes on epoxy joint 3 allow weight of conductor to be suspended on slings, slings to be removed once surface casing cemented in place.

Joints Left on Deck

	Joint	Gross Length (m)	Net Length (m)	Comment
1	Drive shoe Yolla 3	11.74	11.74	Shoe x EM60 box
2	Pin - Pin Yolla 3			EM60 pin x E60 pin
18	Epoxy joint spare	13.780	13.635	RL4S box x pin
19	Wellhead joint spare	13.780	13.635	RL4S box x pin

CASING RUNNING LIST

RIG	Ensco 102
WELL	Yolla-3

Australian Drilling Associates Pty Ltd ADA

Casing Details

Casing Size (in)	Weight (lb/ft)	Grade	Connection	ID (in)	Make-up (Opt) (Klbs-ft)
13 3/8	54.500	K55	BTC	12.645	12000
13 3/8	72.000	Q125	Vam Top	12.38	23150

Date	13/08/2004
Mud Weight (ppg)	8.7
Hook/Block Weight (Klbs)	80

Shoe Depth (m)	1006.82

Casing Tally

Joint Number/ Description	Joint Length (m)	Run Order	Cumulative Length (m)	Final Depth (m)	Connection	Weight on Hook (lbs)	Remarks
Shoe A	12.480	1	12.480	1006.82	BTC	90471	x 1 Spring bow 1m from each end of joint
Inter A	12.050	2	24.530	994.34	BTC	90925	x 1 Spring bow in middle of joint
Collar A	12.510	3	37.040	982.29	BTC	91397	x 1 Spring bow in middle of joint
78	12.070	4	49.110	969.78	BTC	91852	x 1 Spring bow in middle of joint
77	11.890	5	61.000	957.71	BTC	92301	
76	11.900	6	72.900	945.82	BTC	92749	
75	12.060	7	84.960	933.92	BTC	93204	
74	12.060	8	97.020	921.86	BTC	93659	
73	12.060	9	109.080	909.80	BTC	94114	
72	12.070	10	121.150	897.74	BTC	94569	
71	12.070	11	133.220	885.67	BTC	95024	
70	12.070	12	145.290	873.60	BTC	95480	
69	11.950	13	157.240	861.53	BTC	95930	
68	12.040	14	169.280	849.58	BTC	96384	
67	12.070	15	181.350	837.54	BTC	96840	
66	12.070	16	193.420	825.47	BTC	97295	
65	12.070	17	205.490	813.40	BTC	97750	
64	12.060	18	217.550	801.33	BTC	98205	
63	11.730	19	229.280	789.27	BTC	98647	
62	12.070	20	241.350	777.54	BTC	99102	
61	12.030	21	253.380	765.47	BTC	99556	
60	12.020	22	265.400	753.44	BTC	100010	
59	12.070	23	277.470	741.42	BTC	100465	
58	12.060	24	289.530	729.35	BTC	100920	
57	12.030	25	301.560	717.29	BTC	101373	
56	12.050	26	313.610	705.26	BTC	101828	
55	12.070	27	325.680	693.21	BTC	102283	
54	11.850	28	337.530	681.14	BTC	102730	
53	12.070	29	349.600	669.29	BTC	103185	
52	12.070	30	361.670	657.22	BTC	103640	
51	11.890	31	373.560	645.15	BTC	104089	
50	12.050	32	385.610	633.26	BTC	104543	
49	12.050	33	397.660	621.21	BTC	104998	
48	12.060	34	409.720	609.16	BTC	105452	
47	12.040	35	421.760	597.10	BTC	105907	
46	11.960	36	433.720	585.06	BTC	106358	
45	11.760	37	445.480	573.10	BTC	106801	
44	12.060	38	457.540	561.34	BTC	107256	
43	12.070	39	469.610	549.28	BTC	107711	
42	12.060	40	481.670	537.21	BTC	108166	
41	12.070	41	493.740	525.15	BTC	108621	
40	12.070	42	505.810	513.08	BTC	109077	
39	12.070	43	517.880	501.01	BTC	109532	
38	12.070	44	529.950	488.94	BTC	109987	
37	12.070	45	542.020	476.87	BTC	110442	
36	12.060	46	554.080	464.80	BTC	110897	
35	12.060	47	566.140	452.74	BTC	111352	
34	12.040	48	578.180	440.68	BTC	111806	
33	12.020	49	590.200	428.64	BTC	112259	
32	12.070	50	602.270	416.62	BTC	112714	
31	12.060	51	614.330	404.55	BTC	113169	
30	12.070	52	626.400	392.49	BTC	113625	
29	12.050	53	638.450	380.42	BTC	114079	
28	12.010	54	650.460	368.37	BTC	114532	
27	11.820	55	662.280	356.36	BTC	114978	
26	12.070	56	674.350	344.54	BTC	115433	
25	12.060	57	686.410	332.47	BTC	115888	x 1 Spring bow in middle of joint
24	12.060	58	698.470	320.41	BTC	116343	x1 Basket 1m from each end of joint
Stage Collar B	12.840	59	711.310	308.35	BTC	116827	Check 23 jts x 54.5# left on deck
Cross over A	7.340	60	718.650	295.51	VT / BTC	117104	
115	11.850	61	730.500	288.17	VT	117551	
114	11.460	62	741.960	276.32	VT	117983	x 1 Spring bow in middle of joint
113	11.860	63	753.820	264.86	VT	118430	
112	11.710	64	765.530	253.00	VT	118872	x 1 Spring bow in middle of joint
111	11.860	65	777.390	241.29	VT	119319	
110	11.990	66	789.380	229.43	VT	119771	x1 Spring bow 3m from each end of joint
109	11.850	67	801.230	217.44	VT	120218	x1 Rigid 3m from each end of joint
108	11.770	68	813.000	205.59	VT	120662	
107	11.720	69	824.720	193.82	VT	121104	x 1 Rigid in middle of joint

Casing Tally

Joint Number/ Description	Joint Length (m)	Run Order	Cumulative Length (m)	Final Depth (m)	Connection	Weight on Hook (lbs)	Remarks
Cross over D	7.420	70	832.140	182.10	BTC / VT	121384	Check 6 x 72# joints left on
23	11.950	71	844.090	174.68	BTC	121835	
22	12.050	72	856.140	162.73	BTC	122289	x 1 Rigid in middle of joint
21	11.720	73	867.860	150.68	BTC	122731	
20	12.070	74	879.930	138.96	BTC	123186	x 1 Rigid in middle of joint
19	11.970	75	891.900	126.89	BTC	123638	
18	12.060	76	903.960	114.92	BTC	124093	x 1 Rigid in middle of joint
17	12.070	77	916.030	102.86	BTC	124548	
16	12.060	78	928.090	90.79	BTC	125003	x 1 Rigid in middle of joint
15	12.060	79	940.150	78.73	BTC	125458	x 1 Rigid in middle of joint
14	12.070	80	952.220	66.67	BTC	125913	x 1 Rigid in middle of joint
13	12.060	81	964.280	54.60	BTC	126368	x 1 Rigid in middle of joint
12	12.060	82	976.340	42.54	BTC	126822	x 1 Rigid in middle of joint
Wellhead A	2.950	83	979.290	30.48	BTC	126934	Check 17 joints left on deck
Hang off point			979.290	27.53	BTC	126934	
Run Tool	4.240	84	983.530	23.29	BTC	127094	
Pup A	2.070	85	985.600	21.22	BTC	127172	
11	11.980	86	997.580	9.24	BTC	127624	
10	12.010	87	1009.590	-2.77	BTC	128076	
Cement Head	2.000	88	1011.590	-4.77	BTC	128152	Check 15 joints left on deck

Spare Joints

Jnt No.	Length (m)	Size (in)	Threadloss (in)	M/u length (m)
Float Shoe B	12.580	13.375	0.123	12.46
Float Collar B	12.640	13.375	0.123	12.52
Bakerlock B	12.140	13.375	0.123	12.02
Cross over B	7.570	13.375	0.123	7.45
Cross over C	6.000	13.375	0.246	5.75
Cross over E	7.560	13.375	0.145	7.42
Pup B	4.100	13.375	0.123	3.98
9	12.190	13.375	0.123	12.07
8	12.180	13.375	0.123	12.06
7	12.180	13.375	0.123	12.06
6	12.040	13.375	0.123	11.92
5	12.190	13.375	0.123	12.07
4	12.190	13.375	0.123	12.07
3	12.210	13.375	0.123	12.09
2	12.210	13.375	0.123	12.09
1	12.210	13.375	0.123	12.09
106	12.070	13.375	0.145	11.93
105	11.700	13.375	0.145	11.56
104	11.930	13.375	0.145	11.79
103	12.140	13.375	0.145	12.00
102	12.160	13.375	0.145	12.02
101	11.740	13.375	0.145	11.60

CASING RUNNING LIST

RIG	Ensco 102
WELL	Yolla-3

Australian Drilling Associates Pty Ltd ADA

Casing Details

Casing Size (in)	Weight (lb/ft)	Grade	Connection	ID (in)	Make-up (Opt) (Klbs-ft)
9 5/8	43.5	L80	Vam Top	8.755	13000
10 3/4	51	L80	Vam Top	9.85	15900

Date	29/08/2004
Mud Weight (ppg)	9.4
Hook/Block Weight (Klbs)	90

Shoe Depth (m)	2339.87

Casing Tally

Joint Number/ Description	Joint Length (m)	Run Order	Cumulative Length (m)	Final Depth (m)	Connection	Weight on Hook (lbs)	Remarks
Shoe A	12.44	1	12.440	2339.87	BTC pin x VT box	90463	2 spring centralisers across stop collars (1m above shoe, 1m below top of joint)
Inter A	11.87	2	24.308	2327.43	VT pin x BTC box	90905	1 spring centraliser across stop collars (mid joint)
Float A	12.38	3	36.688	2315.56	BTC pin x VT box	91367	1 spring centraliser across stop collars (mid joint)
117	12.04	4	48.726	2303.18	VT	91815	
118	12.05	5	60.774	2291.14	VT	92264	
119	12.05	6	72.822	2279.09	VT	92713	
120	12.05	7	84.870	2267.05	VT	93161	
121	12.05	8	96.918	2255.00	VT	93610	
122	12.05	9	108.966	2242.95	VT	94059	1 spring centraliser across stop collars (mid joint)
123	12.05	10	121.014	2230.90	VT	94508	1 spring centraliser across stop collars (mid joint)
124	12.05	11	133.062	2218.85	VT	94956	1 spring centraliser across stop collars (mid joint)
125	12.05	12	145.110	2206.81	VT	95405	1 spring centraliser across stop collars (mid joint)
126	12.05	13	157.158	2194.76	VT	95854	
128	12.03	14	169.191	2182.71	VT	96302	
127	12.05	15	181.239	2170.68	VT	96751	
130	11.93	16	193.167	2158.63	VT	97195	
129	12.05	17	205.215	2146.70	VT	97644	
132	12.05	18	217.263	2134.65	VT	98093	
131	12.05	19	229.310	2122.60	VT	98542	
134	12.05	20	241.358	2110.56	VT	98990	
133	12.05	21	253.406	2098.51	VT	99439	
136	12.05	22	265.454	2086.46	VT	99888	
135	12.05	23	277.502	2074.41	VT	100337	
138	12.05	24	289.550	2062.37	VT	100786	
137	11.90	25	301.448	2050.32	VT	101229	
139	11.82	26	313.264	2038.42	VT	101669	
140	12.05	27	325.312	2026.60	VT	102118	
142	11.90	28	337.210	2014.56	VT	102561	
141	12.05	29	349.258	2002.66	VT	103010	
143	11.84	30	361.096	1990.61	VT	103451	
144	12.05	31	373.144	1978.77	VT	103899	
146	12.05	32	385.192	1966.72	VT	104348	
145	12.05	33	397.240	1954.68	VT	104797	
147	12.05	34	409.288	1942.63	VT	105246	
148	12.05	35	421.336	1930.58	VT	105694	
150	11.84	36	433.174	1918.53	VT	106135	
149	12.05	37	445.222	1906.69	VT	106584	
152	12.05	38	457.271	1894.65	VT	107033	
151	12.05	39	469.319	1882.60	VT	107482	
154	12.05	40	481.365	1870.55	VT	107930	
153	12.05	41	493.413	1858.50	VT	108379	
156	12.05	42	505.461	1846.46	VT	108828	
155	12.05	43	517.509	1834.41	VT	109277	
158	12.01	44	529.515	1822.36	VT	109724	
157	12.05	45	541.563	1810.35	VT	110173	
160	12.05	46	553.611	1798.31	VT	110622	
159	12.05	47	565.659	1786.26	VT	111070	
162	12.05	48	577.704	1774.21	VT	111519	
161	11.91	49	589.612	1762.16	VT	111963	
163	12.05	50	601.663	1750.26	VT	112412	
164	12.05	51	613.711	1738.21	VT	112860	
166	12.05	52	625.759	1726.16	VT	113309	
165	12.05	53	637.807	1714.11	VT	113758	
168	12.05	54	649.857	1702.06	VT	114207	
167	12.05	55	661.905	1690.01	VT	114655	
171	12.05	56	673.953	1677.96	VT	115104	
169	11.94	57	685.891	1665.92	VT	115549	
173	12.05	58	697.939	1653.98	VT	115998	
170	12.05	59	709.987	1641.93	VT	116447	
175	12.05	60	722.035	1629.88	VT	116895	
172	12.05	61	734.083	1617.83	VT	117344	

Casing Tally

Joint Number/ Description	Joint Length (m)	Run Order	Cumulative Length (m)	Final Depth (m)	Connection	Weight on Hook (lbs)	Remarks
177	12.05	62	746.131	1605.79	VT	117793	
174	12.05	63	758.179	1593.74	VT	118242	
178	12.05	64	770.227	1581.69	VT	118690	
176	12.05	65	782.275	1569.64	VT	119139	
181	12.05	66	794.323	1557.59	VT	119588	
179	12.05	67	806.371	1545.55	VT	120037	
183	12.05	68	818.419	1533.50	VT	120486	
180	12.05	69	830.467	1521.45	VT	120934	
184	12.05	70	842.515	1509.40	VT	121383	
182	12.05	71	854.563	1497.35	VT	121832	
186	12.05	72	866.611	1485.31	VT	122281	
185	12.03	73	878.639	1473.26	VT	122729	
188	12.05	74	890.687	1461.23	VT	123177	
187	12.05	75	902.735	1449.18	VT	123626	
190	12.05	76	914.783	1437.13	VT	124075	
189	12.05	77	926.831	1425.08	VT	124524	
191	11.80	78	938.629	1413.04	VT	124963	
192	12.05	79	950.677	1401.24	VT	125412	
193	12.05	80	962.725	1389.19	VT	125861	
194	12.05	81	974.773	1377.14	VT	126310	
195	12.05	82	986.821	1365.09	VT	126758	
196	12.05	83	998.869	1353.05	VT	127207	
197	11.94	84	1010.807	1341.00	VT	127652	
198	12.05	85	1022.855	1329.06	VT	128101	
199	12.05	86	1034.903	1317.01	VT	128549	
200	12.05	87	1046.951	1304.96	VT	128998	
116	12.04	88	1058.994	1292.92	VT	129447	
115	11.95	89	1070.942	1280.87	VT	129892	
114	12.05	90	1082.990	1268.93	VT	130341	
113	11.85	91	1094.843	1256.88	VT	130782	
112	12.05	92	1106.891	1245.02	VT	131231	
111	12.05	93	1118.939	1232.98	VT	131680	
110	12.05	94	1130.987	1220.93	VT	132128	
109	12.05	95	1143.035	1208.88	VT	132577	
108	11.91	96	1154.943	1196.83	VT	133021	
107	11.75	97	1166.691	1184.92	VT	133458	
106	12.05	98	1178.739	1173.18	VT	133907	
105	11.90	99	1190.642	1161.13	VT	134351	
104	12.05	100	1202.690	1149.23	VT	134799	
103	12.04	101	1214.733	1137.18	VT	135248	
102	11.81	102	1226.546	1125.13	VT	135688	
101	12.05	103	1238.594	1113.32	VT	136137	
100	11.91	104	1250.502	1101.27	VT	136580	
99	12.05	105	1262.550	1089.37	VT	137029	
98	12.05	106	1274.598	1077.32	VT	137478	
97	12.05	107	1286.646	1065.27	VT	137927	
96	12.05	108	1298.694	1053.22	VT	138375	
95	12.05	109	1310.742	1041.17	VT	138824	
94	12.05	110	1322.791	1029.13	VT	139273	
93	12.05	111	1334.839	1017.08	VT	139722	
92	12.05	112	1346.887	1005.03	VT	140171	13.375 in shoe
91	12.05	113	1358.935	992.98	VT	140619	1 rigid centraliser across stop collars (mid joint)
90	12.05	114	1370.983	980.93	VT	141068	1 rigid centraliser across stop collars (mid joint)
89	12.05	115	1383.031	968.89	VT	141517	1 rigid centraliser across stop collars (mid joint)
88	12.05	116	1395.079	956.84	VT	141966	1 rigid centraliser across stop collars (mid joint)
87	12.05	117	1407.127	944.79	VT	142414	
86	12.05	118	1419.175	932.74	VT	142863	
85	12.05	119	1431.223	920.69	VT	143312	
84	12.03	120	1443.255	908.65	VT	143760	
83	12.05	121	1455.303	896.61	VT	144209	
82	12.05	122	1467.351	884.57	VT	144658	
81	11.83	123	1479.182	872.52	VT	145098	
80	12.05	124	1491.230	860.69	VT	145547	
79	11.98	125	1503.213	848.64	VT	145994	
78	12.05	126	1515.261	836.66	VT	146442	
77	12.05	127	1527.309	824.61	VT	146891	
76	12.05	128	1539.362	812.56	VT	147340	
75	12.05	129	1551.410	800.51	VT	147789	
74	12.05	130	1563.458	788.46	VT	148238	
73	11.98	131	1575.436	776.41	VT	148684	
72	11.75	132	1587.184	764.43	VT	149121	
71	12.05	133	1599.232	752.68	VT	149570	
70	12.05	134	1611.280	740.64	VT	150019	
69	12.05	135	1623.328	728.59	VT	150468	
68	12.05	136	1635.376	716.54	VT	150917	
67	12.05	137	1647.424	704.49	VT	151365	
66	12.05	138	1659.472	692.44	VT	151814	
65	12.05	139	1671.520	680.40	VT	152263	
64	12.05	140	1683.568	668.35	VT	152712	

Casing Tally

Joint Number/ Description	Joint Length (m)	Run Order	Cumulative Length (m)	Final Depth (m)	Connection	Weight on Hook (lbs)	Remarks
63	12.05	141	1695.616	656.30	VT	153161	
62	12.05	142	1707.664	644.25	VT	153609	
61	12.05	143	1719.712	632.20	VT	154058	
60	11.99	144	1731.705	620.16	VT	154505	
59	12.04	145	1743.748	608.16	VT	154953	
58	12.05	146	1755.796	596.12	VT	155402	
57	12.05	147	1767.844	584.07	VT	155851	
56	12.05	148	1779.895	572.02	VT	156300	
55	12.05	149	1791.943	559.97	VT	156749	
54	12.05	150	1803.991	547.92	VT	157197	
53	11.91	151	1815.898	535.88	VT	157641	
52	12.05	152	1827.946	523.97	VT	158090	
51	12.05	153	1839.994	511.92	VT	158538	
50	12.05	154	1852.042	499.87	VT	158987	
49	12.05	155	1864.090	487.83	VT	159436	
48	12.05	156	1876.138	475.78	VT	159885	
47	12.05	157	1888.186	463.73	VT	160334	
46	11.90	158	1900.089	451.68	VT	160777	
45	12.05	159	1912.137	439.78	VT	161226	
44	12.05	160	1924.185	427.73	VT	161675	
43	12.05	161	1936.233	415.68	VT	162123	
42	12.05	162	1948.281	403.63	VT	162572	
41	11.92	163	1960.199	391.59	VT	163016	
40	12.05	164	1972.247	379.67	VT	163465	
39	11.68	165	1983.926	367.62	VT	163900	
38	12.05	166	1995.974	355.94	VT	164349	
37	12.05	167	2008.022	343.89	VT	164797	
36	12.05	168	2020.070	331.85	VT	165246	
35	11.90	169	2031.973	319.80	VT	165690	
34	11.90	170	2043.871	307.89	VT	166133	
33	11.90	171	2055.769	296.00	VT	166576	
32	12.05	172	2067.817	284.10	VT	167025	
31	12.01	173	2079.824	272.05	VT	167472	
30	12.04	174	2091.862	260.04	VT	167920	
29	12.05	175	2103.910	248.01	VT	168369	
28	12.05	176	2115.958	235.96	VT	168818	
27	12.05	177	2128.006	223.91	VT	169267	
26	12.05	178	2140.059	211.86	VT	169716	
Cross over A	1.28	179	2141.337	199.81	9.625in VT pin x 10.75in VT box	169763	
318	12.04	180	2153.379	198.53	VT	170212	10.75in
317	11.98	181	2165.361	186.49	VT	170658	10.75in
316	12.04	182	2177.403	174.51	VT	171107	10.75in
315	12.04	183	2189.445	162.46	VT	171555	10.75in
314	12.04	184	2201.487	150.42	VT	172004	10.75in
313	12.04	185	2213.529	138.38	VT	172452	10.75in
312	11.98	186	2225.506	126.34	VT	172899	10.75in
311	12.04	187	2237.548	114.36	VT	173347	10.75in
310	12.04	188	2249.590	102.32	VT	173796	10.75in
309	12.04	189	2261.631	90.28	VT	174244	10.75in
308	11.88	190	2273.513	78.24	VT	174687	10.75in
307	12.04	191	2285.555	66.35	VT	175135	10.75in
306	12.05	192	2297.601	54.31	VT	175584	10.75in
305	12.05	193	2309.648	42.27	VT	176033	10.75in
Hanger A	2.90	194	2312.548	30.22	VT	176141	10.75in
			HOP	**27.32**			
Running Assembly	3.68	195	2316.228	27.32	VT		
304	12.04	196	2328.273	23.64	VT		10.75in
303	12.05	197	2340.320	11.60	VT		10.75in
Pup A	2.86	198	2343.177	-0.45	VT		10.75in
Cement Head	1.30	199	2344.477	-3.31	10.75in VT pin x 9.625in VT box		Note 2.86 pupjt will be changed out after landing the casing to 10.75/9.625 x/over
				-4.61			

Spare Joints

Jnt No.	Length (m)	Size (in)	Threadloss (in)	M/u length (m)
Shoe B	12.45	9.625		12.45
Float B	12.05	9.625	0.142	11.91
Inter B	12	9.625	0.142	11.86
Crossover B	1.43	9.625	0.142	1.29
Pup B	3.10	9.625	0.142	2.96
Pup C	6.07	9.625	0.150	5.92
Pup D	6.07	9.625	0.150	5.92
25	12.190	9.625	0.142	12.05
24	12.192	9.625	0.142	12.05
23	12.190	9.625	0.142	12.05
22	12.194	9.625	0.142	12.05
21	12.194	9.625	0.142	12.05
20	12.192	9.625	0.142	12.05

Casing Tally

Joint Number/ Description	Joint Length (m)	Run Order	Cumulative Length (m)	Final Depth (m)	Connection	Weight on Hook (lbs)	Remarks
19	12.190	9.625	0.142	12.05			
18	12.193	9.625	0.142	12.05			
17	12.135	9.625	0.142	11.99			
16	12.190	9.625	0.142	12.05			
15	12.190	9.625	0.142	12.05			
14	12.190	9.625	0.142	12.05			
13	12.193	9.625	0.142	12.05			
12	12.190	9.625	0.142	12.05			
11	12.190	9.625	0.142	12.05			
10	12.190	9.625	0.142	12.05			
9	12.194	9.625	0.142	12.05			
8	12.030	9.625	0.142	11.89			
7	11.985	9.625	0.142	11.84			
6	12.190	9.625	0.142	12.05			
5	12.190	9.625	0.142	12.05			
4	12.192	9.625	0.142	12.05			
3	12.005	9.625	0.142	11.86			
2	12.190	9.625	0.142	12.05			
1	11.912	9.625	0.142	11.77			
302	12.03	10.75	0.150	11.88			
301	12.19	10.75	0.150	12.04			

CASING RUNNING LIST (As Run)

RIG	Ensco 102
WELL	Yolla-3

Australian Drilling Associates Pty Ltd ADA

Casing Details

Casing Size (in)	Weight (lb/ft)	Grade	Connection	ID (in)	Make-up (Opt) (Klbs-ft)
6 5/8	24	L80	Fox K	5.927	8750

Date	12/09/2004
Mud Weight (ppg)	9.4
Hook/Block Weight (Klbs)	95

Shoe Depth (m)	3498.22

Casing Tally

Joint Number/ Description	Joint Length (m)	Run Order	Cumulative Length (m)	Final Depth (m)	Connection	Weight on Hook (lbs)	Remarks
Shoe A	13.20	1	13.200	3498.216	Fox K	95890	1 x Spiraglide 1 m from each end of joint
Float A	12.99	2	26.190	3485.016	Fox K	96766	1 x Spiraglide in middle of joint.
Landing Collar A	12.60	3	38.790	3472.026	Fox K	97615	1 x Spiraglide in middle of joint Landing collar installed in pin end.
120	12.477	4	51.267	3459.426	Fox K	98457	1 x Spiraglide in middle of joint.
117	12.477	5	63.744	3446.949	Fox K	99298	1 x Spiraglide in middle of joint.
116	12.477	6	76.221	3434.472	Fox K	100139	1 x Spiraglide in middle of joint.
Pup A	**1.930**	**7**	**78.151**	**3421.995**	**Fox K**	**100269**	
115	12.477	8	90.628	3420.065	Fox K	101111	1 x Spiraglide in middle of joint.
114	12.477	9	103.105	3407.588	Fox K	101952	1 x Spiraglide in middle of joint.
113	12.477	10	115.582	3395.111	Fox K	102793	1 x Spiraglide in middle of joint.
112	12.477	11	128.059	3382.634	Fox K	103634	1 x Spiraglide in middle of joint.
111	**12.477**	**12**	**140.536**	**3370.157**	**Fox K**	**104476**	**1 x Spiraglide in middle of joint. Install a Pip Tag the box**
110	12.477	13	153.013	3357.680	Fox K	105317	1 x Spiraglide in middle of joint.
109	12.477	14	165.490	3345.203	Fox K	106158	1 x Spiraglide in middle of joint.
108	12.477	15	177.967	3332.726	Fox K	106999	1 x Spiraglide in middle of joint.
107	12.477	16	190.444	3320.249	Fox K	107841	1 x Spiraglide in middle of joint.
106	12.477	17	202.921	3307.772	Fox K	108682	1 x Spiraglide in middle of joint.
105	11.987	18	214.908	3295.295	Fox K	109490	1 x Spiraglide in middle of joint.
104	12.477	19	227.385	3283.308	Fox K	110331	1 x Spiraglide in middle of joint.
103	12.117	20	239.502	3270.831	Fox K	111148	1 x Spiraglide in middle of joint.
102	12.477	21	251.979	3258.714	Fox K	111990	1 x Spiraglide in middle of joint.
101	11.887	22	263.866	3246.237	Fox K	112791	1 x Spiraglide in middle of joint.
100	12.477	23	276.343	3234.350	Fox K	113632	1 x Spiraglide in middle of joint.
Pup B	**1.930**	**24**	**278.273**	**3221.873**	**Fox K**	**113763**	
99	12.477	25	290.750	3219.943	Fox K	114604	1 x Spiraglide in middle of joint.
98	12.477	26	303.227	3207.466	Fox K	115445	1 x Spiraglide in middle of joint.
97	12.477	27	315.704	3194.989	Fox K	116286	1 x Spiraglide in middle of joint.
96	12.477	28	328.181	3182.512	Fox K	117128	1 x Spiraglide in middle of joint.
95	12.477	29	340.658	3170.035	Fox K	117969	1 x Spiraglide in middle of joint.
94	12.477	30	353.135	3157.558	Fox K	118810	1 x Spiraglide in middle of joint.
93	12.477	31	365.612	3145.081	Fox K	119651	1 x Spiraglide in middle of joint.
92	12.477	32	378.089	3132.604	Fox K	120493	1 x Spiraglide in middle of joint.
91	**12.477**	**33**	**390.566**	**3120.127**	**Fox K**	**121334**	**1 x Spiraglide in middle of joint. Install a Pip Tag the box**
90	12.477	34	403.043	3107.650	Fox K	122175	
88	12.477	35	415.520	3095.173	Fox K	123016	1 x Spiraglide in middle of joint.
87	12.477	36	427.997	3082.696	Fox K	123858	
86	12.027	37	440.024	3070.219	Fox K	124669	1 x Spiraglide in middle of joint.
85	11.997	38	452.021	3058.192	Fox K	125477	
84	12.477	39	464.498	3046.195	Fox K	126319	1 x Spiraglide in middle of joint.
83	12.477	40	476.975	3033.718	Fox K	127160	
82	12.477	41	489.452	3021.241	Fox K	128001	1 x Spiraglide in middle of joint.
81	12.477	42	501.929	3008.764	Fox K	128842	
80	12.467	43	514.396	2996.287	Fox K	129683	1 x Spiraglide in middle of joint.
79	12.477	44	526.873	2983.820	Fox K	130524	
78	12.477	45	539.350	2971.343	Fox K	131366	1 x Spiraglide in middle of joint.
77	12.477	46	551.827	2958.866	Fox K	132207	
76	12.477	47	564.304	2946.389	Fox K	133048	1 x Spiraglide in middle of joint.
75	12.477	48	576.781	2933.912	Fox K	133889	
74	12.477	49	589.258	2921.435	Fox K	134731	1 x Spiraglide in middle of joint.
73	12.477	50	601.735	2908.958	Fox K	135572	
72	12.477	51	614.212	2896.481	Fox K	136413	1 x Spiraglide in middle of joint.
71	12.477	52	626.689	2884.004	Fox K	137254	
70	12.487	53	639.176	2871.527	Fox K	138096	1 x Spiraglide in middle of joint.
69	12.487	54	651.663	2859.040	Fox K	138938	
68	12.477	55	664.140	2846.553	Fox K	139780	1 x Spiraglide in middle of joint.
67	12.477	56	676.617	2834.076	Fox K	140621	
66	12.477	57	689.094	2821.599	Fox K	141462	1 x Spiraglide in middle of joint.
65	12.477	58	701.571	2809.122	Fox K	142303	
64	12.477	59	714.048	2796.645	Fox K	143145	1 x Spiraglide in middle of joint.
63	12.477	60	726.525	2784.168	Fox K	143986	
62	12.477	61	739.002	2771.691	Fox K	144827	1 x Spiraglide in middle of joint.
61	12.477	62	751.479	2759.214	Fox K	145668	
60	12.477	63	763.956	2746.737	Fox K	146510	1 x Spiraglide in middle of joint.
59	12.477	64	776.433	2734.260	Fox K	147351	
58	12.477	65	788.910	2721.783	Fox K	148192	1 x Spiraglide in middle of joint.
57	12.477	66	801.387	2709.306	Fox K	149033	

Casing Tally

Joint Number/ Description	Joint Length (m)	Run Order	Cumulative Length (m)	Final Depth (m)	Connection	Weight on Hook (lbs)	Remarks
56	12.477	67	813.864	2696.829	Fox K	149875	1 x Spiraglide in middle of joint.
55	12.477	68	826.341	2684.352	Fox K	150716	1 x Spiraglide in middle of joint.
54	12.477	69	838.818	2671.875	Fox K	151557	1 x Spiraglide in middle of joint.
53	12.477	70	851.295	2659.398	Fox K	152398	1 x Spiraglide in middle of joint.
52	12.477	71	863.772	2646.921	Fox K	153240	1 x Spiraglide in middle of joint.
51	12.477	72	876.249	2634.444	Fox K	154081	1 x Spiraglide in middle of joint.
50	12.477	73	888.726	2621.967	Fox K	154922	1 x Spiraglide in middle of joint.
49	12.477	74	901.203	2609.490	Fox K	155763	1 x Spiraglide in middle of joint.
48	12.477	75	913.680	2597.013	Fox K	156605	1 x Spiraglide in middle of joint.
47	12.477	76	926.157	2584.536	Fox K	157446	1 x Spiraglide in middle of joint.
46	12.477	77	938.634	2572.059	Fox K	158287	1 x Spiraglide in middle of joint.
45	12.477	78	951.111	2559.582	Fox K	159128	1 x Spiraglide in middle of joint.
44	12.477	79	963.588	2547.105	Fox K	159970	1 x Spiraglide in middle of joint.
43	12.477	80	976.065	2534.628	Fox K	160811	1 x Spiraglide in middle of joint.
42	12.477	81	988.542	2522.151	Fox K	161652	1 x Spiraglide in middle of joint.
41	12.477	82	1001.019	2509.674	Fox K	162494	1 x Spiraglide in middle of joint.
40	12.477	83	1013.496	2497.197	Fox K	163335	1 x Spiraglide in middle of joint.
39	12.477	84	1025.973	2484.720	Fox K	164176	1 x Spiraglide in middle of joint.
38	12.477	85	1038.450	2472.243	Fox K	165017	1 x Spiraglide in middle of joint.
37	12.477	86	1050.927	2459.766	Fox K	165859	1 x Spiraglide in middle of joint.
36	12.477	87	1063.404	2447.289	Fox K	166700	1 x Spiraglide in middle of joint.
35	12.477	88	1075.881	2434.812	Fox K	167541	1 x Spiraglide in middle of joint.
34	12.477	89	1088.358	2422.335	Fox K	168382	1 x Spiraglide in middle of joint.
33	12.477	90	1100.835	2409.858	Fox K	169224	1 x Spiraglide in middle of joint.
32	12.477	91	1113.312	2397.381	Fox K	170065	1 x Spiraglide in middle of joint.
31	12.477	92	1125.789	2384.904	Fox K	170906	1 x Spiraglide in middle of joint.
30	12.477	93	1138.266	2372.427	Fox K	171747	1 x Spiraglide in middle of joint.
29	12.317	94	1150.583	2359.950	Fox K	172578	1 x Spiraglide in middle of joint.
28	12.477	95	1163.060	2347.633	Fox K	173419	1 x Spiraglide in middle of joint.
27	12.347	96	1175.407	2335.156	Fox K	174252	1 x Spiraglide in middle of joint.
26	12.24	97	1187.644	2322.809	Fox K	175077	1 x Spiraglide in middle of joint.
25	12.24	98	1199.881	2310.572	Fox K	175902	1 x Spiraglide - no stop rings.
24	12.36	99	1212.241	2298.335	Fox K	176735	
Hanger A	2.455		1214.696	2285.975	Fox K	176901	Chrome-13 Hanger
RS Nipple	0.940	100	1215.636	2283.520	Fox K	176964	
ZXP Packer / PBR	5.590		1221.226	2282.580	Fox K	177341	
Top of Liner				**2276.990**			
Running Tool	2.670		1223.896	2276.990	Fox K	177521	
5 Stands HWDP	140.94		1364.836	2274.320	4½" IF	197041	
73 stands 5" DP	2119.560		3484.396	2133.380		313157	
1 Single 5" DP	9.660		3494.056	13.820		313686	
2 x 5ft 5" DP Pups	3.080		3497.136	4.160		313855	
1 x 10ft 5" DP Pup	3.080		3500.216	1.080			
Stick up	-2.000		3498.216	-2.000			

Spare Joints

Jnt No.	Length (m)	Size (in)	Threadloss (in)	M/u length (m)	
Shoe B	13.18	6.625	0	13.18	
Float B	12.99	6.625	0.123	12.87	
Landing Collar B	12.60	6.625	0.123	12.48	
Pup C	2.05	6.625	0.123	1.93	
119	**12.60**	**6.625**	**0.123**	**12.48**	Damaged coupling
118	**12.60**	**6.625**	**0.123**	**12.48**	Damaged Pin
89	**12.04**	**6.625**	**0.123**	**11.92**	Damaged Pin
23	12.48	6.625	0.123	12.36	
22	12.17	6.625	0.123	12.05	
21	12.6	6.625	0.123	12.48	
20	12.6	6.625	0.123	12.48	
19	12.6	6.625	0.123	12.48	
18	12.6	6.625	0.123	12.48	
17	12.48	6.625	0.123	12.36	
16	12.48	6.625	0.123	12.36	
15	12.49	6.625	0.123	12.37	
14	12.6	6.625	0.123	12.48	
13	12.48	6.625	0.123	12.36	
12	12.49	6.625	0.123	12.37	
11	12.6	6.625	0.123	12.48	
10	12.8	6.625	0.123	12.68	
9	12.6	6.625	0.123	12.48	
8	12.6	6.625	0.123	12.48	
7	12.6	6.625	0.123	12.48	
6	12.48	6.625	0.123	12.36	
5	12.6	6.625	0.123	12.48	
4	12.6	6.625	0.123	12.48	
3	12.47	6.625	0.123	12.35	
2	12.47	6.625	0.123	12.35	
1	11.9	6.625	0.123	11.78	

(B) Cementing Report

DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004

Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Casing Summary

Well: Yolla-3

Diameter	20 "	L.O.T. (Act)	0sg
Casing Shoe MD (Act)	215.0m	F.I.T. (Act)	0sg
Casing Shoe TVD (Act)	215.0m		
Cement data	Conductor Driven, no cementing operations carried out.		
Comment			

Description	Depth	Weight	Grade	Thread
Top of wellhead housing = 27.46m below RKB.	27.46	203	B	WELD
	215.00	203	B / X52	RL4S / EM60

Diameter	13 3/8"	L.O.T. (Act)	0sg
Casing Shoe MD (Act)	1007.0m	F.I.T. (Act)	1.26sg
Casing Shoe TVD (Act)	928.0m		
Cement data	TOC 1st stage lead 308 m & tail 906 m. TOC 2nd stage 40 m.		
Comment			

Description	Depth	Weight	Grade	Thread
Hang Off Point	27.53	54.5	K55	BTC
X/Over	182.10	72	Q125	BTC/Vam Top
X/Over	295.51	72	Q125	Vam Top/BTC
Stage Collar	308.35	54.5	K55	BTC
Float	982.29	54.5	K55	BTC
Shoe	1006.82	54.5	K55	BTC

Diameter	9 5/8"	L.O.T. (Act)	0sg
Casing Shoe MD (Act)	2340.0m	F.I.T. (Act)	1.32sg
Casing Shoe TVD (Act)	1967.0m		
Cement data	Mixed and pumped 198 bbls of 12.5 ppg lead slurry (153 bbls mix fluid). Mixed and pumped 48 bbls of 15.8 ppg tail slurry (27 bbls mix fluid). Pressure tested casing to 3500 psi. TOC at +/-1150 mMD.		
Comment	Ran a total of 194 joints at an average speed of 15.4 jnts/hr.		

Description	Depth	Weight	Grade	Thread
HOP of 10.75 in casing	27.32	51	L80	VT
Base of 10.75 in casing	199.81	51	L80	VT
Base of 9.625 in casing	2339.87	43.5	L80	VT

Diameter	6 5/8"	L.O.T. (Act)	0sg
Casing Shoe MD (Act)	3497.0m	F.I.T. (Act)	0sg
Casing Shoe TVD (Act)	3100.0m		
Cement data	Mixed & pumped 150 bbls of 15.8 ppg slurry (84 bbls mix fluid). Plug did not launch. Static differential pressure 1900 psi. Reversed & dumped ±20 bbls cement.		
Comment	Ran a total of 99 joints at an average speed of 6.3 jts/hr.		

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DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004

Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Description	Depth	Weight	Grade	Thread
Liner top	2277.00	24	L80	Fox K
Landing Joint	3472.00	24	L80	Fox K
Float Joint	3485.00	24	L80	Fox K
Shoe Joint	3498.00	24	L80	Fox K

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CASING RUNNING AND CEMENTING REPORT

RIG	Ensco 102
WELL	Yolla-3
DATE	14-Aug-04

Australian Drilling Associates Pty Ltd ADA

STATUS OF WELL BEFORE RUNNING CASING

PREVIOUS CASING		HOLE CONDITIONS			
Size (in)	20	**Size (in)**	16	**Mud Losses**	No losses
Weight (lb/ft)	203	**Depth (mMDRT)**	1012	**Caliper Average (in)**	N/A
Grade	B / X52	**Circulating Hours Before**	2.00	**Max Deviation (°)**	41.9
Shoe @ (mMDRT))	215			**Dev. Depth (mMDRT)**	922.03

MUD					
Weight (ppg)	8.7	**Water Loss (cc)**	N/A	**0/10 Gels**	25 / 33
Type	PHG	**Filter Cake (mm)**	N/A	**Sand**	N/A
PV	9	**Solids (%)**	N/A	**Flowline Temp (°C)**	N/A
YP	41	**Salinity (mg/l)**	N/A		

CASING DETAILS

Size (in)	13.375	**Shoe Depth (m)**	1006.82	**Total Length**	979.29
Weight (lb/ft)	54.5 / 72	**F. Collar @ (m)**	982.29	**Centralisers**	As per tally
Grade	K55 / Q125	**2nd Stg. Collar @ (m)**	308.35		
Calipered ID (in)	12.645 / 12.380	**Pip Tag(s) @ (m)**	N/A		
Connection	BTC / VAM TOP	**Casing Hanger @ (m)**	27.53	**Displacement (BBL/m)**	N/A
Average Torque (ft-lbs)	11500 / 24000	**Wellhead Type**	Cameron 13 5/8in 10 Kpsi, Fastlock	**Capacity (BBL/m)**	0.5096 / 0.4885

RUNNING CASING

Start Time	5:30	**Joints Received**	93	**Rate (GPM)**	220
Avg Jnts/hr	6.96	**Joints Run**	78	**Total (BBLs)**	628
Finish Time	23:30	**Joints Left**	15	**Time (mins)**	120
Mud Losses (BBL)	N/A	**Circulating Pressure (psi)**	480	**Time Stopped**	3:00

Comments

Returns taken direct to sea therefore returns could not be measured. From observation returns appeared good through the 6" ports in the 20" conductor.

Hole good condition when RIH. There was a 5½ hour shut down after 43 joints run, due to adverse weather. This did not impact the casing running operations and the hole remained in good condition. Within 5-15 klbs SWD of theoretical string weight in mud.

The ENSCO 102 (through no fault of the crews) is not set up to run casing very quickly. The PRS is much slower that using pick up elevators and a stabber. Casing runs will therefore be extremely slow (approximately twice as long as a conventional rig). This must be taken into account for Weatherford crew hours (i.e. we will definitely need 2 full crews when running a 'labour intensive' string such as a premium connection that requires J.A.M.). Casing should be made up offline to try and speed up casing runs and reduce open hole time.

Encountered a problem 'stabbing' the pup joint, required manual stabbing. The PRS centralizes longer joints better 'plumb bob effect' – another reason to run casing stands.

CEMENTING

PRE-FLUSH AND SPACER			
Flush Type	Seawater	**Flush Type**	N/A
Weight (ppg)	8.4	**Weight (ppg)**	N/A
Volume (BBL)	20	**Volume (BBL)**	N/A
Pump Rate (BPM)	6.8	**Pump Rate (BPM)**	N/A
Pump Press (psi)	330	**Pump Press (psi)**	N/A
Time bottom plug released		N/A - 2 stage cement job, no bottom plug	

LEAD SLURRY (1ST STAGE)					
Cement Type	G	**Mix Water Type**	Seawater	**Pump Press (psi)**	240 to 410
No. of Sacks	740	**Mix Water (gal/sk)**	13.148	**Pump Rate (BPM)**	4.5 to 6.0
Volume Used (BBL)	294	**Mix Water Volume (BBL)**	232	**Calculated TOC (mMDRT)**	308
Weight (ppg)	12.5	**Est Time - BC100 (Hrs)**	6:05	**Mud Losses**	N/A
Yield (Cu.ft/sk)	2.23	**Actual Time (Hrs)**	6:00 on surface		
Additives	0.42 Gal/sk D075, 0.01 Gal/sk D047				
Comments	The job went very smoothly and the cementer set and ran a very smooth job. Clearly demonstrated his knowledge of the rig system and it's limitations. Cement delivery lines were purged prior to the job. Cement in 2 silos (27 & 64 mt) both pressured up to 40 psi prior to the job.				

TAIL SLURRY (1ST STAGE)					
Cement Type	G	**Mix Water Type**	Drillwater	**Pump Press (psi)**	260
No. of Sacks	298	**Mix Water (gal/sk)**	5.136	**Pump Rate (BPM)**	4.05
Volume Used (BBL)	62	**Mix Water Volume (BBL)**	37	**Calculated TOC (mMDRT)**	906
Weight (ppg)	15.8	**Est Time - BC100 (Hrs)**	4:38	**Mud Losses**	N/A
Yield (Cu.ft/sk)	1.16	**Time 1st Plug Released**	5:14		
Additives	0.01 Gal/sk D047				
Comments	Could load cement head with the top plug as it is soft flexible compound. Had to load it once the cement is mixed and pumped. The top of the plug launcher is very difficult to remove due to the vacuum holding it down. The when removed the "O" ring is sucked off and the cement free falls a considrable way before the plug is installed and the cement head secured ready for displacing.				

2nd STAGE SLURRY					
Cement Type	G	**Mix Water Type**	Seawater	**Pump Press (psi)**	465
No. of Sacks	216	**Mix Water (gal/sk)**	9.335	**Pump Rate (BPM)**	8.0
Volume Used (BBL)	68	**Mix Water Volume (BBL)**	50	**Calculated TOC (mMDRT)**	165
Weight (ppg)	13.5	**Est Time - BC100 (Hrs)**	5:58	**Mud Losses**	N/A
Yield (Cu.ft/sk)	1.79				
Additives	1.5% BWOC, 0.42 Gal/sk D075, 0.01 Gal/sk D047				
Comments	Mixed and pumped down hole at 8.0 bpm. Pre-mixed mix water in blender tank .				

DISPLACEMENT

Calc Volume (BBL)	503 bbls (20 bbls Halliburton + 483 bbls rig)	**Pump Pressure (psi)**	1280
Calc Strokes	3464	**Pump Rate (BBL/min)**	8.0
Efficiency (%)	97%	**Pump Used (CT/M PUMP)**	Mud pump
Actual Strokes	3394	**Did Plug Bump? Time**	Bumped 70 strokes early 06:14
Actual Efficiency (%)	99.2%	**Delta P Prior to Bump**	780
Mud Losses	N/A	**Bump Pressure**	1500 psi applied
		Pressure Held (min)	15
COMMENTS	Good returns from 6" ports in conductor during job. Casing ID callipered using rig floor calipers (only tool available) therefore probably slightly inaccurate (over estimation) of casing volume hence early.		

CASING AND CEMENTING JOB TIMETABLE

1st STAGE					
Operations	**Start Time**	**End Time**	**Pump psi (Initial)**	**Pump psi (Final)**	**Volume (BBLs)**
RIG UP AND RUN CASING	05:30 (13/08/04)	23:30 (13/08/04)			
CIRCULATION	1:00	3:00	480	425	628
SPACER	3:30	3:35	300	300	20
MIX AND PUMP LEAD	3:40	4:30	380	407	294
MIX AND PUMP TAIL	4:33	4:48	260	270	62
RELEASE 1st PLUG	5:14				
DISPLACEMENT	5:15	6:14		780	483
BUMP PLUG /TEST CASING	6:14	6:29	780	1500	2
BLEED PRES/CHK FLOAT EQUIP.	6:30	6:32			
DROPPED STAGE COLLAR OPENING PLUG	7:00				
PRESSURED UP TO OPEN STAGE COLLAR	7:15	7:15		710	0.6
CIRCULATED WHILST WOC	7:16	11:00	160	160	585

2nd STAGE					
Operations	**Start Time**	**End Time**	**Pump psi (Initial)**	**Pump psi (Final)**	**Volume (BBLs)**
RIG UP FOR 2ND STAGE	11:45 (14/08/04)	13:26 (14/08/04)			
CIRCULATION	11:45	12:13	240	240	80
MIX AND PUMP SLURRY	12:33	12:48	370	500	68
RELEASE CLOSING PLUG	13:01	13:04			
DISPLACEMENT	13:06	13:26	260	180	156
BUMP PLUG /TEST CASING	13:26	13:45		1500	

CASING RUNNING AND CEMENTING REPORT

RIG	Ensco 102
WELL	Yolla-3
DATE	30-Aug-04

Australian Drilling Associates Pty Ltd ADA

STATUS OF WELL BEFORE RUNNING CASING

PREVIOUS CASING		HOLE CONDITIONS			
Size (in)	13.375	**Size (in)**	12.25	**Mud Losses**	0
Weight (lb/ft)	54.5 / 72	**Depth (mMDRT)**	2347	**Caliper Average (in)**	N/A
Grade	K55 / Q125	**Circulating Hours Before**	N/A (attempted to run wireline logs prior to casing run)	**Max Deviation (°)**	44.55
Shoe @ (mMDRT))	1006.82			**Dev. Depth (mMDRT)**	1212.9

MUD					
Weight (ppg)	9.4	**Water Loss (ml/30min)**	3.9	**10/10/30 Gels**	9/10/19
Type	Seawater/Drispac/ Soltex	**Filter Cake (32nd in)**	1	**Sand (% by vol)**	0.1
PV	34	**Solids (%)**	7.9	**Flowline Temp (°C)**	32
YP (lbs/100 ft2)	45	**Salinity (mg/l)**	23000		

CASING DETAILS

Size (in)	9.625 / 10.75	**Shoe Depth (mMD)**	2339.87	**Total Length**	2312.55
Weight (lb/ft)	43.5 / 51	**F. Collar @ (m)**	2315.56	**Centralisers**	As per tally
Grade	L80	**2nd Stg. Collar @ (m)**	N/A		
Calipered ID (in)	8.875 / 9.850	**Pip Tag(s) @ (m)**	N/A		
Connection	VAM TOP	**Casing Hanger @ (m)**	27.32	**Displacement (BBL/m)**	N/A
Average Torque (ft-lbs)	13000 / 15900	**Wellhead Type**	Cameron 13 5/8in 10 Kpsi, Fastlock	**Capacity (BBL/m)**	0.251 / 0.314

RUNNING CASING

Start Time	14:45 (29/8)	**Joints Received**	221 (9.625in), 21 (10.75in)	**Rate (GPM)**	400
Avg Jnts/hr	15.4	**Joints Run**	194	**Total (BBLs)**	780
Finish Time	05:15 (30/8)	**Joints Left**	34	**Time (mins)**	105
Mud Losses (BBL)	0	**Circulating Pressure (psi)**	560	**Time Stopped**	07:00 (30/8)
Comments	Ran casing as follows: Picked up and made up shoe track and float equipment. RIH 9.625 in casing (43.5 ppf, VT, L80) doubles racked back in derrick to 998 mMD. Broke circulation at 998 mMD with 350 GPM (400 psi). RIH 9.625 in casing (43.5 ppf, VT, L80) to 2140 mMD. Changed out 9.625 in elevators and slips to 10.75 in equipment. RIH 10.75 in casing (51 ppf, VT, L80) to 2312 mMD. Picked up casing hanger running tool and landing joints. RIH to 2337 mMD and encountered resistance. Washed casing string to 2339.87 mMD and landed out 10.75 in casing hanger.				

	Circulated 1.2x casing volume at 500 psi maximum circulation pressure (final flow rate 400 GPM, 560 psi). Note: The average casing running speed for this operation was 15.4 jnts/hr. This is a 22% improvement when compared to the Yolla-4 performance.

CEMENTING

PRE-FLUSH AND SPACER			
Flush Type	Freshwater	**Flush Type**	N/A
Weight (ppg)	8.4	**Weight (ppg)**	N/A
Volume (BBL)	20	**Volume (BBL)**	N/A
Pump Rate (BPM)	3	**Pump Rate (BPM)**	N/A
Pump Press (psi)	200	**Pump Press (psi)**	N/A
Time bottom plug released		8:50	

LEAD SLURRY (1ST STAGE)					
Cement Type	G	**Mix Water Type**	Drill water	**Pump Press (psi)**	600-800
No. of Sacks	522	**Mix Water (gal/sk)**	12.278	**Pump Rate (BPM)**	6-8
Slurry Volume (BBL)	198	**Mix Fluid Volume (BBL)**	153	**Calculated TOC (mMDRT)**	1150
Weight (ppg)	12.5	**Yield (Cu.ft/sk)**	2.13	**Mud Losses**	0
Additives	D47 Antifoam (0.01 gal/sk), D20 Bentonite (2.5% BWOC), D110 Retarder (0.05 gal/sk)				
Comments	Excellent Supervision on the job.				

TAIL SLURRY (1ST STAGE)					
Cement Type	G	**Mix Water Type**	Drill water	**Pump Press (psi)**	20-300
No. of Sacks	174	**Mix Water (gal/sk)**	4.327	**Pump Rate (BPM)**	3
Slurry Volume (BBL)	48	**Mix Fluid Volume (BBL)**	27	**Calculated TOC (mMDRT)**	2142
Weight (ppg)	15.8	**Est Time - BC100 (Hrs)**	N/A	**Mud Losses**	0
Yield (Cu.ft/sk)	1.54	**Time 2nd Plug Released**	10:20		
Additives	D175 Antifoam (0.05 gal/sk), D080 Dispersant (0.1 gal/sk), D600G Gasblock (2 gal/sk), D66 Silica (35% BWOC)				
Comments	Outstanding Supervision on the job.				

2nd STAGE SLURRY					
Cement Type	N/A	**Mix Water Type**	N/A	**Pump Press (psi)**	N/A
No. of Sacks	N/A	**Mix Water (gal/sk)**	N/A	**Pump Rate (BPM)**	N/A
Volume Used (BBL)	N/A	**Mix Water Volume (BBL)**	N/A	**Calculated TOC (mMDRT)**	N/A
Weight (ppg)	N/A	**Est Time - BC100 (Hrs)**	N/A	**Mud Losses**	N/A
Yield (Cu.ft/sk)	N/A				
Additives	N/A				

Comments	

DISPLACEMENT			
Calc Volume (BBL)	20bbls freshwater using cement unit + 572bbls mud using rig pumps	**Pump Pressure (psi)**	1140
Calc Strokes	4115	**Pump Rate (spm)**	30
Efficiency (%)	97%	**Pump Used (CT/M PUMP)**	Mud pump
Actual Strokes	4040	**Did Plug Bump? Time**	Yes, 11:35
Actual Efficiency (bbl/stroke)	0.139	**SPP Prior to Bump (psi)**	1140
Mud Losses	0	**Bump Pressure**	3500 psi applied
		Pressure Held (min)	15
COMMENTS	Good returns during cement job. Average casing ID callipered using rig floor calipers (only tool available). The accuracy of these calipers is unknown. This may account for the plug bumping 75 strokes early. Also the slow pump rate may account for this discrepancy.		

CASING AND CEMENTING JOB TIMETABLE

1st STAGE					
Operations	**Start Time**	**End Time**	**Pump psi (Initial)**	**Pump psi (Final)**	**Volume (BBLs)**
RIG UP AND RUN CASING	12:00 (29/8/04)	15:00 (30/8/04)			
CIRCULATION	5:15	7:00	500	560	710
SPACER	8:30	8:40	100	100	20
MIX AND PUMP LEAD	9:15	9:50	800	700	198
MIX AND PUMP TAIL	9:50	10:15	100	300	48
RELEASE TOP PLUG	10:15				
DISPLACEMENT	10:15	11:35	100	1140	592
BUMP PLUG /TEST CASING	11:35	11:50	3500	3500	

2nd STAGE					
Operations	**Start Time**	**End Time**	**Pump psi (Initial)**	**Pump psi (Final)**	**Volume (BBLs)**
RIG UP FOR 2ND STAGE					
CIRCULATION					
MIX AND PUMP SLURRY					
RELEASE CLOSING PLUG					
DISPLACEMENT					
BUMP PLUG /TEST CASING					

LINER RUNNING AND CEMENTING REPORT

RIG	Ensco 102
WELL	Yolla-3
DATE	13-Sep-04

Australian Drilling Associates Pty Ltd ADA

STATUS OF WELL BEFORE RUNNING LINER

PREVIOUS CASING		HOLE CONDITIONS			
Size (in)	9.625 / 10.75	**Size (in)**	8.5	**Mud Losses**	0
Weight (lb/ft)	43.5 / 51	**Depth (mMDRT)**	3499.8	**Caliper Average (in)**	8.8234
Grade	L80	**Circulating Hours Before**	3.5	**Max Deviation (°)**	44.55
Shoe @ (mMDRT))	2340			**Dev. Depth (mMDRT)**	1212.9

MUD					
Weight (ppg)	9.4	**Water Loss (ml/30min)**	3.5	**0/10 Gels**	6/9/11
Type	Seawater/Drispac/ Soltex	**Filter Cake (32nd in)**	1	**Sand (% by vol)**	0.1
PV	42	**Solids (%)**	6.4	**Flowline Temp (°C)**	54
YP (lbs/100 ft2)	32	**Salinity (mg/l)**	20000		

LINER DETAILS

Size (in)	6.625	**Shoe Depth (mMD)**	3498.2	**Total Length**	1221.2
Weight (lb/ft)	24	**F. Collar @ (m)**	3485.0	**Centralisers**	As per tally
Grade	13 Cr	**L. Collar @ (m)**	3472.0		
Calipered ID (in)	5.927	**Pip Tag(s) @ (m)**	3370.2 3120.1		
Connection	FOX K	**Liner Hanger @ (m)**	2277.0	**Displacement (BBL/m)**	0.0279
Average Torque (ft-lbs)	8750	**Wellhead Type**	Cameron 13 5/8in 10 Kpsi, Fastlock	**Capacity (BBL/m)**	0.1120

RUNNING LINER

Start Time	23:00:00 PM (11/09/04)	**Joints Received**	129	**Rate (GPM)**	210
Avg Jnts/hr	6.3	**Joints Run**	99	**Total (BBLs)**	786
Finish Time	14:45:00 PM (12/09/04)	**Joints Left**	30	**Time (mins)**	3.5
Mud Losses (BBL)	3.6	**Circulating Pressure (psi)**	740	**Time Stopped**	3/07/2004 22:15
Comments	Ran liner as per the following procedure: Ran 6 5/8", 24#, 13 Cr, Fox K liner to 689 mRT / 689 mTVD, filling string every 5 joints. Three rejected (Galled threads), monitored hole on trip tank, lost 3.6 Bbls. Made up liner hanger and flexlock CR-13 packer assembly to the 6 5/8" liner. Filled PBR with hi vis fluid to prevent debris entering the PBR. SWU / SWD = 175 /180 KLbs. Circulated 120 % of string volume (163 bbls) at 336 gpm / 500 psi. No losses. RIH 6 5/8" liner on 5" HWDP from 1221 mRT to 1365 mRT at 1 min per stand, filled pipe every 2 stands. Monitored hole on trip tank, no losses. RIH 6 5/8" liner on 5" drill pipe from 1221 mRT to 9 5/8" shoe at 2340 mRT at 1 min per stand, filled pipe every 2 stands. Monitored hole on trip tank, no losses.				

	Circulated 120% of string volume (240 bbls) at 273 gpm / 500 psi whilst rotating the liner, torque readings as follows: 10 RPM = 7 Kftlbs, 20 RPM = 7 Kftlbs, 30 RPM = 7 Kftlbs, no losses. Cont'd to RIH 6 5/8" liner on 5" drill pipe 9 5/8" from shoe at 2340 mRT to 3484 mRT at 1 min per stand, filled pipe every 2 stands. Monitored hole on trip tank, no losses. Made up top drive and washed down with 135 gpm / 520 psi from 3484 mRT, tagged bottom at 3499.8 mRT with 10 KLbs, no fill on bottom. Made up cement head, took string weights, SWU / SWD = 420 / 280 KLbs. Pulled back to SWU plus 1 m. Circulated 150% of annular volume (786 bbls) with 210 gpm / 740 psi whilst rotating the liner, torque readings as follows: 20 RPM = 12,000 Kftlbs. Max gas = 70 units, no losses. Dropped 1 3/4" phenolic liner setting ball, pumped down same at 120 gpm / 580 psi. Pressure up string to 1700 psi to set 6 5/8" liner, slacked off liner weight plus 20 Klbs running string weight to confirm liner set. Pressured up to 2700 psi to release running tool, bled off pressure and picked up, did not release. Re-cycled, did not release. Turned 2 turns left hand torque on surface, worked torque down and released running tool. Pressured up to 3400 psi to blow out liner ball seat. Circulated at 4 bpm / 770 psi, 6 bpm / 1000 psi, 8 bpm 1250 psi, whilst rotating, torque value as follows: 20 RPM = 7.5 Kft/lbs

CEMENTING

PRE-FLUSH AND SPACER			
Flush Type	Freshwater / Chemical wash	**Flush Type**	N/A
Weight (ppg)	8.4	**Weight (ppg)**	N/A
Volume (BBL)	40	**Volume (BBL)**	N/A
Pump Rate (BPM)	5.6	**Pump Rate (BPM)**	N/A
Pump Press (psi)	950	**Pump Press (psi)**	N/A
Time bottom plug released		N/A	

TAIL SLURRY					
Cement Type	HTB	**Mix Water Type**	Drill water	**Pump Press (psi)**	520 - 125
No. of Sacks	550	**Mix Water (gal/sk)**	6.489	**Pump Rate (BPM)**	4.0 - 3.2
Volume Used (BBL)	150	**Mix Water Volume (BBL)**	85	**Calculated TOC (mMDRT)**	2277
Weight (ppg)	15.8	**Est Time - BC100 (Hrs)**	N/A	**Mud Losses**	0
Yield (Cu.ft/sk)	1.54	**Time Wiper dart Released**	Did not release		
Additives	D600 Gasblock (2.2 gal/sk), D80 Dispersant (0.08gal/sk), D110 Retarder (0.06 gal/sk), D175 Antifoam (0.05gal/sk), D066 Silica (35% BWOC) D122 Chemical wash (0.5gal/bbl), J237A (0.25gal/bbl) - Chemical wash spacer				
Comments	One pump failed after 74 Bbls slurry pumped. Shut down by fault in engine mgmt system. Unable to reset with out shutting down complete unit and rebooting system. Reset cmt control panel and completed job on one pump. Rotated liner until 36 bbls slurry outside shoe (est. cmt at 3175m) when torque increased to maximum of 15K ft/lbs and stalled out on limiter.				

DISPLACEMENT			
Calc Volume (BBL)	136 bbls water using cement unit + 124.2bbls mud using rig pumps	**Pump Pressure (psi)**	Max = 3500 Final = 2850 Static diff = 1900
Calc Strokes	891	**Pump Rate (spm)**	3.6
Efficiency (%)	97%	**Pump Used (CT/M PUMP)**	Cement & Mud pump
Actual Strokes	900	**Did Plug Bump? Time**	No
Actual Efficiency (bbl/stroke)	0.139	**SPP Prior to Bump (psi)**	2850
Mud Losses	0	**Bump Pressure**	0 psi applied
		Pressure Held (min)	
COMMENTS	Full returns during job. Displaced with 20 bbls DW, 86 bbls SW and 30 bbls DW with the cement unit on 1 engine. (2nd engine still shut down due to engine mgmt fault) Pressure started to increase but no indication of plug shearing. Switched to rig pumps and displaced with 124.2 bbls mud. Pressure increased to 3500 psi, reduced pump rate to 3.6 bpm and pressure dropped. Did not bump plug. pulled out of liner and reversed out ±20 bbls cement and contaminated mud (13.3 ppg). When liner R/T was recovered cmt wiper plug was found still in place on stinger. When plug dropping head was broken out dart was found lodged in releasing sleeve. BOT to strip down and provide a rpt.		

CASING AND CEMENTING JOB TIMETABLE

1st STAGE					
Operations	**Start Time**	**End Time**	**Pump psi (Initial)**	**Pump psi (Final)**	**Volume (BBLs)**
RIG UP AND RUN LINER	23:00:00 PM (11/09/04)	14:45:00 PM (12/09/04)			
CIRCULATION	(In liner running time)				
SPACER / Pressure test lines	7:47	08:05	720	950	40
MIX & PUMP SLURRY	08:17	09:35	520	125	150
RELEASE 1st PLUG	Did not release				
DISPLACEMENT (cement unit)	09:35	10:08	180	220	136
DISPLACEMENT (rig)	10:10	10:44	1590	2850	124.2
BUMP PLUG /TEST CASING	Did not bump	10:44	0	0	
BLEED PRES/CHK FLOAT EQUIP.	10:44	10:47			
Set liner top packer	11:01	11:04	600	200	

APPENDIX 11: FIT/LOT SUMMARY SHEETS

FIT / LOT SUMMARY SHEET

Australian Drilling Associates Pty Ltd

RIG	Ensco 102
WELL	Yolla-3
DATE	31-Aug-04

Casing Size:	9.625 in
Shoe Depth:	1967 m TVD
Hole Depth:	1977 m TVD
Mud Weight:	1.12 SG
Pump Rate:	0.5 BPM
Vol pumped:	1.6 BBL
Vol bled back:	1.1 BBL

Target FIT EMW	1.32 SG
Target Surf Press	540 psi

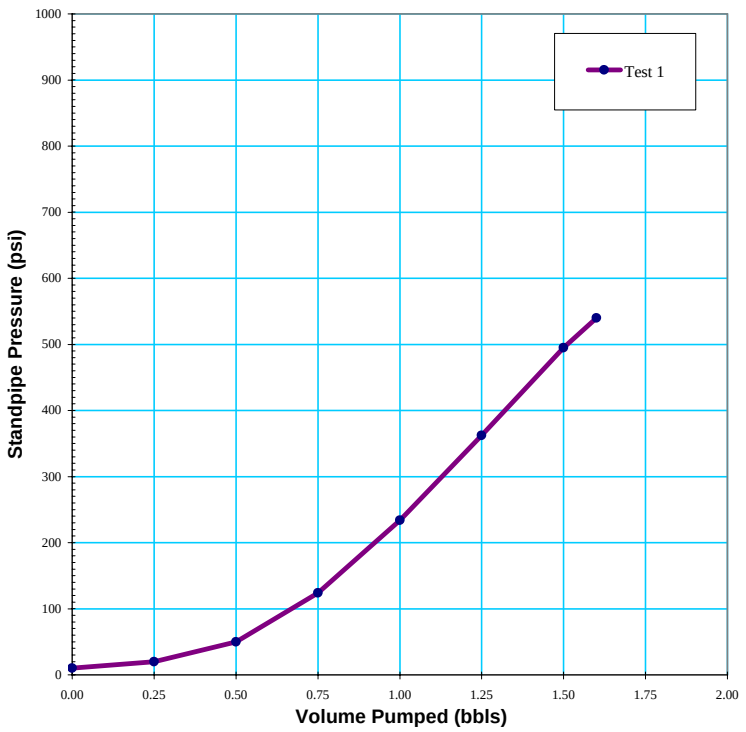
Actual Max Press	540 psi
Actual EMW	**1.32 SG**
	10.96 ppg

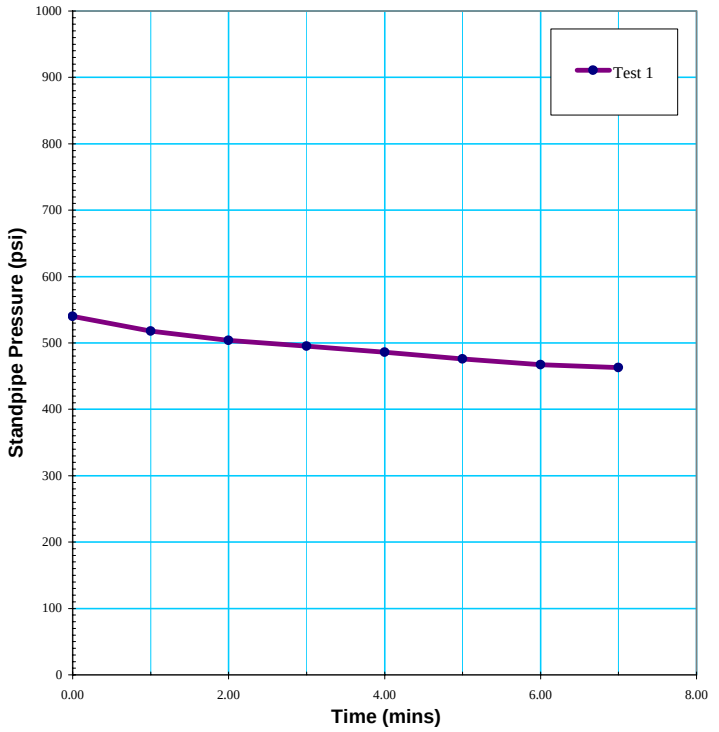
Build-up Data

Volume bbls	Pressure psi	Volume bbls	Pressure psi
Test 1		Test 2	
0.00	10		
0.25	20		
0.50	50		
0.75	124		
1.00	234		
1.25	362		
1.50	495		
1.60	540		

Shut-in Data

Time mins	Pressure psi	Time mins	Pressure psi
Test 1		Test 2	
0.00	540		
1.00	518		
2.00	504		
3.00	495		
4.00	486		
5.00	476		
6.00	467		
7.00	463		





NOTES

Test 1:

1. Performed FIT at 0.5bpm, recording data every 0.25 bbls pumped.
2. From the above chart it can be seen that the formation was holding the applied pressure of 540 psi when the pump was shut-in (no break-off). The EMW at 540 psi is 10.96 ppg.
3. Prior to commencing the FIT the surface lines were tested to 750 psi. The pressure decreased at 0.18 psi/sec during this test. There were no leaks/failures in the system. The reduction in pressure can possibly be attributed to mud compressibility/air entrapment in the mud. The reduction in pressure during the shut-in period of the FIT was 0.18 psi/sec. This is consistent with the pre-test result and explains the slight reduction in pressure during the shut-in phase.

FIT / LOT SUMMARY SHEET

Australian Drilling Associates Pty Ltd

RIG	Ensco 102
WELL	Yolla-3
DATE	16-Aug-04

Casing Size:	13.375 in
Shoe Depth:	932.00 m TVD
Hole Depth:	935.50 m TVD
Mud Weight:	1.03 SG
Pump Rate:	0.25 BPM
Vol pumped:	1.75 BBL
Vol bled back:	1.25 BBL

Target FIT EMW	1.26 SG
Target Surf Press	303 psi

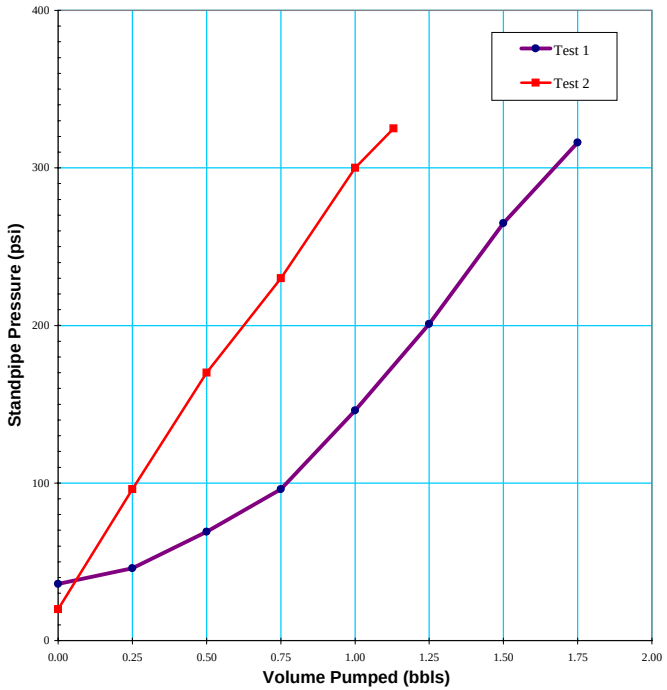
Actual Max Press	316 psi
Actual EMW	**1.27 SG**

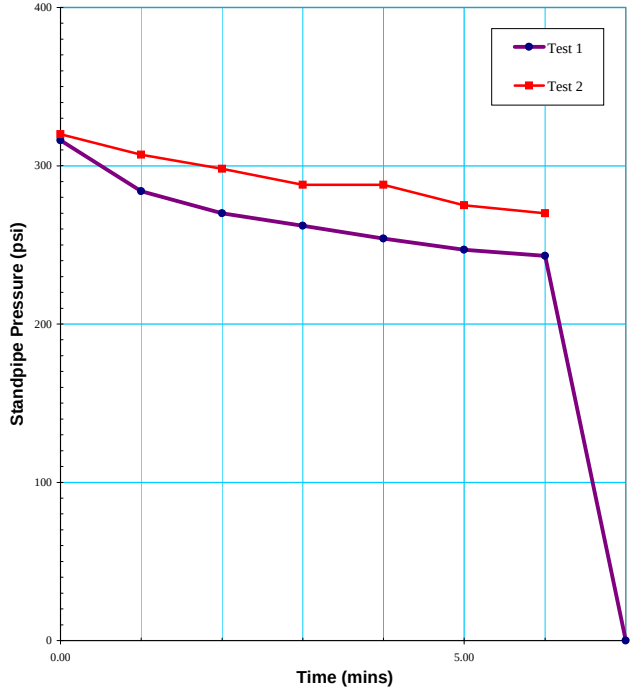
Build-up Data

Volume bbls	Pressure psi	Volume bbls	Pressure psi
Test 1		Test 2	
0.00	36	0.00	20
0.25	46	0.25	96
0.50	69	0.50	170
0.75	96	0.75	230
1.00	146	1.00	300
1.25	201	1.13	325
1.50	265	1.38	
1.75	316	1.63	
		1.88	
		2.13	
		2.38	
		2.63	
		2.88	

Shut-in Data

Time mins	Pressure psi	Time mins	Pressure psi
Test 1		Test 2	
0.00	316	0.00	320
1.00	284	1.00	307
2.00	270	2.00	298
3.00	262	3.00	288
4.00	254	4.00	288
5.00	247	5.00	275
6.00	243	6.00	270
7.00	0	7.00	





NOTES

1: Performed FIT at 0.25 bpm, recording data every 0.25 bbls pumped.

APPENDIX 12: DAILY DRILLING REPORTS

DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004

Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Activity Report For Yolla-3

Date : 16 Jun 2004 **Daily Cost : $ 216,498** **Report Number : 1**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PS	P	SKR		1	Skidded rig from Yolla 4. Drill floor 307 cm Port of centreline.
0	PS	P	RU		1	Reconnected service lines, skidded catwalk and lowered V door ramp, removed deck cover from Yolla platform.
0	CON	P	CPL		0.25	Removed drive sub from hammer to facilitate handling of non driven joints.
124.0	CON	P	CRN		4	Ran 20" conductor to seabed at 124 m. ROV observed conductor pass through guide funnels - no problems.
124.0	CON	P	CRN		1.25	Serviced Franks D46 diesel hammer. Re-installed conductor drive sub.
140.0	CON	P	CRN		1	Drove 20" conductor from 124 m to 140 m (free falling at controlled rate).
146.0	CON	P	RRD		0.5	Free fall of 20" conductor ceased, 2 blows required to restart free fall. Conductor fell at uncontrolled rate, fall arrested by elevators (4 m total fall). Lowered remainder of joint in controlled manner. Shoe depth = 146 m.
174.0	CON	P	CRN		1.5	Drove 20" conductor from 146 m to 174 m, (free falling at controlled rate).
179.0	CON	P	RRD		0.75	Drove 20" conductor from 174 m to 179 m on 49 % power setting for D 46 hammer. Very soft formation requiring 2 - 5 blows per foot of penetration.
188.0	CON	P	CRN		0.25	Drove 20" conductor from 179 m to 188 m (conductor free falling at controlled rate).
215.0	CON	P	CRN		3	Drove 20" conductor from 188 m to 193 m on 49 % power setting for D 46 hammer, soft formation average 5 - 7 blows per foot required for penetration. Formation firming slightly below 193 m, increased power setting on hammer to 66 %, 15 -18 blows per foot of penetration required. Formation appeared to firm up below 213 m, 20 - 28 blows per foot required. Landed conductor support pad eyes approximately 10 cm above platform cellar deck. Shoe depth = 215 m (91 m of penetration).
215.0	CON	P	CRN		0.5	Prepared to cut 20" conductor.
215.0	CON	P	CRN		1	Cut 20" conductor at 600 mm above platform cellar deck.
215.0	CON	P	RRD		1	Laid out x 2 landing joints and conductor drive sub.

Date : 17 Jun 2004 **Daily Cost : $ 269,599** **Report Number : 2**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
215.0	CON	P	RRD		1.25	Laid out remaining landing joint.
215.0	CON	U	RRD		1.25	Picked up 20" wellhead with rig tugger, aligned with 20" conductor stump and tack welded in position, overboard line oriented West. Measurement from cellar deck to top of wellhead housing = 1250 mm, measurement from RKB to top of wellhead housing = 27.460 m. Meanwhile prepared for back loading of excess equipment and rig skidding.
215.0	CON	P	RRD		0.25	Held JSA for rigging down the Franks D 46 hammer.
215.0	CON	P	RRD		1.75	Rigged down hammer.
215.0	PS	P	SKR		1.5	Prepared to skid to Yolla 4.

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DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004
Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Activity Report For Yolla-3

Date : 08 Aug 2004 **Daily Cost : $ 189,758** **Report Number : 3**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
215.0	PS	P	SKR		1	Skidded rig 3.66 m to port from Yolla-4 to Yolla-3. Centre line of rotary 3.12 to port. Reinstated access stairs, handrails and "V" door.
215.0	PS	P	RU		1.5	Reconnected service lines to rig floor. Reinstated deck hatch covers to Yolla main deck and removed hatch covers on Yolla-3. Erected safety handrails around Yolla-3 mezzanine deck opening.
215.0	PS	U	RU		1.5	Prepared, moved and secured PCU into position below drill floor.
215.0	PS	U	RU		2	Picked up riser tensioning frame and installed on riser tensioning cylinders.
215.0	PS	P	RU		0.5	Picked up rig up slings.
215.0	PS	TP	WOW	WOW	5	Operations shut down due to severe weather. Wind speed above 40 knots, unable to work to boat, laid down cranes. Perfomed rig maintenance on drilling equipment. Pressure tested Kill and choke manifold to 500 psi / 5 mins and 5000 psi / 10 mins. Sea/Weather Conditions Summary: Time - 19:00 Wind (kts) - 38-45 Swell (m) - 2.5 Waves (m) - 2.0 Time - 20:00 Wind (kts) - 40-50 Swell (m) - 2.5 Waves (m) - 2.0 Time - 21:00 Wind (kts) - 35-40 Swell (m) - 2.5 Waves (m) - 2.0 Time - 22:00 Wind (kts) - 45-55 Swell (m) - 2.5 Waves (m) - 2.0 Time - 23:00 Wind (kts) - 40-50 Swell (m) - 2.5 Waves (m) - 2.0 Time - 24:00 Wind (kts) - 40-48 Swell (m) - 3.0 Waves (m) - 2.5

Date : 09 Aug 2004 **Daily Cost : $ 342,009** **Report Number : 4**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
215.0	PS	TP	WOW	WOW	13.25	Wait on weather. Continued with Rig maintenance. Sea/Weather Conditions Summary: 00.00 hrs, wind 48 kts, swell 3.0 m, seas 2.5 m 02.00 hrs, wind 42 kts, swell 3.0 m, seas 2.5 m, heavy showers 04.00 hrs, wind 40 kts, swell 3.0 m, seas 2.0 m 06.00 hrs, wind 35 kts, swell 3.0 m, seas 1.5 m 08.00 hrs, wind 40 kts, swell 3.0 m, seas 1.5 m 10.00 hrs, wind 40 kts, swell 3.0 m, seas 1.5 m 12.00 hrs, wind 35 kts, swell 3.0 m, seas 1.5 m
215.0	PS	P	RR1		7	Picked up and ran low pressure riser, made up riser to Cameron 20 in wellhead. Installed turn-buckles and slings to 20 in conductor padeyes. Installed and torqued up second joint of low pressure riser. Picked up and installed overshot packer, divertor housing to riser. Snatched 11 lifts off supply vessel, 5 lifts plus casing remaining. Weather conditions deteriorated from 18:00 hrs unable to continue working cranes or supply vessel. 14.00 hrs, wind 35 kts, swell 3.5 m, seas 2.0 m, heavy showers

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 09 Aug 2004 **Daily Cost : $ 342,009** **Report Number : 4**

						16.00 hrs, wind 35 kts, swell 3.5 m, seas 2.0 m, heavy showers 18.00 hrs, wind 40 kts, swell 3.5 m, seas 1.5 m, heavy showers
215.0	PS	TP	WOW	WOW	3.75	Wait on weather. Performed maintenance on drilling equipment. Sea/Weather conditions summary: 20.00 hrs, wind 40 kts, swell 3.5 m, seas 1.5 m 22.00 hrs, wind 45 kts, swell 3.5 m, seas 1.5 m, squalls 24.00 hrs, wind 40 kts, swell 3.5 m, seas 1.5 m

Date : 10 Aug 2004 **Daily Cost : $ 314,388** **Report Number : 5**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
215.0	PS	TP	WOW	WOW	14.25	Wait on weather to work supply boat. Stump tested BOP to 500 psi /5 mins & 5,000 psi / 10 mins. Tested drillstring safety valves to 500 psi /5 mins & 5,000 psi / 10 mins. Sea/Weather conditions summary: 00.00 hrs, wind 40 kts, swell 3.5 m, seas 1.5 m 02.00 hrs, wind 40 kts, swell 3.5 m, seas 1.5 m 04.00 hrs, wind 60 kts, swell 3.5 m, seas 2.0 m 06.00 hrs, wind 50 kts, swell 3.5 m, seas 2.5 m 08.00 hrs, wind 35 kts, swell 4.0 m, seas 2.0 m 10.00 hrs, wind 30 kts, swell 2.5 m, seas 2.0 m 12.00 hrs, wind 30 kts, swell 2.5 m, seas 2.0 m 14.00 hrs, wind 30 kts, swell 2.5 m, seas 2.0 m
215.0	PS	P	RR1		3.75	Offloaded supply vessel. Rigged down test equipment. Installed wear bushing. Function tested the diverter.
215.0	PS	U	HBHA		3	Rearranged deck area to lay out BHA. Laid out, measured and calipered BHA.
215.0	PS	U	HBHA		3	Picked up BHA. Set bent housing in mud motor to 1.15°. Laying out and strapping 13.375 in casing.

Date : 11 Aug 2004 **Daily Cost : $ 373,536** **Report Number : 6**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
215.0	PS	P	HBHA		3	Made up and ran BHA to 124 m.
215.0	SH	P	DM		0	*** SPUDDED YOLLA-3 *** 124 m MDRT / 124 m TVDRT
280.0	SH	P	DM		6	Drilled out 20 in conductor from 124 m to 215 m. Drilled 16 in hole from 215 m to 280 m. Average ROP = 26 m/hr. Drilling parameters: WOB = 0 to 5 kips Rotary = 40 rpm Motor = 91 rpm Pumps = 700 gpm SPP = 1070 psi Torque = ±1800 ft/lbs
817.0	SH	P	DM		15	Commenced directional drilling 16 in hole from 280 m to 817 m. Pumped 30 bbl high vis every single and spotted 50 bbl high vis around the BHA prior to each connection. Good returns observed from conductor ports throughout. Slide 280 m to 300 m, rotate 300 m to 304 m Slide 304 m to 320 m, rotate 320 m to 333 m Slide 333 m to 350 m, rotate 350 m to 362 m Slide 362 m to 415 m, rotate 415 m to 421 m Slide 421 m to 469 m, rotate 469 m to 479 m Slide 479 m to 498 m, rotate 498 m to 508 m Slide 508 m to 532 m, rotate 532 m to 537 m Slide 537 m to 594 m, rotate 594 m to 605 m Slide 605 m to 624 m, rotate 624 m to 634 m Slide 634 m to 659 m, rotate 659 m to 663 m Slide 663 m to 686 m, rotate 686 m to 692 m Slide 692 m to 715 m, rotate 715 m to 721 m Slide 721 m to 740 m, rotate 740 m to 750 m Slide 750 m to 769 m, rotate 769 m to 789 m Slide 789 m to 808 m, rotate 808 m to 817 m Sliding Hours = 9 hrs

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 11 Aug 2004 **Daily Cost : $ 373,536** **Report Number : 6**

Sliding progress = 407 m
Sliding ROP (avg) = 45.2 m/hr
Rotating hours = 6 hrs
Rotating progress = 130 m
Rotating ROP (avg) = 21.6 m/hr

Note:- Cranes operated from 00.00 to 06.00, Shut down from 06.00 to 24.00 for wind >40 kts. Unable to work supply vessel due to heavy seas & sea direction.

Date : 12 Aug 2004 **Daily Cost : $ 316,253** **Report Number : 7**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1012.0	SH	P	DM		9	Drilled 16" hole from 817 m to 1012 m. Pumped 30 bbl high vis every single and spotted 50 bbl high vis around the BHA prior to each connection. Good returns observed from conductor ports throughout. Slide 817 m to 837 m, rotate 837 m to 856 m Slide 856 m to 866 m, rotate 866 m to 876 m Slide 876 m to 895 m, rotate 895 m to 905 m Slide 905 m to 914 m, rotate 914 m to 943 m Slide 943 m to 949 m, rotate 949 m to 963 m Slide 963 m to 972 m, rotate 972 m to 990 m Slide 990 m to 1006 m, rotate 1006 m to 1012 m Sliding Hours = 3.76 hrs Sliding progress = 87 m Sliding ROP (avg) = 23.1 m/hr Rotating hours = 3.27 hrs Rotating progress = 111 m Rotating ROP (avg) = 33.9 m/hr
1012.0	SH	P	CMD		1.25	Circulated bottoms up. Displaced the hole with high vis mud and spotted 90 bbls inhibited mud (6% KCl) on bottom.
1012.0	SH	P	WT		1.75	POOH from 1012 m to 215 m. Hole in good condition.
1012.0	SH	TP	WOW	WOW	5	Wait on favourable weather report prior to RIH and wiping the hole. Carried out general rig maintainance. Summary of weather conditions:- 12.00 hrs, wind 45 kts, swell 4.0 m, seas 2.5 m 14.00 hrs, wind 40 kts, swell 4.0 m, seas 2.5 m 16.00 hrs, wind 42 kts, swell 4.0 m, seas 3.0 m 17.00 hrs, wind 30 kts, swell 4.0 m, seas 3.0 m
1012.0	SH	P	WT		2	RIH from 215 m to 1000 m. Washed from 1000 m to 1012 m. No fill.
1012.0	SH	P	CMD		2.25	Circulated 50 bbl Hi Vis sweep around the hole. Displaced hole with 8.8 ppg Hi Vis mud. Spotted 90 bbl inhibited mud (6% KCl) on bottom.
1012.0	SH	P	TO		2.75	POOH from 1012 m to 103 m. Note:- Cranes unable to work from 00.00 to 18.00 due to wind >40 kts.

Date : 13 Aug 2004 **Daily Cost : $ 364,892** **Report Number : 8**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1012.0	SH	P	TO		2	POOH and racked back BHA. Recovered MWD probe. Laid out bit.
1012.0	SC	P	RRC		0.75	Removed diverter element. Retrieved wear bushing. Installed 20" diverter element.
1012.0	SC	P	RRC		0.25	Held JSA for rigging up casing running equipment.
1012.0	SC	P	RRC		1.75	Rigged up to run casing.
1012.0	SC	P	CRN		0.25	Held JSA for running casing.
1012.0	SC	TP	CRN	OEF	0.5	Weatherford power tong failed, swapped out power tongs.
1012.0	SC	P	CRN		5.5	Picked up shoe track and tested floats. Ran 13.375 in 54.5 lb/ft casing to 517 m. Total 43 jts run.
1012.0	SC	TP	WOW	WOW	5.5	Shut down casing running operations as weather conditions deteriorated with wind speed > 50 kts. WOW.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 13 Aug 2004 **Daily Cost : $ 364,892** **Report Number : 8**

						Summary of weather conditions:- 11.00 hrs, wind 45 kts, swell 3.0 m, seas 3.0 m 12.00 hrs, wind 48 kts, swell 4.5 m, seas 3.0 m 13.00 hrs, wind 50 kts, swell 4.5 m, seas 3.0 m 14.00 hrs, wind 40 kts, swell 4.5 m, seas 3.0 m 15.00 hrs, wind 40 kts, swell 4.5 m, seas 3.0 m 16.00 hrs, wind 40 kts, swell 4.0 m, seas 2.5 m
1012.0	SC	P	CRN		7	Weather conditions improved. Continued to run casing from 517 m to 1006.82 m. Ran 12 jts 13.375 in 54.5 lb/ft, Stage collar, cross over, 9 jts 13.375 in 72 lb/ft, cross over, 12 jts 13.375 in 54.5 lb/ft and 13.625 in unitised well head housing. Landed casing with the hanger off point at 27.5 m on 32.3 m x 13.375 54.5 lb/ft landing string. Casing shoe at 1006.82 m.
1012.0	SC	P	CRN		0.5	Confirmed casing landed via inspection port in 20 in well head housing. Rigged down La Fleur tool.

Date : 14 Aug 2004 **Daily Cost : $ 539,757** **Report Number : 9**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1012.0	SC	P	CIC		1	Installed cement head and cement lines.
1012.0	SC	P	CIC		2	Circulated casing contents plus 25% excess with sea water at 8 bpm.
1012.0	SC	P	CMC		2	Pressure tested cement line to 2000 psi. Pumped 20 bbls fresh water spacer. Mixed and pumped 294 bbls lead slurry at 12.5 ppg (740 sacks cement, 232 bbls mix water). Mixed and pumped 62 bbls tail slurry at 15.8 ppg (298 sacks cement, 37 bbls mix water).
1012.0	SC	P	CMC		1.75	Launched top cement plug. Displaced cement with 20 bbls fresh water spacer and 483 bbls sea water at 8 bpm. Bumped plug at 3394 strokes (70 strokes early) with a final circulating pressure of 780 psi at 2 bpm. Pressure tested casing to 1500 psi, held and record for 15 mins. Bled off and confirmed float holding.
1012.0	SC	P	CMC		0.25	Removed cement head cap and dropped stage collar opening dart. Allowed to fall for 7 mins. Loaded stage collar closing plug. Installed cement head cap.
1012.0	SC	U	CIC		4.75	Pressured up and opened stage collar with 0.6 bbl at 710 psi. Circulated at 2.5 bpm & 160 psi through stage collar while waiting for 1st stage lead cement samples to firm up.
1012.0	SC	P	CMC		2	Pumped 70 bbls inhibited sea water and 10 bbls inhibited fresh water. Mixed and pumped 68 bbls 13.5 ppg slurry (216 sacks cement, 50 bbls mix water). Released stage collar closing dart. Displaced cement with 20 bbls fresh water and 136 bbls sea water with the cement pump. Bumped plug with 4.2 bpm, closed stage collar and pressure tested casing to 1500 psi for 15 mins. Bled back and confirmed stage collar and floats were holding.
1012.0	SC	P	CRN		2.5	Rigged down cement head and cement line. Recovered 13.375 in landing string.
1012.0	SC	P	CRN		1.75	Rigged down 13.375 in casing handling equipment. Cleared rig floor.
1012.0	SC	P	BOP		3.5	Nippled down down diverter, overshot packer and low pressure risers.
1012.0	SC	P	BOP		1.75	Installed wellhead side outlet valves. Pressure tested flanges to 5000 psi. Removed blanking plugs.
1012.0	SC	P	BOP		0.75	Installed CF13 fastlock connector, 13 .625 in / 5k riser spool with N2 fastlock connector.

Date : 15 Aug 2004 **Daily Cost : $ 340,784** **Report Number : 10**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1012.0	SC	P	BOP		1.5	Installed inner beams in tensioner frame and prepared to pick up BOP.
1012.0	SC	P	BOP		0.25	Held JSA on moving the 18¾" 15k BOP.
1012.0	SC	P	BOP		1	Picked up 18¾" 15k BOP. Moved and located over well center. Installed rig up lines. Landed BOP on riser connecter.
1012.0	SC	P	BOP		1.25	Torqued up NT2 connecter. Installed POD control hoses. Pressured up Koomey accumulator unit. Removed test joint and rig up lines.
1012.0	SC	P	BOP		1	Nippled up overshot mandrel, overshot and diverter housing. Energised tensioners to 120 ton.
1012.0	SC	P	BOP		4.5	Nippled up choke and kill lines. Pressurised diverter seals.
1012.0	SH	P	PLD		3.5	Laid down 16 in BHA.
1012.0	IH1	P	BOP		1	Rigged up to test BOP.
1012.0	IH1	P	BOP		3	Pressure tested choke and kill hoses, choke manifold valves #'s 1, 2, 3, 4, upper wellhead valves and

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 15 Aug 2004 **Daily Cost : $ 340,784** **Report Number : 10**

					shear rams to 500 psi for 5 mins and 5000 psi for 10 mins.
1012.0	IH1	P	BOP	0.5	Performed accumulator tests.
1012.0	IH1	P	BOP	0.5	Recovered test plug and rigged down test equipment.
1012.0	IH1	P	BOP	0.5	Installed wear bushing.
1012.0	IH1	P	PUP	3.25	Made up 12.25 in clean out BHA. RIH and tagged cement at 303 m.
1012.0	IH1	P	DC	1.5	Drilled out cement and plugs in stage collar from 303 m to 308 m.
1012.0	IH1	P	CMD	0.5	Pumped high vis sweep around at 770 gpm, 1050 psi to clean out hole.
1012.0	IH1	P	TI	0.25	RIH from 308 m to 552 m.

Date : 16 Aug 2004 **Daily Cost : $ 344,294** **Report Number : 11**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1012.0	IH1	P	TI		1	RIH and tagged cement at 980 m.
1012.0	IH1	P	PT		0.5	Filled drill pipe, broke circulation and pressure tested the casing to 1500 psi for 5 mins. Good Test.
1012.0	IH1	P	DC		2.25	Drilled cement, Float & Shoe from 980 m to 1006 m. Displaced hole to new 8.6 ppg mud while drilling out rat hole from 1006 m to 1012m.
1017.0	IH1	P	DA		0.5	Drilled 5 m new formation from 1012 m to 1017 m. Drilling parameters:- Avg ROP = 15 m/hr, WOB = 25 kips, Pumps = 700 gpm, SPP = 1600 psi, Rotary = 40 rpm, Motor = 90 rpm, Torque = 4200 ft/lbs
1017.0	IH1	P	CMD		1	Circulated hole clean for FIT.
1017.0	IH1	U	LOT		1	Pulled back to 986 m, rigged up for FIT. Broke circulation and flushed the line from the cement unit. Closed the well in on the top pipe rams. Performed an FIT down the pipe and kill line to 10.5 ppg EMW with no leak off.
1017.0	IH1	U	TO		0.25	Flow checked the well - static. Slugged pipe.
1017.0	IH1	U	TO		1.25	POOH from 986 m to 183 m.
1017.0	IH1	U	TO		0.25	Flow checked the well - static, removed the PS 21 slips and installed rotary bushings.
1017.0	IH1	U	HBHA		1.25	POOH with BHA and laid down the float sub.
1017.0	IH1	U	LOT		0.25	Closed the shear rams and re-ran FIT to 10.5 ppg EMW with no leak off.
1017.0	IH1	U	HBHA		2	Picked up and function tested adjustable stabiliser to 620 gpm - OK. Picked up MWD suite.
1017.0	IH1	U	HBHA		0.75	Initialised MWD tools.
1012.0	IH1	U	HBHA		0.25	Broke off bit.
1017.0	IH1	U	HBHA		2	Made up new bit. Set bend in mud motor to 1.15°. Scribed and oriented mud motor to MWD. RIH with BHA to 190 m.
1017.0	IH1	U	HBHA		0.25	Performed MWD shallow test with 650 gpm - good test.
1017.0	IH1	U	TI		1.5	RIH from 190 m to 1006 m.
1017.0	IH1	U	TIT		0.25	Washed from 1006 m to 1017 m.
1205.0	IH1	P	DM		7.5	Drilled from 1017 m to 1205 m, conducting MWD surveys each single. The MWD has an itermittent fault and spontaneously shuts down and been difficult restart at times. The AGS would not close from 12 in to 11 in for one stand. Performed minor directional corrections while drilling. Slide total 37 m, 1.5 hrs, avg ROP = 25 m/hr. Rotate total 151 m, 4.2 hrs, avg ROP = 36 m/hr. Drilling parameters:- WOB = 15 kips, Pumps = 820 gpm, SPP = 2220 psi, Rotary = 50 rpm, Motor = 106 rpm, Torque = 3830 ft/lbs

Date : 17 Aug 2004 **Daily Cost : $ 437,793** **Report Number : 12**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1260.0	IH1	P	DM		2.75	Drilled from 1205 m to 1260 m.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 17 Aug 2004 **Daily Cost : $ 437,793** **Report Number : 12**

1260.0	IH1	TP	DM	OTH	0.5	Cuttings ditch below rig floor plugged with cuttings. Reduced pump rate and stopped drilling while the ditch was cleaned out.
1420.0	IH1	P	DM		6.75	Drilled from 1260 m to 1420 m, conducting MWD surveys each single. The MWD has an itermittent fault and spontaneously shuts down and been difficult to restart at times. Drilling parameters:- WOB = 12 kips, Pumps = 835 gpm, SPP = 2700 psi, Rotary = 70 rpm, Motor = 108 rpm, Torque = 7000 ft/lbs
1420.0	IH1	TP	DM	OTH	0.5	Cuttings ditch below rig floor plugged with cuttings. Stopped drilling, reciprocated pipe while the ditch was cleaned out.
1593.0	IH1	P	DM		11	Drilled from 1420 m to 1593 m, conducting MWD surveys each single. Slide progress 10 m. Slide time 0.5 hr. Rotate progress 378 m. Rotate time 14.5 hrs. AGS full gauge 244 m (63%), under gauge 144 m (37%) Average drilling parameters:- WOB = 15 kips, Pumps = 840 gpm, SPP = 2820 psi, Rotary = 60 rpm, Motor = 114 rpm, Torque = 5520 ft/lbs
1593.0	IH1	TP	DM	DTF	1.5	MWD tool failed. Attempted to re-start - unsuccessfull. Circulated bottoms up and cleaned hole. Added 2% KCL.
1593.0	IH1	TP	DM	DTF	0.25	Flow checked - OK. Pumped slug.
1593.0	IH1	TP	DM	DTF	0.75	POOH from 1593 m to 1410 m. Note:- No weather related down-time. Normal operations for both cranes and vessels.

Date : 18 Aug 2004 **Daily Cost : $ 345,624** **Report Number : 13**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1593.0	IH1	TP	DM	DTF	1.75	POOH from 1410 m to 1226 m. Worked through from 1265 m to 1236 m with 40 to 50 kips overpull. Jars cocked and fired.
1593.0	IH1	TP	DM	DTF	0.25	Pumped out of hole from 1226 m to 1212 m, hole packed off.
1593.0	IH1	TP	DM	DTF	1.25	Backreamed from 1212 m to 1006 m with 304 gpm, 800 psi and 60 rpm. No overpull while backreaming.
1593.0	IH1	TP	DM	DTF	0.5	Circulated out slug. Flow checked the well - static. Pumped a slug.
1593.0	IH1	TP	DM	DTF	1	POOH from 1006 m to 190 m.
1593.0	IH1	TP	DM	DTF	1.75	Flow checked - static. POOH with BHA form 190 m to 26 m. Changed out the Jars, firing prematurely.
1593.0	IH1	TP	DM	DTF	1.75	Laid out NM Hang off collar, DIR & RLL tools. Picked up new RLL, DIR & NM Hang off collar.
1593.0	IH1	TP	DM	DTF	0.75	Initialised MWD tools
1593.0	IH1	TP	DM	DTF	0.5	Cleaned & inspected the bit, AGS and mud motor. Scribed Mud motor to MWD DIR tool.
1593.0	IH1	TP	DM	DTF	1	RIH to 133 m.
1593.0	IH1	TP	DM	DTF	0.25	Shallow tested the MWD tools @ 700 gpm - OK.
1593.0	IH1	TP	DM	DTF	2	RIH from 133 m to 1006 m.
1593.0	IH1	P	SC		2	Held JSA. Hung off blocks and slipped & cut drill line.
1593.0	IH1	P	SC		0.25	Re-set block control & Crown-O-matic.
1593.0	IH1	TP	DM	DTF	0.5	RIH from 1006 m to 1259 m, stood up with 60 kips.
1593.0	IH1	TP	DM	DTF	0.25	Pumped through obstruction at 1259 m & washed the stand down.
1593.0	IH1	TP	DM	DTF	0.5	RIH from 1259 m to 1585 m. No excess drag - hole in good condition.
1593.0	IH1	TP	DM	DTF	0.75	Washed Last stand from 1585 m to 1593 m. Gas began increasing so continued to circulate prior to commencing drilling.
1593.0	IH1	TP	DM	DTF	1	Gas increased to 4,300 units, stopped circulating and flow checked the well. The well was static but there was gas break out on surface. The annular preventer was closed as a precaution against the well purging. Completed circulating bottoms up at 300 gpm, 750 psi via an open choke with the gas holding at ±4000 units. Pits and system volumes remained steady throughout. Checked the mud density and confirmed the mud was gas cut. Mud weight with pressure balance = 9.7 ppg.

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Date : 18 Aug 2004 **Daily Cost : $ 345,624** **Report Number : 13**

						Mud weight with standard balance = 8.7 ppg.
1593.0	IH1	TP	DM	DTF	0.5	Stopped circulating. Flow checked - static. Opened annular, monitored the well on the trip tank for 15 mins - static. Rotated and reciprocated the drill string while monitoring the well.
1593.0	IH1	TP	DM	DTF	0.5	Circulated a further bottoms up. Maximum gas = 2380 units reduced to 87 units. prepared to drill ahead.
1642.0	IH1	P	DM		5	Drilled from 1593 m to 1642 m. Took MWD surveys each connection. Slide progress 0 m. Slide time 0 hr. Rotate progress 49 m. Rotate time 3.7 hrs. AGS full gauge 0 m (0%), under gauge 49 m (100%) Average drilling parameters:- WOB = 15 kips, Pumps = 840 gpm, SPP = 3050 psi, Rotary = 60 rpm, Motor = 114 rpm, Torque = 5500 ft/lbs Note:- No weather related down-time. Normal operations for both cranes and vessels.

Date : 19 Aug 2004 **Daily Cost : $ 323,862** **Report Number : 14**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1728.0	IH1	P	DM		6	Drilled from 1642 m to 1728 m. Took MWD surveys each connection. Slide progress 0 m. Slide time 0 hr. Rotate progress 86 m. Rotate time 6.0 hrs. AGS full gauge 0 m (0%), under gauge 86 m (100%) Average drilling parameters:- WOB = 10 to 15 kips, Pumps = 840 gpm, SPP = 3000 psi, Rotary = 70 rpm, Motor = 114 rpm, Torque = 8000 ft/lbs
1961.0	IH1	P	DM		18	Drilled from 1642 m to 1961 m. Took MWD surveys each connection. Slide progress 25 m. Slide time 1.6 hr. Rotate progress 294 m. Rotate time 16.9 hrs. AGS full gauge 319 m (100%), under gauge 0 m (0%) Average drilling parameters:- WOB = 10 to 15 kips, Pumps = 840 gpm, SPP = 3200 psi, Rotary = 60 rpm, Motor = 114 rpm, Torque = 8200 ft/lbs. Note:- No weather related down-time. Normal operations for both cranes and vessels.

Date : 20 Aug 2004 **Daily Cost : $ 362,740** **Report Number : 15**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2146.0	IH1	P	DM		21	Drilled from 1961 m to 2146 m. Took MWD surveys each connection. Slide progress 30 m. Slide time 6 hr. Rotate progress 155 m. Rotate time 12 hrs. AGS full gauge 76 m (100%), under gauge 0 m (0%) Average drilling parameters:- WOB = 15 kips, Pumps = 845 gpm, SPP = 3600 psi, Rotary = 60 rpm, Motor = 115 rpm, Torque = 10000 ft/lbs.
2146.0	IH1	TP	DM	HC	0.25	Gas increased rapidly to 2955 units. Stopped drilling and monitored the well while circulating out gas cut mud. Mud weight decreased from 9.5 ppg to 8.8 ppg with standard mud balance.
2178.0	IH1	P	DM		2.75	Drilled from 2146 m to 2178 m. Took MWD surveys each connection. Slide progress 5 m. Slide time 1 hr. Rotate progress 26 m. Rotate time 1.75 hrs. AGS full gauge 76 m (100%), under gauge 0 m (0%) Average drilling parameters:- WOB = 15 kips, Pumps = 845 gpm, SPP = 3800 psi, Rotary = 70 rpm, Motor = 115 rpm, Torque = 11000 ft/lbs. Note:- No weather related down-time. Normal operations for both cranes and vessels.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 21 Aug 2004 **Daily Cost : $ 408,241** **Report Number : 16**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2216.0	IH1	P	DM		3.5	Drilled from 2178 m to core point at 2216 m (1815 m TVDSS / 1858 m TVDRT). Took MWD surveys each connection. Slide progress 0 m. Slide time 0 hr. Rotate progress 38 m. Rotate time 3.5 hrs. AGS full gauge 38 m (100%), under gauge 0 m (0%) Average drilling parameters:- WOB = 15 kips, Pumps = 845 gpm, SPP = 3800 psi, Rotary = 70 rpm, Motor = 115 rpm, Torque = 11000 ft/lbs.
2216.0	IH1	P	COR		2.25	Circulated bottoms up, Max gas = 1300 units. Circulated until shakers clean and gas below 100 units.
2216.0	IH1	P	COR		0.25	Flow checked the well - static.
2216.0	IH1	P	COR		3.25	POOH from 2216 m to 1931 m, hole good. Pumped a slug and POOH from 1931 m to 1505 m. Started to pull tight, 50-60 kips overpull, from 1505 m to 1463 m (bottom of Angahook formation).
2216.0	IH1	TP	COR	HC	0.75	Ran the stand down and established circulation @ 380 gom and 850 psi. Pumped out of the hole, packed off at 1463 m. Regained circulation and rotary. Worked pipe and pulled to 1439 m.
2216.0	IH1	TP	COR	HC	1	Attempted to pull from 1439 m without pumps - no success, 50-60 kips overpull. Re-established circulation with 465 gpm at 1100 psi and attempted to pump out of the hole. Hole packed off. Worked pipe to regain circulation and backreamed from 1439 m to 1390 m. Hole packed off at 1390 m. Worked pipe down to 1417 m and regained circulation.
2216.0	IH1	TP	COR	HC	1.25	Staged pump rate up to 800 gpm and 2900 psi. Circulated hole clean, max gas 380 units. Mud wieght out 9.5+ ppg, silty slurry returns at shakers.
2216.0	IH1	TP	COR	HC	0.75	Backreamed at 600 gpm with 1600 psi from 1417 m to 1334 m, hole packed off.
2216.0	IH1	TP	COR	HC	1.25	Worked down from 1334 m to 1351 m and regained circulation. Staged pump rate up to 800 gpm and 2800 psi.
2216.0	IH1	TP	COR	HC	1.75	Backreamed form 1351 m to 1243 m.
2216.0	IH1	TP	COR	HC	0.25	Hole packed off at 1243 m. Worked pipe until regained full returns.
2216.0	IH1	TP	COR	HC	1.25	Backreamed from 1243 m to 1170 m with 800 gpm and 2800 psi.
2216.0	IH1	TP	COR	HC	1	Hole packed off at 1170 m. Worked pipe from 1170 m to 1148 m and staged up pumps, re-gained circulation at 250 gpm and 550 psi.
2216.0	IH1	TP	COR	HC	4	Backreamed from 1148 m to 1136 m. Packed off, worked pipe and re-gained circulation. Backreamed from 1136 m to 1070 m. Packed off, worked pipe and re-gained circulation. Backreamed from 1070 to 1006 m (casing shoe) at 250 gpm and 550 psi.
2216.0	IH1	TP	COR	HC	1.25	Circulated the hole clean at 750 gpm and 2350 psi. Drifted all the drill pipe in the derrick with 2.5 in drift.
2216.0	IH1	P	COR		0.25	Flow checked the well - static. Pumped a slug and dropped the 2.5 in hollow drift in the drill string. Note:- No weather related down-time. Normal operations for both cranes and vessels on ENSCO 102. No crew transfers from AA to Yolla due winds >25 kts prevented flights.

Date : 22 Aug 2004 **Daily Cost : $ 328,378** **Report Number : 17**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2216.0	IH1	P	COR		2	POOH from 1006 m to 190 m.
2216.0	IH1	P	COR		1.75	Flow checked - static. POOH BHA from 190 m to surface. 12¼ in string stabiliser balled up, 1 water course clear.
2216.0	IH1	P	COR		0.75	Downloaded MWD data.
2216.0	IH1	P	COR		0.5	Cleaned up AGS and mud motor. Broke off bit and racked back MWD tools. Bit balled up with 4½ water courses plugged.
2216.0	IH1	P	COR		2.75	Held JSA and made up 6¾" x 4¼" Posi-Close core barrel.
2216.0	IH1	P	COR		2.25	RIH with coring assembly, picked up 4 x 8¼ in drill collars. Made up BHA and RIH to 224 m.
2216.0	IH1	P	COR		1.75	RIH to 997 m.
2216.0	IH1	P	COR		0.75	Circulated bottoms up at 500 gpm 800 psi. Serviced TDS, greased crown.
2216.0	IH1	P	COR		0.5	Made up core Posi-Close ball dropping stand and racked back in derrick.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 22 Aug 2004 **Daily Cost : $ 328,378** **Report Number : 17**

2216.0	IH1	P	COR		5.25	RIH from 997 m to 2165 m, reamed tight spots at 1035 m, 1107 m, 1117 m, 1475 m.
2216.0	IH1	P	COR		1	Washed and reamed (Precautionary) from 2165 m to 2216 m at 350 gpm, 900 psi.
2216.0	IH1	P	COR		0.75	Tagged bottom at 2216 m. Picked up and took off bottom torque readings and SCR's. Dropped 1.25 in diverter ball. Pumped down at 200 gpm and 550 psi. Ball seated, pump pressure increased by 200 psi.
2234.0	IH1	P	COR		0.75	Cored from 2216 m to 2234 m. Coring parameters:- WOB = 6 to 8 kips. Rotary = 70 rpm. Pumps = 150 gpm. Pressure = 595 psi. Torque = 13 to 17 kft/lbs
2234.0	IH1	P	COR		1.5	Dropped 2 in Posi-Close Ball and chased with 250 gpm and 800 psi. Ball did not seat after 2 times drill string capacity pumped. Disconnected TDS and dropped a second 2 in ball, chased with 250 gpm at 800 psi for 1 drill string capacity. Did not seat. Picked up off bottom and broke off core with 15 kips overpull. Max trip gas = 1050 units.
2216.0	IH1	P	COR		1.75	Pulled up to 2215 m. Racked back ball dropping stand. Circulated bottoms up with 350 gpm at 900 psi. Continued to circulate and reduced gas level from 490 units to background level of ±100 units. Note:- No weather related down-time. Normal operations for both cranes and vessels.

Date : 23 Aug 2004 **Daily Cost : $ 353,574** **Report Number : 18**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2234.0	IH1	P	COR		0.5	Circulated hole clean with 350 GPM (900 psi).
2234.0	IH1	P	COR		4.75	Flow checked well - static. POOH from 2234 mMD to 1146 mMD. Started to pull tight (15 to 20 klbs) and swabbed.
2234.0	IH1	P	COR		1.25	Pumped out of hole at 230 GPM (330 psi) from 1146 mMD to 998 mMD.
2234.0	IH1	P	COR		0.25	Flow checked well - static.
2234.0	IH1	P	COR		1	Pumped and displaced slug. POOH coring BHA from 998 mMD to 824 mMD. Gained a total of 2.7 bbls.
2234.0	IH1	P	COR		0.25	Flow checked well - static.
2234.0	IH1	P	COR		4	POOH coring BHA from 824 mMD to 100 mMD.
2234.0	IH1	TP	COR	SWT	2	Racked back 8.25 in drill collars in derrick. Continued to POOH with coring BHA and found that 21.1 m of assembly left in hole. Upon inspection it was found that the core barrel parted at the spline drive housing. The internal fine threads (box) of the housing were not damaged suggesting that the connection had backed out down hole. TOF at 2212.9 mMD.
2234.0	IH1	TP	COR	SWT	4	Monitored well on trip tank. Serviced top drive and PRS. Checked tool drawings and discussed forward options.
2234.0	IH1	TP	COR	SWT	2.5	Mobilised BOT fishing hand and 6.75 in grapple. Made up 11.75 in overshot fishing assembly with 6.75 in grapple.
2234.0	IH1	TP	COR	SWT	2.25	Installed PS21 and RIH fishing assembly to 1061 mMD.
2234.0	IH1	TP	COR	SWT	1.25	Washed and reamed from 1061 mMD to 1096 mMD. Rotated at 30 RPM and pumped at 200 GPM (310 psi). Tight spots encountered at 1061 mMD, 1067 mMD and 1071 mMD. Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 24 Aug 2004 **Daily Cost : $ 385,839** **Report Number : 19**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2234.0	IH1	TP	COR	SWT	3.75	RIH fishing BHA from 1096 mMD to 1400 mMD. Washed each stand down (200 GPM).
2234.0	IH1	TP	COR	SWT	4.25	RIH fishing BHA from 1400 mMD to 2189 mMD. Broke circulation every 5th stand to clear overshot (200 GPM).
2234.0	IH1	TP	COR	SWT	1.5	Washed down fishing BHA from 2189 mMD to 2199 mMD. Circulated bottoms up at 400 GPM (880 psi). Maximum gas 93 units. Reciprocated pipe: up weight = 290 klbs, down weight = 220 klbs.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 24 Aug 2004 **Daily Cost : $ 385,839** **Report Number : 19**

2234.0	IH1	TP	COR	SWT	1.5	Washed down fishing BHA from 2199 mMD at 150 GPM (325 psi) and tagged TOF (2212.9 mMD). Engaged fish (10:00 hrs) and confirmed with 50 klbs overpull. Bled off string pressure from 600 psi to 0 psi. Worked string free (maximum overpull of 130 klbs) into 12.25 in hole. Pressured up string to 550 psi and confirmed fish remained engaged. Bled off pressure.
2234.0	IH1	TP	COR	SWT	0.25	Flow checked well - static.
2234.0	IH1	TP	COR	SWT	7.75	POOH with fish to 109.1 mMD. Tight spots encountered at 1095 mMD, 1075 mMD and 1055 mMD.
2234.0	IH1	TP	COR	SWT	1.5	Removed PS21 slips and installed master bushings. POOH with fish and BHA to surface. Entire fish recovered to surface.
2234.0	IH1	TP	COR	SWT	0.25	Conducted JSA prior to handling BHA and fish. Discussed the safety issues regarding the handing and breaking out of the fish from the 11.75 in overshot.
2234.0	IH1	P	COR		3.25	Broke off core bit and commenced laying down core barrels. Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 25 Aug 2004 **Daily Cost : $ 376,635** **Report Number : 20**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2234.0	IH1	P	COR		0.25	Conducted JSA prior to laying down coring and fishing assemblies.
2234.0	IH1	P	COR		4	Broke out 11.75 in overshot from top of fish and laid down overshot. Laid down and cut up fibre glass inner barrels. A total of 18.47 m of core recovered.
2234.0	IH1	P	COR		0.25	Conducted JSA prior to making up 12.25 in BHA.
2234.0	IH1	U	COR		1.25	Picked up and made up 12.25 in directional BHA.
2234.0	IH1	P	COR		4.5	Aligned 9.625 in mud motor (1.15° bend) and programmed MWD tools. Performed Adjustable Gauge Stabiliser test at 477 GPM (full gauge at 500 psi, undergauge at 375 psi). RIH BHA to 190 mMD.
2234.0	IH1	P	COR		0.25	Performed shallow test on MWD at 850 GPM - OK.
2234.0	IH1	P	COR		1.25	Continued to RIH from 190 mMD to 1007 mMD (13.375 in shoe).
2234.0	IH1	P	COR		0.25	Picked up stand from derrick and broke out drop ball sub. Racked back stand in derrick.
2234.0	IH1	P	COR		0.75	Serviced the top drive and PRS.
2234.0	IH1	TP	COR	RE	0.75	Repaired link tilt problem on the top drive.
2234.0	IH1	P	COR		0.25	RIH 12.25 in directional BHA from 1007 mMD to 1032 mMD.
2234.0	IH1	TP	COR	HC	7	Reamed and washed from 1032 mMD to 1613 mMD to clean hole (880 GPM, 2800 psi). Note: 1. Tight spots were encountered at 1255 mMD, 1516 mMD and 1558 mMD. 2. Pumped a 30 bbl Barolift sweep at 1293 mMD. Noticed an increase of fine cuttings across the shakers on bottoms up (soft mushy fines, ground up claystone).
2234.0	IH1	TP	COR	HC	1	Pumped a 60 bbl Barolift sweep at 1613 mMD (880 GPM, 3000 psi). On bottoms up fine cuttings were observed across the shakers.
2234.0	IH1	P	COR		1.5	RIH BHA from 1613 mMD to 2193 mMD. No excess drag encountered.
2234.0	IH1	TP	COR	HC	0.75	Reamed and washed BHA down from 2193 mMD to 2216 mMD (top of core point/rathole). Resistance encountered from 2203 mMD to 2216 mMD. Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 26 Aug 2004 **Daily Cost : $ 371,767** **Report Number : 21**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2234.0	IH1	P	COR		1.75	Reamed cored rathole from 2216 mMD to 2234 mMD (850 GPM, 3840 psi, 12-15 k torque) and conditioned mud.
2234.0	IH1	U	COR		2.5	Pumped 60 bbls Barolift sweep and circulated hole clean (852 GPM, 3820 psi, 11-14 k torque). Circulated bottoms up x3 times and monitored mud properties with new addititve (PHPA). Mud weight at bottoms up of 3rd circulation was 9.35 ppg (6 RPM = 11, PHPA = 0.75, MBT = 10 ppb). Note: Made up 6 doubles of 9.625 in casing. A total of 42 doubles stood back in derrick.

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DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004
Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 26 Aug 2004 **Daily Cost : $ 371,767** **Report Number : 21**

2347.0	IH1	P	DM	11.25	Drilled 12.25 in hole from 2234 mMD to casing point at 2347 mMD (10-15 klbs WOB, 850 GPM, 60-80 RPM). Note: 1. Slide 19 m at 4 m/hr average ROP, Rotate 94 m at 18 m/hr average ROP. 2. Up weight = 330 klbs, Down weight = 240 klbs, Rotating weight = 280 klbs 3. Took SCR's at 2310 mMD with 9.5 ppg mud. 30 SPM 40 SPM MP #1 360 psi 495 psi MP #2 330 psi 465 psi
2347.0	IH1	P	CMD	2.5	Pumped 60 bbls Barolift sweep and circulated hole clean. Circulated bottoms up x3 times and monitored mud properties. Noticed an increase of fine cuttings and clay across the shakers on bottoms up (soft mushy fines, ground up claystone).
2347.0	IH1	P	TO	0.25	Flow checked well - static.
2347.0	IH1	P	TO	0.5	POOH from 2347 mMD to 2173 mMD.
2347.0	IH1	P	TO	3.25	Pumped slug and POOH from 2173 mMD to 984 mMD (inside 13.375 in shoe). No excess drag observed - hole in good condition.
2347.0	IH1	P	TO	0.25	Flow checked well - static.
2347.0	IH1	P	TO	1.25	POOH from 984 mMD to 190 mMD.
2347.0	IH1	P	HBHA	0.5	POOH 12.25 in BHA from 190 mMD to 85 mMD. Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 27 Aug 2004 **Daily Cost : $ 479,556** **Report Number : 22**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2347.0	IH1	P	HBHA		0.75	POOH 12.25 in BHA from 85 mMD to 26 mMD.
2347.0	IH1	P	MWD		0.75	Downloaded MWD data and retrieved MWD probe.
2347.0	IH1	P	HBHA		0.5	POOH BHA and broke out bit (2-2-BT-S-X-I-WT-TD). Racked back BHA in derrick.
2347.0	IH1	TP	LOG	HC	0.25	Conducted JSA prior to rigging up Schlumberger.
2347.0	IH1	TP	LOG	HC	2.25	Rigged up to run wireline. Made up tools for run #1 (PEX-HRLA-CMR-SP-GR-LEH-QT).
2347.0	IH1	TP	LOG	HC	1	RIH wireline run #1 to 1200 mMD at 6000 ft/hr.
2347.0	IH1	TP	LOG	HC	4.5	Wireline tension decreased from 1100 lbs to 300 lbs at 1200 mMD. Pulled up to 1134 mMD and tension increased to 4500 lbs. Attempted to work wireline cable to free stuck tools - unsuccessful. Attempted to free tools by applying tension (30 mins) to cable - unsuccessful. Attempted to free tools by slackening the cable tension (30 mins) - unsuccessful.
2347.0	IH1	TP	LOG	HC	0.75	Confirmed maximum allowable overpull with town. Commenced pulling on cable with full tension - tool free. POOH to 13.375 in shoe with 3400 - 4600 lbs.
2347.0	IH1	TP	LOG	HC	2.75	POOH wireline logging tools to surface and lay down same.
2347.0	IH1	U	HBHA		2	Lay down directional 12.25 in BHA stood back in derrick.
2347.0	IH1	TP	LOG	HC	1.75	Made up 12.25 in cleanout BHA to wipe and condition hole to 2347 mMD. RIH same to 152 mMD.
2347.0	IH1	TP	LOG	HC	1.25	RIH cleanout BHA to 994 mMD (inside 13.375 in shoe).
2347.0	IH1	P	RS		0.5	Serviced top drive.
2347.0	IH1	TP	LOG	HC	0.25	RIH cleanout BHA from 994 mMD to 1040 mMD.
2347.0	IH1	TP	LOG	HC	4.75	Washed and reamed 12.25 in hole from 1040 mMD to 1459 mMD. No resistance noted although a large volume of fine mushy cuttings were observed across the shakers. Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 28 Aug 2004 **Daily Cost : $ 334,275** **Report Number : 23**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 28 Aug 2004 **Daily Cost : $ 334,275** **Report Number : 23**

2347.0	IH1	TP	LOG	HC	3.25	Washed and reamed 12.25 in hole from 1459 mMD to 1600 mMD (150 SPM, 2600 psi, 6-9 k Torque, 80 RPM). Large volumes of fine mushy cuttings continued to be observed across the shakers. Note: Weight taken (5-10 klbs) at 1500 - 1570 mMD and 1595 - 1600 mMD. Reamed through as required.
2347.0	IH1	TP	LOG	HC	1.75	Pumped 60 bbls Barolift sweep and circulated hole clean (150 SPM, 2500 psi, 873 GPM). Fine mushy cuttings were observed on bottoms up and decreased in volume as circulation continued. Note: Bottoms up was 1000 strokes over the calculated figure indicating over gauge hole.
2347.0	IH1	TP	LOG	HC	0.25	RIH cleanout BHA from 1600 mMD to 1678 mMD. Weight taken (15 klbs) at 1678 mMD. Reamed through as required.
2347.0	IH1	TP	LOG	HC	2	Washed and reamed from 1678 mMD to 1835 mMD (150 SPM, max torque 15 k). Resistance (10-15 klbs) noted at 1779 mMD.
2347.0	IH1	TP	LOG	HC	1	RIH from 1835 mMD to 2262 mMD. Resistance noted at 2262 mMD.
2347.0	IH1	TP	LOG	HC	2	Washed and reamed from 2262 mMD to 2347 mMD (max torque 25 k).
2347.0	IH1	TP	LOG	HC	2.5	Pumped 60 bbls Barolift sweep and circulated hole clean (920 GPM, 3450 psi). Fine mushy cuttings were observed on bottoms up and decreased in volume as circulation continued.
2347.0	IH1	TP	LOG	HC	0.25	Flow checked well - static.
2347.0	IH1	TP	LOG	HC	0.25	POOH cleanout assembly from 2347 mMD to 2233 mMD.
2347.0	IH1	TP	LOG	HC	2.75	Pumped slug and POOH from 2233 mMD to 984 mMD.
2347.0	IH1	TP	LOG	HC	0.25	Flow checked well - static.
2347.0	IH1	TP	LOG	HC	1.75	POOH from 984 mMD to 152 mMD.
2347.0	IH1	TP	LOG	HC	1.25	POOH cleanout BHA from 152 mMD to surface. Stood back BHA in derrick.
2347.0	IH1	TP	LOG	HC	0.25	Conducted JSA prior to wireline logging operations.
2347.0	IH1	TP	LOG	HC	1.25	Rigged up wireline equipment and made up assembly #1 (PEX-HRLA-GR-SP-LEH-QT). RIH at 14000 ft/hr to 13.375 in shoe (1007 mMD).
2347.0	IH1	TP	LOG	HC	0.25	RIH assembly #1 to 1123 mMD - wireline assembly stood up at 1123 mMD. Pulled back to 1000 mMD and calibrated HRLA.
2347.0	IH1	TP	LOG	HC	2.25	Made several attempts to pass through 1123 mMD at various RIH speeds (3000-10000 ft/hr) - unsuccessful.
2347.0	IH1	TP	LOG	HC	0.75	POOH wireline assembly #1 to reconfigure tool string. Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 29 Aug 2004 **Daily Cost : $ 351,906** **Report Number : 24**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2347.0	IH1	TP	LOG	HC	0.5	POOH wireline assembly #1 to surface and unloaded sources.
2347.0	IH1	TP	LOG	HC	1	Broke down tool string and rigged up shorter assembly (PEX-GR-LEH-QT). Loaded sources.
2347.0	IH1	TP	LOG	HC	1.5	RIH wireline assembly #2 to 1143 mMD. Tool hung up. Made 6 attempts to pass 1143 mMD at various speeds (1000 - 12000 ft/hr) - unsuccessful.
2347.0	IH1	TP	LOG	HC	0.5	POOH wireline assembly #2 and unloaded sources.
2347.0	IH1	TP	LOG	HC	1.25	Rigged down Schlumberger wireline.
2347.0	IH1	U	BOP		1	Made up wear bushing running tool and retrieved wear bushing. Changed out pipe rams (to 9.625 in).
2347.0	IH1	U	BOP		1.5	Made up wellhead jetting tool and RIH same. Cleaned wellhead profile.
2347.0	IH1	U	BOP		0.75	Made up BOP test tool and RIH to wellhead. Filled up riser and pressure tested BOP to 300 psi (5 mins) - OK.
2347.0	IH1	TU	BOP	OEF	0.25	Attempted to pressure BOP test to 1500 psi - unsuccessful.
2347.0	IH1	TU	BOP	OEF	2	POOH BOP test tool assembly and changed out seals. RIH to wellhead and filled up riser.
2347.0	IH1	U	BOP		0.25	Pressure tested BOP to 1500 psi (10 mins) - successful. POOH and laid down testing assembly.

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Date : 29 Aug 2004 **Daily Cost : $ 351,906** **Report Number : 24**

2347.0	IH1	TP	RRC	RE	1.5	Installed extra cable for link tilt and rotating head on top drive.
2347.0	IC1	P	RRC		1.5	Rigged up Le Fleur fill up tool and casing equipment
2347.0	IC1	P	CRN		0.25	Conducted JSA prior to commencing 9.625/10.75 in casing running operation.
2347.0	IC1	P	CRN		1	Picked up and made up shoe track and float equipment.
2347.0	IC1	P	CRN		3.75	RIH 9.625 in casing (43.5 ppf, VT, L80) doubles racked back in derrick to 998 mMD.
2347.0	IC1	P	CRN		0.25	Broke circulation at 998 mMD with 350 GPM (400 psi).
2347.0	IC1	P	CRN		5.25	RIH 9.625 in casing (43.5 ppf, VT, L80) singles to 1912 mMD at 15 jnts/hr. Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 30 Aug 2004 **Daily Cost : $ 424,121** **Report Number : 25**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2347.0	IC1	P	CRN		1.75	RIH 9.625 in casing (43.5 ppf, VT, L80) to 2140 mMD.
2347.0	IC1	P	CRN		0.75	Changed out 9.625 in elevators and slips to 10.75 in equipment.
2347.0	IC1	P	CRN		1.75	RIH 10.75 in casing (51 ppf, VT, L80) to 2312 mMD.
2347.0	IC1	P	CRN		0.5	Picked up casing hanger running tool and landing joints.
2347.0	IC1	P	CRN		0.5	RIH to 2337 mMD and encountered resistance. Washed casing string to 2339.87 mMD and landed out 10.75 in casing hanger. Note: The average casing running speed for this operation was 15.4 jnts/hr. This is a 22% improvement when compared to the Yolla-4 performance.
2347.0	IC1	P	CMD		1.75	Circulated 1.2x casing volume at 500 psi maximum circulation pressure (final flow rate 400 GPM, 560 psi).
2347.0	IC1	P	RUC		1	Broke out and laid down Le Fleur circulating head. Broke out and laid down 10.75 in Pup A and made up 10.75 in VT pin x 9.625 in VT box cross over. Installed cement head and surface lines.
2347.0	IC1	P	RUC		0.25	Held JSA prior to commencing cementing operations.
2347.0	IC1	P	PT		0.5	Cement unit pumped 10 bbls of fresh water and tested surface lines to 4000 psi - OK.
2347.0	IC1	P	CMC		1.5	Pumped 8 bbls fresh water and released bottom plug. Mixed and pumped 198 bbls of 12.5 ppg lead slurry (522 sx/22.3 MT, 153 bbls mix fluid). Mixed and pumped 48 bbls of 15.8 ppg tail slurry (174 sx/7.4 MT, 27 bbls mix fluid).
2347.0	IC1	P	CMC		1.5	Dropped top plug and pumped 20 bbls of fresh water using cement unit. Pumped 572 bbls of mud with rig pumps. Initial displacement rate was at 69 SPM (1010 psi) and reduced 30 SPM (1140 psi). Bumped plug with 1140 psi at 30 SPM (approximate 700 psi differential pressure giving a TOC at 1150 mMD).
2347.0	IC1	P	PT		0.75	Pressure tested casing to 3500 psi (15 mins) - OK. Bled back 9 bbls of mud.
2347.0	IC1	P	RDC		1	Flushed cement lines with cement unit and rigged down cement head and landing joints.
2347.0	IC1	P	RDC		1.5	Rigged down casing handling equipment and installed drilling elevators. Flushed through cement manifold and stand pipe with mud pump.
2347.0	IC1	P	WH		1.25	Made up jetting tool and jetted wellhead and BOP's with 100 SPM (2000 psi).
2347.0	IC1	P	WH		1.5	Made up 10.75 in casing pack-off seal assembly and set same in wellhead. Confirmed assembly set with 20 klbs overpull. Tested seal at 5000 psi (10 mins) - OK.
2347.0	IC1	U	BOP		0.5	Changed out top set of 9.625 in casing rams to 5 in x 7 in variable rams.
2347.0	IC1	P	BOP		5.75	Rigged up and tested BOP components (choke manifold, stand pipe manifold, surface equipment) to 250/5000 psi for 5/10 mins. All tests to 24:00 hrs were successful. Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 31 Aug 2004 **Daily Cost : $ 737,465** **Report Number : 26**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2347.0	IC1	P	BOP		4.25	Pressure tested BOP (choke manifold, stand pipe manifold and all related surface equipment) to

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Date : 31 Aug 2004 **Daily Cost : $ 737,465** **Report Number : 26**

					250/5000 psi for 5/10 mins - all tests successful. Rigged down BOP test equipment.
2347.0	IC1	P	WH	0.75	Made up wear bushing running assembly and RIH same. Set wear bushing and POOH assembly.
2347.0	IC1	P	HBHA	2	Laid down 12.25 in BHA and broke out bit.
2347.0	IC1	P	RS	1.25	Cleared the rig floor of excess equipment. Serviced the top drive and changed the wash pipe whilst waiting on helicopter operations.
2347.0	IC1	P	HBHA	0.5	Laid down x2 8 in drill collars.
2347.0	PH1	P	HBHA	2	Picked up and made up the 8.5 in directional BHA (0.93° bend on motor).
2347.0	PH1	P	HBHA	1.25	Aligned MWD tools and 7 in motor. Programmed MWD tool and tested the adjustable gauge stabiliser (full gauge = 920 psi, under gauge = 750 psi).
2347.0	PH1	P	HBHA	2	Changed out drilling jars in BHA and RIH BHA to 166 mMD.
2347.0	PH1	P	TI	0.5	Shallow tested MWD at 550 GPM (1500 psi) - OK.
2347.0	PH1	P	TI	4	RIH from 166 mMD to 2286 mMD. Filled drillstring every 15 stands.
2347.0	PH1	P	TI	0.5	Washed down from 2286 mMD and tagged cement at 2314 mMD (300 GPM, 1200 psi).
2347.0	PH1	P	DC	2	Drilled cement, float equipment and rat hole from 2314 mMD to 2347 mMD.
2350.0	PH1	P	DM	0.25	Drilled 3 m of new formation to 2350 mMD.
2350.0	PH1	P	CMD	0.75	Circulated and conditioned mud at 2350 mMD. Pulled back BHA to 2334 mMD (inside 9.625 in casing).
2350.0	PH1	P	LOT	1.5	Rigged up cement unit lines and broke circulation. Tested lines to 750 psi - OK. Performed FIT as follows: - Pumped 9.35 ppg mud at 0.5 bpm - When 1.6 bbl of mud was pumped a maximum surface pressure of 540 psi was achieved. - Held pressure for 7 mins. - Actual EMW = 10.96 ppg.
2360.0	PH1	P	DM	0.5	Drilled 8.5 in hole from 2350 mMD to 2360 mMD.
					Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

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Activity Report For Yolla-3

Date : 01 Sep 2004 **Daily Cost : $ 353,014** **Report Number : 27**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2693.0	PH1	P	DM		24	Drilled 8.5 in hole from 2360 mMD to 2693 mMD. Details for 24 hrs: Slide = 78 m at average ROP of 7.1 m/hr Rotate = 255 m at average ROP of 25.5 m/hr AGS = 100% full gauge WOB = 2 - 25 klbs Flow = 500 - 650 GPM Torque = 12 - 15 lb/ft SCR at 2577 mMD (9.3 ppg MW) 30 40 1 550 800 3 570 790 Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 02 Sep 2004 **Daily Cost : $ 340,647** **Report Number : 28**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3086.0	PH1	P	DM		24	Drilled 8.5 in hole from 2693 mMD to 3086 mMD. Details for 24 hrs: Rotate = 393 m (100%) at an average ROP of 20-25 m/hr WOB = 3 - 18 klbs Flow = 500 - 600 GPM Torque = 13 - 16 lb/ft SCR at 2893 mMD (9.4 ppg MW) 30 40 #1 680 psi 925 psi #3 700 psi 900 psi SCR at 3040 mMD (9.3 ppg MW) 30 40 #2 630 psi 865 psi #3 620 psi 850 psi Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

Date : 03 Sep 2004 **Daily Cost : $ 325,384** **Report Number : 29**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3463.0	PH1	P	DM		24	Drilled 8.5 in hole from 3086 mMD to 3463 mMD. Details for 24 hrs: Rotate = 377 m (100%) at an average ROP of 20 m/hr WOB = 10 - 20 klbs Flow = 600 GPM RPM (surface) = 80 - 95 RPM (DH) = 180 Max Gas = 2500 units (50%) at 3181 m. SCR at 3273 mMD (9.4 ppg MW) 30 40 #1 600 psi 860 psi #2 635 psi 875 psi Note: Favourable sea and weather conditions allowed the boats and cranes to be accessed as required.

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Date : 04 Sep 2004 **Daily Cost : $ 347,174** **Report Number : 30**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PH1	P	DM		11.5	Drilled 8.5 in hole from 3463 mMD to 3497 mMD. Bit made no further progress over last half hour. Details for 11.5 hrs: Rotate = 34 m (100%) at an average ROP of 2.95 m/hr WOB = 10 - 20 klbs Flow = 600 GPM RPM (surface) = 80 RPM (DH) = 180 SCR at 3476 mMD (9.4 ppg MW) 30 40 #1 610 psi 870 psi #2 625 psi 880 psi
3497.0	PH1	P	CMD		3.25	Pumped 40 bbls 8.9 ppg sweep & 60 bbls 11.0 ppg sweep. Circulated sweeps at 600 gpm / 4200 psi. Dumped 11.0 ppg sweep at surface. Continued to circulate the hole clean.
3497.0	PH1	P	TO		0.25	Flow checked the well - static.
3497.0	PH1	P	DM		5.75	POOH from 3497 m to the 9.625 in shoe at 2340 m. Pumped through tight spots at 3260, 3191, 3170, 3149, 2908 m, Max overpull = 40 kips. Worked through tight spots at 2900 & 2761 m, Max overpull = 40 kips.
3497.0	PH1	P	RS		0.5	Serviced the TDS, blocks and dollies. Flow checked the well - static.
3497.0	PH1	P	RW		2.75	Washed and reamed from 2340 m to 2722 m with 500 gpm / 2750 psi and 80 rpm. No drag observed. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 05 Sep 2004 **Daily Cost : $ 330,453** **Report Number : 31**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PH1	P	CMD		1	Circulated bottoms up at 2722 m with 600 gpm / 3600 psi.
3497.0	PH1	P	TI		1.75	RIH from 2722 m to 3497 m. Max drag = 10 kips and no fill observed.
3497.0	PH1	P	CMD		3.5	Broke circulation and pumped 40 bbls 8.9 ppg sweep & 60 bbls 11.0 ppg sweep. Circulated sweeps at 600 gpm / 4200 psi. Dumped 11.0 ppg sweep at surface, ±30% increase in solids with sweeps at surface. Max gas at bottoms up 3740 units (75%). Continued to circulate the hole clean, bottoms up x 3.
3497.0	PH1	P	CMD		0.25	Flow checked the well - static.
3497.0	PH1	P	TO		1	POOH from 3497 m to 3178 m.
3497.0	PH1	P	TO		2.25	Pumped a slug and POOH from 3178 m to 2340 m.
3497.0	PH1	P	TO		0.25	Flow checked the well - static.
3497.0	PH1	P	TO		3	POOH from 2340 m to 167 m.
3497.0	PH1	P	TO		0.25	Flow checked the well - static.
3497.0	PH1	P	HBHA		1.25	POOH with BHA from 167 to surface. Broke off bit.
3497.0	PH1	P	HBHA		1.5	Turned off MWD tool. Laid down MWD and Mud Motor assy.
3497.0	PH1	P	LOG		1	Held JSA, rigged up wireline logging equipment.
3497.0	PH1	P	LOG		1.25	Picked up Log #1 CMR, PEX, HRLA, SP and GR.
3497.0	PH1	P	LOG		3.5	Installed sources and run log #1 to TD. Wireline TD = 3500.5 m, bottom hole temperature ±126°C.
3497.0	PH1	P	LOG		2.25	Logged #1 CMR, PEX, HRLA, SP & GR from 3497 m to 3089 m. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 06 Sep 2004 **Daily Cost : $ 431,693** **Report Number : 32**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity

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Date : 06 Sep 2004 **Daily Cost : $ 431,693** **Report Number : 32**

3497.0	PH1	P	LOG		3	Logged #1 CMR : PEX : HRLA : SP : GR Logged up from 3089 m to 2340 m. RIH to 3260 and repeat section from 3260 m to 2338 m.
3497.0	PH1	U	LOG		4	Run back in hole to 3260m and repeat log up to 2338m
3497.0	PH1	P	LOG		3	Logged from 2338 m to surface.
3497.0	PH1	P	LOG		1.25	Removed sources and laid down Log #1 CMR : PEX : HRLA : SP : GR
3497.0	PH1	P	LOG		0.75	Picked up log #2 FMI : DSI : HNGS : GR.
3497.0	PH1	P	LOG		2.25	RIH with Log #2 to 3497 m.
3497.0	PH1	P	LOG		0.75	Logged up from 3497 m to 3410 m.
3497.0	PH1	P	LOG		0.25	RIH from 3410 m to 3497 m.
3497.0	PH1	P	LOG		3.5	Logged up from 3497 m to 2340 m. Hung up at 3035 m, worked tool through obstruction. Max tension = 7000 lbs.
3497.0	PH1	P	LOG		3	Logged with Log #2 inside casing from 2340 m to 1000 m.
3497.0	PH1	P	LOG		0.5	POOH with Log #2
3497.0	PH1	P	LOG		1.25	Laid out Log #2 FMI : DSI : HNGS : GR.
3497.0	PH1	P	LOG		0.5	Picked up Log #3 LEH : QT : MDT : GR. Total volume lost down-hole over past 24 hr = 15.7 Bbls. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 07 Sep 2004 **Daily Cost : $ 371,664** **Report Number : 33**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PH1	P	LOG		0.5	Made up Log #3 LEH : QT : MDT : GR.
3497.0	PH1	TP	LOG	LTF	0.5	RIH to 300 m. Voltage spike on tool. POOH to surface.
3497.0	PH1	TP	LOG	LTF	1	Troubleshot problem, removed 1 gal sample chamber.
3497.0	PH1	TP	LOG	LTF	2	RIH with Log #3 to 800 m. Tool failed. POOH to surface
3497.0	PH1	TP	LOG	LTF	1.5	Troubleshot problem on surface. Laid out LFA & sample chamber section of MDT.
3497.0	PH1	P	LOG		14.75	RIH with Log #3 minus the LFA & sample chamber sections. Took pressure measurements from 3194 m to 3479 m.
3497.0	PH1	U	LOG		2.25	Pulled back to 3149 m repeated pressure measurement.
3497.0	PH1	TP	LOG	LTF	1.25	POOH with Log #3 to surface to pick up new tool section arrived via chopper.
3497.0	PH1	TP	LOG	LTF	0.25	Laid out Log #3 LEH : QT : MDT : GR Total volume lost down-hole over past 24 hr = 18.1 Bbls. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 08 Sep 2004 **Daily Cost : $ 347,427** **Report Number : 34**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PH1	TP	LOG	LTF	1	Reconfigured Log#3 LEH:QT:MD:GR with new LFA & sampling sections.
3497.0	PH1	U	LOG		12	Ran Log#3 LEH:QT:MDT:GR to 3420 m. Note: MDT productive logging time ~16hr longer than programmed, hence all of this event coded as unprogrammed. Collected formation samples at 3420, 3249, 3181, and 3149 m. Performed pump through sample at 3222 m. Seals failed on pump through samples at 3284, 3302, and 3275 m.
3497.0	PH1	TP	LOG	OTH	3.25	Completed sampling 2718 sand at 3149 m and attempted to POOH. Unable to move the tool.

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DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004
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Date : 08 Sep 2004 **Daily Cost : $ 347,427** **Report Number : 34**

						Increased cable pull to 8400 lbs (1800 lbs O/pull). No indication of change in pull at wireline cable head; Indication of the wireline stuckat some point above. Cycled pull to slacked off wireline in an attempt to free the Cable/Tool - no sucess.
3497.0	PH1	TP	LOG	OTH	1.5	Increased max pull to 9750 lbs (3150 lbs O/Pull) and cycled Pull/Slack off on cable - no success.
3497.0	PH1	TP	LOG	OTH	1.25	Prepared equipment to strip over wireline.
3497.0	PH1	TP	LOG	OTH	0.5	Held wireline stripping JSA with crews.
3497.0	PH1	TP	LOG	OTH	1.5	Installed "T" bar clamp on wireline, confirmed holding. Installed second clamp and cut wireline. Rigged down upper wireline sheave. Changed out to long bails. Re-terminated cable ends with spear and overshot.
3497.0	PH1	TP	LOG	OTH	1.25	Installed upper sheave on crown pad eye.
3497.0	PH1	TP	LOG	OTH	1	Ran wireline through a stand of drill pipe and made up wireline tool fishing grapple. Connected wireline overshot to spear and pull tested wireline to 7500 lbs. Removed "T" bar clamps.
3497.0	PH1	TP	LOG	OTH	0.75	Tensioned up on wireline and stripped over wireline with drill pipe. Total volume lost down-hole over past 24 hr = 17.7 Bbls. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 09 Sep 2004 **Daily Cost : $ 329,303** **Report Number : 35**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PH1	TP	LOG	OTH	18	Stripped over wireline with drill pipe to 2323 m.
3497.0	PH1	TP	LOG	OTH	1.75	Picked up a single and installed wireline circulating sub and circualted bottoms up at 300 gpm / 1120 psi. Max gas at bottoms up = 16 units (0.32%).
3497.0	PH1	TP	LOG	OTH	0.5	Flow checked well - static. Removed wireline circulating sub.
3497.0	PH1	TP	LOG	OTH	2.5	Stripped over wireline with drill pipe from 2323m to 2614 m. Held ±7,000 lbs tension on wireline while stripping over.
3497.0	PH1	TP	LOG	OTH	0.5	Picked up a single and installed wireline circulating sub and broke circulation to clear debris from fishing overshot.
3497.0	PH1	TP	LOG	OTH	0.75	Stripped over wireline from 2614 m to 2701 m. Held ±7,000 lbs tension on wireline while stripping over. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 10 Sep 2004 **Daily Cost : $ 329,000** **Report Number : 36**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PH1	TP	LOG	OTH	1	Stripped drill pipe over wireline from 2701 to 2846 m. Held ±7,000 lbs tension on wireline while stripping over. At 2846 wireline tension decreased to 5,200 lbs indicating that wireline was free. Pulled up 15 m on wireline with ±5,800 lbs on cable to confirm the wireline and tool were free.
3497.0	PH1	TP	LOG	OTH	0.5	Picked up a single and installed the wireline circulating sub. Broke circulation with 300 gpm / 1300 psi to clear the wireline fishing overshot of debris.
3497.0	PH1	TP	LOG	OTH	0.5	Laid out single and removed the wireline circualting sub.
3497.0	PH1	TP	LOG	OTH	1	Installed "T" bar on wireline and hung off wireline on the drill pipe. Removed wireline spear and overhsot. Installed wireline connection socket.
3497.0	PH1	TP	LOG	OTH	0.75	Removed "T" bar and pulled wireline tool from 3149 m to 3058 m. Tool hung up with 6,700 lbs line tension (900 lbs over pull).
3497.0	PH1	TP	LOG	OTH	0.75	Installed "T" bar on wireline and hung off on the drill pipe. Cut out 26 m of wireline to space out wireline connection socket to permit working room, between the top and bottom wireline sheaves, to work the wireline tool through the tight spot at 3058 m. Removed "T" bar.
3497.0	PH1	TP	LOG	OTH	3.25	Pulled on wireline and worked wireline tool through the tight spot from 3058 m to 3050 m. Max pull 7,600 lbs (1,800 Lbs over pull). Free at 3050 m. Installed "T" bar and pulled cable with drawworks to work splice socket through bottom sheave plus 2 wraps onto wireline drum.
3497.0	PH1	TP	LOG	OTH	0.5	Pulled logging tool up into grapple at 2846 m. Latched into grapple with 1500 lbs overpull on wireline.

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Date : 10 Sep 2004 **Daily Cost : $ 329,000** **Report Number : 36**

3497.0	PH1	TP	LOG	OTH	0.25	Installed "T" Bar on wireline and sheared off weak link with 9000 lbs overpull on the top drive.
3497.0	PH1	TP	LOG	OTH	1.5	Pulled wireline out of drill string with wireline unit.
3497.0	PH1	TP	LOG	OTH	1	Rigged down wireline equipment and removed top sheave from the crown.
3497.0	PH1	TP	TO	OTH	1.25	POOH with fish from 2846 m to 2340 m.
3497.0	PH1	TP	TO	OTH	0.5	Flow checked the well - static. Changed out from long bails to drilling bails.
3497.0	PH1	TP	TO	OTH	4.25	POOH with wireline tool in grapple.
3497.0	PH1	TP	TO	OTH	0.5	Recovered wireline tool from grapple.
3497.0	PH1	TP	TO	OTH	1.25	Laid down Log #3 LEH:QT:MDT:GR. Laid down grapple
3497.0	PH1	P	WT		1.5	Held JSA. Cleared rig floor. Made up 8½ in bit and BHA. RIH to 145 m.
3497.0	PH1	P	WT		3.75	Installed auto slips and RIH from 145 m to 2322 m. Filled drill pipe every 15 stands. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 11 Sep 2004 **Daily Cost : $ 713,984** **Report Number : 37**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PH1	P	CIC		1	Circulated bottoms up at 550 gpm / 2500 psi. Max Gas at bottoms up = 20 units (0.4%).
3497.0	PH1	P	RS		1.5	Slipped and cut 42.5m drill line. Serviced Disc brakes and re-set crown-o-matic.
3497.0	PH1	P	RS		1	Serviced Top drive system, blocks and pipe racking system.
3497.0	PH1	P	WT		1.5	RIH from 2322 m to 3017 m. Hole in good condition.
3497.0	PH1	P	WT		1.5	Reamed from 3017 m to 3077 m. Pulled back through reamed section, tight at 3050 and 3065 m, 40 kips overpull. Worked pipe through and cleaned up. WOB = 0 kips Pumps = 525 gpm Pressure = 2500 psi Rotary = 80 rpm Torque = 12 to 13 kft/lbs Max Gas at bottoms up = 3200 units (64%).
3497.0	PH1	P	WT		0.5	RIH from 3077 m to 3188 m. Held up at 3188 m with 20 klbs drag.
3497.0	PH1	P	RW		0.75	Washed and reamed at 3188 m. RIH from 3188m to 3250 m, held up with 20 klbs. Washed and reamed from 3250 m to 3310 m.
3497.0	PH1	P	CMD		1	Circulated out gas peak. Max gas = 3650 units (73%).
3497.0	PH1	P	RW		1.75	Washed and reamed from 3310 m to 3497 m with 525 gpm / 2600 psi. No fill observed.
3497.0	PH1	P	CMD		2.5	Pumped 45 bbls high vis sweep and circulated the hole clean (3 x bottoms up). Pumps = 525 gpm Pressure = 2580 psi Pick up weight = 420 klbs Slck off weight = 265 klbs Rotating weight = 330 klbs Took torque readings for Liner run. 20 rpm = 22 klbs, 30 rpm = 22 klbs & 40 rpm = 22 klbs.
3497.0	PH1	P	TO		0.25	Flow checked the well - static
3497.0	PH1	P	TO		3.25	POOH from 3497 m to 2340 m, no excess drag.
3497.0	PH1	P	TO		0.25	Flow checked the well - static
3497.0	PH1	P	TO		3.5	Took torque readings for Liner run. 20 rpm = 7 klbs, 30 rpm = 7.5 klbs & 40 rpm = 8 klbs. Pumped a slug. Dropped 2 3/8 in hollow drift in drill pipe. POOH from 2340 m to 145 m.
3497.0	PH1	P	TO		0.25	Flow checked the well - static.
3497.0	PH1	P	HBHA		1	POOH with BHA, broke off bit.
3497.0	PC	P	RRC		1.25	Changed out from drilling bails to long bails. Rigged up to run 6.625 in liner.
3497.0	PC	P	RRC		0.25	Held JSA prior to running 6.625 in liner.
3497.0	PC	P	CRN		1	Picked up and made up shoe jt and float jt. Confirmed shoe and float valves working. Note:

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Date : 11 Sep 2004 **Daily Cost : $ 713,984** **Report Number : 37**

Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 12 Sep 2004 **Daily Cost : $ 358,392** **Report Number : 38**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PC	P	CRN		1	Ran 6.625 in liner landing collar, jts 120 and 119.
3497.0	PC	TP	CRN	OEF	1.75	Galled coupling on jt 119 and pin on jt 118. Laid out both joints. Power tong failed. Rigged down power tong and picked up replacement power tong. Configured replacement tong JAM unit with JAM computer.
3497.0	PC	P	CRN		12	Ran 6.625 in, 24 lb/ft, 13-Cr, K-Fox liner. Total run, 94 jts + 2 pups + shoe track (2 jts) + Landing collar jt = 99 joints. Filled liner every 5 joints. Lost 3.6 Bbls mud downhole while running liner.
3497.0	PC	P	CRN		1.25	Changed out long bails to drilling bails. Picked up BOT liner hanger with pack off assembley. Filled PBR with high vis. Liner weight = 80 klbs.
3497.0	PC	P	CRN		0.5	Circulated liner contents + 20% excess at 360 gpm / 560 psi. No mud losses observed.
3497.0	PC	P	CRN		4	Ran liner on 5 stands HWDP and 33 stands DP to 2340 m at 1 min/stand. Filled string every 2 stands. No mud losses observed.
3497.0	PC	P	CRN		0.75	Circulated liner and string contents + 20% excess at 265 / 715 psi. Recorded Liner + stringl torque as follows; 20 rpm = 7,000 ft/lbs 30 rpm = 7,000 ft/lbs 40 rpm = 7,000 ft/lbs No mud losses observed.
3497.0	PC	P	CRN		2.75	Ran liner on DP from 2340 m to 3394 m at 1 min/stand. Filled string every 2 stands. No mud losses observed. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 13 Sep 2004 **Daily Cost : $ 688,562** **Report Number : 39**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	PC	P	CRN		0.5	Ran liner on DP from 3394 m to 3484 m at 1 min/stand.
3497.0	PC	P	CRN		0.5	Picked up stand DP, broke circulation and washed to bottom at 135 gpm / 520 psi. Tagged bottom at 3499.8 m, attempted to rotate string with 14,000 ft/lbs (80% Liner make up torque) - stalled out. Pick up weight = 420 klbs Slack off weight = 280 klbs.
3497.0	PC	P	CRN		1.25	Circulated well at 175 gpm / 520 psi. Reciprocated string. No mud losses observed.
3497.0	PC	P	CRN		0.5	Racked back 1 stand DP. Picked up 1 single and 2 x 5 ft DP pup jts. Spaced out cement head.
3497.0	PC	P	CRN		1.75	Circulated well at 210 gpm / 740 psi. Reciprocated string. (Bottoms up +50%). Established Liner rotation at 20 rpm with 12,000 ft/lbs. Max gas = 70 units (1.4%). No H2S observed during circulation. No mud losses observed.
3497.0	PC	P	CMC		0.75	Rigged up Cement hose.
3497.0	PC	P	CMC		2	Dropped liner setting ball and pumped down at 120 gpm / 580 psi. Ball landed, pressured up with 1700 psi to set liner hanger. Set down liner weight plus 20 klbs to confirm hanger set. Pressured up to 2700 psi to release liner running tool - did not release. Re-cycled release sequence, did not release. Activated secondary release with 2 turns left hand torque and work torque down. Liner running tool released. Sheared out ball seat with 3400 psi.

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Date : 13 Sep 2004 | **Daily Cost : $ 688,562** | **Report Number : 39**

					Note:- Top Liner hanger at 2277 m and liner shoe at 3498 m.
3497.0	PC	P	CMC	0.5	Established circulation at 6 bpm / 1000 psi. Rotated string at 20 rpm at 7,500 ft/lbs torque. Held cementing JSA.
3497.0	PC	P	CMC	1.75	Pumped 40 bbls chemical wash with cement unit. Pressure tested lines to 4000 psi. Mixed and pumped 150 bbls cement slurry at 15.8 ppg (550 sx Silica blend cement). Chased with 4 bbls drillwater to clear lines to rig floor. Note: Cement unit shut down after 74 bbls pumped due to a fault in the engine management system. Completed job on one pump.
3497.0	PC	P	CMC	0.75	Released cement dart (no indication of dart going). Flushed cement line clean. Displaced cement at 4.6 bpm & 180 psi with 20 bbls drill water, 86 bbls sea water and 30 bbls drill water with one cement pump. Pressure started to increase but no indication of wiper plug shearing.
3497.0	PC	P	CMC	0.75	Switched to rig pumps and completed the displacement with 124.2 bbls of 9.4 ppg mud - Plug did not bump. Initial displacement rate 4.5 bpm / 1590 psi. Pressure increased to 3500 psi, reduced displacement rate to 3.6 bpm and pressure gradually droped. Final circulating pressure = 2850 psi at 2.7 bpm. Static differential = 1900 psi. Bled off pressure and confirmed that the floats were holding. Note: Rotated liner at 20 rpm until 36 bbls of slurry outside shoe (est. cmt at 3175 m) when torque increased to 15,000 ft/lbs and stalled out on torque limiter.
3497.0	PC	P	CMC	0.25	Picked up running string 3 m and set down 45 klbs to set ZXP packer. Observed pins shear. Pressured up to 600 psi and pulled out of liner hanger, pressure bled down to 200 psi.
3497.0	PC	P	CMC	1.5	Reverse circulated at 2270 m at 4.75 bpm with 1470 psi. Dumped ±20 bbls cement (13.3 ppg) and contaminated mud spacer. Rigged down cement lines and cement head.
3497.0	PC	P	TO	3.25	Pumped a slug and POOH with liner running string.
3497.0	PC	P	HT	0.75	Rigged down autoslips. POOH HWDP. Laid out liner running tool and found cement wiper plug still attached to the cement stinger.
3497.0	PC	P	HT	1.25	Broke out 5" DP pup joints from cement head. Service broke and laid out cement head. The cement wiper plug launching dart was found lodged in the releasing sleeve.
3497.0	CTB	P	BOP	0.5	Rigged up and retrieved wear bushing. Drainned BOP.
3497.0	CTB	P	BOP	1.5	Made up BOP test string. Rigged up BOP test lines.
3497.0	CTB	P	BOP	4	Filled BOP and flushed lines. Pressure tested BOP , choke and stand pipe manifolds to 250 psi and 5000 psi for 5 mins / 10 mins. Note: Favourable sea & weather conditions permitted the cranes and vessels to be operated as required.

Date : 14 Sep 2004 | **Daily Cost : $ 454,236** | **Report Number : 40**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	BOP		3	Pressure tested BOP , choke and stand pipe manifolds to 250 psi and 5000 psi for 5 mins / 10 mins.
3497.0	CTB	P	BOP		1	Rigged down test string. Pulled test plug.
3497.0	CTB	P	BOP		0.5	Ran wear bushing.
3497.0	CTB	P	HBHA		0.5	Changed out drill pipe handling equipment from 5" to 3½".
3497.0	CTB	P	HBHA		3.75	Picked up 5¾ in bit, 2 x 6.625 in casing scrapers, 12 x 4¾ in drill collars and 12 x 3½ in HWDP.
3497.0	CTB	P	HBHA		3	Picked up and ran 38 joints 3½ in drill pipe.
3497.0	CTB	P	HBHA		1.25	RIH with 20 stands 3½ in drill pipe to 1179 m.
3497.0	CTB	P	HBHA		1.25	Changed out from 3½" to 5" drill pipe handling equipment. Picked up cross over, PBR polish mill and 9.625 in casing scraper.
3497.0	CTB	P	WCU		2.25	Installed auto slips. RIH on 5" drill pipe to top of liner at 2277 m. Filled pipe every 15 stands.
3497.0	CTB	P	WCU		2.5	Ran through top of liner to 2280 m (no loss of string weight or drag through top of liner). RIH from 2280 m to 3150 m.
3497.0	CTB	P	WCU		0.75	Worked 6.625 in scrapers (2 passes x 1 stand either side) over each packer setting depths at 3172 m and 3228 m.
3497.0	CTB	P	WCU		1.75	Worked 6.625 in scrapers (2 passes x 1 stand either side) over 3258 m and 9.625 in scraper (2 passes x 1 stand either side) over 2197 m with pumps at 270 gpm / 1600 psi. Bit at 3392 m.

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Date : 14 Sep 2004 **Daily Cost : $ 454,236** **Report Number : 40**

3497.0	CTB	P	WCU		0.75	Washed from 3392 m to 3458 m. Tagged cement stringers at 3458 m. Washed down and tagged PBR mill on "no go shoulder" at 2277 m and bit at 3460 m.
3497.0	CTB	P	WCU		0.25	Worked PBR polish mill from 2277 m to 2280 m with 50 rpm, 430 gpm and 4050 psi.
3497.0	CTB	P	WCU		1	Circulated the well clean with 430 gpm at 4050 psi.
3497.0	CTB	P	PT		0.5	Spaced out string in BOP. Lined up to cement unit and flushed lines. Pressure tested cement lines to 4000 psi. Note: Cranes and vessels stopped working from 17:00 to 24:00 due to adverse weather conditions. 18:00 wind = 33 knts, swell = 3 m, wave = 1.5 m 21:00 wind = 43 knts, swell = 4 m, wave = 2.5 m 24:00 wind = 35 knts, swell = 4 m, wave = 2.5 m

Date : 15 Sep 2004 **Daily Cost : $ 412,210** **Report Number : 41**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	U	PT		1	Closed upper pipe rams (5" x 7") and pressure tested 9.625 in casing and 6.625 in liner to 4000 psi for 15 min - good test. Pumped 11.8 bbls returned 11.25 bbls.
3497.0	CTB	U	WCU		1	Pulled back 30 m. Installed wellhead / BOP jetting sub. RIH and jetted wellhead and BOP area with 785 gpm / 700 psi. Pulled jetting sub to surface and laid out.
3497.0	CTB	P	WCU		0.25	Held JSA on wellbore clean up. RIH with mill to 2 m above PBR and bit at 3458 m.
3497.0	CTB	P	WCU		2.25	Pumped 50 bbls high vis sweep. Displaced wellbore to sea water with 468 gpm / 3640 psi, dumped mud returns at surface. Pumped 2 x wellbore volume with sea water at 550 gpm / 4550 psi.
3497.0	CTB	U	WCU		1.5	Flushed and cleaned choke manifold, trip tank and surface lines etc. with sea water.
3497.0	CTB	P	WCU		1.25	Pumped clean up pills at 3458 m with 520 gpm / 4200 psi as follows:- 50 bbl high viscosity sweep 50 bbl 3% detergent sweep 100 bbl caustic sweep 65 bbl sea water 100 bbls flocculent sweep 50 bbl high viscosity sweep Dumped all returns
3497.0	CTB	P	WCU		2.75	Circulated sweeps around with sea water at 550 gpm / 4250 psi. Continued pumping sea water until the well cleaned up with 3 consecutive 15 minute NTU readings of 48-45-49. Dumped all returns. Rotated and reciprocated the string during clean up.
3497.0	CTB	P	WCU		0.75	Pumped 50 bbls saturated NaCl brine, 200 bbls sized salt pill and 17.5 bbls saturated NaCl brine to balance. Displaced with sea water to cover the wellbore from 3458 m to 2010 m.
3497.0	CTB	P	WCU		3.75	POOH slowly from 3458 m to 2030 m.
3497.0	CTB	P	WCU		1	Displaced wellbore from 2030 m to surface with 8.9 ppg filtered NaCl brine, NTU <5.
3497.0	CTB	P	WCU		1.5	POOH from 2030 m to 1186 m.
3497.0	CTB	P	HBHA		1.25	Laid out 9.625 in scraper and PBR polish mill. Changed out 5" to 3½" handling equipment.
3497.0	CTB	P	HBHA		0.25	POOH from 1186 m to 1092 m.
3497.0	CTB	TP	HBHA	RE	1	1 stand 3½" Drill pipe came loose from the firnger and fell across the derrick. Shut down ops and recovered stand. Checked finger board operation.
3497.0	CTB	P	HBHA		1.5	POOH with 3½" drill pipe. from 1092 m to 434 m.
3497.0	CTB	TP	RR	RE	0.5	Hydraulic hose on top drive retraction system failed. Changed out to spare umbilical line.
3497.0	CTB	P	RS		0.5	Serviced TDS, blocks, PRS.
3497.0	CTB	P	HBHA		0.75	POOH from 434 m to 229 m.
3497.0	CTB	P	HBHA		0.25	Removed auto slips and laid down 2 joints 3½"drill pipe.
3497.0	CTB	P	HBHA		1	POOH 3½" HWDP and 4¾" drill collars. Note: Cranes and vessels stopped working from 00:00 to05:00 and 09:30 to 14:00 due to adverse weather conditions. 00:00 wind = 35 knts, swell = 4.0 m, wave = 2.5 m 03:00 wind = 35 knts, swell = 3.5 m, wave = 2.0 m 06:00 wind = 35 knts, swell = 3.5 m, wave = 2.0 m

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09:00 wind = 35 knts, swell = 4.0 m, wave = 2.0 m
12:00 wind = 30 knts, swell = 4.0 m, wave = 2.0 m
15:00 wind = 30 knts, swell = 4.0 m, wave = 2.0 m

Date : 16 Sep 2004 **Daily Cost : $ 348,768** **Report Number : 42**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	HBHA		0.5	Laid out Bit and 6.625 in casing scrapers.
3497.0	CTB	U	WCU		0.5	Picked up SPS jetting sub and 10¾" well patroller.
3497.0	CTB	U	WCU		0.75	RIH and jetted wellhead, BOP and riser with 700 gpm at 650 psi.
3497.0	CTB	U	WCU		0.25	POOH and laid out well patroller and SPS jetting sub.
3497.0	CTB	P	LOG		0.75	Held wireline JSA. Rigged up wireline equipment.
3497.0	CTB	P	PER		1.25	Picked up Log #1 (GR-CCL-CBL-VDL-USIT).
3497.0	CTB	P	LOG		2	Ran Log #1 (GR-CCL-CBL-VDL-USIT) to 3455 m
3497.0	CTB	P	LOG		2	Logged up from 3455 m to TOL at 2277 m. Repeat log #1 from 3270 m to 3150 m. Top of cement at TOL at 2277 m.
3497.0	CTB	P	LOG		1.5	POOH with Log #1 from 3150 m to surface.
3497.0	CTB	P	LOG		0.75	Changed out centralisers and rotating sub to suit 9.625 in.
3497.0	CTB	P	LOG		0.5	Picked up Log #2 (GR-CCL-CBL-VDL-USIT). RIH, hung up at 828 m.
3497.0	CTB	TP	LOG	LTF	0.25	Attempted to work log #2 down - no success.
3497.0	CTB	TP	LOG	LTF	0.5	POOH log #2.
3497.0	CTB	TP	LOG	LTF	1.25	Adjusted centralisers on Log #2.
3497.0	CTB	P	LOG		1.25	RIH with Log #2 (GR-CCL-CBL-VDL-USIT) to 2270 m.
3497.0	CTB	P	LOG		1.25	Logged #2 up from 2270 m to 1300 m. Cement coverage tapered off from above 1400 m.
3497.0	CTB	P	LOG		0.75	POOH with Log #2.
3497.0	CTB	P	LOG		0.75	Laid out log #2 (GR-CCL-CBL-VDL-USIT).
3497.0	CTB	U	PER		0.25	Picked up shooting nipple (ENSCO requirement) and secured in the BOP with Top pipe rams (5" x 7").
3497.0	CTB	P	PER		2	Changed out cable head, installed crossover, dual element and pack off on shooting nipple. Pressure tested Pack off / Shooting nipple assembly to 2500 psi for 10 min with rig pump - good test.
3497.0	CTB	P	PER		0.25	Held JSA for perforating operations.
3497.0	CTB	U	PER		2.5	Made up Perforating run #1 CCL:6 m PURE:2 m x 4½", 12 spf, 45/135, 34JL HMX:3 m PURE and armed firing head. Prolonged make up time due to addition of PURE system.
3497.0	CTB	P	PER		1.75	Installed Perforating run #1 into shooting nipple, made up dual pack off assembley. RIH with Perforating run #1 to 3250 m. Correlated to firing depth at 3238.9 m, Top shot at 3246.5 m.
3497.0	CTB	P	PER		0.25	Perforated 6.625 in liner (2809 sand), interval = 3246.5 m to 3248.5 m. Good surface indication of guns firing and lost 1000 lbs wireline tension. Monitored the well by circulating through the BOP. Initial downhole loss = 1.5 bbls then static.
3497.0	CTB	P	PER		0.25	POOH with Perforating run #1. Note: Cranes were able to operate as required over past 24 hours. Vessels only operated from 08.30 to 09.30 due to unfavourable weather conditions.

Date : 17 Sep 2004 **Daily Cost : $ 436,728** **Report Number : 43**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	PER		1.5	POOH with perforation guns #1 - well static.
3497.0	CTB	P	PER		1	Laid out perforation guns #1. Confirmed all shots fired.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 17 Sep 2004 **Daily Cost : $ 436,728** **Report Number : 43**

3497.0	CTB	P	PER		3	Prepared perforation guns #2 (CCL - 6 m PURE: 6 m x 4.5 in, 12 spf, 45/135, 34JL HMX:3 m PURE).
3497.0	CTB	P	PER		1.5	Picked up perforation assy #2. Installed in shooting nipple and made up dual pack off assembly. RIH with perforating gun #2 to 2809 sand.
3497.0	CTB	P	PER		0.25	Correlated guns on depth with top shot at 3236.5 mMD. Fired guns and perforated from 3242.5 - 3236.5 mMD whilst circulating through BOP with rig pumps.
3497.0	CTB	P	PER		0.25	Monitored well for 15 mins whilst circulating through BOP. Initially lost 1 bbl - well static.
3497.0	CTB	P	PER		1.5	POOH with perforation gun #2 - well static.
3497.0	CTB	P	PER		1	Laid out perforation guns #2. Confirmed all shots fired.
3497.0	CTB	P	PER		2.25	Prepared perforation guns #3 (CCL - 6 m PURE: 6 m x 4.5 in, 12 spf, 45/135, 34JL HMX:3 m PURE). Picked up perforation guns #3. Installed in shooting nipple and made up dual pack off assembly.
3497.0	CTB	P	PER		1.75	RIH with perforating gun #3 to 2755 sand and correlated guns on depth.
3497.0	CTB	P	PER		0.25	Fired guns and perforated from 3196 - 3190 mMD whilst circulating across BOPs. Monitored well - static.
3497.0	CTB	P	PER		1.5	POOH with perforation guns #3 - well static.
3497.0	CTB	P	PER		2	Laid out perforation guns #3. Confirmed all shots fired. Prepared perforation guns #4 (CCL - 6 m PURE: 6 m x 4.5 in, 12 spf, 45/135, 34JL HMX:3 m PURE).
3497.0	CTB	P	PER		1.75	RIH with perforation gun #4 to 2755 sand and correlated guns on depth.
3497.0	CTB	P	PER		0.25	Fired guns and perforated from 3186 - 3180 mMD whilst circulating across BOPs. Monitored well - static.
3497.0	CTB	P	PER		1.25	POOH with perforation guns #4 - well static.
3497.0	CTB	P	PER		2	Laid out perforation guns #4 and confirmed all shots fired. Prepared perforation guns #5 (CCL - 15 m x 4.5 in, 12 spf, 45/135, 34JL HMX).
3497.0	CTB	P	PER		1	RIH with perforating guns #5 to U-EVCM sand.Correlated guns on depth.
						Note: Favourable wind conditions allowed the cranes to be used as required. The boats could not be accessed due to unfavourable sea conditions.

Date : 18 Sep 2004 **Daily Cost : $ 343,625** **Report Number : 44**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	PER		0.75	Correlated perforation guns #5 on depth. Circulated through BOP and monitored well - static. Perforated Upper EVCM sand from 2225.2 - 2210.2 mMD.
3497.0	CTB	P	PER		0.25	Circulated through BOP and monitored well - static.
3497.0	CTB	P	PER		1	POOH with perforation guns #5.
3497.0	CTB	P	PER		0.25	Circulated through BOP and monitored well - static.
3497.0	CTB	P	PER		0.75	Broke out pack off and retrieved perforation guns #5. Confirmed that all guns had fired.
3497.0	CTB	P	PER		0.5	Rigged down wireline sheaves and equipment.
3497.0	CTB	U	PER		0.25	Laid out shooting nipple.
3497.0	CTB	U	HBHA		1.5	Changed elevators and laid down the following from the derrick: - 2 x 8.5 in stabilisers - 1 x 6.5 in jar.
3497.0	CTB	P	HBHA		0.25	Changed out handling equipment to 3.5 in.
3497.0	CTB	P	HBHA		3.5	Made up 5.75 in bit and 2 x 6.625 in scrapers. RIH 4.75 in drill collars, 3.5 in HWDP and 3.5 in drill pipe to 1016 mMD.
3497.0	CTB	P	HBHA		0.75	Changed out handling equipment to 5 in and made up 9.625 in casing scraper.
3497.0	CTB	P	TI		0.75	RIH on 5 in drill pipe to 1250 mMD.
3497.0	CTB	TP	TI	RE	0.75	An oil leak was observed on PRS upper jaw assembly. Replaced hydraulic hose on PRS upper jaw assembly.
3497.0	CTB	P	TI		4.5	RIH to 3280 mMD filling each 15 stands. Scraped perforated intervals (Upper EVCM sand 2210.2 - 2225.2 mMD, 2755 sand 3180 - 3186 mMD and 2809 sand 3236.5 - 3248.5 mMD) with x3 passes across each zone.
3497.0	CTB	P	TO		0.25	Flow checked well - static.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 18 Sep 2004 **Daily Cost : $ 343,625** **Report Number : 44**

3497.0	CTB	P	TO		2.25	POOH from 3280 mMD to 2181 mMD.
3497.0	CTB	P	TO		0.25	Flow checked well - static.
3497.0	CTB	P	TO		2	POOH from 2181 mMD to BHA at 1019 mMD.
3497.0	CTB	P	HBHA		0.5	Laid out 9.625 in scraper and changed out to 3.5 in handling equipment.
3497.0	CTB	P	HBHA		2.75	POOH with BHA to 61 mMD and PRS dies began slipping on 3.5 in HWDP.
3497.0	CTB	TP	HBHA	RE	0.25	Changed out PRS dies.
						Note: Favourable weather and sea conditions allowed the cranes and boats to be accessed as required.

Date : 19 Sep 2004 **Daily Cost : $ 469,635** **Report Number : 45**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	TP	HBHA	RE	0.5	Changed out PRS grip dies.
3497.0	CTB	P	HBHA		0.75	POOH with 4.75 in drill collars. Broke off bit, bit sub and 2 x 6.625 in scrapers. Racked back drill collars in derrick.
3497.0	CTB	P	LOG		0.25	Conducted JSA prior to commencing wireline operations.
3497.0	CTB	P	LOG		0.25	Rigged up wireline sheaves and equipment.
3497.0	CTB	P	LOG		1.25	Made up CCL/5.75 in gauge ring/junk basket assembly #1. RIH to 2553 mMD.
3497.0	CTB	TP	LOG	JNK	0.75	CCL/5.75 in gauge ring/junk basket assembly held up 2553 mMD. Picked up and attempted to pass this point at 8000 ft/hr - unsuccessful (500 klb overpull encountered). Made x4 additional attempts to pass this point as varying speeds - unsuccessful.
3497.0	CTB	TP	LOG	JNK	1.5	POOH with CCL/5.75 in gauge ring/junk basket to surface.
3497.0	CTB	TP	LOG	JNK	0.75	CCL/5.75 in gauge ring/junk basket assembly at surface. CCL had a significant volume of metalic debris attached to it. The junk basket contained 120 grams of metalic, plastic and cement debris. Decision made to rerun assembly with 5.7 in gauge ring.
3497.0	CTB	TP	LOG	JNK	0.75	Made up CCL/5.7 in gauge ring/junk basket assembly #2. RIH to 3112 mMD - assembly hung up.
3497.0	CTB	TP	LOG	JNK	1	Worked CCL/5.7 in gauge ring/junk basket assembly through obstruction to 3301 mMD.
3497.0	CTB	TP	LOG	JNK	1.25	POOH with CCL/5.7 in gauge ring/junk basket to surface.
3497.0	CTB	TP	LOG	JNK	0.25	At surface the junk basket contained a total of 320 grams of metalic, plastic and cement debris.
3497.0	CTB	TP	LOG	JNK	0.25	Changed out gauge ring from 5.7 in to 5.75 in.
3497.0	CTB	TP	LOG	JNK	1	RIH with CCL/5.75 in gauge ring/junk basket run #3 to 2553 mMD - assembly hung up.
3497.0	CTB	TP	LOG	JNK	0.25	Worked assembly through obstruction.
3497.0	CTB	TP	LOG	JNK	0.5	RIH with CCL/5.75 in gauge ring/junk basket assembly to 2934 mMD where a tight spot was encountered. Worked through tight spot and RIH to 3064 mMD - assembly hung up.
3497.0	CTB	TP	LOG	JNK	0.75	Attempted to work through obstruction - unsuccessful.
3497.0	CTB	TP	LOG	JNK	1	POOH with CCL/5.75 in gauge ring/junk basket to surface.
3497.0	CTB	TP	LOG	JNK	0.25	At surface the junk basket contained a total of 120 grams of metalic and plastic debris. There was a large piece of cement 10 cm long x 3 cm wide x 0.5 cm thick.
3497.0	CTB	TP	LOG	JNK	2.5	RIH with CCL/5.75 in gauge ring/junk basket run #4 to to 3064 mMD. Worked through tight spot and RIH to 3111 mMD - assembly hung up. Attempted to work through obstruction - unsuccessful.
3497.0	CTB	TP	LOG	JNK	1.25	POOH with CCL/5.75 in gauge ring/junk basket to surface. Overpull of 1700 lb required to get through tight spot at 3064 mMD. At surface the junk basket contained a total of 80 grams of metalic, plastic and cement debris.
3497.0	CTB	TP	LOG	JNK	0.5	Rigged down wireline sheaves and equipment.
3497.0	CTB	TP	LOG	JNK	1	Made up cleanout assembly comprising 5.75 in bit and 2 x 6.625 in casing scrapers.
3497.0	CTB	TP	LOG	JNK	2.25	RIH on 3.5 in drill pipe to 1046 mMD.
3497.0	CTB	TP	LOG	JNK	0.5	Changed out handling equipment to 5 in and made up crossover.
3497.0	CTB	TP	LOG	JNK	2.75	RIH cleanout assembly to 2876 mMD.
						Note: Favourable weather and sea conditions allowed the cranes and boats to be accessed as required.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 20 Sep 2004 **Daily Cost : $ 329,009** **Report Number : 46**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	TP	LOG	JNK	0.5	RIH with cleanout assembly from 2876 mMD to 3050 mMD.
3497.0	CTB	TP	LOG	JNK	3.25	Reamed in hole from 3050 mMD to 3300 mMD (no circulation). Worked through hang up points at 3097 mMD, 3160 mMD and 3220 mMD (5 klbs, 40 RPM).
3497.0	CTB	TP	LOG	JNK	0.25	Flow checked well - static.
3497.0	CTB	TP	LOG	JNK	2.25	POOH cleanout assembly from 3300 mMD to top of liner at 2277 mMD.
3497.0	CTB	TP	LOG	JNK	0.25	Flow checked well - static.
3497.0	CTB	TP	LOG	JNK	2	POOH cleanout assembly from 2277 mMD to top of 3.5 in drill pipe 1046 mMD.
3497.0	CTB	TP	LOG	JNK	0.25	Changed out handling equipment to 3.5 in. Monitored well - static.
3497.0	CTB	TP	LOG	JNK	1.5	POOH 3.5 in drill pipe from 1046 mMD to 174 mMD.
3497.0	CTB	TP	LOG	JNK	0.25	Flow checked well - static.
3497.0	CTB	TP	LOG	JNK	1	POOH 3.5 in HWDP and 4.75 in drill collars. Racked back same. Broke off bit and laid out 2 x 6.625 in scrapers.
3497.0	CTB	TP	LOG	JNK	0.25	Cleared rig floor and decks of excess equipment.
3497.0	CTB	TP	LOG	JNK	0.25	Conducted JSA prior to commencing wireline operations.
3497.0	CTB	TP	LOG	JNK	0.25	Rigged up wireline sheaves and equipment.
3497.0	CTB	TP	LOG	JNK	2.25	Made up CCL/5.77 in gauge ring/junk basket assembly #5. RIH same to 3111 mMD and encountered obstruction. Attempted to work through - unsuccessful.
3497.0	CTB	TP	LOG	JNK	1.25	POOH with CCL/5.77 in gauge ring/junk basket assembly #5 to surface.
3497.0	CTB	TP	LOG	JNK	0.25	Cleared debris from the junk basket. Recovered 35 grams (1/2 a handfull) mostley gun debris. Changed out the gauge ring from 5.77 in to 5.71 in.
3497.0	CTB	TP	LOG	JNK	1.5	RIH CCL/5.71 in gauge ring/junk basket assembly #6 to 3305 mMD - no obstructions encountered.
3497.0	CTB	TP	LOG	JNK	1.5	POOH with CCL/5.71 in gauge ring/junk basket assembly #6 to surface.
3497.0	CTB	TP	LOG	JNK	0.25	Cleared debris from the junk basket. Recovered small amount - 1/2 a handfull of gun debris and minor cmt flakes. Laid out tool string.
3497.0	CTB	P	SEP		0.25	Conducted JSA prior to making up permanent packer/tail pipe assembly.
3497.0	CTB	P	SEP		1.75	Picked up and made up 4.5 in tail pipe and permanent packer.
3497.0	CTB	P	SEP		0.75	Armed setting tool and made up to packer.
3497.0	CTB	P	SEP		2	RIH with permanent packer/tail pipe assembly to 2490 mMD.
						Note: Favourable weather and sea conditions allowed the cranes and boats to be accessed as required.

Date : 21 Sep 2004 **Daily Cost : $ 344,588** **Report Number : 47**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	SEP		0.75	RIH with permanent packer/tail pipe assembly from 2490 mMD to 3200 mMD. Logged down and correlated to 3258 mMD.
3497.0	CTB	TP	SEP	LTF	0.25	Sent power charge to set packer and waited 10 mins - no setting indication. Attempted to send power charge again and short detected.
3497.0	CTB	TP	SEP	LTF	1.25	POOH (6300 lbs tension) at 300 ft/hr to 3200 mMD where an obstruction (6800 lbs tension) was encountered. RIH to setting depth and confirmed that the packer had not released from the running string. Attempted to set permanent packer - unsuccessful.
3497.0	CTB	TP	SEP	LTF	0.75	POOH permanent packer/tail pipe assembly to 3215.5 mMD. Wireline unit shut down due to high tension (6800 lbs). Schlumberger called town and verified that the tension limit could be increased to 6900 lbs.
3497.0	CTB	TP	SEP	LTF	4.75	Pulled assembly through obstruction and POOH to surface.
3497.0	CTB	TP	SEP	LTF	0.5	Inspected the permanent packer - OK. Broke out and laid down packer running tool. Inspected the firing head.
						Note: Igniter was in good condition - should have been destroyed. Suggests failure to initiate explosion. Refer to General Comments section for further details.

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Date : 21 Sep 2004 **Daily Cost : $ 344,588** **Report Number : 47**

3497.0	CTB	TP	SEP	LTF	1.25	Schlumberger redressed the firing head assembly.
3497.0	CTB	TP	SEP	LTF	0.5	Made up the wireline running assembly to the permanent packer / tail pipe assembly.
3497.0	CTB	TP	SEP	LTF	2.5	RIH permanent packer/tail pipe assembly to 3285 mMD. Correlated packer on depth and set same (top of packer at 3258 mMD).
3497.0	CTB	P	SEP		1.25	POOH with wireline running assembly.
3497.0	CTB	P	SEP		0.75	Bled off pressure from firing head assembly and laid out same. Rigged down wireline sheaves and equipment.
3497.0	CTB	P	WH		0.75	Made up wear bushing retrieval tool on 5 in drillpipe. RIH and retrieved wearbushing. Laid down wearbushing and retrieval tool.
3497.0	CTB	P	RTB		0.75	Rigged up to run 13 Cr completion string.
3497.0	CTB	P	RTB		0.25	Conducted JSA prior to running completion.
3497.0	CTB	P	RTB		2	Picked up and RIH 4.5 in 13 Cr production tubing and associated sub assemblies to 106 mMD.
3497.0	CTB	P	RTB		5.75	Changed out 4.5 in handling equipment to 5 in. RIH with 5 in 13Cr production tubing to 574 mMD. Note: Favourable weather and sea conditions allowed the cranes and boat to be accessed as required.

Date : 22 Sep 2004 **Daily Cost : $ 379,538** **Report Number : 48**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	RTB		0.25	Conducted JSA with new crew prior to RIH with production tubing.
3497.0	CTB	P	RTB		5.75	RIH with 5 in (15 ppf, K Fox) 13 Cr production tubing and associated sub assemblies to 1108 mMD. Note: 1. Average RIH speed = 10 joints/hr. 2. Laid out x2 joints due to galled pins. 3. Laid out x1 joint due to galled box.
3497.0	CTB	P	RTB		0.5	Changed out 5 in handling equipment to 7 in. Picked up and made up cross over assembly.
3497.0	CTB	P	RTB		5.5	RIH with 7 in (26 ppf, K Fox) 13 Cr production tubing and associated sub assemblies to 1604 mMD. Note: 1. Average RIH speed = 11 joints/hr. 2. Laid out x1 joint due to galled pin.
3497.0	CTB	P	RTB		0.25	Conducted JSA with new crew prior to RIH with production tubing.
3497.0	CTB	P	RTB		11.75	RIH with 7 in (26 ppf, K Fox) 13 Cr production tubing and associated sub assemblies to 2754 mMD. Note: 1. Average RIH speed = 11 joints/hr. 2. Laid out x1 joint due to galled pin. Note: Favourable weather and sea conditions allowed the cranes and boat to be accessed as required.

Date : 23 Sep 2004 **Daily Cost : $ 426,230** **Report Number : 49**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	RTB		0.25	Conduct JSA with new crew prior RIH with production tubing.
3497.0	CTB	P	RTB		3.5	RIH with 7 in 13 Cr (26 ppf, K Fox) production tubing from 2754 mMD to 3109 mMD. Filled each 5 stands.
3497.0	CTB	P	RTB		0.25	Rigged up SSSV control line and picked up SSSV.
3497.0	CTB	P	RTB		0.75	Connected SSSV control line and pressure tested same to 7000 psi (15 mins) - OK. Bled off 135 ml of fluid and pressured up line to 5000 psi. Installed mid joint control line clamp. Note: SSSV control line fluid details - Mac Dermid, Oceanic HW 525, Subsea Production Control Fluid
3497.0	CTB	P	RTB		3	RIH with 7 in 13Cr (26 ppf, K Fox) production tubing installing SSSV control line protectors each connection.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 23 Sep 2004 **Daily Cost : $ 426,230** **Report Number : 49**

						Note: First joint of 7in above SSSV was 29 ppf.
3497.0	CTB	P	RTB		0.25	Tagged permanent packer with production tubing and set down 20 klbs weight.
3497.0	CTB	P	RTB		0.75	Pulled back and laid out 7 in 13 Cr joint of tubing. Picked up and made up 2 x 7 in 13 Cr pup joints to space out.
3497.0	CTB	P	RTB		0.75	Made up TIW valve and flexible line from cement unit to production tubing. Flushed surface lines to 8.9 ppg brine. Pulled back tubing string 1 m above packer and pressure tested surface lines to 4000 psi (5 mins) - OK.
3497.0	CTB	TP	RTB	LC	0.5	Pumped 8.9 ppg brine at 2 bbl/min (440 psi) using cement unit pumps to displace sized salt from tubing. Pumped a total of 28.6 bbls and pressure increased to 700 psi - returns ceased. Bled back pressure to 100 psi.
3497.0	CTB	TP	RTB	LC	1	Picked up tubing to confirm packers not set. Worked string above permanent packer and attempted to regain circulation - packed off in annulus.
3497.0	CTB	TP	RTB	LC	4	Reciprocated pipe as required to re-establish circulation. Displaced sized salt pill from tubing using the cement unit pump (0.5 bbl/min, ICP = 300 psi, FCP = 560 psi). Well packed off at flow rates above 0.5 bbl/min (shut-in pressure = 400 psi).
3497.0	CTB	P	RTB		0.25	Recorded string weights. Stung into permanent packer. Set down 20 klbs and tested seals to 500 psi (5 mins) - OK. Conducted JSA prior to setting packers.
3497.0	CTB	P	RTB		1.25	Pressured up production tubing to 4000 psi using cement pumps to set packers. Held pressure for 15 mins - OK. Bled off pressure with 3.8 bbls of fluid returned. Re-pressured production tubing to 4000 psi and closed SSSV. Bled tubing off (0.4 bbls) above SSSV to 1000 psi. Conducted 3000 psi inflow test on SSSV (15 mins) - OK. Pressured up to 4000 psi above SSSV and opened SSSV. Bled pressure off to zero (3.8 bbls).
3497.0	CTB	P	RTB		0.5	Pulled up and sheared PBR with 120 klbs overpull. Slacked off and marked pipe for space-out. Rigged down circulating line and pump-in sub.
3497.0	CTB	TP	RTB	DFC	0.75	Prepared to lay out production tubing for space out. Pipe u-tubed when pulled out of PBR. Slacked off weight and rigged up circulating line and pump-in sub. Tested lines to 2000 psi (5 mins) - OK.
3497.0	CTB	TP	RTB	DFC	1.25	Pumped 210 bbls of brine at 8.9 ppg and followed with 275 bbls packer fluid (with corrosion inhibitor, biocide and oxygen scavenger). Displaced 10 ppg salt out of annulus.
3497.0	CTB	TP	RTB	DFC	0.5	Rigged down circulating line and pump-in sub.
3497.0	CTB	P	RTB		0.75	Laid out pup joints and 5 joints of 7 in 13 Cr tubing.
3497.0	CTB	P	RTB		0.75	Picked up and made up pup joints, 1 x 7 in 13 Cr (29 ppf) tubing and tubing hanger.
3497.0	CTB	P	RTB		0.5	Cut SSSV control line and fed through tubing hanger. Re-terminated and tested line to 7000 psi (15 mins) - OK.
3497.0	CTB	P	RTB		1.5	Picked up landing string from derrick and made up to production string. RIH to 5 ft above PBR. Made up pump-in sub.
3497.0	CTB	P	RTB		0.5	Rigged up circulating line.
3497.0	CTB	P	RTB		0.5	Conducted JSA prior to displacing production tubing to diesel.
						Note: Favourable weather and sea conditions allowed the cranes and boats to be accessed as required.

Date : 24 Sep 2004 **Daily Cost : $ 1,415,792** **Report Number : 50**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	RTB		0.25	Broke circulation. Flushed and tested surface lines prior to pumping diesel.
3497.0	CTB	TP	RTB	RE	0.5	Detected leak on low torque valve - changed out valve.
3497.0	CTB	P	RTB		0.25	Flushed surface lines and tested to 2000 psi - OK.
3497.0	CTB	P	RTB		2.25	Displaced tubing to diesel using cement unit pumps (2.5 bbl/min). A total of 267 bbls of diesel and 10 bbls of water pumped. Final pressure = 650 psi.
3497.0	CTB	P	RTB		0.5	Monitored pressure and drained BOP through side outlets. Flushed out wellhead.
3497.0	CTB	P	RTB		0.25	Took pick-up (250 klbs) and slack-off (205 klbs) weights. RIH and landed tubing hanger at 26.58 m below RT. Pressure increased from 695 psi to 800 psi. Cameron confirmed landout.
3497.0	CTB	P	RTB		0.25	Bled off tubing pressure and monitored well - static. Rigged down surface lines.
3497.0	CTB	P	RTB		0.25	Locked down hanger and conducted overpull test to 20 klbs over completion string weight (250 + 20 klbs) - OK.

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DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004

Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 24 Sep 2004 **Daily Cost : $ 1,415,792** **Report Number : 50**

3497.0	CTB	P	RTB		0.5	Pressure tested hanger seals to 5000 psi - OK.
3497.0	CTB	P	RTB		1.25	Rigged up surface lines and pressure tested annulus below hanger to 3500 psi (15 mins) - OK.
3497.0	CTB	P	SLK		0.25	Rigged down XO TIW pump-in sub from tubing. Conducted JSA prior to commencing slickline operations.
3497.0	CTB	U	SLK		0.5	Rigged up slickline sheaves and equipment.
3497.0	CTB	U	SLK		0.25	Made up 5.75 in gauge tool and RIH to 40 m below RT. POOH and laid down tool.
3497.0	CTB	U	SLK		1.25	Made up HE-3 plug and running assembly. Set timer to 40 mins and RIH HE-3 plug. Set plug at 35 m below RT in joint of 29 ppf 7 in tubing. POOH and laid out plug running assembly.
3497.0	CTB	U	SLK		0.5	Made up XO TIW pump-in sub on tubing. Filled riser and rigged up surface lines.
3497.0	CTB	U	SLK		0.25	Pressure tested HE-3 plug from above to 5000 psi (5 mins) - OK.
3497.0	CTB	U	SLK		0.25	Rigged down slickline equipment and bled off SSSV control line pressure. Cut SSSV control line.
3497.0	CTB	P	RTB		0.25	Backed out landing string with 7 right hand turns.
3497.0	CTB	P	BOP		0.25	Circulated soap pill through BOP's and riser to trip tank.
3497.0	CTB	P	BOP		0.5	Rigged down surface lines and XO TIW pump-in sub. POOH with landing string and laid down same.
3497.0	CTB	U	ACC	OTH	5	Waited on police and coroners investigation into heart attack incident.
3497.0	CTB	P	BOP		1.5	Cleared rig floor of tubing running equipment.
3497.0	CTB	P	BOP		2	Nippled down diverter box, overshot and mandrel. Laid out same.
3497.0	CTB	P	BOP		1.5	Released tension from tensioner frame and backed out pins on NT-2 connector.
3497.0	CTB	P	BOP		0.25	Conducted JSA prior to lifting BOP stack.
3497.0	CTB	P	BOP		1.25	Lifted BOP and allowed BOP to drain. Pulled out SSSV control line and installed test pups. Bled down accumulator and disconnected control hoses. Set BOP on stump and secured same.
3497.0	CTB	P	BOP		2	Released fast-loc connector on riser and retracted centering rods in PCU. Retracted tensioner frame beams and removed deck covers from platform main deck. Pulled high pressure riser and laid out same. Note: Favourable weather and sea conditions allowed the cranes and boats to be accessed as required.

Date : 25 Sep 2004 **Daily Cost : $ 727,755** **Report Number : 51**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	BOP		0.25	Laid out HP riser from rig floor.
3497.0	CTB	U	XT		2	Rigged down tension frame and laid out fox hole. Installed hatch covers on Yolla-3 and skidded PCU to starboard side for installing the production tree on Yolla-3.
3497.0	CTB	P	XT		2	Moved tree to platform and removed hatch covers and I-beam. Rigged up block to tree and ran tree through hatch. Landed and oriented tree as per Cameron's instructions. Made up fast-loc connector and removed rig-up lines.
3497.0	CTB	P	XT		0.5	Re-installed I-beam and hatch covers on Yolla-3.
3497.0	CTB	P	XT		0.5	Pressure tested tree cavity to 5000 psi (10 mins) - OK. Skidded PCU back over Yolla-3.
3497.0	CTB	P	XT		1	Installed flanges and gauges on annulus and tree. Installed diverter in rotary.
3497.0	CTB	P	DST		1	Ran 7 in riser. Removed swab cap and installed riser on production tree.
3497.0	CTB	P	DST		0.25	Conducted JSA prior to making up flow head.
3497.0	CTB	P	DST		2	Picked up and made up flow head. Rigged up kill and flow lines.
3497.0	CTB	P	DST		1.5	Continued to rig-up surface testing package and built scaffold adjacent to flow head. Prepared slickline equipment on rig floor.
3497.0	CTB	P	DST		1.5	Flushed (with drillwater) the surface test lines and filled the riser/flow head using the cement unit pumps. Closed the kill wing valve and tested the kill line - leak detected on cement manifold. Reconfigured kill line and tested to 5000 psi (15 mins) - OK. Tested flow wing valve, swab valve, riser and xmas tree against HE-3 plug to 5000 psi (15 mins) - OK. Closed master valve and bled to 1000 psi on cement unit to test to 4000 psi (15 mins) - OK.
3497.0	CTB	U	SLK		0.25	Conducted JSA prior to rigging up for slickline operations.
3497.0	CTB	U	SLK		1.75	Made up slickline lubricator and stuffing box on rig floor. Continued to prepare well test package.

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Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 25 Sep 2004 **Daily Cost : $ 727,755** **Report Number : 51**

3497.0	CTB	P	DST		6.75	Flushed and pressure tested well test package with cement unit. After identifying and rectifying several leaks the following tests were achieved: Flow line to choke manifold to 4000 psi (10 mins) - OK. Down stream lines, vessels and valves to 1000 psi (10 mins) - OK except by-pass valve to oil line leaking. Removed valve for repair.
3497.0	CTB	U	SLK		2	Rigged up slickline BOP's and picked up lubricator. Installed 5.85 in gauge ring and made up lubricator to BOP's. Functioned BOP's and tested lubricator and BOP's to 500/4000 psi (5/10 mins) - OK.
3497.0	CTB	U	SLK		0.25	RIH with 5.85 in gauge ring to top of HE-3 plug at 35 m below RT. POOH gauge ring.
3497.0	CTB	U	SLK		0.5	Closed flow head swab valve and broke open lubricator. Laid down gauge ring and picked up HE-3 plug retrieval tool. Made up lubricator and tested "quick test" sub to 4000 psi - OK. Note: Favourable weather and sea conditions allowed the cranes and boat to be accessed as required.

Date : 26 Sep 2004 **Daily Cost : $ 333,974** **Report Number : 52**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	U	SLK		1	Pressured up riser to 100 psi. RIH and retrieved HE-3 plug at 35 m below RT. Pulled retrieval tool and HE-3 plug back to surface and closed flow head swab valve. Bled off pressure and broke out lubricator. Laid out plug and retrieval assembly.
3497.0	CTB	U	SLK		0.25	Made up 2.71 in gauge assembly. Made up lubricator and tested "quick test" sub to 4000 psi - OK. Opened SSSV and flow head swab valve.
3497.0	CTB	U	SLK		1	RIH 2.71 in gauge assembly on slick line to 3463 mMD.
3497.0	CTB	U	SLK		0.5	POOH gauge assembly to surface.
3497.0	CTB	U	SLK		1	Closed flow head swab valve. Checked for pressure and broke out lubricator. Laid out gauge assembly and laid down lubricator to catwalk. Stood back BOP and installed flow head cap. Concurrently re-installed by-pass valve.
3497.0	CTB	P	DST		1	Flushed surface well test lines through separator. Tested heater inlet and separator body to 1000 psi - OK.
3497.0	CTB	P	PER		0.25	Held JSA prior to rigging up wireline equipment.
3497.0	CTB	P	PER		2.5	Rigged up Schlumberger wireline BOPs, lubricator, grease head and sheaves. Concurrently conducted separator flow meter calibrations.
3497.0	CTB	P	PER		0.5	Flushed BOP and lubricator. Closed grease head and pressure tested BOP and lubricator to 4000 psi (10 mins) - OK.
3497.0	CTB	P	PER		0.75	Broke off lubricator and lowered tool head to catwalk. Prepared 2.125 in (3mx, 45° phased) power jet gun + CCL assembly.
3497.0	CTB	P	PER		0.5	Picked up gun assembly and made up lubricator. Tested "quick test" sub to 4000 psi - OK.
3497.0	CTB	P	PER		1.75	Opened flow head swab valve and master valve. RIH 2.125 in power jet gun + CCL assembly to 3438 mMD.
3497.0	CTB	P	PER		0.75	Correlated depth. Logged up to firing depth with top shot at 3404 mMD. Prepared to flow well.
3497.0	CTB	P	DST		2.5	Opened well to surge tank on 24/64 in choke. Fired guns and perforated 2973 sand from 3404 - 3407 mMD (pressure increased to 74 psi in 15 mins). Beaned up to 32/64 in then 48/64 in choke. Flowed well and filled surge tank with diesel - diverted flow to starboard flare boom. FTHP increased to 1220 psi as brine reached surface. FTHP started to fall. Small gas flow with brine. With FTHP at 940 psi opened well to 64/64 in to try to flow slug of brine out. No slugs - still small gas flow with mainly brine. FTHP continued to fall to 611 psi. Shut well in.
3497.0	CTB	P	DST		0.25	Monitored pressure build-up.
3497.0	CTB	P	PER		1.5	POOH with 2.125 in power jet gun + CCL assembly.
3497.0	CTB	P	PLD		2	SITHP = 3073 psi. Isolated well and bled off lubricator. Laid down and dis-armed guns. Confirmed all guns had fired. Rigged down lubricator, BOP's and sheaves.
3497.0	CTB	P	SLK		1.5	Rigged up slickline BOP's and lubricator. Made up memory gauge assembly and tested BOP/lubricator to 500/4000 psi (5/10 mins) - OK.
3497.0	CTB	TP	SLK	OTH	1	Bled down lubricator pressure to well pressure (3100 psi). Opened well and attempted to RIH memory gauges - unsuccessful. Attempted to free tool without success.

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Date : 26 Sep 2004 **Daily Cost : $ 333,974** **Report Number : 52**

3497.0	CTB	TP	SLK	OTH	1.25	Isolated well and bled off lubricator pressure - tool freed itself. Commenced RIH and hammer union (below coflexip line) on surface flowline leaked. Shut-in well and redressed hammer union and retested to 4000 psi (10 mins) - OK.
3497.0	CTB	TP	SLK	OTH	0.25	Broke open lubricator and added weight bar to toolstring. Made up lubricator and tested "quick test" connection to 4000 psi - OK.
3497.0	CTB	P	DST		1	Opened well and RIH with memory gauges to 3422 mMD.
3497.0	CTB	P	DST		0.25	Opened deluge system on the port side of rig and lit pilot flames. Prepared to flow well.
3497.0	CTB	P	DST		0.75	Opened well on 16/64 in choke and staged up to 28/64 in choke. Note: Favourable weather and sea conditions allowed the cranes and boat to be accessed as required.

Date : 27 Sep 2004 **Daily Cost : $ 364,087** **Report Number : 53**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	DST		8.25	Flowed 2973 sand to burner boom to clean up well. Summary of results are as follows: Time / Choke / FTP / Q / BS&W 0:00 / 28 / 2230 / 10.4 / 0:30 / 36 / 2015 / 10.3 / 1:30 / 48 / 930 / / 2:15 / 40 / 950 / 6.8 / 3:30 / 48 / 730 / 6.5 / 4:30 / 50 / 660 / 5.7 / 5:30 / 48 / 715 / 6.3 / 6:00 / 48 / 730 / 6.5 / 6:00 / 48 / 743 / 6.5 / 50 6:15 / 48 / 731 / 6.4 / 60 6:30 / 44 / 722 / 6.7 / 50 6:45 / 48 / 768 / 7.09 / 50 7:00 / 48 / 728 / 6.3 / 60 7:15 / 48 / 716 / 6.4 / 7:30 / 48 / 710 / 6.2 / 40 7:45 / 48 / 707 / 6.2 / 50 8:00 / 48 / 704 / 6.2 / 50
3497.0	CTB	P	DST		7.25	Flowed well through separator to burner boom on fixed choke of 48/64 in. Separator pressure 250 psi. Summary of results as follows. Time / Choke / FTP / Q / BS&W 8:15 / 48 / 713 / 6.1 / 9 8:30 / 48 / 713 / / 9 8:45 / 48 / 701 / 7 / 48 9:00 / 48 / 700 / 7.8 / 30 9:15 / 48 / 700 / 6.9 / 8 9:30 / 48 / 686 / 7.5 / 9:45 / 48 / 692 / 7.2 / 10:00 / 48 / 671 / 7.3 / 75 10:15 / 48 / 680 / 7.2 / 25 10:30 / 48 / 713 / 7.25 / 9 10:45 / 48 / 700 / 7.28 / 2 11:00 / 48 / 700 / 7.1 / 11:15 / 48 / 701 / 7.1 / 11:30 / 48 / 680 / 7.2 / 70 11:45 / 48 / 704 / 6.8 / 12:00 / 48 / 676 / 7.2 / 80 12:15 / 48 / 694 / 6.8 / 18 12:30 / 48 / 697 / 7 / 8 12:45 / 48 / 694 / 7 / 20 13:00 / 48 / 682 / 7.2 / 90 13:15 / 48 / 695 / 6.9 / 17 13:30 / 48 / 692 / 7 / 2 14:00 / 48 / 683 / 7 / 14:15 / 48 / 692 / 7 / 25 14:30 / 48 / 680 / 7.1 / 20 14:45 / 48 / 689 / 6.9 / 6 15:00 / 48 / 671 / 7.1 / 10 15:15 / 48 / 683 / 6.8 / 8

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Date : 27 Sep 2004 | **Daily Cost : $ 364,087** | **Report Number : 53**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
						Note: 1. Petrotech took isokinetic wellhead samples from 1113 - 1233 & 1410 - 1512. 2. Petrolab took separator PVT samples from 1155-1205, 1352-1406 & 1436-1454 3. Due to very low rates liquid was measured with the gauge tank (cond) and dumped occasionally through the meter (water) with final gas-oil & oil-water interfaces at same level in separator. Average rates 1100-1320 = 94.9 stbcpd & 27.7 bwpd. Average rates 1346-1528 = 83.2 stbcpd& 24.35 bwpd. Average over the two measurement periods was 90.0 stbcpd & 26.3 bwpd 4. Shrinkage measured regularly. Consistent at 0.97. 5. Commenced changing out upper section of Yolla-4 production tree. 6. Up to 40 ppm H2S and 17% CO2 recorded during test.
3497.0	CTB	P	SLK		1	Shut-in well at choke. POOH with memory gauges into lubricator. Monitored SITHP for 10 mins = 2190 psi.
3497.0	CTB	P	SLK		1.5	Isolated well and bled off lubricator. Laid down memory gauges and cut off 420 m of slickline (wire did not achieve the minimum requirement of 18 twist test turns). Made up 3.688 in plug with RN keys and running assembly. Made up lubricator and tested "quick test" sub to 4000 psi - OK.
3497.0	CTB	P	SLK		1.5	Opened well (SITHP = 3026 psi) and RIH. Set 3.688 in plug in landing nipple at 3291 mWL. POOH with running tool.
3497.0	CTB	P	SLK		0.5	Isolated well and bled off lubricator. Laid down plug running assembly and made up 3.813 in SSD opening tool. Made up lubricator and tested "quick test" sub to 4000 psi - OK.
3497.0	CTB	P	SLK		0.5	Opened well (SITHP = 3028 psi) and bled down THP to 2724 psi. Held this pressure for 15 mins to determine if 3.688 in plug was holding pressure - OK.
3497.0	CTB	P	SLK		1.25	RIH with 3.813 in SSD opening tool and opened SSD at 2235 mWL (UEVCM sand).
3497.0	CTB	P	SLK		0.25	Isolated well and bled off lubricator. Laid down shifting tool and made up memory gauges. Made up lubricator and tested "quick test" sub to 4000 psi - OK.
3497.0	CTB	P	DST		2	Opened well to choke manifold and opened port side deluge system. Flowed well on 16/64 in choke and staged up to 48/64 in choke to clean up UEVCM sand. Note: Favourable weather and sea conditions allowed the cranes and boat to be accessed as required.

Date : 28 Sep 2004 | **Daily Cost : $ 351,384** | **Report Number : 54**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	DST		0.25	Flowed UEVCM sand to clean up same. FTHP = 1713 psia Choke = 48/64 in BSW = 0.25% water, trace sediments Q = 14.2 mm/scfd
3497.0	CTB	P	DST		1	Shut-in well at choke (SITHP = 2153 psia) and opened swab FCH valve. Equalised pressure to lubricator and RIH with memory gauges on slickline to 2248 mWL.
3497.0	CTB	P	DST		3	Opened well on 16/64 in choke and beaned up to 52/64 in. FTHP = 1686 psia Choke = 52/64 in BSW = 1% water, 0.25% sediments Q = 14.0 mm/scfd estimated from choke equation Increased choke setting to 56/64 in and then 60/64 in. FTHP = 1560 psia Choke = 60/64 in BSW = 16% water, trace sediments Q = 14.6 mm/scfd
3497.0	CTB	P	DST		5.25	Changed to 60/64 in fixed choke and diverted flow to separator. FTP 1552 psi, estimated rate 15 mmscf/d from choke equation. Tried various orifice plate sizes, over ranged. Successfully recorded rate of 24 mmscf/d. Lifted orifice plate and swithed to 56/64 in adjustable choke. Beaned well back to 48/64 in and lower orifice plate. Rate 18 mmscf/d. Changed to 48/64 in fixed choke, installed 3 in orifice plate. Performed Petrotech CGR checks (+/- 50 bbl/mmscf). Summary of results are as follows: Time / Choke / FTP / Q / BS&W 8:00 / 48 / 1742 / 17.6 / 10 8:15 / 48 / 1739 / 17 /

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Date : 28 Sep 2004 | **Daily Cost : $ 351,384** | **Report Number : 54**

					8:30 / 48 / 1730 / 16.9 / 8:45 / 48 / 1724 / 16.6 / 9:00 / 48 / 1745 / 16.1 / 9:15 / 48 / 1745 / 16.5 / Note: Commenced meter factor check into gauge tank at 0915.
3497.0	CTB	P	DST	2.5	Continued to flow UEVCM sand via separator and took Petrotech and Petrolab samples. Summary of results are as follows: Time / Choke / FTP / Q / BS&W 9:30 / 48 / 1742 / 16.7 / 9:45 / 48 / 1745 / 16.6 / 10:00 / 48 / 1751 / 16.7 / 10:15 / 48 / 1745 / 17 / 10:30 / 48 / 1739 / 17 / 10:45 / 48 / 1724 / 16.9 / 11:00 / 48 / 1697 / 16.9 / 11:15 / 48 / 1709 / 16.2 / 11:30 / 48 / 1700 / 16.4 / 11:45 / 48 / 1721 / 16.4 / 12:00 / 48 / 1763 / 15.3 / Notes: 1. Volume check on meter vs tank between 09:15 and 10:00 indicated meter reading 40% over. This check was at steady conditions and with beginning and end separator levels constant and provided an accurate rate reading of 828 stbpd. Shrinkage was 0.855. Separator rate was 968 bpd. 2. A second volume check was done between 11:25 and 11:55 after pumping out the tank. Meter reading was 60% over tank. Levels in separator not steady enough to use this period for flow rate. 3. Used flow rate from first volume check (978 sep bpd) for sampling recombination. Petrolab sample set #1 preferred as it was taken during this period. 4. Whilst testing UEVCM up to 17 % CO2 and 4 ppm H2S was recorded.
3497.0	CTB	P	SLK	1.75	Shut-in well at choke. RIH memory gauges from SSD at UEVCM sand to SSD at 2809 sand. POOH to surface and waited 15 mins inside lubricator.
3497.0	CTB	P	SLK	1.25	Isolated well and bled off lubricator. Laid down memory gauges and cut off 380 m of wire (0.108 in wire did not meet the minimum requirement of 18 twist test turns). Made up 3.813 in SSD closing tool and made up lubricator. Tested "quick test" sub to 4000 psi.
3497.0	CTB	P	SLK	1	Opened well and RIH with slickline. Closed SSD at 2235 mWL (UEVCM sand) and POOH with closing tool.
3497.0	CTB	P	SLK	0.5	Isolated well and bled off lubricator. Checked shear pins on closing tool to confirm SSD had closed - OK. Laid down 3.813 in SSD closing tool and picked up 3.688 in SSD opening tool. Made up "quick test" sub and tested to 4000 psi - OK.
3497.0	CTB	P	SLK	1.75	Opened well and RIH SSD opening tool to SSD at 3256 mWL (2809 sand). Opened SSD and POOH with opening tool.
3497.0	CTB	P	SLK	0.25	Isolated well and bled off lubricator. Laid down SSD opening tool and picked up "R" lock hanger with memory gauges. Made up lubricator and tested "quick test" sub to 4000 psi - OK.
3497.0	CTB	P	SLK	1.75	Opened well and RIH with memory gauges. Set gauges in profile at 3276 mWL. POOH with running tool.
3497.0	CTB	P	SLK	0.75	Isolated well and bled off lubricator. Laid down running tool and lubricator. Closed BOP and installed cap. Stuffing box to be repaired during flow period.
3497.0	CTB	P	DST	3	Opened well on 16/64 in choke to clean up 2809 sand. Beaned up to 52/64 in choke. Time = 22:00 Choke = 48/64 in FTHP = 2658 psi Q = 32 mm/scfd Time = 23:00 Choke = 48/64 in FTHP = 2748 psi Q = 32 mm/scfd BS&W = 12% with trace sediments Note: Favourable weather and sea conditions allowed the cranes and boat to be accessed as required.

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DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004

Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 29 Sep 2004 **Daily Cost : $ 1,154,567** **Report Number : 55**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	DST		1.5	Flowed 2809 sand and stepped down from clean up rate to sampling rate. Choke (in): 40/64 FTHP (psia): 2965 Qgas (MMscf/d): 24 BS&W: 10%W trace S Choke (in): 28/64 FTHP (psia): 3125 Qgas (MMscf/d): 12 BS&W: 2%W trace S
3497.0	CTB	P	DST		2.25	Discussed sampling rate and pressures with Origin management. Varied choke setting to find minimum allowed for liquid lift. Summary of test results as follows: Time / Choke / FTP / Q / BS&W 1:45 / 20 / 2974 / / 1 2:00 / 36 / 2978 / / 20 2:15 / 36 / 2994 / / 15 2:30 / 36 / 3060 / / 9 2:45 / 36 / 3057 / 15.9 / 8.9 3:00 / 36 / 2995 / 16 / 12 3:15 / 36 / 2995 / 17 / 20 3:30 / 36 / 3004 / / 22
3497.0	CTB	P	DST		6	Diverted flow to separator on 36/64 in fixed choke. Summary of test results as follows: Time / Choke / FTP / Q / BS&W 3:45 / 36 / 3001 / / 15 4:30 / 36 / 3011 / 18 / 15 4:45 / 36 / 3011 / 18 / 14 5:00 / 36 / 3010 / 18.5 / 13 5:30 / 36 / 3012 / 17.7 / 13 5:45 / 36 / 3014 / 18 / 18 6:00 / 36 / 3013 / 17.8 / 18 6:15 / 36 / 3013 / 17.7 / 12 6:30 / 36 / 3013 / 17.7 / 12 6:45 / 36 / 3015 / 17.7 / 7:00 / 36 / 3016 / 17.7 / 7:15 / 36 / 3016 / 17.7 / 7:30 / 36 / 3016 / 17.7 / 13 7:45 / 36 / 3016 / 17.7 / 8:00 / 36 / 3015 / 17.6 / 8:15 / 36 / 3019 / 17.5 / 12 8:30 / 36 / 3019 / 17.6 / 8:45 / 36 / 3022 / 17.6 / 9:00 / 36 / 3021 / 17.6 / 9:15 / 36 / 3021 / 17.6 / 9:30 / 36 / 3021 / 17.5 / 9:45 / 36 / 3018 / 17.6 / Notes: 1. Meter checks made to gauge tank 0610 - 0645, 0730 - 0759, 0845 - 0900 and 0920 - 0945. 2. Cond rate as per tank measurements = 525.3 st or 621.6 sep bpd average until 0920 - 0945 when rate increased to 671 st or 794.1 sep bpd. 3. Meter factor on repaired meter = 1.029 4. CGR = 29.8 stb/mmscf 5. Whilst testing 2809 sand up to 17 % CO2 and 29 ppm H2S recorded.
3497.0	CTB	P	DST		0.25	Closed in well at choke. Closed production tree swab and FCH master valve. Bled off through choke.
3497.0	CTB	P	SLK		0.75	Picked up slickline lubricator and made up 3.688 in SSD closing assembly. Made up lubricator and slickline BOP.
3497.0	CTB	P	SLK		0.5	Tested lubricator to 4000 psi (15 mins) - OK.
3497.0	CTB	P	SLK		2.75	Opened FCH master valve and equalised pressure to lubricator. Opened production tree swab valve (THP = 3000 psi). RIH with SSD closing assembly to 2809 sand SSD. Closed SSD at 3256 mWL. POOH with closing assembly.
3497.0	CTB	P	SLK		0.5	Isolated well and bled off lubricator. Laid down 3.688 in SSD closing assembly and checked shear pins for confirmation of closing SSD - OK. Picked up 3.688 in SSD opening assembly and made up lubricator. Tested "quick test" sub to 4000 psi OK.

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DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004
Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time : 03:00 | Release Time : 10:00

Date : 29 Sep 2004 **Daily Cost : $ 1,154,567** **Report Number : 55**

3497.0	CTB	P	SLK		1.5	Opened well and RIH with opening assembly. Opened 2755 sand SSD at 3201 mWL. POOH with opening assembly.
3497.0	CTB	P	SLK		0.5	Isolated well and bled off lubricator. Laid down 3.688 in SSD opening assembly. Picked up memory gauge retrieval tool and made up lubricator. Tested "quick test" sub to 4000 psi - OK.
3497.0	CTB	P	DST		5	Opened well on 24/64 in choke to clean up 2755 sand. Beaned up in stages to 56/64 in choke. Well stabilised at FTP 1675 psi and rate 25 mmscf/d. Summary of test results as follows: Time / Choke / FTP / Q / BS&W 18:00 / 56 / / / 25 18:30 / 56 / 1676 / 24.1 / 25 18:45 / 56 / 1667 / 23.9 / 19 19:15 / 56 / 1655 / 23.7 / 22 19:45 / 48 / 1935 / 23.6 / 15 20:00 / 48 / 1938 / 23.6 / 20 20:30 / 40 / 2254 / 18.9 / 13 20:45 / 36 / 2417 / 14.2 / 8
3497.0	CTB	P	DST		2.5	Diverted flow to separator. Summary of test results as follows: Time / Choke / FTP / Q / BS&W 21:30 / 40 / 2242 / / 20 22:00 / 40 / 2233 / 17.6 / 22:30 / 40 / 2233 / 17.5 / 15 22:45 / 40 / 2230 / 17.4 / 17 23:00 / 40 / 2230 / 17.5 / 22 23:30 / 40 / 2227 / 17.3 / 14 Notes: 1. Commenced CGR sampling at 2200 hrs. Gas rates through 3 in orifice plate. Oil rate too low for metering - tank volumes to calculate rates. 2. Favourable weather and sea conditions allowed the cranes and boat to be accessed as required.

Date : 30 Sep 2004 **Daily Cost : $ 137,360** **Report Number : 56**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3497.0	CTB	P	DST		4.5	Production tested 2755 sand. Summary of test results are as follows: Time / Choke / FTP / Q / BS&W 0:00 / 40 / 2230 / 17.3 / 15 0:30 / 40 / 2224 / 16.5 / 20 1:30 / 40 / 2224 / 16.4 / 22 2:00 / 40 / 2224 / 16.4 / 18 2:30 / 40 / 2224 / 16.4 / 20 3:00 / 40 / 2221 / 16.4 / 19 3:30 / 40 / 2224 / 16.4 / 21 4:00 / 40 / 2221 / 16.4 / 22 4:30 / 40 / 2221 / 16.4 / 22 Notes: 1. Gas rates after midnight corrected for 20% CO2 and 60 ppm H2S. 2. Initial CGR samples, 29.5 and 24.4. 3. PVT sampling commenced at 00.30 hrs. CGR = 19.4. 4. Intermediate CGR = 25.2. 5. 2nd PVT set commenced at 03:45 hrs. 6. Final CO2 and H2S 20% / 40 ppm. 7. Initial condensate rate calculation ~450 STBOPD.
3497.0	CTB	P	SLK		0.25	Shut-in well at choke. Re-tested "quick test" sub on lubricator to 4000 psi - OK.
3497.0	CTB	TP	SLK	OEF	0.5	Opened flow head and noticed a leak on flow wing grease port. Re-greased valve - OK.
3497.0	CTB	P	SLK		1	Opened well and RIH with slickline and retrieved memory gauges.
3497.0	CTB	P	SKR		0.5	Closed production tree LMV and bled off pressure through choke. Closed in production tree UMV, swab valves and SSSV. Flushed out kill and flow lines.
3497.0	CTB	P	SKR		2.25	Broke out and laid down slickline lubricator and BOP. Broke off kill and flow lines. Prepared and pulled FCH and riser. Laid out coflexip flowline.
3497.0	CTB	P	SKR		0.75	Disconnected service lines and lifted v-door. Moved slickline unit from catwalk and prepared to skid drill floor.

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Wellname : Yolla-3	Drilling Co. : Ensco	Rig : Ensco 102

DFE above MSL : 43.0m	Lat : 39 Deg 50 Min 40.4707 Sec	Spud Date : 11 Aug 2004	Release Date : 30 Sep 2004
Water Depth : 81.0m	Long : 145 Deg 49 Min 06.0849 Sec	Spud Time : 03:00	Release Time : 10:00

Date : 30 Sep 2004	**Daily Cost : $ 137,360**	**Report Number : 56**

3497.0	CTB	P	SKR	0.25	Conducted JSA prior to skidding drill floor to Yolla-4.
					### Yolla-3 ended at 10:00 hrs on 30/9/04 ###

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APPENDIX 13: DAILY GEOLOGICAL REPORTS

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 1 **DAYS FROM SPUD:** 4.87 **DATE:** 15 Aug 04 **0000 hrs DEPTH:** 1012m
LAST DEPTH: 1012m **24 HR PROGRESS:** 0m

0600 OPS: Completed FIT, preparing to pump pill.

REMARKS: Install tensioner frame support, pick up, traverse and land BOP. Install POD control hoses and rig up lines. Nipple up overshot mandrel, diverter housing, choke and kill hoses. Lay out 16" directional BHA and drilling assembly. Test choke, kill hoses and rams. Perform accumulator test then rig down testing equipment. Make up 12.25" BHA and RIH to 303mMD. Drill cement and plugs in stage collar to 308mMD. Pump high vis pill. Continue RIH to 552mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff.**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm						-1042.0	-1062.5	-1057
Top Volcanics			-1201			-1250.9	-1265.5	-1237
Base Volcanics			-1367			-1290.9	-1291.0	-1371
Top Demons Bluff			-1657			-1656.9	-1680.5	-1659
Top EVCM						-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 2 **DAYS FROM SPUD:** 5.87 **DATE:** 16 Aug 04 **0000 hrs DEPTH:** 1205m
LAST DEPTH: 1012m **24 HR PROGRESS:** 193m

0600 OPS: Drilling ahead at 1321mMD in Angahook Formation.

REMARKS:

Continue RIH to top of cement at 980m, close top pipe rams, fill pipe and test casing to 1500psi. Drill cement to 1006m, begin to displace hole to 8.6ppg mud and clean out rat hole to 1012m. Drill new Formation to 1017m and circulate bottoms up. POOH to 986m then rig up and perform FIT. Held 303psi with 8.6ppg mud which is equivalent to 10.5ppg mud with no leak off. POOH with BHA. Pick and make up adjustable stabaliser and MWD tools. Break out and make up 12.25" bit, set bend in motor to 1.15 deg, then orient motor to MWD. RIH to 190.77m, test MWD tools – okay. RIH to 1006m then wash down to 1017m. There was no fill. Drilling ahead, rotating and sliding to 1205mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs			**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
				Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff.**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1231	1051	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics			-1201			-1250.9	-1265.5	-1237
Base Volcanics			-1367			-1290.9	-1291.0	-1371
Top Demons Bluff			-1657			-1656.9	-1680.5	-1659
Top EVCM						-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)			ROP (avg)	Lithology Description Claystone								
1017		1085	16 - 73 (45.3)	CLAYSTONE, light to olive grey, trace cream, very soft, sub blocky fracture, 10% calcareous clay, 90% clay, constituents, accessories include 10% calcite, with trace amounts of fossil and foraminifera.								
Gas average			**Units :**	1-2	**Composition (ppm)**	264 C1	10 C2	2 C3	1 C4	Tr C5	-	
Show Details			No Hydrocarbon Shows									

Interval (m)			ROP (avg)	Lithology Description Claystone becoming slightly silty								
1085	-	1205	15 - 68 (40)	CLAYSTONE, light to medium grey, soft, sub blocky fracture, 10% calcareous clay, 80% clay, 10% silt constituents, with accessory calcite, 10 %, trace fossil amounts and trace pyrite. Calcimetery records 11% calcite and 1% dolomite.								
Gas average			**Units :**	8	**Composition (ppm)**	1007 C1	39 C2	10 C3	7 C4	1 C5	-	
Show Details			No Hydrocarbon Shows									

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 3 **DAYS FROM SPUD:** 6.87 **DATE:** 17 Aug 04 **0000 hrs DEPTH:** 1593m
LAST DEPTH: 1205m **24 HR PROGRESS:** 388m

0600 OPS: POOH to 76m and laying out BHA to replace MWD.

REMARKS: Continue drilling ahead 12.25" hole from 1205-1260mMD. Flowline trough plugged with cuttings and cleared. Drilling 12.25" hole 1260-1420mMD, stopped drilling to clear flowline trough plugged with cuttings. Resume drilling 12.25" hole 1420-1593mMD where the pulsing mechanism on the MWD failed. Circulate bottoms up then conduct a flow check (ok). POOH 1593-1410mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1231	-1051	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1489	-1238	-1201	37	Low	-1250.9	-1265.5	-1237
Base Volcanics			-1367			-1290.9	-1291.0	-1371
Top Demons Bluff			-1657			-1656.9	-1680.5	-1659
Top EVCM						-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)			ROP (avg)	Lithology Description Claystone and Siltstone						
1205		1380	19 - 61 (37)	CLAYSTONE: calcareous, light to medium grey, very soft, sub blocky, calc grains: 20% clay, clastic grains: 60% clay, 20% silt, accessories: calc 20 %, trace fossil fragments including forams and bryozoans. SILTSTONE, medium grey / brown, soft to firm, sub blocky, calc grains: 10% clay clastic grains: 10% clay, 60% silt, 20% very fine sand, accessories: calc 20 %, pyrite tr %, fossil fragments, forams.						
Gas average			**Units :**	16	**Composition (ppm)**	2000 C1	90 C2	16 C3	2 C4	1 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Claystone, Siltstone trace Sandstone and Dolomite						
1380	-	1420	23 - 46 (33)	CLAYSTONE: med to dark grey, olive grey, very soft, sub blocky, calc grains: 10% clay clastic grains: 70% clay, 20% silt, accessories: calc 10 %, fossil fragments tr, pyrite tr %. SILTSTONE, med grey brown, soft, sub blocky, calc grains: 10% clay clastic grains: 20% clay, 60% silt, 10% very fine sand, accessories: calc 5 %, fossils tr %, foraminifera tr %, SANDSTONE, light grey, yellow / grey, friable to firm, blocky, calc grains: 10% clay clastic grains: 40% clay, 10% silt, 40% very fine sand, very well sorted, well rounded, spherical, cements/strengths: calcareous moderately strong, accessories: calc 5 % porosity: inter granular 3%. No shows. DOLOMITE, brownish black, hard, block, calc grains: 10% clay clastic grains: 10% clay.						
Gas average			**Units :**	35	**Composition (ppm)**	4454 C1	292 C2	118 C3	75 C4	43 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Claystone and minor Siltstone						
1420	-	1489	15 - 47 (30)	CLAYSTONE: brownish grey, olive grey, very soft, amorphous, calc grains: 5% clay clastic grains: 75% clay, 20% silt, accessories: calc 10 %, fossils tr %, pyrite tr. SILTSTONE, medium grey / brown, very soft, sub blocky, calc grains: 5% clay clastic grains: 40% clay, 45% silt, 10% very fine sand, accessories: calc 5 %, fossils fragments (foram bryozoans echinoids) tr %, carbonaceous grains.						
Gas average			**Units :**	65	**Composition (ppm)**	11180 C1	956 C2	476 C3	244 C4	99 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Top Miocene Volcanics 1489mMD -1238mSS Tuff with minor Claystone						
1489	-	1522	7-48 (12)	TUFF, off white, light bluish grey, very soft and amorphous to firm, commonly with very fine sandstone texture, very fine quartz grains set in a very fine tuffaceous matrix, commonly weathered to clay. CLAYSTONE, brownish grey, olive grey coloured, very soft, amorphous, 5% calcareous clay with 75% silicate clay, 20% silt, accessories: calcite 10 %, and trace amounts of fossil and pyrite.						
Gas average			**Units :**	64	**Composition (ppm)**	6559 C1	792 C2	525 C3	303 C4	153 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Claystone and minor Tuff						
1522	-	1544	15-37 (19)	CLAYSTONE, brownish grey, olive grey, very soft, amorphous, 5% calcareous clay, with 75% silicate clay, 20% silt, accessory calcite 10 %, and trace amounts of fossil and pyrite. TUFF, off white, light bluish grey, soft to firm, amorphous, 5% calcareous clay with 75% silicate clay, 20% very fine sand, accessory calcite 5 %, quartz 20 % and trace pyrite.						
Gas average			**Units :**	402	**Composition (ppm)**	36863 C1	4818 C2	3335 C3	1927 C4	857 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Sandstone with Clay Matrix Grading to Siltstone						
1544	-	1552	12-35 (12.5)	SANDSTONE, volcanoclastic, light to medium mottled brown, very soft, sub blocky, 10% calcareous clay, 40% silicate clay, 40% very fine sand, 20% fine sand, well sorted, rounded, sub spherical clasts, weak argillaceous cement, accessory calcite traces, 25 % quartz grains, with trace inter granular porosity. SILTSTONE, volcanoclastic, light to medium mottled brown coloured, very soft, sub blocky, trace calcareous clay, 40% silicate clay, 50% silt, 10% very fine sand, accessory calcite and traces of pyrite.						
Gas average			**Units :**	404	**Composition (ppm)**	32480 C1	5369 C2	4155 C3	2540 C4	1285 C5	-
Show Details			Gas show only, no fluorescence. Peak at 1547m: 748 u 59441 / 9611 / 7463 / 4513 / 2197								

Interval (m)			ROP (avg)	Lithology Description Sandstone Grading to Siltstone with Minor Interbedded Claystone						
1552	-	1591	10-28 (10.7)	SILTSTONE, light and medium browns to cream, soft, sub blocky, 10% calcareous clay, 30% silicate clay, 40% silt, 20% very fine sand, accessory fossil traces, 10 % calcite and trace pyrite. SANDSTONE, light to medium brown, soft, sub blocky, 10% calcareous clay, 30% silicate clay, 30% silt, 50% very fine sand, well sorted, rounded, sub spherical clasts, 10 % accessory calcite, 25 % quartz and trace inter granular porosity. CLAYSTONE, off white & medium to light grey, firm, sub blocky, 50% silicate clay, 40% silt, 10% very fine sand, with accessory calcite traces.						
Gas average			**Units :**	147	**Composition (ppm)**	10270 C1	1180 C2	711 C3	393 C4	206 C5	-
Show Details			Gas show only, no fluorescence. Peak at 1583m: 216 u 23446 / 2503/ 1467/ 709 / 320								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 4 **DAYS FROM SPUD:** 7.87 **DATE:** 18 Aug 04 **0000 hrs DEPTH:** 1642m
LAST DEPTH: 1593m **24 HR PROGRESS:** 49m

0600 OPS: Drilling ahead at 1728m in the Undifferentiated Oligocene.

REMARKS:

POOH from 1410-1226mMD. Hole tight from 1265-1236mMD and at 1226mMD with 40-50K overpull. Pump out from 1226-1212mMD. Packing off, back ream 1212-1006mMD. Circulate slug at 840gpm, check flow – static, slug pipe. POOH 1006-190mMD. Check flow – static, remove PS-21 slips. POOH with BHA to 26mMD, change out jars. Lay out HOC, DIR, and RLL. Pick up new RLL, DIR, HOC. Programme new MWD tools. Pull up, clean and check bit. Scribe motor to tools. RIH to 133mMD. Shallow test MWD tool at 700spm. Continue RIH to 1006mMD. Held PJSM on slipping and cutting drill line. Reset upper and lower limits of BCS and Crown o matic. Test same with block. Continue RIH to 1259mMD, had resistance of 60K. Pump through obstruction at 1259mMD and wash stand down. RIH to 1585mMD and wash down to 1593mMD. Gas increase to 4300units. Stopped circulating and flow check the well. Well static but there was gas breaking out on surface. Annular preventer was closed as a precaution against purging. Continued circulating bottoms up at 300gpm, 750psi via an open choke with gas holding at 4000units. Pits and volumes remained steady throughout. Checked the mud density and confirmed the mud was gas cut. Stopped circulating to flow check – static. Opened annular, rotated and reciprocated the drill string. Monitored the well on trip tank for 15 minutes. Static. Circulated a further bottoms up. Maximum gas at 2380 units, reduced to 87 units. Prepared to drill ahead. Drilled from 1593-1642mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs			**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
				Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.2	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	37	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff			-1657			-1656.9	-1680.5	-1659
Top EVCM						-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)			**ROP (avg)**	**Lithology Description** **Siltstone with subordinate Claystone**						
1593	-	1614	7-33 (15)	SILTSTONE, medium brown to cream, soft, sub blocky, 10% calcareous clay, 30% silicate clay, 40% silt, 20% very fine sand, trace fine sand, with accessory bryozoa, gastropods, forams and pyrite. CLAYSTONE, light, medium and pale grey, firm, blocky, 20% calcareous clay, 70% silicate clay, 10% silt, with accessory pyrite.						
Gas average			**Units :**	90	**Composition (ppm)**	7560 C1	1072 C2	785 C3	466 C4	241 C5	-
Show Details			No Hydrocarbon Shows, Maximum Gas at 1605m: 295u, 21711/2618/1849/1287/958								

Interval (m)			**ROP (avg)**	**Lithology Description** **Siltstone and graded Claystone with interbedded Tuff**						
1614	-	1642	4 - 31 (7.3)	SILTSTONE, medium to dark brown, firm to moderately hard, blocky, 10% calcareous clay, 10% silicate clay, 50% silt, 30% very fine sand, trace gastropods, glauconite and pyrite. CLAYSTONE, light brown to cream, very soft, dispersive, 20% calcareous clay, 60% silicate clay, 20% silt. TUFF, light to pale blue grey and mottled white, moderately hard, sub blocky 100% clay, with trace silt and very fine sand sized grains.						
Gas average			**Units :**	142	**Composition (ppm)**	9094 C1	1089 C2	746 C3	449 C4	363 C5	-
Show Details			No Hydrocarbon Shows, Max Gas at 1632m: 277u, 23899/2571/1558/835/592								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 5 **DAYS FROM SPUD:** 8.87 **DATE:** 19 Aug 04 **0000 hrs DEPTH:** 1961m
LAST DEPTH: 1642m **24 HR PROGRESS:** 319m

0600 OPS: Drilling ahead at 2037m.

REMARKS: Drill and slide from 1642m to 1807mMD as per Sperry Sun Directional Driller. Drill and slide 1807-1961mMD through Undifferentiated Oligocene.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff			-1657			-1656.9	-1680.5	-1659
Top EVCM						-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)			ROP (avg)	Lithology Description Siltstone, Sandstone and Claystone with interbedded Tuff						
1642	-	1658	10-31 (20)	SILTSTONE: medium to dark brown, firm to moderately hard, blocky, calcareous grains: 10% clay. clastic grains: 10% clay, 50% silt, 30% very fine sand, accessories: fossils tr %, glauconite tr %, pyrite tr %. SANDSTONE: light to medium brown, firm, blocky, calc grains: 20% clay, clastic grains: 10% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub angular, sub spherical, cements/strengths: calcareous moderately strong, argillaceous weak, accessories: glauconite tr %, pyrite tr %, fossils tr %, porosity inter granular 3%. CLAYSTONE, light brown to cream, very soft, dispersive, calcareous grains: 20% clay. clastic grains: 60% clay, 20% silt, accessories: calc 20 %. VOLCANIC TUFF: light to pale blue grey / mottled white, moderately hard, sub blocky, clastic grains: 100% clay, tr% silt, tr% very fine sand, , calcimetery: 11% calcite, 2% dolomite,						
Gas average			**Units :**	129	**Composition (ppm)**	7426 C1	928 C2	633 C3	390 C4	327 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Sandstone and Siltstone and minor Claystone Undifferentiated Oligocene						
1658	-	1690	6-28 (14.5)	SANDSTONE: light olive brown, off white, light brownish white, firm to friable, calc grains: 10% clay. clastic grains: 20% clay, 30% silt, 40% very fine sand, well sorted, sub rounded, sub spherical, cements/strengths: calcareous / weak, argillaceous / weak, accessories: glauconite tr %, calcareous 25 %, kaolinite clay 5 %, porosity: inter granular 3%. SLTST, medium to occasionally dark brown, friable to firm, sub blocky to occasionally blocky, calcareous grains: 20% clay. clastic grains: 50% clay, 30% silt, accessories: glauconite tr %, calcareous 20 %, pyrite nodules tr %, CLAYSTONE: light brown to cream, very soft, dispersive, calc grains: 20% clay. clastic grains: 60% clay, 20% silt, accessories: calc 20 %						
Gas average			**Units :**	107	**Composition (ppm)**	7216 C1	831 C2	545 C3	318 C4	204 C5	-
Show Details			No Hydrocarbon Shows.								

Interval (m)			ROP (avg)	Lithology Description Calcareous Siltstone and Sandstone						
1690	-	1925	5-32 (17)	SILTSTONE: calcareous, dark - medium brown, brownish grey, firm, blocky, calc grains: 30% clay, clastic grains: 30% clay, 50% silt, accessories: glauconite tr %, calcareous 20 % SANDSTONE: light brown off white, friable to firm, sub blocky to blocky, calc grains: 10% clay, clastic grains: 20% clay, 10% silt, 50% very fine sand, 10% fine sand, well sorted, sub rounded, sub spherical, cements/strengths: calcareous / weak, argillaceous / weak, accessories: glauconite tr %, calcareous 25 %, kaolinite tr - 5 %, porosity: inter granular 3%.						
Gas average			**Units :**	90	**Composition (ppm)**	8813 C1	837 C2	496 C3	251 C4	126 C5	-
Show Details			No Hydrocarbon Shows								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone							
1925	-	1961	14-37 (21)	SILTSTONE, light to predominantly medium brown, soft to friable, sub blocky, 10% calcareous clay, 30% silicate clay, 50% silt, 10% very fine sand, abundant loose quartz grains and trace pyrite. SANDSTONE, off white and mottled brown, firm, sub blocky, 30% silicate clay, 20% silt, 50% very fine sand, moderately sorted, sub angular, sub spherical, moderately strong argillaceous cement, abundant kaolinite with trace pyrite and calcite, trace dolomite, trace intergranular porosity.							
Gas average			**Units :**	60	**Composition (ppm)**	5400 C1	587 C2	333 C3	168 C4	82 C5	-
Show Details			No Hydrocarbon Shows								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 6 **DAYS FROM SPUD:** 9.87 **DATE:** 20 Aug 04 **0000 hrs DEPTH:** 2178m
LAST DEPTH: 1961m **24 HR PROGRESS:** 217m

0600 OPS: Circulating hole clean at core point 2216mMD.

REMARKS: Drill and slide through Demons Bluff Formation from 1961m to 2146mMD as per Sperry Sun Directional Driller. Sliding 30m over 6 hours, rotating 155m over 12 hours. Gas rise and peak to 1068 units, circulate out gas cut mud. Drill ahead 2146-2178mMD as per Sperry Sun. Rotating 26m over 1.75 hours, sliding 5m over 1 hour.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs			**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
				Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

Interval (m)			ROP (avg)	Lithology Description Sandstone and Siltstone							
1961	-	2034	5-32 (17)	SANDSTONE: off white, mottled brown, firm, sub blocky, clastic grains: 30% clay, 20% silt, 50% very fine sand, moderately sorted, sub angular, sub spherical, cements/strengths: argillaceous / moderately strong, accessories: argillaceous 25 %, pyrite nodules tr %, glauconite tr %, porosity: inter granular trace. SILTSTONE: light to predominantly medium brown, soft to friable, sub blocky, calc grains: 10% clay clastic grains: 30% clay, 50% silt, 10% very fine sand, accessories: pyrite trace %, quartz 10 %, fossils (forams) trace %,, calcimetery: 13% calcite, 4% dolomite,							
Gas average			**Units :**	55	**Composition (ppm)**	5701 C1	616 C2	351 C3	173 C4	75 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone and Sandstone, trace Dolomite Demons Bluff Formation 2034mMD -1658mSS							
2034	-	2097	4-31 (11)	SANDSTONE: light brownish, light brownish grey, firm to moderately hard, blocky, calc grains: 5% clay, clastic grains: 25% clay, 30% silt, 40% very fine sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / moderately strong, dolomitic / strong, calcareous / strong, accessories: pyrite nodules trace to 3 %, glauconite tr %, foraminifera tr %, porosity: inter granular tight. SILTSTONE: dark grey, greyish black, soft friable, sub fissile, clastic grains: 20% clay, 80% silt, accessories: trace micro mica, carbonaceous, trace forams. DOLOMITE: light brown / tan, hard, blocky, occasional sub conchoidal fracture, clastic grains: 10% clay, 10% silt, accessories: argillaceous 10 %.							
Gas average			**Units :**	60	**Composition (ppm)**	7053 C1	780 C2	400 C3	164 C4	63 C5	-
Show Details			No Hydrocarbon Shows.								

Interval (m)			ROP (avg)	Lithology Description Siltstone occasionally Grading to Sandstone							
2097	-	2145	10-17 (8)	SILTSTONE, dark grey, greyish / black coloured, soft to friable, sub fissile, 30% clay, 70% silt, micro-micaceous, carbonaceous, trace foraminifera. SANDSTONE, light brown /grey, firm, blocky, 5% calcareous clay, 25% silicate clay, 30% silt, 40% very fine sand, w sorted, sub rounded, sub spherical, moderately strong argillaceous matrix, strong dolomitic and calcareous cement, trace pyrite, glauconite and forams, trace intergranular porosity.							
Gas average			**Units :**	100	**Composition (ppm)**	12535 C1	1652 C2	868 C3	357 C4	71 C5	-
Show Details			Gas Peak at 2140m: 1069u, 152699 / 14860 / 7225 / 2813 / 858. No fluorescence.								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

Interval (m)			ROP (avg)	Lithology Description Siltstone						
2145	-	2178	10-17 (13)	SILTSTONE, medium dark grey to brown, firm to moderately hard, sub fissile, trace carbonate clay, 15% silicate clay, 70% silt, 10% very fine sand, 5% fine sand, accessory carbonaceous material, calcimetry: 3% calcite, 6% dolomite.						
Gas average			**Units :**	84	**Composition (ppm)**	10585 C1	1303 C2	657 C3	262 C4	98 C5	-
Show Details			No Hydrocarbon Shows								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 7 **DAYS FROM SPUD:** 10.87 **DATE:** 21 Aug 04 **0000 hrs DEPTH:** 2216m
LAST DEPTH: 2178m **24 HR PROGRESS:** 38m

0600 OPS: Making up core barrel for Core 1, TEV4 Sand.

REMARKS:

Continue drilling 12.25" hole 2178m-2216mMD with surveys at connections. Circulate hole clean at 835gpm/3400psi. Flow check – static. POOH 2216-1463mMD. Hole tight, overpull 55-60K. Work pipe to pull through with no success. Connect top drive and attempt to pump out of hole. Hole packed off. Stop pumping and attempt to rotate. Establish circulation and pull to 1439mMD, rack stand in derrick. Attempt to pull string without circulation. No success, maximum pull at 65Klbs. Jars fired. Establish circulation at 80spm/1100psi. Attempt to pump out of hole – maximum overpull 40-50Klbs. Hole packing off. Rotate and reciprocate to free restriction of pipe movement. Pull to 1390mMD. Hole packed off. Rotate pipe at 15-25lbft torque. Work pipe in and gain returns at 1417mMD. Establish circulation. Gradually increase flow rate to 800spm/2930psi. Circulate bottoms up, maximum gas 380units (auxiliary). Back ream out of hole at 600 gpm/1600psi, from 1417-1334mMD. Hole packed off. Work pipe down from 1334-1351mMD. Regain circulation. Stage pumps back up to 800gpm/2800psi. Back ream out of hole 1351-1243mMD. Hole partially packed off. Work pipe until full returns recovered. Continue to back ream out of hole 1243-1170mMD with 800gpm/2800psi. Packed off. Regain returns, work through 1170-1149mMD at 43spm/550psi/90rpm. Continue reaming from 1150-1003mMD at 43spm/550psi. Pack off at 1136 and 1070mMD. Circulate hole clean at 750gpm/2350psi. Drift 5" drill pipe in derrick with 2.5" drift. Flow check – static. Pump slug. Drop 2.5" rabbit with 120' wire in drill string.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs			**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
				Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
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Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)			**ROP (avg)**	**Lithology Description** **Siltstone and minor Sandstone**						
2178	-	2192	9.5 - 18 (12)	SILTSTONE: dark to medium grey brown, firm, sub fissile, clastic grains: 20% clay, 70% silt, 10% very fine sand, accessories: carbonaceous specks tr %, argillaceous 20 %. SANDSTONE: medium brown, soft to firm, blocky, clastic grains: 30% clay, 20% silt, 40% very fine sand, 10% fine sand, moderately well sorted, sub angular, sub spherical, cements/strengths: argillaceous / weak, siliceous / moderate strong, accessories: pyrite nodules tr %, glauconite tr %, forams tr %, porosity: inter granular trace.						
Gas average			**Units :**	111	**Composition (ppm)**	14930 C1	1888 C2	958 C3	264 C4	124 C5	-
Show Details			No Hydrocarbon Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **Siltstone and Sandstone** **Eastern View Coal Measures 2192mMD -1793mSS**						
2192	-	2216	11 - 23 (13)	SILTSTONE: dark grey, brownish grey, firm, sub fissile, clastic grains: 20% clay, 60% silt, 20% very fine sand, accessories: carbonaceous specks tr %, argillaceous matrix 20 %, pyrite nodules tr %, SANDSTONE: light brown grey, medium grey, firm, blocky, clastic grains: 20% clay, 30% silt, 50% very fine sand, well sorted, sub rounded, sub elliptical, cements/strengths: argillaceous / weak, accessories: pyrite tr %, forams tr %, bryozoans tr %, porosity: inter granular trace.						
Gas average			**Units :**	245	**Composition (ppm)**	33014 C1	3624 C2	1951 C3	762 C4	145 C5	-
Show Details			No Hydrocarbon Shows								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 8 **DAYS FROM SPUD:** 11.87 **DATE:** 22 Aug 04 **0000 hrs DEPTH:** 2234m
LAST DEPTH: 2216m **24 HR PROGRESS:** 18m

0600 OPS: POOH with core barrels at 1066mMD.

REMARKS:

POOH to 190mMD, top BHA. POOH with BHA to MWD, lay down 12.25" stabiliser. Download MWD. Finish POOH with BHA and lay down bit. Make up core barrels, inner barrels and coring head. RIH with core barrels, four 8.25" drill collars and BHA to 224mMD – weight below jars 50K. Continue RIH to 997mMD. Service top drive and grease crown while circulating bottoms up at 500gpm/800psi. Make up coring ball sub on stand of 5" drill pipe then rack same in derrick. RIH to 2216mMD reaming tight spots at 1035, 1107, 1117 and 1475mMD with 400gpm/750psi. Wash and ream down from 2165 to 2216mMD with 350gpm/900psi. Take rotational torque valves. Drop 1.25" diverter ball, pump at 200gpm/550psi till ball seated. Pressure increase by 200psi. Coring EVCM from 2216-2234mMD. Drop 2" closure ball with 250gpm/800psi. Ball did not seat. Drop second 2" ball and pump with 250gpm/800psi. No success. Break off core barrel with 15K overpull and coincident drop of 100psi. Pull up to 2215mMD. Circulate hole clean with 350gpm at 900psi. Max gas 491 units (auxiliary). Continue circulate hole clean. Flow check – static. Pump slug and POOH to BHA at 224mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs			**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
				Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 9 **DAYS FROM SPUD:** 12.87 **DATE:** 23 Aug 04 **0000 hrs DEPTH:** 2234m
LAST DEPTH: 2234m **24 HR PROGRESS:** 0m

0600 OPS: Running in with fishing 6.75" grapple at 1940mMD.

REMARKS:

Continue circulating hole clean with 350gpm/900psi. Flow check – well static. Pump slug and POOH to 1146mMD. Hole tight. Pump out of hole at 230gpm/330psi to 998mMD. Flow check – static. Continue POOH to 100mMD. POOH with BHA and rack 8.25" drill collars in derrick. 21.10m of core barrel assembly left in hole. Monitor well on trip tank while waiting on instructions. Service top drive and pipe racking system. Make up fishing assembly with 6.75" grapple. Install PS21 slips and RIH with 5" heavyweight drill pipe and 5" drill pipe to 1061mMD. Wash and ream from 1061-1096mMD using 200gpm/310psi and 30rpm. Tight spots at 1061, 1067 and 1071mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**	**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102		**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 10 **DAYS FROM SPUD:** 13.87 **DATE:** 24 Aug 04 **0000 hrs DEPTH:** 2234m
LAST DEPTH: 2234m **24 HR PROGRESS:** 0m

0600 OPS: Making up BHA and initialising MWD on surface.

REMARKS:

Continue washing from 1096-1400mMD at 30 rpm, 200gpm/310psi. RIH 1400-2189mMD, break circulation every 5 stands. Wash down 2189-2199mMD. Circulate bottoms up at 400gpm/879psi. Reciprocate pipe – up weight 290Klbs, down weight 220Klbs. Continue wash down 2199mMD at 150gpm/325psi. Tag and engage fish (10.00hrs). Confirm with 340Klbs on hook. Bleed off string pressure from 600psi to 0psi. Work string free. Maximum overpull on M.D. 420Klbs. Pressure up string to 550psi and confirm fish remain engaged. Bleed off pressure. Flow check – static. POOH with fish on drill pipe to 2112mMD. Reciprocate pipe – up weight 290Klbs, down weight 210Klbs. POOH with fish on drill pipe 2112-109.1mMD. Tight spots at 1095, 1075 and 1055mMD. Remove PS21 and install master bushing. POOH with BHA and fish to surface. Break off coring bit. Retrieve and lay down core barrels from Core 1.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4			-1817			-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 11 **DAYS FROM SPUD:** 14.87 **DATE:** 25 Aug 04 **0000 hrs DEPTH:** 2234m
LAST DEPTH: 2234m **24 HR PROGRESS:** 0m

0600 OPS: Drilling ahead at 2255m in the EVCM.

REMARKS:

Break down and lay down overshot and core assembly. Pick and make up BHA and 12.25" bit. Align Sperry Sun lobe with MWD tools. Plug in and programme MWD. Perform adjustable stabiliser test at 477gpm. Full gauge – 500psi, under gauge – 375 psi. RIH with BHA 190mMD – casing shoe. Pick up stand from derrick and break out drop ball sub. Rack stand in derrick. Service top drive and PRS. Troubleshooting link tilt probe on top drive. RIH 974 – 1032mMD. Ream and wash 1032 – 1613mMD at 880gpm/2800psi. Tight at 1255, 1516, 1558mMD. Pump 30 bbls barolift sweep at 1293mMD. Notice an increase in fines. Pump 60 bbls barolift sweep and circulate out same at 880gpm/3000 psi. RIH 1613-2193mMD. Ream and wash down 2193 – 2216mMD. Resistance from 2203-2216mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**	**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102		**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 12 **DAYS FROM SPUD:** 15.87 **DATE:** 26 Aug 04 **0000 hrs DEPTH:** 2234m
LAST DEPTH: 2347m **24 HR PROGRESS:** 113m

0600 OPS: Wireline logging – tools stuck in hole.

REMARKS:

Open up coring rat hole from 8.5" to 12.25" at depths 2216-2234mMD. Pump 60 bbl barolift sweep, circulate hole clean at 146gpm/3840psi. Rotate and reciprocate pipe. Drill and slide from 2234-2310mMD. Take surveys every connection. Up weight-330Klbs, Down weight-240Klbs, Rotating weight 280Klbs. Drill, slide and survey 2234-2347mMD. Pump 60bbls barolift sweep and circulate out same. Circulate 3 x bottoms up. Flow check – static. POOH 2347-2173mMD. Pump slug and POOH 2173-984mMD. Flow check – static. POOH 984-190mMD. POOH BHA to 85mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**	**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102		**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)			ROP (avg)	Lithology Description Siltstone grading to Very Fine Grained Sandstone						
2234	-	2279	4 - 48 (16)	SILTSTONE, brown grey, medium grey and grey black, friable to firm, sub blocky, 30% clay, 60% silt, 10% very fine sand, 3 % carbonaceous material, trace fossils and pyrite. SANDSTONE, light yellow brown, friable to firm, sub blocky, 30% clay, 30% silt, 40% very fine sand, moderately sorted, sub round, sub equant grains, weak argillaceous and calcareous cements, trace pyrite and gastropods, 3% intergranular porosity.						
Gas average			**Units :**	230	**Composition (ppm)**	17422 C1	3150 C2	2507 C3	1445 C4	659 C5	-
Show Details			No Fluorescence. Gas Peak at 2250mMD 582 u. 47493/8202/6367/3426/1513								

Interval (m)			ROP (avg)	Lithology Description Siltstone with occasional inter-bedded Sandstone and Coal						
2279	-	2347	4 - 57 (17)	SILTSTONE, brownish grey, friable to firm, sub blocky, 40% clay, 55% silt, 5% very fine sand, 3 % carbonaceous material, trace mica and pyrite. SANDSTONE (1), light yellow brown, brown grey, soft to friable, sub blocky, 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, rounded, sub equant grains, weak argillaceous and calcareous cements, trace pyrite, glauconite and fossils, 5% intergranular porosity. SANDSTONE (2), clear to translucent, loose clastic grains, 50% medium sand, 50% coarse sand, moderately sorted, angular, equant grains, trace argillaceous and pyritic cements, trace nodular pyrite, 15% intergranular porosity. COAL, black, firm, blocky, with trace clay and silt.						
Gas average			**Units :**	38	**Composition (ppm)**	1010 C1	179 C2	188 C3	161 C4	146 C5	-
Show Details			No Hydrocarbon Shows								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 13 **DAYS FROM SPUD:** 16.87 **DATE:** 27 Aug 04 **0000 hrs DEPTH:** 2347m
LAST DEPTH: 2347m **24 HR PROGRESS:** 0m

0600 OPS: RIH for wiper trip at 1780mMD.

REMARKS:

Continue POOH with BHA 85-26m. Download MWD data and retrieve probe. Finish POOH, lay down bit. PJSM rig up wireline tools. Rig up wireline Run 1, PEX-HRLA-CMR-SP-GR-LEH-QT. RIH wireline to 1200mMD – hanging up. POOH to 1134mMD tool stuck. Work line to free tools. Slack off tension and confirm pull limit with town. With clearance to pull to 6000lbs tension, the tool has come free. POOH to surface. Lay down wireline tools. Lay down directional BHA from derrick. Make up clean out assembly. RIH with BHA to 152mMD. RIH with 5" drill pipe 152-994mMD. Service top drive. Continue RIH 994-1040mMD. Wash and ream 1040-1495mMD. No resistance, significant argillaceous returns over shakers.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 14 **DAYS FROM SPUD:** 17.87 **DATE:** 28 Aug 04 **0000 hrs DEPTH:** 2347m
LAST DEPTH: 2347m **24 HR PROGRESS:** 0m

0600 OPS: Washing down well head and testing BOP's.

REMARKS:

Continue to wash and ream from 1459-1633mMD at 150spm/2600psi. Pump 60bbls Barolift pill and circulate hole clean 150spm/2500psi. Reciprocate pipe. Continue RIH to 1678mMD – resistance. Wash and ream at 150spm 1628-1691mMD. Continue RIH 1691-1779mMD – resistance. Wash and ream 1779-1800mMD and 1817-1835mMD at 150spm. RIH 1835-2262mMD – resistance, continue was and ream down 2262-2347mMD. Pump 60bbls Barolift pill and circulate hole clean at 158spm/3500psi/920gpm. Flow check – well static. POOH 2347-2233mMD. Pump slug, continue POOH 2233-984mMD. Flow check – well static. POOH 984-152mMD. POOH with BHA and rack in derrick. Rig up Schlumberger wireline Run 2 PEX-HRLA-SP-GR-LEH-QT. Run in hole with tool-string and meet resistance at 1123m, gradually working down to 1172mMD. After conference with town, Run 2 abandoned. POOH to 200m.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		**SECONDARY OBJECTIVES:**	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 15 **DAYS FROM SPUD:** 18.87 **DATE:** 29 Aug 04 **0000 hrs DEPTH:** 2347m
LAST DEPTH: 2347m **24 HR PROGRESS:** 0m

0600 OPS: Circulating casing landed at 2340mMD.

REMARKS:

POOH wireline logs Run 2 (PEX-HRLA-SP-GR-LEH-QT). Rig up Run 3 (PEX-GR-LEH-QT), and prepare to RIH. Load sources and RIH to 1147mMD. Tools consistently hang up at 1147mMD after 5 more attempts at varying speeds. POOH wireline and lay down tools. Pick and make up Wear Bush Running Tool. Change top rams to 9 5/8". Make up well head jetting tool. RIH and clean well head profile. Make up BOP test tool assembly. Fill up riser and pressure test BOP's to 300psi. Attempt to test to 1500psi without success. POOH BOP test tool assembly. Change out seals, RIH and set test tool into Well Head. Fill riser and successfully test to 1500psi. POOH and lay down testing tool. Install electric cable on top drive. Rig up casing equipment. Pick and make up shoe track and float equipment. Run stands of 9 5/8" L8043.5 ppf vt top casing out of derrick to 998mMD. Break circulation with 350gpm/400psi. Continue to rig up and run 9 5/8" casing to 1912mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**	**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102		**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 16 **DAYS FROM SPUD:** 19.87 **DATE:** 30 Aug 04 **0000 hrs DEPTH:** 2347m
LAST DEPTH: 2347m **24 HR PROGRESS:** 0m

0600 OPS: Laying down 12.25" BHA.

REMARKS:

Continue run in 9.625" L80 43.5 PPF VY casing to 2140mMD. Change out elevators to 10.75". Pick up cross over and change out slips from 9.625" to 10.75". Continue RIH with 10.75" L80 SI PPF VT casing to 2309mMD. Pick up Cameron hanger, running tool assembly and landing joints. Resistance at 2337mMD, wash down to 2340mMD. Land out hanger, circulate and condition mud at 500psi – maximum circulation pressure. Final flow rate 400gpm/560psi. Break out and lay down LeFleur circulation head, 10.75" Pup-A. Pick and make up 10.75" VT pin and 9.625" VT box cross over. Install cement head and surface lines. PJSM cement job. Cement unit pumps 10 bbls fresh water. Test surface lines to 4000psi – ok. Pump 8 bbls fresh water, release bottom plug. Mix and pump 198 bbls 12.5 ppg lead slurry with cement unit. Follow with 48 bbls 15.8 ppg tail slurry. Drop top plug. Cement unit pump 20 bbls fresh water. Continue to displace cement with rig pumps. Initial rate 69 spm/1010 psi. final rate 30 spm/1170 psi. Bump plug at 11.35hrs. Cement unit pressure test casing to 3500 psi, casing held pressure for 15 minutes. Held okay. Bled back 9 bbls. Dowell flushed through surface lines. Rig down cement head and landing joints. Rig down casing handling equipment. Install drilling bails and elevators whilst flushing through cement manifold, stand pipe and lines with mud pumps. Make up Cameron jetting tool, jet well head and BOP's with 100 spm/2000 psi. Make up Cameron 10.75" casing pack-off seal assembly and set in well head. Confirm assembly set with 20Klbs overpull. Cameron test seals 5000 psi for 10 minutes – okay. Change out top set 9.625" casing rams to 5" x 7" VBR. Rig up and test 18.75" BOP, choke manifold and all related surface equipment at 250-5000 psi for 5-10 minutes.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		**SECONDARY OBJECTIVES:**	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs			**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
				Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 17 **DAYS FROM SPUD:** 20.87 **DATE:** 31 Aug 04 **0000 hrs DEPTH:** 2358m
LAST DEPTH: 2347m **24 HR PROGRESS:** 11m

0600 OPS: Drilling ahead at 2434 mMD through the Upper EVCM.

REMARKS:

Continue to test 18.75", 15Kpsi BOP choke manifold, stand pipe manifold and all related surface equipment to 250-3000psi (5-10min). Rig down test equipment. Make up wear bushing running tool assembly, install wear bushing and lay down assembly. Lay down 12.25" BHA and excess equipment from drill floor. Service top drive while handling helicopter. Finish laying down 2 x 8" drill collars. Pick up and make up 8.5" BHA (7" motor, adjustable stabiliser, float sub, RLL, PM) and make up bit. Align MWD tools with motor, and initialise MWD tools. Test adjustable stabilisers – full gauge 512gpm/920psi, undergauge 312gpm/750psi). RIH with BHA, changing the position of the 8.5" stabiliser in the BHA. Change out jars and finish RIH with BHA to 166mMD. Test mud – 550gpm/1500psi. RIH filling up every 15 stands to 2286mMD. Wash down from 2286mMD and tag cement at 2314mMD, 300gpm/1200psi. Drill cement, float equipment and rat hole 2314-2347mMD. Shoe at 2340mMD. Drill 3m of new formation to 2350mMD. Circulate and condition mud at 2350mMD. Pull up to 2334mMD. Rig up Dowell lines, break circulation. Test lines to 800psi – okay. Perform FIT to 540psi with 9.3ppg mud for equivalent mud weight of 10.9ppg. Drill and slide from 2350-2358mMD through the Upper EVCM. MWD survey at 2352mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs			**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
				Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker			-2340			-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)			**ROP (avg)**	**Lithology Description** **Siltstone and Sandstone Interbedded with Coal**
2347	-	2358	56-5 (8.6)	COAL, black to very dark brown, friable to firm, blocky, 15% clay, 30% silt and trace very fine sand. SILTSTONE, dark brown to grey black, firm, blocky, 30% clay, 60% silt, 10% very fine sand, trace calcite, pyrite and carbonaceous material. SANDSTONE, light brown to cream, translucent, loose and very soft, dispersive grains, 30% clay, 10% silt, 30% very fine sand, 15% fine sand, 10% medium sand, 5% coarse sand, poorly sorted, sub angular, sub spherical, weak argillaceous cement, 30% kaolinite, trace pyrite and trace intergranular porosity.

Gas average	**Units :**	5	**Composition (ppm)**	427 C1	48 C2	39 C3	28 C4	19 C5	-
Show Details	No Shows								

At 2407mMD – CO2 Peak of 5.3% in coarse and very coarse sandstone. Breakdown 833 / 101 / 60 / 29 / 16

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 18 **DAYS FROM SPUD:** 21.87 **DATE:** 1 Sep 04 **0000 hrs DEPTH:** 2693m
LAST DEPTH: 2358m **24 HR PROGRESS:** 335m

0600 OPS: Drilling ahead at 2816mMD beneath the Coal Marker.

REMARKS: Continue drill ahead through EVCM, sliding and rotating as per Directional Drillers instructions. MWD surveys taken every stand. Drilled 2358-2494mMD 00.00-12.00hrs, 2494-2693mMD 12.00-24.00hrs.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**	**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102		**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker	2772	2334.5	-2340	5.5	High	-2331.9	-2380.5	-2381
Top Igneous Sill			-2580			-2572.9	-2566.5	-2565.5
Base Igneous Sill			-2647					-2605
Top 2718			-2703			-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)	ROP (avg)	Lithology Description Siltstone and Sandstone interbedded with minor Coal

2358	-	2395	48-6 (35)	SILTSTONE: medium to dark brown, friable to firm, blocky, clastic grains: 20% clay, 60% silt, 20% very fine sand, accessories: carbonaceous specks and laminae tr %, very fine pyrite tr %. SANDSTONE: cream to light brown, off white, friable to firm, sub blocky, clastic grains: 20% clay, 20% silt, 50% very fine sand, 10% fine sand, 0 – 10% medium to coarse sand generally becoming finer grained with depth, moderately sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: kaolinite matrix 25%, trace pyrite, porosity: inter granular 5%. COAL: black, sub vitreous to vitreous, firm, blocky, trace clay.							
Gas average			**Units :**	9	**Composition (ppm)**	929 C1	110 C2	66 C3	33 C4	18 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **Very Coarse Sandstone with interbedded Siltstone and Coal**							
2395	-	2436	78-48 (34)	SANDSTONE, off white, clear and translucent, loose to soft, dispersive, 10% clay, 10% silt, 10% fine sand, 20% medium sand, 20% coarse sand, 30% very coarse sand, poorly sorted, angular, sub spherical, weak argillaceous cement, 10% kaolinite matrix, 10% intergranular porosity. SILTSTONE, light grey / brown, occasionally dark brown, firm, sub blocky, 30% clay, 60% silt, 10% very fine sand, 10% carbonaceous material, 20% coal.							
Gas average			**Units :**	8	**Composition (ppm)**	1435 C1	169 C2	98 C3	42 C4	16 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **Graded Sandstone and Siltstone**							
2436	-	2498	52-4 (28)	SILTSTONE, medium to dark grey, soft to friable, sub fissile, 10% clay, 80% silt, 10% very fine sand, 10% carbonaceous material, trace mica. SANDSTONE, white, off white, soft to friable, dispersive, 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub rounded, sub spherical grains, weak argillaceous cement, 40% kaolinite matrix, 5% intergranular porosity.							
Gas average			**Units :**	4	**Composition (ppm)**	288 C1	34 C2	30 C3	18 C4	7 C5	-
Show Details			No Shows								

Interval (m)	**ROP (avg)**	**Lithology Description** **Siltstone grading to Sandstone with trace Coal**

2498	-	2559	61-4 (25)	SANDSTONE, off white to light grey/brown, soft, dispersive, 40% clay, 20% silt, 30% very fine sand, 10% fine sand, well sorted, sub rounded, sub spherical grains, weak argillaceous cement, 40% kaolinite matrix, trace intergranular porosity. SILTSTONE, medium to dark grey/brown, soft, sub blocky, 30% clay, 60% silt, 10% very fine sand, trace carbonaceous material. COAL, dull black, firm, blocky, 10% clay, trace silt.						
Gas average			**Units :**	4	**Composition (ppm)**	539 C1	48 C2	31 C3	13 C4	4 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **Bedded Siltstone, Sandstone and Coal**							
2559	-	2635	84-7 (38)	SANDSTONE, light brown to cream, very soft, dispersive, 40% clay, 10% silt, 40% very fine sand, 10% fine sand, well sorted, sub rounded, sub spherical, weak argillaceous cement, 40% kaolinite matrix, trace intergranular porosity. SILTSTONE, light to medium brown, friable to firm, sub blocky, 30% clay, 60% silt, 10% very fine sand, trace carbonaceous material. COAL, black, vitreous to greasy, firm, blocky, slightly argillaceous.						
Gas average			**Units :**	14	**Composition (ppm)**	2611 C1	200 C2	63 C3	22 C4	4 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **Bedded Sandstone, Siltstone and minor Coal**							
2635	-	2693	97-10 (62)	SANDSTONE, off white, cream to light brown, soft, sub blocky, 30% clay, 10% silt, 40% very fine sand, 20% fine sand, moderately sorted, sub rounded, sub spherical grains, weak argillaceous cement, 30% kaolinte matrix, trace intergranular porosity. SILTSTONE, light/medium, grey to brown, firm, blocky, 20% clay, 60% silt, 20% very fine sand, tr% fine sand, trace carbonaceous material. COAL, black, vitreous to resinous, firm, blocky, trace ash.						
Gas average			**Units :**	26	**Composition (ppm)**	5082 C1	287 C2	94 C3	39 C4	7 C5	-
Show Details			No Shows								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 19 **DAYS FROM SPUD:** 22.87 **DATE:** 2 Sep 04 **0000 hrs DEPTH:** 3086m
LAST DEPTH: 2693m **24 HR PROGRESS:** 393m

0600 OPS: Drilling ahead 3187mMD below 2718 SD.

REMARKS: Continue drill ahead through EVCM, Coal Marker and into the Sill. Drilling proceeding, sliding and rotating, as per Directional Drillers instructions. MWD surveys taken every stand. Drilled 2693-2925mMD 00.00-12.00hrs, 2925-3086mMD 12.00-24.00hrs.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**	**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102		**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker	2772	-2334.5	-2340	5.5	High	-2331.9	-2380.5	-2381
Top Igneous Sill	2994	-2555	-2580	25	High	-2572.9	-2566.5	-2565.5
Base Igneous Sill	3059	2619.5	-2647	27.5	High			-2605
Top 2718	3144.5	2705	-2703	2	Low	-2706.9	-2738.5	-2694
Top 2755			-2733.5			-2743.9	-2767.5	-2729
Top 2809			-2795			-2797.9	-2834.5	-2785.5
Top 2973			-2959			-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)	ROP (avg)	Lithology Description Dominantly Siltstone and Sandstone with inter bedded Coal

2693	-	2772	62-7 (38)	SANDSTONE: light brown grey, off white, soft, sub blocky, clastic grains: 20 - 40% clay, 20% silt, 10 - 40% very fine sand, tr - 20% fine sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: kaolinite 25 % porosity: inter granular tr. SILTSTONE, dark brown / grey, black in part, firm, blocky fracture clastic grains: 20% clay, 50% silt, 30% very fine sand, tr% fine sand, accessories: carbonaceous specks tr % COAL, dull-vitreous black, firm, blocky, clastic grains: tr% clay, 5% silt.							
Gas average			**Units :**	24	**Composition (ppm)**	4791 C1	208 C2	91 C3	39 C4	8 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **Siltstone grading to Sandstone with Coal**							
2772	-	2850	48-5 (30)	SANDSTONE: off white to very light brown, soft, sub blocky, clastic grains: 60% clay, 20% silt, 20% very fine sand, well sorted, rounded, sub spherical, cements/strengths: argillaceous / very weak, accessories: kaolinite clay 20 % porosity: inter granular 3%. SILTSTONE: dark grey, grey brown, firm, sub fissile, clastic grains: 30% clay, 60% silt, 10% very fine sand, accessories: mica tr %, carbonaceous specks tr % COAL, black and vitreous to sub vitreous, firm, blocky,tr% clay,							
Gas average			**Units :**	31	**Composition (ppm)**	6318 C1	269 C2	154 C3	64 C4	13 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **Siltstone, Carbonaceous Siltstone minor Sandstone**							
2850	-	2904	59-13 (30)	SILTSTONE: dark grey, grey brown, firm, sub fissile, clastic grains: 10% clay, 70% silt, 20% very fine sand, accessories: mica tr %, carbonaceous specks tr %. CARBONACEOUS SILTSTONE: grey black, black, friable to firm, sub blocky, clastic grains: tr% clay, 10% silt, tr% very fine sand, accessories: fine pyrite tr %, mica tr %. SANDSTONE, off white, very light brown, soft, sub blocky, clastic grains: 10% clay, 40% silt, 50% very fine sand, well sorted, rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: kaolinite 10 %, carbonaceous grains tr % porosity: inter granular 3%.							
Gas average			**Units :**	37	**Composition (ppm)**	6986 C1	482 C2	231 C3	82 C4	21 C5	-
Show Details			No Shows								

Interval (m)	**ROP (avg)**	**Lithology Description** **Dominantly Siltstone with minor Sandstone and Coal**

2904	-	2946	43-4 (27)	SILTSTONE: medium to dark grey, soft to friable, sub fissile, clastic grains: 20% clay, 70% silt, 10% very fine sand, accessories: mica tr %, carbonaceous specks tr %. SANDSTONE: off white, light brown, soft to friable, sub blocky, clastic grains: 40% clay, 20% silt, 20% very fine sand, 20% fine sand, well sorted, rounded, sub spherical, cements/strengths: argillaceous / weak, siliceous / weak, accessories: kaolinite 30 %, carbonaceous grains tr % porosity: inter granular. COAL: black, firm, blocky, uneven to rare sub conchoidal fracture, tr% clay, tr% silt.							
Gas average			**Units :**	30	**Composition (ppm)**	5275 C1	480 C2	246 C3	93 C4	29 C5	-
Show Details			2904 – 2910m 5% Fluorescence, dull yellow, patchy, slow direct cut, fast crush cut, moderately bright cream broken residue ring. Gas BG 5, Tgas 48u C1 8704ppm, C2 754ppm, C3 410ppm, C4 157ppm, C5 48ppm. Fluorescence occurs in very fine grained Sandstone. 2922 – 2928m 3% Fluorescence, very dull green, pin point, no direct cut, trace crush cut, moderately bright green/cream patchy film residue ring. Gas BG 5 Tgas 27u C1 3589ppm, C2 334ppm, C3 166ppm, C4 58ppm, C5 18ppm. Fluorescence occurs in very fine grained Sandstone.							

Interval (m)			**ROP (avg)**	**Lithology Description** **Carbonaceous Siltstone and occasional Coal**						
2946	-	2994	48-13 (29)	SILTSTONE, brown black, greyish black, soft to friable, 10% clay, 90% silt, with accessory micas and 10% carbonaceous material. COAL, black, vitreous to sub vitreous, firm, blocky, trace clay, silt, and ash.						
Gas average			**Units :**	22	**Composition (ppm)**	3110 C1	483 C2	270 C3	84 C4	26 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **2994m (-2555mTVDSS) Top Igneous Sill**						
2994	-	3059	43-5 (13.5)	IGNEOUS INTRUSION, mottled green, grey, black and off white coloured, with occasional yellow and tan grains, hard, irregular, clear crystalline definition, mafic mineral assemblage including, olivine, pyroxene, hornblende and plagioclase, with trace disseminated pyrite.						
Gas average			**Units :**	10	**Composition (ppm)**	1392 C1	157 C2	102 C3	41 C4	19 C5	-
Show Details			No Shows								

Interval (m)	**ROP (avg)**	**Lithology Description** **Siltstone and Claystone with Carbonaceous Siltstone bed**

3059	-	3086	55-8 (32)	SILTSTONE, medium to very dark grey and brown, moderately hard to hard, sub fissile, 15% clay, 80% silt, 5% very fine sand, micaceous. CLAYSTONE, off white to light brown, soft, sub blocky, 40% clay, 30% silt, 30% very fine sand, trace fine sand, 25% kaolinite, trace coal. CARBONACEOUS SLTSTONE, dark grey to black, moderately hard to hard, sub fissile, 10% clay, 90% silt, micaceous, 20% carbonaceous material.						
Gas average			**Units :**	28	**Composition (ppm)**	4194 C1	601 C2	356 C3	89 C4	21 C5	-
Show Details			No Shows								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 20 **DAYS FROM SPUD:** 23.87 **DATE:** 3 Sep 04 **0000 hrs DEPTH:** 3463m
LAST DEPTH: 3086m **24 HR PROGRESS:** 377m

0600 OPS: Drilling ahead in basal volcanic rocks.

REMARKS: Drill ahead through 2718 SD, 2755 SD, 2809 SD, 2952 SD and 2973 SD. Drilling proceeding, sliding and rotating, as per Directional Drillers instructions. MWD surveys taken every stand. Drilled 3086-3290mMD 00.00-12.00hrs, 3290-3463mMD 12.00-24.00hrs.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**	**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102		**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**			Meters

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker	2772	-2334.5	-2340	5.5	High	-2331.9	-2380.5	-2381
Top Igneous Sill	2994	-2555	-2580	25	High	-2572.9	-2566.5	-2565.5
Base Igneous Sill	3059	-2619.5	-2647	27.5	High			-2605
Top 2718	3144.5	-2705	-2703	2	Low	-2706.9	-2738.5	-2694
Top 2755	3178.5	-2739	-2733.5	5.5	Low	-2743.9	-2767.5	-2729
Top 2809	3235.5	-2795.5	-2795	0.5	Low	-2797.9	-2834.5	-2785.5
Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt			-3025			-3019.9	-3058.0	-3011.5
TOTAL DEPTH								

Interval (m)	ROP (avg)	Lithology Description Massive Siltstone with trace Sandstone and Coal

3086	-	3144m	40-7 (24)	SILTSTONE: dark to medium grey / brown, trace light brown, friable-to firm, sub blocky to blocky, clastic grains: 30% clay, 60% silt, 10% very fine sand, accessories: carbonaceous grains tr %, mica tr %, very fine pyrite tr %. SANDSTONE: light to medium brown, friable to firm, sub blocky, clastic grains: 30% clay, 20% silt, 50% very fine sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous. COAL: black, vitreous, firm, blocky and brittle.							
Gas average			**Units :**	41	**Composition (ppm)**	5541 C1	978 C2	566 C3	184 C4	57 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description** **Sandstone and Siltstone** **Top 2718SAND 3144.5mMD -2705mSS**							
3144	-	3153	42-17 (27)	SANDSTONE: cream, light to medium brown, soft, sub blocky, clastic grains: 15% clay, 20% silt, 50% very fine sand, 15% fine sand, well sorted, sub angular, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous porosity: inter granular 5% SILTSTONE: very dark grey / brown, firm to moderately hard, blocky, clastic grains: 10% clay, 90% silt, accessories: micro mica tr %							
Gas average			**Units :**	148	**Composition (ppm)**	18907 C1	3357 C2	2288 C3	1003 C4	346 C5	-
Show Details			Fluorescence: 5 – 8% dull cream, spotted, slow direct cut, crush cut; moderately bright, white, fast, streaming cut; residue ring moderately bright, yellow green, thick. Associated gas: 176units. C1 22329, C2 3999, C3 2737, C4 1213, C5 432.								

Interval (m)			**ROP (avg)**	**Lithology Description** **Siltstone and Sandstone** Siltstone becoming more dominant with depth							
3153	-	3178.5	36-19 (25)	SILTSTONE: very dark grey, firm, sub fissile, clastic grains: 10% clay, 90% silt, accessories: mica tr %, carbonaceous specks tr %. SANDSTONE: light to medium brown, firm, sub blocky, clastic grains: 20% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub angular, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous, porosity: inter granular 3%.							
Gas average			**Units :**	64	**Composition (ppm)**	9580 C1	1227 C2	628 C3	233 C4	78 C5	-
Show Details			Fluorescence: 3153 – 3159m, 5 – 8% dull cream, spotted, slow direct cut, crush cut; moderately bright, white, fast, streaming cut; residue ring moderately bright, yellow green, thick. Associated gas: 119units. C1 22356, C2 2428, C3 905, C4 249, C5 70.								

Interval (m)	**ROP (avg)**	**Lithology Description** **Sandstone and Siltstone** **Top 2755 SAND 3178.5mMD -2739mSS**

3178.5	-	3195	53-14 (26)	SANDSTONE: off white light grey, friable, sub blocky, clastic grains: 20% clay, 10% silt, 10% very fine sand, 50% fine sand, tr% medium sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous, carbonaceous grains tr % porosity: inter granular 10%. SILTSTONE: very dark grey, firm, sub fissile, clastic grains: 5% clay, 85% silt, 10% very fine sand, accessories: mica tr %, carbonaceous tr %.						
Gas average			**Units :**	351	**Composition (ppm)**	65742 C1	5371 C2	2138 C3	807 C4	264 C5	-
Show Details			Fluorescence: 3183 – 3195m, tr – 20% moderately bright, yellow, spotted, slow direct cut, crush cut; moderately bright, white, fast, streaming cut; residue ring bright, cream green, thick. Associated gas: 241units. C1 47938, C2 3583, C3 1367, C4 496, C5 157.								

Interval (m)			**ROP (avg)**	**Lithology Description Siltstone and Sandstone**							
3195	-	3235.5	35-12 (20)	SILTSTONE: dark grey, very dark grey, firm, sub fissile, clastic grains: 10% clay, 90% silt, tr% very fine sand, accessories: mica tr %, carbonaceous specks tr %. SANDSTONE: off white to light grey, friable, sub blocky, clastic grains: 30% clay, 40% silt, 30% very fine sand, well sorted, sub rounded, sub spherical, cements/strengths: argillaceous / weak, accessories: argillaceous, carbonaceous grains tr % porosity: inter granular 3%.							
Gas average			**Units :**	57	**Composition (ppm)**	8884 C1	924 C2	480 C3	207 C4	89 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description Sandstone and Siltstone Top 2809SAND 3235.5mMD -2795.5mSS**							
3235.5	-	3252	39-24 (28)	SANDSTONE: (1) off white to very light grey, friable, sub blocky, clastic grains: 10% clay, 10% silt, 50% very fine sand, 30% fine sand, tr% coarse sand, moderately sorted, sub angular, sub elongate, cements/strengths: argillaceous / weak, siliceous / weak, accessories: argillaceous, carbonaceous grains tr % porosity: inter granular 5%. SANDSTONE: (2) clear to translucent, brown stained grains, loose, clastic grains: 10% medium sand, 50% coarse sand, 40% very coarse sand, poorly sorted, angular, elongate, siliceous / moderately strong, porosity: inter granular 25%. SILTSTONE: dark grey, very dark grey, firm, sub fissile, clastic grains: 10% clay, 90% silt, tr% very fine sand, accessories: mica tr %, carbonaceous grains tr %.							
Gas average			**Units :**	308	**Composition (ppm)**	54319 C1	5481 C2	2383 C3	898 C4	293 C5	-
Show Details			Fluorescence: 3237 – 3240m trace dim green, spotted, trace direct cut, crush cut; off white, fast, residue ring: moderately bright, green / cream, thin. Associated gas: 575units, C1 100965, C2 10462, C3 4558, C4 1679, C5 535.								

Interval (m)			ROP (avg)	Lithology Description Siltstone occasionally grading to Sandstone						
3252	-	3318	49-9 (23)	SILTSTONE, medium to dark grey, friable to firm, sub fissile, 20% clay, 90% silt, trace mica. SANDSTONE, off white to very light grey, friable, sub blocky, 10% clay, 10% silt, 40% very fine sand, 40% fine sand, trace coarse sand, well sorted, sub rounded, sub spherical, weak argillaceous cement, trace siliceous cement, 20% argillaceous, trace carbonaceous material, 5% intergranular porosity.						
Gas average			**Units :**	55	**Composition (ppm)**	8050 C1	973 C2	555 C3	241 C4	101 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Siltstone						
3318	-	3382	34-8 (21)	SILTSTONE, dark grey, brownish grey, firm to friable, sub fissile, 20% clay, 80% silt, trace very fine sand, trace mica.						
Gas average			**Units :**	30	**Composition (ppm)**	3581 C1	519 C2	392 C3	162 C4	69 C5	-
Show Details			No Shows								

Interval (m)			ROP (avg)	Lithology Description Top 2952 SAND 3383mMD, 2941.5mTVDSS Sandstone and Siltstone						
3382	-	3403	38-7 (23)	SANDSTONE, light brown, firm, sub blocky, 20% clay, 10% silt, 50% very fine sand, 20% fine sand, well sorted, sub rounded, sub spherical, weak argillaceous cement, 20% argillaceous, 5% intergranular porosity. SILTSTONE, light grey brown to medium brown, friable firm, sub blocky, 30% clay, 70% silt, trace very fine sand, trace mica.						
Gas average			**Units :**	68	**Composition (ppm)**	10517 C1	1009 C2	658 C3	291 C4	114 C5	-
Show Details			Fluorescence: 3383 – 3390m pale olive, slow, pin-point direct cut, crush cut; moderately bright, white, fast even crush cut, residue ring: bright, white, thin. Associated gas: 153 units, C1 22829, C2 2569, C3 1915, C4 797, C5 266.								

Interval (m)	ROP (avg)	Lithology Description Top 2973 SAND 3403mMD, 2963mTVDSS Coarse Grained Sandstone

3403	-	3422	51-8 (24)	SANDSTONE, clear and translucent to off white, loose, dispersive, 30% medium sand, 40% coarse sand, 30% very coarse sand, moderately sorted, angular, sub spherical, trace argillaceous cement, 20% intergranular porosity. SANDSTONE, cream to off white coloured, very soft, sub blocky, 40% clay, 20% silt, 40% very fine sand, well sorted, sub angular, sub spherical, weak argillaceous cement, 40% kaolinite, trace intergranular porosity. SILTSTONE, medium to dark brown, dark grey, friable firm, sub fissile, 10% clay, 80% silt, 10% very fine sand, trace mica							
Gas average			**Units :**	167	**Composition (ppm)**	34109 C1	2167 C2	835 C3	367 C4	140 C5	-
Show Details			No Fluorescence. Gas Peak at 3404m: 334units, C1 69875, C2 4353, C3 1528, C4 638, C5 227.								

Interval (m)			**ROP (avg)**	**Lithology Description Siltstone and Sandstone**							
3422	-	3459	37-2 (18)	SILTSTONE, dark to medium brown, friable to firm, sub fissile, 30% clay, 70% silt, trace very fine sand, trace carbonaceous material, mica and coal. SANDSTONE, light to medium brown to cream, soft, sub blocky, 30% clay, 30% silt, 30% very fine sand, 10% fine sand, well sorted, sub rounded, sub sperical, weak argillaceous cement, 30% kaolinite, 3% intergranular porosity.							
Gas average			**Units :**	45	**Composition (ppm)**	7163 C1	686 C2	369 C3	154 C4	67 C5	-
Show Details			No Shows								

Interval (m)			**ROP (avg)**	**Lithology Description Volcanics**							
3459	-	3463	11-7 (8)	VOLCANICS, tuffaceous, white, green grey and dark grey coloured, soft, sub blocky to amorphous, often weathered to clay appearance.							
Gas average			**Units :**	84	**Composition (ppm)**	15716	1144 C2	512 C3	219 C4	89 C5	-
Show Details			No Shows								

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 21 **DAYS FROM SPUD:** 24.87 **DATE:** 4 Sep 04 **0000 hrs DEPTH:** 3497m
LAST DEPTH: 3463m **24 HR PROGRESS:** 34m

0600 OPS: Circulating hole clean and conditioning mud at 3478mMD.

REMARKS: Drill ahead 3463-3497mMD in Basalt, TD at 11.30hrs. Pump 40bbls, 8.9ppg and 60bbls, 11.0ppg sweep. Circulate sweeps out of hole at 600gpm/4200psi. Dum 11.0ppg sweep at shakers. Continue circulating mud at 3497mMD. Flow check in trip tanks – well static. Begin making short trip to 9.625" shoe. Pump through tight spots at 3260, 3191, 3170, 3149 and 2908mMD.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**		2339.8	mMD

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker	2772	-2334.5	-2340	5.5	High	-2331.9	-2380.5	-2381
Top Igneous Sill	2994	-2555	-2580	25	High	-2572.9	-2566.5	-2565.5
Base Igneous Sill	3059	-2619.5	-2647	27.5	High			-2605
Top 2718	3144.5	-2705	-2703	2	Low	-2706.9	-2738.5	-2694
Top 2755	3178.5	-2739	-2733.5	5.5	Low	-2743.9	-2767.5	-2729
Top 2809	3235.5	-2795.5	-2795	0.5	Low	-2797.9	-2834.5	-2785.5
Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt	3459	-3019.5	-3025	5.5	High	-3019.9	-3058.0	-3011.5
TOTAL DEPTH	3497	-3057.5						

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

Interval (m)			ROP (avg)	Lithology Description **Volcanics** (fresh and altered)						
3463	-	3497	1.3 - 20 (3.7)	VOLCANIC: green black, medium to coarse crystals of olivine, feldspar, pyroxene, biotite, olivine partially weathered to serpentinite. ALTERED VOLCANIC: off white / green, off white mottled orange dull red, orange red, light brown mottled dark red, very soft, sub blocky to amorphous, trace weather pyroxene, olivine, commonly weathered to clay.						
Gas average			**Units :**	6	**Composition (ppm)**	1095 C1	31 C2	11 C3	6 C4	4 C5	-
Show Details			No Shows								

Circulation Gas Peak at 03.10hrs: 3740 units, 137 599 / 76 071 / 17 624 / 7 658 / 1 134
NB: these measurements are from the auxiliary trap, not reserval.

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 22 **DAYS FROM SPUD:** 25.87 **DATE:** 5 Sep 04 **0000 hrs DEPTH:** 3497m
LAST DEPTH: 3497m **24 HR PROGRESS:** 0m

0600 OPS: Logging Repeat Pass in 2755 SD at 3190m

REMARKS:

Circulate bottoms up at 2722m at 600gpm/3600psi. RIH 2722-3497m, no resistance, no fill. Break circulation, pump 40bbls 8.9ppg pre mix then 60bbls 11.0ppg. Circulate out same, dump pill at shakers. 30% increase in cuttings. Maximum gas (from auxiliary), 3740 units. Continue circulating 3 x bottoms up at 600gpm/3750 psi. Flow check – well static. POOH 3497-3178m. Pump slug and continue POOH 3178-2334m. Flow check – well static. POOH 2334-166m. Flow check – well static. Remove power slips and BHA, break off bit. Plug in MWD and shut down tools. Break out and lay down MWD tools, adjustable stabiliser and motor. PJSM on wireline operations. Rig up wireline equipment and sheaves. Make up wireline tools Run 1 SP-HRLA-PEX-GR-CMR-LEH-QT. Install sources and RIH wireline to 3504m. Wireline log up to 3089m.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs			**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
				Metres R.T.	**9 5/8" Casing Depth:=**		2339.8	mMD

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker	2772	-2334.5	-2340	5.5	High	-2331.9	-2380.5	-2381
Top Igneous Sill	2994	-2555	-2580	25	High	-2572.9	-2566.5	-2565.5
Base Igneous Sill	3059	-2619.5	-2647	27.5	High			-2605
Top 2718	3144.5	-2705	-2703	2	Low	-2706.9	-2738.5	-2694
Top 2755	3178.5	-2739	-2733.5	5.5	Low	-2743.9	-2767.5	-2729
Top 2809	3235.5	-2795.5	-2795	0.5	Low	-2797.9	-2834.5	-2785.5
Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt	3459	-3019.5	-3025	5.5	High	-3019.9	-3058.0	-3011.5
TOTAL DEPTH	3497	-3057.5						

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 23 **DAYS FROM SPUD:** 26.87 **DATE:** 6 Sep 04 **0000 hrs DEPTH:** 3497m
LAST DEPTH: 3497m **24 HR PROGRESS:** 0m

0600 OPS: RIH with Wireline Run 3, MDT-GR-LEH-QT.

REMARKS:

Continue logging up Run 1 SP-HRLA-PEX-GR-CMR-LEH-QT. Full suite of logs through open hole. In casing only logging PEX-GR-LEH-QT. Complete Run 1, POOH rig down Run 1. Rig up Run 2 FMI-DSI-HNGS-LEH-QT and RIH. In open hole, log down to TD. Log repeat pass. Adjust gain to high range in order to improve FMI contrast. Re-log repeat pass, then log up to casing. Toolstring hanging up at 3035m inside the Sill. Run down below casing to adjust DSI settings. Log up DSI-GR through casing. Top cement indistinct on DSI so log up to 938m (non depth corrected), inside Surface casing. Rig down Run 2 and Rig up Run 3 MDT-GR-LEH-QT.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date		**TD =**	**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102		**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**		2339.8	mMD

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
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Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
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Top 2755	3178.5	-2739	-2733.5	5.5	Low	-2743.9	-2767.5	-2729
Top 2809	3235.5	-2795.5	-2795	0.5	Low	-2797.9	-2834.5	-2785.5
Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt	3459	-3019.5	-3025	5.5	High	-3019.9	-3058.0	-3011.5
TOTAL DEPTH	3497	-3057.5						

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 24 **DAYS FROM SPUD:** 27.87 **DATE:** 7 Sep 04 **0000 hrs DEPTH:** 3497m
LAST DEPTH: 3497m **24 HR PROGRESS:** 0m

0600 OPS: Logging Run 4 MDT-GR-LEH-QT at 3275.1m.

REMARKS:

Continue rig up Run 3, MDT-GR-LEH-QT. RIH to 312m and lose telemetry with bottom toolstring. POOH to surface and change out faulty one gallon fluid sampler. RIH to 1410m and lose telemetry with bottom toolstring. POOH to 300m and the toolstring regains function once more. Test toolstring – okay. RIH to ~500m and lose telemetry with the basal toolstring once again. On advice from town, break out fluid sampler, multi-sampler, one gallon sampler, and pump out mechanism. RIH and conduct pressure tests as per programme whilst Schlumberger works on faulty equipment. Complete pretests and POOH. At midnight breaking down Run 3 and rigging up Run 4 MDT-GR-LEH-QT (including new LFA and MRSC plus repaired MRMS, MRPO_UD).

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**		2339.8	mMD

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
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Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt	3459	-3019.5	-3025	5.5	High	-3019.9	-3058.0	-3011.5
TOTAL DEPTH	3497	-3057.5						

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 24 **DAYS FROM SPUD:** 27.87 **DATE:** 7 Sep 04 **0000 hrs DEPTH:** 3497m
LAST DEPTH: 3497m **24 HR PROGRESS:** 0m

0600 OPS: Running in drill pipe with overshot to 725m.

REMARKS:

Rig up and complete Run 4: MDT-GR-LEH-QT, conducting pretests, pump outs and collecting samples as required by programme. After collecting last sample at 3149m in the 2718 SD, the tool was retracted, however the wireline was differentially stuck. The wireline was repeatedly pulled to high tension then left slack with up to 50m of loose cable. The amount of pull on the wireline was increased to in excess of 9000lbs (3600lbs overpull) with clearance from Schlumberger management. No success. 2 T-Bar clamps were attached to the wireline and the cable cut. The 2 new cable ends were redressed. Top drive bails and elevators were changed out. Installed upper sheaf on crown pad eye and made up a cross over grapple on the end of the drill pipe. Test wireline to 7500lbs – okay. Run wire through 5" drill pipe in the mouse hole. Pick up drill pipe with PRS and connect basal wire with cable in slips. Slide down drill pipe over wireline. Repeat same and continue sliding drill pipe over wireline.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**		2339.8	mMD

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
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Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
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Top Igneous Sill	2994	-2555	-2580	25	High	-2572.9	-2566.5	-2565.5
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Top 2755	3178.5	-2739	-2733.5	5.5	Low	-2743.9	-2767.5	-2729
Top 2809	3235.5	-2795.5	-2795	0.5	Low	-2797.9	-2834.5	-2785.5
Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt	3459	-3019.5	-3025	5.5	High	-3019.9	-3058.0	-3011.5
TOTAL DEPTH	3497	-3057.5						

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 26 **DAYS FROM SPUD:** 29.87 **DATE:** 9 Sep 04 **0000 hrs DEPTH:** 3497m
LAST DEPTH: 3497m **24 HR PROGRESS:** 0m

0600 OPS: Working wireline through Sill with 6m gain up to 3052m.

REMARKS:

Held PJSM on Stripping over wireline. RIH with 5"drill pipe, stripping over wire to 2332m at casing shoe. Install sub and hang off wireline. Pick up 5" drill pipe single. Circulate bottoms up at 300gpm/1120psi. Maximum gas 16 units. Flow check well – static. Rig down hang off sub. Continue RIH 5" drill pipe stripping over wireline 2332-2614m. Install hang off sub, break circulation and ensure string is clear. Rig down hang off sub. Continue RIH 5" drill pipe stripping over wireline 2614-2701mMD.

*Since Midnight the wireline has become free at 2846m. The MDT assembly was pulled up hole on the winch but became stuck on the ledge at 3035m in the Sill. The bottom of the MDT tool is at 3058m.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**		2339.8	mMD

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
						Yolla 1	Yolla 2	Yolla 4
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**(m)**	**(m)**	**(m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
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Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt	3459	-3019.5	-3025	5.5	High	-3019.9	-3058.0	-3011.5
TOTAL DEPTH	3497	-3057.5						

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 27 **DAYS FROM SPUD:** 30.87 **DATE:** 10 Sep 04 **0000 hrs DEPTH:** 3497m
LAST DEPTH: 3497m **24 HR PROGRESS:** 0m

0600 OPS: Ream from 3017- 3074m in volcanic Sill.

REMARKS:

Stripped pipe over wireline 2701-2846m. Held 7000lbs tension on wireline while stripping. At 2846m wireline decreased to 5200lbs indicating that wireline was free. Pulled up 15m on wireline with 5800lbs on cable to confirm wireline is free. Picked up single and installed wireline circulating sub. Broke circulation with 300gpm/1300psi to clear wireline fishing overshot of debris. Lay out single and circulating sub. Install T bar on wireline and hang off wireline on drill pipe. Remove wireline spear and overshot. Installed wireline connection socket. Remove T bar and pulled wireline fromn 3149-3058m. Tool hung up with 6700lbs tension (900lbs over pull) in the volcanic Sill. Work wireline through tight spot to 3050m. Maximum pull 7600lbs (1800lbs over pull). Wireline free at 3050m, worked spliced socket through bottom sheave and 2 wraps on wireline drum. Pulled wireline tool up to 2846m and into grapple. Install T bar and shear off weak point at 9000 lbs over pull with top drive. POOH with wireline. Rig down wireline equipment. POOH with drill pipe and fish. Flow check well at surface casing – well static. Recovered wireline tool and grapple. Lay down MDT tool, remove sample chambers and ship to town at 21.00 hrs. Make up 8.5" BHA and RIH to 145m.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
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Rig release Date:		**G.L =** MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig	ENSCO 102	**R.T =** 43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**		2339.8	mMD

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
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Base Igneous Sill	3059	-2619.5	-2647	27.5	High			-2605
Top 2718	3144.5	-2705	-2703	2	Low	-2706.9	-2738.5	-2694
Top 2755	3178.5	-2739	-2733.5	5.5	Low	-2743.9	-2767.5	-2729
Top 2809	3235.5	-2795.5	-2795	0.5	Low	-2797.9	-2834.5	-2785.5
Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt	3459	-3019.5	-3025	5.5	High	-3019.9	-3058.0	-3011.5

TOTAL DEPTH	3497	-3057.5						

ORIGIN ENERGY RESOURCES LIMITED
DAILY GEOLOGICAL REPORT

WELL: Yolla-3 **REPORT No.:** 28 **DAYS FROM SPUD:** 31.87 **DATE:** 11 Sep 04 **0000 hrs DEPTH:** 3497m
LAST DEPTH: 3497m **24 HR PROGRESS:** 0m

0600 OPS: RIH with 6.625" liner to joint 95.

REMARKS:

Circulate bottoms up at 2322mMD with 550gpm/2500psi. Slip and cut 140' of drill line. Inspect and service disc brakes. Service Top Drive, Block, PRS and reset BCS. RIH from 2322-3019mMD, filling every 10 stands. Ream 3019-3077mMD with 525gpm/2300psi. Tight at 3050 and 3065mMD. RIH 3077-3188mMD tagging tight spot at 3188mMD. Wash and ream down 3188-3310mMD through tight spots at 3188 and 3250mMD. Circulate out gas at 3310mMD, maximum gas 3650 units (auxiliary). Ream 3310-3497mMD with 525gpm/2600psi. No fill. Pump 45bbl high viscosity sweep and circulate out same. Continue to circulate and condition mud x 3 bottoms up at 3497mMD. Flow check well on trip tank – static. Pump slug, drop 2.373" rabbit. POOH 2340mMD - top BHA at 145mMD. Flow check well on trip tanks – static. Remove PS21. POOH BHA, break out bit, rack in derrick. Recover rabbit. Change out long bails, rig up 6.625" liner running equipment. Pick up and make up shoe track, check float.

Geologists: Mike Woodmansee / Mark Tindale

PRIMARY OBJECTIVES:		SECONDARY OBJECTIVES:	
Eastern View Coal Measures	Sands 2718, 2755, 2809, 2973	Eastern View Coal Measures	Top Formation

Spud Date:	11th Aug 2004 @ 03:00hrs		**Surface Location**	**Latitude**	39°50'40.578"S	**Easting**	398905.69
TD Reached Date	**TD =**		**Metres R.T.**	**Longitude**	145°49'06.186"E	**Northing**	5588825.22
Rig release Date:	**G.L =**	MSL	**Metres R.T.**	**20" Conductor Depth: =**		215	Metres
Rig ENSCO 102	**R.T =**	43	**Metres R.T.**	**13 3/8" Casing Depth:=**		1007 928	mMD mTVDRT
			Metres R.T.	**9 5/8" Casing Depth:=**		2339.8	mMD

(Nearby Well / Facility: Yolla A Production Platform adjacent)

	All Depth are in METRES					Offset wells TVDSS		
FORMATION TOPS: * Geophysical	**Geological Pick (MD)**	**Geological Pick (TVDSS)**	**Prognosed (mTVDSS)**	**Diff. (m)**	**High Low**	**Yolla 1 (m)**	**Yolla 2 (m)**	**Yolla 4 (m)**
Water Bottom			-81.8			-79	-81.5	-81
Angahook Fm	1222.4	-1044	-	-	-	-1042.0	-1062.5	-1057
Top Volcanics	1488	-1237	-1201	36	Low	-1250.9	-1265.5	-1237
Base Volcanics	1658	-1365	-1367	2	High	-1290.9	-1291.0	-1371
Top Demons Bluff	2034	-1658	-1657	1	Low	-1656.9	-1680.5	-1659
Top EVCM	2192	-1793				-1787.9	-1819.0	-1801
Top EVCM TEV4	2219	-1817	-1817	0	prog	-1819.0	-1863.5	-1827
Coal Marker	2772	-2334.5	-2340	5.5	High	-2331.9	-2380.5	-2381
Top Igneous Sill	2994	-2555	-2580	25	High	-2572.9	-2566.5	-2565.5
Base Igneous Sill	3059	-2619.5	-2647	27.5	High			-2605
Top 2718	3144.5	-2705	-2703	2	Low	-2706.9	-2738.5	-2694
Top 2755	3178.5	-2739	-2733.5	5.5	Low	-2743.9	-2767.5	-2729
Top 2809	3235.5	-2795.5	-2795	0.5	Low	-2797.9	-2834.5	-2785.5
Top 2973	3403	-2963	-2959	4	Low	-2961.9	-3005.0	-2957
Top Basalt	3459	-3019.5	-3025	5.5	High	-3019.9	-3058.0	-3011.5
TOTAL DEPTH	3497	-3057.5						

APPENDIX 14: MUD ENGINEERS REPORTS

DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004

Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time: 03:00 | Release Time: 10:00

Mud Recap

Well: Yolla-3

WBM

R#	Date - Time	Type	Depth m	Tmp C°	MW sg	VIS sec/qt	PV cp	YP lb/100ft²	Gel10s (lb/100ft²) / 10m (lb/100ft²)	F.L. API cc/30min	F.L. hthp cc/30min	Sols %	Sand	MBT	PH	Cl mg/l	Hard mg/l	KCl %	Daily Cost $
3	08 Aug 2004 - 16:30	PHG/Spud mud	0	8	1.04	162	12	39	30 / 37	0	0	0		0	9	0	0	0	16153
4	09 Aug 2004 - 07:45	PHG/Spud mud	0	8	1.04	166	12	43	32 / 38	0	0	0		0	9	0	0	0	1368
5	10 Aug 2004 - 10:00	PHG/Spud mud	0	8	1.04	168	13	45	33 / 38	0	0	0		0	8.9	0	0	0	1368
6	11 Aug 2004 - 21:30	PHG/Spud mud	749.0	10	1.04	125	7	35	21 / 30	0	0	0		0	9	0	0	0	2620
7	12 Aug 2004 - 18:45	PHG/Spud mud	1012.0	12	1.05	210	12	51	37 / 48	0	0	0		0	9.2	0	0	0	2996
8	13 Aug 2004 - 08:00	PHG/Spud mud	1012.0	10	1.05	166	9	41	25 / 33	0	0	0		0	9	0	0	0	1368
9	14 Aug 2004 -		0	0	0	0	0	0	0 / 0	0	0	0		0	0	0	0	0	1474
10	15 Aug 2004 -		0	0	1.04	0	0	0	0 / 0	0	0	0		0	0	0	0	0	1368
11	16 Aug 2004 - 18:00	Drispac / Soltex	1059.0	25	1.04	240	34	48	7 / 9	5.9	19.0	2.3	0.1	4	8.9	20000	400	0	46226
12	17 Aug 2004 - 19:15	Drispac / Soltex	1565.0	53	1.10	120	30	40	8 / 18	3.5	14.0	5.2	0.15	12.5	8.5	17500	320	0	10792
13	18 Aug 2004 - 18:00	Drispac / Soltex	1593.0	47	1.14	125	30	38	8 / 15	3.8	13.0	6.5	.1	12	8.7	26500	320	2	7878
14	19 Aug 2004 - 18:15	Drispac / Soltex	1875.0	58	1.13	78	29	31	7 / 13	4.5	12.7	6.1	.1	13.5	8.5	25500	320	0	10489
15	20 Aug 2004 - 19:00	Drispac / Soltex	2135.0	66	1.14	78	28	32	8 / 15	4.0	12.6	6.1	.05	17.5	8.3	30500	280	2	18439
16	21 Aug 2004 - 19:00	Drispac / Soltex	2216.0	47	1.15	126	30	36	8 / 15	4.0	12.7	6.8	.15	15	8.3	27000	280	2	7293
17	22 Aug 2004 - 21:00	Drispac / Soltex	2234.0	48	1.16	110	35	42	10 / 17	4.2	12.9	7.6	0.4	14	8.3	26000	280	2	11383
18	23 Aug 2004 - 13:00	Drispac / Soltex	2234.0	0	1.14	96	29	36	7 / 16	4.1	12.6	8.5	0.1	13	8.4	24500	260	1	10033
19	24 Aug 2004 - 22:00	Drispac / Soltex	2234.0	45	1.13	98	29	34	6 / 12	3.6	12.2	7.7	0.2	11	8.5	23000	260	1	1658
20	25 Aug 2004 - 19:15	Drispac / Soltex	2234.0	51	1.12	190	39	53	10 / 14	4.0	12.6	7.4	0.1	10	8.1	23000	320	1	10412
21	26 Aug 2004 - 13:30	Drispac / Soltex	2327.0	60	1.13	156	38	50	9 / 13	3.6	12.4	8	0.1	10	8.6	24000	280	1	3441
22	27 Aug 2004 - 20:15	Drispac / Soltex	2347.0	47	1.12	120	36	40	8 / 13	3.9	12.7	7.5	0.1	10	8.6	23500	260	1	2752
23	28 Aug 2004 - 10:00	Drispac / Soltex	2347.0	56	1.13	110	34	47	8 / 13	3.4	12.4	8	0.1	11	8.8	23000	280	1	14279
24	29 Aug 2004 - 21:00	Drispac / Soltex	2347.0	32	1.13	121	34	45	9 / 14	3.9	12.7	7.9	0.1	10	8.6	23000	280	1	1368
25	30 Aug 2004 - 22:00	Drispac / Soltex	2347.0	32	1.13	131	37	41	8 / 13	3.9	12.4	8.3	0.1	10	3.9	22500	320	1	1368
26	31 Aug 2004 - 20:00	Drispac / Soltex	2347.0	49	1.11	88	27	20	4 / 8	4.2	12.5	7	0.1	11	9.4	22500	960	1	13804
27	01 Sep 2004 - 19:45	Drispac / Soltex	2588.0	62	1.10	145	44	56	8 / 12	4.1	12.7	6.8	0.25	10	9.3	22000	720	0	17444
28	02 Sep 2004 - 19:30	Drispac / Soltex	3026.0	70	1.13	146	53	54	8 / 12	4.0	12.6	7.9	0.2	10	9	21000	440	0	4380
29	03 Sep 2004 - 19:45	Drispac / Soltex	3417.0	72	1.13	120	51	49	8 / 13	3.3	12.1	6.7	0.15	8.5	8.8	21000	640	0	6678
30	04 Sep 2004 - 19:30	Drispac / Soltex	3497.0	74	1.12	120	50	44	7 / 12	3.4	12.0	5.9	1.0	9.5	9	21000	420	0	5645

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DFE above MSL : 43.0m | Lat : 39 Deg 50 Min 40.4707 Sec | Spud Date : 11 Aug 2004 | Release Date : 30 Sep 2004

Water Depth : 81.0m | Long : 145 Deg 49 Min 06.0849 Sec | Spud Time: 03:00 | Release Time: 10:00

31	05 Sep 2004 - 18:50	Drispac / Soltex	3497.0	32	1.12	167	46	39	7 / 10	3.3	12.1	5.9	0.1	9.5	9	21000	380	0	1691
32	06 Sep 2004 - 20:45	Drispac / Soltex	3497.0	21	1.13	172	38	34	6 / 10	3.2	11.4	6.1	0.1	10	9	20500	380	0	2649
33	07 Sep 2004 - 21:15	Drispac / Soltex	3497.0	20	1.13	172	36	34	6 / 9	3.4	11.6	6.2	0.1	10	9	20500	360	0	3681
34	08 Sep 2004 - 20:45	Drispac / Soltex	3497.0	19	1.13	171	35	36	6 / 9	3.4	11.6	6.3	0.1	10	9	20500	380	0	1638
35	09 Sep 2004 - 20:30	Drispac / Soltex	3497.0	33	1.13	198	48	43	7 / 12	3.3	11.2	6.3	0.1	10	9	20500	400	0	2552
36	10 Sep 2004 - 22:00	Drispac / Soltex	3497.0	19	1.13	265	47	39	6 / 10	3.2	11.8	6.3	0.1	9.5	9	20500	400	0	2005
37	11 Sep 2004 - 22:00	Drispac / Soltex	3497.0	32	1.13	114	44	28	5 / 8	3.4	12.2	6.4	0.1	9	9	20000	440	0	3209
38	12 Sep 2004 - 21:00	Drispac / Soltex	3497.0	47	1.13	130	39	30	5 / 7	3.4	12.2	6.4	0.1	9	8.9	20000	440	0	1368
39	13 Sep 2004 - 22:30	Drispac / Soltex	3497.0	23	1.14	78	23	13	4 / 12	4.4	12.2	6.8	0.1	9	9	20000	460	0	1621
40	14 Sep 2004 - 22:30	Drispac / Soltex	3497.0	49	1.14	75	22	14	4 / 12	4.6	0	6.4	0.1	9	8.9	20000	460	0	29845
41	15 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100550	0	0	5801
42	16 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	1368
43	17 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	1368
44	18 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	684
45	19 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	684
46	20 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	684
47	21 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	684
48	22 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	684
49	23 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	684
50	24 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	2685
51	25 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	684
52	26 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	684
53	27 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	0
54	28 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	0
55	29 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	0
56	30 Sep 2004 - 0	NaCl Brine	3497.0	18	1.07	0	0	0	0 / 0	0	0	0	0	0	0	100500	0	0	0

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Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Inventory Report

Interval # 01	**From Report 08/08/2004**	**Top of Interval 215.0 m**
Max. Hole Size / Bit Size 16.000 / 16.000 in	**To Report 15/08/2004**	**Bottom of Interval 1,012.0 m**

Product Name	Units	Starting	Received	Used	Returned	Ending	Weight lb
Ammonium Bisulphite	260 kg drum		5.0			5.0	2,866.01
BARABUF	50 lb bag		27.0			27.0	1,350.00
Baracide	25 kg can		17.0			17.0	936.96
BARACOR 100	208 l drum		3.0			3.0	1,374.78
BARACOR 129	25 kg can		3.0	1.0		2.0	110.23
BARA-DEFOAM W300	25 l can		15.0			15.0	725.40
BARAFILM	55 gal drum		1.0			1.0	422.00
barite	100 lb bulk		2,298.000			2,298.000	229,800.00
BAROFIBRE	25 lb bag		80.0			80.0	2,000.00
BAROLIFT	15 lb box		6.0			6.0	90.00
bentonite	100 lb bulk		2,299.000	1,111.000		1,188.000	118,800.00
bentonite	25 kg bag		241.0	181.0		60.0	3,306.93
calcium chloride	25 kg bag		47.0	6.0		41.0	2,259.74
caustic soda	25 kg pail		71.0	28.0		43.0	2,369.97
Circal 60/16	1200 kg bag		4.0			4.0	10,582.19
Circal Y	1200 kg bag		4.0			4.0	10,582.19
citric acid	25 kg bag		36.0			36.0	1,984.16
CON DET	25 l can		6.0			6.0	338.74
Desco CF	25 lb bag		36.0			36.0	900.00
Drispac R	50 lb bag		151.0			151.0	7,550.00
Drispac Superlo	50 lb bag		207.0			207.0	10,350.00
EZ SPOT	208 l drum		4.0			4.0	4,216.00
Flowzan	25 kg bag		63.0			63.0	3,472.28
guar gum	25 kg bag		52.0			52.0	2,866.01
Kwikseal Coarse	40 lb bag		20.0			20.0	800.00
Kwikseal Medium	40 lb bag		40.0			40.0	1,600.00
lime	20 kg bag		56.0	14.0		42.0	1,851.88
NO-SULF	17 kg pail		57.0			57.0	2,136.28
N-VIS P PLUS	50 lb bag		38.0			38.0	1,900.00
PETROFREE ESTER	208 l drum		24.0			24.0	9,458.51
Potassium Chloride Bulk	1000 kg bulk		9.000	2.000		7.000	15,432.36
salt	1200 kg bulk		10.000			10.000	26,455.47
sapp	25 kg bag		40.0			40.0	2,204.62
soda ash	25 kg bag		45.0	14.0		31.0	1,708.58
sodium bicarbonate	25 kg bag		26.0			26.0	1,433.00
Soltex Potassium	50 lb bag		395.0			395.0	19,750.00
UltraSal 20E	50 lb bag		54.0			54.0	2,700.00
					Total Weight of Products in Stock lb		**506,684.30**
					Total Weight of Products in Stock, Metric Tons		**229.83**

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Inventory Report

Interval # 02		**From Report**	**16/08/2004**		**Top of Interval**		**1,205.0 m**	
Max. Hole Size / Bit Size	**16.000 / 16.000 in**	**To Report**	**30/08/2004**		**Bottom of Interval**		**2,347.0 m**	
Product Name	**Units**	**Starting**	**Received**	**Used**	**Returned**	**Ending**	**Weight lb**	
Ammonium Bisulphite	260 kg drum	5.0	8.0	8.0		5.0	2,866.01	
BARABUF	50 lb bag	27.0				27.0	1,350.00	
Baracide	25 kg can	17.0		13.0		4.0	220.46	
BARACOR 100	208 l drum	3.0				3.0	1,374.78	
BARACOR 129	25 kg can	2.0				2.0	110.23	
BARA-DEFOAM W300	25 l can	15.0				15.0	725.40	
BARAFILM	55 gal drum	1.0				1.0	422.00	
barite	100 lb bulk	2,298.000		662.000		1,636.000	163,600.00	
BAROFIBRE	25 lb bag	80.0				80.0	2,000.00	
BAROLIFT	15 lb box	6.0		5.0		1.0	15.00	
bentonite	100 lb bulk	1,188.000		108.000		1,080.000	108,000.00	
bentonite	25 kg bag	60.0		60.0				
calcium chloride	25 kg bag	41.0				41.0	2,259.74	
caustic soda	25 kg pail	43.0	32.0	60.0		15.0	826.73	
Circal 60/16	1200 kg bag	4.0				4.0	10,582.19	
Circal Y	1200 kg bag	4.0				4.0	10,582.19	
citric acid	25 kg bag	36.0				36.0	1,984.16	
CON DET	25 l can	6.0				6.0	338.74	
Desco CF	25 lb bag	36.0	40.0	21.0		55.0	1,375.00	
Drispac R	50 lb bag	151.0	120.0	206.0		65.0	3,250.00	
Drispac Superlo	50 lb bag	207.0	320.0	407.0		120.0	6,000.00	
EZ SPOT	208 l drum	4.0				4.0	4,216.00	
EZ-MUD	25 kg pail		30.0	30.0				
Flowzan	25 kg bag	63.0	120.0	92.0		91.0	5,015.52	
guar gum	25 kg bag	52.0				52.0	2,866.01	
Kwikseal Coarse	40 lb bag	20.0				20.0	800.00	
Kwikseal Medium	40 lb bag	40.0				40.0	1,600.00	
lime	20 kg bag	42.0				42.0	1,851.88	
NO-SULF	17 kg pail	57.0				57.0	2,136.28	
N-VIS P PLUS	50 lb bag	38.0				38.0	1,900.00	
PETROFREE ESTER	208 l drum	24.0				24.0	9,458.51	
phpa	25 kg bag		30.0			30.0	1,653.47	
Potassium Chloride Bulk	1000 kg bulk	7.000	10.000	6.000		11.000	24,250.85	
salt	1200 kg bulk	10.000		5.000		5.000	13,227.74	
sapp	25 kg bag	40.0				40.0	2,204.62	
soda ash	25 kg bag	31.0	80.0	32.0		79.0	4,354.13	
sodium bicarbonate	25 kg bag	26.0				26.0	1,433.00	
Soltex Potassium	50 lb bag	395.0	400.0	615.0		180.0	9,000.00	
UltraSal 20E	50 lb bag	54.0				54.0	2,700.00	
					Total Weight of Products in Stock lb		**913,234.94**	

Well Name	Yolla-3
Operator	Origin Energy Resources Ltd
Contractor	Ensco Australia Pty Ltd
Rig No	Ensco 102
Unit System	Esso

Interval Inventory Report

Total Weight of Products in Stock, Metric Tons	414.24

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Inventory Report

Interval # 03	**From Report 31/08/2004**	**Top of Interval 2,347.0 m**
Max. Hole Size / Bit Size 12.250 / 12.250 in	**To Report 13/09/2004**	**Bottom of Interval 3,499.0 m**

Product Name	Units	Starting	Received	Used	Returned	Ending	Weight lb
Ammonium Bisulphite	260 kg drum	5.0	8.0	11.0		2.0	1,146.40
AQUA GOLD SEAL	25 kg bag		180.0	29.0		151.0	8,322.45
BARABUF	50 lb bag	27.0				27.0	1,350.00
Baracide	25 kg can	4.0		1.0		3.0	165.35
BARACOR 100	208 l drum	3.0				3.0	1,374.78
BARACOR 129	25 kg can	2.0	64.0			66.0	3,637.63
BARA-DEFOAM W300	25 l can	15.0		2.0		13.0	628.68
BARAFILM	55 gal drum	1.0				1.0	422.00
BARAKLEAN FL+	208 l drum		4.0			4.0	1,668.07
barite	100 lb bulk	1,636.000		439.000		1,197.000	119,700.00
BAROFIBRE	25 lb bag	80.0				80.0	2,000.00
BAROLIFT	15 lb box	1.0	6.0	1.0		6.0	90.00
bentonite	100 lb bulk	1,080.000				1,080.000	108,000.00
bentonite	25 kg bag						
calcium chloride	25 kg bag	41.0				41.0	2,259.74
caustic soda	25 kg pail	15.0	96.0	49.0		62.0	3,417.16
Circal 60/16	1200 kg bag	4.0				4.0	10,582.19
Circal Y	1200 kg bag	4.0				4.0	10,582.19
citric acid	25 kg bag	36.0				36.0	1,984.16
CON DET	25 l can	6.0				6.0	338.74
Desco CF	25 lb bag	55.0				55.0	1,375.00
Drispac R	50 lb bag	65.0	120.0	18.0		167.0	8,350.00
Drispac Superlo	50 lb bag	120.0	160.0	146.0		134.0	6,700.00
EZ SPOT	208 l drum	4.0				4.0	4,216.00
EZ-MUD	25 kg pail						
Flowzan	25 kg bag	91.0	40.0	23.0		108.0	5,952.48
guar gum	25 kg bag	52.0				52.0	2,866.01
Kwikseal Coarse	40 lb bag	20.0				20.0	800.00
Kwikseal Medium	40 lb bag	40.0				40.0	1,600.00
lime	20 kg bag	42.0	48.0	10.0		80.0	3,527.40
NO-SULF	17 kg pail	57.0				57.0	2,136.28
N-VIS P PLUS	50 lb bag	38.0	50.0			88.0	4,400.00
PETROFREE ESTER	208 l drum	24.0				24.0	9,458.51
phpa	25 kg bag	30.0	60.0	29.0		61.0	3,362.05
Potassium Chloride Bulk	1000 kg bulk	11.000				11.000	24,250.85
salt	1200 kg bulk	5.000	38.000			43.000	113,758.52
sapp	25 kg bag	40.0				40.0	2,204.62
soda ash	25 kg bag	79.0	40.0	89.0		30.0	1,653.47
sodium bicarbonate	25 kg bag	26.0		10.0		16.0	881.85
Soltex Potassium	50 lb bag	180.0	160.0	198.0		142.0	7,100.00

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Inventory Report

UltraSal 20E	50 lb bag	54.0	144.0			198.0	9,900.00
					Total Weight of Products in Stock lb		**1,405,397.51**
					Total Weight of Products in Stock, Metric Tons		**637.48**

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Inventory Report

Interval # 04	**From Report 14/09/2004**	**Top of Interval 3,499.0 m**
Max. Hole Size / Bit Size 8.500 / 8.500 in	**To Report 24/09/2004**	**Bottom of Interval 3,499.0 m**

Product Name	Units	Starting	Received	Used	Returned	Ending	Weight lb
Ammonium Bisulphite	260 kg drum	2.0		2.0			
AQUA GOLD SEAL	25 kg bag	151.0				151.0	8,322.45
BARABUF	50 lb bag	27.0		17.0		10.0	500.00
Baracide	25 kg can	3.0		3.0			
BARACOR 100	208 l drum	3.0		1.0		2.0	916.52
BARACOR 129	25 kg can	66.0				66.0	3,637.63
BARA-DEFOAM W300	25 l can	13.0				13.0	628.68
BARAFILM	55 gal drum	1.0				1.0	422.00
BARAKLEAN FL+	208 l drum	4.0		4.0			
barite	100 lb bulk	1,197.000				1,197.000	119,700.00
BAROFIBRE	25 lb bag	80.0				80.0	2,000.00
BAROLIFT	15 lb box	6.0				6.0	90.00
bentonite	100 lb bulk	1,080.000				1,080.000	108,000.00
bentonite	25 kg bag						
calcium chloride	25 kg bag	41.0				41.0	2,259.74
caustic soda	25 kg pail	62.0		15.0		47.0	2,590.43
Circal 60/16	1200 kg bag	4.0				4.0	10,582.19
Circal Y	1200 kg bag	4.0				4.0	10,582.19
citric acid	25 kg bag	36.0				36.0	1,984.16
CON DET	25 l can	6.0		6.0			
Desco CF	25 lb bag	55.0				55.0	1,375.00
Drispac R	50 lb bag	167.0				167.0	8,350.00
Drispac Superlo	50 lb bag	134.0				134.0	6,700.00
EZ SPOT	208 l drum	4.0				4.0	4,216.00
EZ-MUD	25 kg pail						
Flowzan	25 kg bag	108.0		13.0		95.0	5,235.98
guar gum	25 kg bag	52.0				52.0	2,866.01
Kwikseal Coarse	40 lb bag	20.0				20.0	800.00
Kwikseal Medium	40 lb bag	40.0				40.0	1,600.00
lime	20 kg bag	80.0				80.0	3,527.40
NO-SULF	17 kg pail	57.0				57.0	2,136.28
N-VIS P PLUS	50 lb bag	88.0		39.0		49.0	2,450.00
PETROFREE ESTER	208 l drum	24.0				24.0	9,458.51
phpa	25 kg bag	61.0				61.0	3,362.05
Potassium Chloride Bulk	1000 kg bulk	11.000				11.000	24,250.85
salt	1200 kg bulk	43.000		38.000		5.000	13,227.74
sapp	25 kg bag	40.0				40.0	2,204.62
soda ash	25 kg bag	30.0				30.0	1,653.47
sodium bicarbonate	25 kg bag	16.0				16.0	881.85
Soltex Potassium	50 lb bag	142.0				142.0	7,100.00

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Inventory Report

UltraSal 20E	50 lb bag	198.0		198.0			
						Total Weight of Products in Stock lb	**1,779,009.23**
						Total Weight of Products in Stock, Metric Tons	**806.95**

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Volume Record Report

			Additions							Losses					Volumes			
Report Date	Date	Initial Volume bbl	Received & Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Returned & Mixed bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 01																		
Fluid Name:	**Seawater**																	
004	11/08/2004				671.1				671.1						671.1			671.1
005	12/08/2004	671.1			201.2				201.2			872.3		872.3				
007	14/08/2004		514.9						514.9						514.9			514.9
Cumulative Volume			514.9		872.3				1,387.2			872.3		872.3				
Fluid Name:	**Seawater/Bentonite**																	
001	8/08/2004		141.0		287.8		0.2		429.0								429.0	429.0
004	11/08/2004	429.0	280.0		200.0		0.6		480.6			641.6		641.6			268.0	268.0
005	12/08/2004	268.0	180.0		80.0		0.5		260.5			360.5		360.5			168.0	168.0
006	13/08/2004	168.0										52.0	31.0	83.0			85.0	85.0
008	15/08/2004	85.0										25.0		25.0			60.0	60.0
Cumulative Volume			601.0		567.8		1.3		1,170.1			1,079.1	31.0	1,110.1				
Fluid Name:	**Hi-Vis Bentonite Sweeps**																	
001	8/08/2004				2,984.1		127.9		3,112.0				141.0	141.0			2,971.0	2,971.0
004	11/08/2004	2,971.0			470.0		6.8		476.8			699.8	280.0	979.8			2,468.0	2,468.0
005	12/08/2004	2,468.0					12.1		12.1			1,261.8	180.0	1,441.8	845.3		193.0	1,038.3
006	13/08/2004	1,038.3	31.0		88.0				119.0			98.4		98.4	808.9		250.0	1,058.9
007	14/08/2004	1,058.9										808.9		808.9			250.0	250.0
Cumulative Volume			31.0		3,542.1		146.8		3,719.9			2,868.9	601.0	3,469.9				

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Volume Record Report

			Additions							Losses					Volumes			
Report Date	Date	Initial Volume bbl	Received & Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Returned & Mixed bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 02																		
Fluid Name:	**Seawater**																	
009	16/08/2004	514.9										514.9		514.9				
Cumulative Volume												514.9		514.9				
Fluid Name:	**Seawater/Bentonite**																	
009	16/08/2004	60.0										60.0		60.0				
Cumulative Volume												60.0		60.0				
Fluid Name:	**Hi-Vis Bentonite Sweeps**																	
009	16/08/2004	250.0										7.0	243.0	250.0				
Cumulative Volume												7.0	243.0	250.0				
Fluid Name:	**Seawater/Drispac/Soltex**																	
009	16/08/2004		421.8		2,025.0		58.3		2,505.1	171.1		99.0		270.1	557.0	304.0	1,374.0	2,235.0
010	17/08/2004	2,235.0	296.1				17.5		313.6	169.2			560.1	729.3	733.9	755.0	330.4	1,819.3
011	18/08/2004	1,819.3	1.3				4.4		5.7	144.8				144.8	756.3	783.0	141.0	1,680.3
012	19/08/2004	1,680.3	943.3		100.0	6.0	1.6		1,050.9	24.5			200.0	224.5	901.7	783.0	822.0	2,506.7
013	20/08/2004	2,506.7	1,355.2				19.6		1,374.8	227.5		926.0	200.0	1,353.5	981.1	685.0	862.0	2,528.1
014	21/08/2004	2,528.1	430.6			4.1	7.2		441.9	254.0				254.0	1,044.9	839.0	832.0	2,715.9
015	22/08/2004	2,715.9	231.5				1.1		232.6	53.1				53.1	1,023.4	679.0	1,193.0	2,895.4
016	23/08/2004	2,895.4	161.2				8.4		169.6			460.6		460.6	1,065.4	610.0	929.0	2,604.4
017	24/08/2004	2,604.4	157.0				1.6		158.6	11.4				11.4	1,097.6	744.0	910.0	2,751.6
018	25/08/2004	2,751.6	327.0			27.4	8.6		363.0	82.7				82.7	1,026.9	797.0	1,208.0	3,031.9
019	26/08/2004	3,031.9	243.0				3.0		246.0	8.3				8.3	1,151.6	722.0	1,396.0	3,269.6
020	27/08/2004	3,269.6	128.0				2.4		130.4	226.0		178.0		404.0	1,101.0	525.0	1,370.0	2,996.0
021	28/08/2004	2,996.0	247.4			7.5	10.2		265.1	13.5				13.5	1,151.6	764.0	1,332.0	3,247.6
022	29/08/2004	3,247.6										100.0		100.0	1,151.6	749.0	1,247.0	3,147.6
023	30/08/2004	3,147.6										172.0		172.0	627.6	740.0	1,608.0	2,975.6

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Volume Record Report

			Additions							Losses					Volumes			
Report Date	Date	Initial Volume	Received & Mixed	Base	Water	Barite	Chemicals	Other	Daily Total	SCE	Downhole	Misc	Returned & Mixed	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
Cumulative Volume			4,943.4		2,125.0	45.0	143.9		7,257.3	1,386.1		1,935.6	960.1	4,281.8				
Fluid Name:		**Premix**																
010	17/08/2004		560.1		600.0		9.0		1,169.1				296.1	296.1			873.0	873.0
011	18/08/2004	873.0					6.3		6.3				1.3	1.3			878.0	878.0
012	19/08/2004	878.0	200.0		400.0		8.3		608.3				943.3	943.3			543.0	543.0
013	20/08/2004	543.0	200.0		900.0		18.2		1,118.2				1,355.2	1,355.2			306.0	306.0
014	21/08/2004	306.0			500.9		9.7		510.6				430.6	430.6			386.0	386.0
015	22/08/2004	386.0			600.0		10.5		610.5				231.5	231.5			765.0	765.0
016	23/08/2004	765.0			500.0		0.2		500.2				161.2	161.2			1,104.0	1,104.0
017	24/08/2004	1,104.0											157.0	157.0			947.0	947.0
018	25/08/2004	947.0											327.0	327.0			620.0	620.0
019	26/08/2004	620.0											243.0	243.0			377.0	377.0
020	27/08/2004	377.0											128.0	128.0			249.0	249.0
021	28/08/2004	249.0			600.0		4.4		604.4				247.4	247.4			606.0	606.0
023	30/08/2004	606.0										39.0		39.0			567.0	567.0
Cumulative Volume			960.1		4,100.9		66.6		5,127.6			39.0	4,521.6	4,560.6				
Fluid Name:		**PHBentonite**																
009	16/08/2004				499.7		16.1		515.8				178.8	178.8			337.0	337.0
Cumulative Volume					499.7		16.1		515.8				178.8	178.8				

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Volume Record Report

			Additions							Losses					Volumes			
Report Date	Date	Initial Volume bbl	Received & Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Returned & Mixed bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 03																		
Fluid Name:	**Seawater/Drispac/Soltex**																	
024	31/08/2004	2,975.6	20.9			1.5	1.0		23.4	27.0		1,250.0	130.0	1,407.0	568.0	932.0	92.0	1,592.0
025	1/09/2004	1,592.0	482.6				26.5		509.1	160.8		87.3		248.1	632.0	749.0	472.0	1,853.0
026	2/09/2004	1,853.0	196.0		239.0		9.2		444.2	270.3		24.0		294.3	713.9	817.0	472.0	2,002.9
027	3/09/2004	2,002.9	100.4		67.6		8.3		176.3	110.9		24.0		134.9	792.3	858.0	394.0	2,044.3
028	4/09/2004	2,044.3	204.0		127.0		8.3		339.3	100.8		206.0	77.0	383.8	799.8	761.0	439.0	1,999.8
029	5/09/2004	1,999.8	190.0			1.5	0.1		191.6	45.5		329.9		375.4	891.1	392.0	533.0	1,816.1
030	6/09/2004	1,816.1	84.0			5.6	0.1		89.7			15.7		15.7	891.1	376.0	623.0	1,890.1
031	7/09/2004	1,890.1				12.4			12.4		38.4			38.4	891.1	194.0	779.0	1,864.1
032	8/09/2004	1,864.1									17.7			17.7	891.1	354.0	601.3	1,846.4
033	9/09/2004	1,846.4					2.8		2.8						828.0	418.0	603.3	1,849.3
034	10/09/2004	1,849.3					1.2		1.2		8.0	32.3		40.3	828.3	375.0	606.8	1,810.1
035	11/09/2004	1,810.1	9.0		128.0		4.4		141.4	5.4	10.0	209.0		224.4	891.1	424.0	412.0	1,727.1
036	12/09/2004	1,727.1									10.7			10.7	809.4	495.0	412.0	1,716.4
037	13/09/2004	1,716.4				1.4			1.4			380.4		380.4	745.4	578.0	14.0	1,337.4
Cumulative Volume			1,286.9		561.6	22.4	61.9		1,932.8	720.7	84.8	2,558.6	207.0	3,571.1				
Fluid Name:	**Premix**																	
024	31/08/2004	567.0	130.0		470.0		12.9		612.9				20.9	20.9			1,159.0	1,159.0
025	1/09/2004	1,159.0					1.6		1.6				482.6	482.6			678.0	678.0
026	2/09/2004	678.0											196.0	196.0			482.0	482.0
027	3/09/2004	482.0	0.2						0.2				305.2	305.2			177.0	177.0
028	4/09/2004	177.0											104.0	104.0			73.0	73.0
029	5/09/2004	73.0										8.0	65.0	73.0				
Cumulative Volume			130.2		470.0		14.5		614.7			8.0	1,173.7	1,181.7				
Fluid Name:	**PHBentonite**																	
030	6/09/2004	337.0											20.0	20.0			317.0	317.0

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Volume Record Report

			Additions							Losses					Volumes			
Report Date	Date	Initial Volume bbl	Received & Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Returned & Mixed bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
035	11/09/2004	317.0											9.0	9.0			308.0	308.0
037	13/09/2004	308.0										308.0		308.0				
Cumulative Volume												308.0	29.0	337.0				

Fluid Name: 8.9 ppg Premix Sweep

027	3/09/2004		115.1						115.1				0.1	0.1			115.0	115.0
028	4/09/2004	115.0											40.0	40.0			75.0	75.0
029	5/09/2004	75.0											40.0	40.0			35.0	35.0
030	6/09/2004	35.0											35.0	35.0				
Cumulative Volume			115.1						115.1				115.1	115.1				

Fluid Name: 11.0 ppg Sea/Drispac/Solt

027	3/09/2004		89.7			5.4			95.1				0.1	0.1			95.0	95.0
028	4/09/2004	95.0	77.0			2.0			79.0				60.0	60.0			114.0	114.0
029	5/09/2004	114.0											85.0	85.0			29.0	29.0
030	6/09/2004	29.0											29.0	29.0				
Cumulative Volume			166.7			7.4			174.1				174.1	174.1				

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Volume Record Report

			Additions							Losses					Volumes			
Report Date	Date	Initial Volume bbl	Received & Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Returned & Mixed bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Interval # 04																		
Fluid Name:	**Seawater**																	
038	14/09/2004				408.0				408.0								408.0	408.0
039	15/09/2004	408.0										408.0		408.0				
Cumulative Volume					408.0				408.0			408.0		408.0				
Fluid Name:	**Seawater/Drispac/Soltex**																	
038	14/09/2004	1,337.4										84.7		84.7	671.8	551.0	30.0	1,252.8
039	15/09/2004	1,252.8										1,252.8		1,252.8				
Cumulative Volume												1,337.5		1,337.5				
Fluid Name:	**8.9 ppg NaCl Brine**																	
038	14/09/2004				1,600.9		73.1		1,674.0								1,674.0	1,674.0
039	15/09/2004	1,674.0	267.5						267.5			106.0	70.0	176.0	745.4		1,020.0	1,765.4
040	16/09/2004	1,765.4										45.0		45.0	745.4		975.0	1,720.4
041	17/09/2004	1,720.4										45.0		45.0	745.4		930.0	1,675.4
042	18/09/2004	1,675.4										18.4		18.4	636.1		1,021.0	1,657.1
043	19/09/2004	1,657.1										11.6		11.6	745.4		900.0	1,645.4
044	20/09/2004	1,645.4										10.0		10.0	745.4		890.0	1,635.4
047	23/09/2004	1,635.4										19.0		19.0	745.4		871.0	1,616.4
048	24/09/2004	1,616.4										1,616.4		1,616.4				
Cumulative Volume			267.5		1,600.9		73.1		1,941.5			1,871.4	70.0	1,941.4				
Fluid Name:	**Saturated Salt/Sized Salt**																	
038	14/09/2004				344.2		62.8		407.0								407.0	407.0
039	15/09/2004	407.0										26.5	300.5	327.0			80.0	80.0
048	24/09/2004	80.0										80.0		80.0				
Cumulative Volume					344.2		62.8		407.0			106.5	300.5	407.0				

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Volume Record Report

			Additions							Losses					Volumes			
Report Date	Date	Initial Volume bbl	Received & Mixed bbl	Base bbl	Water bbl	Barite bbl	Chemicals bbl	Other bbl	Daily Total bbl	SCE bbl	Downhole bbl	Misc bbl	Returned & Mixed bbl	Daily Total bbl	Hole Volume bbl	Active Pit Volume bbl	Reserve Volume bbl	Final Volume bbl
Fluid Name:		**Inhibited Brine**																
039	15/09/2004																	
Cumulative Volume																		
Fluid Name:		**Sodium Chloride**																
039	15/09/2004		70.0						70.0								103.0	103.0
045	21/09/2004	103.0										103.0		103.0				
Cumulative Volume			70.0						70.0			103.0		103.0				

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Chemical Concentration

Interval # 01		**From Report Date**	**08/08/2004**	**Top of Interval**	**215.0 m**
Max. Hole Size / Bit Size	**16.000 / 16.000 in**	**To Report Date**	**15/08/2004**	**Bottom of Interval**	**1,012.0 m**

Fluid Name: Seawater/Bentonite

Material	Average ppb	Minimum ppb	Maximum ppb
bentonite	10.84	1.37	18.03
caustic soda	0.51	0.41	0.65
lime	0.62	0.39	0.70
Potassium Chloride Bulk	0.57	0.39	0.63
soda ash	0.10	0.07	0.12

Fluid Name: Hi-Vis Bentonite Sweeps

Material	Average ppb	Minimum ppb	Maximum ppb
bentonite	23.57	3.65	35.70
caustic soda	0.20	0.07	0.36
lime	0.02	0.02	0.02
Potassium Chloride Bulk	1.22	1.16	1.28
soda ash	0.21	0.20	0.22

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Chemical Concentration

Interval # 02		**From Report Date**	**16/08/2004**	**Top of Interval**	**1,205.0 m**
Max. Hole Size / Bit Size	**12.250 / 12.250 in**	**To Report Date**	**30/08/2004**	**Bottom of Interval**	**2,347.0 m**

Fluid Name: Seawater/Bentonite

Material	Average ppb	Minimum ppb	Maximum ppb
bentonite	9.70	1.37	18.03
caustic soda	0.65	0.65	0.65
lime	0.70	0.70	0.70
Potassium Chloride Bulk	0.63	0.63	0.63
soda ash	0.12	0.12	0.12

Fluid Name: Hi-Vis Bentonite Sweeps

Material	Average ppb	Minimum ppb	Maximum ppb
bentonite	15.80	3.65	27.95
caustic soda	0.34	0.34	0.34
lime	0.02	0.02	0.02
Potassium Chloride Bulk	1.16	1.16	1.16
soda ash	0.20	0.20	0.20

Fluid Name: Seawater/Drispac/Soltex

Material	Average ppb	Minimum ppb	Maximum ppb
Ammonium Bisulphite	0.88	0.39	3.13
Baracide	0.12	0.08	0.39
barite	11.92	2.26	45.98
BAROLIFT	0.02	0.01	0.05
bentonite	1.37	0.24	4.21
caustic soda	0.59	0.24	2.03
Desco CF	0.11	0.06	0.21
Drispac R	1.63	0.89	5.09
Drispac Superlo	3.27	2.50	8.26
EZ-MUD	0.58	0.39	1.23
Flowzan	0.83	0.62	2.19
lime	0.00	0.00	0.00
Potassium Chloride Bulk	3.71	0.10	8.69
salt	5.19	5.19	5.19
soda ash	0.30	0.20	0.75
Soltex Potassium	5.25	4.27	13.80

Fluid Name: Premix

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Chemical Concentration

Material	Average ppb	Minimum ppb	Maximum ppb
Ammonium Bisulphite	0.02	0.00	0.06
Baracide	0.03	0.00	0.11
barite	0.10	0.01	0.44
bentonite	0.27	0.00	1.77
caustic soda	0.04	0.00	0.15
Desco CF	0.02	0.00	0.09
Drispac R	0.50	0.13	0.97
Drispac Superlo	2.33	1.53	3.40
Flowzan	0.59	0.40	0.98
lime	0.00	0.00	0.00
Potassium Chloride Bulk	0.37	0.03	1.70
salt	2.49	2.49	2.49
soda ash	0.28	0.03	0.38
Soltex Potassium	2.97	0.70	5.46

Fluid Name:	**PHBentonite**		
Material	**Average ppb**	**Minimum ppb**	**Maximum ppb**
bentonite	13.67	6.41	20.94

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Chemical Concentration

Interval # 03		**From Report Date**	**31/08/2004**	**Top of Interval**	**2,347.0 m**
Max. Hole Size / Bit Size	**12.250 / 8.768 in**	**To Report Date**	**13/09/2004**	**Bottom of Interval**	**3,499.0 m**

Fluid Name: Seawater/Drispac/Soltex

Material	Average ppb	Minimum ppb	Maximum ppb
Ammonium Bisulphite	1.66	0.14	2.13
Baracide	0.09	0.08	0.14
BARA-DEFOAM W300	0.04	0.03	0.05
barite	20.33	10.05	27.96
BAROLIFT	0.01	0.01	0.02
bentonite	0.50	0.13	1.22
caustic soda	1.03	0.66	1.22
Desco CF	0.03	0.03	0.06
Drispac R	1.21	1.04	1.72
Drispac Superlo	3.97	2.93	4.29
EZ-MUD	0.24	0.19	0.44
Flowzan	0.83	0.78	1.00
lime	0.12	0.00	0.21
phpa	0.48	0.43	0.61
Potassium Chloride Bulk	1.68	1.33	3.06
soda ash	1.48	0.26	1.89
sodium bicarbonate	0.10	0.08	0.18
Soltex Potassium	5.38	4.86	6.08

Fluid Name: Premix

Material	Average ppb	Minimum ppb	Maximum ppb
Ammonium Bisulphite	0.02	0.02	0.02
Baracide	0.06	0.06	0.06
barite	1.88	1.87	1.88
BAROLIFT	0.00	0.00	0.00
bentonite	0.09	0.03	0.14
caustic soda	0.07	0.07	0.07
Desco CF	0.01	0.01	0.01
Drispac R	1.01	1.01	1.01
Drispac Superlo	3.02	3.02	3.02
EZ-MUD	0.05	0.05	0.05
Flowzan	0.77	0.77	0.77
lime	0.00	0.00	0.00
phpa	0.47	0.47	0.47
Potassium Chloride Bulk	0.35	0.35	0.35
soda ash	0.39	0.39	0.39

Interval Chemical Concentration

sodium bicarbonate	0.02	0.02	0.02
Soltex Potassium	3.20	3.20	3.20

Fluid Name:	**PHBentonite**		
Material	**Average ppb**	**Minimum ppb**	**Maximum ppb**
bentonite	13.67	6.41	20.94

Fluid Name:	**8.9 ppg Premix Sweep**		
Material	**Average ppb**	**Minimum ppb**	**Maximum ppb**
Ammonium Bisulphite	0.02	0.02	0.02
Baracide	0.06	0.06	0.06
barite	1.87	1.87	1.87
BAROLIFT	0.00	0.00	0.00
bentonite	0.09	0.03	0.14
caustic soda	0.07	0.07	0.07
Desco CF	0.01	0.01	0.01
Drispac R	1.01	1.01	1.01
Drispac Superlo	3.02	3.02	3.02
EZ-MUD	0.05	0.05	0.05
Flowzan	0.77	0.77	0.77
lime	0.00	0.00	0.00
phpa	0.47	0.47	0.47
Potassium Chloride Bulk	0.35	0.35	0.35
soda ash	0.39	0.39	0.39
sodium bicarbonate	0.02	0.02	0.02
Soltex Potassium	3.20	3.20	3.20

Fluid Name:	**11.0 ppg Sea/Drispac/Solt**		
Material	**Average ppb**	**Minimum ppb**	**Maximum ppb**
Ammonium Bisulphite	0.64	0.02	0.84
Baracide	0.07	0.06	0.07
barite	73.19	68.95	85.88
BAROLIFT	0.01	0.00	0.01
bentonite	0.18	0.03	0.36
caustic soda	0.41	0.07	0.53
Desco CF	0.01	0.01	0.02
Drispac R	1.02	0.96	1.04
Drispac Superlo	3.26	2.84	3.40
EZ-MUD	0.11	0.05	0.12

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Chemical Concentration

Flowzan	0.74	0.72	0.75
lime	0.04	0.00	0.06
phpa	0.45	0.45	0.46
Potassium Chloride Bulk	0.74	0.33	0.88
soda ash	0.79	0.37	0.93
sodium bicarbonate	0.04	0.02	0.05
Soltex Potassium	3.84	3.01	4.11

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Chemical Concentration

Interval #	**04**	**From Report Date**	**14/09/2004**	**Top of Interval**	**3,499.0 m**
Max. Hole Size / Bit Size	**8.500 / 8.500 in**	**To Report Date**	**24/09/2004**	**Bottom of Interval**	**3,499.0 m**

Fluid Name: Seawater

Material	Average ppb	Minimum ppb	Maximum ppb
caustic soda	1.73	1.73	1.73
CON DET	0.82	0.82	0.82
Flowzan	1.73	1.73	1.73

Fluid Name: Seawater/Drispac/Soltex

Material	Average ppb	Minimum ppb	Maximum ppb
Ammonium Bisulphite	2.13	2.13	2.13
Baracide	0.08	0.08	0.08
BARA-DEFOAM W300	0.05	0.05	0.05
barite	27.02	27.02	27.02
BAROLIFT	0.01	0.01	0.01
bentonite	0.52	0.21	0.83
caustic soda	1.22	1.22	1.22
Desco CF	0.03	0.03	0.03
Drispac R	1.04	1.04	1.04
Drispac Superlo	3.98	3.98	3.98
EZ-MUD	0.19	0.19	0.19
Flowzan	0.78	0.78	0.78
lime	0.11	0.11	0.11
phpa	0.43	0.43	0.43
Potassium Chloride Bulk	1.33	1.33	1.33
soda ash	1.67	1.67	1.67
sodium bicarbonate	0.08	0.08	0.08
Soltex Potassium	5.27	5.27	5.27

Fluid Name: 8.9 ppg NaCl Brine

Material	Average ppb	Minimum ppb	Maximum ppb
BARABUF	0.63	0.29	0.68
N-VIS P PLUS	1.43	0.66	1.56
salt	87.50	33.19	103.83
UltraSal 20E	7.28	3.35	7.94

Fluid Name: Saturated Salt/Sized Salt

Material	Average ppb	Minimum ppb	Maximum ppb

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Interval Chemical Concentration

BARABUF	2.09	2.09	2.09
N-VIS P PLUS	4.79	4.79	4.79
salt	110.50	110.50	110.50
UltraSal 20E	24.26	23.83	24.32

Fluid Name:	**Sodium Chloride**		
Material	**Average ppb**	**Minimum ppb**	**Maximum ppb**
BARABUF	0.86	0.86	0.86
N-VIS P PLUS	1.98	1.98	1.98
salt	65.20	65.20	65.20
UltraSal 20E	10.07	10.07	10.07

Operator	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology					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						
11/08/2004	215		8.80	165	14	42	33	37	44						9.00											0.1	70.0	56.0	49.0	42.0	35.0	29.0
11/08/2004	256		8.80	143	8	41	24	31							9.50				11,000	420						0.1	57.0	49.0				
11/08/2004	584		8.75	168	10	48	38	49							9.35											0.1	68.0	58.0				
11/08/2004	749		8.70	125	7	35	21	30	34						9.00				12,000	420						0.1	49.0	42.0	38.0	34.0	20.0	19.0
12/08/2004	909		8.80	200	17	54	37	41	48						9.00											0.1	88.0	71.0	74.0	61.0	38.0	36.0
12/08/2004	970		8.75	138	9	40	26	34	39						9.30				11,500	440						0.1	58.0	49.0	42.0	36.0	25.0	22.0
12/08/2004	1,012		8.80	170	8	40	24	32	37						9.00				11,000	440						0.1	56.0	48.0	43.0	39.0	25.0	24.0
12/08/2004	1,012		8.80	210	12	51	37	48	60						9.20											0.1	75.0	63.0	57.0	47.0	38.0	36.0
13/08/2004	1,012		8.80	166	9	41	25	33	40						9.00				11,500	420						0.1	59.0	50.0	44.0	38.0	27.0	24.0
16/08/2004	1,017	20	8.65	230	43	89	14	16		5.5		1			9.50	0.35	0.27	0.95	19,500	720	6.0	0.10	0.97	0.945		97.9	175.0	132.0	110.0	80.0	17.0	12.0
16/08/2004	1,059	25	8.70	240	34	48	7	9	11	5.9	19.0	1	2	121	8.90	0.55	0.25	0.75	20,000	400	4.0	0.10	1.25	1.158		97.6	116.0	82.0	67.0	47.0	10.0	7.0
17/08/2004	1,259	30	8.75	230	32	44	7	9	10	4.3	16.5	1	2	121	8.75	0.45	0.15	0.55	19,000		5.0	0.35	1.71	1.618		97.2	108.0	76.0	62.0	42.0	10.0	7.0
17/08/2004	1,412	41	9.10	120	35	37	8	14	17	4.2	13.0	1	2	121	8.60	0.25	0.15	0.40	19,500		10.0	0.10	4.41	4.408		94.5	107.0	72.0	64.0	45.0	12.0	9.0
17/08/2004	1,505	43	9.20	122	34	43	8	13	15	3.7	12.7	1	2	121	8.50	0.20	0.15	0.40	19,500		12.5	0.10	4.92	4.664		94	111.0	77.0	64.0	44.0	11.0	8.0
17/08/2004	1,565	53	9.20	120	30	40	8	18	25	3.5	14.0	1	2	121	8.50	0.35	0.20	0.70	17,500		12.5	0.15	5.22	5.123		93.8	100.0	70.0	57.0	38.0	9.0	6.0
18/08/2004	1,593	48	9.20	117	28	34	7	18	25	3.9	14.5	1	2	94	8.60	0.35	0.20	0.65	27,000	320	13.0	0.10	4.19	4.029		93.6	90.0	62.0	49.0	34.0	9.0	6.0
18/08/2004	1,593	20	9.15	114	25	32	7	12	15	3.8	12.4	1	2	94	8.40	0.20	0.15	0.45	27,000	280	13.0	0.05	3.79	3.594		94	82.0	57.0	44.0	31.0	9.0	7.0
18/08/2004	1,593	47	9.50	125	30	38	8	15	22	3.8	13.0	1	2	94	8.70	0.30	0.15	0.65	26,500	320	12.0	0.10	6.49	6.279		91.4	98.0	68.0	55.0	37.0	9.0	6.0
19/08/2004	1,701	55	9.50	178	33	46	11	19	28	3.6	13.1	1	2	94	8.40	0.30	0.20	0.65	26,500	320	13.0	0.10	6.8	6.621		91.8	112.0	79.0	65.0	46.0	13.0	10.0
19/08/2004	1,787	50	9.20	136	30	40	9	16	22	4.0	12.6	1	2	94	8.40	0.15	0.20	0.60	25,500	280	13.0	0.02	4.62	4.475		94	100.0	70.0	58.0	41.0	12.0	9.0
19/08/2004	1,843	55	9.40	128	33	41	9	17	21	4.2	13.0	1	2	94	8.60	0.15	0.20	0.60	26,000	280	13.0	0.02	6.02	5.777		92.6	107.0	74.0	62.0	42.0	12.0	9.0
19/08/2004	1,875	58	9.45	78	29	31	7	13	20	4.5	12.7	1	2	94	8.50	0.30	0.15	0.65	25,500	320	13.5	0.10	6.14	5.62		92.5	89.0	60.0	48.0	34.0	9.0	6.0
20/08/2004	2,019	59	9.45	83	28	35	8	15	21	3.8	12.6	1	2	94	8.60	0.20	0.15	0.60	31,000	320	13.0	0.10	5.82	5.676		91.7	91.0	63.0	52.0	36.0	10.0	7.0
20/08/2004	2,076	59	9.50	84	29	38	10	17	22	4.3	12.4	1	2	94	8.40	0.15	0.10	0.45	30,000	260	12.5	0.02	6.11	5.79		91.5	96.0	67.0	53.0	38.0	11.0	9.0
20/08/2004	2,105	55	9.50	80	31	42	11	20	24	4.5	12.8	1	2	94	8.30	0.10	0.15	0.45	29,500	300	13.0	0.02	6.15	5.831		91.5	104.0	73.0	59.0	42.0	13.0	10.0
20/08/2004	2,135	66	9.50	78	28	32	8	15	23	4.0	12.6	1	2	94	8.30	0.20	0.15	0.55	30,500	280	17.5	0.05	6.07	5.748		91.5	88.0	60.0	49.0	34.0	9.0	7.0
21/08/2004	2,206	62	9.40	80	28	35	7	15	23	3.9	12.8	1	2	94	8.60	0.25	0.20	0.55	30,500	280	15.0	0.02	5.45	5.28		92.1	91.0	63.0	52.0	36.0	9.0	6.0
21/08/2004	2,216	62	9.40	88	28	34	7	14	19	4.0	12.6	1	2	94	8.60	0.20	0.20	0.60	30,000	280	15.0	0.02	5.39	5.119		92.2	90.0	62.0	49.0	34.0	9.0	7.0
21/08/2004	2,216	62	9.55	93	29	43	8	18	22	4.2	12.8	1	2	94	8.40	0.15	0.20	0.55	28,500	280	15.0	0.20	6.53	6.147		91.2	101.0	72.0	57.0	39.0	11.0	9.0

Operator	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology					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						
21/08/2004	2,216	47	9.55	126	30	36	8	15	23	4.0	12.7	1	2	94	8.30	0.20	0.15	0.55	27,000	280	15.0	0.15	6.75	6.471		91.1	96.0	66.0	53.0	37.0	9.0	6.0
22/08/2004	2,216		9.60	94	28	29	7	15	26	4.1	13.0	1	2	94	8.40	0.20	0.15	0.60	28,000	280	15.0	0.30	6.57	5.813		91.2	85.0	57.0	45.0	31.0	8.0	6.0
22/08/2004	2,216	20	9.55	96	26	36	8	14	18	3.6	12.2	1	2	94	8.40	0.10	0.15	0.60	28,000	260	15.0	0.10	6.57	6.188		91.2	88.0	62.0	48.0	34.0	9.0	7.0
22/08/2004	2,234	48	9.65	110	35	42	10	17	25	4.2	12.9	1	2	94	8.30	0.10	0.15	0.75	26,000	280	14.0	0.40	7.65	7.422		90.3	112.0	77.0	62.0	43.0	11.0	8.0
23/08/2004	2,234		9.60	88	38	36	9	16	24	4.1	13.0	1	2	94	8.30	0.10		0.65	26,000	280	14.0	0.35	7.14	6.784		90.8	112.0	74.0	61.0	41.0	11.0	8.0
23/08/2004	2,234		9.50	96	29	36	7	16	22	4.0	12.4	1	2	94	8.80	0.15	0.20	0.50	24,500	260	13.0	0.10	6.64	6.438		91.4	94.0	65.0	53.0	36.0	10.0	8.0
23/08/2004	2,234		9.50		35	41	8	16	22	4.0	12.6	1	2	94	8.40	0.30	0.20	0.60	26,000	280	14.0	0.30	6.42	6.116		91.5	111.0	76.0	60.0	35.0	10.0	7.0
24/08/2004	2,234		9.50		33	41	7	15	21	4.2	13.0	1	2	94	8.50	0.15	0.20	0.55	23,000	260	11.5	0.50	6.66	6.354		91.5	107.0	74.0	60.0	42.0	10.0	7.0
24/08/2004	2,234	44	9.40	98	36	49	9	15	19	3.8	12.4	1	2	94	8.50	0.10	0.15	0.50	23,000	260	10.0	0.10	6.15	6.092		92	121.0	85.0	70.0	44.0	12.0	9.0
24/08/2004	2,234		9.40	98	29	34	6	12	20	3.6	12.2	1	2	94	8.50	0.15	0.20	0.55	23,000	260	11.0	0.20	5.84	5.486		92.3	92.0	63.0	51.0	34.0	8.0	5.0
25/08/2004	2,234		9.40	95	35	35	8	14	21	3.8	12.6	1	2	94	8.40		0.20	0.65	22,500	300	11.0	0.20	5.98	5.727		92.2	105.0	70.0	61.0	45.0	9.0	7.0
25/08/2004	2,234	43	9.40	122	35	48	9	14	22	3.6	12.3	1	2	94	8.60	0.15	0.20	0.50	22,500	260	10.0	0.10	6.08	5.929		92.1	118.0	83.0	77.0	46.0	12.0	10.0
25/08/2004	2,234	51	9.35	190	39	53	10	14	22	4.0	12.6	1	2	94	8.10	0.10	0.20	0.55	23,000	320	10.0	0.10	5.53	5.254		92.6	131.0	92.0	75.0	52.0	13.0	9.0
26/08/2004	2,234	59	9.35	140	35	45	9	14	19	4.0	12.6	1	2	94	8.50	0.20	0.20	0.60	23,000	320	10.0	0.10	5.64	5.456		92.5	115.0	80.0	65.0	45.0	11.0	8.0
26/08/2004	2,282	59	9.35	152	37	49	9	14	19	3.6	12.2	1	2	94	8.80	0.20	0.25	0.60	24,500	260	9.0	0.20	5.62	5.539		92.4	123.0	86.0	71.0	49.0	12.0	9.0
26/08/2004	2,327	60	9.40	156	38	50	9	13	18	3.6	12.4	1	2	94	8.60	0.15	0.20	0.55	24,000	280	10.0	0.20	6.07	6.013		92	126.0	88.0	71.0	48.0	12.0	9.0
26/08/2004	2,347		9.40	170	37	46	9	14	20	3.9	12.7	1	2	94	8.50	0.25	0.20	0.60	23,000	280	10.0	0.20	5.94	5.688		92.2	120.0	83.0	70.0	46.0	12.0	9.0
27/08/2004	2,347		9.40	110	38	48	8	14	18	3.4	12.6	1	2	94	8.60	0.20	0.25	0.55	24,000	260	10.0	0.10	6.07	6.013		92	124.0	86.0	69.0	47.0	12.0	9.0
27/08/2004	2,347	47	9.35	120	36	40	8	13	19	3.9	12.7	1	2	94	8.60	0.20	0.15	0.65	23,500	260	10.0	0.10	5.6	5.416		92.5	112.0	76.0	61.0	41.0	10.0	6.0
28/08/2004	2,347	50	9.40	120	35	45	9	14	20	3.9	12.5	1	2	94	8.60	0.20	0.15	0.60	23,000	280	10.0	0.10	6.04	5.89		92.1	115.0	80.0	65.0	32.0	10.0	8.0
28/08/2004	2,347	56	9.40	110	34	47	8	13	17	3.4	12.4	1	2	94	8.80	0.20	0.20	0.55	23,000	280	11.0	0.10	6.15	6.092		92	115.0	81.0	64.0	43.0	10.0	8.0
29/08/2004	2,347		9.40	121	36	42	8	13	18	3.8	12.6	1	2	94	8.80	0.25	0.20	0.55	24,000	280	12.0	0.10	6.07	6.013		92	114.0	78.0	63.0	43.0	11.0	9.0
29/08/2004	2,347	32	9.40		34	45	9	14	19	3.9	12.7	1	2	94	8.60	0.20	0.20	0.60	23,000	280	10.0	0.10	6.04	5.89		92.1	113.0	79.0	61.0	42.0	10.0	8.0
30/08/2004	2,347		9.45	131	35	43	8	13	19	3.5	12.6	1	2	94	8.60	0.18	0.08	0.55	22,000	320	10.0	0.15	6.22	5.796		92	113.0	78.0	64.0	42.0	10.0	7.0
30/08/2004	2,347		9.45		37	41	8	13	18	3.9	12.4	1	2	94	8.50	0.15	0.20	0.55	22,500	320	10.0	0.10	6.49	6.363		91.7	115.0	78.0	61.0	42.0	10.0	7.0
31/08/2004	2,347		9.45	128	35	42	8	12	18	3.7	12.4	1	2	94	8.60	0.17	0.10	0.60	21,500	340	10.0	0.10	6.36	6.037		91.9	112.0	77.0	60.0	40.0	10.0	7.0
31/08/2004	2,347	49	9.30	88	27	20	4	8	11	4.2	12.5	1	2	94	9.40	0.80	0.15	0.75	22,500	960	11.0	0.10	5.17	4.859		93	74.0	47.0	36.0	23.0	6.0	4.0
01/09/2004	2,411	57	9.35	96	31	29	6	10	17	3.9	12.9	1	2	94	7.50			2.30	23,000	2,800	12.0	0.10	5.84	5.86		92.3	91.0	60.0	47.0	31.0	7.0	5.0
01/09/2004	2,441	59	9.40	135	41	51	8	14	17	3.2	11.4	1	2	94	8.90	0.35	0.27	0.78	22,000	740	10.5	0.10	6.22	6.17		92	133.0	92.0	74.0	51.0	11.0	8.0

Operator	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology					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						
01/09/2004	2,507	62	9.30	140	44	55	8	12		3.5	11.8	1	2	94	8.70	0.26	0.09	0.83	20,500	820	9.5	0.20	5.52	5.42		92.8	143.0	99.0	80.0	54.0	11.0	8.0
01/09/2004	2,588	62	9.25	145	44	56	8	12	15	4.1	12.7	1	2	94	9.30	0.60	0.35	1.30	22,000	720	10.0	0.25	5	4.869		93.2	144.0	100.0	80.0	54.0	11.0	8.0
02/09/2004	2,775	66	9.35	190	65	75	9	14	17	3.5	12.0	1	2	94	9.00	0.60	0.30	1.40	21,000	720	10.0	0.10	5.79	5.612		92.5	205.0	140.0	112.0	74.0	13.0	8.0
02/09/2004	2,843	68	9.40	195	59	66	9	14	17	3.4	11.6	1	2	94	9.00	0.80	0.55	1.85	19,500	400	9.5	0.20	6.21	5.959		92.2	184.0	125.0	99.0	67.0	12.0	8.0
02/09/2004	2,986	68	9.35	152	61	61	8	13		3.9	12.2	1	2	94	8.90	0.50	0.38	1.90	20,000	460	10.5	0.15	5.87	5.689		92.5	183.0	122.0	96.0	64.0	12.0	8.0
02/09/2004	3,026	70	9.40	146	53	54	8	12	15	4.0	12.6	1	2	94	9.00	0.70	0.35	1.80	21,000	440	10.0	0.20	6.2	6.046		92.1	160.0	107.0	84.0	55.0	10.0	7.0
03/09/2004	3,122	72	9.40	110	52	50	8	11	14	3.8	12.5	1	2	94	8.70	0.40	0.35	1.40	21,000	360	9.0	0.25	6.2	6.046		92.1	154.0	102.0	81.0	53.0	10.0	7.0
03/09/2004	3,214	72	9.40	100	54	51	8	12	15	3.3	11.8	1	2	94	8.80	0.50	0.45	1.65	20,500	480	9.5	0.10	6.34	6.286		92	159.0	105.0	84.0	54.0	11.0	8.0
03/09/2004	3,332	70	9.40	106	50	53	8	13	16	3.7	12.4	1	2	94	8.90	0.55	0.47	1.93	21,000	340	9.5	0.15	6.3	6.248		92	153.0	103.0	82.0	54.0	11.0	7.0
03/09/2004	3,417	72	9.45	120	51	49	8	13	17	3.3	12.1	1	2	94	8.80	0.65	0.30	1.90	21,000	640	8.5	0.15	6.71	6.681		91.6	151.0	100.0	76.0	51.0	10.0	7.0
04/09/2004	3,475	74	9.35	102	53	49	8	13	15	3.4	12.2	1	2	94	9.00	1.20	0.15	1.80	22,000	500	9.0	0.10	5.82	5.736		92.4	155.0	102.0	79.0	52.0	10.0	7.0
04/09/2004	3,494	74	9.45	106	57	35	7	11	14	3.2	11.8	1	2	94	9.10	0.65	0.23	1.25	20,500	340	9.5	0.10	6.44	6.114		91.9	149.0	92.0	75.0	47.0	9.0	6.0
04/09/2004	3,497		9.35	120	50	44	7	12	13	3.4	12.0	1	2	94	9.00	1.10	0.25	1.65	21,000	420	9.5	0.10	5.89	5.814		92.4	144.0	94.0	73.0	48.0	9.0	6.0
05/09/2004	3,497	74	9.45	98	52	43	7	11	13	3.1	11.8	1	2	94	8.90	0.50	0.17	1.85	21,000	340	9.5	0.10	6.2	5.671		92.1	147.0	95.0	75.0	49.0	9.0	7.0
05/09/2004	3,497		9.35	167	46	39	7	10	12	3.3	12.1	1	2	94	9.00	0.75	0.20	1.55	21,000	380	9.5	0.10	5.89	5.814		92.4	131.0	85.0	66.0	43.0	9.0	7.0
06/09/2004	3,497		9.40	173	39	31	6	9	11	3.0	11.2	1	2	94	9.00	0.80	0.22	0.93	20,000	380	10.0	0.10	6.07	5.719		92.3	109.0	70.0	54.0	34.0	8.0	6.0
06/09/2004	3,497		9.40	172	38	34	6	10	12	3.2	11.4	1	2	94	9.00	0.75	0.20	0.88	20,500	380	10.0	0.10	6.14	5.882		92.2	110.0	72.0	55.0	34.0	8.0	6.0
07/09/2004	3,497		9.40	177	38	36	7	11	14	3.1	11.4	1	2	94	8.90	0.68	0.18	0.80	20,500	400	10.0	0.10	6.24	6.084		92.1	112.0	74.0	57.0	36.0	8.0	6.0
07/09/2004	3,497		9.40	172	36	34	6	9	11	3.4	11.6	1	2	94	9.00	0.74	0.17	0.95	20,500	360	10.0	0.10	6.24	6.084		92.1	106.0	70.0	52.0	33.0	7.0	5.0
08/09/2004	3,497		9.40	175	35	37	6	9	12	3.5	11.6	1	2	94	9.00	0.70	0.15	0.85	20,500	380	10.0	0.10	6.34	6.286		92	107.0	72.0	55.0	35.0	7.0	6.0
08/09/2004	3,497		9.40	171	35	36	6	9	11	3.4	11.6	1	2	94	9.00	0.70	0.17	0.90	20,500	380	10.0	0.10	6.34	6.286		92	106.0	71.0	53.0	33.0	7.0	6.0
09/09/2004	3,497		9.40	156	34	30	4	7	10	3.2	11.2	1	2	94	8.90	0.62	0.14	0.88	20,000	420	10.0	0.10	6.28	6.123		92.1	98.0	64.0	50.0	34.0	6.0	3.0
09/09/2004	3,497	53	9.40	198	48	43	7	12	14	3.3	11.2	1	2	94	9.00	0.92	0.15	1.28	20,500	400	10.0	0.10	6.34	6.286		92	139.0	91.0	70.0	46.0	9.0	7.0
10/09/2004	3,497		9.45	238	50	42	7	11	13	3.0	12.0	1	2	94	8.80	0.33	0.08	0.87	20,500	420	9.5	0.05	6.34	5.912		92	142.0	92.0	71.0	47.0	9.0	6.0
10/09/2004	3,497		9.45	265	47	39	6	10	12	3.2	11.8	1	2	94	9.00	0.75	0.12	1.05	20,500	400	9.5	0.10	6.34	5.912		92	133.0	86.0	66.0	42.0	9.0	6.0
11/09/2004	3,497	62	9.40	108	44	33	5	7	9	3.3	12.0	1	2	94	8.90	0.45	0.17	1.70	19,500	480	9.0	0.15	6.31	6.161		92.1	121.0	77.0	59.0	38.0	7.0	5.0
11/09/2004	3,497		9.40	114	44	28	5	8	10	3.4	12.2	1	2	94	9.00	0.82	0.20	2.10	20,000	440	9.0	0.10	6.38	6.325		92	116.0	72.0	54.0	35.0	6.0	4.0
12/09/2004	3,497		9.45	128	45	30	6	6	11	3.5	12.4	1	2	94	8.90	0.63	0.13	1.80	20,000	460	9.0	0.10	6.48	6.152		91.9	120.0	75.0	57.0	37.0	7.0	5.0
12/09/2004	3,497	47	9.40	130	39	30	5	7	10	3.4	12.2	1	2	94	8.90	0.76	0.15	1.75	20,000	440	9.0	0.10	6.38	6.325		92	108.0	69.0	53.0	34.0	6.0	4.0

Operator	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology					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						
13/09/2004	3,497	54	9.45	133	42	32	6	9	11	3.5	12.4	1	2	94	8.90	0.65	0.15	1.90	20,000	440	9.0	0.10	6.38	5.95		92	116.0	74.0	55.0	35.0	6.0	4.0
13/09/2004	3,499		9.50	78	23	13	4	12	13	4.4		1		94	9.00	0.75	0.17	1.80	20,000	460	9.0	0.10	6.78	6.383		91.6	59.0	36.0	28.0	17.0	4.0	2.0
14/09/2004	3,499	49	9.45	75	22	14	4	12	13	4.6		1		94	8.90	0.70	0.15	1.80	20,000	460	9.0	0.10	6.38	5.95		92	58.0	36.0	27.0	17.0	4.0	2.0
15/09/2004	3,499		8.90	26															100,550							96						
16/09/2004	3,499		8.90	26															100,500							96						

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig Name	**Ensco 102**
Unit System	**Esso**

Fluid Program Exception Report

Report No	Date	Time	Depth m	Property Name	Unit System	Actual Value	Exception	Program Min	Program Max
009A	16/08/2004	5:30	1,017	Density	ppg	8.65	Low	8.70	9.40
009A	16/08/2004	5:30	1,017	Yield Point	lbs/100 ft2	89	High	25	35
009A	16/08/2004	18:00	1,059	Yield Point	lbs/100 ft2	48	High	25	35
010A	17/08/2004	3:15	1,259	Yield Point	lbs/100 ft2	44	High	25	35
010A	17/08/2004	11:00	1,412	Yield Point	lbs/100 ft2	37	High	25	35
010A	17/08/2004	15:00	1,505	Yield Point	lbs/100 ft2	43	High	25	35
010A	17/08/2004	19:15	1,565	Yield Point	lbs/100 ft2	40	High	25	35
011A	18/08/2004	11:00	1,593	pH	-	8.40	Low	8.50	9.50
011A	18/08/2004	18:00	1,593	Density	ppg	9.50	High	8.70	9.40
011A	18/08/2004	18:00	1,593	Yield Point	lbs/100 ft2	38	High	25	35
012A	19/08/2004	4:30	1,701	pH	-	8.40	Low	8.50	9.50
012A	19/08/2004	4:30	1,701	Density	ppg	9.50	High	8.70	9.40
012A	19/08/2004	4:30	1,701	Yield Point	lbs/100 ft2	46	High	25	35
012A	19/08/2004	10:30	1,787	pH	-	8.40	Low	8.50	9.50
012A	19/08/2004	10:30	1,787	Yield Point	lbs/100 ft2	40	High	25	35
012A	19/08/2004	14:00	1,843	Yield Point	lbs/100 ft2	41	High	25	35
012A	19/08/2004	18:15	1,875	Density	ppg	9.45	High	8.70	9.40
013A	20/08/2004	4:30	2,019	Density	ppg	9.45	High	8.70	9.40
013A	20/08/2004	10:00	2,076	pH	-	8.40	Low	8.50	9.50
013A	20/08/2004	10:00	2,076	Density	ppg	9.50	High	8.70	9.40
013A	20/08/2004	10:00	2,076	Yield Point	lbs/100 ft2	38	High	25	35
013A	20/08/2004	15:00	2,105	pH	-	8.30	Low	8.50	9.50
013A	20/08/2004	15:00	2,105	Density	ppg	9.50	High	8.70	9.40
013A	20/08/2004	15:00	2,105	Yield Point	lbs/100 ft2	42	High	25	35
013A	20/08/2004	19:00	2,135	pH	-	8.30	Low	8.50	9.50
013A	20/08/2004	19:00	2,135	Density	ppg	9.50	High	8.70	9.40
014A	21/08/2004	19:00	2,216	pH	-	8.30	Low	8.50	9.50
014A	21/08/2004	15:00	2,216	pH	-	8.40	Low	8.50	9.50
014A	21/08/2004	15:00	2,216	Density	ppg	9.55	High	8.70	9.40
014A	21/08/2004	19:00	2,216	Density	ppg	9.55	High	8.70	9.40

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig Name	**Ensco 102**
Unit System	**Esso**

Fluid Program Exception Report

Report No	Date	Time	Depth m	Property Name	Unit System	Actual Value	Exception	Program Min	Program Max
014A	21/08/2004	19:00	2,216	Yield Point	lbs/100 ft2	36	High	25	35
014A	21/08/2004	15:00	2,216	Yield Point	lbs/100 ft2	43	High	25	35
015A	22/08/2004	4:45	2,216	pH	-	8.40	Low	8.50	9.50
015A	22/08/2004	15:00	2,216	pH	-	8.40	Low	8.50	9.50
015A	22/08/2004	15:00	2,216	Density	ppg	9.55	High	8.70	9.40
015A	22/08/2004	4:45	2,216	Density	ppg	9.60	High	8.70	9.40
015A	22/08/2004	15:00	2,216	Yield Point	lbs/100 ft2	36	High	25	35
015A	22/08/2004	21:00	2,234	pH	-	8.30	Low	8.50	9.50
015A	22/08/2004	21:00	2,234	Density	ppg	9.65	High	8.70	9.40
015A	22/08/2004	21:00	2,234	Yield Point	lbs/100 ft2	42	High	25	35
016A	23/08/2004	4:00	2,234	pH	-	8.30	Low	8.50	9.50
016A	23/08/2004	22:00	2,234	pH	-	8.40	Low	8.50	9.50
016A	23/08/2004	13:00	2,234	Density	ppg	9.50	High	8.70	9.40
016A	23/08/2004	22:00	2,234	Density	ppg	9.50	High	8.70	9.40
016A	23/08/2004	4:00	2,234	Density	ppg	9.60	High	8.70	9.40
016A	23/08/2004	4:00	2,234	Yield Point	lbs/100 ft2	36	High	25	35
016A	23/08/2004	13:00	2,234	Yield Point	lbs/100 ft2	36	High	25	35
016A	23/08/2004	22:00	2,234	Yield Point	lbs/100 ft2	41	High	25	35
017A	24/08/2004	4:30	2,234	Density	ppg	9.50	High	8.70	9.40
017A	24/08/2004	4:30	2,234	Yield Point	lbs/100 ft2	41	High	25	35
017A	24/08/2004	9:30	2,234	Yield Point	lbs/100 ft2	49	High	25	35
018A	25/08/2004	19:15	2,234	pH	-	8.10	Low	8.50	9.50
018A	25/08/2004	3:00	2,234	pH	-	8.40	Low	8.50	9.50
018A	25/08/2004	14:00	2,234	Yield Point	lbs/100 ft2	48	High	25	35
018A	25/08/2004	19:15	2,234	Yield Point	lbs/100 ft2	53	High	25	35
019A	26/08/2004	3:00	2,234	Yield Point	lbs/100 ft2	45	High	25	35
019A	26/08/2004	9:00	2,282	Yield Point	lbs/100 ft2	49	High	25	35
019A	26/08/2004	13:30	2,327	Yield Point	lbs/100 ft2	50	High	25	35
019A	26/08/2004	22:00	2,347	Yield Point	lbs/100 ft2	46	High	25	35
020A	27/08/2004	20:15	2,347	Yield Point	lbs/100 ft2	40	High	25	35

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig Name	**Ensco 102**
Unit System	**Esso**

Fluid Program Exception Report

Report No	Date	Time	Depth m	Property Name	Unit System	Actual Value	Exception	Program Min	Program Max
020A	27/08/2004	9:00	2,347	Yield Point	lbs/100 ft2	48	High	25	35
021A	28/08/2004	4:00	2,347	Yield Point	lbs/100 ft2	45	High	25	35
021A	28/08/2004	10:00	2,347	Yield Point	lbs/100 ft2	47	High	25	35
022A	29/08/2004	21:00	2,347	Yield Point	lbs/100 ft2	45	High	25	35
022A	29/08/2004	9:00	2,347	Yield Point	lbs/100 ft2	42	High	25	35
023A	30/08/2004	15:45	2,347	Density	ppg	9.45	High	8.70	9.40
023A	30/08/2004	22:00	2,347	Density	ppg	9.45	High	8.70	9.40
023A	30/08/2004	22:00	2,347	Yield Point	lbs/100 ft2	41	High	25	35
023A	30/08/2004	15:45	2,347	Yield Point	lbs/100 ft2	43	High	25	35
024A	31/08/2004	20:00	2,347	Yield Point	lbs/100 ft2	20	Low	25	35
024A	31/08/2004	8:00	2,347	Density	ppg	9.45	High	8.70	9.40
024A	31/08/2004	8:00	2,347	Yield Point	lbs/100 ft2	42	High	25	35
025A	01/09/2004	3:30	2,411	pH	-	7.50	Low	8.50	9.50
025A	01/09/2004	7:00	2,441	Yield Point	lbs/100 ft2	51	High	20	30
025A	01/09/2004	14:15	2,507	Yield Point	lbs/100 ft2	55	High	20	30
025A	01/09/2004	19:45	2,588	Yield Point	lbs/100 ft2	56	High	20	30
026A	02/09/2004	3:30	2,775	Yield Point	lbs/100 ft2	75	High	20	30
026A	02/09/2004	7:30	2,843	Yield Point	lbs/100 ft2	66	High	20	30
026A	02/09/2004	15:30	2,986	Yield Point	lbs/100 ft2	61	High	20	30
026A	02/09/2004	19:30	3,026	Yield Point	lbs/100 ft2	54	High	20	30
027A	03/09/2004	2:00	3,122	Yield Point	lbs/100 ft2	50	High	20	30
027A	03/09/2004	7:15	3,214	Yield Point	lbs/100 ft2	51	High	20	30
027A	03/09/2004	15:30	3,332	Yield Point	lbs/100 ft2	53	High	20	30
027A	03/09/2004	19:45	3,417	Density	ppg	9.45	High	9.10	9.40
027A	03/09/2004	19:45	3,417	Yield Point	lbs/100 ft2	49	High	20	30
028A	04/09/2004	4:30	3,475	Yield Point	lbs/100 ft2	49	High	20	30
028A	04/09/2004	10:15	3,494	Density	ppg	9.45	High	9.10	9.40
028A	04/09/2004	10:15	3,494	Yield Point	lbs/100 ft2	35	High	20	30
028A	04/09/2004	19:30	3,497	Yield Point	lbs/100 ft2	44	High	20	30
029A	05/09/2004	6:00	3,497	Density	ppg	9.45	High	9.10	9.40

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig Name	**Ensco 102**
Unit System	**Esso**

Fluid Program Exception Report

Report No	Date	Time	Depth m	Property Name	Unit System	Actual Value	Exception	Program Min	Program Max
029A	05/09/2004	18:50	3,497	Yield Point	lbs/100 ft2	39	High	20	30
029A	05/09/2004	6:00	3,497	Yield Point	lbs/100 ft2	43	High	20	30
030A	06/09/2004	15:15	3,497	Yield Point	lbs/100 ft2	31	High	20	30
030A	06/09/2004	20:45	3,497	Yield Point	lbs/100 ft2	34	High	20	30
031A	07/09/2004	10:30	3,497	Yield Point	lbs/100 ft2	36	High	20	30
031A	07/09/2004	21:15	3,497	Yield Point	lbs/100 ft2	34	High	20	30
032A	08/09/2004	9:00	3,497	Yield Point	lbs/100 ft2	37	High	20	30
032A	08/09/2004	20:45	3,497	Yield Point	lbs/100 ft2	36	High	20	30
033A	09/09/2004	20:30	3,497	Yield Point	lbs/100 ft2	43	High	20	30
034A	10/09/2004	11:00	3,497	Density	ppg	9.45	High	9.10	9.40
034A	10/09/2004	11:00	3,497	Yield Point	lbs/100 ft2	42	High	20	30
034A	10/09/2004	22:00	3,497	Density	ppg	9.45	High	9.10	9.40
034A	10/09/2004	22:00	3,497	Yield Point	lbs/100 ft2	39	High	20	30
035A	11/09/2004	12:00	3,497	Yield Point	lbs/100 ft2	33	High	20	30
036A	12/09/2004	10:00	3,497	Density	ppg	9.45	High	9.10	9.40
037A	13/09/2004	3:45	3,497	Density	ppg	9.45	High	9.10	9.40
037A	13/09/2004	3:45	3,497	Yield Point	lbs/100 ft2	32	High	20	30
037A	13/09/2004	22:30	3,499	Density	ppg	9.50	High	9.10	9.40
037A	13/09/2004	22:30	3,499	Yield Point	lbs/100 ft2	13	Low	20	30
038A	14/09/2004	20:00	3,499	Density	ppg	9.45	High	9.10	9.40
038A	14/09/2004	20:00	3,499	Yield Point	lbs/100 ft2	14	Low	20	30
039A	15/09/2004	20:15	3,499	Density	ppg	8.90	Low	9.10	9.40
040A	16/09/2004	20:00	3,499	Density	ppg	8.90	Low	9.10	9.40

Operations Log Recap

Well Name	**Yolla-3**
Operator	**Origin Energy Resources Ltd**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

For Report # 001A On 08/08/2004	**Operation at Depth 215 m**
Rig Activity	Commenced operations on Yolla-3 at 12:30 hrs on August 8, 2004 when skidded over from Yolla-4. Waiting on weather.
Activity	Wait on Weather
Fluid Treatment	Daily New Volume : 3400 bbls Total New Volume : 3400 bbls Prepared an initial total of 3400 bbls of mud prior to commencing operations on Yolla-4. This initial volume consisted of 2791 bbls of pre-hydrated bentonite plus 427 bbls of seawater diluted pre-hydrated bentonite which will be flocculated with lime and additional caustic soda prior to use. To balance today's costs, charged 1 Engineering day to Yolla-4 and 1 day to Yolla-3.
For Report # 002A On 09/08/2004	**Operation at Depth 215 m**
Rig Activity	Continued waiting on weather.
Activity	Wait on Weather
Fluid Treatment	Daily New Volume : 0 bbls Total New Volume : 3400 bbls Straightened up sack storage room in readiness for bringing onboard additional mud chemicals and cement additives. Commenced rigging up centrifuge. Note that 20" conductor drive pipe already in place at 215 m.
For Report # 003A On 10/08/2004	**Operation at Depth 215 m**
Rig Activity	Continued waiting on weather. Pick up and make up 16" BHA.
Activity	M/U 16" BHA
Fluid Treatment	Daily New Volume : 0 bbls Total New Volume : 3400 bbls Continued to rig up centrifuge. Seawater analysis: TH=2100, Ca=500, Mg=1600
For Report # 004A On 11/08/2004	**Operation at Depth 817 m**
Rig Activity	Completed making up 16" BHA. Ran in hole and spudded Yolla-3 at 03:00 when commenced cleaning out 20" drive pipe conductor from seabed at 124.8 m RKB. Drilled 16" hole to 817 metres, pumping hi-vis sweeps every single and stand down as required.
Activity	Drilling
Fluid Treatment	Daily New Volume : 677.4 bbls Total New Volume : 4077.4 bbls Pumped 50 bbl hi-vis prehydrated bentonite sweeps to spot around BHA on

	connections. Programmed 30 bbl seawater diluted bentonite, lime flocculated sweeps every single were not pumped until well below conductor (360 m) to conserve bentonite stocks. Weather conditions did not allow boat with bentonite to come alongside. Used sack bentonite to mix 300 bbls additional mud. Prepared 218 bbls of 6% KCl inhibited hi-vis pre-hydrated bentonite in Pit #11. Shoveled and vacuumed KCl as winds too high to use crane for deck hopper.
For Report # 005A On 12/08/2004	**Operation at Depth 1012 m**
Rig Activity	Continued drilling 16" hole from 817 m to section TD at 1012 m. Swept hole and displaced to mud prior to making wiper trip to the 20" shoe. Made wiper trip to 188 m (inside 20" shoe) and waited on weather for 5 hours. Ran back in hole to bottom. Broke circulation with seawater and swept hole clean with a 50 bbl hi-vis sweep. Displaced well to mud, spotting inhibited 6% KCl/Gel mud on bottom. POOH for casing run.
Activity	Tripping
Fluid Treatment	Daily New Volume : 92.3 bbls Total New Volume : 4169.7 bbls Continued mixing seawater/bentonite hi-vis sweeps flocculated with lime and caustic, pumping 30 bbls per single drilled. Pumped 50 bbl pre-hydrated bentonite hi-vis sweeps on connections. At TD, swept hole with 100 bbls flocculated sweep, followed by 135% of open hole volume of pre-hydrated bentonite, including 90 bbls with 6% KCl spotted on bottom. Displaced pill with hi-vis bentonite. After wiper trip, repeated displacement as above with 150% open hole volume.
For Report # 006A On 13/08/2004	**Operation at Depth 1012 m**
Rig Activity	Continued pulling out of the hole. Racked back BHA. Rigged up to run 13 3/8" casing. RIH with casing to 1006.8 m MD. Tested Chlorides of Drillwater and Seawater for cementing Drillwater : 750 mg/l Seawater : 20,000 mg/l
Activity	Running 13 3/8" casing/WOW
Fluid Treatment	Daily New Volume : 88 bbls Total New Volume : 4257.7 bbls (16" Hole) Consolidated pre-hydrated gel mud into pit #5 for use in next section. Diluted back to increase volume for contingency purposes. Cleaned pits #6 and #8 and flushed mixing lines for cement job. Flushed clean available reserve pits in preparation for mixing polymer mud. Filled every 6th joint of 13 3/8" casing with sewater diluted, lime flocculated pre-hydrated bentonite from consolidated salvaged fluid in Pit #7.

For Report	**# 007A**	**On**	**14/08/2004**	**Operation at Depth**	**1012 m**
Rig Activity				Circulated125% casing volume and then carried out first stage cement job with 13 3/8" shoe at 1006.8 m. Circulated at 3 bpm while waiting on cement. Carried out second stage cement job. Waited on cement. Nippling up B.O.P.'s.	
Activity				Nipple up B.O.P.	
Fluid Treatment				All cement displaced with seawater. Commenced mixing Seawater/Drispac/Soltex mud for next interval. Will not charge off chemical use or account for volumes until casing is drilled out. At present, have insufficient bentonite onboard to prepare mud as per program. Utilized the dregs of the various sweeps and displacement fluids used in the 16" hole interval, supplemented with the sack bentonite which was not required for the cement job. Retained 85 bbls of seawater diluted, lime flocculated pre-hydrated bentonite to use for sweeps when drilling out the casing. BARACOR-129 and Calcium Chloride used on 2nd stage cement job.	
For Report	**# 008A**	**On**	**15/08/2004**	**Operation at Depth**	**1012 m**
Rig Activity				Completed nippling up BOP's. Pressure tested same plus lines and equipment. Laid out motor and MWD from 16" interval, RIH with clean out assembly, drill out stage collar and plugs. Pump 30 bbl Hi-Vis Sweep and continue to RIH.	
Activity				RIH with clean out assembly	
Fluid Treatment				Continued to mix mud for the 12 1/4" section. Will charge off at commencement of 12 1/4" interval. Centrifuge and pump spotted, and will be wired up. Bentonite received from Invincible Tide as per inventory. New shaker screens arrived but not yet checked.	
For Report	**# 009A**	**On**	**16/08/2004**	**Operation at Depth**	**1205 m**
Rig Activity				Continued running in hole. Drilled out shoetrack, cleaned rat hole and drilled 5 m new formation to 1217 m. Circulated and carried out an FIT to an EMW of 10.5 ppg. Pumped slug and pulled out of hole. Made up drilling assembly and RIH to TD. Started to drill.	
Activity				Drilling	
Fluid Treatment				Daily New Volume : 2599.1 bbls (12 1/4" Interval) Total New Volume : 2599.1 bbls (12 1/4" Interval) Salvaged Volume :243 bbls of Hi-Vis Bentonite Sweep into new mud. Dumped 20 bbls of seawater bentonite spacer overboard. Mixed pre-hydrated bentonite and additional new mud.	
For Report	**# 010A**	**On**	**17/08/2004**	**Operation at Depth**	**1593 m**
Rig Activity				Continued to drill the 12.25" section, faulty MWD tool, circulate bottoms up and POOH	

Activity	Drilling
Fluid Treatment	Maintaining volume and properties via additions of premix to the active. In response to increasing MBT values caused by dispersing clays, treated active system with additional Drispac SL, increased dilution rate and will discontinue prehydrated bentonite additions to future premixes. Running solids control equipment to maintain weight as follows: Mud cleaner: mw in 9.2, mw u-flow 9.4 @ 20 psi Centrifuge: mw in 9.2, mw out 9.0 @ 100 gpm and 2750 rpm. Changing to finer shaker screens as flow and cuttings volume permits.
For Report # 011A On 18/08/2004	**Operation at Depth 1642 m**
Rig Activity	POOH, tight hole from 1265-1235m, back ream at 1212m, tight, pump out. Back ream from 1212 to 1006m, POOH from 1006 to 190m. POOH , check bit and swap out MWD. RIH to 1267m, ream from 1267 to 1294m, RIH, break circulation with 600 gpm. Start drilling, gas units peak at 4300. Gas cut mud noticed. At 19:20 MW: 9.6ppg with pressurized mud balance 8.6 ppg with un-pressurized mud balance
Activity	Drilling
Fluid Treatment	Treated the active system with Drispac R to increase the concentration to 1.5 lb/bbl. Continued treating the active with caustic to maintain pH. Dumped and cleaned sand trap on trip. Used: 5x 230, 1x 180, 1x 150 screens, 1x 265 mesh screens Mud Cleaner: mw in 9.6, mw u-flow 9.7 @ 35 psi Centrifuge: mw in 9.6, mw out 9.2 @ 100 gpm and 2750 rpm
For Report # 012A On 19/08/2004	**Operation at Depth 1961 m**
Rig Activity	Continued to drill the 12.25" section
Activity	Drilling
Fluid Treatment	Maintaining volume and properties via additions of premix to the active. Continue regular additions of Drispac R, caustic soda and ammonium bisulphate to active to maintain product concentrations. Blending reserve, ex-active mud with new premix to lower weight for use as dilution volume. Centrifuge: MW in 9.5, MW out 9.2 @ 2750rpm and 150gpm. Used 10x 230 mesh screen
For Report # 013A On 20/08/2004	**Operation at Depth 2135 m**
Rig Activity	Continued to drill the 12.25" section
Activity	Drilling

Fluid Treatment	Added Drispac R and Drispac SL as well as caustic to maintain product concentrations in the active system. Continued to add premix to control mud weight, LGS and MBT. Centrifuge: mw in 9.5, mw out 9.2 @ 100 gpm and 2750 rpm Desilter: mw in 9.5, mw under: 9.55 Used 7 * 230 mesh screens
For Report # 014A On 21/08/2004	**Operation at Depth 2216 m**
Rig Activity	Drill from 2178 to 2216m, circulate hole clean, POOH to 1505m. Work tight spots from 1505 to 1463m, attempt to pump out of hole with 380gpm, hole packoff, start rotating and backream from 1463 to 1439m. Continue to try to POOH with no circulating, no success. Rotate and work pipe to regain circulation, backream from 1439 to 1390m. Backream all the way to the shoe, packing off occurring throughout the section. Once at the shoe, circulate until shakers are clean (3 * bottoms up), pump slug and POOH.
Activity	Trip for core bbl
Fluid Treatment	Continued to control mud weight, LGS and MBT with additions of premix to the active. Continued caustic additions to the active to maintain pH. Centrifuge: MW in 9.5, MW out 9.2 @ 100gpm and 2750rpm
For Report # 015A On 22/08/2004	**Operation at Depth 2234 m**
Rig Activity	Continue to POOH to surface, download MWD and make up core assy and RIH. Core from 2216 to 2234m. Drop ball, ball does not seat, drop another ball, no success. Break off core and pull up to 2216m. Circulate bottoms up.
Activity	POOH
Fluid Treatment	Continued treating active with Drispac R and Drispac SL. Used caustic to maintain pH. Bled in premix to control weight and MBT. Centrifuge: MW in 9.6ppg, MW out 9.25ppg @ 100gpm and 2750rpm Used 4x 200 mesh new screens.
For Report # 016A On 23/08/2004	**Operation at Depth 2234 m**
Rig Activity	Continue to circulate hole clean, flow check (ok), pump slug and POOH to 1146m, tight hole, pump out of hole to 998m, flow check (ok), pump slug and POOH to surface. No core assembly, make up fishing assembly, RIH to 1061m, wash and ream from 1061m to 1096m. Tight spots @ 1061m, 1067m, 1071m.
Activity	Coring
Fluid Treatment	Adding premix to the active to reduce the mud weight. Mixing additional premix and BAROLIFT sweeps.
For Report # 017A On 24/08/2004	**Operation at Depth 2234 m**

Rig Activity	Continue washing from 1096m to 1400m. TIH from 1400m to 2198m. Circulate bottoms up, tag and engage fish, POOH with fish on DP to surface.
Activity	Fishing
For Report # 018A On 25/08/2004	**Operation at Depth 2234 m**
Rig Activity	Break down core assembly and fishing assembly. Make up BHA and RIH to shoe, ream from 1032 - 1613m. Tight @ 1255, 1516m, 1558m. Pump 30bbl BAROLIFT sweep at 1293m. Pump 60 bbl BAROLIFT sweep at 1616m @ 880 gpm and 80rpm Centrifuge: MW in 9.4, MW under 9.2 @ 100gpm and 2750 rpm
Activity	Drilling
Fluid Treatment	Adding PHPA to the active system. Reduced mud weight, MBT and LGS through dilution of the active system with premix. Adding caustic to increase pH, adding ammonium bisulphite to increase sulfite residual. Increased concentration of BAROLIFT in sweeps from 0.2 to 0.3 lb/bbl. Note: The majority of cuttings brought up by BAROLIFT sweeps were fine particles located between the BAROLIFT fibre. Used 3x 200 mesh new screens.
For Report # 019A On 26/08/2004	**Operation at Depth 2347 m**
Rig Activity	Open up coring rat hole form 2216 to 2234m. Pump 60 bbl BAROLIFT sweep and circulate hole clean, rotate and reciprocate pipe. Drill and Slide from 2234 to 2347m, pump 60 bbl BAROLIFT sweep and circulate b/up and then POOH.
Activity	Drilling
Fluid Treatment	Good returns were noticed with the BAROLIFT sweep pumped at TD, sweep time indicated gauge hole. Treated active with BARACIDE, caustic and ammonium bisulphite prior to logging. Desilter MW in 9.4, underflow 9.7ppg @ 30psi. Centrifuge: MW in 9.4, MW out 9.0 ppg, MW overboard 13.9 @ 90gpm and 2750 rpm Used 4x 265 mesh screens
For Report # 020A On 27/08/2004	**Operation at Depth 2347 m**
Rig Activity	Continue POOH with BHA from 85 to 26m. Download MWD and retrieve mud probe. Finish POOH, R/U schlumberger wirleline, m/u Triple combo (HRLA,CMR,SP) Schlumberger, RIH with triple combo to 1200m, have resistance. POOH to 1134m, tools stuck, slb work wireline in an attempt to free tools. Slack off line and confirm maximum pull with town, pull wireline to full tension, tools free, POOH with wireline. Lay down logging tools and rig down wireline equipment. Lay down directional BHA and

	makeup cleanout assembly. TIH with BHA to 1040m, wash and ream from 1040 to 1459m, no resistance.
Activity	Reaming
Fluid Treatment	Continued maintaining the mud weight through dilultion with premix. Added caustic to the active to maintain pH, added ammonium bisulphite to maintain residual sulfides. Used 4x 200 mesh new screens
For Report # 021A On 28/08/2004	**Operation at Depth 2347 m**
Rig Activity	Continue wash and ream from 1459 to 1633m, pump 60 bbl BAROLIFT pill and circulate hole clean. Continue TIH to 1678m - resistance, wash and ream from 1678 - 1691m, cont TIH to 1779m - resistance, wash and ream from 1779 to 1800m and from 1817m to 1835m, cont TIH from 1835-2262m, cont wash and ream from 2262m to 2347m, pump 60 bbl BAROLIFT pill and circulate hole clean. POOH and R/U schlumberger wireline equipment. RIH w/tools tagging @ 1123m. Work down to 1172m, POOH with wireline to 200m.
Activity	Logging
Fluid Treatment	Controlled mud weight through dilution. Mixed more premix. Added caustic to maintain pH and ammonium bisulphite to maintain residual sulfides.
For Report # 022A On 29/08/2004	**Operation at Depth 2347 m**
Rig Activity	Cont POOH with wireline tools to surface, rearrange tool string and RIH to 1147m - resistance, work string to pass restriction - no success. POOH with wireline. Prepare to run casing and then start running casing.
Activity	Run 9-5/8" casing
Fluid Treatment	Used 8x 200 mesh new screens.
For Report # 023A On 30/08/2004	**Operation at Depth 2347 m**
Rig Activity	Continued running casing, set at 2340m. Cemented in place and pressure tested. Prepare to drill for the next interval.
Activity	Testing B.O.P.
Fluid Treatment	Mixing additional premix for the 8.5" section.
For Report # 024A On 31/08/2004	**Operation at Depth 2360 m**
Rig Activity	Pressure tested BOP's and surface equipment. Laid out old BHA. Made up 8 1/2" bit, motor, MWD and BHA. RIH and started to drill out cement. Performed FIT to (11 ppg EMW). Started to drill. Note: AQUAGEL GOLD SEAL charged off for cementing

	Removed damaged screens from shakers. Scrapped those that were unrepairable. Will patch remainder. Installed screens as below.
Activity	Drilling
Fluid Treatment	Daily New Volume : 485.4 bbls (8 1/2" Interval) Total New Volume : 485.4 bbls (8 1/2" Interval) (Salvaged from 12 1/4" interval : 567 bbls) Excess mud remaining from 12 1/4" interval showed signs of bacterial degradation. Dumped this mud from pits #3 and #4. Added 0.5 ppb PHPA to the premix in Pit #1 only. Pre-treated surface active volume with sodium bicarbonate prior to drilling cement. Started treating the active with Flowzan and PHPA (PHPA is also a viscosifier) to increase 6 rpm reading after mud test results (check 2) as well as sodium bicarbonate (for calcium).
For Report # 025A On 01/09/2004	**Operation at Depth 2692 m**
Rig Activity	Continued rotating/sliding/surveying. 8 1/2" hole. Mud Cleaner: Wt in = 9.35 ppg, Underflow Wt = 9.35 ppg @ 32 psi Centrifuge: Wt in=9.35 ppg, Centrate Wt = 9.2 ppg @ 90 gpm & 2785 psi. Sulfides=0 ppm @ 2507 m,
Activity	Drilling
Fluid Treatment	Daily New Volume : 28.1 bbls Total New Volume : 513.5 bbls Had in excess of 5% CO2 at approx. 2507 m. Added lime to treat, which increased Calcium along with the increase from drilling cement. High Calcium had detrimental effect on PHPA. Cuttings sticky. Reduced Calcium and added 0.3 ppb PHPA to the active system. All Premix already contains 0.5 ppb PHPA. Adjusted concentrations of other chemicals in premixes. Treated active to further reduce fluid loss.
For Report # 026A On 02/09/2004	**Operation at Depth 3086 m**
Rig Activity	Continued to drill 8 1/2" hole 3086 m.
Activity	Drilling
Fluid Treatment	Daily New Volume : 248.2 bbls Total New Volume : 761.7 bbls Used 8 x 200 mesh new screens Adding Soltex and Drispac SL to decrease the API fluid loss below the programmed 3ml (little success). Made steady additions of Soda Ash to attempt to reduce calcium to programmed requirement. Had elevated high end rheology, most likely due to increased evaporation. Halted premix additions and increased seawater additons at shakers in increments from 4 to 32 bph until properites dropped to a more acceptable

	level. Adjusted water as required along with chemicals required to maintain concentrations. H2S @ 2986 m 0ppm.
For Report # 027A On 03/09/2004	**Operation at Depth 3463 m**
Rig Activity	Continued to drill 8 1/2" hole to 3463 m at report time. Mixed a Heavy/Light sweep to be pumped at TD. Mixed 115 bbls of 8.9 ppg mud of light sweep and mixed 95 bbls of 11.0 ppg heavy sweep.
Activity	Drilling
Fluid Treatment	Daily New Volume : 81.3 bbls Total New Volume : 843 bbls Added caustic to maintain pH and soda ash to lower calcium hardness. Maintained volume and controlled mud weight and rheology with seawater and premix additions. Operated centrifuge and mud cleaner for 6.5 hours. Mud Cleaner: wt in = 9.45 ppg, Underflow Wt = 9.45 @ 32 psi. Centrifuge: Wt in = 9.4 ppg, Centrate Wt = 8.95 ppg, Cake Wt = 14.9 ppg, 90 gpm @ 2800 rpm. Sulfides = 0 ppm @ 3332 m.
For Report # 028A On 04/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continue to drill 8 1/2" hole to TD at 3499 m MD. Pumped a 40 bbl 8.9 ppg viscous premix sweep followed by a 60 bbl 11.0 ppg sweep. Noticeable increase in cutrtings when premix sweep returned to surface. Circulated 3 times bottoms up. Shakers clean. Made wiper trip to the 9 5/8" casing shoe at 2340 m, pumping out and work through tight spots when necessary. Wash and ream from 2340 m to 2722 m.
Activity	Tripping
Fluid Treatment	Daily New Volume : 135 bbls Total New Volume : 978 bbls Continue to treat the active system with Drispac SL and Soltex to control fluid loss at <4.0 cc. Maintained pH with Caustic Soda and Ammonium Bisulphite to maintain residual sulfides. Centrifuge: Wt In = 9.4 ppg, Centrate Wt = 8.9 ppg, Cake W t = 15.2 ppg, 80 gpm @ 2800 rpm. Pumped a 40 bbl 8.9 ppg viscous premix sweep followed by a 60 bbl 11.0 ppg sweep. Dumped the weighted sweep at surface. Mixed another 60 bbl 11.0 ppg sweep.

For Report	**# 029A**	**On**	**05/09/2004**	**Operation at Depth**	**3499 m**
Rig Activity				Circulate bottoms up at 2722 m. RIH to 3499 m and pumped a 40 bbl 8.9 ppg viscous premix sweep, followed by a 60 bbl 11.0 ppg sweep. Noticeable increase in cuttings when premix sweep returned to surface. Circulate 3 times bottoms up. Shakers clean. Pulled out of hole to log. Rigged up Schlumberger. Run logging tool to bottom with no problems. Logging, run SP, HRLA, PEX, GR, CMR, LEH and QT. Schlumberger, static bottom hole temperature 126 deg C.	
Activity				Wireline Logging	
Fluid Treatment				Daily New Volume : 1.9 bbls Total New Volume : 979.9 bbls Circulate bottoms up at 2722 m. RIH to 3499 m and pumped a 40 bbl 8.9 ppg viscous premix sweep, followed by a 60 bbl 11.0 ppg sweep. Dumped the sweeps at surface. Controlled mud weight and rheology with seawater and premix additions. Reduced surface active mud to Pit #10 only, retaining excess active mud in Pit #1, where 50 bbls of old mud from cement displacement in Pit #7 was added, plus remainder of premix from Pit #2. Retained pre-hydrated gel and slug mud. Dumped remaining mud and commenced cleaning pits.	
For Report	**# 030A**	**On**	**06/09/2004**	**Operation at Depth**	**3499 m**
Rig Activity				Continued wireline logging. Caliper log appeared good and no problems with hole.	
Activity				Wire Line logs	
Fluid Treatment				Daily New Volume : 5.7 bbls Total New Volume : 985.6 bbls Prepared slug and sweep volume for use on wiper trip so that lines on WBM side of pit system could be flushed clean. Switched Active pit from Pit #10 on WBM side of pit system to Pit #7 on OBM side to reduce chances of mud entering tanks being cleaned in preparation for mixing NaCl brine. Continued cleaning pits.	
For Report	**# 031A**	**On**	**07/09/2004**	**Operation at Depth**	**3499 m**
Rig Activity				Continued running wireline logs. Last 24 hours, lost 12 bbls of fluid to the hole while logging, 0.5 bbls per hour. Total lost since the start of logging, 38.4 bbls.	
Activity				Wire Line logs	
Fluid Treatment				Daily New Volume : 12.4 bbls Total New Volume : 998 bbls Continued cleaning pits required for mixing completion and cleanup fluids. Commenced mixing NaCl brine. Will not charge off completion products used, or volume mixed until on completion phase of well. Mixed 384 bbls of saturated NaCl Brine in pit #11, filtered the brine to 4.17 NTU and transferred 377 bbls of brine to Pit #10. Used 17 x 1.2 ton bags.	

	Start to mix 8.9 ppg NaCl brine in pit #11.
For Report # 032A On 08/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continued to run wireline logs. Run MDT log at 3149m, pull on wire line, wire line stuck. Strip over wire line with drill pipe. Mud lost while logging today was 17.7 bbls. Total lost since the start of logging is 56.1 bbls.
Activity	Stripping over wire line
Fluid Treatment	Daily New Volume : 0 bbls Total New Volume : 998 bbls Commenced mixing 8.9 ppg NaCl brine in pit #11. Filtered the brine to 6.5 NTU and transferred to Pits #3 and #4. Have a total of 808 bbls of 8.9 ppg brine in storage. Used 10 x 1.2 MT bulk bags of NaCl salt. In storage, pit #10, 377 bbls of saturated NaCl, 10.0 ppg brine. Used a total of 27 x 1.2 ton NaCl bags to date.
For Report # 033A On 09/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continued to run in hole with drill pipe, stripping over the wireline to recover MDT tool. Circulated bottoms up at the casing shoe at 2323 m. Continued to run in hole, stripping over wire line to recover MDT tool.
Activity	Stripping over wire line
Fluid Treatment	Daily New Volume : 2.8 bbls Total New Volume : 1000.8 bbls Pre-treated surface active mud prior to circulating when fishing wireline tool. Treated mud from hole as required. Mixed an additional 836 bbls of 8.9 ppg NaCl brine in pit #11. Filtered each mix and transferred to Pits #3 and #4. Used 10 x 1.2 ton bulk bags of NaCl salt. In storage Pit #3 and #4, 1238 bbls of 8.9 ppg NaCl brine and 406 bbls in pit #11of 8.9 ppg brine. Pit #10 has 377 bbls of saturated 10.0 ppg NaCl brine. Used a total of 37 x 1.2 ton NaCl bulk bags to date.
For Report # 034A On 10/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continued running in hole stripping over wire line to 2842 m. Wire line loose, broke circulation and cleaned grapple. Pulled MDT tool into the grapple. Pulled and separated wireline from MDT tool. Retrieved wire line. Commenced pulling out with MDT tool. Pulled out of hole and lay down MDT tool. Pick up 8 1/2" bit and BHA, run in the hole. Mud lost while pulling wire line 8 bbls. Lost 32 bbls of mud, pulling out of the hole wet.
Activity	Tripping

Fluid Treatment	Daily New Volume : 1.2 bbls Total New Volume : 1002.2 bbls Mixed an additional 31 bbls of 8.9 ppg NaCl brine. No more pit space available for mixing brine until some mud is dumped. Total volume of 8.9 ppg Brine in Pit #3, 4 and 11 = 1675 bbls Pit #10 has 10.0+ ppg saturated NaCl Brine = 377 bbls Used a total of 38 x 1.2 ton NaCl Bulk Bags. 5 bags remaining which is sufficient for another 350 bbls of 8.9 ppg brine.
For Report # 035A On 11/09/2004	**Operation at Depth 3499 m**
Rig Activity	Slight increase in cuttings when sweep back at surface. Pumped slug. Ran in hole to 2322 m and circulated bottoms up. Slipped and cut drilling line and serviced rig. Ran in hole to 3019 m and reamed to 3077 m. Tight at 3050 m and 3065 m. Ran in to 3188 m. Tight. Washed and reamed to 3310 m. Tight at 3250 m. Circulated out 3650 units of gas at 3316 m. Reamed to bottom at 3499 m. Pumped a 45 bbl viscous sweep followed by 3 times bottom up. Pulled out of the hole. Lost 10 bbls seepage to the formation and 18 bbls tripping. Transferred mud from pit #5 to pit #1. Dump and cleaning mud pits #5, #6, #8 and #9.
Activity	Picking up 6 5/8" liner shoe track
Fluid Treatment	Daily New Volume : 132.3 bbls Total New Volume : 1134.3 bbls Treated returning mud while circulating at the shoe and mud from open hole when gas levels permitted. Bled in light weight premix/mud and added water to maintain a 9.4 ppg mud weight. Replaced 2 damaged shaker screens with repaired screens. Centrifuge: Wt in=9.5 ppg, Centrate=9.25 ppg @ 2600 rpm. Pumped a 45 bbl previously prepared viscous sweep when on bottom.
For Report # 036A On 12/09/2004	**Operation at Depth 3499 m**
Rig Activity	Ran 6 5/8" liner to 2323 m, circulate at the casing shoe and continue running liner on 5" drill pipe to 3194 m, midnight depth.
Activity	Run casing and cement
Fluid Treatment	Daily New Volume : 0 bbls Total New Volume : 1134.3 bbls Combined reserve active mud in Pit #1. Dumped dregs of reserve mud, plus that of the viscous sweep and slug. Commenced cleaning these pits in preparation for mixing cleanup pills and additional completion fluids. Put man in pits for thorough cleaning of those pits to be used for filtered completion fluids. Mud lost running liner last 24 hours, 10.7 bbls.
For Report # 037A On 13/09/2004	**Operation at Depth 3499 m**
Rig Activity	Ran the 6 5/8" liner to 3498.2 m, circulate, max gas 70 units.

	Set liner at 3498.2 m, TVD at 3101 m. Top of liner at 2277 m, TVD at 1910m. Total cement returns, 351 bbls. Pull drill pipe out of the top of the liner and reverse circulate, dump cement returns overboard. Pulled out of the hole. Testing BOP's.
Activity	Testing B.O.P.
Fluid Treatment	Daily New Volume : 1.4 bbls Total New Volume : 1135.7 bbls Drill water in cement unit batch tank, 700 mg/l chlorides. After setting the 6 5/8" liner, transferred 400 bbls of mud to pit #5. Dump and cleaning pits #1, #2 and #7.
For Report # 038A On 14/09/2004	**Operation at Depth 3499 m**
Rig Activity	Pick up bit and BHA with razorback casing scraper and polish mill , run in the hole. Circulate, scrape casing and liner. Pressure test liner lap.
Activity	Pressure test liner lap
Fluid Treatment	Daily New Volume : 2081 bbls Total New Volume : 2081 bbls Pit #3,4 and 11 has total of 1674 bbls of 8.9 ppg filtered brine. Pit #10 has 303 bbls of sized salt pill. Pit #8 has 104 bbls of 10.0 ppg saturated filtered brine. Pit #7 has 180 bbls of Hi-Vis polymer pill. pit #2 has 177 bbls of seawater caustic pill. Pit # 9 has 51 bbls 3% CON DET and seawater pill.
For Report # 039A On 15/09/2004	**Operation at Depth 3499 m**
Rig Activity	Test casing. Jet well head with mud. Pumped 50 bbls Hi-vis and displaced hole with seawater. Dumped 1253 bbls of Seawater/Drispac/Soltex mud. Circulate two hole volumes with seawater and flush all surface equipment with seawater. Pumped clean-up sweeps and circulate with seawater. Pump and spot 50 bbls saturated brine, 200 bbls of sized salt pill, 17.5 bbls saturated brine followed with 90 bbls of seawater. POOH to 2030 m and displaced hole with 8.9 ppg NaCl brine. POOH.
Activity	Tripping
Fluid Treatment	After tagging PBR, pumped 50bbl hi-vis sweep and displaced casing with 2 x volume of seawater. Pumped clean-up sweeps as follows: 50bbls hi-vis, 50bbls CONDET, 100 bbls caustic, seawater spacer, 100 bbls BARAKLEAN FL and 50 bbls hi-vis. Sweeps displaced with seawater and circulated until 3 consecutive turbidity readings under 50 NTU obtained. Spotted 200 bbls of sized salt pill in liner. POOH to 2030 and displace casing to 8.9 ppg NaCl brine. Final NTU out - 48

For Report # 040A On 16/09/2004	**Operation at Depth 3499 m**
Rig Activity	Pulled out of hole. Make up SPS jetting sub, run in and jet wellhead with seawater overboard. Displace seawater with 8.9 ppg brine, pull out. Run wire line logs and perforating guns.
Activity	Wire Line logs
Fluid Treatment	Available volume of 8.9 ppg filtered NaCl Brine = 975 bbls
For Report # 041A On 17/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continue to RIH with perforating assembly #1. Correlate on depth and shoot perfs. POOH, lay out and make-up perf assembly #2. Run in, correlate depth and shoot perfs. POOH, lay out and make-up assembly #3. Run in correlate depth and shoot perforations. POOH.
Activity	Perforating
Fluid Treatment	No activity.
For Report # 042A On 18/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continue to make-up and RIH with perforating assembly, correlate depth and shoot perforations. POOH and lay out wireline equipment. Make-up bit and scraper assembly, RIH and scrape perforations and packer setting interval. POOH.
Activity	Run bit and scraper
Fluid Treatment	No activity.
For Report # 043A On 19/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continue to scrape perforated intervals with 9-5/8" and 2 x 65/8" bit and scraper assembly. POOH and lay out casing scrapers. Rig-up wireline and run 5.75" gauge ring and junk basket. Hung-up at 2553m. POOH and change out gauge ring to 5.71". Run in and hang up at 3301m. Work junk basket and POOH. Re-run 5.75" gauge ring and hang up at 3064m. Work basket, POOH and check for junk. Re-run gauge ring and junk basket assembly.
Activity	Gauge ring and junk basket
Fluid Treatment	No activity.
For Report # 044A On 20/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continue to make-up and RIH with 6-5/8" scraper assembly. Work thru hang-up spots at 3097m, 3160m and 3220m. Scrape packer setting interval. POOH, lay out scraper and rig-up wire line. Make-up and RIH with 5.75" gauge ring and junk basket. Hung up at 3111m. POOH to pick up 5.71" gauge ring.
Activity	Gauge ring and junk basket
Fluid Treatment	No activity.
For Report # 045A On 21/09/2004	**Operation at Depth 3499 m**

Rig Activity	Continue to run 5.75" gauge ring and junk basket, hung up at 3111m. POOH make-up and run 5.71" gauge ring and basket to bottom. Rig up and run permanent packer to depth. Unable to set packer. POOH and check malfunction. Re-run packer and set on depth. Rig-out wireline and rig-up to run production tubing.
Activity	Rig to run production tubing
Fluid Treatment	Dumped 103 bbls dirty brine and cleaned pit.
For Report # 046A On 22/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continue to pick-up and run completion tubing.
Activity	Run completion tubing
Fluid Treatment	No activity.
For Report # 047A On 23/09/2004	**Operation at Depth 3499 m**
Rig Activity	Continue to run completion tubing to 3319m. Displace saturated salt pill from tubing. Tag permanent packer. Pressure test tubing and packer. Shear PBR and space out for tubing hanger.
Activity	Land completion and space out.
Fluid Treatment	Prepare chemicals for inhibited packer fluid.
For Report # 048A On 24/09/2004	**Operation at Depth 3499 m**
Rig Activity	Displace tubing/casing annulus to inhibited packer fluid and production tubing to diesel fuel. Land tubing string and pressure test hanger seals.
Activity	Completion
Fluid Treatment	Displaced inhibited 8.9 ppg NaCl brine packer fluid to tubing/casing annulus as follows: 0.5 ppb caustic soda 0.25 ppb BARACIDE 0.5%/v BARACOR 100 1%/v Ammonium Bisulphite. Production tubing displaced to diesel fuel.

Well Name	Yolla-3
Operator	Origin Energy Resources Ltd
Contractor	Ensco Australia Pty Ltd
Rig No	Ensco 102
Unit System	Esso

Deviation Actual

Survey Date	MD m	TVD m	Angle	Direction	Horiz Displ. m
11/08/2004	259	259	0.43	242.8	
11/08/2004	312	312	1.48	273.9	1.1
11/08/2004	370	370	3.48	293.0	3.3
11/08/2004	428	428	7.12	298.7	8.6
11/08/2004	487	485	11.29	298.1	18.2
11/08/2004	544	542	14.82	302.7	31.1
11/08/2004	603	597	21.65	300.0	49.7
11/08/2004	661	650	25.23	302.4	72.4
11/08/2004	719	702	30.23	301.6	99.2
11/08/2004	777	751	33.84	299.6	130.2
12/08/2004	806	775	36.10	300.7	146.8
12/08/2004	864	820	39.00	301.2	182.5
12/08/2004	922	864	41.88	304.2	220.7
12/08/2004	951	886	41.35	302.7	240.0
12/08/2004	980	259	40.90	302.1	259.1
19/08/2004	1,038	952	40.40	302.5	296.5
19/08/2004	1,096	995	42.80	302.0	334.2
19/08/2004	1,155	1,039	42.40	301.2	374.4
19/08/2004	1,213	1,081	44.50	301.5	414.5
19/08/2004	1,271	1,122	44.10	301.0	445.1
19/08/2004	1,329	1,164	43.50	300.0	495.3
19/08/2004	1,387	1,207	43.10	299.7	535.2
19/08/2004	1,445	1,249	43.10	300.3	574.5
19/08/2004	1,503	1,291	42.20	300.6	614.1
19/08/2004	1,561	1,335	41.10	301.5	652.6
19/08/2004	1,619	1,378	40.90	301.1	690.5
19/08/2004	1,676	1,422	41.30	300.0	728.0
19/08/2004	1,735	1,465	42.40	300.1	767.5
19/08/2004	1,793	1,508	41.30	300.8	806.6
19/08/2004	1,822	1,530	40.10	301.2	825.6
29/08/2004	1,881	1,576	38.00	301.8	863.6
29/08/2004	1,938	1,622	35.50	302.7	897.4
29/08/2004	1,996	1,670	33.60	303.0	930.6
29/08/2004	2,055	1,718	32.40	302.8	962.4
29/08/2004	2,113	1,768	30.20	301.8	992.6
29/08/2004	2,171	1,818	29.60	300.9	1,021.9
29/08/2004	2,199	1,843	29.60	301.3	1,035.6
29/08/2004	2,257	1,894	29.00	301.4	1,064.2
29/08/2004	2,316	1,945	26.10	301.7	1,090.7
29/08/2004	2,324	1,953	25.90	301.4	1,094.4
01/09/2004	2,410	2,031	23.25	301.4	1,130.3
02/09/2004	2,497	2,112	20.86	300.5	1,163.3
02/09/2004	2,555	2,166	19.27	300.6	1,183.0
02/09/2004	2,642	2,250	13.37	296.4	1,206.3
02/09/2004	2,701	2,307	10.52	30.1	1,218.4
02/09/2004	2,788	2,393	8.39	306.8	1,232.6
02/09/2004	2,846	2,451	7.52	310.6	1,240.5
03/09/2004	2,991	2,595	5.63	307.7	1,257.0

Well Name	Yolla-3
Operator	Origin Energy Resources Ltd
Contractor	Ensco Australia Pty Ltd
Rig No	Ensco 102
Unit System	Esso

Deviation Actual

Survey Date	MD m	TVD m	Angle	Direction	Horiz Displ. m
03/09/2004	3,078	2,710	4.40	308.4	1,267.5
03/09/2004	3,223	2,826	2.25	311.1	1,273.8
03/09/2004	3,310	2,914	1.65	305.2	1,276.8
03/09/2004	3,426	3,030	0.13	257.2	1,278.3
04/09/2004	3,499	3,101	0.91	169.3	1,277.8

Company	**Origin Energy Resources Ltd**
Well Name	**Yolla-3**
Contractor	**Ensco Australia Pty Ltd**
Rig No	**Ensco 102**
Unit System	**Esso**

Bit Record Report

Run No	Bit No	Bit Size in	Bit Manufacturer	Bit Type	Bit Style	IADC Code	Serial Number	Jet or TFA sq-in	Depth Out m	Run Length m	ROP m/hr	WOB lb	Bit RPM	Pump Press psi	Pump OutPut gpm	Fluid Type	Fluid Weight ppg	Hole Angle	Bit Grading	Reason Pulled
1	1	16.000	HTC	MX-1	MT	117	6023745	3x24	1,012.0	797.0	40.5	23,000.0	70	2,300.0	854	Seawater	8.75	40.9	2-2-I	TD - Total/Casing Depth
3	3	12.250	HTC	ATJ-G8	MT	347	6010776	3x24	1,017.0	5.0	10.0	25,000.0	40	1,050.0	780	Flowzan/Drispac	8.65	40.9	2-2-WT-A-E-I-NO-BHA	BHA - Change BHA
4	4	12.250	HTC	HCM 506	FC			6x18	2,216.0	1,199.0	14.4	20.0	70	3,700.0	850	Drispac	9.50	40	2-2-BT-S-X-1-E-CP	CP - Core Point
5	5	8.500	SECURITY	FC-264 LI	CH			1.330	2,234.0	18.0	24.0	5,000.0	70	625.0	150	Flowzan/Drispac	9.60	40.1	100 % Recovery	CP - Core Point
6	6	8.500	DUMMY	Open-Ended	OT	111		1.000	2,234.0			5,000.0	70	325.0	150	Flowzan/Drispac	9.45	40.1		Fished core barrel
7	7RR4	12.250	HTC	HCM 506	FC			6x18	2,347.0	113.0		20,000.0		3,660.0	843	Flowzan/Drispac	9.40	40.1	2-2-BT-S-X-I-CT-TD	TD - Total/Casing Depth
8	8	12.250	HTC	ATJ-G8	MT	347		3x24	2,347.0			15,000.0	80	2,600.0	878	Flowzan/Drispac	9.40	25.9		LOG - Run Logs
9	8RR1	8.500	SII	DSJ	MT	111	206589	3x16|3x18	3,499.0	1,152.0	18.4	20,000.0	70	4,200.0	609	Flowzan/Drispac	9.40	0.91	2-3-WT-S-X-I-CT-TD	TD - Total/Casing Depth
10	10	5.000	DUMMY	Fishing Grapple	FT			14.400	3,499.0					1,000.0	298	Flowzan/Drispac	9.40	0.13	Stripped over wireline	Freed stuck wireline tool
11	11RR	8.500	HTC	MX20DHX	IN		6024400	3x24	3,499.0				80	2,600.0	527	Flowzan/Drispac	9.40	0.13		Wiper trip after logging
12	12	6.625	DUMMY	Open-Ended	OT	111		3.140								Flowzan/Drispac	9.40	0.13		Run 6 5/8"liner

ORIGIN ENERGY RESOURCES LTD
BAROID DRILLING FLUID RECAP
YOLLA-3
BASS STRAIT, VICTORIA.

Prepared by Hayden Butler, Tony Kowalski
Dan Cotter, Adam Martin
Gerald Lange

Date August / September 2004

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    - Interval Inventory Report
    - Fluid Volume Record
    - Interval Chemical Concentrations
    - Fluid Property Recap
    - Fluid Program Exceptions Report
    - Operations Log Recap
    - Well Deviation (Actual)
    - Bit & Hydraulic Record

10. DAILY MUD REPORTS

1. WELL SUMMARY

1.1 Well Data

Well Name	:	Yolla-3
Operator	:	Origin Energy Resources Ltd
Well Type	:	Deviated/Production
Bottom Hole Temperature	:	74°C (Dynamic), 96°C (Static)
Maximum Inclination	:	40.90 deg
Location	:	T/L1, Bass Strait, Victoria
Contractor/Rig	:	ENSCO 102
Start Date (Rig)	:	08/08/2004 (12:30 Hrs)
Baroid On Location	:	08/08/2004 (12:30 Hrs)
Spud Date (Clean out Conductor)	:	11/08/2004 (03:00 Hrs)
RT to Mudline	:	124.8 m
Total Depth	:	3497
Date TD Reached	:	04/09/2004 (11:15 Hrs)
Total Days Actual Drilling	:	14 Days
Total Days on Well (Baroid)	:	48 Days
Drilling Cuttings Volume	;	1599 bbls

1.2 Formation Tops

Formation	MD (m)	TVD (m)	Inclination (deg.)
Seabed	124.8	124.8	0.0
Torquay Group	-	-	-
Angahook Formation	1222.4	1080	44.5
Top Miocene Volcanics	1488	1269	43.2
Base Volcanics	1658	1400	40.9
Demons Bluff	2034	1693	33.5
Eastern View Coal Measures	2192	1837	29.5
Top EVCM TEV4 Sand	2219	1868	29.5
Coal Marker	2772	2393	8.4
Igneous Intrusion	2994	2595	5.6
2718 Sand	3144.5	2739.4	3.6
2755 Sand	3178.5	2768.4	3.08
2809 Sand	3235.5	2826.45	2.25
2973 Sand	3403	3029.6	0.13
Basalt	3459	3058.7	0.5
Total Depth	3497	3100.3	0.9

1.3 Casing Program

20”	Driven Conductor	@	215 m MDRT
13 3/8”	Surface casing	@	1006.8 m MDRT
9 5/8”/10 ¾”	Intermediate Casing	@	2339.4 m MDRT
6 5/8”	Production Liner	@	2277 m – 3498 m MDRT

1.4 Personnel

Drilling Supervisors	:	Henry Flink	Mark Nasarczyk	
		Murray Jackson	Hedley Amos	
Baroid Field Service Reps.	:	Hayden Butler	Adam Martin	Gerald Lange
		Dan Cotter	Tony Kowalski	

2. COST SUMMARY

2.1 Drilling Fluid Costs

	Drilling Fluid	Hole Size	MD From	MD To	Cost USD $
	Driven 20" Conductor – (No Fluid)	20"	0 m	215m	
1.	Seawater/Hi-Vis Bentonite Sweeps	16"	215m	1,012m	
2.	Seawater/Drispac/Soltex	12.25"	1,012m	2,347m	
3.	Seawater/Drispac/Soltex	8.5"	2,347 m	3,499 m	

Mud Materials Used For Drilling	**Total USD $**
Materials Used For Cementing	**USD$**
Materials Used For Completion	**USD$**
Total Materials	**USD $**

2.2 Engineering Costs

Service Representatives	From (date)	To (date)	Days
Tony Kowalski (1/2 day on 08/08/04)	08/08/2004	15/08/2004	7.5
	30/08/2004	12/09/2004	14
Adam Martin	13/08/2004	02/09/2004	20
Dan Cotter	16/08/2004	29/08/2004	14
	13/09/2004	26/09/2004	14
Hayden Butler (1/2 day on 08/08/04)	08/08/2004	12/08/2004	4.5
Gerald Lange	03/09/2004	17/09/04	14
Total Days:			**88**

Service Cost (AUD $)	**@ USD $**	**USD $**
Total Cost of Materials & Engineering:		**USD $**

3. PERFORMANCE SUMMARY

3.1 Comments

The Seawater/Hi-Vis Bentonite Sweeps spud mud performed as planned and this section was again drilled below programmed cost.
The Seawater/Soltex/Drispac drilling fluid performed reasonably well, however the cost of the 12 ¼" interval was considerably higher than programmed due to the relatively high dilution required to control the mud weight, MBT and LGS, despite the continuous operation of the centrifuge.

The $8^1/_2$" hole was drilled without incident, aside from a CO2 influx and temporary high rheology caused by dehydration. The hole was logged for 3 days without any hole problems. Logs got right to bottom and the caliper log indicated an almost gauge hole. The final log on a 3 day logging program was the MDT, which became stuck while taking the final sample. Stripped over the wireline and successfully recovered the MDT too, which took approximately 2 days. The 6 5/8" liner was set and cemented without difficulty.
The Performance Indicators in the 8 ½" interval were exceeded quite significantly due to low dilution rates which were a result of the use of a centrifuge, along with no requirement for barite usage. The fact that an extra pit was utilized, as opposed to just the one suction pit used on Yolla-4, might also have contributed in helping to control the mud weight. The 8 ½" interval mud cost was approximately 47% lower than programmed.

In both the 12 ¼" and 8 ½" intervals, it was found that the programmed fluid loss using this mud system was virtually unachievable. It was also very difficult to reduce the Calcium hardness to less than 300 mg/l as requested. The mud cost for the entire well was only 1% higher than programmed.

3.2 Performance Indicators

Interval 1. (215 m - 1012 m)	**Program**	**Actual**	**Achieved (+/- 10 %)**
• Drilled, m	740	797	Yes
• Volume Built, bbl	4,801	4,257.7	Yes
• Consumption Rate, bbl/m	-	4.92	Yes
• Mud Cost / bbl, USD $			Yes
• Mud Cost / m, USD $			Yes
• Interval Mud Cost, USD $			Yes

Interval 2. (1012 m – 2347 m)	**Program**	**Actual**	**Achieved (+/- 10 %)**
• Drilled, m	1,350	1,341	Yes
• Volume Built, bbl	4,060	6,430	No
• Dilution Rate, bbl/m	1.80	3.56	No
• Consumption Rate, bbl/m	3.01	4.79	No
• Mud Cost / bbl, USD $			No
• Mud Cost / m, USD $			No
• Interval Mud Cost, USD $			No

Interval 3. (2347 m – 3497 m)	**Program**	**Actual**	**Achieved**

			(+/- 10 %)
• Drilled, m	1194	1152	Yes
• Volume Built, bbl	2,685	1135	No
• Dilution Rate, bbl/m	1.60	0.30	No
• Consumption Rate, bbl/m	2.25	1.48	No
• Mud Cost / bbl, USD $			No
• Mud Cost / m, USD $			No
• Interval Mud Cost, USD $			No
• **Cost of Materials Used For Drilling**			Yes
• **Materials Used For Cementing**			
• **Materials Used For Completion**			
• **Total Well Cost, USD$ (Materials Only)**			

Explanation of Non-Conformance

Interval 1:
- All Performance Indicators were met or exceeded.

Interval 2:
- Volume Built, Dilution Rate, Consumption Rate: Volume Built, dilution and consumption rates were increased in order to maintain mud properties as programmed. Increasing MBT values, LGS's and mud weights due to hydratable and dispersive clays through the Angahook Formation required increased and continuous dilution through the interval.
- Mud Cost/m and Total Mud Cost: Increased mud cost/m and total mud cost correspond to higher volumes and dilution rates needed to maintain mud properties.

Interval 3:
- New volume required for this interval was only 37% of that programmed, but the cost of attempting to achieve the required properties (which, in the main, wasn't achieved) led to a considerably high cost per barrel.
- All other Performance Indicators (except Cost/bbl as above) were met or exceeded on this interval. The reason that all the Indicators (with the exception of metres drilled) were listed as not being achieved, was due to their being exceeded by more than 10%.
- The main reason for this success was that relatively little dilution was required to control the mud weight. This appears to be partially due to the use of a centrifuge, coupled with the fact that as no trips were made, there was no barite added for slugs.
- Fluid loss chemical consumption was high, and even then the required fluid loss was not achieved. However, due to the low dilution rate, far less fluid had to be treated in attempting to lower the fluid loss.
- Low end rheology remained in the programmed range throughout the interval, reducing the need for relatively expensive Flowzan additions.

4. INTERVAL - 1

4.1 SUMMARY

16" Hole From 215m To 1012 m In 2 Days

Drilling Fluid Seawater/ Bentonite Sweeps
Formations Torquay Group

The rig was skidded over Yolla-3 on August 8, 2004, and the well spudded at 03:00 hrs on August 11. The 20" conductor drive pipe had already been driven and drilling of the16" hole interval commenced from the mud line inside the conductor at 124.8 m RKB. An initial volume of 3400 bbls of mud had been prepared while running the completion and testing on Yolla-4.
The interval was successfully drilled to 1012 m with seawater and hi-vis sweeps. Initially, only a 50 bbl sweep was pumped prior to connections. From 340 m, 3 sweeps per stand were pumped; the first 2 sweeps per stand were hi-vis bentonite diluted with seawater and flocked with lime, while the 3rd one was undiluted 30 ppb pre-hydrated bentonite. At section TD a 100 bbl hi-vis flocculated bentonite sweep was circulated around. This was followed by pre-hydrated bentonite to 130% of open hole volume, including spotting 90 bbls of 6% KCl inhibited gel mud on bottom. A wiper trip was conducted to the conductor shoe and the hole again displaced when back on bottom. The final displacement was as above, but with 150% of open hole volume pumped. Despite having to wait on weather for approximately 5 hours, the 13 3/8" casing was successfully run and cemented at 1006.8 m MD.

Properties	**Programmed**		**Actual (Typical Drilling)**		
	Min	**Max**	**Min**	**Max**	**Conformance**
Funnel Viscosity	120	-	125	210	Yes
Calcium (mg/lt)		400			Yes
Chlorides (mg/lt)		1500			Yes

Explanation of Non-Conformance

- All properties were maintained in the programmed range.

Maintenance

- An initial volume of 3400 bbls of 35 ppb pre-hydrated bentonite was mixed while carrying out completion and testing operations on Yolla-4.
- Initially, 427 bbls of the pre-hydrated bentonite was diluted with seawater to a finished concentration of 20 ppb bentonite. The dilution proportions commenced at approximately 60/40 seawater to pre-hydrated bentonite, but were adjusted as required.
- The seawater diluted pre-hydrated bentonite was then flocculated with 0.5 ppb lime and an additional 0.25 ppb caustic soda.
- The pit of flocculated Seawater/Bentonite was topped up whenever the volume dropped to 200 bbls, and the concentrations of caustic soda and lime adjusted based on the final rheology and alkalinity of the previous 200 bbls. Total additional lime flocculated Seawater/Bentonite formulated was 700 bbls.
- Efforts were made to conserve the pre-hydrated bentonite where possible, as weather conditions prevented offloading additional bentonite from the boat, and guar gum could not be used.
- A further 300 bbls of pre-hydrated bentonite was prepared utilizing sack bentonite.
- At TD at 1012 m, the hole was swept with 100 bbls of bbls of lime-flocculated, seawater diluted bentonite. The open hole was displaced with undiluted pre-hydrated bentonite to 122% of open hole volume. The last 100 bbls was the same fluid, but also containing 6% KCl to aid in preventing possible clay swelling. This fluid was, in turn, displaced with 50 bbls of the undiluted pre-hydrated bentonite fluid.
- A wiper trip was made to the shoe without problem, and after waiting for high winds to abate, we ran back to bottom, again without problem.

Solids Control Equipment
- In this interval, all returns were to the sea via ports in the 20" conductor, hence no solids control equipment was utilized.

4.2 EVALUATION

Comments
This interval was drilled and cased trouble free, aside from having to wait for high winds to abate after running the casing to 517 m.

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions
1) Problem None
   Cause
   Action

Drilling Fluid
1) Problem Unable to add bulk bags of KCl through the deck hopper.

   Cause High winds prevented the use of the crane and the deck hopper.

   Action Added KCl by hand (shovels and buckets, and then used venture vacuum hose).

Solids Control and Mud Mixing Equipment
1) Problem None
   Cause
   Action

4.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions
- None

Drilling Fluid
- Have contingency pallets of 25 kg sacks of KCl available for this interval on the next well.
- Add the bulk KCl earlier, when weather conditions permit.
- As on Yolla-4, there was insufficient bulk bentonite onboard to pump the sweep volumes and displacements called for in the program. A boat with 40 m/tones onboard was in the vicinity of the rig for a considerable amount of time, but when it was requested to come alongside to transfer the bentonite, the weather conditions did not permit. Consideration should be given to bringing the boat in whenever weather and operational conditions permit.
- Due to the unavailability of bulk bentonite, a quantity of sack bentonite was used to provide sufficient sweep and displacement volume. It is suggested that a contingency supply of sack bentonite be available on future wells.
- Again reconsider the possible use of Guar Gum for some of the sweeps while drilling this interval on future wells.

Solids Control and Mud Mixing Equipment
- None

5.0 INTERVAL - 2

5.1 SUMMARY

12 ¼" Hole From 1012 m To 2347m In 7 Days

Drilling Fluid	Seawater/Drispac/Soltex
Formations	Torquay Group, Angahook, Miocene Volcanics, Demons Bluff, Eastern View Coal Measures

The 13-3/8" stage collar and shoe track were drilled with a rotary clean-out assembly using seawater and hi-vis bentonite sweeps. Prior to exiting the shoe, the casing was displaced to Seawater/Drispac/Soltex mud, 5m of new hole was drilled and a FIT conducted to an EMW of 10.5ppg.

A PDC directional/mud motor assembly was used to drill the interval. ROP's averaged 30 to 40 m/hr from the shoe to 1593m. At this point, the BHA was pulled and a malfunction with the MWD equipment corrected. The trip out was good despite some back-reaming required through tight spots at 1265m and at 1212m. A trouble-free trip back into the hole indicated good general hole conditions.

As drilling continued, ROP's averaged 12 to 15m/hr in rotary and 5m/hr while sliding for angle and direction. Core point was reached at 2216m where the well was circulated until the shakers were clear of cuttings. On the trip out, the hole started to pull tight from 1505m. When attempting to wash through the tight spot the well showed indications of packing-off. It was necessary to back-ream and wash from 1475m to the casing shoe at 1006m. This tight section of hole corresponds to the Angahook Formation which produced fairly significant amounts of wet 'sticky' cuttings when drilled.

The 8-1/2" core barrel assembly was run with some washing required through the Angahook. The remaining trip was trouble free and 30m of core was cut relatively quickly. The trip out, again, required minor washing through the trouble section of the hole. When on surface, it was discovered that the core barrel had backed-off in the hole. A grapple and overshot assembly were run, the fish engaged and the core barrel and 18m of core successfully retrieved.

Following the core recovery, the PDC/mud motor assembly was re-run to drill out the rat hole and remaining 113m to interval TD. Because of the problems encountered when tripping through the Angahook, however, a clean-up procedure was planned for the trip in the hole. The hole was washed and reamed from the casing shoe to 1600m. A 30bbl BAROLIFT sweep was pumped at 1300m and a second, 60bbl sweep pumped at 1600m to ensure cuttings removal. Both sweeps were effective as a large increase in cuttings was noted at the shakers on return. The cored interval and remaining 113m were drilled without incident. At interval TD, a 60bbl BAROLIFT sweep was pumped and three times bottoms-up circulated to ensure a clean hole for logging. Again, the results of the BAROLIFT sweep were positive with a very large increase in cuttings return seen as the sweep was circulated to surface. A wiper trip was planned prior to POOH for e-logs, however, hole conditions were such that the trip was deemed unnecessary.

The Schlumberger Triple Combo wireline logging tools were run but hung-up at 1200m on the way in the hole. While pulling to surface the tools became stuck at 1134m – 1108m. String tension was held and relaxed several times before the tool managed to work itself free. A wiper/clean-out trip was run with the hole, again, being reamed and washed from the casing shoe to 1600m where a 60bbl BAROLIFT sweep was pumped. Sweep returns showed a large increase in cuttings at the shakers on return.

When attempting to re-run a shorter suite of wireline logging tools, they hanged up again on suspected ledges at 1123m and 1172m. At this point, the logging program was abandoned and the 9-5/8" casing run. The casing was successfully run to 2340m and cemented without difficulties.

Properties	**Programmed**		**Actual (Typical Drilling)**		
	Min	**Max**	**Min**	**Max**	**Conformance**
Mud Weight, ppg	8.7	9.4	8.7	9.65	No
Yield Point (lb/100 ft²)	>25		29	54	Yes
Dial 6 rpm (lb/100 ft²)	10	15	8	13	No
Low Gravity Solids (% by vol)		<6.0	0.9	7.4	No
API Filtrate (cc/30 min)		4.5	3.5	4.5	Yes
HTHP Filtrate (200° F-ml)	12.0	15.0	12.2	16.5	No
MBT (ppb)	5.0	12.0	4	17.5	No
pH	8.5	9.5	8.1	8.9	No
Calcium (mg/l)		<300	260	400	No

Explanation of Non-Conformance

- Mud weight was higher than programmed for a short period of the interval when insufficient premix was added to the system. Large amounts of gas were experienced at the time, so diluting with premix was not a suitable option.
- Some of the 6 rpm readings were slightly lower than programmed. During these stages of drilling, Flowzan was added to the active system to increase the reading.
- Low Gravity Solids were high due to a higher mud weight being sustained whilst gas was experienced.
- HTHP fluid losses were higher than programmed with fresh mud at the beginning of the well. The fluid loss was maintained for the rest of the well, once sufficient shear and temperature had been applied to the mud.
- High dispersion of clays from the bottom of Torquay Group and Angahook Formation resulted in high MBT values. The MBT was subsequently lowered through dilution with premix.
- Some calcium and pH values were slightly outside programmed levels during various stages of the section, however, these were short term and had no negative effect on the drilling fluid.

Maintenance

- The mud formulation and target properties for this interval were modified based on the experience gained in drilling the Yolla-4 well. It was found that the original mud formulation resulted in excessive high-end rheology and difficulty in achieving other target properties. The concentration of Drispac-R was reduced to 1ppb and concentrations of Drispac-SL increased to 3ppb to provide for required encapsulation.
- Fully specified Seawater/Drispac/Soltex mud was premixed at the new programmed concentrations and allowed to shear while WOC and nippling-up BOP's. Seawater was used as the make-up fluid to provide a similar chemistry to connate water and minimize near-wellbore water transportation.
- The stage collar, cement and shoe were drilled with seawater and the casing swept with hi-vis bentonite left over from the previous interval. At the casing shoe a hi-vis sweep was pumped followed by displacement with new Seawater/Drispac/Soltex mud.
- A constant mud formulation was maintained from the initial displacement. This provided full inhibition for improved hole conditions and cuttings integrity and avoided any initial period of reduced mud performance.
- Pre-hydrated bentonite was treated with 4 ppb of Desco-CF and then transferred to the premix to obtain a final bentonite concentration of 4-5 ppb.
- Immediately following displacement, Drispac R and L were added to the active system at a rate of 0.5 lb/m each to maintain an excess in the system. Drispac R and L, encapsulating polymers, were added continuously throughout the interval to control solids build-up.
- The entire active system was treated with Ammonium Bisulphite oxygen scavenger. Sulfite concentrations were monitored and maintained through regular product additions.

- While drilling the Angahook Formation to 1500m, wet, 'sticky' drilled cuttings were causing flow-line back-ups and blinding at the shaker screens. Also noted was an indication of possible borehole instability with large rounded clay cavings occasionally passing over the screens. In response and after consultation with the ADA drilling superintendent, it was decided to increase the concentrations of both Drispac-R and Drispac-SL by 0.5ppb each to provide better encapsulation. It was also decided to add 2%/vol KCl to the active system to inhibit clay swelling and dispersion. Due to limited supplies of KCl on the rig, the KCl concentration depleted through dilution.
- From 2234m EZ MUD phpa was added at .5ppb to assist in cuttings encapsulation.
- Several BAROLIFT sweeps were pumped (concentration 0.3 lb/bbl in active mud) on wiper trips in response to the difficulties experienced through the Angahook Formation. The sweeps were effective as evident by an increase in cuttings over the shakers after each sweep.

Solids Control Equipment

- The 4 Derrick FLC 514 shakers were initially dressed with 4 x 80 mesh screens. All were previously used screens.
- Small losses of new un-sheared mud occurred over the 80 mesh screens during displacement.
- Following displacement, after the mud had warmed up and received initial shearing through the bit, the screens were downsized to 150 mesh and 180 mesh and finally a mixture of 200 and 230 mesh.
- The Derrick mud cleaner was dressed with 4 previously used 265 mesh screens.
- The mud cleaner was operated through the interval. However, as there was very little sand being generated from the cuttings (0.1 -. 25%), its operational effectiveness is inconclusive.
- A centrifuge was installed on the rig for this well. It was effective in reducing the solids content of the mud. The mud weight discharged into the active by the centrifuge was usually 0.3 to 0.4ppg lighter than the mud coming out underneath the shakers.

5.2 EVALUATION

Comments

Based on experience gained from the Yolla-4 well, the formulation of the Seawater/Drispac/Soltex mud system used to drill this interval was modified to counter difficulties in achieving programmed target properties. It was found that the mud formulation resulted in excessive high-end rheology. The concentration of Drispac-R, in particular, was lowered to prevent the reoccurrence of high viscosities and the concentrations of Drispac-SL correspondingly increased to maintain sufficient encapsulation of drilled solids. Programmed rheological targets were much easier to achieve with the amended formulation.

Drilling the Angahook Formation generated large amounts of very wet 'sticky' cuttings resulting in some blinding of the shaker screens. There was further indication of formation instability with occasional large chunks of clay-stone at surface. Increasing MBT values confirmed the presence of more hydratable or dispersive clays than was seen on the Yolla-4 well. In response, the concentration of Drispac R was increased to 1-1/2ppb for better cutting encapsulation and the use of pre-hydrated bentonite was discontinued in order to maintain low MBT values. As an extra precautionary measure, 2% by wt. of KCl was added to the system. As these changes in mud formulation took place following a formation change (Miocene Volcanics), it is uncertain whether they had any positive effect in inhibiting the, already drilled, Angahook formation. The KCl content was allowed to deplete through dilution.

Although the interval drilled well, each trip out of the hole required washing and back-reaming through the Angahook Formation. Drilled cuttings from the deeper formations appeared to be forming beds across the 'sticky' clays of the Angahook. This was, therefore, primarily an issue of hole cleaning. Also, had the interval been drilled with a KCl fluid the formation may have been inhibited enough to lessen the effects of the 'sticky' clay and associated cuttings bed build-up across the Angahook.

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem Poor hole conditions through the Angahook formation. Reaming/cleaning required on each trip. Packing-off on occasion.
   Cause Hydration/dispersion of clays. Interval drilled with un-inhibited fluid.
   Action Attempt, after the fact, inhibition with 2% KCl.
   Run wiper trips through interval, circulate, rotate pipe and pump BAROLIFT sweeps for clean-up.

Drilling Fluid

1) Problem Increasing MBT values, mud weight and rheology.
   Cause Hydrating and dispersing clays.
   Action Increase concentration of Drispac R and Drispac SL by 0.5ppb each. Add 0.5ppb EZ MUD (phpa) for additional solids encapsulation.

2) Problem Not enough premix fluid made at the start of the interval
   Cause Lack of manpower
   Action Start mixing earlier in the well

Solids Control and Mud Mixing Equipment

1) Problem None
   Cause
   Action

5.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

- Hole problems experienced on each trip through the Angahook Formation and the inability to run wireline logs at TD would be alleviated by drilling the interval with a more inhibitive mud system.

Drilling Fluid

- Make adjustments to the drilling fluid. Add KCl (4 -6 % by weight) and PHPA (0.5 – 1.0 lb/bbl) to the existing mud system to improve the inhibiting qualities of the drilling fluid. PHPA is one of the most effective encapsulating polymers and is highly compatible with KCl. The K^+ ion is regarded as one of the best agents to control swelling because of its low hydration energy, which enables it to fit between the silica layers in the clay crystal and reduce interlayer swelling. The concentration of Drispac R may need to be decreased to ensure the 6 rpm reading is within specification, as PHPA is a shale stabilizer as well as a viscosifier.

- Pump BAROLIFT sweeps at the end of interval sections to ensure cuttings removal prior to tripping. BAROLIFT sweeps may also be pumped while drilling to assist in the removal of cuttings beds if drilling conditions or Drill Ahead Hydraulics indicates hole cleaning problems.

Solids Control and Mud Mixing Equipment

- Keep evaluating the Mud Cleaner to determine the effectiveness.

6. INTERVAL - 3

6.1 SUMMARY

8 ½ " Hole From 2347 m To 3497 m In 5 Days

Drilling Fluid Seawater/Drispac/Soltex
Formations Eastern View Coal Measures, Fault, 2718 Sand, 2755 Sand, 2809 Sand, GWC2, 2952 Sand, 2973 Sand, 2973 Base, Basalt

This section was successfully drilled in one bit run to TD at 3497 m without hole problems. A steerable assembly with a PDC bit and MWD tools were used to drill the section. After cleaning out the rat hole, the active system was circulated and a FIT conducted to 11.0 ppg EMW. The hole was drilled from 2347 m to total depth at 3497 m without problems.

At TD a 40 bbl 8.9 ppg viscous premix pill was pumped, followed with a 60 bbl 11.0 ppg sweep. A noticeable increase in cuttings was observed when the premix sweep returned to surface. A wiper trip was conducted to the 9 5/8" casing shoe at 2340 m, pumping out and working through tight spots when necessary.

Wireline logs were run over 3 days and the caliper log indicated an almost gauge hole. The last tool run was the MDT, and the tool became stuck on the last sampling point necessitating stripping over the wireline to recover the tool. During the wiper trip following the wireline logging program, a wiper trip was made, on which a number of tight spots were washed and reamed. 3650 units of gas were circulated out at 3316 m. The fluid was treated to reduce the mud weight and the effects of 5 days without circulating in a considerably hot hole.

Properties	**Programmed**		**Actual (Typical Drilling)**		
	Min	**Max**	**Min**	**Max**	**Conformance**
Mud Weight, ppg	9.1	9.4	9.25	9.45	Yes
Yield Point (lb/100 ft²)	>20		20	75	Yes
Dial 6 rpm (lb/100 ft²)	8	12	6	13	No
Low Gravity Solids (% by vol)		<6.0	4.9	6.7	No
API Filtrate (cc/30 min)		<3.0	3.2	4.2	No
HTHP Filtrate (200° F-ml)		<10.0	11.4	12.9	No
MBT (ppb)	5.0	10.0	8.5	12.0	No
pH	8.5	9.5	7.5	9.4	No
Calcium (mg/l)		<300	340	2800	No

Explanation of Non-Conformance

- The 6 rpm reading was only once outside programmed specifications, when a reading of 6 was recorded. This was attributed to excessive dehydration of the drilling fluid and was remedied with increased water additions.
- The elevated Low Gravity Solids % appeared to be an anomaly, as this was the only time in the course of the 8 ½" interval that the LGS % exceeded the programmed maximum allowable
- The API and HTHP filtrate loss exceeded the programmed specification for the entire interval. As stated elsewhere in this recap, and on that of the Yolla-4 well, these targets are probably not achievable with this mud system as formulated. Additions of Drispac (primarily Superlo) and Soltex were made directly to the active system to control the fluid loss at <4.0 cc API and <12.0 cc HTHP.
- PHPA was not added when first required due to excessively high Calcium reading after drilling out cement, and continuing elevated Calcium readings after treating a carbon dioxide influx with lime additions.
- Low reported pH was actually a typographical error which was not noted until after the mud report had been distributed.

- It was difficult to lower the Calcium to the required <300 mg/l, particularly when the seawater used as makeup water contains 500 mg/l Ca. Additional soda ash did not arrive until 8 days after ordering, by which time drilling was completed.

Maintenance

- While running casing and WOC, additional premix for use on the 8 ½" interval was prepared and damaged 200 mesh shaker screens replaced with new ones, and repairable ones patched.
- An additional 597 bbls of premix was salvaged from the 12 ¼" interval. This premix, which was to be utilized first, was treated with 0.5 ppb PHPA.
- The new premix was formulated to the new product concentrations as on the 12 ¼" interval.
- The active surface mud was pre-treated with 0.5 ppb sodium bicarbonate prior to drilling cement, as was the mud circulated out of the hole.
- After cleaning out the rat hole and drilling 3 m of new formation, a LOT was carried out to an EMW of 10.0 ppg.
- Soda Ash was added to the active system to reduce the calcium content which had increased after drilling the cement.
- Once cement had been drilled, additional PHPA was added to the active system along with more Flowzan to increase the low-end rheology.
- Commenced drilling 8 ½" hole and continued to mix and bleed new premix into the active system to maintain volume and to assist the centrifuge in controlling the mud weight.
- Had in excess of 5% carbon dioxide at 2705 m and was treated with lime additions. The resulting increase in calcium (coupled with the increase from drilling cement) caused a detrimental effect on the PHPA polymer strands, and cuttings became sticky.
- The calcium was treated with soda ash, and when at a more acceptable level, another 0.3 ppb PHPA was added to the system.
- Ammonium bisulphite was added as required to maintain a residual sulphites level of >100 mg/l. Consumption of this product seemed excessive as the desilter/mud cleaner was hardly utilized. The treatment pit was circulated through the mixing hopper for extended periods of time, which can also result in considerable oxygen scavenger depletion.
- The 6 RPM remained within the programmed range through practically the entire interval, and Flowzan maintenance usage was considerably reduced in comparison to Yolla-4. In addition very little Drispac R was required.
- Continual treatments of Drispac Superlo and Soltex Potassium were required in attempting to reduce the fluid loss to the programmed range. In fact, this did not prove to be reasonably achievable, and subsequent treatments were based on maintaining the API fluid loss at <4.0 cc. The HTHP fluid loss followed the same trend as that of the API.
- Almost continual soda ash additions were made in attempt to reduce calcium to <300 mg/l, but as in the case of the fluid loss, this was never achieved. This will always prove difficult in a seawater based drilling fluid.
- Premix additions were made primarily to maintain volume. When necessary, the basic premix was treated with additional chemicals based on mud checks carried out on the active system.
- As the flowline temperature increased, water additions, ranging from 4-32 bbls per hour were made directly to either the settling tanks or the treatment pit (#11) to counter the effect of evaporation, which included quite elevated high end rheology.
- At TD, prior to a wiper trip, a 40 bbl 8.9 ppg viscous premix sweep was pumped, followed by a 60 bbl 11.0 ppg sweep (which was dumped at surface). The viscous sweep showed a noticeable increase in cuttings when it returned to surface.
- The same combination of sweeps was also circulated when back on bottom following a wiper trip to the shoe. Again, there was an increase in cuttings when the premix sweep returned.

Solids Control Equipment

- For the commencement of the 8 ½" hole interval, the 4 Derrick FLC 415 shakers were all dressed with a combination of 200 and 230 mesh screens.
- A number of new replacement screens of the above size were required, but in most cases, when damaged screens were removed, they were patched and reused later. This procedure was followed until it was determined that the screens had too many patches to be any longer effective. The screens use to replace the screens being repaired were, for the most part, of a comparable mesh.
- The shakers performed well, and by following the repair procedures as above, the stock of excess used screens was significantly reduced, and the use of new screens minimized.
- The Derrick mud cleaner (of which only the desilter was utilized) was dressed with 265 mesh screens for the entire interval.
- As a centrifuge had been installed for this well, and worked very effectively, the desilter was used only minimally.
- When used, however, the operating pressure of the desilter averaged about 32 psi (as compared to less than 20 psi on the previous Yolla-4 well), and the underflow discharge weight was higher than the feed weight. However, mud flow still tended to backflow and bypass the closed desilter isolation valves.
- The Derrick DE-1000 FHD centrifuge proved to be very effective with weight controlling dilution volume being less than that required on Yolla-4. Refer to Performance Indicators above.
- The centrifuge was used continually when drilling and circulating. Mud feed weight averaged 9.4 ppg, centrate 9.0 ppg and the cake weight 15.1 ppg.

6.2 EVALUATION

Comments

The 8 ½" hole interval was drilled with basically the same Seawater/Drispac/Soltex mud used for the 12 ¼" interval. The use of a centrifuge made controlling the mud weight within the programmed range relatively easy, and dilution volumes were significantly reduced. 2 active pits were utilized, with returns and treatments to Pit #11, which was equalized to Pit #10 which was the suction. Although considerable treatment with fluid loss additives was required to get even close to the requested <3.0 cc API fluid loss and 5.0-10.0 cc HTHP fluid loss. However, the relatively small dilution volume meant that less volume had to be treated. Requested calcium levels were also difficult to achieve. No problems were encountered in achieving adequate low end rheology, and Baroid's Drill Ahead Hydraulics software indicated that the hole was being cleaned

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem None
   Cause
   Action

Drilling Fluid

1) Problem Carbonates, high Pf/Mf ratio, elevated high end rheology
   Cause Carbon dioxide (CO_2) influx at approximately 2507 m. This initial influx was in excess of 5%. Subsequent background CO_2 readings were around 2%
   Action Treated with lime, and then increased caustic soda additions.

2) Problem Calcium content in excess of programmed requirement.
   Cause Main cause is that the base fluid was seawater which had a calcium content of 500 mg/l of it's own.
   Action Added large quantities of soda ash, but still difficult to achieve <300 mg/l calcium.

3) Problem Elevated high end rheology.
   Cause Dehydration.

Action Increased water additions from 2 to 32 bph for 4 hours. Rheology returned to normal levels.

Solids Control and Mud Mixing Equipment

1) Problem None, other than occasional difficulties mixing bulk material as described on Yolla-4 recap.
   Cause
   Action

6.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

- None.

Drilling Fluid

- If PHPA is to be utilized on the next well and carbon dioxide is again encountered in significant quantities, consider attempting to use caustic soda for treatment, rather than the more accepted lime treatment. This would reduce the detrimental affect of high calcium content on the PHPA polymer chains.

Solids Control and Mud Mixing Equipment

- Modify bulk mixing system to avoid blockages.

7. COMPLETION INTERVAL

7.1 SUMMARY

Completion Fluids Filtered 8.9ppg NaCl Brine, Saturated NaCl brine/Sized Salt pill, Inhibited NaCl packer fluid

After setting the 7" liner, a 5-3/4" bit plus 6-5/8" x 9-5/8" scraper assembly was run to clean through the liner hanger and scrape any residual cement from the casing. A 50 bbl hi-vis pill was pumped and the well displaced to seawater. A short trip to the top of the liner was made to scrape the packer setting intervals. When back on bottom, the clean-up pills were pumped and the well circulated with seawater until acceptable turbidity readings were obtained at surface.

A filtered saturated NaCl sized salt pill was spotted in the 7" liner, the pipe pulled to 2030m and the 9-5/8" casing displaced to filtered 8.9 ppg NaCl brine. Production intervals were perforated at programmed depths. There were no brine losses following the perforations. Casing scrapers were re-run to remove any debris remaining from the perforations and to scrape the packer setting depths. Several attempts to run a gauge ring and junk basket on wireline failed to reach depth so the 6-5/8" casing scraper was re-run to scrape the perforations and packer setting interval.

The completion tubing was run to depth and prior to stinging into the permanent packer the tubing/9-5/8" annulus was displaced to filtered inhibited 8.9 ppg NaCl brine and the tubing displaced to diesel fuel.

Properties	**Programmed**		**Actual (Typical)**		
	Min	**Max**	**Min**	**Max**	**Conformance**
Brine Weight (ppg)		8.9		8.9	Yes
Saturated Salt Weight		10.0		10.0	Yes
Filtered Brine Ntu			4.3		n/a
Saturated Salt Ntu			48		n/a

Explanation of Non-Conformance

- Brine properties conformed to programmed specification.

Maintenance

- Prior to mixing for completion operations the brine pits were cleaned and mixing lines thoroughly flushed.
- The following sweeps were prepared for clean-up operations:
    1. 50 bbls CON DET
    2. 175 bbls caustic wash
    3. 185 bbls hi-vis Flozan sweep
    4. 100 bbls BARAKLEAN FL
- 1674 bbls of 8.9 ppg NaCl brine was prepared in advance of completion operations.
- 104 bbls of 10 ppg saturated NaCl brine was prepared in pit 10.
- 303 bbls of saturated NaCl sized salt pill was prepared with N-VIS P PLUS and UltraSal 20E at programmed concentrations.
- A 6-5/8" and 9-5/8" scraper assembly was run, the packer setting intervals scraped and a 50bbl hi-vis sweep followed by two hole volumes of seawater pumped. All returns to surface were dumped. A short trip to the liner lap followed.
- The well clean-up sweeps were pumped in the following order; 50 bbls hi-vis, 75 bbls CON DET detergent, 175 bbls caustic wash, 75 bbls seawater spacer, 100 bbls BARAKLEAN FL and 50 bbls hi-vis. The sweeps were followed by seawater and returns were monitored for Ntu readings.
- While circulating clean-up sweeps/seawater, surface/trip tanks, flow lines, desilter/degasser and choke/kill lines were all flushed with seawater.

- Once seawater turbidity readings were stable at 63 Ntu, the sized salt pill was spotted inside the liner to 200m above the proposed top perforation. The pill was preceded and followed by saturated NaCl brine to minimize dissolution of sized salt particles.
- The pipe was pulled to 2030m and the casing displaced to 8.9ppg NaCl brine.
- The packer fluid was prepared as follows and displaced to the completion tubing/9-5/8" annulus.

  300 bbls filtered 8.9 ppg brine
  0.5 ppb caustic soda
  0.25 ppb BARACIDE
  0.8 lt/bbl BARACOR 100
  1.59 lt/bbl Ammonium Bisulphite

7.2 EVALUATION

Comments

The filtered brine as utilized for this completion was a suitable completion fluid and was successfully employed as programmed. Filtration of the brine was able to proceed as planned to produce very low turbidity readings. Initial turbidity readings prior to filtering the saturated brine were 55 as compared to 120+ on Yolla-4, and cartridge usage was also significantly lower. This can possibly be attributed to more thorough pit cleaning and line flushing on this well

Problems, Causes, Remedial Action Taken or Recommended

Hole Conditions

1) Problem None
   Cause
   Action

Completion Brine

1) Problem None
   Cause
   Action

Solids Control and Mud Mixing Equipment

1) Problem Pit cleaning
   Cause Personnel not certified for confined space entry.
   Action Supervisors employed to clean mud pits prior to mixing and filtering brine.

7.3 RECOMMENDATIONS FOR IMPROVEMENT

Hole Conditions

- None

Completion Brine

- None

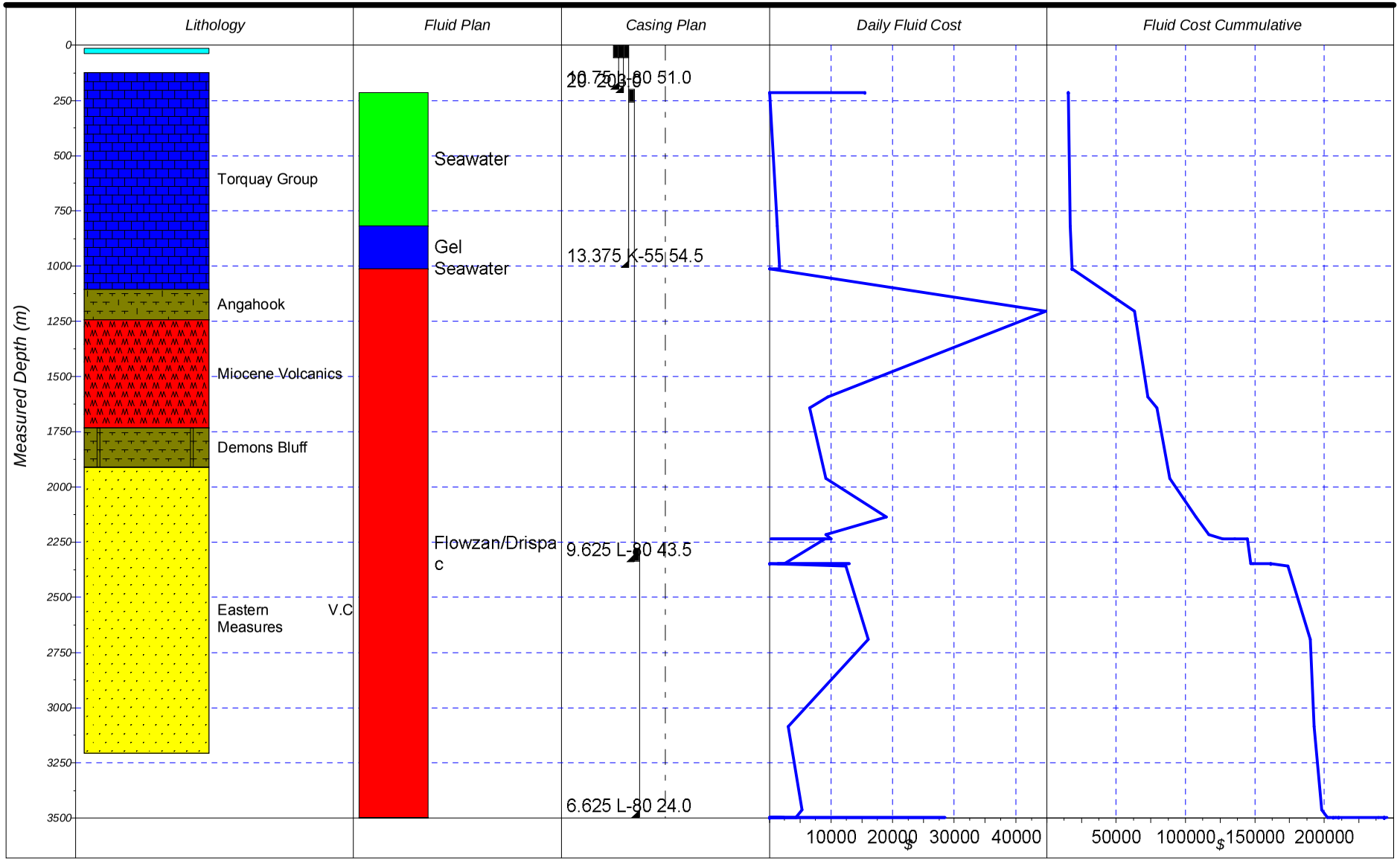
Solids Control and Mud Mixing Equipment.

- Attempt to train more personnel in confined space procedures.

Daily Costs v Depth

Well : Yolla-3

Operator : Origin Energy Resources Ltd



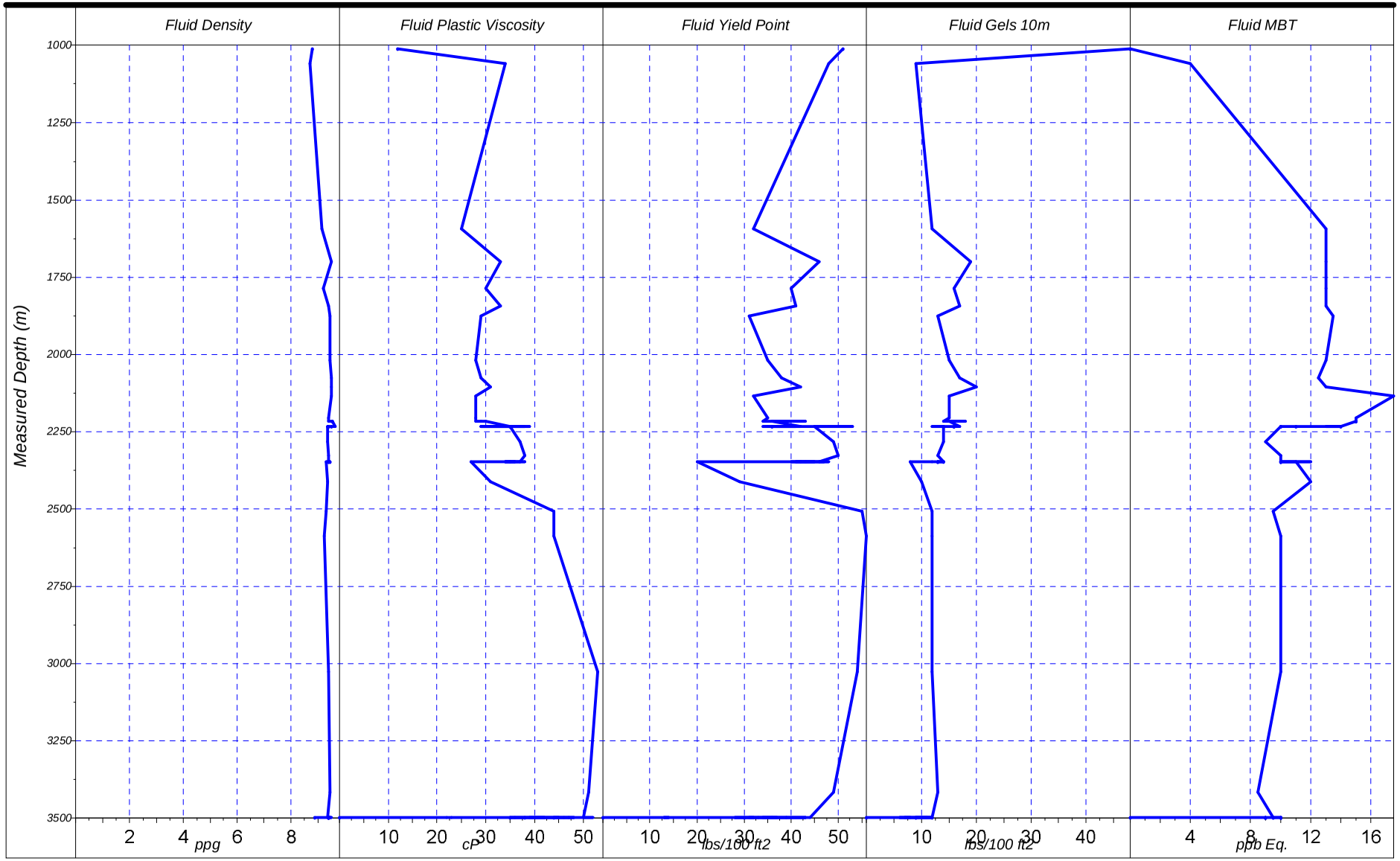
Baroid Drilling Fluids

Printed On 28/10/2004

Recap Properties Water Based Depth Set 1

Well : Yolla-3

Operator : Origin Energy Resources Ltd



Baroid Drilling Fluids

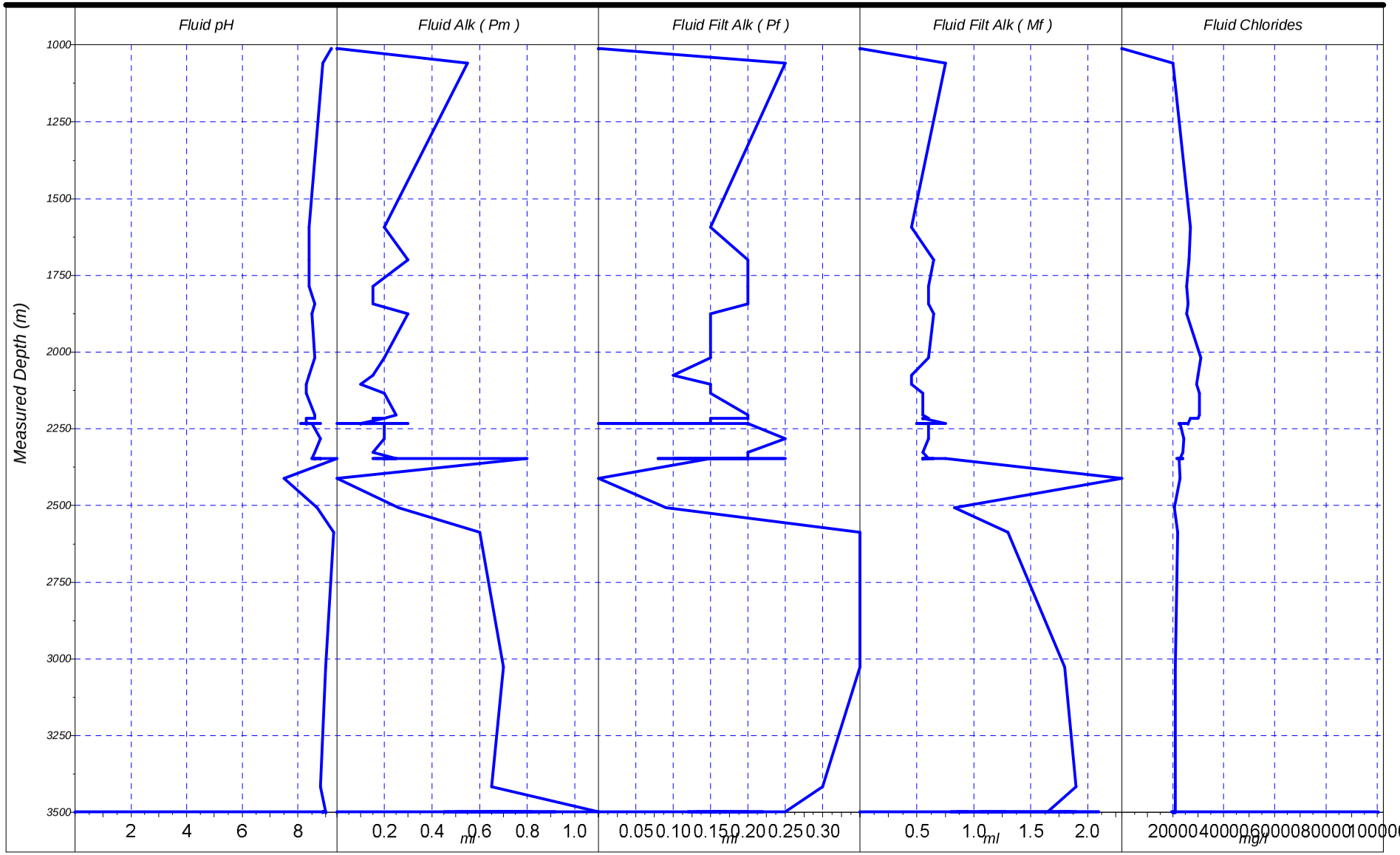
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Recap Propereties Water Based Depth Set 2

Well : Yolla-3

Operator : Origin Energy Resources Ltd



Baroid Drilling Fluids

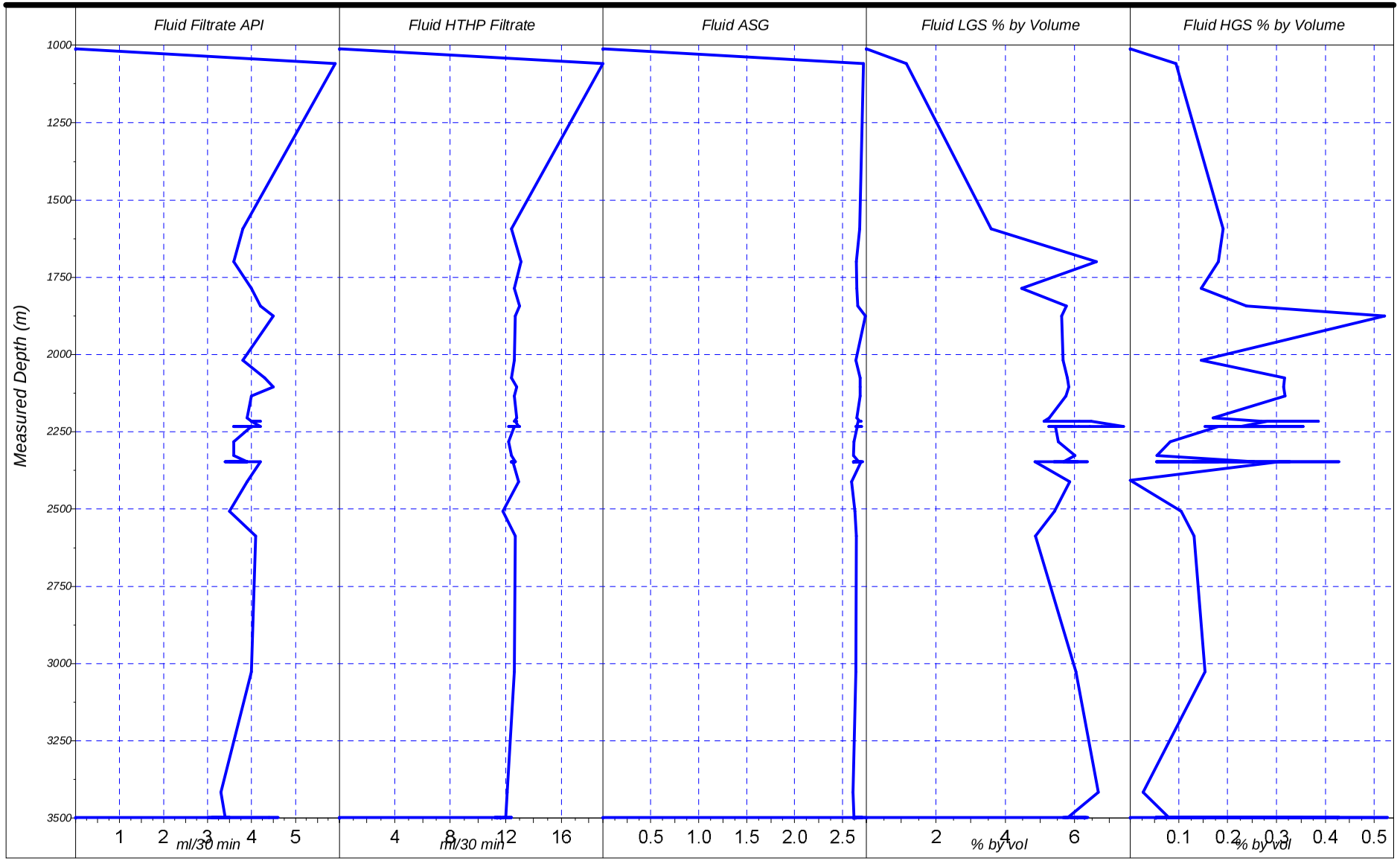
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Recap Properties Water Based Depth Set 3

Well : Yolla-3

Operator : Origin Energy Resources Ltd



Baroid Drilling Fluids

HALLIBURTON

Printed On 28/10/2004

APPENDIX 15: WATER ANALYSIS & PVT REPORTS

(A) Petrolab Report

PETROLAB

Company : Origin Energy Resources Ltd.
Well : Yolla # 3 File : O - 24037

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PETROLAB

Company : Origin Energy Resources Ltd.
Well : Yolla # 3 File : O - 24037

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Gas Contaminants

SUMMARY OF GAS CONTAMINANTS RESULTS

SAMPLED AT SEPARATOR @ :			258 psig 19 °C		749 psig 29 °C		756 psig 30 °C		757 psig 32 °C	
Component	**Units**		**2973 SAND**	**2973 SAND**	**2809 SAND**	**2809 SAND**	**2755 SAND**	**2755 SAND**	**UEVCM SAND**	**UEVCM SAND**
H2S	PPM Vol	(1)	39.9	38.9	26.7	27.7	28.3	27.4	1.0	0.9
HRS	PPM Vol	(1)	3.2	2.9	3.3	2.7	1.7	1.6	0.1	0.1
COS	PPM Vol	(1)	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Rn222	Bq/m^3	(2)	<50	<50		<50	730+-120			<50
Po210	Bq/m^3	(3)			<40		<40			
Pb210	Bq/m^3	(3)			<150		<150			
Potassium	mg/m^3	(5)	<0.05	<0.05	<0.05	0.2	<0.05	0.1	0.2	0.1
Sodium	mg/m^3	(5)	<0.05	<0.05	1.5	0.5	<0.05	2.6	0.5	0.3
Barium	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Calcium	mg/m^3	(5)	3.6	1.5	5.9	2.3	1.0	1.7	2.0	1.6
Iron	mg/m^3	(5)	13.3	16.0	0.1	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	mg/m^3	(5)	0.1	0.1	0.2	0.1	<0.05	0.3	0.1	<0.05
Strontium	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Boron	mg/m^3	(5)	0.1	<0.05	0.1	0.1	0.1	<0.05	<0.05	<0.05
Silicon	mg/m^3	(5)	0.2	0.3	0.1	0.1	<0.05	<0.05	0.2	0.2
Aluminium	mg/m^3	(5)	0.1	0.1	0.1	<0.05	0.1	0.1	<0.05	<0.05
Cadmium	mg/m^3	(5)	0.5	0.1	<0.05	0.2	<0.05	0.1	0.1	<0.05
Chromium	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vanadium	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	mg/m^3	(5)	0.7	0.4	0.7	0.4	0.1	0.2	0.4	0.2
Lead	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese	mg/m^3	(5)	0.3	0.9	<0.05	0.1	<0.05	<0.05	0.1	<0.05
Tin	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phosphorous	mg/m^3	(5)	<0.05	<0.05	0.2	0.1	<0.05	<0.05	<0.05	<0.05
Molybdenum	mg/m^3	(5)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

(1) Wet Chemistry

(2) Rn222 - by gamma counting while desorbing of charcoal

(3) By alpha counting of absorbed solution

(4) Cold Vapour Atomic Absorbtion

(5) By Inductively Coupled Plasma

Mercury

SAND ID.	Date Sampled	Time Sampled		Temperature Sampled °C		Volume Gas Sampled L		Hg in gas mg/m^3
2973	September 27, 2004	09:30 - 11:30		20		352		**0.63**
2973	September 27, 2004	09:30 - 11:30		20		353		**0.70**
2809	September 29, 2004	05:20 - 07:30		32		538		**0.21**
2809	September 29, 2004	05:20 - 07:30		32		495		**0.18**
2755	September 30, 2004	23:14 - 02:19		32		290		**0.35**
2755	September 30, 2004	23:14 - 02:19		32		346		**0.23**
UEVCM	September 28, 2004	07:55 - 09:35		38		382		**< 0.01**
UEVCM	September 28, 2004	07:55 - 09:35		38		331		**< 0.01**

Outline of Test Method

Mercury is determined according to Standard ISO 6978. A measured volume of gas is bubbled through an acidified 0.5% Potassium Permanganate solution. The excess Potassium Permanganate is decolourised with 20% Hydroxylamine Hydrochloride (HAM) while Manganese Dioxide precipitates and the Mercury is evolved by reduction with Stannous Chloride (by Petrolab, Adelaide) and measured by cold vapour AAS (Atomic Absorption Spectrometry, analysed by AMDEL Laboratories , Adelaide).

BTX RESULTS

UEVCM sand

	B	T	X
Wt% of BTX - ST Gas	0.36	0.49	0.29
Wt% of BTX - ST Liq	0.39	2.32	3.89
Wt% of BTX - Sep Gas	0.05	0.07	0.04
Wt% of BTX - Sep Liq	0.38	1.93	3.11
	B	T	X
Wt% of BTX - Well Stream	**0.12**	**0.47**	**0.71**

2755 sand Yolla 3

B	T	X
1.23	0.98	0.44
1.19	5.74	7.29
0.34	0.83	0.25
1.19	4.97	6.17
B	T	X
0.42	**1.21**	**0.8**

2809 sand Yolla 4

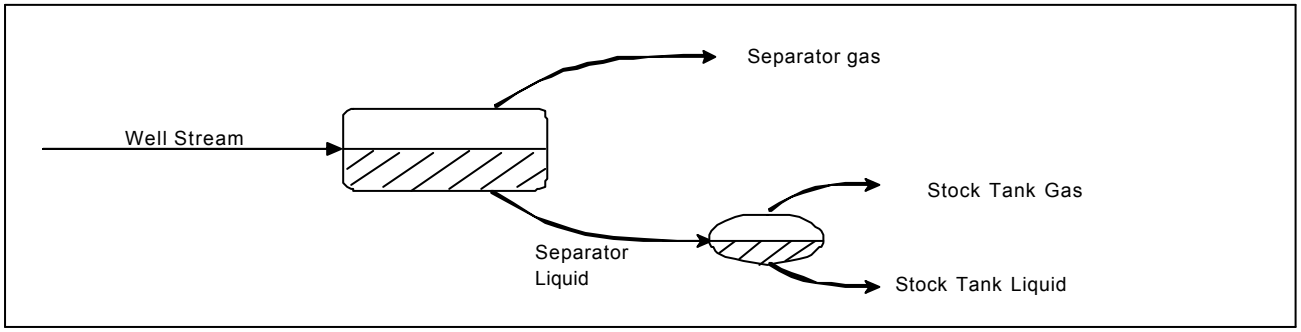
	B	T	X
Wt% of BTX - ST Gas	0.69	0.74	0.21
Wt% of BTX - ST Liq	1.05	4.25	6.2
Wt% of BTX - Sep Gas	0.18	0.33	0.2
Wt% of BTX - Sep Liq	0.98	3.56	5.02
	B	T	X
Wt% of BTX - Well Stream	**0.28**	**0.74**	**0.81**

2809 sand Yolla 3

B	T	X
0.74	1.03	0.58
0.99	4.56	6.41
0.14	0.28	0.19
0.94	3.85	5.24
B	T	X
0.27	**0.84**	**0.98**

2973 sand Yolla 3

	B	T	X
Wt% of BTX - ST Gas	1.38	1.67	0.97
Wt% of BTX - ST Liq	0.43	6.68	8.51
Wt% of BTX - Sep Gas	0.34	0.46	0.13
Wt% of BTX - Sep Liq	0.48	6.42	8.13
	B	T	X
Wt% of BTX - Well Stream	**0.34**	**0.69**	**0.45**



Physical Properties

UEVCM Stock Tank Oil		
Cloud Point	(°C)	13
Pour Point	(°C)	7
Wax Content	(wt%)	5.40
Asphaltene Content	(wt%)	0.08
SARA		
(S)aturates	(wt%)	76.20
(A)romates	(wt%)	0.63
(R)esins	(wt%)	1.19
(A)sphaltenes	(wt%)	0.05

UEVCM Stock Tank Oil mixed with Condensate from 2755 Sand			
UEVCM STT Oil (%)	**2755 Sand Condensate (%)**	**Cloud Point (°C)**	**Pour Point (°C)**
100	0	12	8
75	25	10	6
50	50	9	5
25	75	6	5
0	100	2	-1

Surface Samples

Surface Samples Validity Check
SAND 2973
Saturation Pressure : 222 psig @ 68 ° F

Surface Samples Set # 1

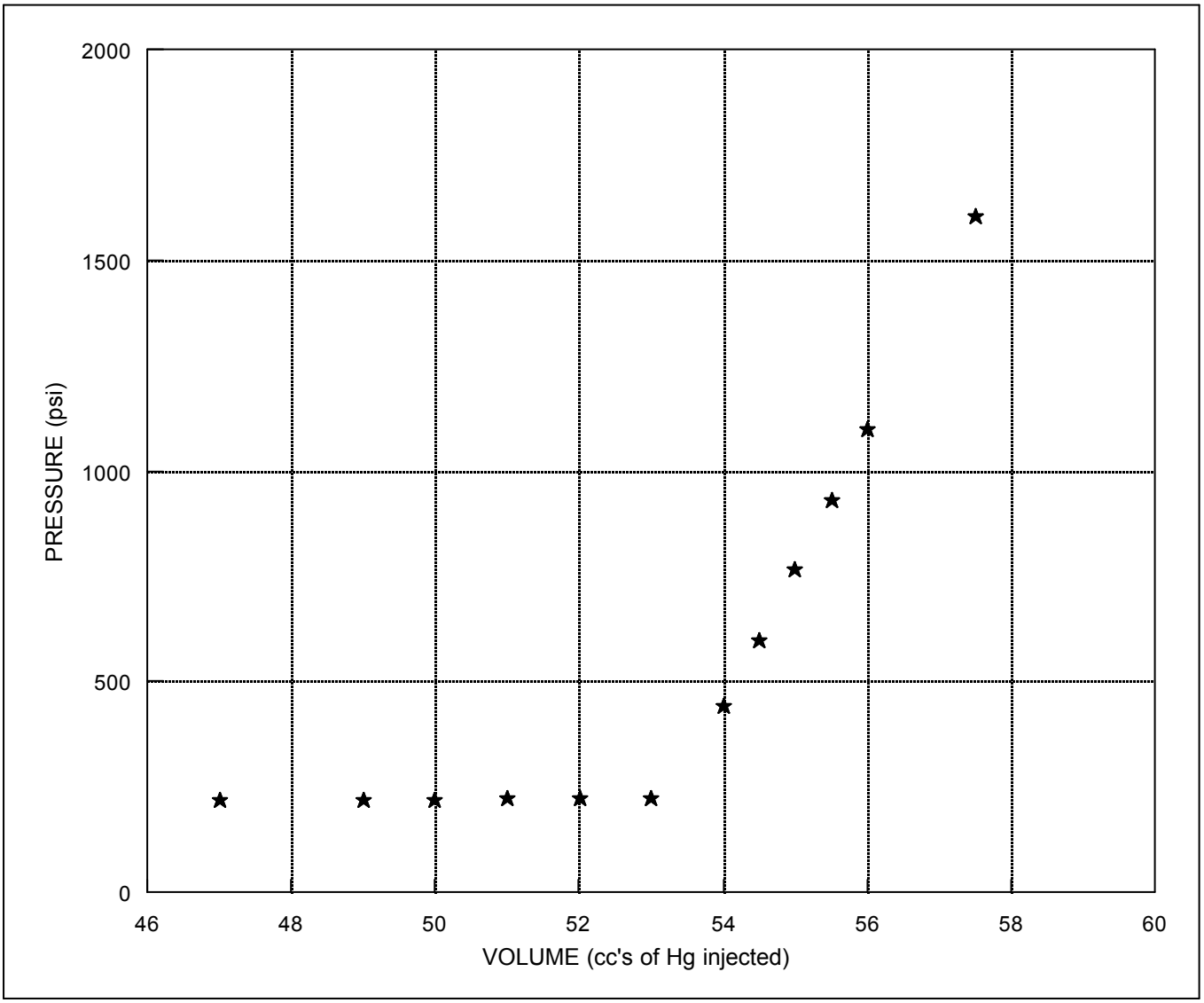
Sampling Conditions

Date	:	September 27, 2004
Pressure	:	258 psig
Temperature	:	66 ° F

Cylinder #	:	EE 7981 (gas)
Opening Pressure	:	289 psig @ 100 °F

Cylinder #	:	L - 607 (liquid)
Opening Pressure	:	182 psig @ 68 °F

Volume (cc's)	Pressure (psi)
47.00	218
49.00	220
50.00	220
51.00	221
52.00	221
53.00	222
54.00	441
54.50	598
55.00	766
55.50	930
56.00	1099
57.50	1605



Surface Samples Validity Check
SAND 2973
Saturation Pressure : 229 psig @ 66 ° F

Surface Samples Set # 3 of 3

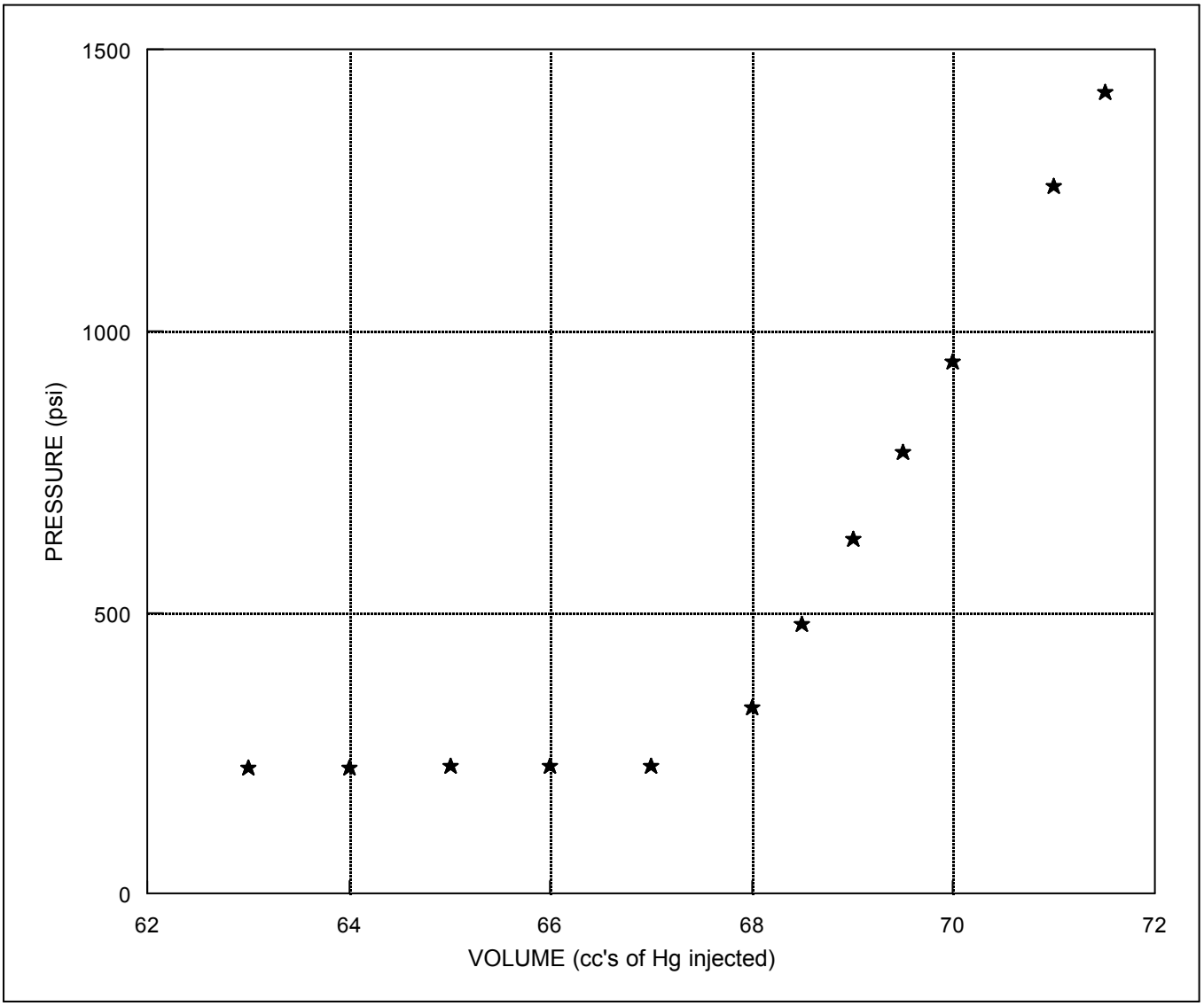
Sampling Conditions

Date	:	September 27, 2004
Pressure	:	258 psig
Temperature	:	66 ° F

Cylinder #	:	PA 3420 (gas)
Opening Pressure	:	287 psig @ 100 °F

Cylinder #	:	L - 608 (liquid)
Opening Pressure	:	200 psig @ 66 °F

Volume (cc's)	Pressure (psi)
63.00	226
64.00	226
65.00	227
66.00	227
67.00	229
68.00	332
68.50	481
69.00	632
69.50	786
70.00	947
71.00	1260
71.50	1424



Surface Samples Validity Check
SAND UEVCM
Saturation Pressure : 626 psig @ 68 ° F

Surface Samples Set # 1of 3

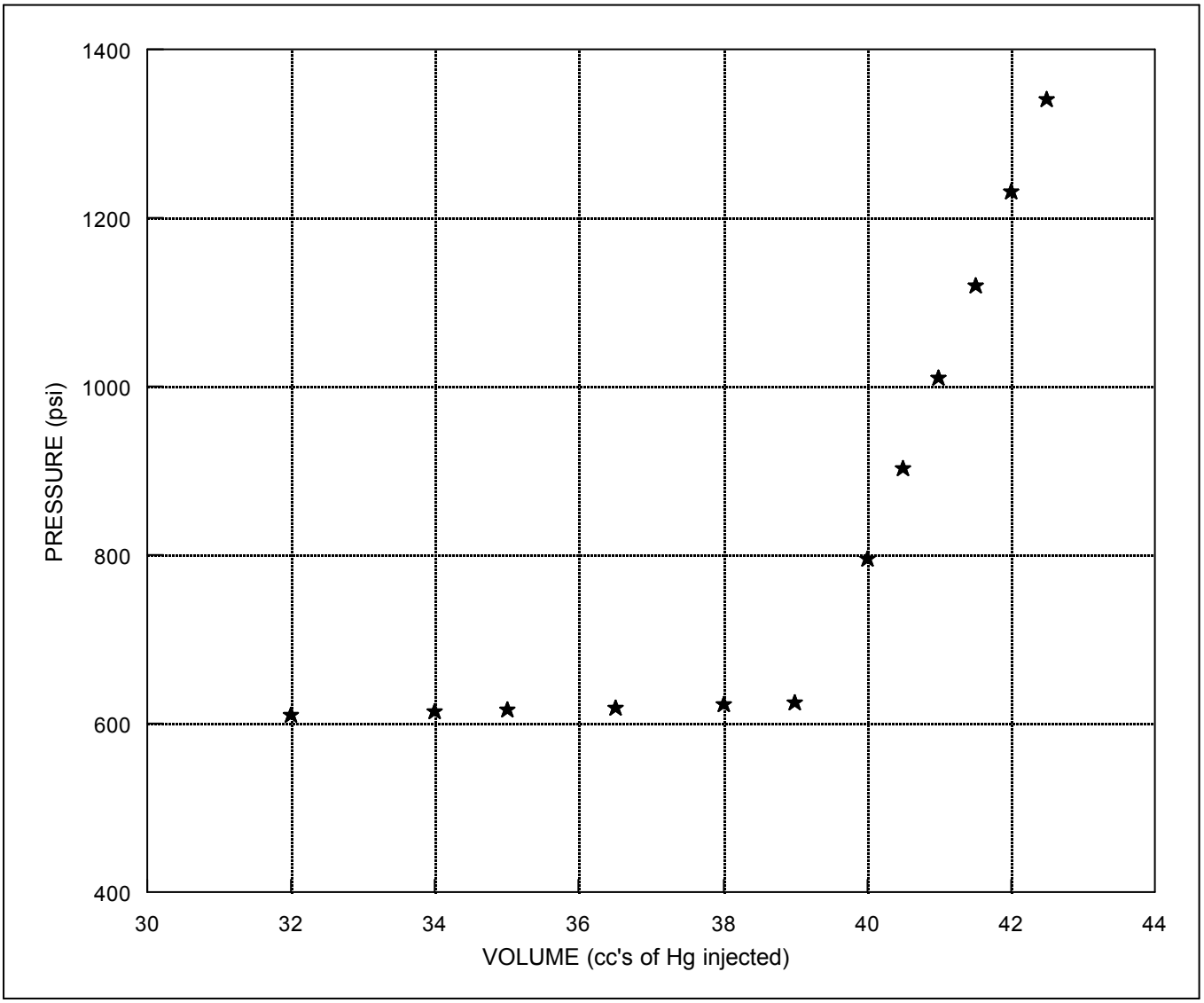
Sampling Conditions

Date	:	September 28, 2004
Pressure	:	740 psig
Temperature	:	100 ° F

Cylinder #	:	PA 3398 (gas)
Opening Pressure	:	881 psig @ 120 °F

Cylinder #	:	L - 617 (liquid)
Opening Pressure	:	564 psig @ 68 °F

Volume (cc's)	Pressure (psi)
32.00	611
34.00	614
35.00	617
36.50	619
38.00	623
39.00	626
40.00	796
40.50	903
41.00	1011
41.50	1120
42.00	1232
42.50	1342



Surface Samples Validity Check
SAND UEVCM
Saturation Pressure : 616 psig @ 68 ° F

Surface Samples Set # 3 of 3

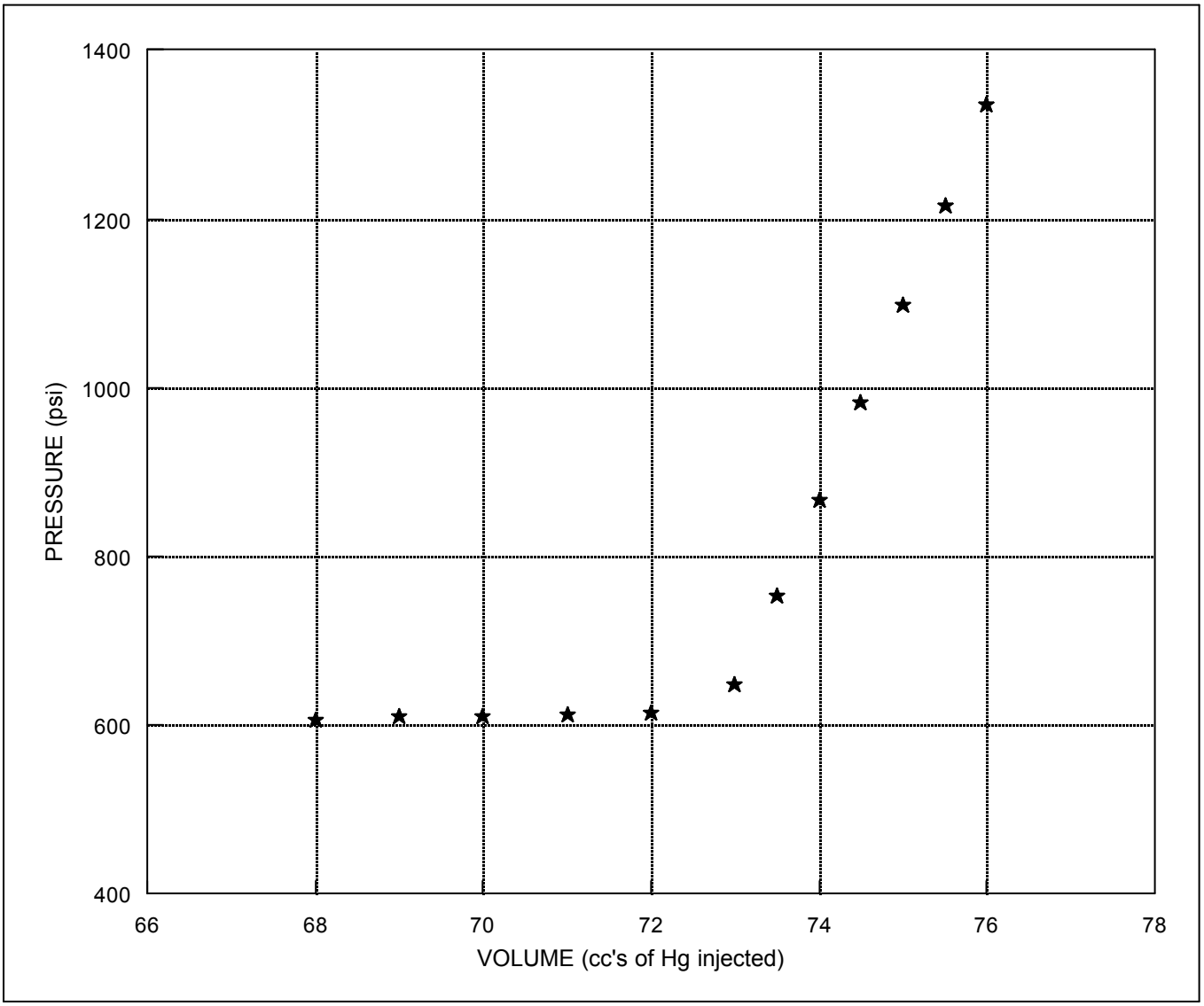
Sampling Conditions

Date	:	September 28, 2004
Pressure	:	745 psig
Temperature	:	109 ° F

Cylinder #	:	PA 3440 (gas)
Opening Pressure	:	881 psig @ 120 °F

Cylinder #	:	L - 619 (liquid)
Opening Pressure	:	515 psig @ 68 °F

Volume (cc's)	Pressure
68.00	607
69.00	610
70.00	611
71.00	612
72.00	616
73.00	648
73.50	753
74.00	867
74.50	982
75.00	1098
75.50	1215
76.00	1336



Surface Samples Validity Check
SAND 2809
Saturation Pressure : 646 psig @ 64 ° F

Surface Samples Set # 1 of 3

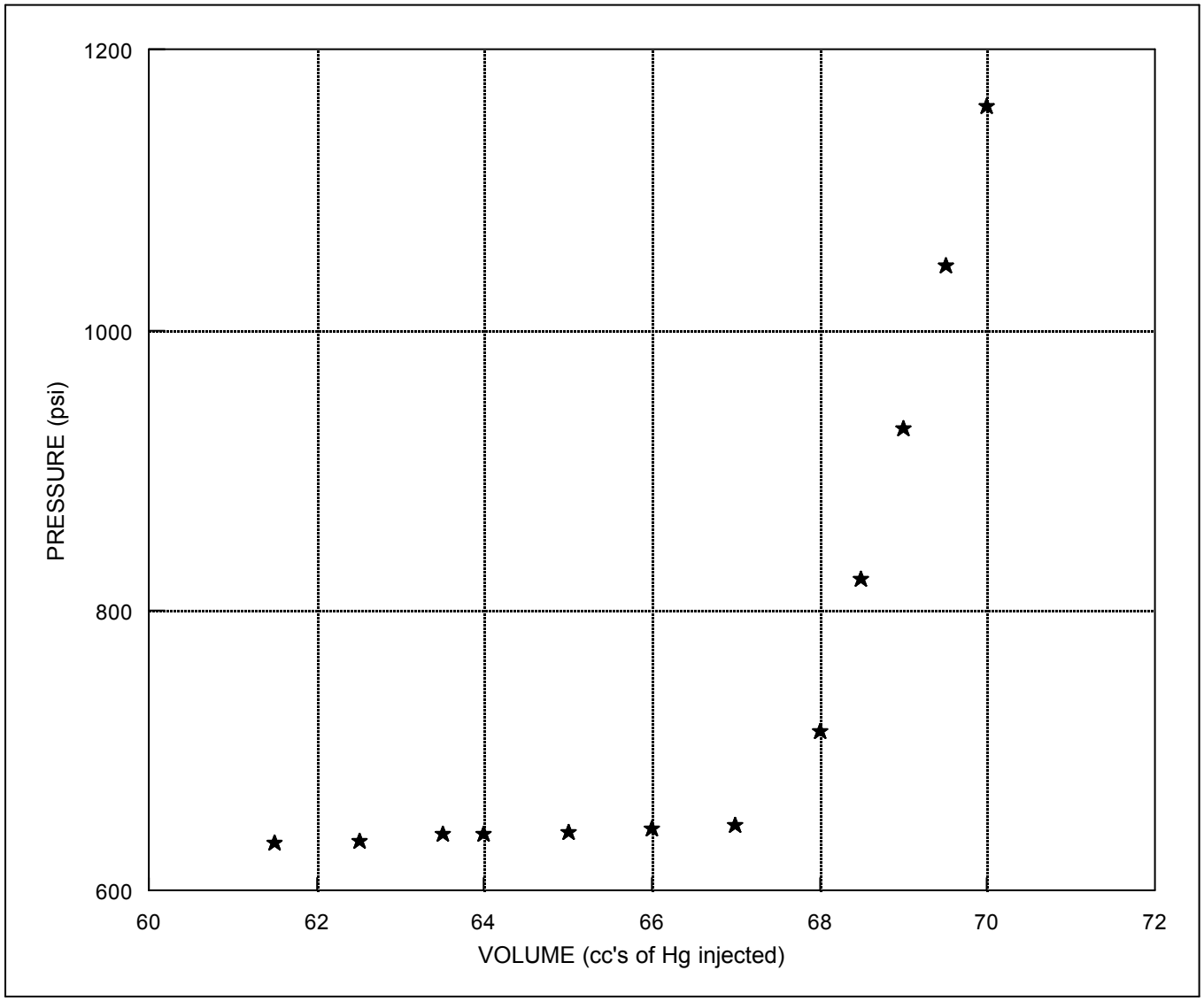
Sampling Conditions

Date	:	September 29, 2004
Pressure	:	749 psig
Temperature	:	84 ° F

Cylinder #	:	EC 9449 (gas)
Opening Pressure	:	864 psig @ 120 °F

Cylinder #	:	L - 620 (liquid)
Opening Pressure	:	578 psig @ 66 °F

Volume (cc's)	Pressure (psi)
61.50	634
62.50	635
63.50	640
64.00	640
65.00	641
66.00	644
67.00	646
68.00	714
68.50	822
69.00	930
69.50	1046
70.00	1160



Surface Samples Validity Check
SAND 2809
Saturation Pressure : 627 psig @ 66 ° F

Surface Samples Set # 3 of 3

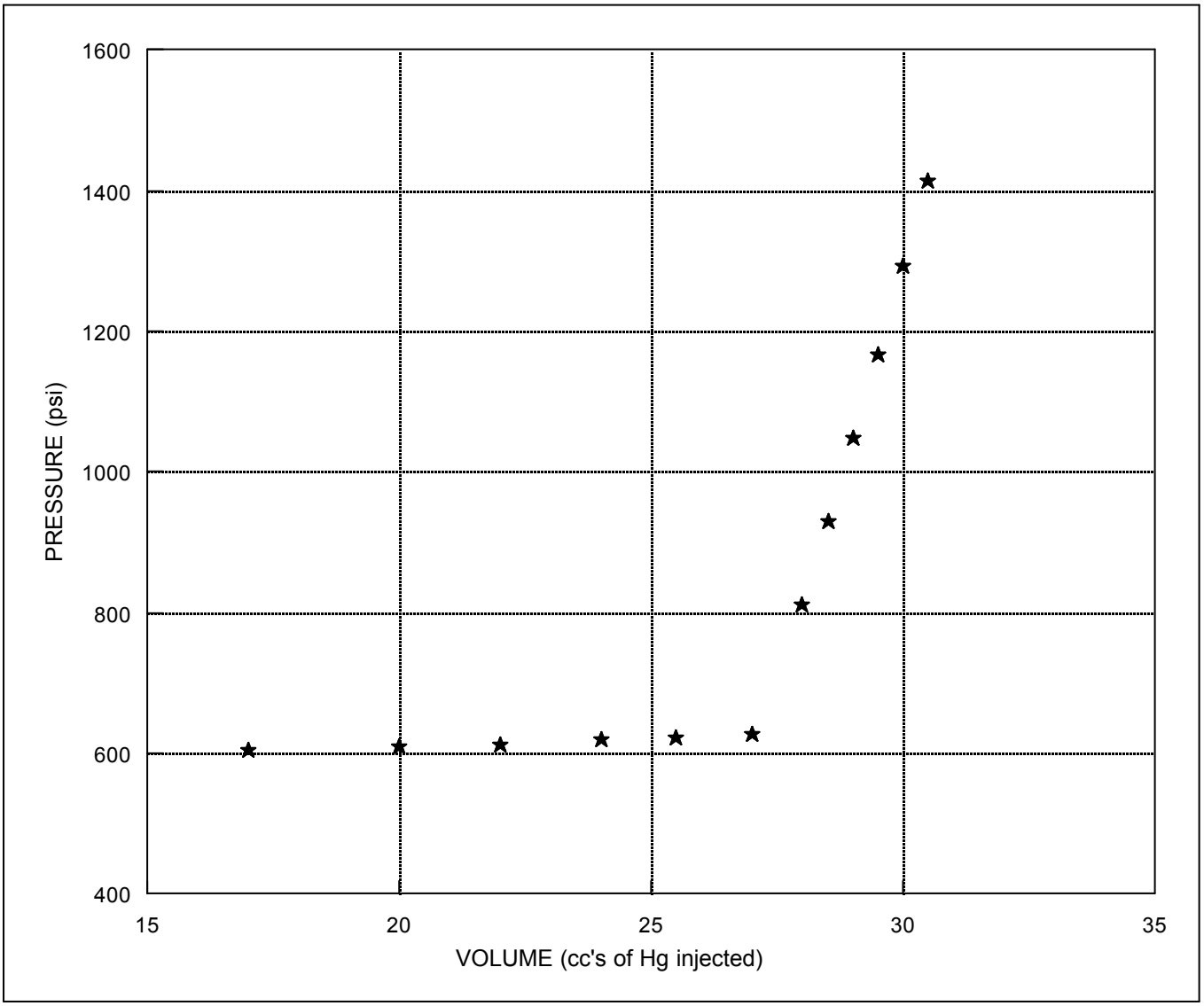
Sampling Conditions

Date	:	September 29, 2004
Pressure	:	749 psig
Temperature	:	84 ° F

Cylinder #	:	ED 5584 (gas)
Opening Pressure	:	866 psig @ 120 °F

Cylinder #	:	L - 622 (liquid)
Opening Pressure	:	578 psig @ 66 °F

Volume (cc's)	Pressure (psi)
17.00	605
20.00	611
22.00	613
24.00	620
25.50	623
27.00	627
28.00	811
28.50	930
29.00	1048
29.50	1168
30.00	1292
30.50	1413



Surface Samples Validity Check
SAND 2755
Saturation Pressure : 630 psig @ 68 ° F

Surface Samples Set # 1 of 3

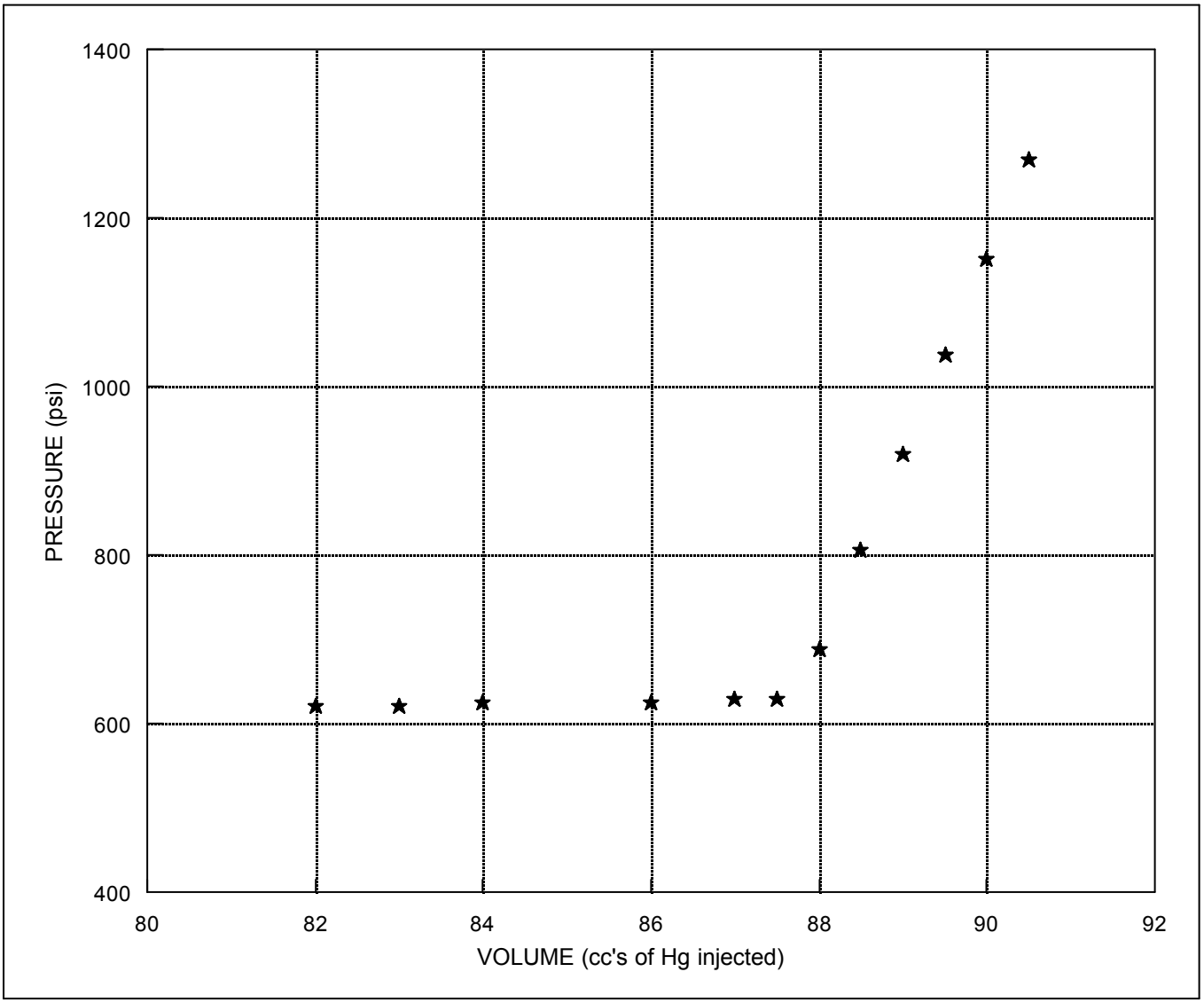
Sampling Conditions

Date	:	September 30, 2004
Pressure	:	756 psig
Temperature	:	86 ° F

Cylinder #	:	EC 9461 (gas)
Opening Pressure	:	879 psig @ 100 °F

Cylinder #	:	L - 126 (liquid)
Opening Pressure	:	562 psig @ 68 °F

Volume (cc's)	Pressure (psi)
82.00	622
83.00	622
84.00	626
86.00	626
87.00	629
87.50	630
88.00	688
88.50	807
89.00	921
89.50	1039
90.00	1152
90.50	1270



Surface Samples Validity Check
SAND 2755
Saturation Pressure : 628 psig @ 68 ° F

Surface Samples Set # 3 of 3

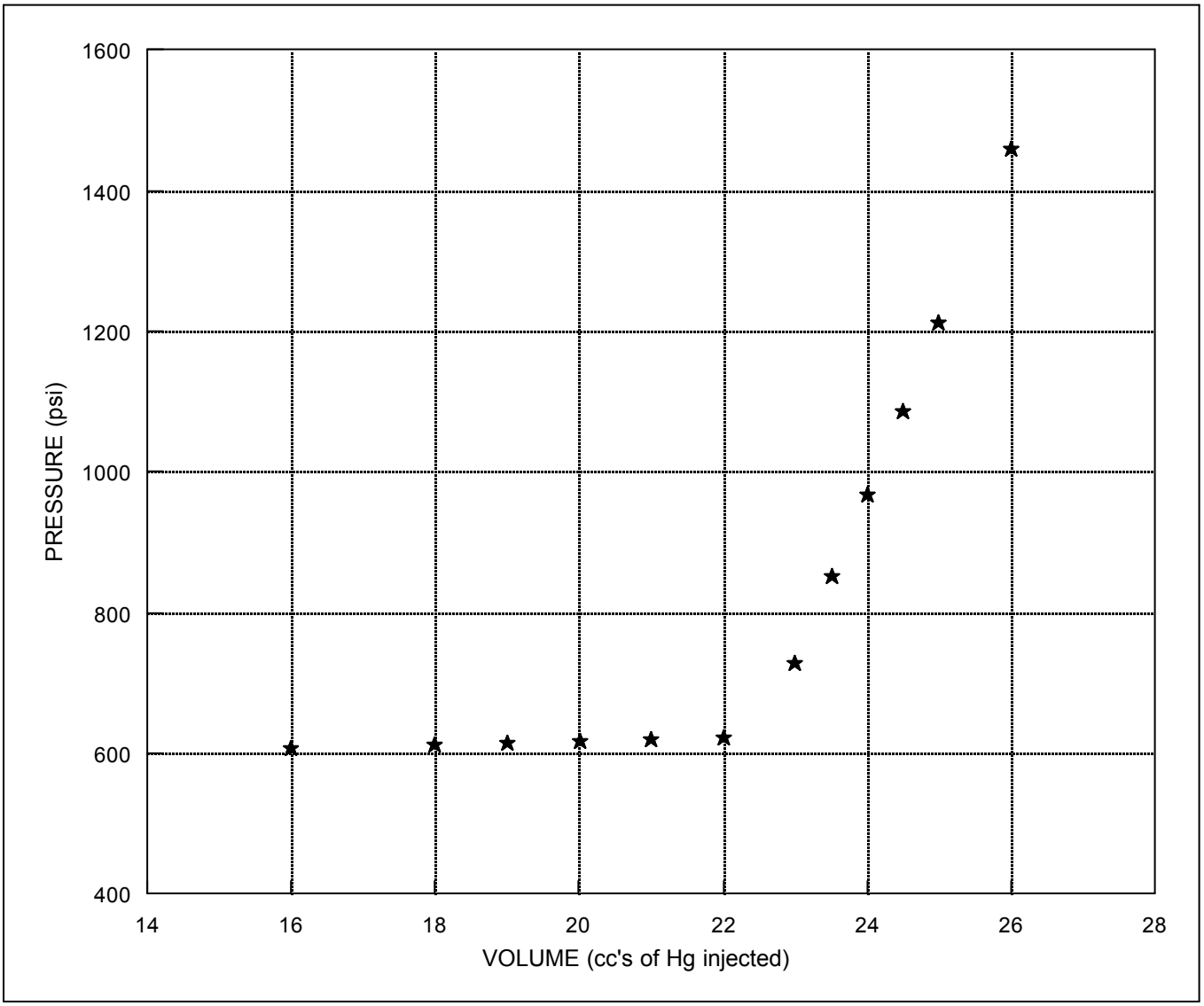
Sampling Conditions

Date	:	September 30, 2004
Pressure	:	756 psig
Temperature	:	86 ° F

Cylinder #	:	EE 7995 (gas)
Opening Pressure	:	846 psig @ 100 °F

Cylinder #	:	L - 271 (liquid)
Opening Pressure	:	566 psig @ 68 °F

Volume (cc's)	Pressure (psi)
16.00	608
18.00	613
19.00	616
20.00	617
21.00	621
22.00	624
23.00	729
23.50	853
24.00	969
24.50	1087
25.00	1213
26.00	1460



Surface Samples Validity Check
SAND 2809
Saturation Pressure : 640 psig @ 68 ° F

Surface Samples Set # 1 of 3

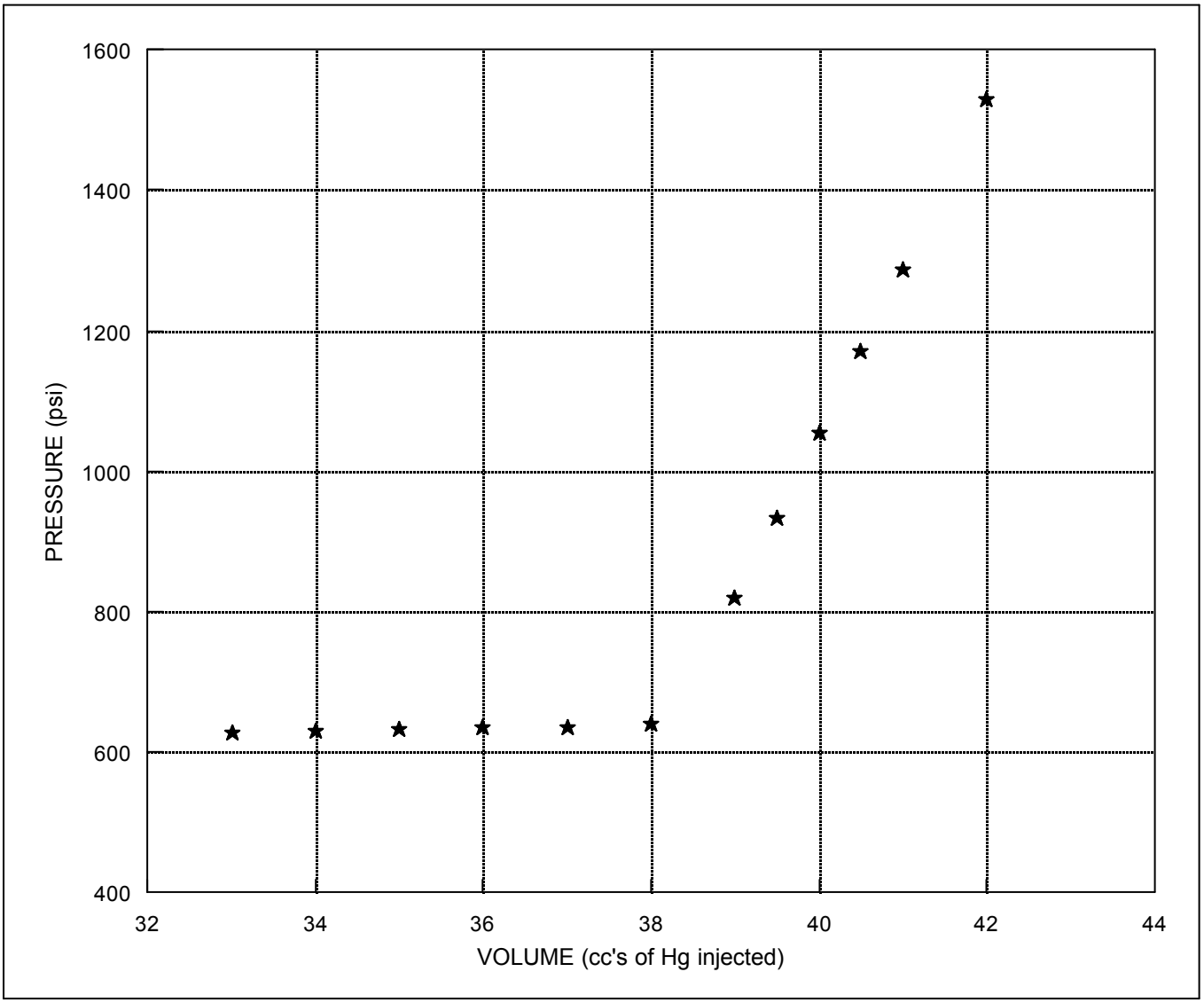
Sampling Conditions

Date	:	October 2, 2004
Pressure	:	750 psig
Temperature	:	82 ° F

Cylinder #	:	EE 3965 (gas)
Opening Pressure	:	869 psig @ 100 °F

Cylinder #	:	L - 350 (liquid)
Opening Pressure	:	572 psig @ 68 °F

Volume (cc's)	Pressure (psi)
33.00	628
34.00	631
35.00	633
36.00	635
37.00	636
38.00	640
39.00	820
39.50	934
40.00	1054
40.50	1170
41.00	1288
42.00	1529



Surface Samples Validity Check
SAND 2809
Saturation Pressure : 632 psig @ 68 ° F

Surface Samples Set # 3 of 3

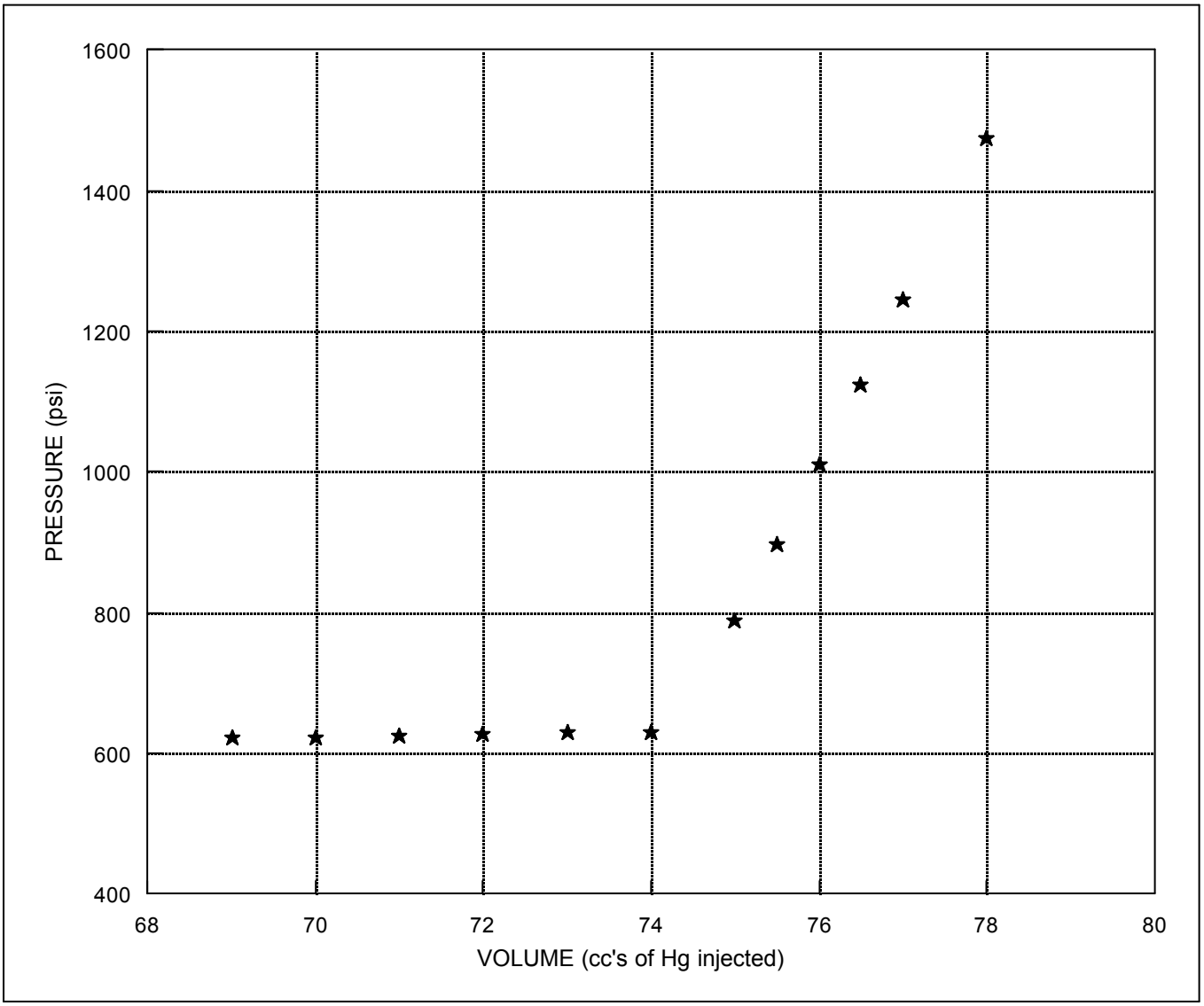
Sampling Conditions

Date	:	October 2, 2004
Pressure	:	750 psig
Temperature	:	90 ° F

Cylinder #	:	PB 3184 (gas)
Opening Pressure	:	854 psig @ 100 °F

Cylinder #	:	L - 614 (liquid)
Opening Pressure	:	579 psig @ 68 °F

Volume (cc's)	Pressure (psi)
69.00	622
70.00	624
71.00	626
72.00	628
73.00	631
74.00	631
75.00	788
75.50	898
76.00	1010
76.50	1124
77.00	1244
78.00	1476



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 14 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2973
Cylinder # : EE 7981

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	19.51	
Nitrogen	N2	0.23	
Methane	C1	71.62	
Ethane	C2	5.28	1.413
Propane	C3	1.73	0.477
Iso-Butane	iC4	0.36	0.118
N-Butane	nC4	0.43	0.136
Iso-Pentane	iC5	0.15	0.055
N-Pentane	nC5	0.14	0.051
Hexanes	C6	0.20	0.078
Heptanes	C7	0.21	0.088
Octanes	C8	0.08	0.036
Nonanes	C9	0.03	0.015
Decanes	C10	0.01	0.005
Undecanes	C11	0.01	0.006
Dodecanes Plus	C12+	0.01	0.007
TOTAL		100.00	2.485

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	23.70
Gas Gravity	:	0.821
Pc	:	743.3
Tc	:	407.5
Mol Weight C6+	:	97.7
Density C6+	:	0.6860
Mol Weight C7+	:	105.5
Density C7+	:	0.6961
Mol Weight C10+	:	152.0
Density C10+	:	0.7445
Mol Weight C11+	:	161.0
Density C11+	:	0.7521
Mol Weight C12+	:	175.0
Density C12+	:	0.7631
Heating Value (BTU/ft3)		
Gross	:	933
Nett	:	843
Wobbe Index	:	1030
Zpt *	:	0.950

* (P)ressure : 258 psig * (T)emperature : 66 °F

Date Sampled: September 27, 2004 @ 11:55 - 12:05 hrs

Lab Opening Pressure : 289 psig @ : 100 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 15 of 197
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COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2973
Cylinder # : PA 3442

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	19.53	
Nitrogen	N2	0.23	
Methane	C1	71.66	
Ethane	C2	5.22	1.397
Propane	C3	1.74	0.480
Iso-Butane	iC4	0.33	0.108
N-Butane	nC4	0.42	0.133
Iso-Pentane	iC5	0.15	0.055
N-Pentane	nC5	0.14	0.051
Hexanes	C6	0.21	0.082
Heptanes	C7	0.21	0.088
Octanes	C8	0.07	0.032
Nonanes	C9	0.04	0.020
Decanes	C10	0.01	0.005
Undecanes	C11	0.01	0.006
Dodecanes Plus	C12+	0.03	0.022
TOTAL		100.00	2.479

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	23.72
Gas Gravity	:	0.821
Pc	:	743.3
Tc	:	407.6
Mol Weight C6+	:	100.3
Density C6+	:	0.6895
Mol Weight C7+	:	109.6
Density C7+	:	0.7012
Mol Weight C10+	:	161.2
Density C10+	:	0.7522
Mol Weight C11+	:	168.0
Density C11+	:	0.7577
Mol Weight C12+	:	175.0
Density C12+	:	0.7631
Heating Value (BTU/ft3)		
Gross	:	933
Nett	:	844
Wobbe Index	:	1030
Zpt *	:	0.950

* (P)ressure : 258 psig * (T)emperature : 66 °F

Date Sampled: September 27, 2004 @ 13:52 - 14:06 hrs

Lab Opening Pressure : 288 psig @ : 100 °F

PETROLAB

Company : Origin Energy Resources Ltd.	Page : 16 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2973
Cylinder # : PA 3420

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.37	
Nitrogen	N2	0.18	
Methane	C1	71.19	
Ethane	C2	5.14	1.376
Propane	C3	1.71	0.472
Iso-Butane	iC4	0.29	0.095
N-Butane	nC4	0.43	0.136
Iso-Pentane	iC5	0.14	0.051
N-Pentane	nC5	0.13	0.047
Hexanes	C6	0.16	0.062
Heptanes	C7	0.13	0.055
Octanes	C8	0.04	0.018
Nonanes	C9	0.03	0.015
Decanes	C10	0.05	0.027
Undecanes	C11	0.01	0.006
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	2.360

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	23.77
Gas Gravity	:	0.823
Pc	:	747.2
Tc	:	407.8
Mol Weight C6+	:	100.0
Density C6+	:	0.6891
Mol Weight C7+	:	109.8
Density C7+	:	0.7015
Mol Weight C10+	:	136.2
Density C10+	:	0.7299
Mol Weight C11+	:	147.0
Density C11+	:	0.7400
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	916
Nett	:	828
Wobbe Index	:	1009
Zpt *	:	0.950

* (P)ressure : 258 psig * (T)emperature : 66 °F

Date Sampled: September 27, 2004 @ 14:36 - 14:54 hrs

Lab Opening Pressure : 287 psig @ : 100 °F

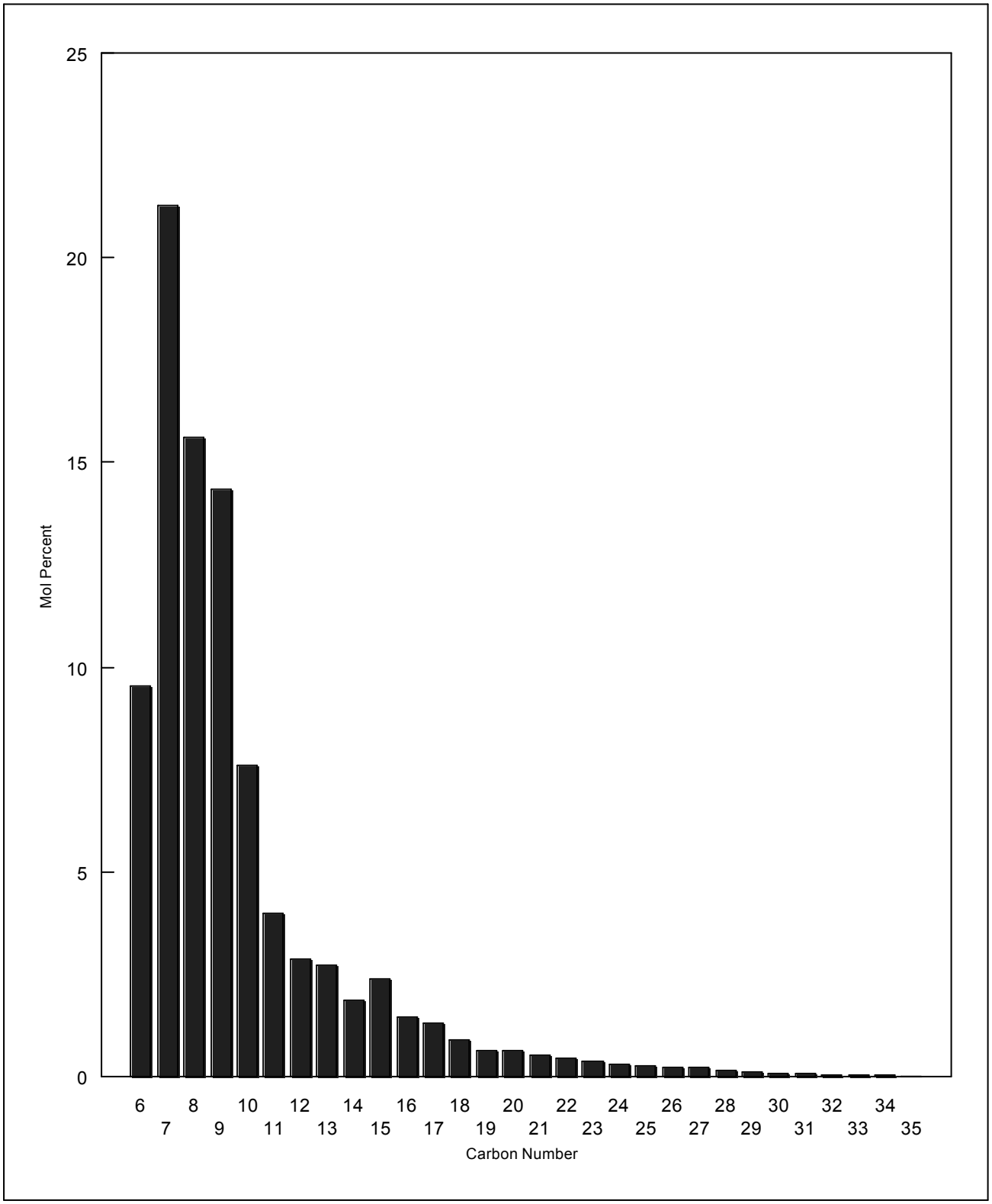
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2973 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 608

Component		Mol %
Hexanes minus	C6-	10.17
Hexanes	C6	9.53
Heptanes	C7	21.27
Octanes	C8	15.63
Nonanes	C9	14.34
Decanes	C10	7.61
Undecanes	C11	3.97
Dodecanes	C12	2.88
Tridecanes	C13	2.72
Tetradecanes	C14	1.85
Pentadecanes	C15	2.37
Hexadecanes	C16	1.44
Heptadecanes	C17	1.29
Octadecanes	C18	0.88
Nonadecanes	C19	0.63
Eicosanes	C20	0.62
Heneicosanes	C21	0.53
Docosanes	C22	0.45
Tricosanes	C23	0.37
Tetracosanes	C24	0.29
Pentacosanes	C25	0.26
Hexacosanes	C26	0.21
Heptacosanes	C27	0.20
Octacosanes	C28	0.14
Nonacosanes	C29	0.12
Triacontanes	C30	0.08
Hentriacontanes	C31	0.06
Dotriacontanes	C32	0.04
Tritriacontanes	C33	0.04
Tetratriacontanes	C34	0.01
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	125.0
Density @ 60 °F Calculated *	:	0.7607

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2973 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 608



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COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

2973 SAND

Cylinder # L - 608

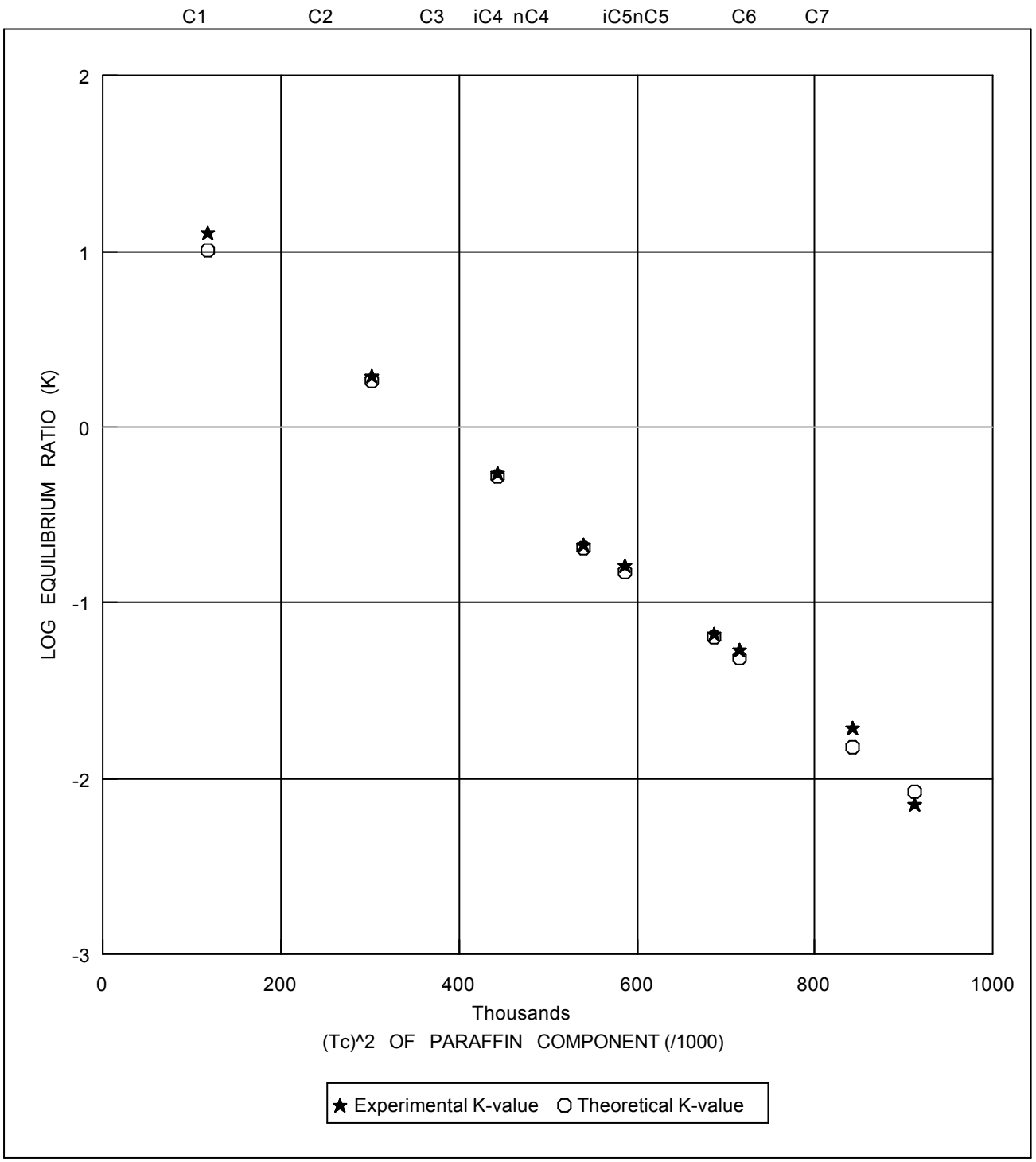
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.38	24.74	4.12
Nitrogen	N2	0.00	0.08	0.01
Methane	C1	0.21	35.39	5.60
Ethane	C2	0.53	14.25	2.63
Propane	C3	1.59	11.57	3.12
Iso-Butane	iC4	1.04	2.96	1.34
N-Butane	nC4	2.31	4.51	2.65
Iso-Pentane	iC5	2.20	1.59	2.11
N-Pentane	nC5	2.58	1.44	2.41
Hexanes	C6	9.46	1.63	8.26
Heptanes	C7	21.11	1.25	18.06
Octanes	C8	15.51	0.33	13.18
Nonanes	C9	14.23	0.15	12.07
Decanes	C10	7.55	0.07	6.41
Undecanes	C11	3.94	0.03	3.34
Dodecanes Plus	C12+	17.35	0.01	14.69
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.8467	0.1533	1.0000
Mass Ratio	:	0.9501	0.0499	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.0801 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	149 SCF	--
Stream Properties				
Molecular Weight	:	123.2	35.76	109.8
Density obs. (gm/cc)	:	0.7606 @ 60 °F	--	0.7416 @ PT*
Gravity (AIR = 1.000)	:	54.4 °API @ 60 °F	1.245	59.1
GHV (BTU/scf)	:	--	1460	--
Hexanes Plus Properties				
Mol %	:	89.15	3.47	76.01
Molecular Weight	:	131.0	93.9	130.7
Density (gm/cc @ 60 °F)	:	0.7734	0.6808	0.7729
Gravity (°API @ 60 °F)	:	51.3	76.1	51.4
Heptanes Plus Properties				
Mol %	:	79.69	1.84	67.75
Molecular Weight	:	136.5	102.7	136.4
Density (gm/cc @ 60 °F)	:	0.7807	0.6926	0.7804
Gravity (°API @ 60 °F)	:	49.6	72.6	49.6
Decanes Plus Properties				
Mol %	:	28.84	0.11	24.44
Molecular Weight	:	189.7	140.8	189.7
Density (gm/cc @ 60 °F)	:	0.8232	0.7343	0.8232
Gravity (°API @ 60 °F)	:	40.2	61.0	40.2
Undecanes Plus Properties				
Mol %	:	21.29	0.04	18.03
Molecular Weight	:	209.5	152.7	209.4
Density (gm/cc @ 60 °F)	:	0.8342	0.7451	0.8342
Gravity (°API @ 60 °F)	:	38.0	58.2	38.0
Dodecanes Plus Properties				
Mol %	:	17.35	0.01	14.69
Molecular Weight	:	223.7	169.8	223.6
Density (gm/cc @ 60 °F)	:	0.8414	0.7591	0.8414
Gravity (°API @ 60 °F)	:	36.5	54.7	36.5

* (P)ressure : 258 psig * (T)emperature : 66 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # PA - 3420 and Liquid Cylinder # L - 608



PETROLAB

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from 2973 SAND in

Component		Cyl # L - 608 Separator Liquid Mol %	Cyl # PA - 3420 Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	4.12	20.37	20.23
Nitrogen	N2	0.01	0.18	0.18
Methane	C1	5.60	71.19	70.62
Ethane	C2	2.63	5.14	5.12
Propane	C3	3.12	1.71	1.72
Iso-Butane	iC4	1.34	0.29	0.30
N-Butane	nC4	2.65	0.43	0.45
Iso-Pentane	iC5	2.11	0.14	0.16
N-Pentane	nC5	2.41	0.13	0.15
Hexanes	C6	8.26	0.16	0.23
Heptanes	C7	18.06	0.13	0.29
Octanes	C8	13.18	0.04	0.15
Nonanes	C9	12.07	0.03	0.13
Decanes	C10	6.41	0.05	0.11
Undecanes	C11	3.34	0.01	0.04
Dodecanes Plus	C12+	14.69	0.00	0.12
TOTAL		100.00	100.00	100.00

Ratios

Molar Ratio	:	0.0087	0.9913	1.0000
Mass Ratio	:	0.0390	0.9610	1.0000
Liquid Ratio (bbl/bl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	102209 SCF ***	--

Stream Properties

Molecular Weight	:	109.80	23.77	24.52
Density obs. (gm/cc)	:	0.7416 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	59.13 API @ 60 ° F	0.823	--
GHV (BTU/scf)	:	--	916	--

Hexanes Plus Properties

Mol %	:	76.01	0.42	1.07
Molecular Weight	:	130.7	100.0	118.8
Density (gm/cc @ 60 °F)	:	0.7729	0.6891	0.7435
Gravity (°API @ 60 °F)	:	51.4	73.6	58.6

Heptanes Plus Properties

Mol %	:	67.75	0.26	0.84
Molecular Weight	:	136.4	109.8	128.3
Density (gm/cc @ 60 °F)	:	0.7804	0.7015	0.7582
Gravity (°API @ 60 °F)	:	49.6	70.0	54.9

Decanes Plus Properties

Mol %	:	24.44	0.06	0.27
Molecular Weight	:	189.7	136.2	177.5
Density (gm/cc @ 60 °F)	:	0.8232	0.7299	0.8058
Gravity (°API @ 60 °F)	:	40.2	62.2	43.9

Undecanes Plus Properties

Mol %	:	18.03	0.01	0.16
Molecular Weight	:	209.4	147.0	205.7
Density (gm/cc @ 60 °F)	:	0.8342	0.7400	0.8297
Gravity (°API @ 60 °F)	:	38.0	59.5	38.9

Dodecanes Plus Properties

Mol %	:	14.69	0.00	0.12
Molecular Weight	:	223.6	--	223.6
Density (gm/cc @ 60 °F)	:	0.8414	--	0.8414
Gravity (°API @ 60 °F)	:	36.5	--	36.5

* (P)ressure : 258 psig * (T)emperature : 66 °F

** Saturation (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 102209 SCF / SEP BBL @ PT = 110396 SCF / ST BBL

110396 = 111111 * (1.1023 * 1.0261) / (1.1111 * 1.0245)

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 22 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND UEVCM
Cylinder # : PA 3398

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	7.31	
Nitrogen	N2	0.50	
Methane	C1	75.91	
Ethane	C2	8.96	2.398
Propane	C3	4.74	1.307
Iso-Butane	iC4	0.79	0.259
N-Butane	nC4	1.04	0.328
Iso-Pentane	iC5	0.26	0.095
N-Pentane	nC5	0.22	0.080
Hexanes	C6	0.18	0.070
Heptanes	C7	0.08	0.034
Octanes	C8	0.01	0.005
Nonanes	C9	0.00	0.000
Decanes	C10	0.00	0.000
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	4.576

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	21.97
Gas Gravity	:	0.761
Pc	:	692.5
Tc	:	403.0
Mol Weight C6+	:	88.4
Density C6+	:	0.6728
Mol Weight C7+	:	97.2
Density C7+	:	0.6854
Mol Weight C10+	:	--
Density C10+	:	--
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	1144
Nett	:	1036
Wobbe Index	:	1311
Zpt *	:	0.861

* (P)ressure : 757 psig * (T)emperature : 90 °F

Date Sampled: September 28, 2004 @ 09:53 - 10:10 hrs

Lab Opening Pressure : 881 psig @ : 120 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 23 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND UEVCM
Cylinder # : PA 3388

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	7.33	
Nitrogen	N2	0.55	
Methane	C1	76.00	
Ethane	C2	8.88	2.377
Propane	C3	4.67	1.288
Iso-Butane	iC4	0.81	0.265
N-Butane	nC4	1.02	0.322
Iso-Pentane	iC5	0.24	0.088
N-Pentane	nC5	0.20	0.072
Hexanes	C6	0.15	0.058
Heptanes	C7	0.07	0.029
Octanes	C8	0.02	0.009
Nonanes	C9	0.01	0.005
Decanes	C10	0.05	0.027
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	4.540

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	21.98
Gas Gravity	:	0.761
Pc	:	692.5
Tc	:	402.6
Mol Weight C6+	:	97.9
Density C6+	:	0.6863
Mol Weight C7+	:	111.8
Density C7+	:	0.7038
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	1143
Nett	:	1036
Wobbe Index	:	1310
Zpt *	:	0.861

* (P)ressure : 757 psig * (T)emperature : 90 °F

Date Sampled: September 28, 2004 @ 10:17 - 10:26 hrs

Lab Opening Pressure : 890 psig @ : 120 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 24 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND UEVCM
Cylinder # : PA 3440

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	7.41	
Nitrogen	N2	0.53	
Methane	C1	75.81	
Ethane	C2	8.91	2.385
Propane	C3	4.74	1.307
Iso-Butane	iC4	0.72	0.236
N-Butane	nC4	1.08	0.341
Iso-Pentane	iC5	0.26	0.095
N-Pentane	nC5	0.23	0.083
Hexanes	C6	0.22	0.085
Heptanes	C7	0.07	0.029
Octanes	C8	0.01	0.005
Nonanes	C9	0.00	0.000
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	4.571

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	22.02
Gas Gravity	:	0.763
Pc	:	692.8
Tc	:	403.2
Mol Weight C6+	:	89.1
Density C6+	:	0.6738
Mol Weight C7+	:	101.4
Density C7+	:	0.6910
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	1143
Nett	:	1036
Wobbe Index	:	1309
Zpt *	:	0.861

* (P)ressure : 757 psig * (T)emperature : 90 °F

Date Sampled: September 28, 2004 @ 11:28 - 11:35 hrs

Lab Opening Pressure : 881 psig @ : 120 °F

PETROLAB

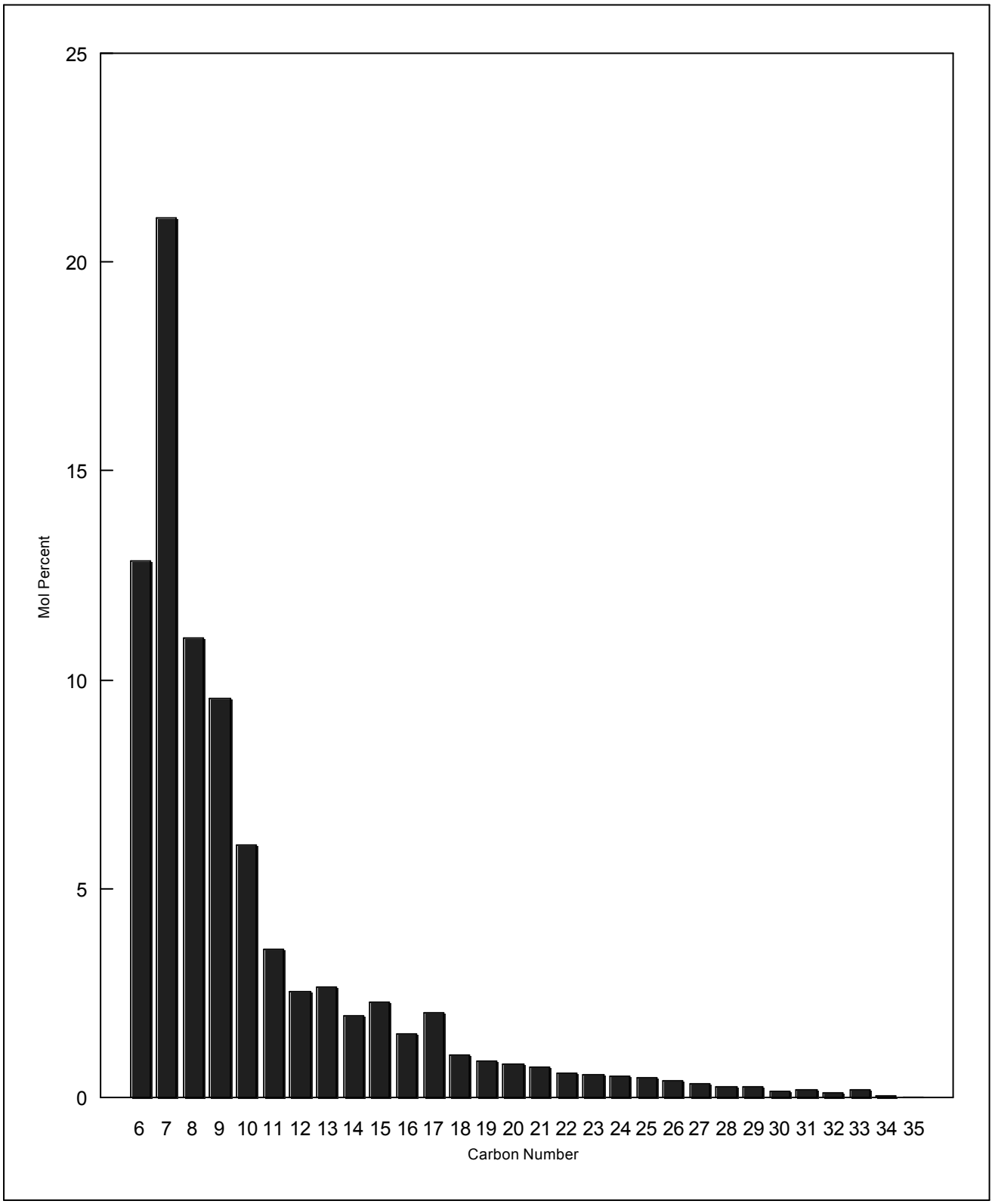
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
UEVCM SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 617

Component		Mol %
Hexanes minus	C6-	15.72
Hexanes	C6	12.85
Heptanes	C7	21.07
Octanes	C8	11.01
Nonanes	C9	9.55
Decanes	C10	6.03
Undecanes	C11	3.54
Dodecanes	C12	2.54
Tridecanes	C13	2.62
Tetradecanes	C14	1.96
Pentadecanes	C15	2.26
Hexadecanes	C16	1.53
Heptadecanes	C17	2.01
Octadecanes	C18	1.01
Nonadecanes	C19	0.86
Eicosanes	C20	0.79
Heneicosanes	C21	0.71
Docosanes	C22	0.59
Tricosanes	C23	0.55
Tetracosanes	C24	0.50
Pentacosanes	C25	0.47
Hexacosanes	C26	0.39
Heptacosanes	C27	0.33
Octacosanes	C28	0.25
Nonacosanes	C29	0.24
Triacontanes	C30	0.13
Hentriacontanes	C31	0.17
Dotriacontanes	C32	0.11
Tritriacontanes	C33	0.17
Tetratriacontanes	C34	0.04
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	127.2
Density @ 60 °F Calculated *	:	0.7617

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
UEVCM SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 617



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 27 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID
UEVCM SAND

Cylinder # L - 617

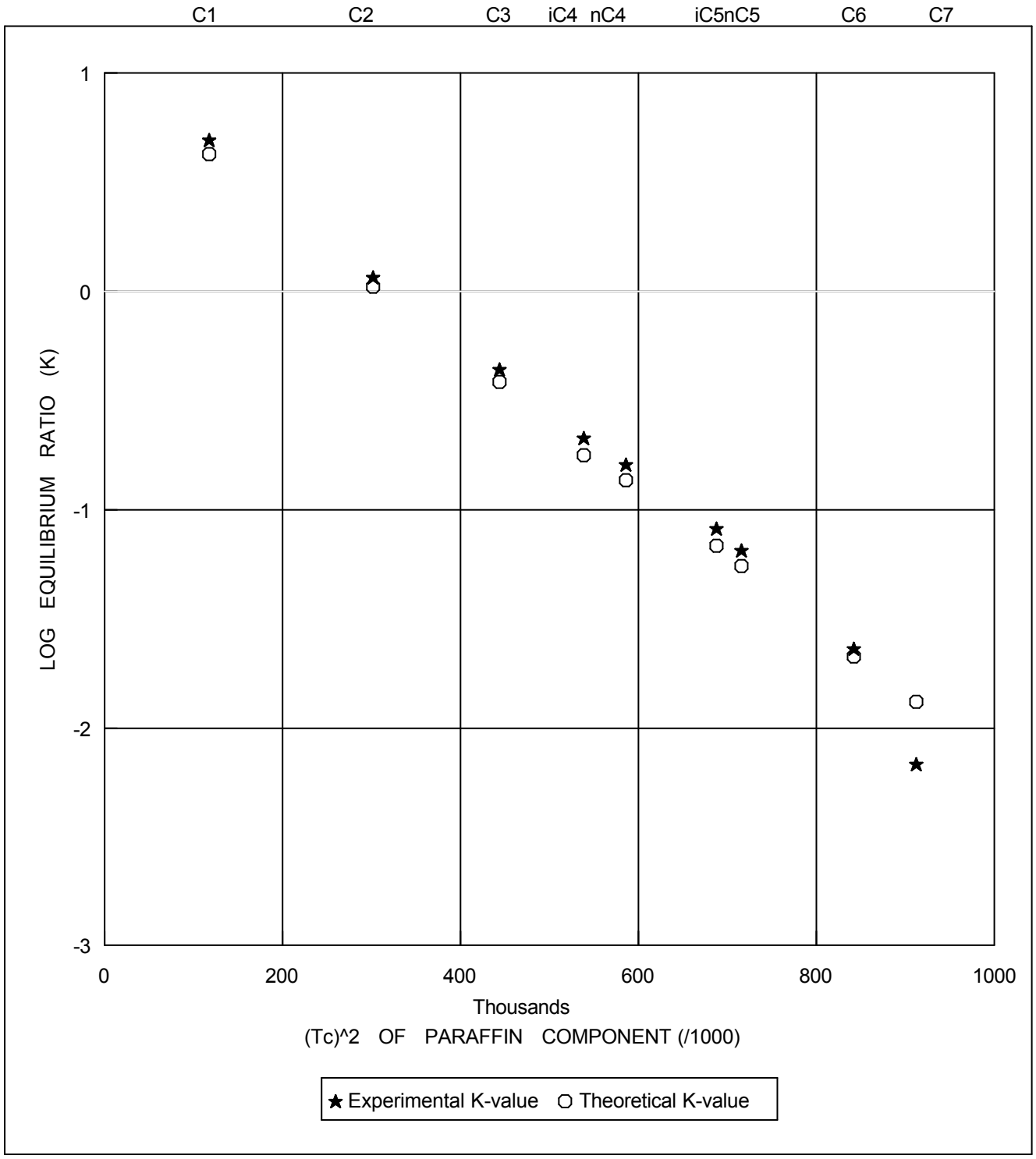
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.09	5.93	2.82
Nitrogen	N2	0.00	0.11	0.05
Methane	C1	0.19	32.74	15.43
Ethane	C2	0.56	15.97	7.77
Propane	C3	2.56	20.05	10.75
Iso-Butane	iC4	1.89	5.82	3.73
N-Butane	nC4	4.21	9.00	6.45
Iso-Pentane	iC5	3.51	2.82	3.19
N-Pentane	nC5	4.13	2.58	3.40
Hexanes	C6	12.63	2.41	7.85
Heptanes	C7	20.72	1.71	11.82
Octanes	C8	10.82	0.52	6.00
Nonanes	C9	9.39	0.27	5.12
Decanes	C10	5.93	0.04	3.17
Undecanes	C11	3.48	0.02	1.86
Dodecanes Plus	C12+	19.89	0.01	10.59
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.5320	0.4680	1.0000
Mass Ratio	:	0.7853	0.2147	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.4494 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	714 SCF	--
Stream Properties				
Molecular Weight	:	124.5	38.69	84.3
Density obs. (gm/cc)	:	0.7593 @ 60 °F	--	0.6692 @ PT*
Gravity (AIR = 1.000)	:	54.7 °API @ 60 °F	1.353	79.8
GHV (BTU/scf)	:	--	2104	--
Hexanes Plus Properties				
Mol %	:	82.86	4.98	46.41
Molecular Weight	:	137.7	93.4	135.4
Density (gm/cc @ 60 °F)	:	0.7804	0.6800	0.7764
Gravity (°API @ 60 °F)	:	49.6	76.4	50.6
Heptanes Plus Properties				
Mol %	:	70.23	2.57	38.56
Molecular Weight	:	147.3	102.1	145.9
Density (gm/cc @ 60 °F)	:	0.7917	0.6919	0.7892
Gravity (°API @ 60 °F)	:	47.1	72.8	47.6
Decanes Plus Properties				
Mol %	:	29.30	0.07	15.62
Molecular Weight	:	206.9	142.8	206.7
Density (gm/cc @ 60 °F)	:	0.8338	0.7362	0.8336
Gravity (°API @ 60 °F)	:	38.1	60.5	38.1
Undecanes Plus Properties				
Mol %	:	23.37	0.03	12.45
Molecular Weight	:	225.4	154.6	225.3
Density (gm/cc @ 60 °F)	:	0.8429	0.7467	0.8428
Gravity (°API @ 60 °F)	:	36.2	57.8	36.2
Dodecanes Plus Properties				
Mol %	:	19.89	0.01	10.59
Molecular Weight	:	239.1	169.8	239.1
Density (gm/cc @ 60 °F)	:	0.8491	0.7591	0.8491
Gravity (°API @ 60 °F)	:	35.0	54.7	35.0

* (P)ressure : 757 psig * (T)emperature : 90 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # PA - 3398 and Liquid Cylinder # L - 617



PETROLAB

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from UEVCM SAND in

Component		Cyl # L - 617 Separator Liquid Mol %	Cyl # PA - 3398 Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	2.82	7.31	7.00
Nitrogen	N2	0.05	0.50	0.47
Methane	C1	15.43	75.91	71.78
Ethane	C2	7.77	8.96	8.88
Propane	C3	10.75	4.74	5.15
Iso-Butane	iC4	3.73	0.79	0.99
N-Butane	nC4	6.45	1.04	1.41
Iso-Pentane	iC5	3.19	0.26	0.46
N-Pentane	nC5	3.40	0.22	0.44
Hexanes	C6	7.85	0.18	0.70
Heptanes	C7	11.82	0.08	0.88
Octanes	C8	6.00	0.01	0.42
Nonanes	C9	5.12	0.00	0.35
Decanes	C10	3.17	0.00	0.22
Undecanes	C11	1.86	0.00	0.13
Dodecanes Plus	C12+	10.59	0.00	0.72
TOTAL		100.00	100.00	100.00

Ratios

Molar Ratio	:	0.0683	0.9317	1.0000
Mass Ratio	:	0.2195	0.7805	1.0000
Liquid Ratio (bbl/bl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	14408 SCF ***	--

Stream Properties

Molecular Weight	:	84.33	21.97	26.22
Density obs. (gm/cc)	:	0.6692 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	79.75 API @ 60 ° F	0.761	--
GHV (BTU/scf)	:	--	1144	--

Hexanes Plus Properties

Mol %	:	46.41	0.27	3.42
Molecular Weight	:	135.4	88.4	132.0
Density (gm/cc @ 60 °F)	:	0.7764	0.6728	0.7706
Gravity (°API @ 60 °F)	:	50.6	78.6	52.0

Heptanes Plus Properties

Mol %	:	38.56	0.09	2.72
Molecular Weight	:	145.9	97.2	144.4
Density (gm/cc @ 60 °F)	:	0.7892	0.6854	0.7867
Gravity (°API @ 60 °F)	:	47.6	74.8	48.2

Decanes Plus Properties

Mol %	:	15.62	0.00	1.07
Molecular Weight	:	206.7	--	206.7
Density (gm/cc @ 60 °F)	:	0.8336	--	0.8336
Gravity (°API @ 60 °F)	:	38.1	--	38.1

Undecanes Plus Properties

Mol %	:	12.45	0.00	0.85
Molecular Weight	:	225.3	--	225.3
Density (gm/cc @ 60 °F)	:	0.8428	--	0.8428
Gravity (°API @ 60 °F)	:	36.2	--	36.2

Dodecanes Plus Properties

Mol %	:	10.59	0.00	0.72
Molecular Weight	:	239.1	--	239.1
Density (gm/cc @ 60 °F)	:	0.8491	--	0.8491
Gravity (°API @ 60 °F)	:	35.0	--	35.0

* (P)ressure : 757 psig * (T)emperature : 90 °F

** Saturation (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 14408 SCF / SEP BBL @ PT = 20882 SCF / ST BBL

20882 = 20429 * (1.1463 * 1.0778) / (1.1411 * 1.0593)

PETROLAB

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : EE 9449

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	19.61	
Nitrogen	N2	0.16	
Methane	C1	67.26	
Ethane	C2	7.81	2.090
Propane	C3	3.26	0.899
Iso-Butane	iC4	0.48	0.157
N-Butane	nC4	0.73	0.230
Iso-Pentane	iC5	0.18	0.066
N-Pentane	nC5	0.17	0.062
Hexanes	C6	0.16	0.062
Heptanes	C7	0.12	0.051
Octanes	C8	0.04	0.018
Nonanes	C9	0.02	0.010
Decanes	C10	0.00	0.000
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.645

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.52
Gas Gravity	:	0.849
Pc	:	744.0
Tc	:	418.7
Mol Weight C6+	:	93.1
Density C6+	:	0.6797
Mol Weight C7+	:	101.2
Density C7+	:	0.6907
Mol Weight C10+	:	--
Density C10+	:	--
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	977
Nett	:	884
Wobbe Index	:	1060
Zpt *	:	0.855

* (P)ressure : 749 psig * (T)emperature : 84 °F

Date Sampled: September 29, 2004 @ 07:31 - 07:42 hrs

Lab Opening Pressure : 864 psig @ : 120 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 31 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : PB 3220

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.36	
Nitrogen	N2	0.14	
Methane	C1	66.67	
Ethane	C2	7.60	2.034
Propane	C3	3.24	0.893
Iso-Butane	iC4	0.58	0.190
N-Butane	nC4	0.75	0.237
Iso-Pentane	iC5	0.18	0.066
N-Pentane	nC5	0.17	0.062
Hexanes	C6	0.15	0.058
Heptanes	C7	0.11	0.046
Octanes	C8	0.03	0.014
Nonanes	C9	0.01	0.005
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.610

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.72
Gas Gravity	:	0.856
Pc	:	746.9
Tc	:	420.0
Mol Weight C6+	:	93.3
Density C6+	:	0.6799
Mol Weight C7+	:	102.0
Density C7+	:	0.6917
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	969
Nett	:	877
Wobbe Index	:	1047
Zpt *	:	0.854

* (P)ressure : 749 psig * (T)emperature : 84 °F

Date Sampled: September 29, 2004 @ 08:16 - 08:25 hrs

Lab Opening Pressure : 871 psig @ : 120 °F

PETROLAB

Company : Origin Energy Resources Ltd.	Page : 32 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : ED 5584

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	19.63	
Nitrogen	N2	0.18	
Methane	C1	67.11	
Ethane	C2	7.81	2.090
Propane	C3	3.26	0.899
Iso-Butane	iC4	0.51	0.167
N-Butane	nC4	0.72	0.227
Iso-Pentane	iC5	0.18	0.066
N-Pentane	nC5	0.18	0.065
Hexanes	C6	0.17	0.066
Heptanes	C7	0.14	0.059
Octanes	C8	0.05	0.023
Nonanes	C9	0.03	0.015
Decanes	C10	0.02	0.011
Undecanes	C11	0.01	0.006
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.694

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.63
Gas Gravity	:	0.853
Pc	:	743.7
Tc	:	419.3
Mol Weight C6+	:	97.3
Density C6+	:	0.6854
Mol Weight C7+	:	106.3
Density C7+	:	0.6972
Mol Weight C10+	:	138.3
Density C10+	:	0.7320
Mol Weight C11+	:	147.0
Density C11+	:	0.7400
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	981
Nett	:	889
Wobbe Index	:	1062
Zpt *	:	0.854

* (P)ressure : 749 psig * (T)emperature : 84 °F

Date Sampled: September 29, 2004 @ 09:22 - 09:30 hrs

Lab Opening Pressure : 866 psig @ : 120 °F

PETROLAB

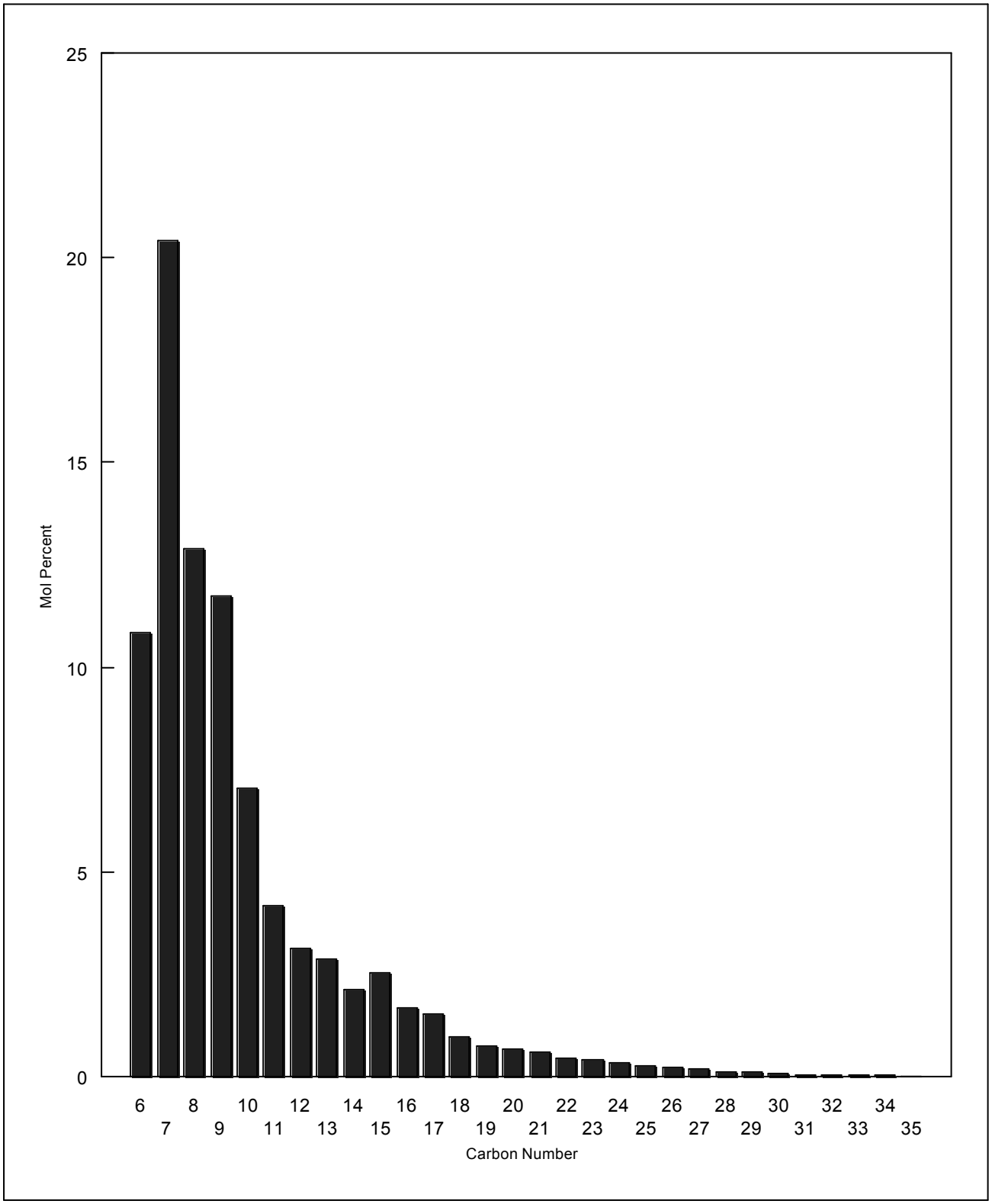
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2809 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 620

Component		Mol %
Hexanes minus	C6-	13.98
Hexanes	C6	10.85
Heptanes	C7	20.41
Octanes	C8	12.88
Nonanes	C9	11.73
Decanes	C10	7.05
Undecanes	C11	4.18
Dodecanes	C12	3.13
Tridecanes	C13	2.87
Tetradecanes	C14	2.12
Pentadecanes	C15	2.52
Hexadecanes	C16	1.66
Heptadecanes	C17	1.52
Octadecanes	C18	0.97
Nonadecanes	C19	0.75
Eicosanes	C20	0.66
Heneicosanes	C21	0.58
Docosanes	C22	0.45
Tricosanes	C23	0.39
Tetracosanes	C24	0.31
Pentacosanes	C25	0.27
Hexacosanes	C26	0.22
Heptacosanes	C27	0.18
Octacosanes	C28	0.11
Nonacosanes	C29	0.09
Triacontanes	C30	0.05
Hentriacontanes	C31	0.03
Dotriacontanes	C32	0.02
Tritriacontanes	C33	0.01
Tetratriacontanes	C34	0.01
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	123.8
Density @ 60 °F Calculated *	:	0.7575

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2809 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 620



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 35 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

2809 SAND

Cylinder # L - 620

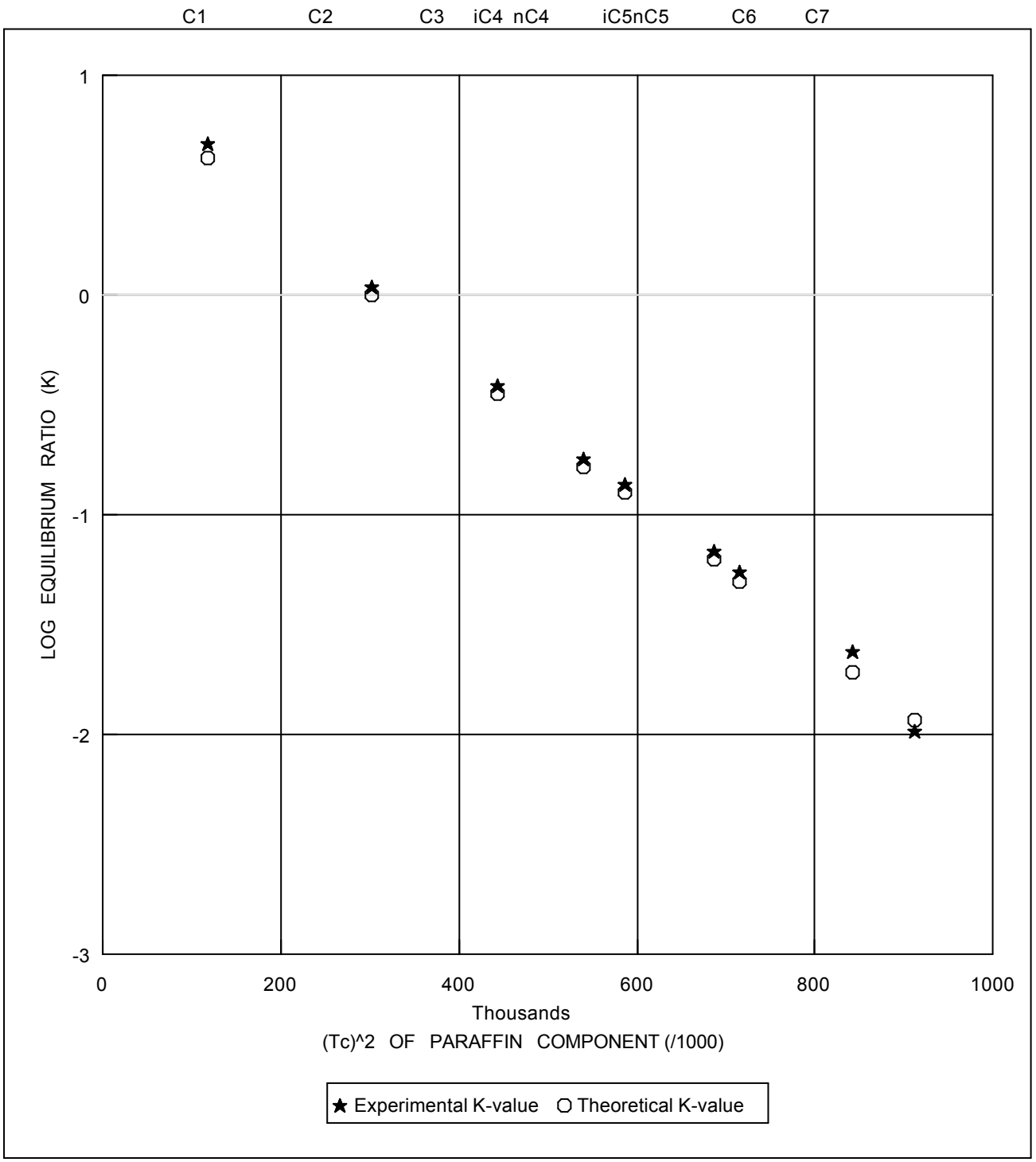
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.30	19.08	8.65
Nitrogen	N2	0.00	0.06	0.03
Methane	C1	0.18	30.61	13.72
Ethane	C2	0.57	15.32	7.13
Propane	C3	2.20	16.01	8.34
Iso-Butane	iC4	1.46	4.15	2.66
N-Butane	nC4	3.68	7.18	5.24
Iso-Pentane	iC5	2.98	2.15	2.61
N-Pentane	nC5	3.84	2.14	3.08
Hexanes	C6	10.70	1.74	6.71
Heptanes	C7	20.12	1.03	11.63
Octanes	C8	12.70	0.32	7.19
Nonanes	C9	11.56	0.16	6.49
Decanes	C10	6.95	0.03	3.87
Undecanes	C11	4.12	0.01	2.29
Dodecanes Plus	C12+	18.65	0.01	10.36
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.5552	0.4448	1.0000
Mass Ratio	:	0.8010	0.1990	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.3847 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	663 SCF	--
Stream Properties				
Molecular Weight	:	121.7	37.73	84.3
Density obs. (gm/cc)	:	0.7567 @ 60 °F	--	0.6838 @ PT*
Gravity (AIR = 1.000)	:	55.3 °API @ 60 °F	1.316	75.2
GHV (BTU/scf)	:	--	1714	--
Hexanes Plus Properties				
Mol %	:	84.79	3.30	48.54
Molecular Weight	:	132.6	92.7	131.4
Density (gm/cc @ 60 °F)	:	0.7749	0.6790	0.7726
Gravity (°API @ 60 °F)	:	50.9	76.7	51.5
Heptanes Plus Properties				
Mol %	:	74.10	1.56	41.83
Molecular Weight	:	139.7	102.4	139.0
Density (gm/cc @ 60 °F)	:	0.7838	0.6922	0.7826
Gravity (°API @ 60 °F)	:	48.8	72.7	49.1
Decanes Plus Properties				
Mol %	:	29.72	0.05	16.52
Molecular Weight	:	190.4	143.8	190.3
Density (gm/cc @ 60 °F)	:	0.8235	0.7371	0.8234
Gravity (°API @ 60 °F)	:	40.2	60.3	40.2
Undecanes Plus Properties				
Mol %	:	22.77	0.02	12.65
Molecular Weight	:	207.6	158.4	207.6
Density (gm/cc @ 60 °F)	:	0.8331	0.7499	0.8330
Gravity (°API @ 60 °F)	:	38.2	57.0	38.2
Dodecanes Plus Properties				
Mol %	:	18.65	0.01	10.36
Molecular Weight	:	221.0	169.8	221.0
Density (gm/cc @ 60 °F)	:	0.8400	0.7591	0.8400
Gravity (°API @ 60 °F)	:	36.8	54.7	36.8

* (P)ressure : 749 psig * (T)emperature : 84 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # EC - 9449 and Liquid Cylinder # L - 620



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 37 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from 2809 SAND in

Component		Cyl # L - 620 Separator Liquid Mol %	Cyl # EC - 9449 Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	8.65	19.61	19.04
Nitrogen	N2	0.03	0.16	0.15
Methane	C1	13.72	67.26	64.49
Ethane	C2	7.13	7.81	7.77
Propane	C3	8.34	3.26	3.52
Iso-Butane	iC4	2.66	0.48	0.59
N-Butane	nC4	5.24	0.73	0.96
Iso-Pentane	iC5	2.61	0.18	0.31
N-Pentane	nC5	3.08	0.17	0.32
Hexanes	C6	6.71	0.16	0.50
Heptanes	C7	11.63	0.12	0.72
Octanes	C8	7.19	0.04	0.41
Nonanes	C9	6.49	0.02	0.35
Decanes	C10	3.87	0.00	0.20
Undecanes	C11	2.29	0.00	0.12
Dodecanes Plus	C12+	10.36	0.00	0.55
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0518	0.9482	1.0000
Mass Ratio	:	0.1580	0.8420	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	19756 SCF ***	--
Stream Properties				
Molecular Weight	:	84.34	24.52	27.62
Density obs. (gm/cc)	:	0.6838 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	75.25 API @ 60 ° F	0.849	--
GHV (BTU/scf)	:	--	977	--
Hexanes Plus Properties				
Mol %	:	48.54	0.34	2.85
Molecular Weight	:	131.4	93.1	127.1
Density (gm/cc @ 60 °F)	:	0.7726	0.6797	0.7639
Gravity (°API @ 60 °F)	:	51.5	76.5	53.6
Heptanes Plus Properties				
Mol %	:	41.83	0.18	2.35
Molecular Weight	:	139.0	101.2	136.3
Density (gm/cc @ 60 °F)	:	0.7826	0.6907	0.7770
Gravity (°API @ 60 °F)	:	49.1	73.2	50.4
Decanes Plus Properties				
Mol %	:	16.52	0.00	0.87
Molecular Weight	:	190.3	--	190.3
Density (gm/cc @ 60 °F)	:	0.8234	--	0.8234
Gravity (°API @ 60 °F)	:	40.2	--	40.2
Undecanes Plus Properties				
Mol %	:	12.65	0.00	0.67
Molecular Weight	:	207.6	--	207.6
Density (gm/cc @ 60 °F)	:	0.8330	--	0.8330
Gravity (°API @ 60 °F)	:	38.2	--	38.2
Dodecanes Plus Properties				
Mol %	:	10.36	0.00	0.55
Molecular Weight	:	221.0	--	221.0
Density (gm/cc @ 60 °F)	:	0.8400	--	0.8400
Gravity (°API @ 60 °F)	:	36.8	--	36.8

* (P)ressure : 749 psig * (T)emperature : 84 °F

** Saturation (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 19756 SCF / SEP BBL @ PT = 27357 SCF / ST BBL

27357 = 28353 * (1.0850 * 1.0814) / (1.0872 * 1.1184)

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 38 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2755
Cylinder # : EE 7995

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	21.51	
Nitrogen	N2	0.21	
Methane	C1	68.00	
Ethane	C2	6.22	1.665
Propane	C3	2.39	0.659
Iso-Butane	iC4	0.37	0.121
N-Butane	nC4	0.62	0.196
Iso-Pentane	iC5	0.17	0.062
N-Pentane	nC5	0.16	0.058
Hexanes	C6	0.15	0.058
Heptanes	C7	0.12	0.051
Octanes	C8	0.05	0.023
Nonanes	C9	0.02	0.010
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	2.908

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.50
Gas Gravity	:	0.849
Pc	:	751.7
Tc	:	415.5
Mol Weight C6+	:	94.9
Density C6+	:	0.6822
Mol Weight C7+	:	103.2
Density C7+	:	0.6932
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	926
Nett	:	838
Wobbe Index	:	1006
Zpt *	:	0.862

* (P)ressure : 756 psig * (T)emperature : 86 °F

Date Sampled: September 30, 2004 @ 00:45 - 00:55 hrs

Lab Opening Pressure : 879 psig @ : 100 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 39 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2755
Cylinder # : EE 8607

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	21.25	
Nitrogen	N2	1.87	
Methane	C1	66.63	
Ethane	C2	6.20	1.659
Propane	C3	2.32	0.640
Iso-Butane	iC4	0.46	0.151
N-Butane	nC4	0.53	0.167
Iso-Pentane	iC5	0.15	0.055
N-Pentane	nC5	0.15	0.054
Hexanes	C6	0.18	0.070
Heptanes	C7	0.16	0.067
Octanes	C8	0.06	0.027
Nonanes	C9	0.03	0.015
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	2.910

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.66
Gas Gravity	:	0.854
Pc	:	747.6
Tc	:	413.1
Mol Weight C6+	:	95.2
Density C6+	:	0.6825
Mol Weight C7+	:	102.9
Density C7+	:	0.6929
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	914
Nett	:	827
Wobbe Index	:	989
Zpt *	:	0.864

* (P)ressure : 756 psig * (T)emperature : 86 °F

Date Sampled: September 30, 2004 @ 02:00 - 02:10 hrs

Lab Opening Pressure : 855 psig @ : 100 °F

PETROLAB

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2755
Cylinder # : EC 9461

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.59	
Nitrogen	N2	0.21	
Methane	C1	68.66	
Ethane	C2	6.27	1.678
Propane	C3	2.48	0.684
Iso-Butane	iC4	0.40	0.131
N-Butane	nC4	0.57	0.180
Iso-Pentane	iC5	0.17	0.062
N-Pentane	nC5	0.17	0.062
Hexanes	C6	0.20	0.078
Heptanes	C7	0.17	0.072
Octanes	C8	0.07	0.032
Nonanes	C9	0.03	0.015
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	2.999

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.38
Gas Gravity	:	0.844
Pc	:	747.6
Tc	:	414.8
Mol Weight C6+	:	95.0
Density C6+	:	0.6823
Mol Weight C7+	:	102.8
Density C7+	:	0.6927
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	943
Nett	:	853
Wobbe Index	:	1026
Zpt *	:	0.862

* (P)ressure : 756 psig * (T)emperature : 86 °F

Date Sampled: September 30, 2004 @ 03:55 - 04:05 hrs

Lab Opening Pressure : 846 psig @ : 100 °F

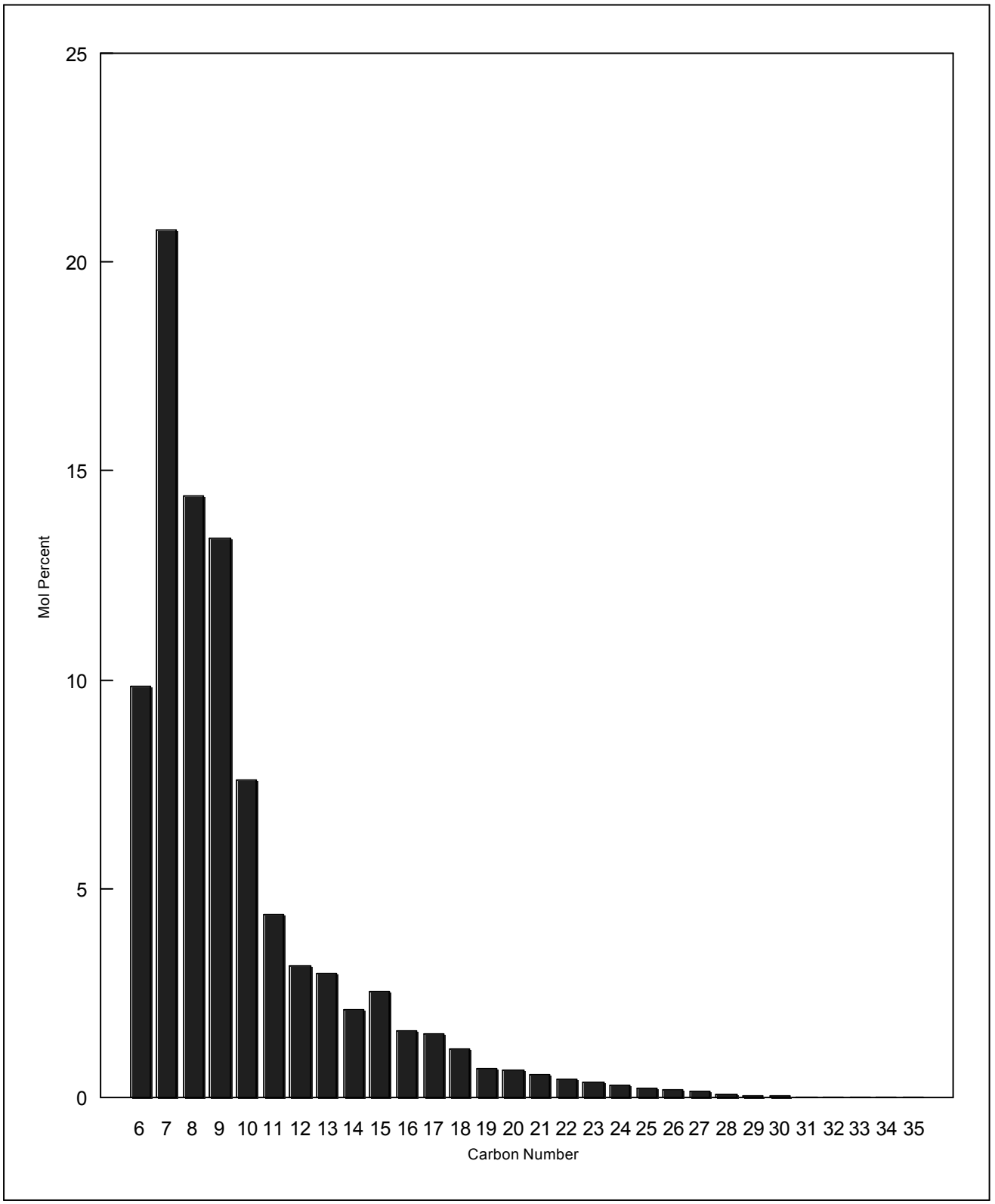
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2755 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 126

Component		Mol %
Hexanes minus	C6-	11.01
Hexanes	C6	9.84
Heptanes	C7	20.79
Octanes	C8	14.40
Nonanes	C9	13.37
Decanes	C10	7.59
Undecanes	C11	4.37
Dodecanes	C12	3.16
Tridecanes	C13	2.95
Tetradecanes	C14	2.11
Pentadecanes	C15	2.53
Hexadecanes	C16	1.59
Heptadecanes	C17	1.52
Octadecanes	C18	1.17
Nonadecanes	C19	0.70
Eicosanes	C20	0.63
Heneicosanes	C21	0.54
Docosanes	C22	0.43
Tricosanes	C23	0.35
Tetracosanes	C24	0.27
Pentacosanes	C25	0.21
Hexacosanes	C26	0.16
Heptacosanes	C27	0.13
Octacosanes	C28	0.08
Nonacosanes	C29	0.05
Triacontanes	C30	0.03
Hentriacontanes	C31	0.01
Dotriacontanes	C32	0.01
Tritriacontanes	C33	0.00
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	124.9
Density @ 60 °F Calculated *	:	0.7602

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2755 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 126



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 43 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

2755 SAND

Cylinder # L - 126

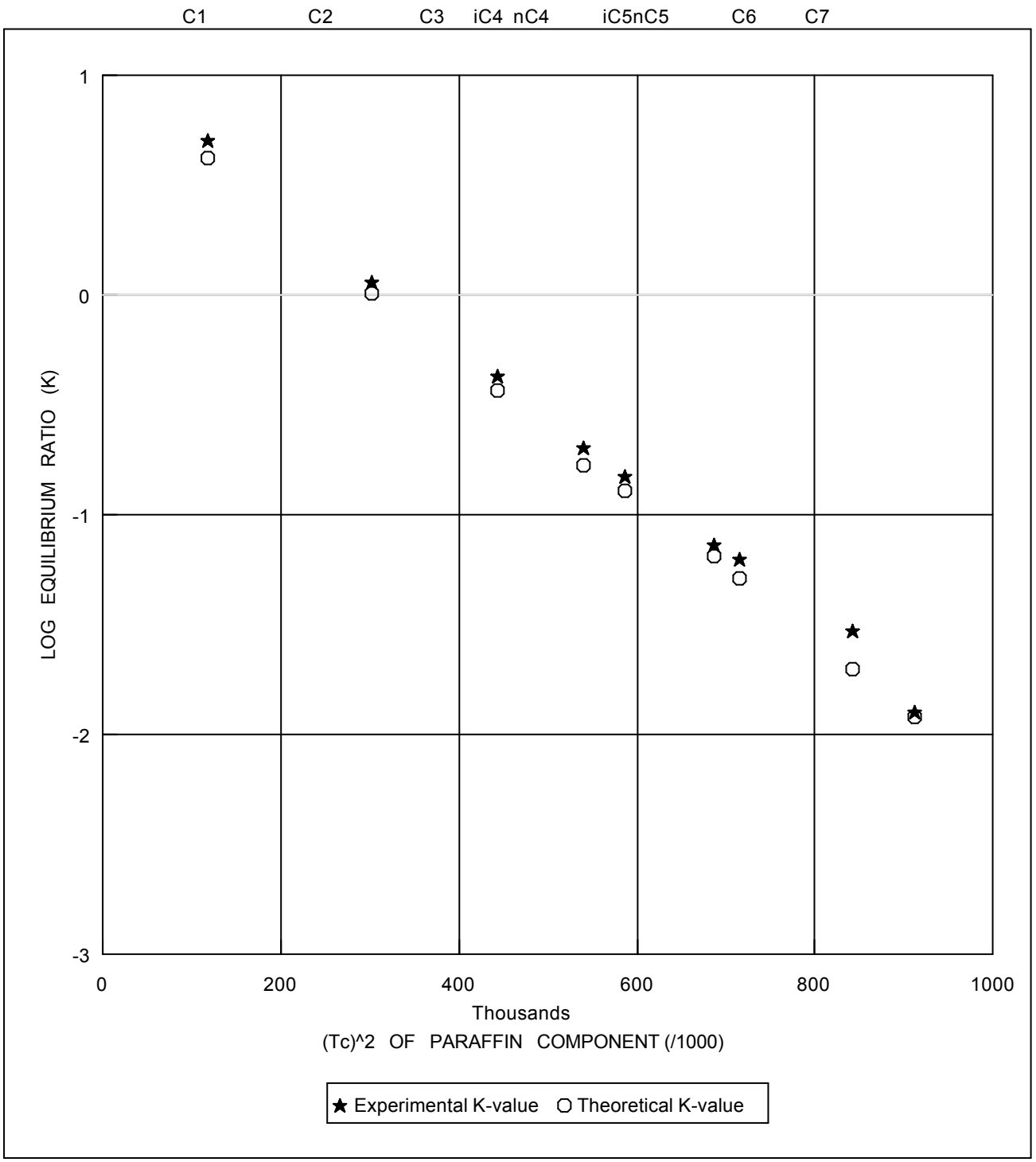
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.33	22.12	8.79
Nitrogen	N2	0.00	0.08	0.03
Methane	C1	0.20	34.34	13.45
Ethane	C2	0.48	13.33	5.47
Propane	C3	1.62	12.40	5.80
Iso-Butane	iC4	1.11	3.32	1.97
N-Butane	nC4	2.66	5.52	3.77
Iso-Pentane	iC5	2.54	1.97	2.32
N-Pentane	nC5	3.19	1.92	2.70
Hexanes	C6	9.72	2.09	6.76
Heptanes	C7	20.53	1.90	13.30
Octanes	C8	14.22	0.68	8.97
Nonanes	C9	13.20	0.25	8.18
Decanes	C10	7.49	0.05	4.61
Undecanes	C11	4.32	0.02	2.65
Dodecanes Plus	C12+	18.40	0.01	11.23
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.6119	0.3881	1.0000
Mass Ratio	:	0.8381	0.1619	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.2982 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	522 SCF	--
Stream Properties				
Molecular Weight	:	122.8	37.41	89.7
Density obs. (gm/cc)	:	0.7595 @ 60 °F	--	0.6992 @ PT*
Gravity (AIR = 1.000)	:	54.6 °API @ 60 °F	1.304	70.7
GHV (BTU/scf)	:	--	1617	--
Hexanes Plus Properties				
Mol %	:	87.88	5.00	55.70
Molecular Weight	:	131.4	94.5	130.1
Density (gm/cc @ 60 °F)	:	0.7736	0.6816	0.7710
Gravity (°API @ 60 °F)	:	51.2	75.9	51.8
Heptanes Plus Properties				
Mol %	:	78.16	2.91	48.94
Molecular Weight	:	137.3	102.0	136.5
Density (gm/cc @ 60 °F)	:	0.7813	0.6917	0.7796
Gravity (°API @ 60 °F)	:	49.4	72.9	49.8
Decanes Plus Properties				
Mol %	:	30.21	0.08	18.49
Molecular Weight	:	186.7	141.7	186.6
Density (gm/cc @ 60 °F)	:	0.8210	0.7352	0.8209
Gravity (°API @ 60 °F)	:	40.7	60.8	40.7
Undecanes Plus Properties				
Mol %	:	22.72	0.03	13.88
Molecular Weight	:	204.1	154.6	204.0
Density (gm/cc @ 60 °F)	:	0.8309	0.7467	0.8309
Gravity (°API @ 60 °F)	:	38.6	57.8	38.6
Dodecanes Plus Properties				
Mol %	:	18.40	0.01	11.23
Molecular Weight	:	217.4	169.8	217.4
Density (gm/cc @ 60 °F)	:	0.8380	0.7591	0.8380
Gravity (°API @ 60 °F)	:	37.2	54.7	37.2

* (P)ressure : 756 psig * (T)emperature : 86 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # EC - 9461 and Liquid Cylinder # L - 126



PETROLAB

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from 2755 SAND in

Component		Cyl # L - 126 Separator Liquid Mol %	Cyl # EC - 9461 Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	8.79	20.59	20.27
Nitrogen	N2	0.03	0.21	0.21
Methane	C1	13.45	68.66	67.16
Ethane	C2	5.47	6.27	6.25
Propane	C3	5.80	2.48	2.57
Iso-Butane	iC4	1.97	0.40	0.44
N-Butane	nC4	3.77	0.57	0.66
Iso-Pentane	iC5	2.32	0.17	0.23
N-Pentane	nC5	2.70	0.17	0.24
Hexanes	C6	6.76	0.20	0.38
Heptanes	C7	13.30	0.17	0.53
Octanes	C8	8.97	0.07	0.31
Nonanes	C9	8.18	0.03	0.25
Decanes	C10	4.61	0.01	0.13
Undecanes	C11	2.65	0.00	0.07
Dodecanes Plus	C12+	11.23	0.00	0.30
TOTAL		100.00	100.00	100.00

Ratios

Molar Ratio	:	0.0272	0.9728	1.0000
Mass Ratio	:	0.0931	0.9069	1.0000
Liquid Ratio (bbl/bl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	37141 SCF ***	--

Stream Properties

Molecular Weight	:	89.67	24.38	26.15
Density obs. (gm/cc)	:	0.6992 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	70.67 API @ 60 ° F	0.844	--
GHV (BTU/scf)	:	--	943	--

Hexanes Plus Properties

Mol %	:	55.70	0.48	1.97
Molecular Weight	:	130.1	95.0	121.8
Density (gm/cc @ 60 °F)	:	0.7710	0.6823	0.7530
Gravity (°API @ 60 °F)	:	51.8	75.7	56.2

Heptanes Plus Properties

Mol %	:	48.94	0.28	1.59
Molecular Weight	:	136.5	102.8	130.7
Density (gm/cc @ 60 °F)	:	0.7796	0.6927	0.7667
Gravity (°API @ 60 °F)	:	49.8	72.6	52.9

Decanes Plus Properties

Mol %	:	18.49	0.01	0.50
Molecular Weight	:	186.6	134.0	185.6
Density (gm/cc @ 60 °F)	:	0.8209	0.7278	0.8194
Gravity (°API @ 60 °F)	:	40.7	62.7	41.0

Undecanes Plus Properties

Mol %	:	13.88	0.00	0.37
Molecular Weight	:	204.0	--	204.0
Density (gm/cc @ 60 °F)	:	0.8309	--	0.8309
Gravity (°API @ 60 °F)	:	38.6	--	38.6

Dodecanes Plus Properties

Mol %	:	11.23	0.00	0.30
Molecular Weight	:	217.4	--	217.4
Density (gm/cc @ 60 °F)	:	0.8380	--	0.8380
Gravity (°API @ 60 °F)	:	37.2	--	37.2

* (P)ressure : 756 psig * (T)emperature : 86 °F

** Saturation (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 37141 SCF / SEP BBL @ PT = 48216 SCF / ST BBL

48216 = 48263 * (1.0883 * 1.0772) / (1.0963 * 1.0703)

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 46 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : EE 3965

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	19.85	
Nitrogen	N2	0.18	
Methane	C1	67.04	
Ethane	C2	7.63	2.042
Propane	C3	3.18	0.877
Iso-Butane	iC4	0.49	0.160
N-Butane	nC4	0.73	0.230
Iso-Pentane	iC5	0.19	0.070
N-Pentane	nC5	0.19	0.069
Hexanes	C6	0.20	0.078
Heptanes	C7	0.18	0.076
Octanes	C8	0.07	0.032
Nonanes	C9	0.04	0.020
Decanes	C10	0.02	0.011
Undecanes	C11	0.01	0.006
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.671

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.73
Gas Gravity	:	0.857
Pc	:	744.3
Tc	:	419.8
Mol Weight C6+	:	97.2
Density C6+	:	0.6854
Mol Weight C7+	:	105.5
Density C7+	:	0.6962
Mol Weight C10+	:	138.3
Density C10+	:	0.7320
Mol Weight C11+	:	147.0
Density C11+	:	0.7400
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	981
Nett	:	889
Wobbe Index	:	1060
Zpt *	:	0.851

* (P)ressure : 750 psig * (T)emperature : 82 °F

Date Sampled: October 02, 2004 @ 02:30 - 02:40 hrs

Lab Opening Pressure : 869 psig @ : 100 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 47 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : EC 9452

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.62	
Nitrogen	N2	0.18	
Methane	C1	66.44	
Ethane	C2	7.50	2.007
Propane	C3	3.17	0.874
Iso-Butane	iC4	0.46	0.151
N-Butane	nC4	0.78	0.246
Iso-Pentane	iC5	0.19	0.070
N-Pentane	nC5	0.18	0.065
Hexanes	C6	0.21	0.082
Heptanes	C7	0.16	0.067
Octanes	C8	0.05	0.023
Nonanes	C9	0.02	0.010
Decanes	C10	0.02	0.011
Undecanes	C11	0.02	0.012
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.618

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.89
Gas Gravity	:	0.862
Pc	:	747.5
Tc	:	420.9
Mol Weight C6+	:	96.6
Density C6+	:	0.6846
Mol Weight C7+	:	106.5
Density C7+	:	0.6974
Mol Weight C10+	:	140.5
Density C10+	:	0.7341
Mol Weight C11+	:	147.0
Density C11+	:	0.7400
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	970
Nett	:	879
Wobbe Index	:	1045
Zpt *	:	0.851

* (P)ressure : 750 psig * (T)emperature : 82 °F

Date Sampled: October 02, 2004 @ 03:05 - 03:15 hrs

Lab Opening Pressure : 861 psig @ : 100 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 48 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : PB 3184

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.70	
Nitrogen	N2	0.18	
Methane	C1	66.71	
Ethane	C2	7.52	2.013
Propane	C3	3.11	0.858
Iso-Butane	iC4	0.42	0.138
N-Butane	nC4	0.71	0.224
Iso-Pentane	iC5	0.17	0.062
N-Pentane	nC5	0.16	0.058
Hexanes	C6	0.16	0.062
Heptanes	C7	0.11	0.046
Octanes	C8	0.03	0.014
Nonanes	C9	0.01	0.005
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.485

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.69
Gas Gravity	:	0.855
Pc	:	748.5
Tc	:	419.2
Mol Weight C6+	:	93.0
Density C6+	:	0.6795
Mol Weight C7+	:	102.0
Density C7+	:	0.6917
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	958
Nett	:	867
Wobbe Index	:	1035
Zpt *	:	0.854

* (P)ressure : 750 psig * (T)emperature : 82 °F

Date Sampled: October 02, 2004 @ 04:05 - 04:15 hrs

Lab Opening Pressure : 854 psig @ : 100 °F

PETROLAB

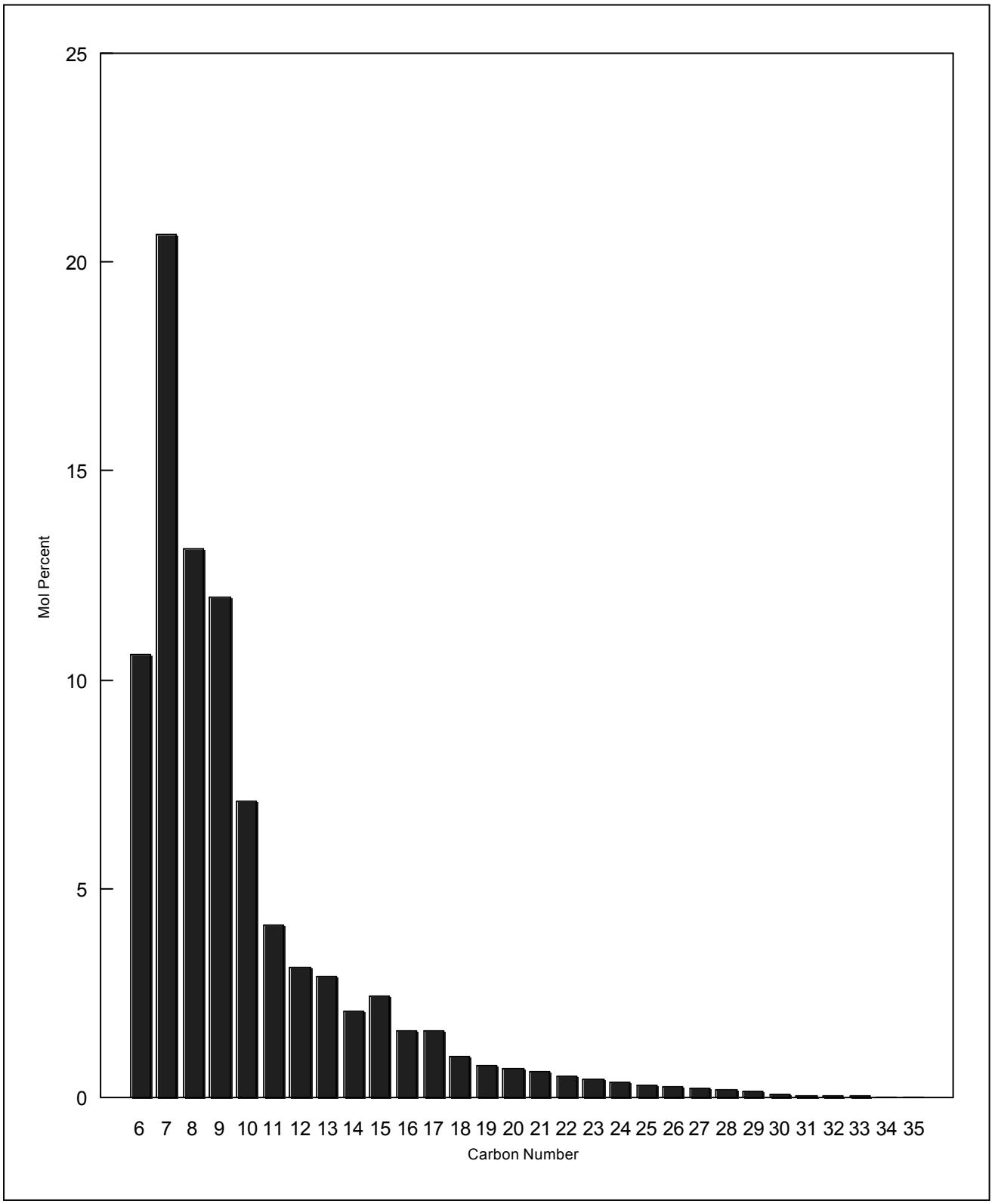
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2809 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 350

Component		Mol %
Hexanes minus	C6-	13.26
Hexanes	C6	10.60
Heptanes	C7	20.68
Octanes	C8	13.15
Nonanes	C9	11.97
Decanes	C10	7.09
Undecanes	C11	4.12
Dodecanes	C12	3.09
Tridecanes	C13	2.88
Tetradecanes	C14	2.07
Pentadecanes	C15	2.43
Hexadecanes	C16	1.59
Heptadecanes	C17	1.60
Octadecanes	C18	0.97
Nonadecanes	C19	0.74
Eicosanes	C20	0.67
Heneicosanes	C21	0.60
Docosanes	C22	0.49
Tricosanes	C23	0.43
Tetracosanes	C24	0.36
Pentacosanes	C25	0.30
Hexacosanes	C26	0.24
Heptacosanes	C27	0.20
Octacosanes	C28	0.16
Nonacosanes	C29	0.13
Triacontanes	C30	0.07
Hentriacontanes	C31	0.05
Dotriacontanes	C32	0.02
Tritriacontanes	C33	0.02
Tetratriacontanes	C34	0.01
Pentatriacontanes Plus	C35+	0.01
TOTAL		100.00

Molecular Weight Calculated *	:	125.1
Density @ 60 °F Calculated *	:	0.7595

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2809 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 350



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 51 of 197
Well : Yolla # 4 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

2809 SAND

Cylinder # L - 350

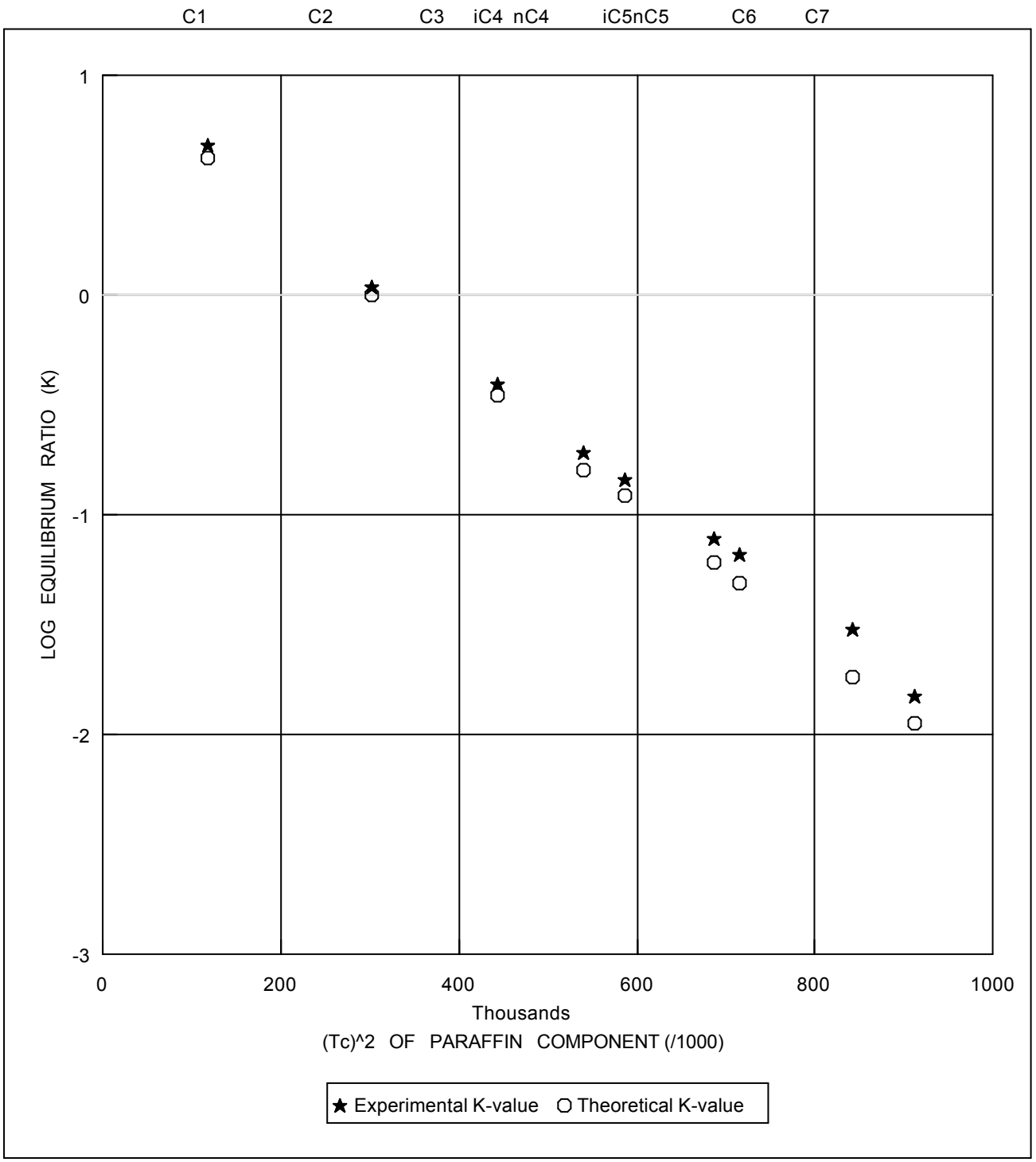
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.30	19.57	8.84
Nitrogen	N2	0.00	0.06	0.03
Methane	C1	0.19	31.18	13.92
Ethane	C2	0.55	14.94	6.92
Propane	C3	2.09	15.61	8.08
Iso-Butane	iC4	1.37	4.01	2.54
N-Butane	nC4	3.48	7.00	5.04
Iso-Pentane	iC5	2.73	2.05	2.43
N-Pentane	nC5	3.52	2.04	2.86
Hexanes	C6	10.48	1.85	6.66
Heptanes	C7	20.45	1.23	11.93
Octanes	C8	13.00	0.29	7.37
Nonanes	C9	11.84	0.10	6.64
Decanes	C10	7.01	0.05	3.93
Undecanes	C11	4.07	0.02	2.28
Dodecanes Plus	C12+	18.92	0.00	10.53
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.5568	0.4432	1.0000
Mass Ratio	:	0.8043	0.1957	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.3756 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	653 SCF	--
Stream Properties				
Molecular Weight	:	123.0	37.62	85.2
Density obs. (gm/cc)	:	0.7589 @ 60 °F	--	0.6875 @ PT*
Gravity (AIR = 1.000)	:	54.8 °API @ 60 °F	1.312	74.1
GHV (BTU/scf)	:	--	1695	--
Hexanes Plus Properties				
Mol %	:	85.78	3.54	49.34
Molecular Weight	:	133.4	92.2	132.1
Density (gm/cc @ 60 °F)	:	0.7759	0.6783	0.7734
Gravity (°API @ 60 °F)	:	50.7	76.9	51.3
Heptanes Plus Properties				
Mol %	:	75.30	1.69	42.68
Molecular Weight	:	140.3	101.1	139.6
Density (gm/cc @ 60 °F)	:	0.7846	0.6905	0.7832
Gravity (°API @ 60 °F)	:	48.7	73.2	49.0
Decanes Plus Properties				
Mol %	:	30.01	0.07	16.74
Molecular Weight	:	192.6	137.7	192.5
Density (gm/cc @ 60 °F)	:	0.8249	0.7314	0.8248
Gravity (°API @ 60 °F)	:	39.9	61.8	39.9
Undecanes Plus Properties				
Mol %	:	22.99	0.02	12.81
Molecular Weight	:	210.4	146.9	210.4
Density (gm/cc @ 60 °F)	:	0.8347	0.7400	0.8347
Gravity (°API @ 60 °F)	:	37.9	59.5	37.9
Dodecanes Plus Properties				
Mol %	:	18.92	0.00	10.53
Molecular Weight	:	224.1	--	224.1
Density (gm/cc @ 60 °F)	:	0.8416	--	0.8416
Gravity (°API @ 60 °F)	:	36.5	--	36.5

* (P)ressure : 750 psig * (T)emperature : 82 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # EE - 3965 and Liquid Cylinder # L - 350



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 53 of 197
Well : Yolla # 4 | File : O - 24037

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from 2809 SAND in

Component		Cyl # L - 350 Separator Liquid Mol %	Cyl # EE - 3965 Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	8.84	19.85	19.40
Nitrogen	N2	0.03	0.18	0.17
Methane	C1	13.92	67.04	64.88
Ethane	C2	6.92	7.63	7.60
Propane	C3	8.08	3.18	3.38
Iso-Butane	iC4	2.54	0.49	0.57
N-Butane	nC4	5.04	0.73	0.91
Iso-Pentane	iC5	2.43	0.19	0.28
N-Pentane	nC5	2.86	0.19	0.30
Hexanes	C6	6.66	0.20	0.46
Heptanes	C7	11.93	0.18	0.66
Octanes	C8	7.37	0.07	0.37
Nonanes	C9	6.64	0.04	0.31
Decanes	C10	3.93	0.02	0.18
Undecanes	C11	2.28	0.01	0.10
Dodecanes Plus	C12+	10.53	0.00	0.43
TOTAL		100.00	100.00	100.00

Ratios

Molar Ratio	:	0.0407	0.9593	1.0000
Mass Ratio	:	0.1274	0.8726	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	25320 SCF ***	--

Stream Properties

Molecular Weight	:	85.18	24.73	27.19
Density obs. (gm/cc)	:	0.6875 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	74.13 API @ 60 ° F	0.857	--
GHV (BTU/scf)	:	--	981	--

Hexanes Plus Properties

Mol %	:	49.34	0.52	2.51
Molecular Weight	:	132.1	97.2	125.2
Density (gm/cc @ 60 °F)	:	0.7734	0.6854	0.7584
Gravity (°API @ 60 °F)	:	51.3	74.8	54.9

Heptanes Plus Properties

Mol %	:	42.68	0.32	2.05
Molecular Weight	:	139.6	105.5	134.5
Density (gm/cc @ 60 °F)	:	0.7832	0.6962	0.7718
Gravity (°API @ 60 °F)	:	49.0	71.6	51.7

Decanes Plus Properties

Mol %	:	16.74	0.03	0.71
Molecular Weight	:	192.5	138.3	190.1
Density (gm/cc @ 60 °F)	:	0.8248	0.7320	0.8217
Gravity (°API @ 60 °F)	:	39.9	61.6	40.5

Undecanes Plus Properties

Mol %	:	12.81	0.01	0.53
Molecular Weight	:	210.4	147.0	209.2
Density (gm/cc @ 60 °F)	:	0.8347	0.7400	0.8333
Gravity (°API @ 60 °F)	:	37.9	59.5	38.1

Dodecanes Plus Properties

Mol %	:	10.53	0.00	0.43
Molecular Weight	:	224.1	--	224.1
Density (gm/cc @ 60 °F)	:	0.8416	--	0.8416
Gravity (°API @ 60 °F)	:	36.5	--	36.5

* (P)ressure : 750 psig * (T)emperature : 82 °F

** Saturation (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 25320 SCF / SEP BBL @ PT = 34831 SCF / ST BBL

34831 = 34965 * (1.0805 * 1.0835) / (1.0917 * 1.0765)

WATER ANALYSIS

Customer Sample ID		Sand UEVCM	Sand 2755	Sand 2973
Well ID		Yolla 3	Yolla 3	Yolla 3
Description		Water from Sep	Water from Sep	Water from Sep
Sample Type		Water	Water	Water
WATER ANALYSIS				
Test/Reference	Unit			
PROPERTIES: APHA 20th Ed				
pH at Measured Temp.		6.7	5.5	5.9
Measured Temp.	°C	23.8	23.8	23.8
Electrical Conductivity @ 25°C	µS/cm	79100	8480	8370
Resistivity @ 25°C	M.Ohm	0.13	1.18	1.19
ANIONS mg/L APHA 20th ed				
Hydroxide as OH	mg/L	<1	<1	<1
Carbonate as CO3	mg/L	<1	<1	<1
Bicarbonate as HCO3	mg/L	2339	345	585
Chloride as Cl	mg/L	24301	2534	2645
Nitrate as NO3	mg/L	3	0.14	0.16
Sulphate as SO4	mg/L	1812	446	527
Total Anions	mg/L	28455	3325	3757
ANIONS meq/L APHA 20th ed				
Hydroxide as OH	meq/L	<0.01	<0.01	<0.01
Carbonate as CO3	meq/L	<0.01	<0.01	<0.01
Bicarbonate as HCO3	meq/L	38.34	5.65	9.59
Chloride as Cl	meq/L	684.54	71.38	74.51
Nitrate as NO3	meq/L	0.05	<0.01	<0.01
Sulphate as SO4	meq/L	37.73	9.29	10.97
Total Anions	meq/L	760.65	86.32	95.07
CATIONS mg/L APHA 20th ed				
Potassium as K	mg/L	1315	147	175
Sodium as Na	mg/L	22200	1805	1695
Calcium as Ca	mg/L	193	42	720
Magnesium as Mg	mg/L	270	27	17
Total Cations	mg/L	23978	2021	2607
CATIONS meq/L APHA 20th ed				
Potassium as K	meq/L	33.63	3.76	4.48
Sodium as Na	meq/L	965.64	78.51	73.73
Calcium as Ca	meq/L	9.63	2.10	35.93
Magnesium as Mg	meq/L	22.22	2.22	1.40
Total Cations	meq/L	1031.12	86.59	115.53
DERIVED PARAMETERS APHA 20th ed				
Ion balance (Diff * 100/Sum)	%	15.10	0.16	9.72
Acceptance Criteria	%	5	5	5
Satisfactory		No	Yes	No
Total Alkalinity (calc as CaCO3)	mg/L	1917	283	479
Total Cations + Anions	mg/L	52433	5346	6364
Hardness (calc as CaCO3)	mg/L	1594	216	1868
Calculated Total Dissolved Solids	mg/L	50624	5427	5357

WATER ANALYSIS

Customer Sample ID		Sand 2809	Sand 2809	Yolla - 3
Well ID		Yolla 3	Yolla 4	24/08/2004
Description			Water from Sep	06/12/2004
				Filtrate
WATER ANALYSIS				
Test/Reference	Unit			
PROPERTIES: APHA 20th Ed				
pH at Measured Temp.		5.4	5.0	8.3
Measured Temp.	°C	23.8	23.8	22.3
Electrical Conductivity @ 25°C	µS/cm	11810	1278	68500
Resistivity @ 25°C	M.Ohm	0.85	7.82	0.15
ANIONS mg/L APHA 20th ed				
Hydroxide as OH	mg/L	<1	<1	<1
Carbonate as CO3	mg/L	<1	<1	<1
Bicarbonate as HCO3	mg/L	390	160	979
Chloride as Cl	mg/L	3700	345	26954
Nitrate as NO3	mg/L	0.24	<0.1	<0.1
Sulphate as SO4	mg/L	275	56	6722
Total Anions	mg/L	4365	561	34655
ANIONS meq/L APHA 20th ed				
Hydroxide as OH	meq/L	<0.01	<0.01	<0.01
Carbonate as CO3	meq/L	<0.01	<0.01	<0.01
Bicarbonate as HCO3	meq/L	6.39	2.62	16.06
Chloride as Cl	meq/L	104.23	9.72	759.27
Nitrate as NO3	meq/L	<0.01	<0.01	<0.01
Sulphate as SO4	meq/L	5.73	1.17	139.96
Total Anions	meq/L	116.35	13.51	915.28
CATIONS mg/L APHA 20th ed				
Potassium as K	mg/L	130	13	5920
Sodium as Na	mg/L	2880	248	16600
Calcium as Ca	mg/L	48	5	393
Magnesium as Mg	mg/L	32	8	824
Total Cations	mg/L	3090	274	23737
CATIONS meq/L APHA 20th ed				
Potassium as K	meq/L	3.32	0.33	151.41
Sodium as Na	meq/L	125.27	10.79	722.05
Calcium as Ca	meq/L	2.40	0.25	19.61
Magnesium as Mg	meq/L	2.63	0.66	67.82
Total Cations	meq/L	133.63	12.03	960.89
DERIVED PARAMETERS APHA 20th ed				
Ion balance (Diff * 100/Sum)	%	6.91	5.79	2.43
Acceptance Criteria	%	5	5	5
Satisfactory		No	No	Yes
Total Alkalinity (calc as CaCO3)	mg/L	320	131	803
Total Cations + Anions	mg/L	7455	835	58392
Hardness (calc as CaCO3)	mg/L	252	45	4375
Calculated Total Dissolved Solids	mg/L	7558	818	43840

DERIVED PARAMETERS If the ion balance in this sample is unsatisfactory it is most likely due to a component or components of the sample that is not within the scope of this analysis.

Bottom Hole Samples

PETROLAB

Company : Origin Energy Resources Ltd.
Well : Yolla # 3

Transferred on September 15 and 25, 2004
@ 5000 psig & 18 °C

Sample Number	Chamber Number	Depth (metres)	Reservoir Pressure (psia)	Reservoir Temperature (ºC)	Content Observed	Opening Pressure (psig)	Volume Water to Transfer Pressure (ccs)	Sample Volume Transferred (ccs)	Transferred into Petrolab Cylinder Number
1	MPSR-BA 0477	3420.6	4386.43	138.9	Gas	3600	50	380	L-275
2	MPSR-BA 0479	3420.6	4386.43	130.4	Gas	3900	50	385	L-263
3	MPSR-BA 0487	3249	4164.38	119.8	Gas	3600	55	380	L-295
4	MPSR-BA 0497	3181.7	4147.81	120	Gas	3800	45	385	L-284
5	MPSR-BA 0498	3181.7	4147.81	120	Misfired	- -	- -	- -	- -
6	MPSR-BA 0632	3149.3	4102.84	120	Water	700	25	410	- -
1 Gallon	MRSC-BB 21	3249	4164.38	120	Gas	2700	820	1200	810871 & 812662
									812414 & 812519
									811092

FIELD CHARACTERISTICS :

Field Name	:	Yolla
Formation Name	:	Intra-EVCM - 2755, 2809 & 2973 Sands & UEVCM
Date first well completed	:	
Original reservoir pressure (psia)	:	
@ datum (mahbODF)	:	

WELL CHARACTERISTICS :

Depth datum (mahbODF)	:	- -
Elevation above MSL (m)	:	39.9
Total depth (mRT)	:	3497
Perforated intervals (mRT) - UEVCM Sand	:	2210.2-2225.2
Perforated intervals (mMD)		3180-3186, 3190-3196, 3236.5-3242.5, 4246.5-3248.5 & 3404-3407
Tubing size (inch)	:	7"
Tubing shoe (mRT)	:	3289.89
Casing size (inch)	:	9 5/8"
Reservoir temperature (°F)	:	- -
Last reservoir pressure (psia)	:	- -
date	:	September, 2004
Status of well	:	Completed

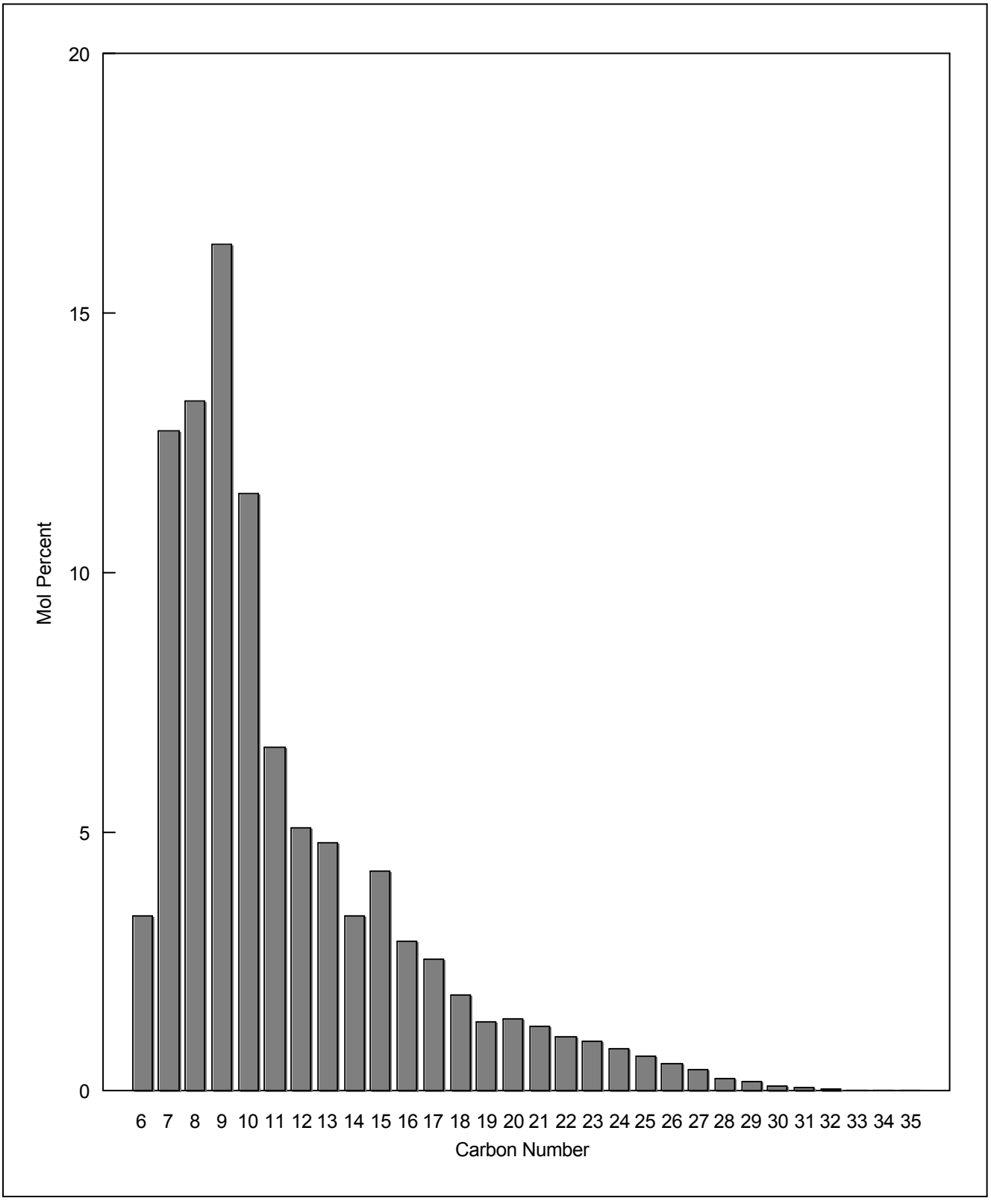
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # L-275

Component		Mol %
Hexanes minus	C6-	2.36
Hexanes	C6	3.37
Heptanes	C7	12.74
Octanes	C8	13.31
Nonanes	C9	16.32
Decanes	C10	11.51
Undecanes	C11	6.64
Dodecanes	C12	5.06
Tridecanes	C13	4.80
Tetradecanes	C14	3.38
Pentadecanes	C15	4.23
Hexadecanes	C16	2.88
Heptadecanes	C17	2.53
Octadecanes	C18	1.85
Nonadecanes	C19	1.32
Eicosanes	C20	1.40
Heneicosanes	C21	1.24
Docosanes	C22	1.06
Tricosanes	C23	0.96
Tetracosanes	C24	0.80
Pentacosanes	C25	0.68
Hexacosanes	C26	0.52
Heptacosanes	C27	0.40
Octacosanes	C28	0.25
Nonacosanes	C29	0.18
Triacontanes	C30	0.10
Hentriacontanes	C31	0.06
Dotriacontanes	C32	0.03
Tritriacontanes	C33	0.02
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	153.4
Density @ 60 °F Calculated *	:	0.7947

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # L-275



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 60 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF BOTTOM HOLE RESERVOIR FLUID

2973 SAND

Cylinder # L-275 ex MPSR BA 0477

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.28	18.40	18.26
Nitrogen	N2	0.00	0.21	0.21
Methane	C1	0.43	71.88	71.35
Ethane	C2	0.19	5.30	5.26
Propane	C3	0.25	1.86	1.85
Iso-Butane	iC4	0.12	0.36	0.36
N-Butane	nC4	0.26	0.52	0.52
Iso-Pentane	iC5	0.25	0.19	0.19
N-Pentane	nC5	0.33	0.19	0.19
Hexanes	C6	3.38	0.29	0.31
Heptanes	C7	12.77	0.40	0.49
Octanes	C8	13.34	0.21	0.31
Nonanes	C9	16.36	0.14	0.26
Decanes	C10	11.54	0.04	0.13
Undecanes	C11	6.66	0.01	0.06
Dodecanes Plus	C12+	33.84	0.00	0.25
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0075	0.9925	1.0000
Mass Ratio	:	0.0456	0.9544	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	-- @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	92376 SCF	--
Stream Properties				
Molecular Weight	:	152.5	23.98	24.9
Density obs. (gm/cc)	:	0.7956 @ 60 °F	--	-- @ PT*
Gravity (AIR = 1.000)	:	46.2 °API @ 60 °F	0.830	--
GHV (BTU/scf)	:	--	976	--
Hexanes Plus Properties				
Mol %	:	97.89	1.09	1.81
Molecular Weight	:	154.8	100.0	122.1
Density (gm/cc @ 60 °F)	:	0.7979	0.6891	0.7407
Gravity (°API @ 60 °F)	:	45.7	73.6	59.4
Heptanes Plus Properties				
Mol %	:	94.51	0.80	1.50
Molecular Weight	:	157.3	105.8	130.0
Density (gm/cc @ 60 °F)	:	0.8004	0.6966	0.7521
Gravity (°API @ 60 °F)	:	45.1	71.4	56.5
Decanes Plus Properties				
Mol %	:	52.04	0.05	0.44
Molecular Weight	:	196.7	136.6	189.6
Density (gm/cc @ 60 °F)	:	0.8274	0.7303	0.8185
Gravity (°API @ 60 °F)	:	39.3	62.1	41.2
Undecanes Plus Properties				
Mol %	:	40.50	0.01	0.31
Molecular Weight	:	214.5	146.9	212.4
Density (gm/cc @ 60 °F)	:	0.8369	0.7399	0.8345
Gravity (°API @ 60 °F)	:	37.4	59.6	37.9
Dodecanes Plus Properties				
Mol %	:	33.84	0.00	0.25
Molecular Weight	:	227.8	--	227.8
Density (gm/cc @ 60 °F)	:	0.8434	--	0.8434
Gravity (°API @ 60 °F)	:	36.1	--	36.1

* (P)ressure : 3354 psig * (T)emperature : 311 °F

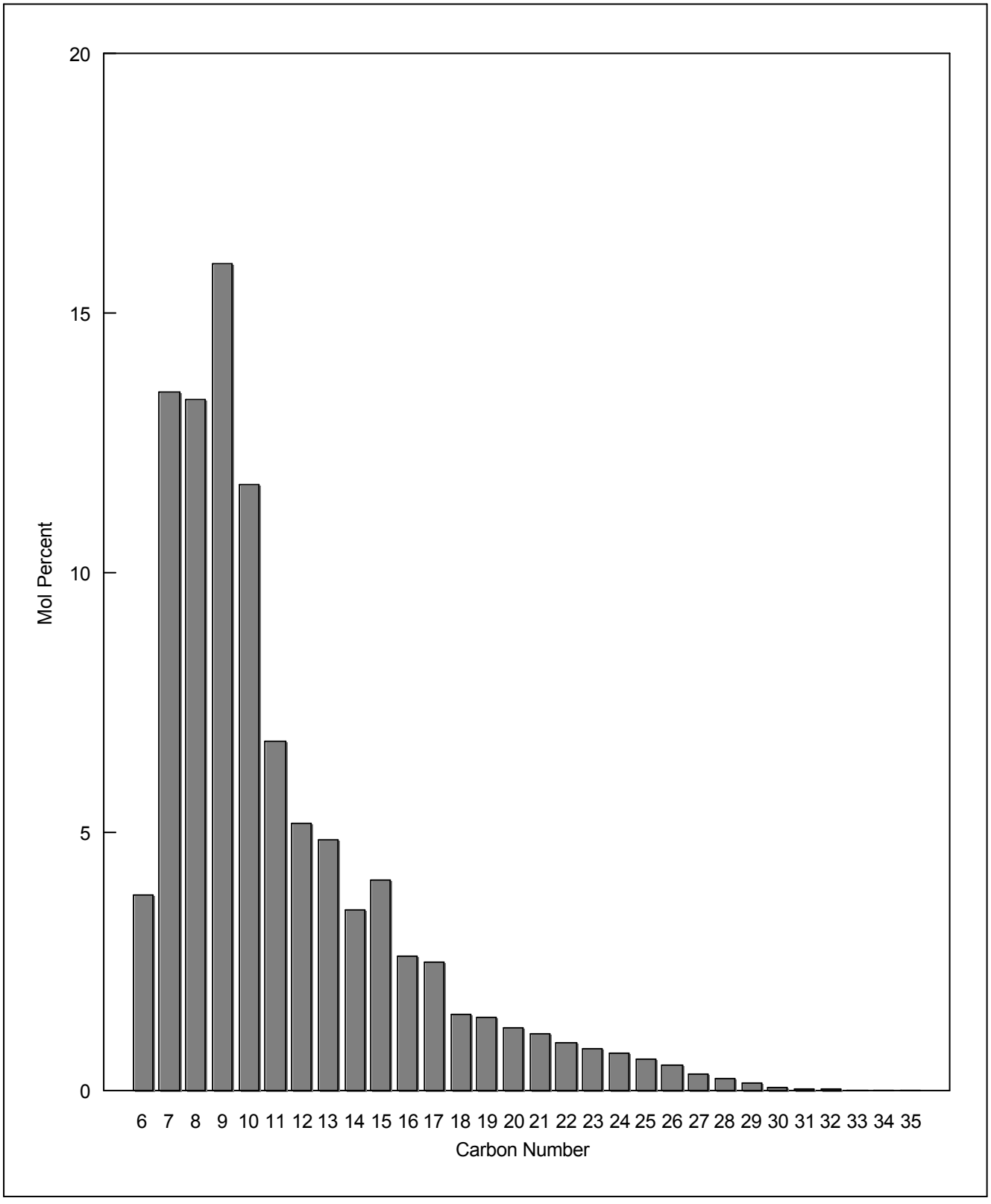
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # L-263

Component		Mol %
Hexanes minus	C6-	2.75
Hexanes	C6	3.77
Heptanes	C7	13.47
Octanes	C8	13.32
Nonanes	C9	15.94
Decanes	C10	11.68
Undecanes	C11	6.75
Dodecanes	C12	5.16
Tridecanes	C13	4.84
Tetradecanes	C14	3.49
Pentadecanes	C15	4.05
Hexadecanes	C16	2.60
Heptadecanes	C17	2.49
Octadecanes	C18	1.46
Nonadecanes	C19	1.42
Eicosanes	C20	1.22
Heneicosanes	C21	1.11
Docosanes	C22	0.92
Tricosanes	C23	0.83
Tetracosanes	C24	0.74
Pentacosanes	C25	0.61
Hexacosanes	C26	0.50
Heptacosanes	C27	0.34
Octacosanes	C28	0.23
Nonacosanes	C29	0.15
Triacontanes	C30	0.06
Hentriacontanes	C31	0.04
Dotriacontanes	C32	0.04
Tritriacontanes	C33	0.01
Tetratriacontanes	C34	0.01
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	150.3
Density @ 60 °F Calculated *	:	0.7917

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # L-263



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 63 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF BOTTOM HOLE RESERVOIR FLUID

2973 SAND

Cylinder # L-263 ex MPSR BA 0479

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.26	18.03	17.90
Nitrogen	N2	0.00	0.20	0.20
Methane	C1	0.42	71.56	71.05
Ethane	C2	0.18	5.31	5.27
Propane	C3	0.24	1.93	1.92
Iso-Butane	iC4	0.12	0.39	0.39
N-Butane	nC4	0.24	0.54	0.54
Iso-Pentane	iC5	0.23	0.20	0.20
N-Pentane	nC5	0.28	0.19	0.19
Hexanes	C6	3.80	0.33	0.35
Heptanes	C7	13.58	0.56	0.65
Octanes	C8	13.43	0.35	0.44
Nonanes	C9	16.07	0.27	0.38
Decanes	C10	11.77	0.10	0.18
Undecanes	C11	6.80	0.02	0.07
Dodecanes Plus	C12+	32.58	0.02	0.27
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0071	0.9929	1.0000
Mass Ratio	:	0.0425	0.9575	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	-- @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	98000 SCF	--
Stream Properties				
Molecular Weight	:	150.0	24.25	25.3
Density obs. (gm/cc)	:	0.7932 @ 60 °F	--	-- @ PT*
Gravity (AIR = 1.000)	:	46.7 °API @ 60 °F	0.847	--
GHV (BTU/scf)	:	--	1011	--
Hexanes Plus Properties				
Mol %	:	98.03	1.65	2.34
Molecular Weight	:	152.1	103.8	118.3
Density (gm/cc @ 60 °F)	:	0.7954	0.6941	0.7298
Gravity (°API @ 60 °F)	:	46.2	72.2	62.2
Heptanes Plus Properties				
Mol %	:	94.23	1.32	1.99
Molecular Weight	:	154.8	108.8	124.4
Density (gm/cc @ 60 °F)	:	0.7982	0.7003	0.7385
Gravity (°API @ 60 °F)	:	45.6	70.4	59.9
Decanes Plus Properties				
Mol %	:	51.16	0.14	0.52
Molecular Weight	:	193.6	141.0	177.1
Density (gm/cc @ 60 °F)	:	0.8255	0.7345	0.8030
Gravity (°API @ 60 °F)	:	39.7	61.0	44.5
Undecanes Plus Properties				
Mol %	:	39.38	0.04	0.34
Molecular Weight	:	211.4	158.5	203.4
Density (gm/cc @ 60 °F)	:	0.8352	0.7500	0.8257
Gravity (°API @ 60 °F)	:	37.8	57.0	39.7
Dodecanes Plus Properties				
Mol %	:	32.58	0.02	0.27
Molecular Weight	:	224.8	169.9	219.8
Density (gm/cc @ 60 °F)	:	0.8419	0.7592	0.8361
Gravity (°API @ 60 °F)	:	36.4	54.7	37.6

* (P)ressure : 3305 psig * (T)emperature : 311 °F

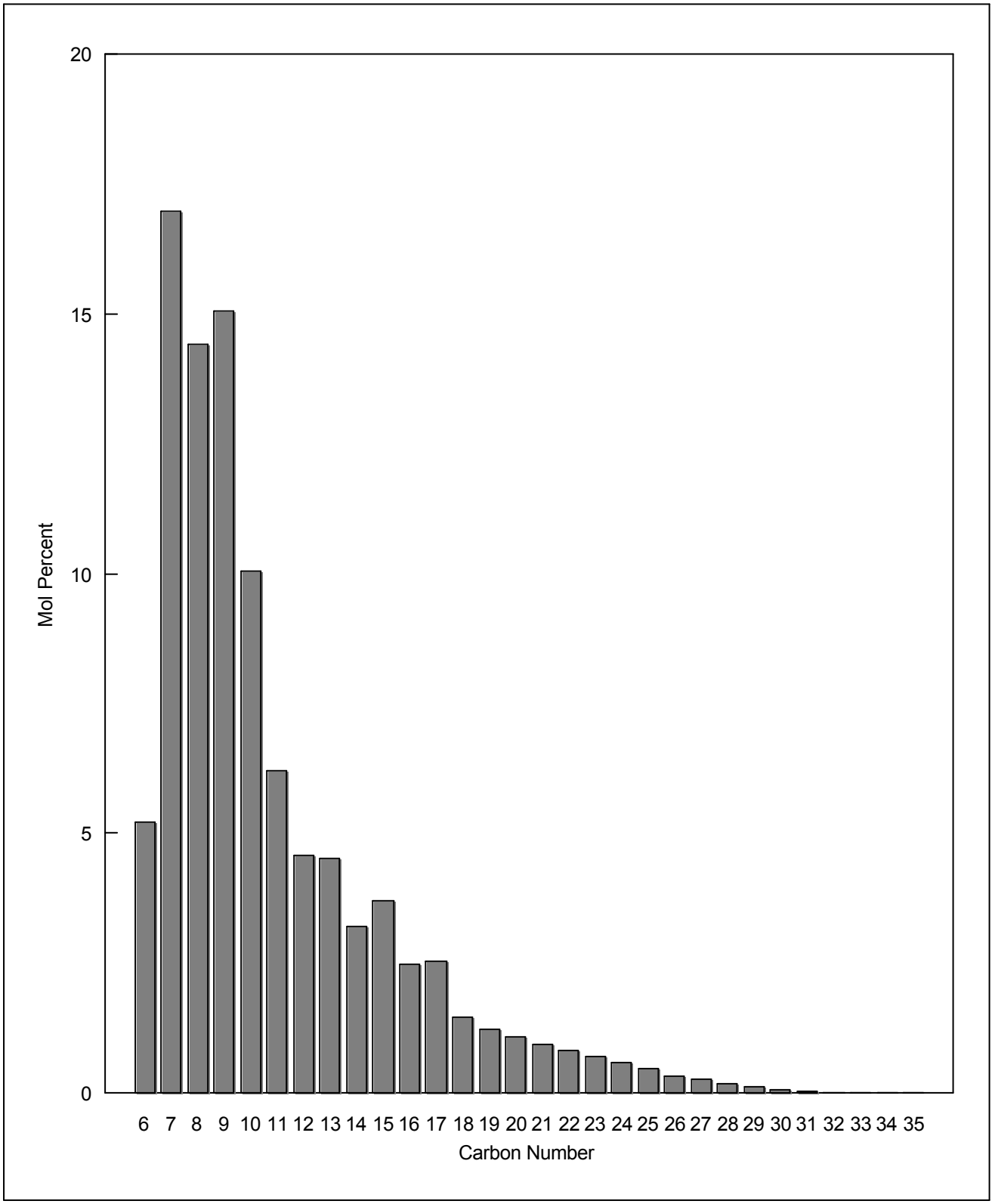
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # L-295

Component		Mol %
Hexanes minus	C6-	2.77
Hexanes	C6	5.22
Heptanes	C7	16.96
Octanes	C8	14.42
Nonanes	C9	15.05
Decanes	C10	10.05
Undecanes	C11	6.21
Dodecanes	C12	4.58
Tridecanes	C13	4.52
Tetradecanes	C14	3.21
Pentadecanes	C15	3.71
Hexadecanes	C16	2.47
Heptadecanes	C17	2.54
Octadecanes	C18	1.47
Nonadecanes	C19	1.22
Eicosanes	C20	1.08
Heneicosanes	C21	0.94
Docosanes	C22	0.81
Tricosanes	C23	0.70
Tetracosanes	C24	0.59
Pentacosanes	C25	0.47
Hexacosanes	C26	0.33
Heptacosanes	C27	0.26
Octacosanes	C28	0.17
Nonacosanes	C29	0.12
Triacontanes	C30	0.06
Hentriacontanes	C31	0.05
Dotriacontanes	C32	0.02
Tritriacontanes	C33	0.00
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	144.9
Density @ 60 °F Calculated *	:	0.7864

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # L-295



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 66 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF BOTTOM HOLE RESERVOIR FLUID

2809 SAND

Cylinder # L-295 ex MPSR BA 0487

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.26	17.83	17.50
Nitrogen	N2	0.00	0.14	0.14
Methane	C1	0.39	66.01	64.77
Ethane	C2	0.28	8.08	7.93
Propane	C3	0.46	3.65	3.59
Iso-Butane	iC4	0.20	0.64	0.63
N-Butane	nC4	0.49	1.07	1.06
Iso-Pentane	iC5	0.43	0.35	0.35
N-Pentane	nC5	0.58	0.37	0.37
Hexanes	C6	5.20	0.50	0.59
Heptanes	C7	16.90	0.64	0.95
Octanes	C8	14.37	0.31	0.58
Nonanes	C9	15.00	0.20	0.48
Decanes	C10	10.02	0.09	0.28
Undecanes	C11	6.19	0.04	0.16
Dodecanes Plus	C12+	29.22	0.08	0.62
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0189	0.9811	1.0000
Mass Ratio	:	0.0977	0.9023	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	-- @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	37855 SCF	--
Stream Properties				
Molecular Weight	:	143.3	25.52	28.2
Density obs. (gm/cc)	:	0.7862 @ 60 °F	--	-- @ PT*
Gravity (AIR = 1.000)	:	48.3 °API @ 60 °F	0.884	--
GHV (BTU/scf)	:	--	1075	--
Hexanes Plus Properties				
Mol %	:	96.90	1.86	3.66
Molecular Weight	:	146.2	103.4	124.9
Density (gm/cc @ 60 °F)	:	0.7898	0.6935	0.7469
Gravity (°API @ 60 °F)	:	47.5	72.3	57.8
Heptanes Plus Properties				
Mol %	:	91.70	1.36	3.07
Molecular Weight	:	149.7	110.6	132.7
Density (gm/cc @ 60 °F)	:	0.7936	0.7024	0.7580
Gravity (°API @ 60 °F)	:	46.6	69.8	55.0
Decanes Plus Properties				
Mol %	:	45.42	0.21	1.06
Molecular Weight	:	192.7	150.2	181.4
Density (gm/cc @ 60 °F)	:	0.8249	0.7429	0.8095
Gravity (°API @ 60 °F)	:	39.9	58.8	43.1
Undecanes Plus Properties				
Mol %	:	35.41	0.12	0.78
Molecular Weight	:	209.4	162.3	200.0
Density (gm/cc @ 60 °F)	:	0.8340	0.7531	0.8225
Gravity (°API @ 60 °F)	:	38.0	56.2	40.4
Dodecanes Plus Properties				
Mol %	:	29.22	0.08	0.62
Molecular Weight	:	222.6	170.0	214.9
Density (gm/cc @ 60 °F)	:	0.8407	0.7592	0.8316
Gravity (°API @ 60 °F)	:	36.7	54.7	38.5

* (P)ressure : 3842 psig * (T)emperature : 296 °F

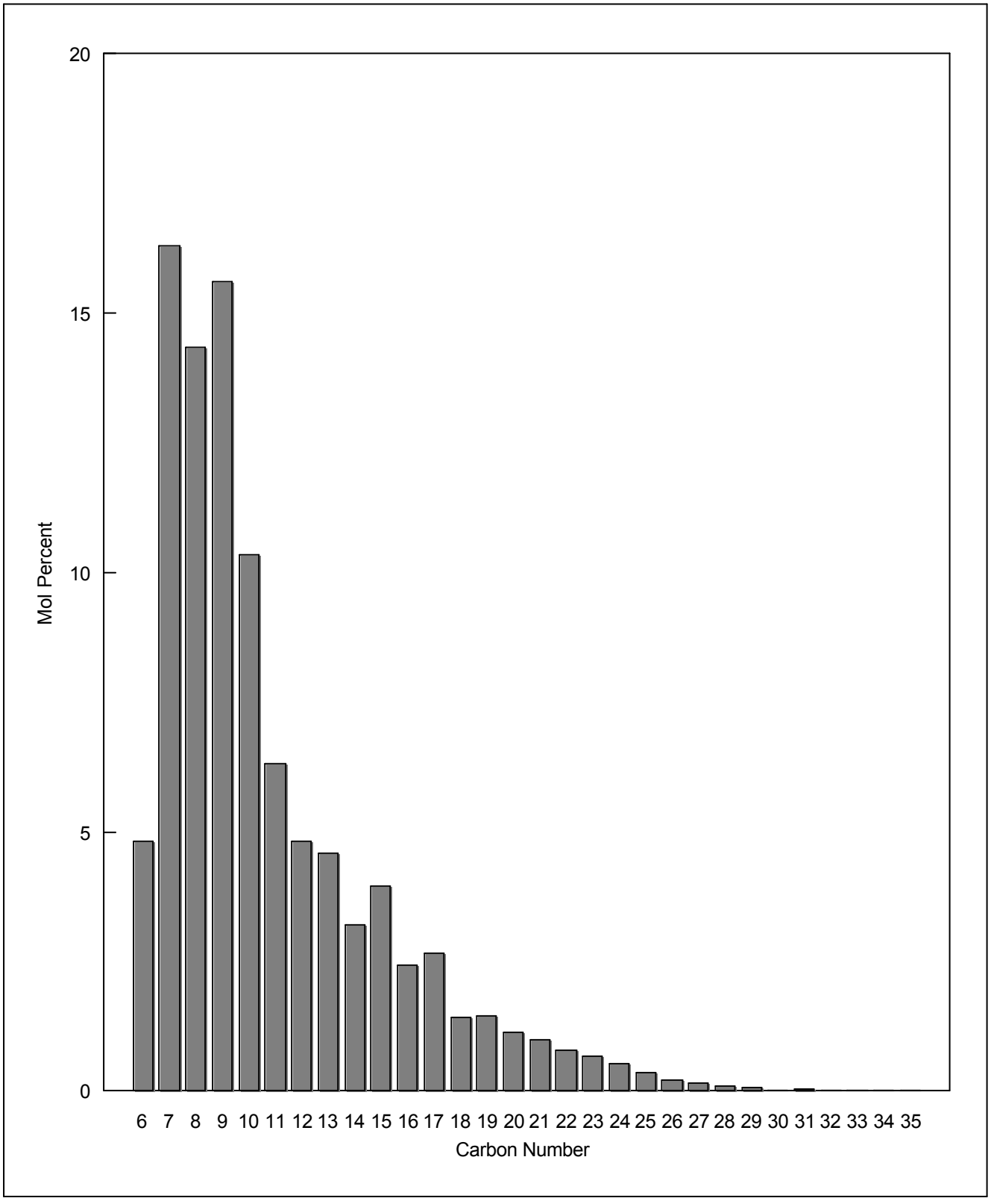
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # 812414

Component		Mol %
Hexanes minus	C6-	2.73
Hexanes	C6	4.81
Heptanes	C7	16.29
Octanes	C8	14.33
Nonanes	C9	15.61
Decanes	C10	10.35
Undecanes	C11	6.32
Dodecanes	C12	4.82
Tridecanes	C13	4.59
Tetradecanes	C14	3.21
Pentadecanes	C15	3.95
Hexadecanes	C16	2.41
Heptadecanes	C17	2.65
Octadecanes	C18	1.43
Nonadecanes	C19	1.44
Eicosanes	C20	1.14
Heneicosanes	C21	0.99
Docosanes	C22	0.79
Tricosanes	C23	0.68
Tetracosanes	C24	0.52
Pentacosanes	C25	0.35
Hexacosanes	C26	0.21
Heptacosanes	C27	0.16
Octacosanes	C28	0.09
Nonacosanes	C29	0.07
Triacontanes	C30	0.02
Hentriacontanes	C31	0.03
Dotriacontanes	C32	0.01
Tritriacontanes	C33	0.00
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	144.6
Density @ 60 °F Calculated *	:	0.7860

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # 812414



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 69 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF BOTTOM HOLE RESERVOIR FLUID

2809 SAND

Cylinder # 812414 ex 1 Gallon MDT Chamber

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.26	18.07	17.69
Nitrogen	N2	0.00	0.11	0.11
Methane	C1	0.39	66.37	64.96
Ethane	C2	0.27	7.91	7.75
Propane	C3	0.43	3.49	3.42
Iso-Butane	iC4	0.19	0.60	0.59
N-Butane	nC4	0.48	1.07	1.06
Iso-Pentane	iC5	0.41	0.35	0.35
N-Pentane	nC5	0.56	0.37	0.37
Hexanes	C6	4.80	0.49	0.58
Heptanes	C7	16.25	0.61	0.94
Octanes	C8	14.29	0.28	0.58
Nonanes	C9	15.57	0.18	0.51
Decanes	C10	10.32	0.08	0.30
Undecanes	C11	6.30	0.02	0.15
Dodecanes Plus	C12+	29.48	0.00	0.64
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0214	0.9786	1.0000
Mass Ratio	:	0.1084	0.8916	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	-- @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	33461 SCF	--
Stream Properties				
Molecular Weight	:	143.0	25.69	28.2
Density obs. (gm/cc)	:	0.7859 @ 60 °F	--	-- @ PT*
Gravity (AIR = 1.000)	:	48.4 °API @ 60 °F	0.890	--
GHV (BTU/scf)	:	--	1079	--
Hexanes Plus Properties				
Mol %	:	97.00	1.66	3.70
Molecular Weight	:	145.8	99.5	125.5
Density (gm/cc @ 60 °F)	:	0.7893	0.6884	0.7510
Gravity (°API @ 60 °F)	:	47.6	73.9	56.7
Heptanes Plus Properties				
Mol %	:	92.21	1.17	3.12
Molecular Weight	:	149.1	105.9	133.2
Density (gm/cc @ 60 °F)	:	0.7929	0.6967	0.7622
Gravity (°API @ 60 °F)	:	46.8	71.4	54.0
Decanes Plus Properties				
Mol %	:	46.10	0.10	1.09
Molecular Weight	:	190.2	136.6	185.2
Density (gm/cc @ 60 °F)	:	0.8232	0.7303	0.8162
Gravity (°API @ 60 °F)	:	40.2	62.1	41.7
Undecanes Plus Properties				
Mol %	:	35.78	0.02	0.79
Molecular Weight	:	206.5	146.9	205.0
Density (gm/cc @ 60 °F)	:	0.8322	0.7400	0.8304
Gravity (°API @ 60 °F)	:	38.4	59.5	38.7
Dodecanes Plus Properties				
Mol %	:	29.48	0.00	0.64
Molecular Weight	:	219.2	--	219.2
Density (gm/cc @ 60 °F)	:	0.8388	--	0.8388
Gravity (°API @ 60 °F)	:	37.0	--	37.0

* (P)ressure : 3842 psig * (T)emperature : 296 °F

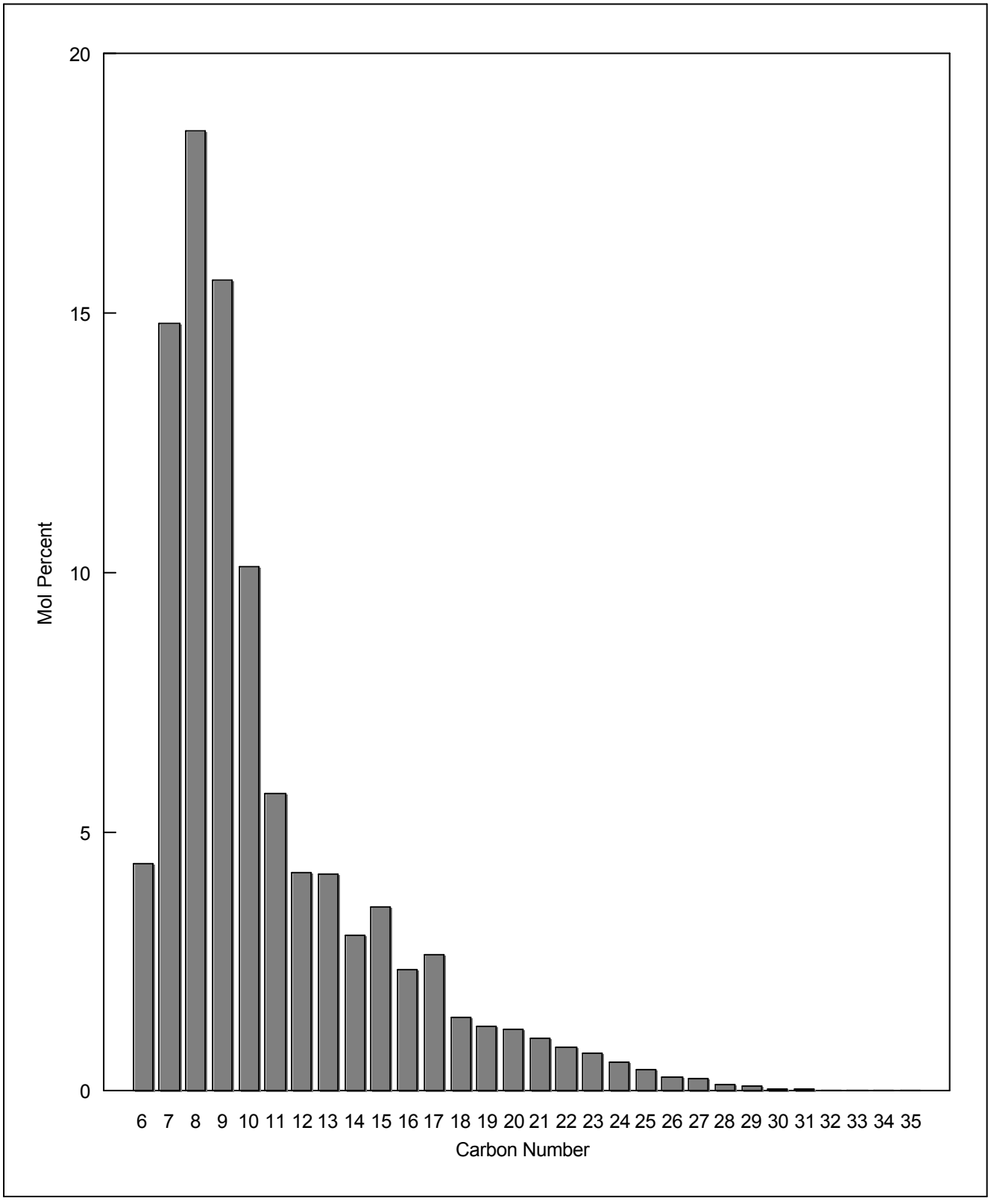
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # L-284

Component		Mol %
Hexanes minus	C6-	2.73
Hexanes	C6	4.39
Heptanes	C7	14.79
Octanes	C8	18.51
Nonanes	C9	15.63
Decanes	C10	10.11
Undecanes	C11	5.73
Dodecanes	C12	4.21
Tridecanes	C13	4.17
Tetradecanes	C14	2.99
Pentadecanes	C15	3.54
Hexadecanes	C16	2.34
Heptadecanes	C17	2.62
Octadecanes	C18	1.41
Nonadecanes	C19	1.25
Eicosanes	C20	1.19
Heneicosanes	C21	1.00
Docosanes	C22	0.84
Tricosanes	C23	0.72
Tetracosanes	C24	0.55
Pentacosanes	C25	0.41
Hexacosanes	C26	0.28
Heptacosanes	C27	0.23
Octacosanes	C28	0.14
Nonacosanes	C29	0.11
Triacontanes	C30	0.05
Hentriacontanes	C31	0.04
Dotriacontanes	C32	0.02
Tritriacontanes	C33	0.00
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	144.2
Density @ 60 °F Calculated *	:	0.7856

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
On Stock Tank Oil from atmospheric flash of sample in cylinder # L-284



PETROLAB

Company : Origin Energy Resources Ltd.	Page : 72 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF BOTTOM HOLE RESERVOIR FLUID

2755 SAND

Cylinder # L-284 ex MPSR BA 0497

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.28	19.09	18.86
Nitrogen	N2	0.00	0.16	0.16
Methane	C1	0.40	67.99	67.16
Ethane	C2	0.23	6.57	6.49
Propane	C3	0.35	2.79	2.76
Iso-Butane	iC4	0.15	0.48	0.48
N-Butane	nC4	0.35	0.78	0.77
Iso-Pentane	iC5	0.31	0.26	0.26
N-Pentane	nC5	0.41	0.27	0.27
Hexanes	C6	4.40	0.38	0.43
Heptanes	C7	14.83	0.52	0.70
Octanes	C8	18.56	0.43	0.65
Nonanes	C9	15.67	0.17	0.36
Decanes	C10	10.14	0.07	0.19
Undecanes	C11	5.75	0.03	0.10
Dodecanes Plus	C12+	28.19	0.01	0.36
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0123	0.9877	1.0000
Mass Ratio	:	0.0658	0.9342	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	-- @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	58720 SCF	--
Stream Properties				
Molecular Weight	:	143.1	25.31	26.8
Density obs. (gm/cc)	:	0.7865 @ 60 °F	--	-- @ PT*
Gravity (AIR = 1.000)	:	48.2 °API @ 60 °F	0.877	--
GHV (BTU/scf)	:	--	1032	--
Hexanes Plus Properties				
Mol %	:	97.54	1.61	2.79
Molecular Weight	:	145.4	101.8	120.6
Density (gm/cc @ 60 °F)	:	0.7892	0.6915	0.7390
Gravity (°API @ 60 °F)	:	47.6	72.9	59.8
Heptanes Plus Properties				
Mol %	:	93.14	1.23	2.36
Molecular Weight	:	148.3	107.3	127.2
Density (gm/cc @ 60 °F)	:	0.7925	0.6984	0.7487
Gravity (°API @ 60 °F)	:	46.9	70.9	57.3
Decanes Plus Properties				
Mol %	:	44.07	0.11	0.65
Molecular Weight	:	193.0	140.8	183.2
Density (gm/cc @ 60 °F)	:	0.8251	0.7343	0.8118
Gravity (°API @ 60 °F)	:	39.8	61.0	42.6
Undecanes Plus Properties				
Mol %	:	33.94	0.04	0.46
Molecular Weight	:	210.7	152.7	205.2
Density (gm/cc @ 60 °F)	:	0.8347	0.7451	0.8281
Gravity (°API @ 60 °F)	:	37.9	58.2	39.2
Dodecanes Plus Properties				
Mol %	:	28.19	0.01	0.36
Molecular Weight	:	223.7	169.8	221.9
Density (gm/cc @ 60 °F)	:	0.8412	0.7591	0.8392
Gravity (°API @ 60 °F)	:	36.6	54.7	37.0

* (P)ressure : 3710 psig * (T)emperature : 289 °F

SUMMARY OF RESULTS

SATURATED VAPOUR:		Sand 2973	Sand 2809	Sand 2755
Reservoir Temperature (°F)	:	311	296	289
Dew Point Pressure (psig)	:	3360	4160	3770
Gas Formation Volume Factor (Bg)	:	0.00595	0.00471	0.00504
Gas Expansion Factor (E)	:	167.98	212.15	198.22
Gas Deviation Factor (Z)	:	0.922	0.921	0.902
Specific Volume (CFT/LB)	:	0.08916	0.06353	0.07157
Density (gm/cc)	:	0.1797	0.2521	0.2238
Viscosity (centipoise)	:	0.0236	0.0305	0.0273
Molecular Weight	:	25.35	28.17	26.76
Gas Gravity (Air = 1.000)	:	0.879	0.976	0.928
Gross Heating Value (BTU/ft3)	:	1063	1225	1116

Total Plant Products in Dew Point Fluid (GPMM):

Ethane	:	1410	2122	1737
Propane	:	529	990	761
Butanes	:	298	541	400
Pentanes Plus	:	1307	2151	1603

FLASH DATA:

1st Separator Pressure (psig)	:	258	749	756
1st Separator Temperature (°F)	:	66	84	86
2nd Separator Pressure (psig)	:	--	--	--
2nd Separator Temperature (°F)	:	--	--	--
Stock Tank Pressure (psig)	:	0	0	0
Stock Tank Temperature (°F)	:	60	60	60
1st Separator GOR (scf/bbl)	:	30978	18201	25585
2nd Separator GOR (scf/bbl)	:	--	--	--
Stock Tank GOR (scf/bbl)	:	168	678	568
Total GOR (scf/bbl)	:	31146	18879	26153
1st Sep.Gas / Prod. WS (mscf/mmscf)	:	971	925	950
2nd Sep.Gas / Prod. WS (mscf/mmscf)	:	--	--	--
STT Gas / Prod. WS (mscf/mmscf)	:	5	35	21
ST T Liq / Produced W/S (stb/mmscf)	:	31	51	37

Total Plant Products in Primary Separator Gas (GPMM):

Ethane	:	1383	1965	1649
Propane	:	409	809	664
Butanes	:	252	341	291
Pentanes Plus	:	200	194	199

Total Plant Products in Secondary Separator Gas (GPMM):

Ethane	:	0	0	0
Propane	:	0	0	0
Butanes	:	0	0	0
Pentanes Plus	:	0	0	0

Total Plant Products in Stock Tank Gas (GPMM):

Ethane	:	19	144	78
Propane	:	17	151	78
Butanes	:	13	120	61
Pentanes Plus	:	12	94	53

CONSTANT MASS STUDY
@ 311 °F
On MDT Sample from L - 263 (ex MPSR BA 0479) - taken in the 2973 Sand

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)
5000		0.7266	0.00433	231.17	0.996	0.06479	0.0308
4800		0.7481	0.00445	224.53	0.984	0.06671	0.0299
4600		0.7723	0.00460	217.51	0.974	0.06886	0.0290
4400		0.7980	0.00475	210.49	0.963	0.07115	0.0281
4371	*	0.8020	0.00477	209.44	0.961	0.07151	0.0280
4200		0.8267	0.00492	203.20	0.952	0.07371	0.0273
4000		0.8595	0.00512	195.44	0.943	0.07663	0.0264
3800		0.8971	0.00534	187.24	0.935	0.07999	0.0255
3600		0.9408	0.00560	178.55	0.929	0.08388	0.0246
3360	**	1.0000	0.00595	167.98	0.922	0.08916	0.0236

* Reservoir Pressure
** 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
@ 311 °F
On MDT Sample from L - 263 (ex MPSR BA 0479) - taken in the 2973 Sand

Pressure (psig)		Relative Volume (V/Vsat) (1)	Retrograde Liquid Deposit (Bbl/MMSCF) (2)	(Volume%) (3)
3360	*	1.0000	0.00	0.00
3200		1.0452	0.74	0.07
3000		1.1109	1.80	0.17
2800		1.1860	2.97	0.28
2600		1.2739	4.45	0.42
2400		1.3779	5.73	0.54
2200		1.5006	6.79	0.64
2000		1.6514	7.63	0.72
1700		1.9446	8.59	0.81
1400		2.3622	9.22	0.87
1100		3.0110	9.54	0.90
800		4.1378	9.65	0.91

* 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

@ 311 °F

On MDT Sample from L - 263 (ex MPSR BA 0479) - taken in the 2973 Sand

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)
3360	*	0.000	0.922	0.922	0.0236	0.00	0.00
3200		3.601	0.920	0.911	0.0227	0.64	0.06
2800		14.720	0.916	0.902	0.0210	2.12	0.20
2400		26.647	0.915	0.899	0.0196	5.09	0.48
2000		38.835	0.917	0.900	0.0183	7.21	0.68
1600		51.003	0.920	0.900	0.0172	8.48	0.80
1200		63.094	0.924	0.899	0.0163	9.12	0.86
800		75.191	0.932	0.897	0.0155	9.22	0.87
500		84.180	0.941	0.889	0.0149	8.91	0.84

* 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

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COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		3360 **	3200	2800
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	17.90	17.96	18.01
Nitrogen	N2	0.20	0.20	0.20
Methane	C1	71.05	71.39	71.62
Ethane	C2	5.27	5.28	5.29
Propane	C3	1.92	1.92	1.92
Iso-Butane	iC4	0.39	0.39	0.39
N-Butane	nC4	0.54	0.54	0.53
Iso-Pentane	iC5	0.20	0.20	0.20
N-Pentane	nC5	0.19	0.19	0.19
Hexanes	C6	0.35	0.34	0.34
Heptanes	C7	0.65	0.54	0.46
Octanes	C8	0.44	0.35	0.29
Nonanes	C9	0.38	0.27	0.22
Decanes	C10	0.18	0.15	0.13
Undecanes	C11	0.07	0.07	0.07
Dodecanes Plus	C12+	0.27	0.21	0.14
TOTAL		100.00	100.00	100.00
Stream Properties				
Molecular Weight	:	25.35	24.95	24.66
Gravity (AIR = 1.000)	:	0.879	0.864	0.854
Gross HV (BTU/SCF)	:	1063	1039	1022
Nett HV (BTU/SCF)	:	965	942	927
Wobbe Index	:	1134	1118	1106
Critical Pressure (psia)	:	730.8	732.4	733.5
Critical Temperature (°R)	:	418.6	415.9	414.2
GPM Content				
Ethane Plus	:	3.544	3.337	3.196
Propane Plus	:	2.134	1.924	1.780
Butanes Plus	:	1.605	1.395	1.251
Pentanes Plus	:	1.307	1.097	0.956
Hexanes Plus Properties				
Mol %	:	2.34	1.93	1.65
Molecular Weight	:	118.3	117.5	115.0
Density (gm/cc @ 60 °F)	:	0.7298	0.7592	0.7563
Gravity (°API @ 60 °F)	:	62.2	54.7	55.4
Heptanes Plus Properties				
Mol %	:	1.99	1.59	1.31
Molecular Weight	:	124.4	124.6	122.8
Density (gm/cc @ 60 °F)	:	0.7385	0.7673	0.7653
Gravity (°API @ 60 °F)	:	59.9	52.7	53.2
Decanes Plus Properties				
Mol %	:	0.52	0.43	0.34
Molecular Weight	:	177.1	175.9	169.7
Density (gm/cc @ 60 °F)	:	0.8030	0.8163	0.8110
Gravity (°API @ 60 °F)	:	44.5	41.7	42.8
Undecanes Plus Properties				
Mol %		0.34	0.28	0.21
Molecular Weight	:	203.4	197.6	189.0
Density (gm/cc @ 60 °F)	:	0.8257	0.8335	0.8268
Gravity (°API @ 60 °F)	:	39.7	38.1	39.5
Dodecanes Plus Properties				
Molecular Weight	:	219.8	213.7	206.3
Density (gm/cc @ 60 °F)	:	0.8361	0.8453	0.8399
Gravity (°API @ 60 °F)	:	37.6	35.7	36.8
Recovery Factor*				
* at 500 psi abandonment pressure	:	0.8588	0.8522	0.8319

** Original Reservoir Fluid

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COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		2400	2000	1600
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	18.03	18.05	18.06
Nitrogen	N2	0.20	0.20	0.20
Methane	C1	71.73	71.78	71.79
Ethane	C2	5.29	5.30	5.30
Propane	C3	1.92	1.92	1.92
Iso-Butane	iC4	0.39	0.39	0.39
N-Butane	nC4	0.53	0.53	0.54
Iso-Pentane	iC5	0.20	0.20	0.20
N-Pentane	nC5	0.19	0.19	0.19
Hexanes	C6	0.34	0.33	0.34
Heptanes	C7	0.42	0.40	0.39
Octanes	C8	0.25	0.24	0.23
Nonanes	C9	0.20	0.19	0.19
Decanes	C10	0.12	0.11	0.11
Undecanes	C11	0.06	0.05	0.05
Dodecanes Plus	C12+	0.13	0.12	0.10
TOTAL		100.00	100.00	100.00
Stream Properties				
Molecular Weight	:	24.48	24.40	24.37
Gravity (AIR = 1.000)	:	0.848	0.845	0.844
Gross HV (BTU/SCF)	:	1012	1007	1006
Nett HV (BTU/SCF)	:	917	913	911
Wobbe Index	:	1099	1096	1095
Critical Pressure (psia)	:	734.0	734.3	734.5
Critical Temperature (°R)	:	413.1	412.5	412.5
GPM Content				
Ethane Plus	:	3.113	3.073	3.063
Propane Plus	:	1.697	1.655	1.645
Butanes Plus	:	1.168	1.126	1.116
Pentanes Plus	:	0.873	0.831	0.818
Hexanes Plus Properties				
Mol %	:	1.52	1.44	1.41
Molecular Weight	:	113.0	112.1	111.1
Density (gm/cc @ 60 °F)	:	0.7540	0.7528	0.7516
Gravity (°API @ 60 °F)	:	56.0	56.3	56.6
Heptanes Plus Properties				
Mol %	:	1.18	1.11	1.07
Molecular Weight	:	121.3	120.4	119.5
Density (gm/cc @ 60 °F)	:	0.7636	0.7625	0.7616
Gravity (°API @ 60 °F)	:	53.6	53.9	54.1
Decanes Plus Properties				
Mol %	:	0.31	0.28	0.26
Molecular Weight	:	165.9	164.6	161.6
Density (gm/cc @ 60 °F)	:	0.8077	0.8066	0.8039
Gravity (°API @ 60 °F)	:	43.5	43.8	44.3
Undecanes Plus Properties				
Mol %	:	0.19	0.17	0.15
Molecular Weight	:	185.1	183.3	179.5
Density (gm/cc @ 60 °F)	:	0.8237	0.8223	0.8192
Gravity (°API @ 60 °F)	:	40.1	40.4	41.1
Dodecanes Plus Properties				
Molecular Weight	:	201.4	197.2	193.0
Density (gm/cc @ 60 °F)	:	0.8363	0.8332	0.8300
Gravity (°API @ 60 °F)	:	37.5	38.2	38.8
Recovery Factor*				
* at 500 psi abandonment pressure :		0.8041	0.7645	0.7047

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COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		1200	800	500
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	18.07	18.07	18.06
Nitrogen	N2	0.20	0.20	0.20
Methane	C1	71.78	71.70	71.56
Ethane	C2	5.31	5.32	5.33
Propane	C3	1.93	1.94	1.95
Iso-Butane	iC4	0.39	0.39	0.40
N-Butane	nC4	0.54	0.54	0.55
Iso-Pentane	iC5	0.20	0.20	0.20
N-Pentane	nC5	0.19	0.19	0.19
Hexanes	C6	0.34	0.35	0.36
Heptanes	C7	0.38	0.39	0.41
Octanes	C8	0.22	0.22	0.24
Nonanes	C9	0.19	0.19	0.21
Decanes	C10	0.11	0.12	0.12
Undecanes	C11	0.05	0.05	0.07
Dodecanes Plus	C12+	0.10	0.13	0.15
TOTAL		100.00	100.00	100.00

Stream Properties				
Molecular Weight	:	24.34	24.40	24.50
Gravity (AIR = 1.000)	:	0.843	0.845	0.848
Gross HV (BTU/SCF)	:	1004	1007	1012
Nett HV (BTU/SCF)	:	909	912	917
Wobbe Index	:	1093	1095	1099
Critical Pressure (psia)	:	734.6	734.3	733.9
Critical Temperature (°R)	:	412.3	412.7	413.3
GPM Content				
Ethane Plus	:	3.051	3.084	3.140
Propane Plus	:	1.630	1.660	1.713
Butanes Plus	:	1.098	1.125	1.175
Pentanes Plus	:	0.800	0.827	0.870
Hexanes Plus Properties				
Mol %	:	1.39	1.45	1.56
Molecular Weight	:	110.4	111.2	111.3
Density (gm/cc @ 60 °F)	:	0.7508	0.7517	0.7519
Gravity (°API @ 60 °F)	:	56.8	56.5	56.5
Heptanes Plus Properties				
Mol %	:	1.05	1.10	1.20
Molecular Weight	:	118.8	119.8	119.7
Density (gm/cc @ 60 °F)	:	0.7608	0.7619	0.7617
Gravity (°API @ 60 °F)	:	54.3	54.0	54.1
Decanes Plus Properties				
Mol %	:	0.26	0.30	0.34
Molecular Weight	:	159.1	159.5	158.6
Density (gm/cc @ 60 °F)	:	0.8016	0.8020	0.8012
Gravity (°API @ 60 °F)	:	44.8	44.8	44.9
Undecanes Plus Properties				
Mol %	:	0.15	0.18	0.22
Molecular Weight	:	176.3	176.5	173.3
Density (gm/cc @ 60 °F)	:	0.8166	0.8167	0.8141
Gravity (°API @ 60 °F)	:	41.6	41.6	42.1
Dodecanes Plus Properties				
Molecular Weight	:	189.6	187.8	187.5
Density (gm/cc @ 60 °F)	:	0.8273	0.8259	0.8257
Gravity (°API @ 60 °F)	:	39.4	39.7	39.7
Recovery Factor*				
* at 500 psi abandonment pressure :		0.6045	0.4016	--

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		3200	2800	2400
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	11.78	11.06	10.22
Nitrogen	N2	0.12	0.10	0.08
Methane	C1	37.06	34.07	30.73
Ethane	C2	4.37	4.19	3.97
Propane	C3	2.22	2.20	2.15
Iso-Butane	iC4	0.58	0.59	0.59
N-Butane	nC4	0.88	0.89	0.90
Iso-Pentane	iC5	0.41	0.42	0.44
N-Pentane	nC5	0.41	0.43	0.45
Hexanes	C6	1.04	1.11	1.19
Heptanes Plus	C7+	41.13	44.94	49.28
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	127.9	112.8	115.4
Density @ P & T	:	0.737	0.688	0.681

Hexanes Plus Properties

Mol %	:	42.17	46.05	50.47
Molecular Weight	:	268.1	214.4	202.8
Density (gm/cc @ 60 °F)	:	0.881	0.846	0.838
Gravity (°API @ 60 °F)	:	28.9	35.6	37.3

Heptanes Plus Properties

Molecular Weight	:	272.7	217.6	205.6
Density (gm/cc @ 60 °F)	:	0.883	0.848	0.839
Gravity (°API @ 60 °F)	:	28.6	35.2	36.9

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		2000	1600	1200
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	9.22	8.04	6.63
Nitrogen	N2	0.06	0.04	0.03
Methane	C1	27.05	22.95	18.37
Ethane	C2	3.67	3.29	2.80
Propane	C3	2.07	1.93	1.71
Iso-Butane	iC4	0.58	0.56	0.51
N-Butane	nC4	0.90	0.87	0.81
Iso-Pentane	iC5	0.44	0.44	0.42
N-Pentane	nC5	0.46	0.47	0.45
Hexanes	C6	1.26	1.31	1.32
Heptanes Plus	C7+	54.29	60.10	66.95
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	122.3	131.9	143.4
Density @ P & T	:	0.683	0.689	0.694

Hexanes Plus Properties

Mol %	:	55.55	61.41	68.27
Molecular Weight	:	198.6	197.6	197.0
Density (gm/cc @ 60 °F)	:	0.834	0.834	0.833
Gravity (°API @ 60 °F)	:	37.9	38.1	38.2

Heptanes Plus Properties

Molecular Weight	:	201.3	200.1	199.3
Density (gm/cc @ 60 °F)	:	0.836	0.835	0.835
Gravity (°API @ 60 °F)	:	37.5	37.7	37.9

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		800	500 *	500 **
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	4.91	3.35	3.82
Nitrogen	N2	0.01	0.01	0.15
Methane	C1	13.16	8.76	7.91
Ethane	C2	2.14	1.50	2.22
Propane	C3	1.37	1.00	1.92
Iso-Butane	iC4	0.43	0.32	0.56
N-Butane	nC4	0.68	0.52	1.00
Iso-Pentane	iC5	0.37	0.29	0.55
N-Pentane	nC5	0.40	0.32	0.59
Hexanes	C6	1.22	1.03	2.18
Heptanes Plus	C7+	75.31	82.90	79.10
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	158.7	173.6	202.4
Density @ P & T	:	0.701	0.707	0.754

Hexanes Plus Properties

Mol %	:	76.53	83.93	81.28
Molecular Weight	:	198.6	201.3	241.4
Density (gm/cc @ 60 °F)	:	0.834	0.836	0.865
Gravity (°API @ 60 °F)	:	37.9	37.5	32.0

Heptanes Plus Properties

Molecular Weight	:	200.5	202.7	245.7
Density (gm/cc @ 60 °F)	:	0.836	0.837	0.867
Gravity (°API @ 60 °F)	:	37.7	37.3	31.6

* Abandonment Pressure Liquid Composition from Material Balance
** Abandonment Pressure Liquid Composition Analysed

CALCULATED CUMULATIVE RECOVERY DURING DEPLETION

per MMSCF of Original Reservoir Fluid *

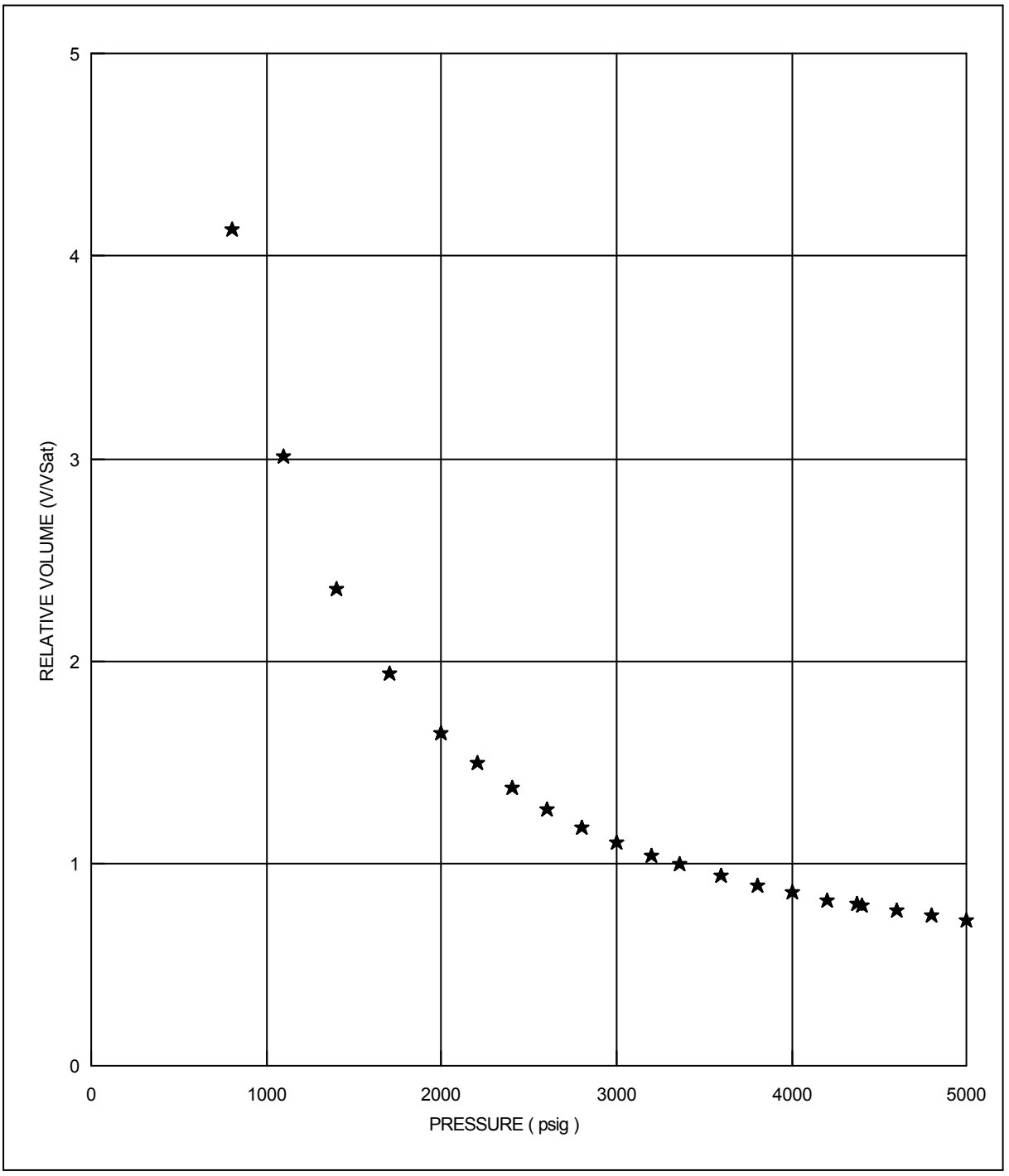
Reservoir Pressure		3360	3200	2800	2400	2000	1600	1200	800	500
	Initial in Place	**Saturation Pressure**								
Well Stream - MSCF	**1000**	0	36.0	147.2	266.5	388.4	510.0	630.9	751.9	841.8
Stock Tank Liquid - °API @ 60 °F		51.2	58.9	59.8	60.4	60.8	61.1	61.3	61.2	61.1
Cumulative Produced (Bbl)	**0.00**	0.00	0.78	2.75	4.63	6.42	8.15	9.83	11.58	13.00
Remaining in Vapor (Bbl)	**31.35**	31.35	20.64	14.88	11.31	8.76	6.75	4.94	3.43	2.35
Remaining in Liquid (Bbl)	**0.00**	0.00	9.93	13.71	15.41	16.16	16.45	16.59	16.34	15.99
Primary Separator Gas - MSCF	**971.07**	0.00	35.17	144.19	261.38	381.27	501.01	620.04	739.05	827.34
Second Stage Gas - MSCF	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stock Tank Gas - MSCF	**5.26**	0.00	0.15	0.55	0.94	1.30	1.66	2.01	2.38	2.68
		Total " Plant Products " - (Gallons) in Well Stream :								
Ethane	**1410**	0	51	208	377	550	723	894	1067	1195
Propane	**529**	0	19	78	141	205	270	334	399	447
Butanes	**298**	0	11	44	79	115	151	187	223	250
Pentanes Plus	**1307**	0	40	146	250	351	451	547	648	726
		Total " Plant Products " - (Gallons) in Primary Separator Gas :								
Ethane	**1383**	0	50	205	372	543	713	883	1053	1180
Propane	**499**	0	18	75	135	198	260	322	384	431
Butanes	**252**	0	9	39	70	103	136	168	201	226
Pentanes Plus	**200**	0	8	32	59	87	115	143	171	192
		Total " Plant Products " - (Gallons) in Secondary Separator Gas :								
Ethane	**0**	0	0	0	0	0	0	0	0	0
Propane	**0**	0	0	0	0	0	0	0	0	0
Butanes	**0**	0	0	0	0	0	0	0	0	0
Pentanes Plus	**0**	0	0	0	0	0	0	0	0	0
		Total " Plant Products " - (Gallons) in Stock Tank Gas :								
Ethane	**19**	0	1	2	3	5	6	7	9	10
Propane	**17**	0	0	2	3	4	5	7	8	9
Butanes	**13**	0	0	1	2	3	4	5	6	7
Pentanes Plus	**12**	0	0	1	2	3	4	5	6	7
		Gas Liquid Ratios *								
1st Sep. Gas/Stock Tank Liquid (SCF/BBL)		30978	45137	55193	62349	66946	69372	71020	67945	61854
1st+2nd Sep. Gas/Stock Tank Liquid (SCF/BBL)		30978	45137	55193	62349	66946	69372	71020	67945	61854
1st+2nd Sep+STTGas/Stock Tank Liquid (SCF/BBL)		31146	45334	55395	62553	67151	69580	71229	68153	62063
1st Sep. Gas/Produced WellStream (MSCF/MMSCF)		971	977	981	983	984	984	984	984	982
1st+2nd Sep. Gas/Produced WS (MSCF/MMSCF)		971	977	981	983	984	984	984	984	982
1st+2nd Sep.+STT Gas/Produced WS (MSCF/MMSCF)		976	981	984	986	987	987	987	987	986
Stock Tank Liquid/Produced WS (STB/MMSCF)		31	22	18	16	15	14	14	14	16

* Primary Separator @ 258 psig and 66 °F; No Secondary Separator; Stock Tank @ 14.696 psia and 60 °F

RELATIVE VOLUME

Equation of best fit

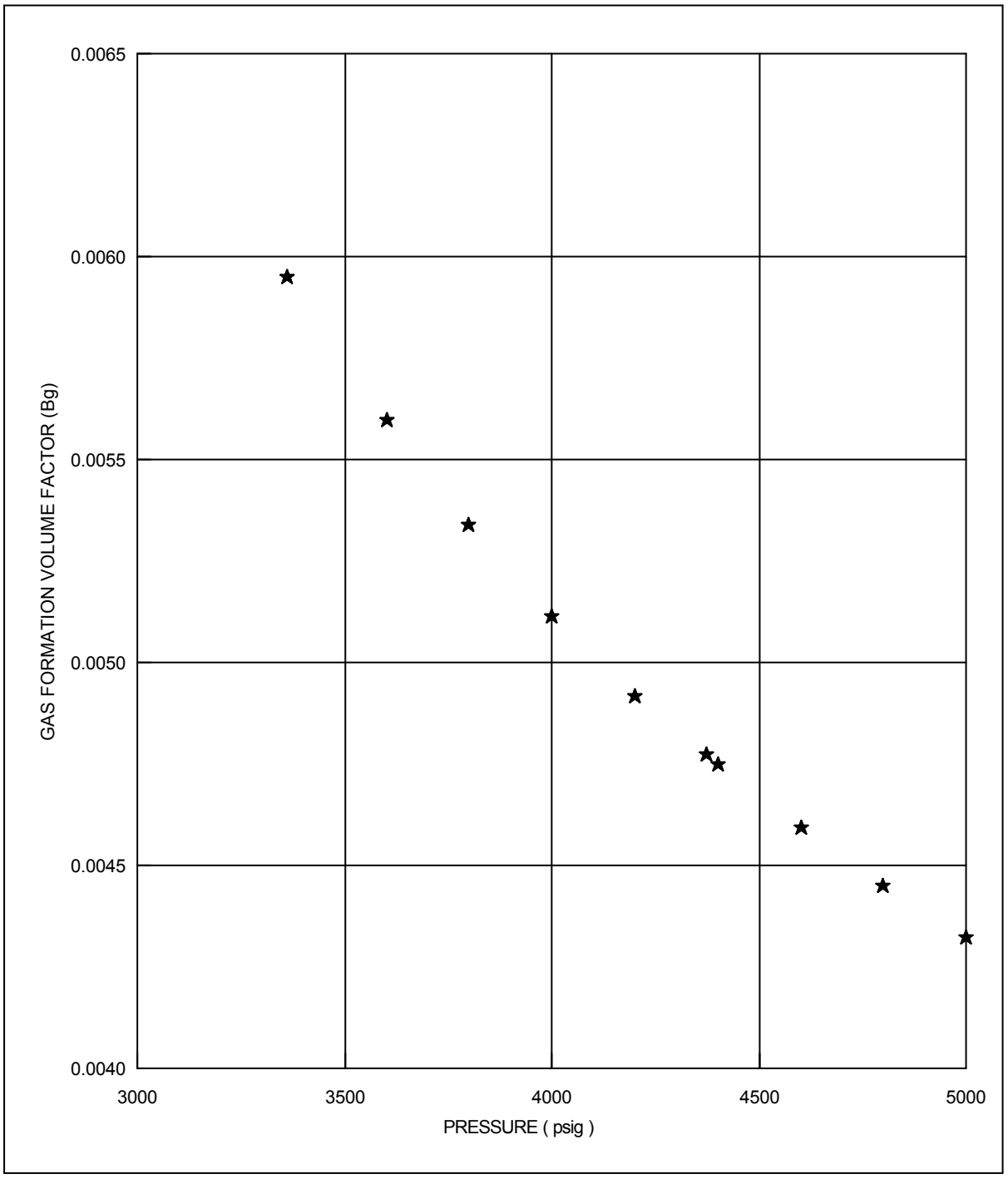
V/VSat = +8.59E+00 -7.87E-03 * P +3.24E-06 * P^2 -6.11E-10 * P^3 +4.31E-14 * P^4



GAS FORMATION VOLUME FACTOR

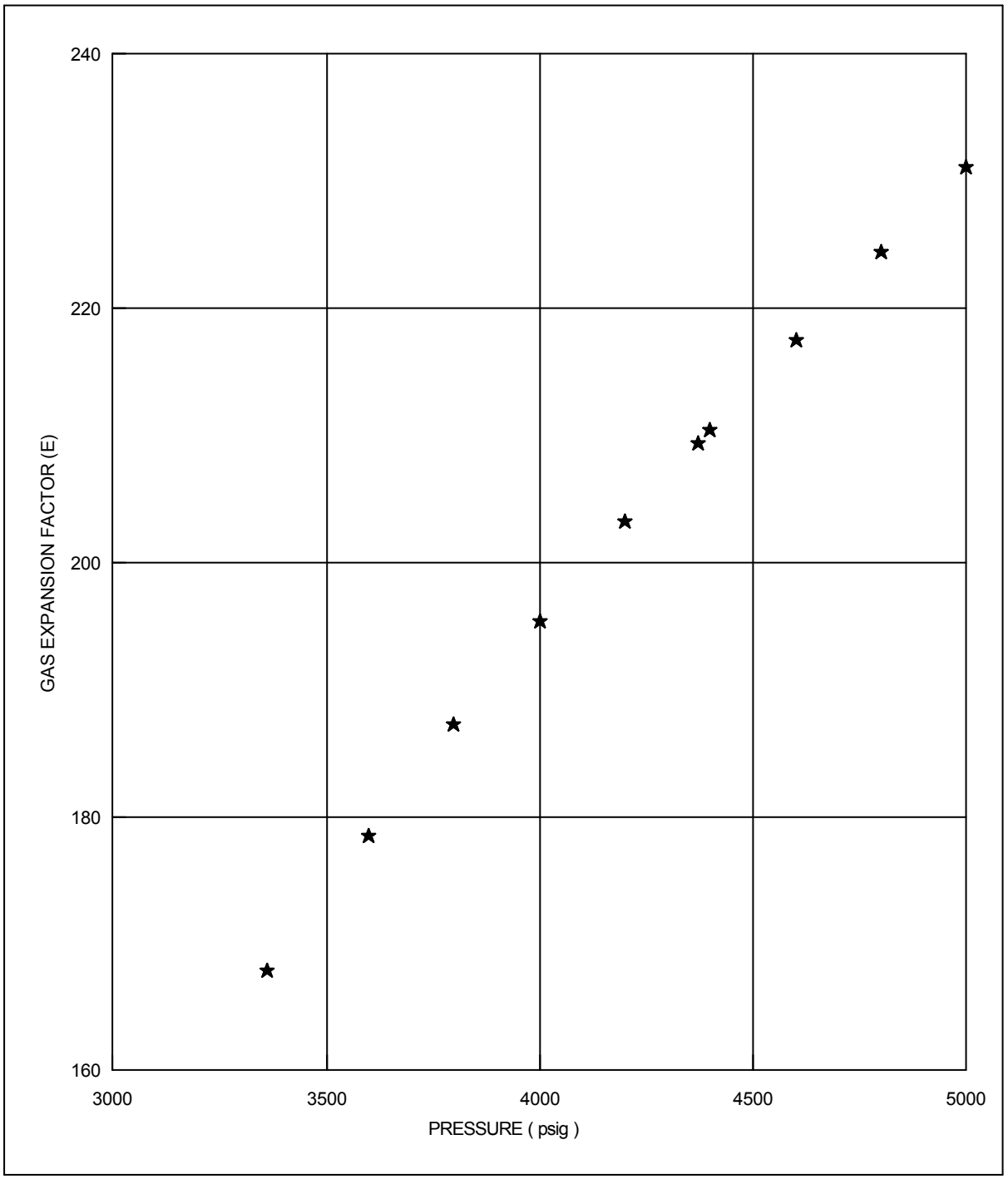
Equation of best fit

Bg = +2.10E-02 -8.43E-06 * P +1.50E-09 * P^2 -9.60E-14 * P^3 +0.00E+00 * P^4



GAS EXPANSION FACTOR

Equation of best fit
E = -8.80E+01 +1.15E-01 * P -1.42E-05 * P^2 +7.99E-10 * P^3 +0.00E+00 * P^4



GAS DEVIATION FACTOR

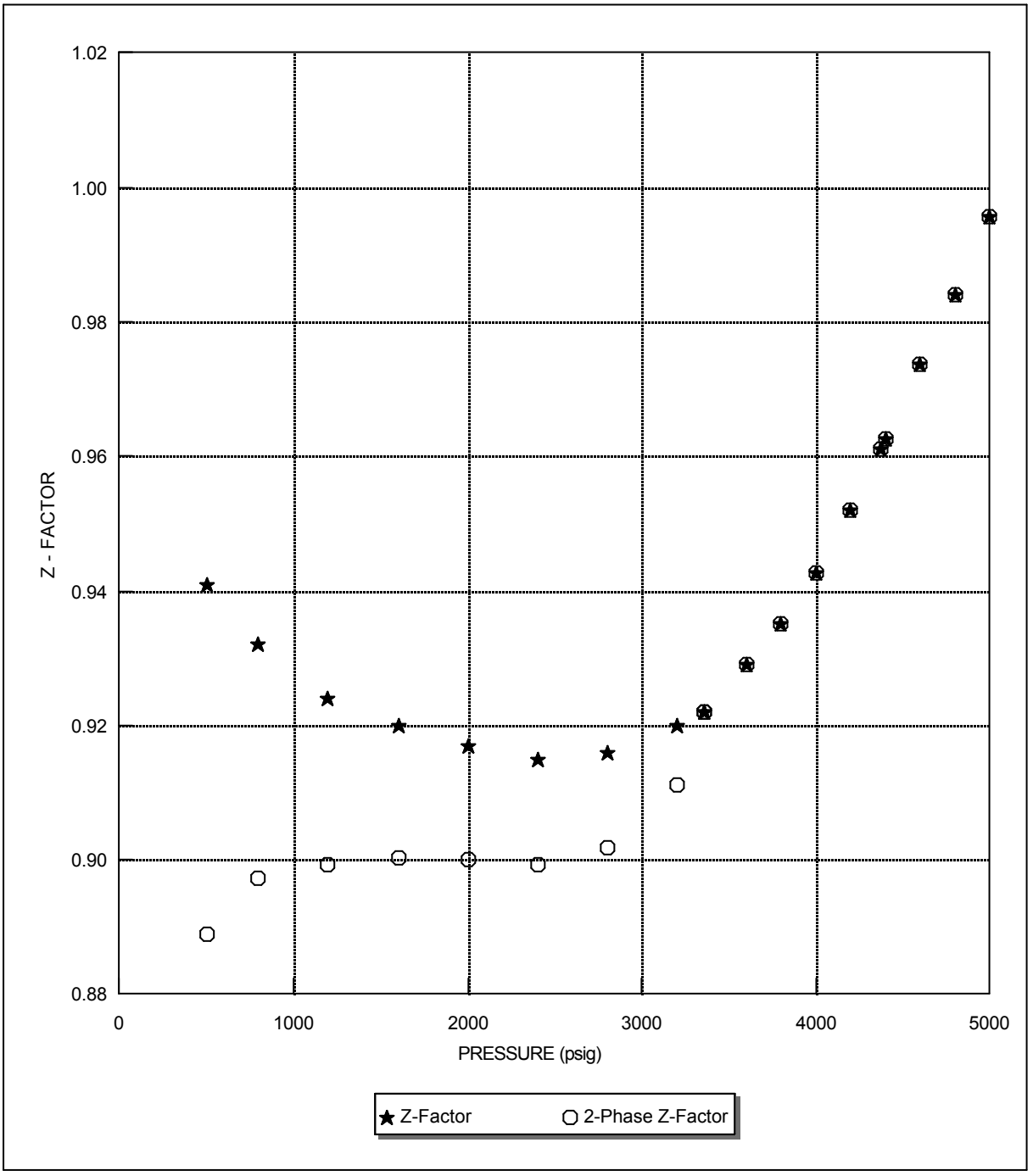
Equation of best fit

Z

$Z = +9.49E\text{-}01 - 1.71E\text{-}05 * P - 4.85E\text{-}09 * P^2 + 2.80E\text{-}12 * P^3 + -1.52E\text{-}16 * P^4$

2 phase Z

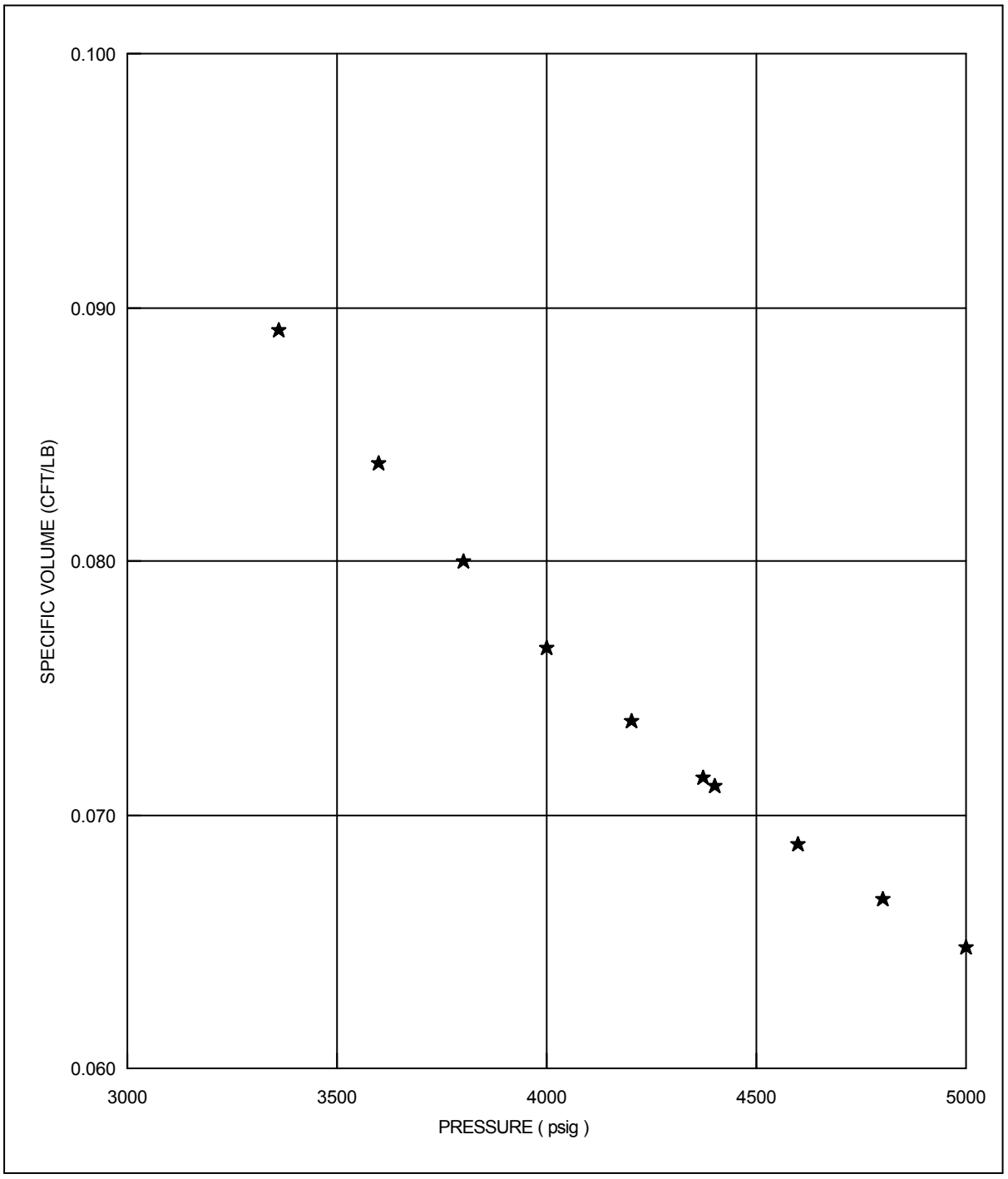
$2phZ = +9.97E\text{-}01 - 3.19E\text{-}04 * P + 3.17E\text{-}07 * P^2 - 1.23E\text{-}10 * P^3 + 1.63E\text{-}14 * P^4$



RESERVOIR FLUID SPECIFIC VOLUME

Equation of best fit

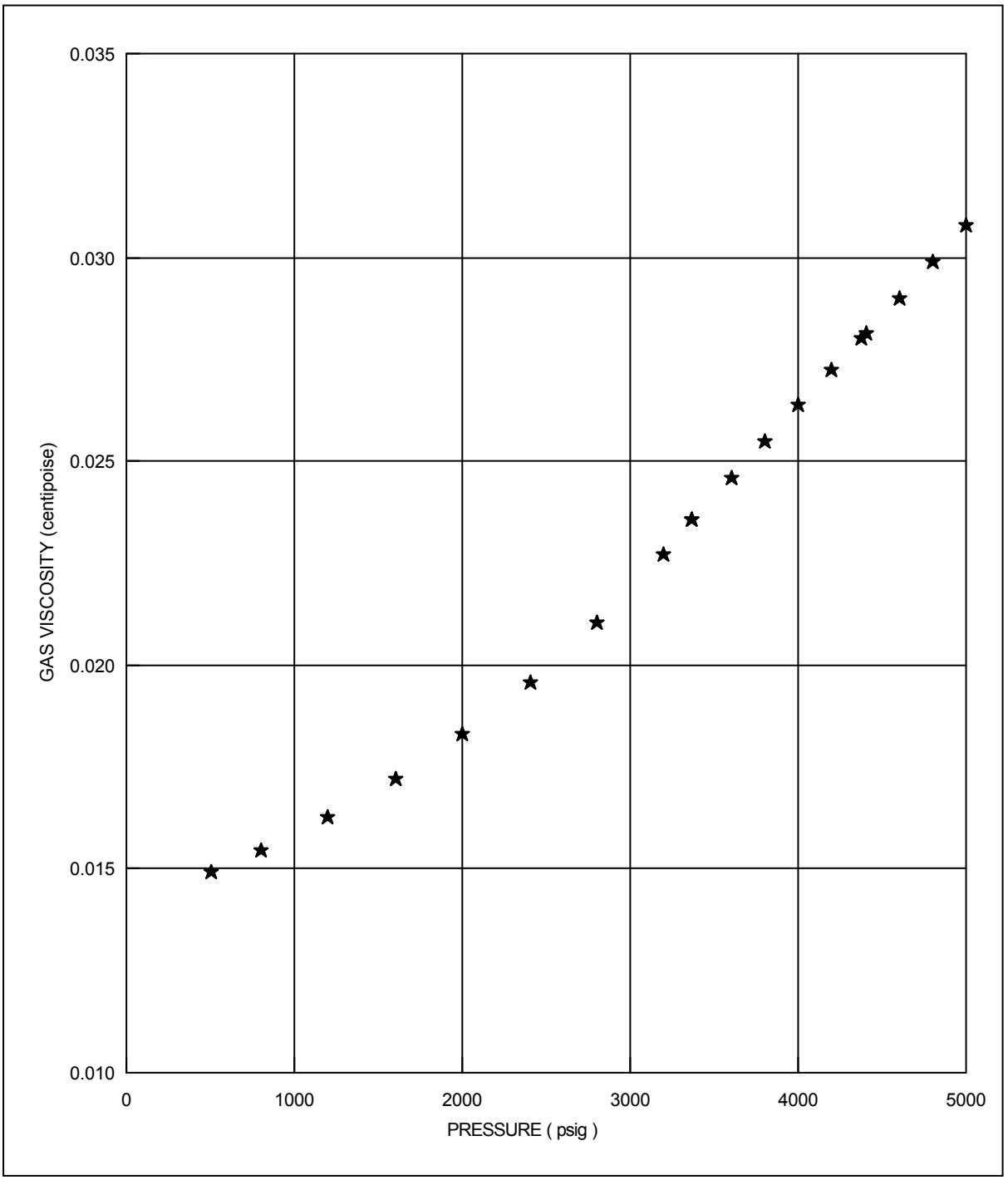
SV = +3.15E-01 -1.26E-04 * P +2.25E-08 * P^2 -1.44E-12 * P^3 +0.00E+00 * P^4



VISCOSITY OF RESERVOIR FLUID

Equation of best fit

$\mu = +1.43E\text{-}02 +1.15E\text{-}06 * P +2.29E\text{-}10 * P^2 +1.37E\text{-}13 * P^3 -1.94E\text{-}17 * P^4$



RETROGRADE CONDENSATION

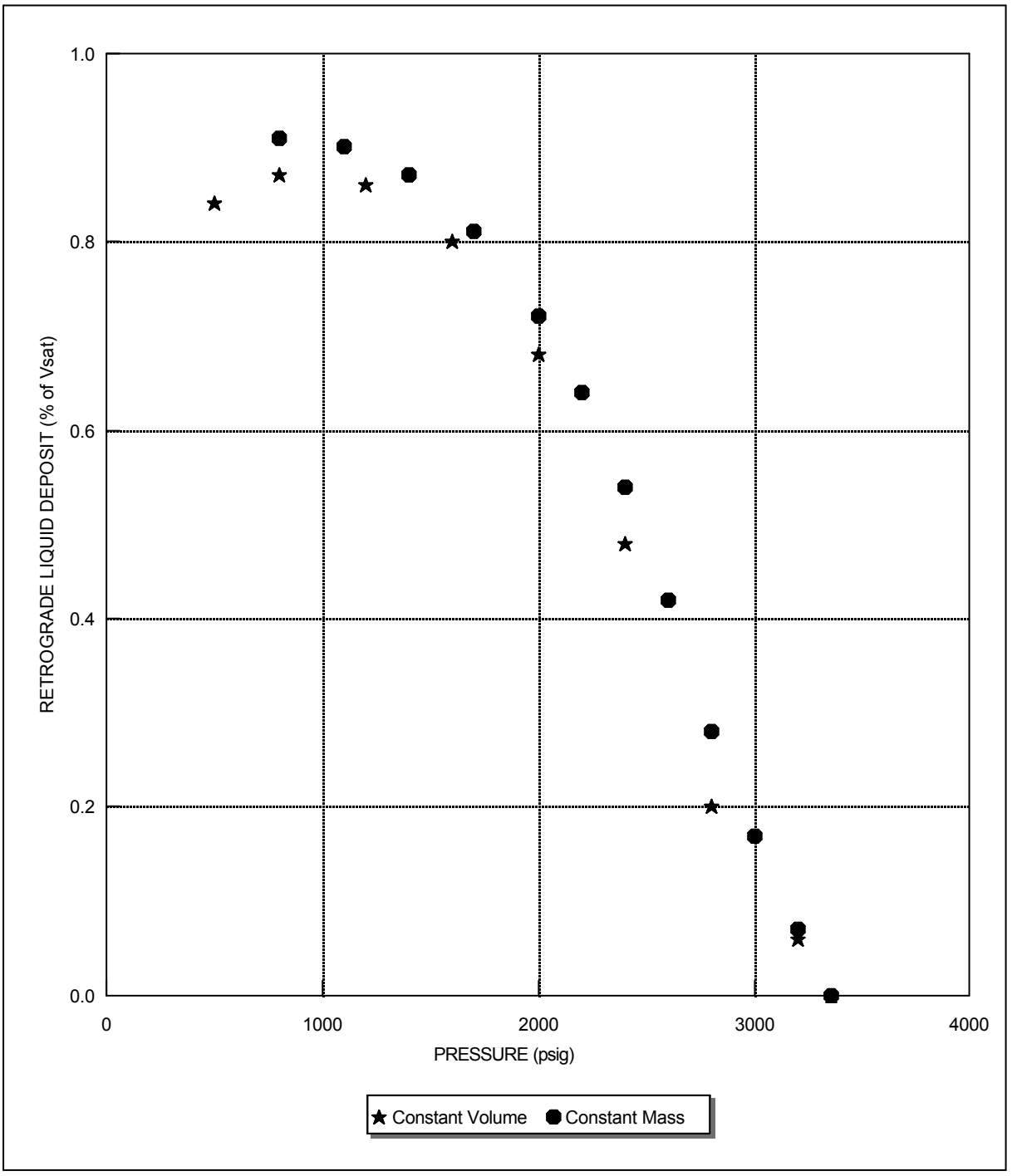
Equation of best fit

Constant Volume

RLD = +9.09E-01 -3.65E-04 * P +6.31E-07 * P^2 -3.64E-10 * P^3 +5.48E-14 * P^4

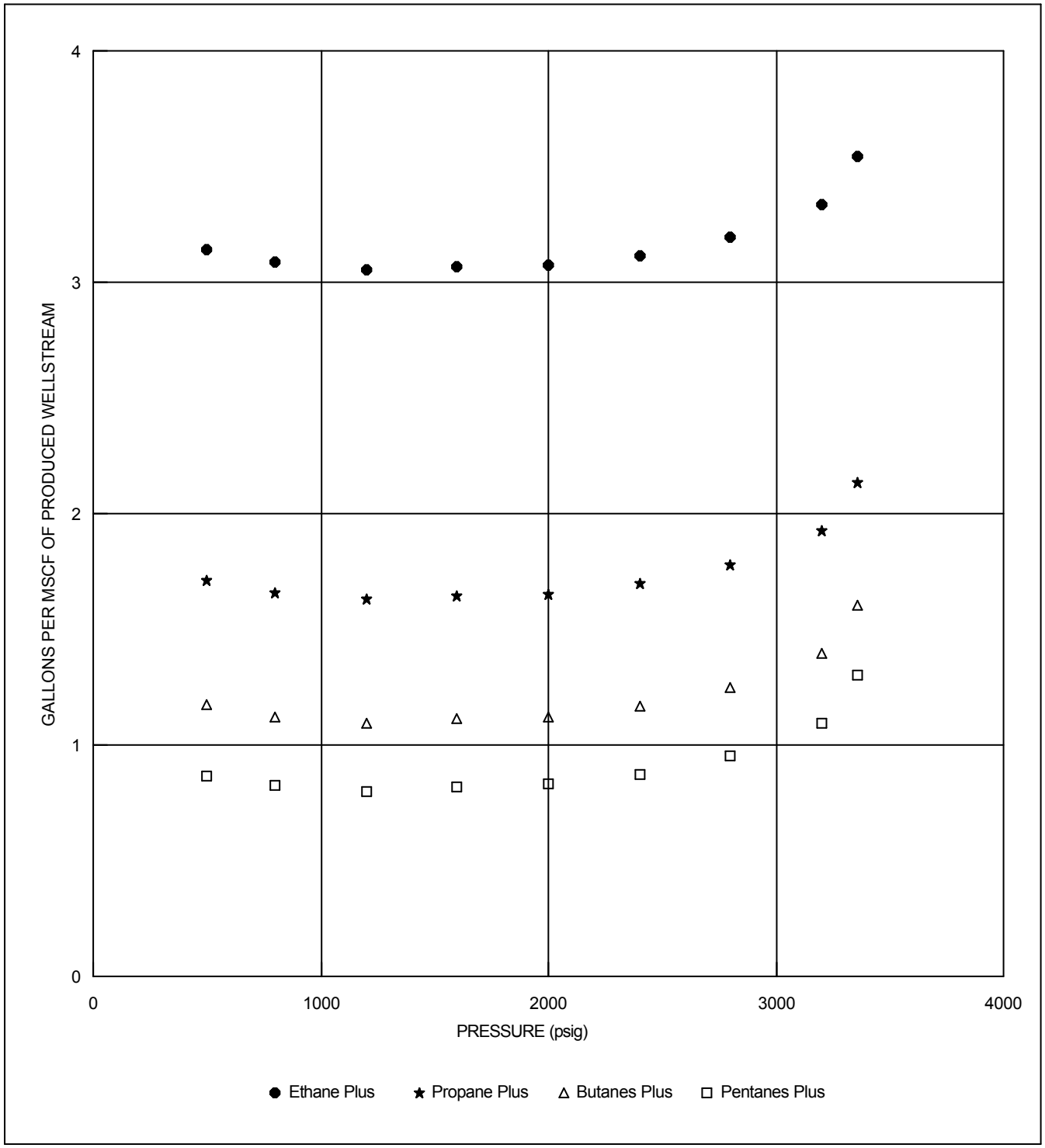
Constant Mass

RLD = +1.25E+00 -9.71E-04 * P +1.00E-06 * P^2 -4.41E-10 * P^3 +5.82E-14 * P^4



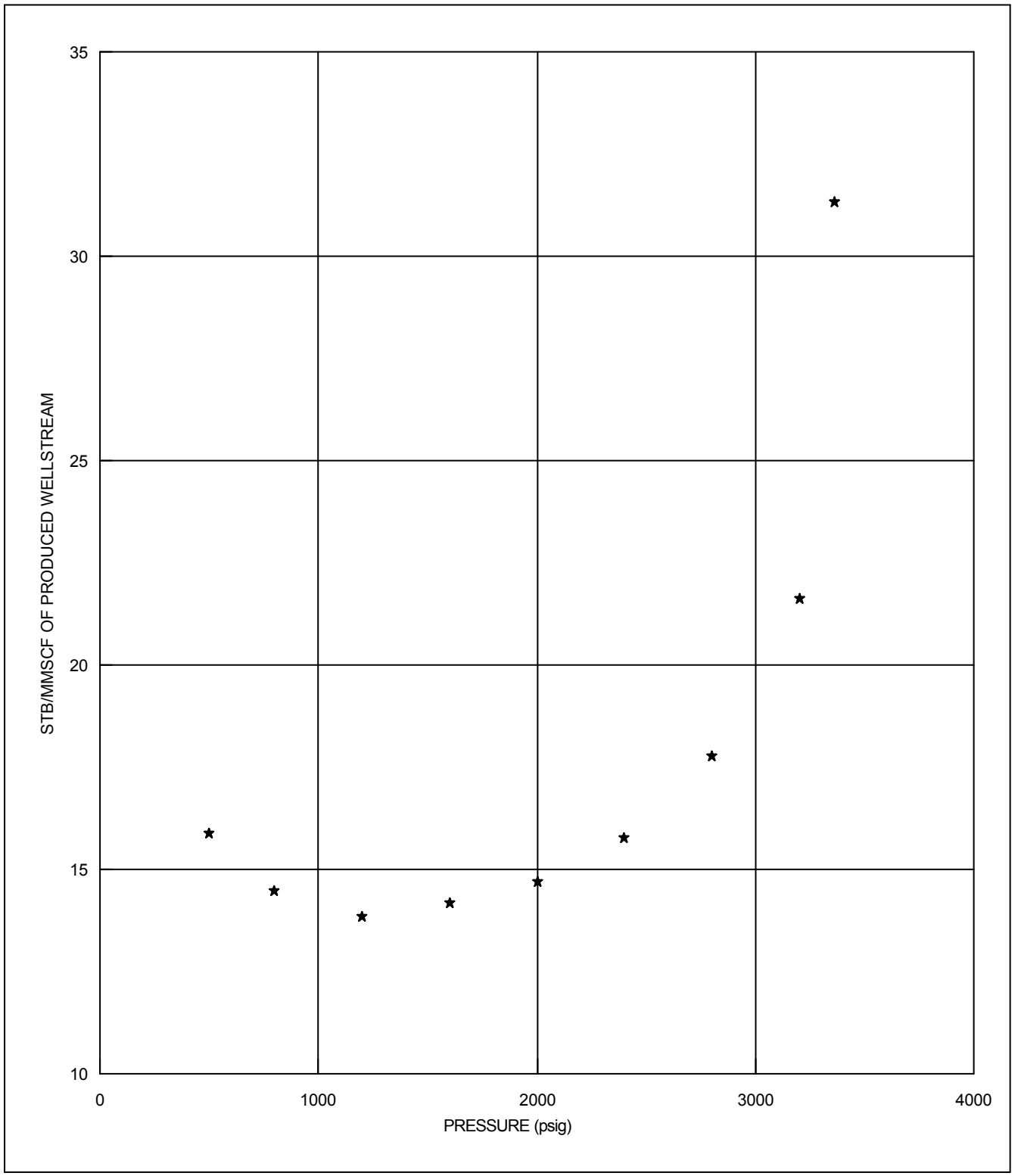
GPM CONTENT IN PRODUCED WELL STREAM

Ethane Plus GPM C o n t e n t = +3.50E+00 -1.14E-03 * P +1.04E-06 * P^2 -4.04E-10 * P^3 +5.84E-14 * P^4
Propane Plus GPM C o n t e n t = +2.07E+00 -1.14E-03 * P +1.05E-06 * P^2 -4.11E-10 * P^3 +5.95E-14 * P^4
Butanes Plus GPM C o n t e n t = +1.53E+00 -1.13E-03 * P +1.05E-06 * P^2 -4.13E-10 * P^3 +5.99E-14 * P^4
Pentanes Plus GPM C o n t e n t = +1.21E+00 -1.07E-03 * P +1.01E-06 * P^2 -3.97E-10 * P^3 +5.79E-14 * P^4



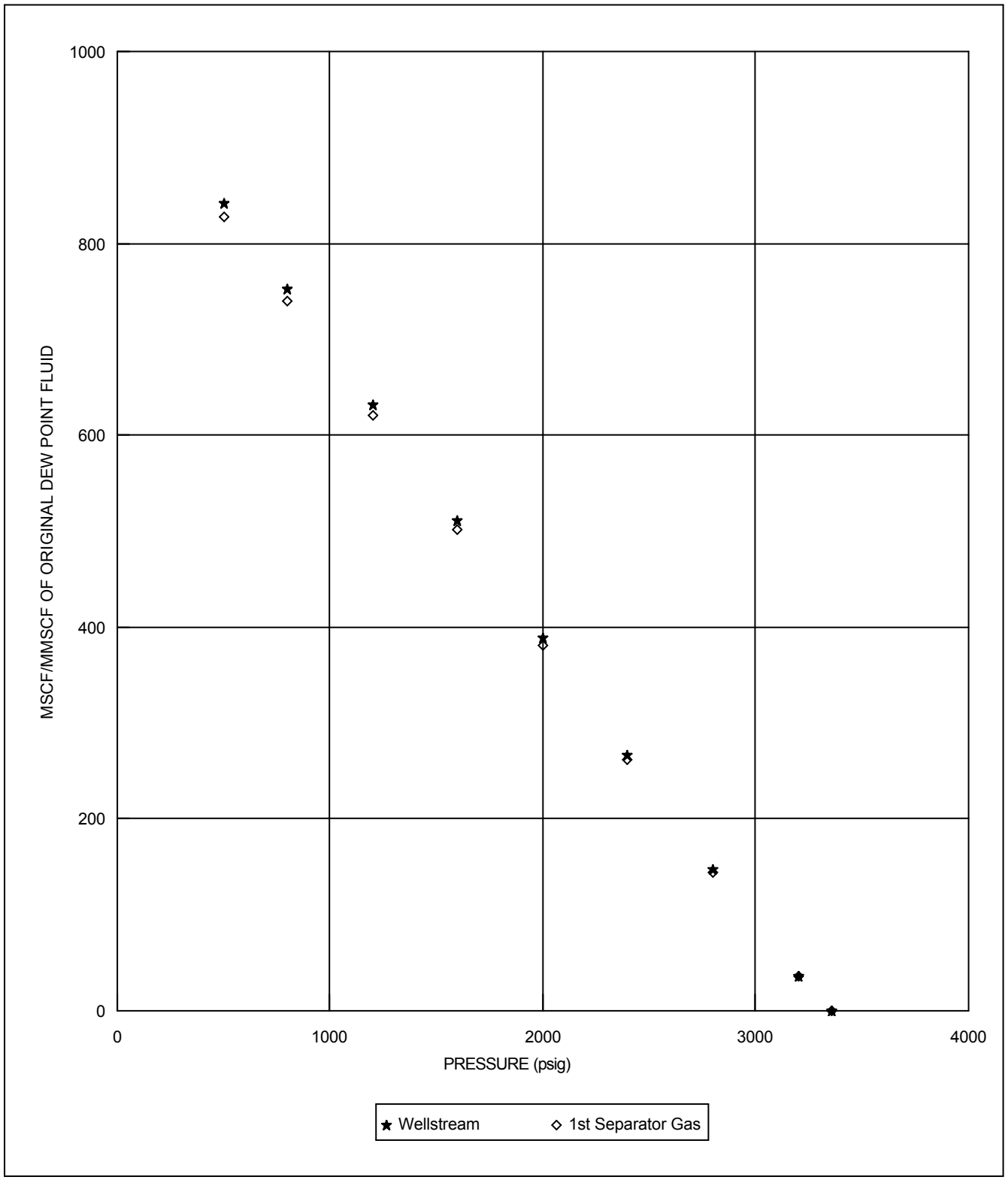
STOCK TANK LIQUID
IN PRODUCED WELLSTREAM

STL = +3.11E+01 -4.98E-02 * P +4.94E-05 * P^2 -2.00E-08 * P^3 +2.89E-12 * P^4



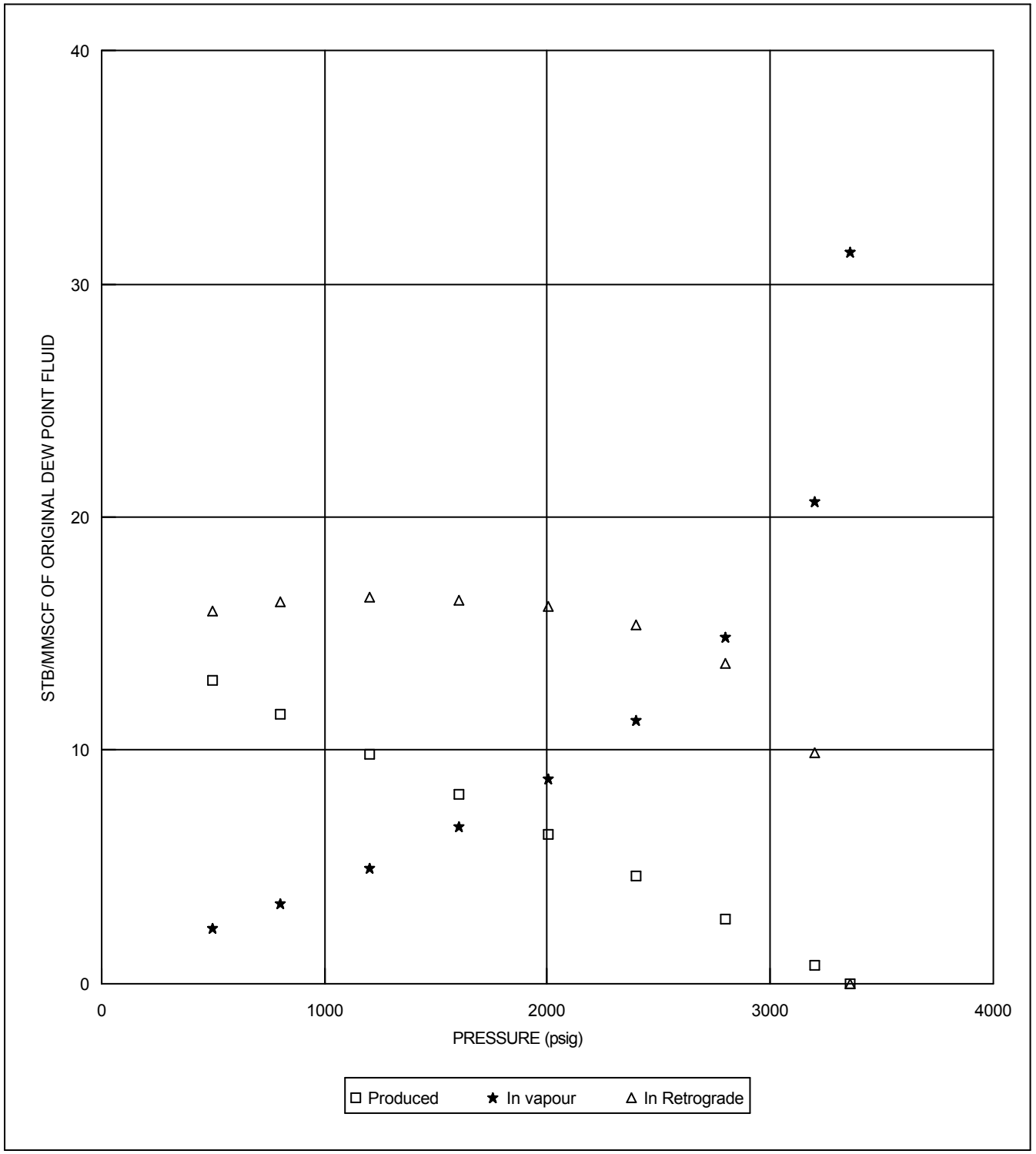
CUMULATIVE GAS PHASE PRODUCED

Cum Vol W/S = +1.00E+03 -3.44E-01 * P +5.19E-05 * P^2 -2.49E-08 * P^3 +3.99E-12 * P^4
Cum Vol Sep Gas = +9.87E+02 -3.37E-01 * P +5.00E-05 * P^2 -2.42E-08 * P^3 +3.91E-12 * P^4



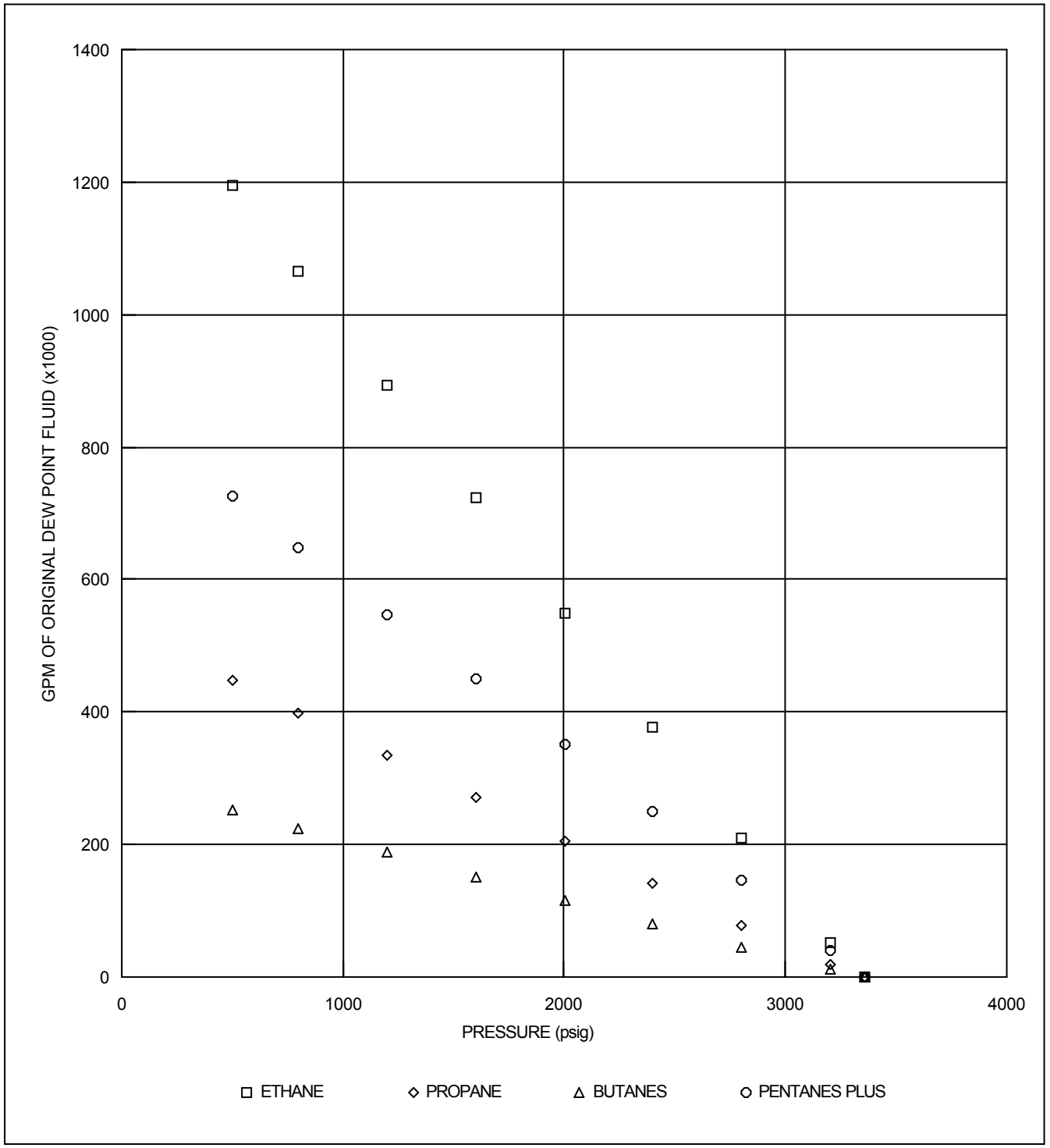
CUMULATIVE STOCK TANK LIQUID PRODUCTION AND CONDENSATION

Produced = +1.58E+01 -6.35E-03 * P +1.74E-06 * P^2 -5.82E-10 * P^3 +6.19E-14 * P^4
In Vapour = +3.17E-01 +5.12E-03 * P -3.32E-06 * P^2 +3.00E-09 * P^3 -1.12E-12 * P^4
In Retrograde = +1.38E+01 +7.08E-03 * P -6.79E-06 * P^2 +2.94E-09 * P^3 -5.09E-13 * P^4



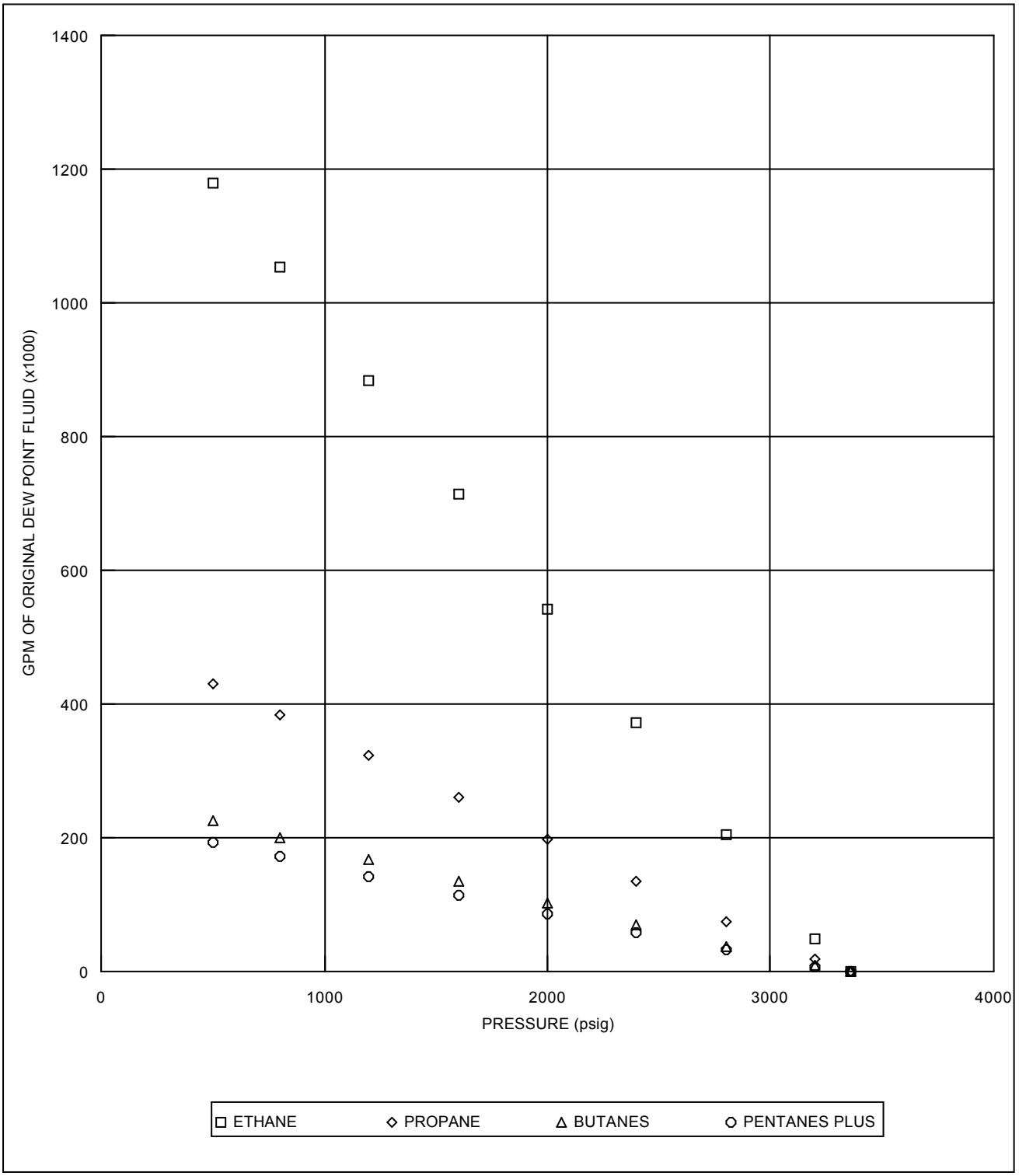
PLANT PRODUCTS IN PRODUCED WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Ethane Plus GPM C o n t e n t = +1.43E+03 -4.94E-01 * P +7.64E-05 * P^2 -3.58E-08 * P^3 +5.70E-12 * P^4
Propane Plus GPM C o n t e n t = +5.35E+02 -1.88E-01 * P +3.05E-05 * P^2 -1.38E-08 * P^3 +2.15E-12 * P^4
Butanes Plus GPM C o n t e n t = +3.00E+02 -1.06E-01 * P +1.73E-05 * P^2 -7.75E-09 * P^3 +1.21E-12 * P^4
Pentanes Plus GPM C o n t e n t = +8.74E+02 -3.27E-01 * P +7.24E-05 * P^2 -2.60E-08 * P^3 +3.07E-12 * P^4



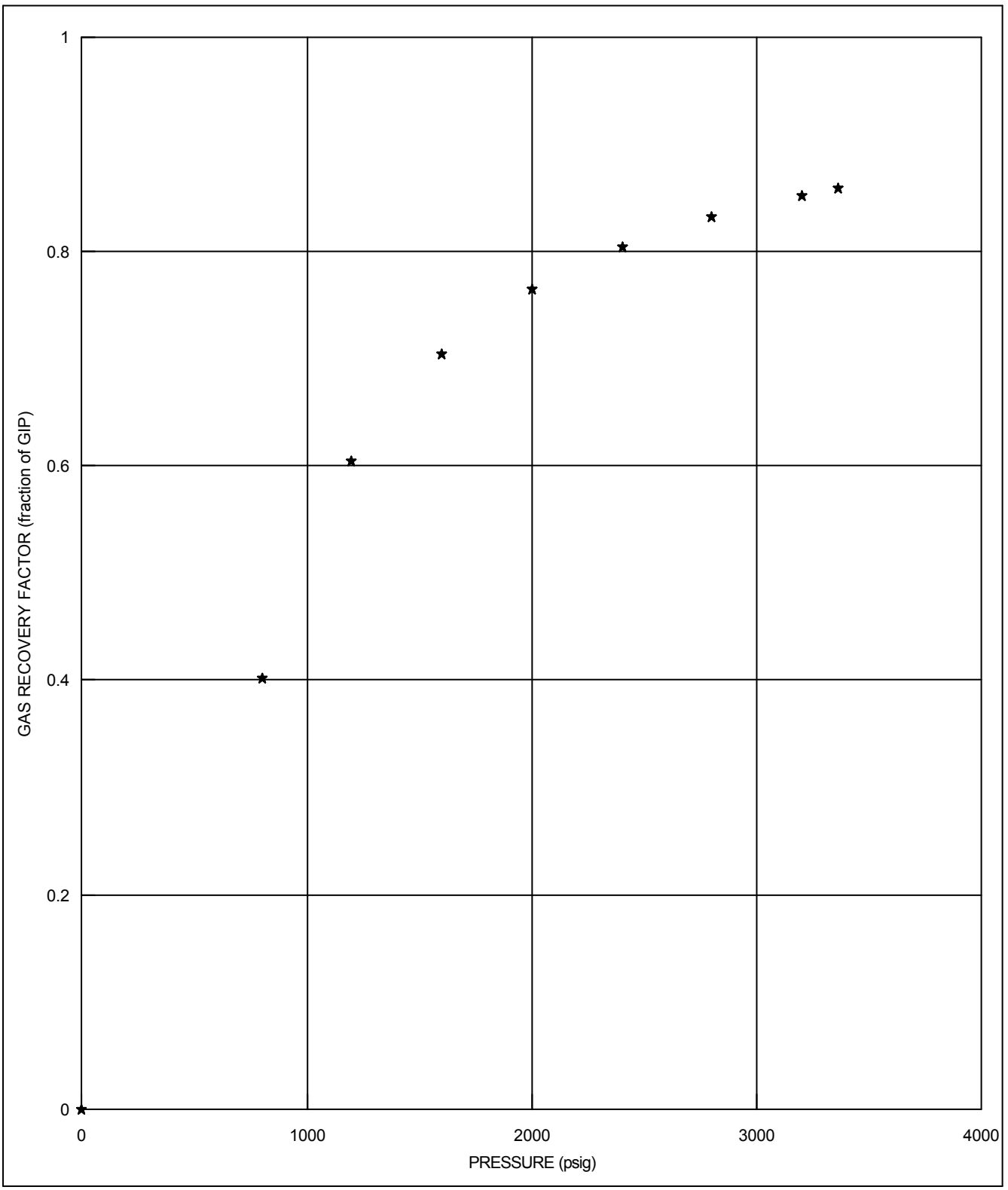
PLANT PRODUCTS
IN PRIMARY SEPARATOR GAS

Ethane Plus GPM Content = +1.41E+03 -4.85E-01 * P +7.34E-05 * P^2 -3.48E-08 * P^3 +5.59E-12 * P^4
Propane Plus GPM Content = +5.15E+02 -1.79E-01 * P +2.78E-05 * P^2 -1.29E-08 * P^3 +2.06E-12 * P^4
Butanes Plus GPM Content = +2.70E+02 -9.48E-02 * P +1.48E-05 * P^2 -6.83E-09 * P^3 +1.10E-12 * P^4
Pentanes Plus GPM Content = +2.29E+02 -7.91E-02 * P +1.11E-05 * P^2 -5.51E-09 * P^3 +9.37E-13 * P^4



GAS RECOVERY FACTOR

Gas Recovery Factor = -5.32E-01 +1.81E-03 * P -9.94E-07 * P^2 +2.56E-10 * P^3 -2.51E-14 * P^4



CONSTANT MASS STUDY
@ 296 °F
On MDT Sample from L - 295 (ex MPSR BA 0487) - taken in the 2809 Sand

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)
5000		0.8867	0.00418	239.25	0.981	0.05633	0.0352
4900		0.8992	0.00424	235.93	0.975	0.05712	0.0345
4800		0.9104	0.00429	233.04	0.967	0.05783	0.0340
4700		0.9220	0.00435	230.10	0.959	0.05857	0.0335
4600		0.9341	0.00440	227.11	0.951	0.05934	0.0330
4500		0.9478	0.00447	223.84	0.944	0.06021	0.0324
4400		0.9621	0.00453	220.52	0.937	0.06112	0.0319
4300		0.9770	0.00461	217.14	0.930	0.06206	0.0313
4200		0.9927	0.00468	213.72	0.923	0.06306	0.0308
4160	*	1.0000	0.00471	212.15	0.921	0.06353	0.0305

* 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

@ 296 °F

On MDT Sample from L - 295 (ex MPSR BA 0487) - taken in the 2809 Sand

Pressure (psig)	Relative Volume (V/Vsat) (1)	Retrograde Liquid Deposit (Bbl/MMSCF) (2)	(Volume%) (3)
4160 *	1.0000	0.00	0.00
3900	1.0479	1.76	0.21
3600	1.1173	4.62	0.55
3300	1.2034	8.14	0.97
3000	1.3096	11.67	1.39
2700	1.4460	14.52	1.73
2400	1.6237	16.79	2.00
2100	1.8562	18.64	2.22
1800	2.1681	20.06	2.39
1500	2.6125	20.99	2.50
1200	3.2876	21.58	2.57
900	4.4253	21.58	2.57

* 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

@ 296 °F

On MDT Sample from L - 295 (ex MPSR BA 0487) - taken in the 2809 Sand

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)
4160	*	0.000	0.921	0.921	0.0306	0.00	0.00
3800		5.580	0.899	0.891	0.0282	3.53	0.42
3350		14.746	0.880	0.871	0.0255	8.31	0.99
2900		25.512	0.872	0.863	0.0229	12.59	1.50
2450		36.700	0.868	0.859	0.0207	15.87	1.89
2000		48.408	0.872	0.862	0.0187	18.30	2.18
1550		60.279	0.883	0.869	0.0171	19.98	2.38
1100		72.071	0.902	0.881	0.0157	20.74	2.47
650		83.440	0.928	0.886	0.0147	20.32	2.42

* 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

PETROLAB

COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		4160 **	3800	3350
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	17.50	17.56	17.60
Nitrogen	N2	0.14	0.14	0.14
Methane	C1	64.77	65.10	65.31
Ethane	C2	7.93	7.94	7.95
Propane	C3	3.59	3.58	3.58
Iso-Butane	iC4	0.63	0.63	0.62
N-Butane	nC4	1.06	1.05	1.05
Iso-Pentane	iC5	0.35	0.35	0.34
N-Pentane	nC5	0.37	0.37	0.36
Hexanes	C6	0.59	0.58	0.57
Heptanes	C7	0.95	0.78	0.72
Octanes	C8	0.58	0.54	0.50
Nonanes	C9	0.48	0.45	0.42
Decanes	C10	0.28	0.26	0.25
Undecanes	C11	0.16	0.14	0.12
Dodecanes Plus	C12+	0.62	0.53	0.47
TOTAL		100.00	100.00	100.00
Stream Properties				
Molecular Weight	:	28.17	27.70	27.35
Gravity (AIR = 1.000)	:	0.976	0.960	0.948
Gross HV (BTU/SCF)	:	1225	1199	1179
Nett HV (BTU/SCF)	:	1115	1091	1073
Wobbe Index	:	1239	1223	1211
Critical Pressure (psia)	:	723.8	725.3	726.3
Critical Temperature (°R)	:	443.1	440.4	438.4
GPM Content				
Ethane Plus	:	5.804	5.588	5.425
Propane Plus	:	3.682	3.463	3.297
Butanes Plus	:	2.692	2.476	2.310
Pentanes Plus	:	2.151	1.939	1.776
Hexanes Plus Properties				
Mol %	:	3.66	3.28	3.05
Molecular Weight	:	124.9	122.3	119.7
Density (gm/cc @ 60 °F)	:	0.7469	0.7642	0.7613
Gravity (°API @ 60 °F)	:	57.8	53.5	54.2
Heptanes Plus Properties				
Mol %	:	3.07	2.70	2.48
Molecular Weight	:	132.7	130.5	128.0
Density (gm/cc @ 60 °F)	:	0.7580	0.7732	0.7704
Gravity (°API @ 60 °F)	:	55.0	51.3	52.0
Decanes Plus Properties				
Mol %	:	1.06	0.93	0.84
Molecular Weight	:	181.4	177.3	171.9
Density (gm/cc @ 60 °F)	:	0.8095	0.8169	0.8123
Gravity (°API @ 60 °F)	:	43.1	41.6	42.5
Undecanes Plus Properties				
Mol %		0.78	0.67	0.59
Molecular Weight	:	200.0	193.9	188.2
Density (gm/cc @ 60 °F)	:	0.8225	0.8300	0.8257
Gravity (°API @ 60 °F)	:	40.4	38.8	39.7
Dodecanes Plus Properties				
Molecular Weight	:	214.9	206.0	199.0
Density (gm/cc @ 60 °F)	:	0.8316	0.8391	0.8340
Gravity (°API @ 60 °F)	:	38.5	37.0	38.0
Recovery Factor*				
* at 500 psi abandonment pressure	:	0.8849	0.8771	0.8636

** Original Reservoir Fluid

PETROLAB

COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		2900	2450	2000
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	17.63	17.65	17.67
Nitrogen	N2	0.14	0.14	0.14
Methane	C1	65.42	65.50	65.54
Ethane	C2	7.96	7.97	7.98
Propane	C3	3.58	3.58	3.58
Iso-Butane	iC4	0.62	0.62	0.62
N-Butane	nC4	1.05	1.04	1.05
Iso-Pentane	iC5	0.34	0.34	0.34
N-Pentane	nC5	0.36	0.36	0.36
Hexanes	C6	0.56	0.56	0.56
Heptanes	C7	0.75	0.78	0.81
Octanes	C8	0.47	0.46	0.46
Nonanes	C9	0.40	0.37	0.36
Decanes	C10	0.22	0.20	0.19
Undecanes	C11	0.12	0.11	0.10
Dodecanes Plus	C12+	0.38	0.32	0.24
TOTAL		100.00	100.00	100.00

Stream Properties				
Molecular Weight	:	27.15	26.95	26.82
Gravity (AIR = 1.000)	:	0.941	0.934	0.930
Gross HV (BTU/SCF)	:	1168	1156	1149
Nett HV (BTU/SCF)	:	1062	1052	1045
Wobbe Index	:	1204	1196	1192
Critical Pressure (psia)	:	727.0	727.5	727.9
Critical Temperature (°R)	:	437.4	436.3	435.7
GPM Content				
Ethane Plus	:	5.340	5.252	5.200
Propane Plus	:	3.210	3.119	3.064
Butanes Plus	:	2.223	2.132	2.077
Pentanes Plus	:	1.689	1.601	1.543
Hexanes Plus Properties				
Mol %	:	2.90	2.80	2.72
Molecular Weight	:	117.2	114.3	111.6
Density (gm/cc @ 60 °F)	:	0.7584	0.7550	0.7517
Gravity (°API @ 60 °F)	:	54.9	55.7	56.6
Heptanes Plus Properties				
Mol %	:	2.34	2.24	2.16
Molecular Weight	:	125.1	121.9	118.7
Density (gm/cc @ 60 °F)	:	0.7673	0.7638	0.7601
Gravity (°API @ 60 °F)	:	52.7	53.6	54.5
Decanes Plus Properties				
Mol %	:	0.72	0.63	0.53
Molecular Weight	:	169.0	166.2	162.0
Density (gm/cc @ 60 °F)	:	0.8098	0.8074	0.8038
Gravity (°API @ 60 °F)	:	43.1	43.6	44.4
Undecanes Plus Properties				
Mol %	:	0.50	0.43	0.34
Molecular Weight	:	184.1	181.5	177.7
Density (gm/cc @ 60 °F)	:	0.8224	0.8203	0.8172
Gravity (°API @ 60 °F)	:	40.4	40.8	41.5
Dodecanes Plus Properties				
Molecular Weight	:	195.5	193.8	190.5
Density (gm/cc @ 60 °F)	:	0.8313	0.8300	0.8274
Gravity (°API @ 60 °F)	:	38.6	38.8	39.3
Recovery Factor*				
* at 500 psi abandonment pressure :		0.8440	0.8162	0.7739

PETROLAB

COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		1550	1100	650
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	17.68	17.68	17.68
Nitrogen	N2	0.14	0.14	0.14
Methane	C1	65.53	65.44	65.31
Ethane	C2	7.99	8.00	8.03
Propane	C3	3.60	3.61	3.65
Iso-Butane	iC4	0.63	0.63	0.64
N-Butane	nC4	1.05	1.06	1.08
Iso-Pentane	iC5	0.34	0.35	0.36
N-Pentane	nC5	0.36	0.37	0.38
Hexanes	C6	0.56	0.57	0.59
Heptanes	C7	0.83	0.85	0.83
Octanes	C8	0.47	0.48	0.47
Nonanes	C9	0.38	0.39	0.40
Decanes	C10	0.18	0.18	0.19
Undecanes	C11	0.09	0.09	0.11
Dodecanes Plus	C12+	0.17	0.16	0.14
TOTAL		100.00	100.00	100.00

Stream Properties				
Molecular Weight	:	26.76	26.79	26.83
Gravity (AIR = 1.000)	:	0.928	0.929	0.930
Gross HV (BTU/SCF)	:	1146	1147	1149
Nett HV (BTU/SCF)	:	1042	1043	1045
Wobbe Index	:	1189	1190	1192
Critical Pressure (psia)	:	728.2	728.1	728.0
Critical Temperature (°R)	:	435.7	436.0	436.4
GPM Content				
Ethane Plus	:	5.184	5.207	5.248
Propane Plus	:	3.046	3.066	3.099
Butanes Plus	:	2.053	2.070	2.092
Pentanes Plus	:	1.516	1.529	1.541
Hexanes Plus Properties				
Mol %	:	2.68	2.72	2.73
Molecular Weight	:	109.6	108.7	108.5
Density (gm/cc @ 60 °F)	:	0.7493	0.7482	0.7479
Gravity (°API @ 60 °F)	:	57.2	57.4	57.5
Heptanes Plus Properties				
Mol %	:	2.12	2.15	2.14
Molecular Weight	:	116.3	115.3	115.2
Density (gm/cc @ 60 °F)	:	0.7573	0.7561	0.7561
Gravity (°API @ 60 °F)	:	55.2	55.5	55.5
Decanes Plus Properties				
Mol %	:	0.44	0.43	0.44
Molecular Weight	:	158.4	156.5	154.1
Density (gm/cc @ 60 °F)	:	0.8005	0.7987	0.7966
Gravity (°API @ 60 °F)	:	45.1	45.5	46.0
Undecanes Plus Properties				
Mol %	:	0.26	0.25	0.25
Molecular Weight	:	174.1	172.0	168.9
Density (gm/cc @ 60 °F)	:	0.8142	0.8125	0.8097
Gravity (°API @ 60 °F)	:	42.1	42.5	43.1
Dodecanes Plus Properties				
Molecular Weight	:	187.0	185.3	184.9
Density (gm/cc @ 60 °F)	:	0.8247	0.8233	0.8230
Gravity (°API @ 60 °F)	:	39.9	40.2	40.3
Recovery Factor*				
* at 500 psi abandonment pressure :		0.7046	0.5747	0.2595

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		3800	3350	2900
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	12.50	11.86	11.10
Nitrogen	N2	0.10	0.09	0.07
Methane	C1	37.61	34.89	31.84
Ethane	C2	6.96	6.76	6.49
Propane	C3	4.24	4.25	4.23
Iso-Butane	iC4	0.93	0.96	0.98
N-Butane	nC4	1.69	1.75	1.80
Iso-Pentane	iC5	0.68	0.72	0.76
N-Pentane	nC5	0.77	0.82	0.87
Hexanes	C6	1.61	1.75	1.92
Heptanes Plus	C7+	32.91	36.15	39.94
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	111.5	103.3	108.2
Density @ P & T	:	0.721	0.686	0.687

Hexanes Plus Properties

Mol %	:	34.52	37.90	41.86
Molecular Weight	:	270.6	226.6	218.9
Density (gm/cc @ 60 °F)	:	0.883	0.855	0.849
Gravity (°API @ 60 °F)	:	28.6	33.9	35.0

Heptanes Plus Properties

Molecular Weight	:	279.7	233.5	225.3
Density (gm/cc @ 60 °F)	:	0.886	0.858	0.853
Gravity (°API @ 60 °F)	:	28.0	33.2	34.3

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		2450	2000	1550
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	10.20	9.13	7.82
Nitrogen	N2	0.06	0.04	0.03
Methane	C1	28.47	24.71	20.49
Ethane	C2	6.13	5.65	5.00
Propane	C3	4.16	4.00	3.71
Iso-Butane	iC4	0.99	0.98	0.94
N-Butane	nC4	1.84	1.85	1.80
Iso-Pentane	iC5	0.80	0.82	0.83
N-Pentane	nC5	0.92	0.96	0.97
Hexanes	C6	2.10	2.27	2.40
Heptanes Plus	C7+	44.33	49.59	56.01
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	115.9	126.5	140.1
Density @ P & T	:	0.694	0.704	0.715

Hexanes Plus Properties

Mol %	:	46.43	51.86	58.41
Molecular Weight	:	216.0	216.3	218.0
Density (gm/cc @ 60 °F)	:	0.847	0.847	0.848
Gravity (°API @ 60 °F)	:	35.4	35.4	35.1

Heptanes Plus Properties

Molecular Weight	:	222.3	222.3	223.7
Density (gm/cc @ 60 °F)	:	0.851	0.851	0.852
Gravity (°API @ 60 °F)	:	34.7	34.7	34.5

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		1100	650 *	650 **
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	6.20	4.15	3.45
Nitrogen	N2	0.02	0.01	0.06
Methane	C1	15.67	10.09	9.13
Ethane	C2	4.11	2.87	2.85
Propane	C3	3.22	2.38	2.65
Iso-Butane	iC4	0.85	0.66	0.69
N-Butane	nC4	1.65	1.30	1.22
Iso-Pentane	iC5	0.78	0.65	0.59
N-Pentane	nC5	0.93	0.78	0.64
Hexanes	C6	2.43	2.17	2.50
Heptanes Plus	C7+	64.14	74.94	76.22
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	157.9	179.4	192.9
Density @ P & T	:	0.728	0.737	0.754

Hexanes Plus Properties

Mol %	:	66.57	77.11	78.72
Molecular Weight	:	221.2	222.9	236.1
Density (gm/cc @ 60 °F)	:	0.851	0.852	0.861
Gravity (°API @ 60 °F)	:	34.7	34.5	32.8

Heptanes Plus Properties

Molecular Weight	:	226.4	226.9	241.1
Density (gm/cc @ 60 °F)	:	0.854	0.854	0.863
Gravity (°API @ 60 °F)	:	34.1	34.1	32.3

* Abandonment Pressure Liquid Composition from Material Balance
** Abandonment Pressure Liquid Composition Analysed

PETROLAB

Company: Origin Energy Resources Ltd.
Well : Yolla # 3 - 2809 sand

CALCULATED CUMULATIVE RECOVERY DURING DEPLETION

per MMSCF of Original Reservoir Fluid *

Reservoir Pressure		4160	3800	3350	2900	2450	2000	1550	1100	650
	Initial in Place	**Saturation Pressure**								
Well Stream - MSCF	**1000**	0	55.8	147.5	255.1	367.0	484.1	602.8	720.7	834.4
Stock Tank Liquid - °API @ 60 °F		54.1	59.0	60.0	60.9	61.9	62.9	63.7	64.0	64.2
Cumulative Produced (Bbl)	**0.00**	0.00	2.31	5.75	9.53	13.25	16.96	20.62	24.29	27.86
Remaining in Vapor (Bbl)	**50.83**	50.83	38.53	31.35	25.55	20.40	15.80	11.77	8.28	4.84
Remaining in Liquid (Bbl)	**0.00**	0.00	10.00	13.74	15.75	17.19	18.08	18.44	18.27	18.13
Primary Separator Gas - MSCF	**925.23**	0.00	52.05	137.99	239.23	344.68	455.21	567.35	678.64	785.82
Second Stage Gas - MSCF	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stock Tank Gas - MSCF	**34.46**	0.00	1.75	4.42	7.43	10.46	13.56	16.67	19.82	22.93
		Total " Plant Products " - (Gallons) in Well Stream :								
Ethane	**2122**	0	119	314	543	782	1032	1285	1538	1782
Propane	**990**	0	55	146	252	362	478	596	713	828
Butanes	**541**	0	30	79	136	196	258	322	386	449
Pentanes Plus	**2151**	0	108	271	453	632	813	993	1173	1348
		Total " Plant Products " - (Gallons) in Primary Separator Gas :								
Ethane	**1965**	0	111	294	509	734	970	1210	1448	1678
Propane	**809**	0	46	122	213	307	406	507	608	706
Butanes	**341**	0	20	53	92	134	177	222	267	310
Pentanes Plus	**194**	0	11	31	53	78	103	129	155	181
		Total " Plant Products " - (Gallons) in Secondary Separator Gas :								
Ethane	**0**	0	0	0	0	0	0	0	0	0
Propane	**0**	0	0	0	0	0	0	0	0	0
Butanes	**0**	0	0	0	0	0	0	0	0	0
Pentanes Plus	**0**	0	0	0	0	0	0	0	0	0
		Total " Plant Products " - (Gallons) in Stock Tank Gas :								
Ethane	**144**	0	7	18	31	43	56	69	82	94
Propane	**151**	0	8	19	33	46	60	73	87	101
Butanes	**120**	0	6	16	27	38	50	61	73	85
Pentanes Plus	**94**	0	5	13	21	30	40	49	59	68

Gas Liquid Ratios *

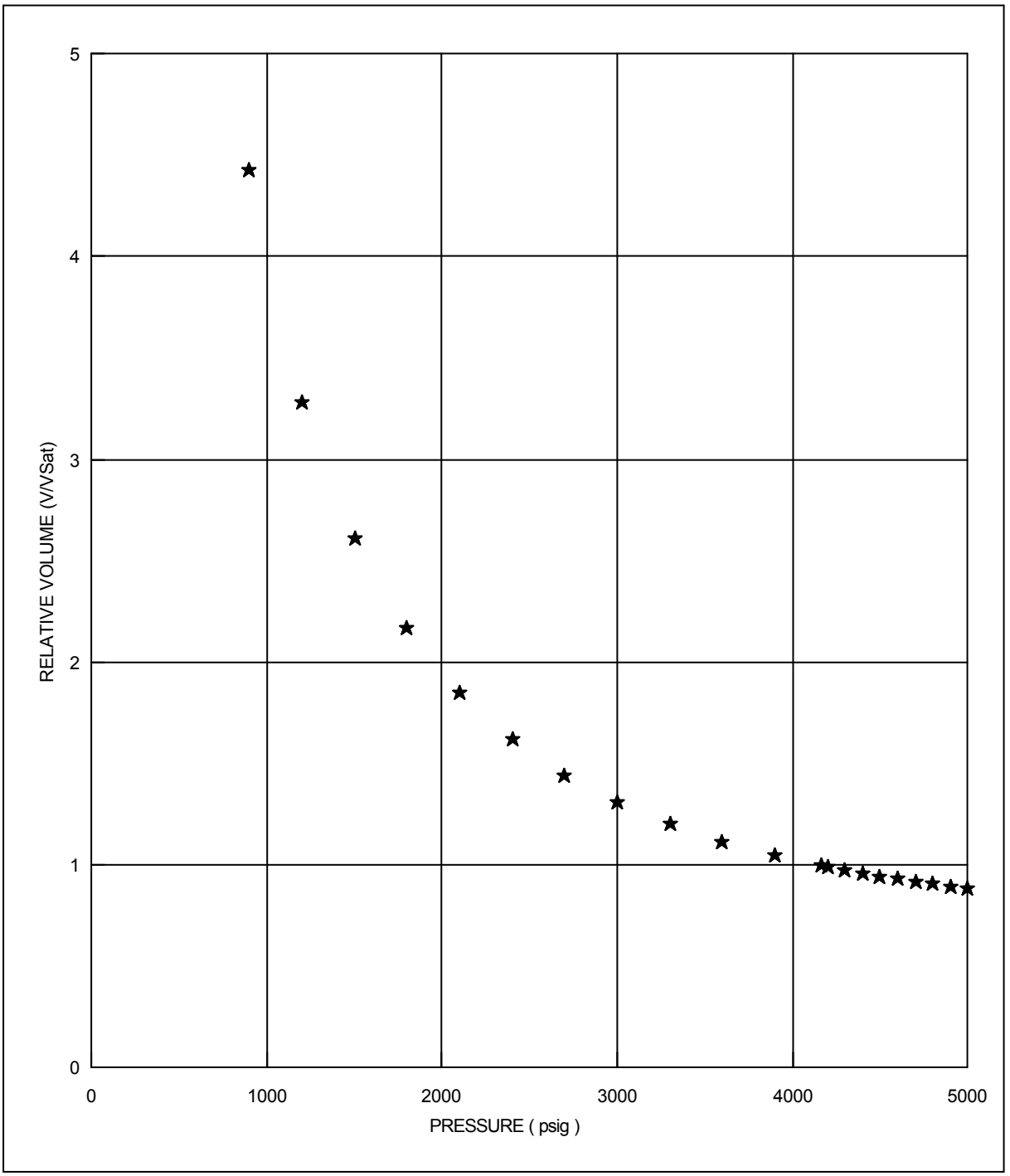
1st Sep. Gas/Stock Tank Liquid (SCF/BBL)	18201	22566	24981	26732	28401	29794	30617	30316	30007
1st+2nd Sep. Gas/Stock Tank Liquid (SCF/BBL)	18201	22566	24981	26732	28401	29794	30617	30316	30007
1st+2nd Sep+STTGas/Stock Tank Liquid (SCF/BBL)	18879	23323	25758	27528	29216	30628	31467	31174	30877
1st Sep. Gas/Produced WellStream (MSCF/MMSCF)	925	933	938	940	943	944	945	944	943
1st+2nd Sep. Gas/Produced WS (MSCF/MMSCF)	925	933	938	940	943	944	945	944	943
1st+2nd Sep.+STT Gas/Produced WS (MSCF/MMSCF)	960	964	967	968	970	970	971	970	970
Stock Tank Liquid/Produced WS (STB/MMSCF)	51	41	38	35	33	32	31	31	31

* Primary Separator @ 749 psig and 84 °F; No Secondary Separator; Stock Tank @ 14.696 psia and 60 °F

RELATIVE VOLUME

Equation of best fit

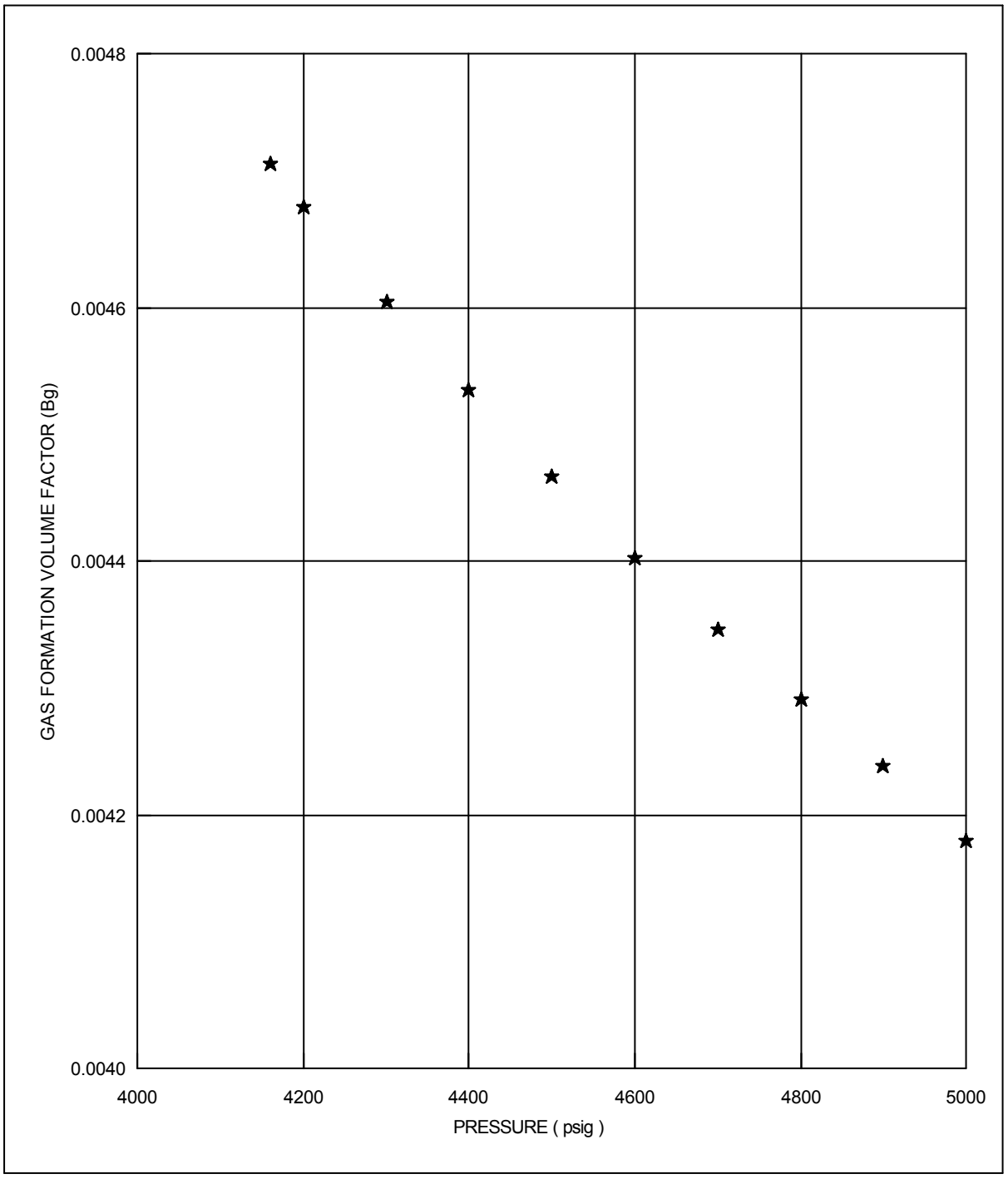
V/VSat = +9.86E+00 -8.77E-03 * P +3.51E-06 * P^2 -6.43E-10 * P^3 +4.42E-14 * P^4



GAS FORMATION VOLUME FACTOR

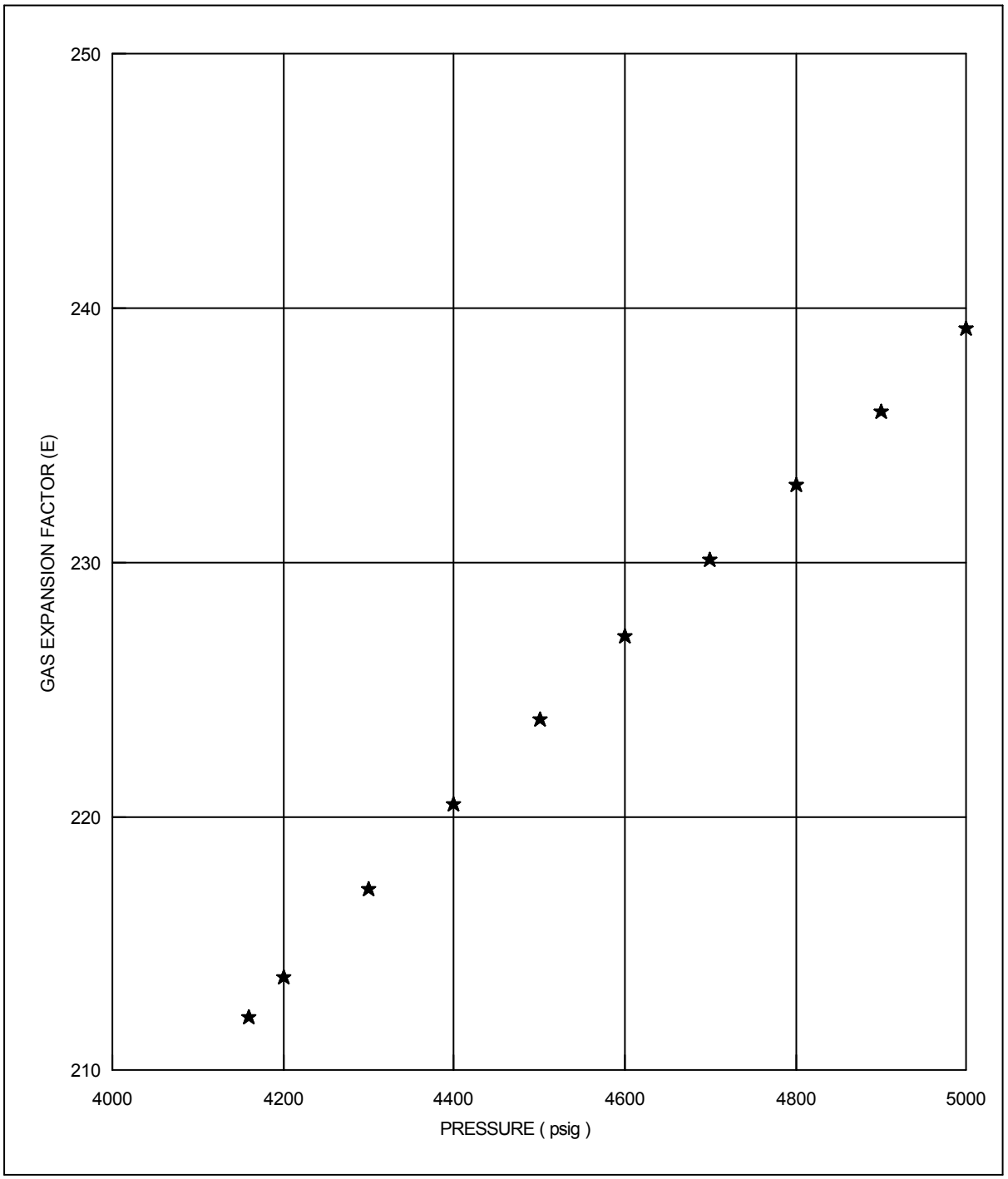
Equation of best fit

Bg = +2.49E-02 -1.15E-05 * P +2.20E-09 * P^2 -1.48E-13 * P^3 +0.00E+00 * P^4



GAS EXPANSION FACTOR

Equation of best fit
E = -5.78E+02 +4.46E-01 * P -8.67E-05 * P^2 +6.02E-09 * P^3 +0.00E+00 * P^4



GAS DEVIATION FACTOR

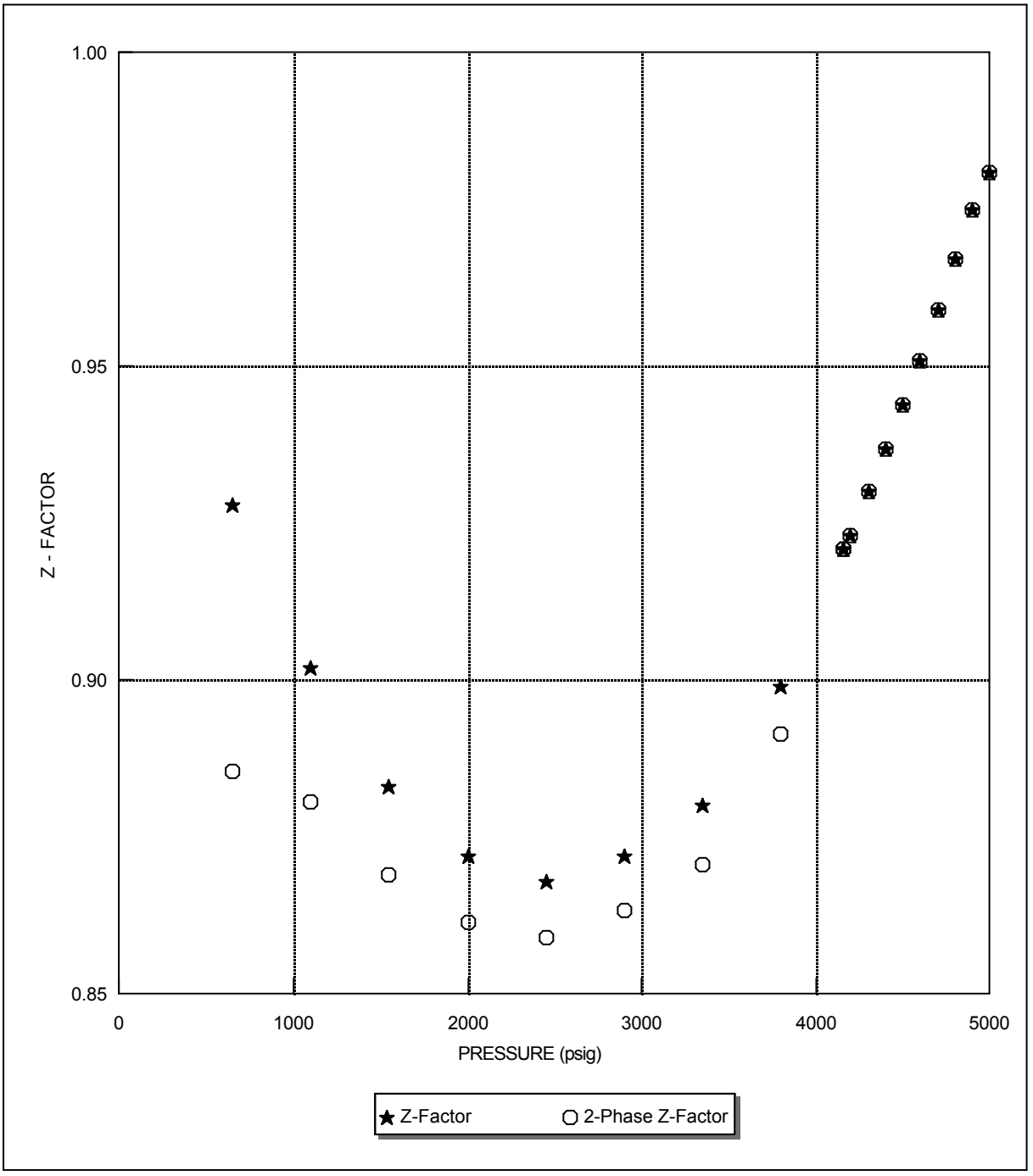
Equation of best fit

Z

$Z = +9.72E\text{-}01 \ -7.30E\text{-}05 * P \ +6.10E\text{-}09 * P^2 \ +3.32E\text{-}12 * P^3 \ +\text{-}3.07E\text{-}16 * P^4$

2 phase Z

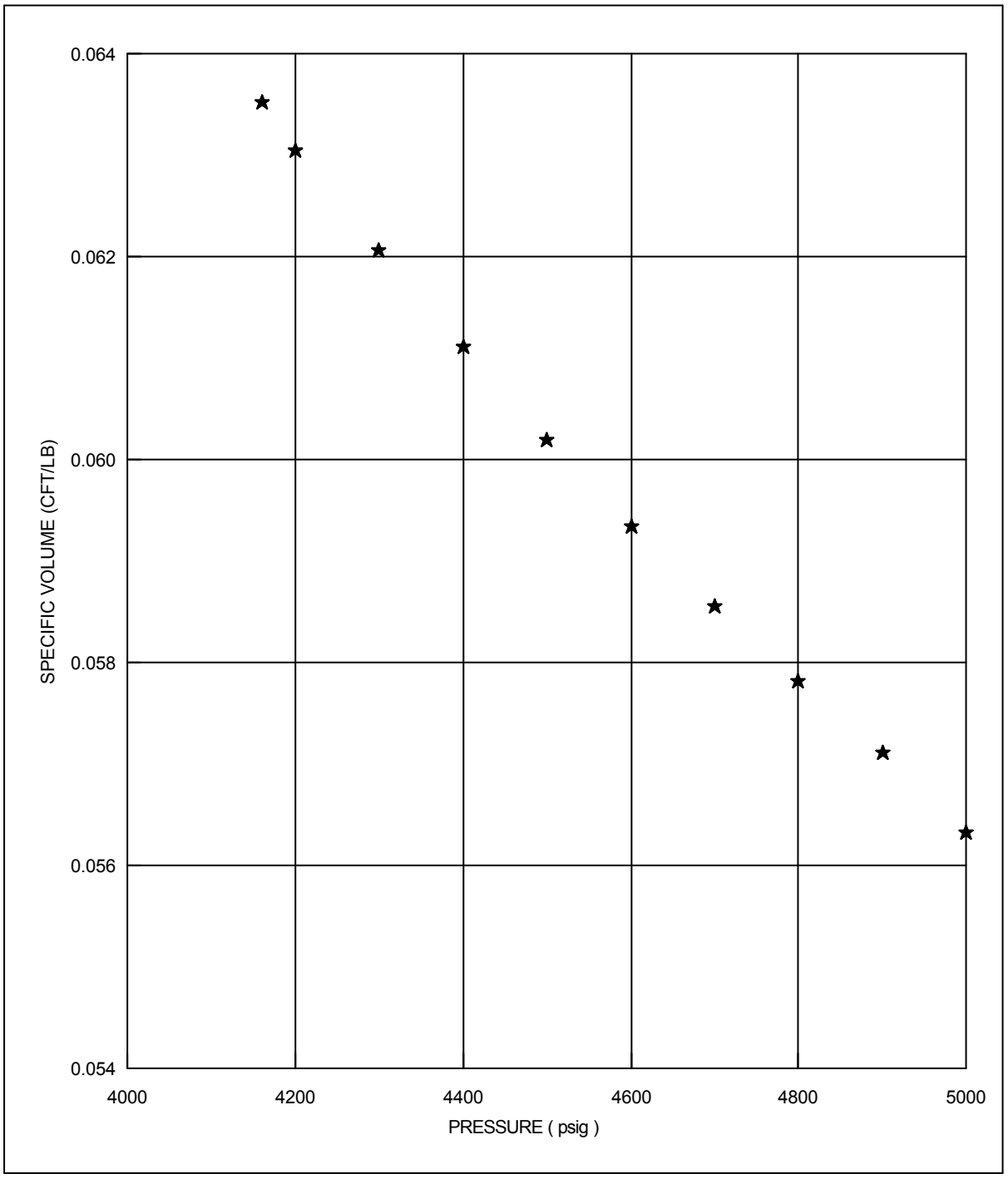
$2phZ = +9.98E\text{-}01 \ -2.43E\text{-}04 * P \ +1.63E\text{-}07 * P^2 \ -4.82E\text{-}11 * P^3 \ +5.27E\text{-}15 * P^4$



RESERVOIR FLUID SPECIFIC VOLUME

Equation of best fit

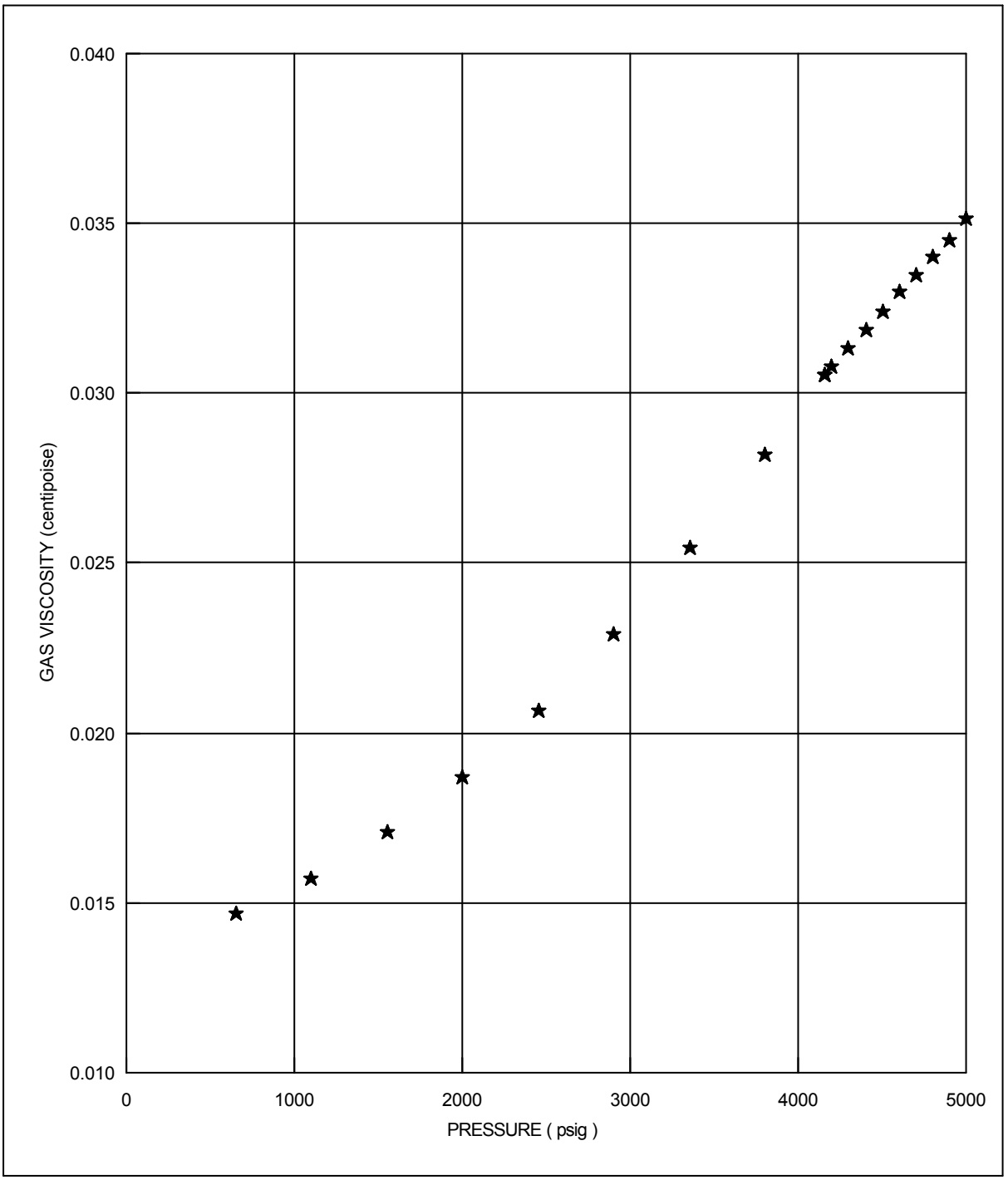
SV = +3.36E-01 -1.54E-04 * P +2.96E-08 * P^2 -1.99E-12 * P^3 +0.00E+00 * P^4



VISCOSITY OF RESERVOIR FLUID

Equation of best fit

$\mu = +1.31E\text{-}02 +2.54E\text{-}06 * P -5.46E\text{-}10 * P^2 +4.36E\text{-}13 * P^3 -5.05E\text{-}17 * P^4$



RETROGRADE CONDENSATION

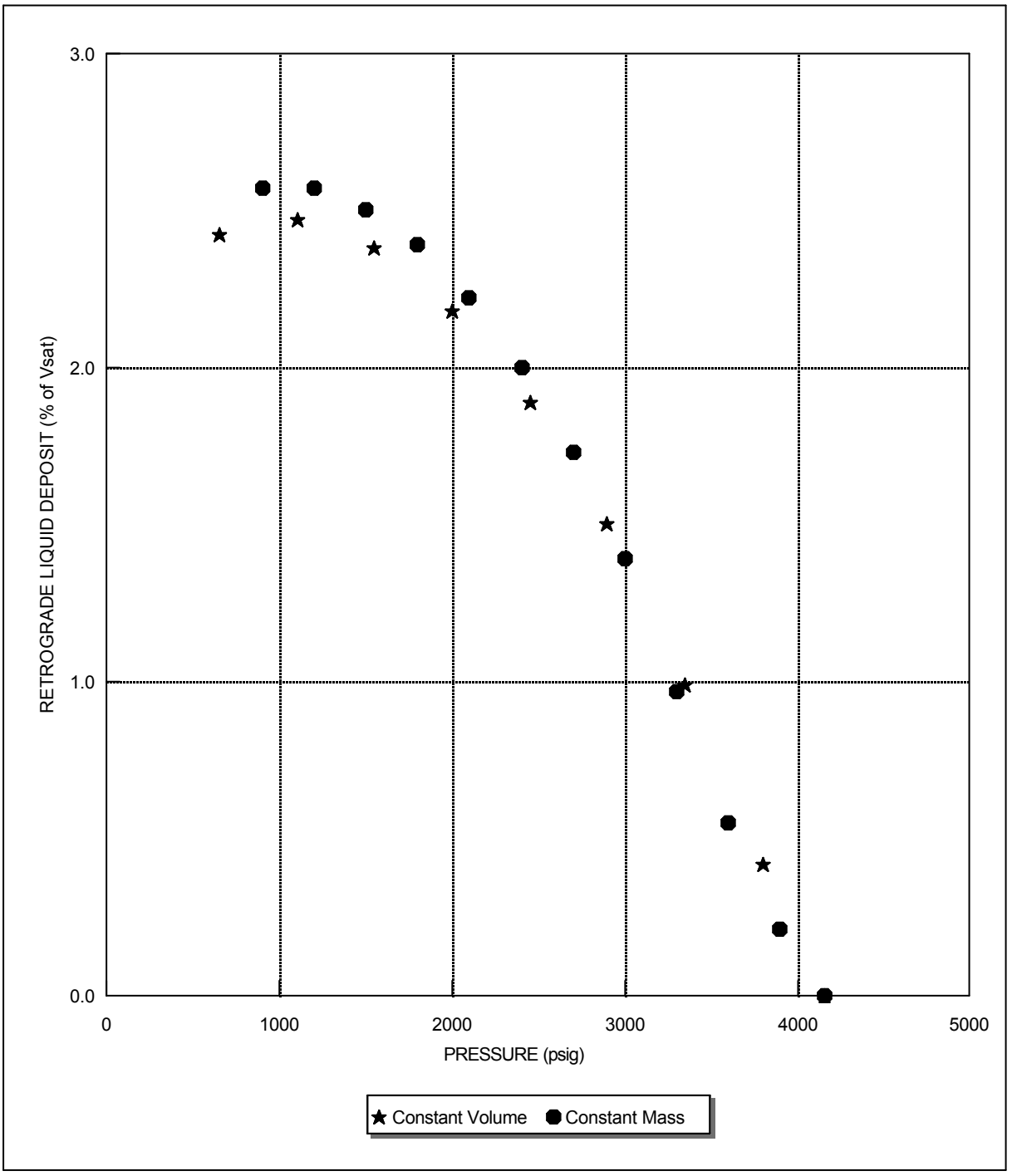
Equation of best fit

Constant Volume

RLD = +2.24E+00 +3.57E-04 * P -7.29E-08 * P^2 -8.09E-11 * P^3 +1.12E-14 * P^4

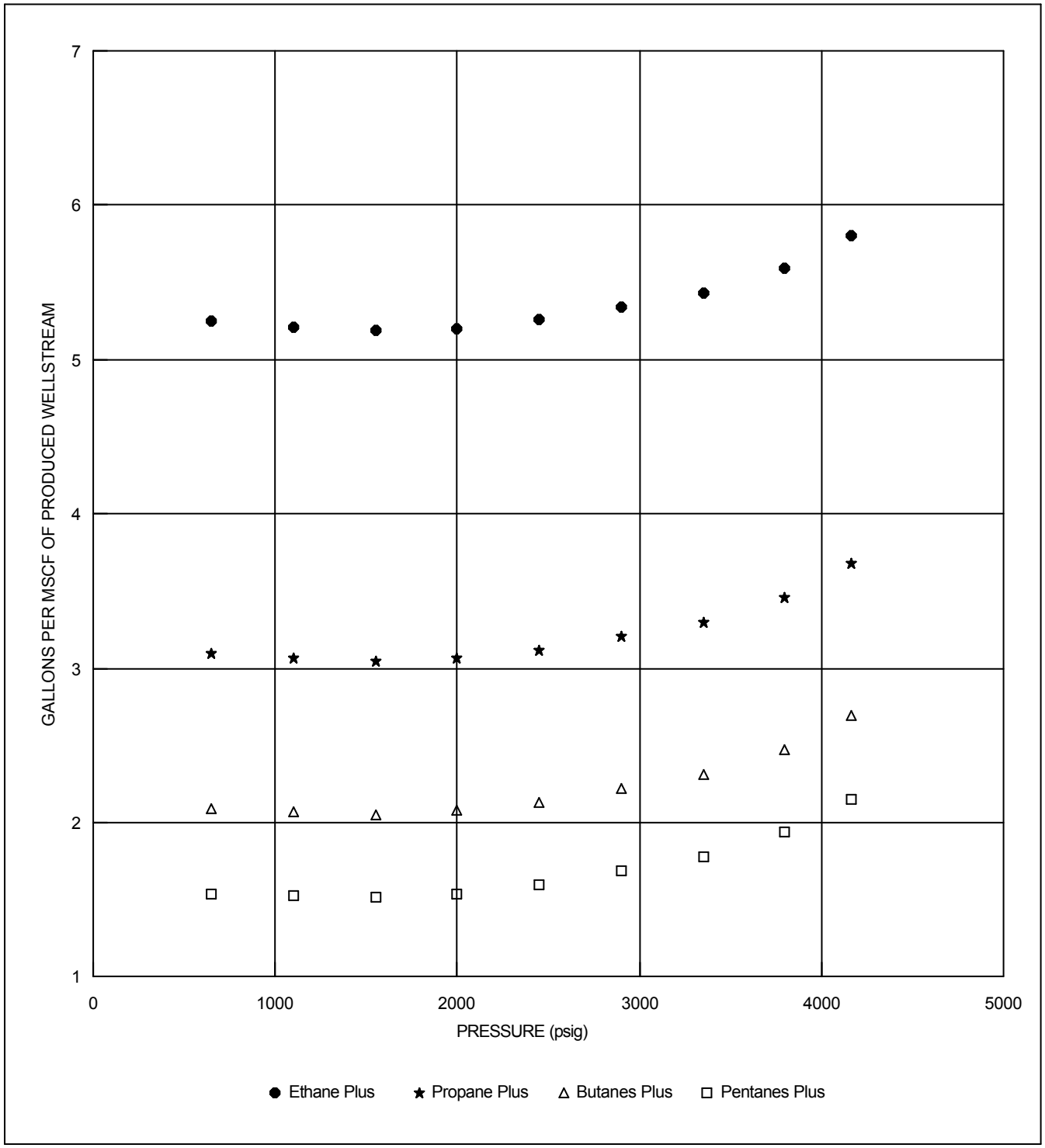
Constant Mass

RLD = +3.10E+00 -1.30E-03 * P +1.20E-06 * P^2 -4.84E-10 * P^3 +5.47E-14 * P^4



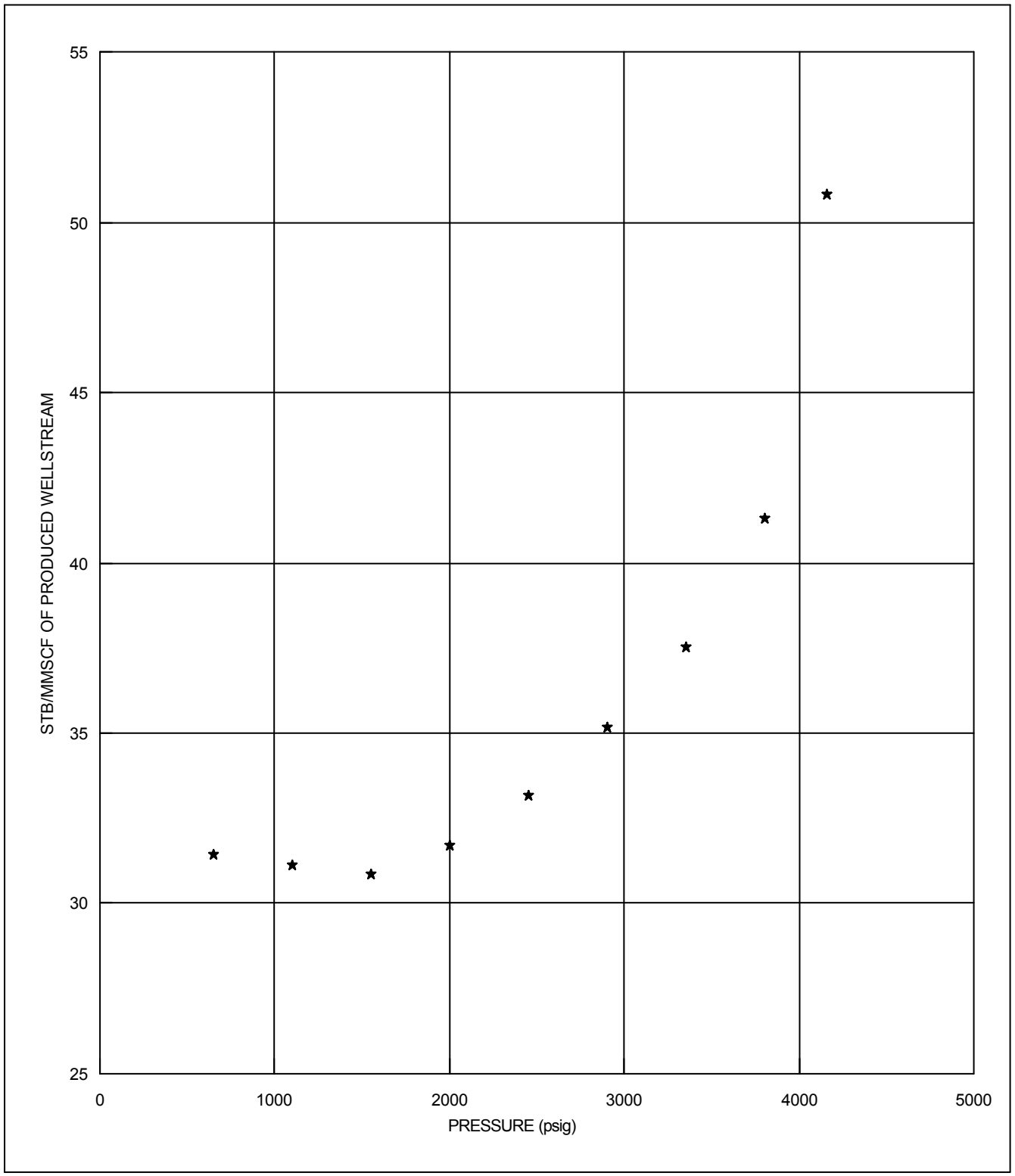
GPM CONTENT IN PRODUCED WELL STREAM

Ethane Plus GPM C o n t e n t = +5.48E+00 -5.46E-04 * P +3.47E-07 * P^2 -9.33E-11 * P^3 +1.10E-14 * P^4
Propane Plus GPM C o n t e n t = +3.32E+00 -5.03E-04 * P +3.25E-07 * P^2 -8.78E-11 * P^3 +1.05E-14 * P^4
Butanes Plus GPM C o n t e n t = +2.28E+00 -4.46E-04 * P +2.98E-07 * P^2 -8.18E-11 * P^3 +1.00E-14 * P^4
Pentanes Plus GPM C o n t e n t = +1.71E+00 -3.98E-04 * P +2.77E-07 * P^2 -7.74E-11 * P^3 +9.61E-15 * P^4



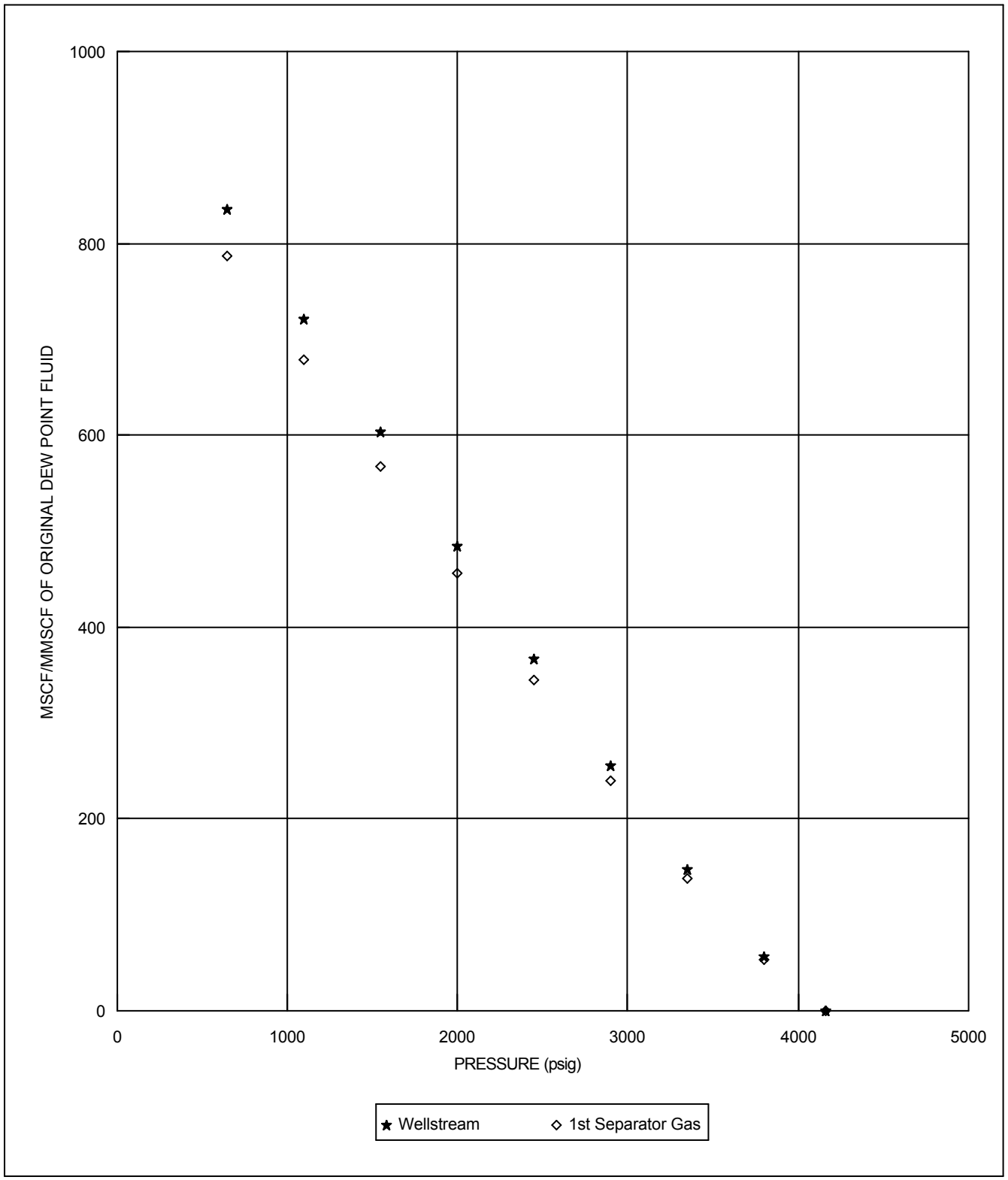
STOCK TANK LIQUID
IN PRODUCED WELLSTREAM

STL = +4.11E+01 -2.51E-02 * P +2.03E-05 * P^2 -6.53E-09 * P^3 +7.78E-13 * P^4



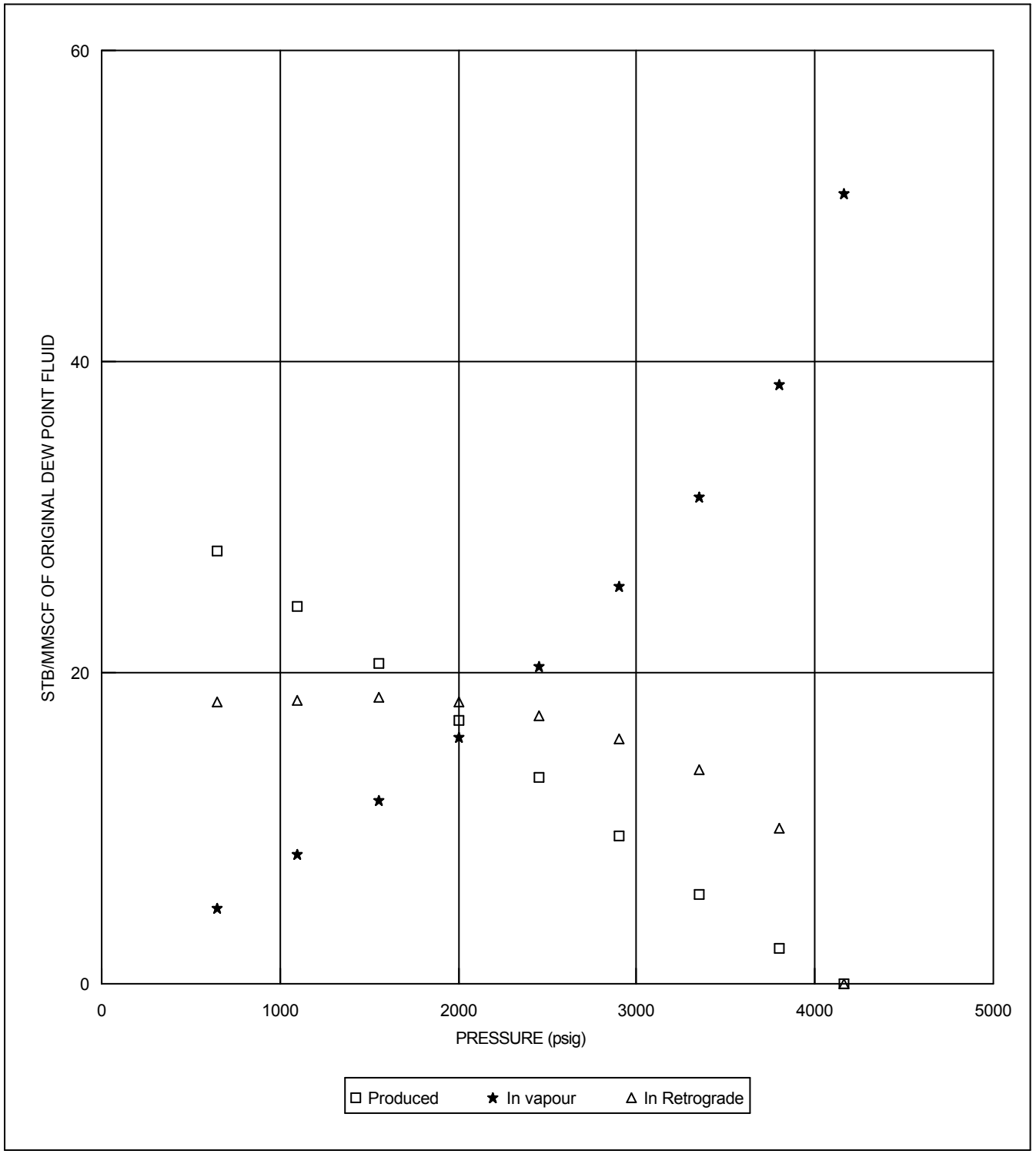
CUMULATIVE GAS PHASE PRODUCED

Cum Vol W/S = +1.00E+03 -2.59E-01 * P +9.68E-06 * P^2 -7.56E-09 * P^3 +1.51E-12 * P^4
Cum Vol Sep Gas = +9.42E+02 -2.42E-01 * P +7.51E-06 * P^2 -6.71E-09 * P^3 +1.40E-12 * P^4



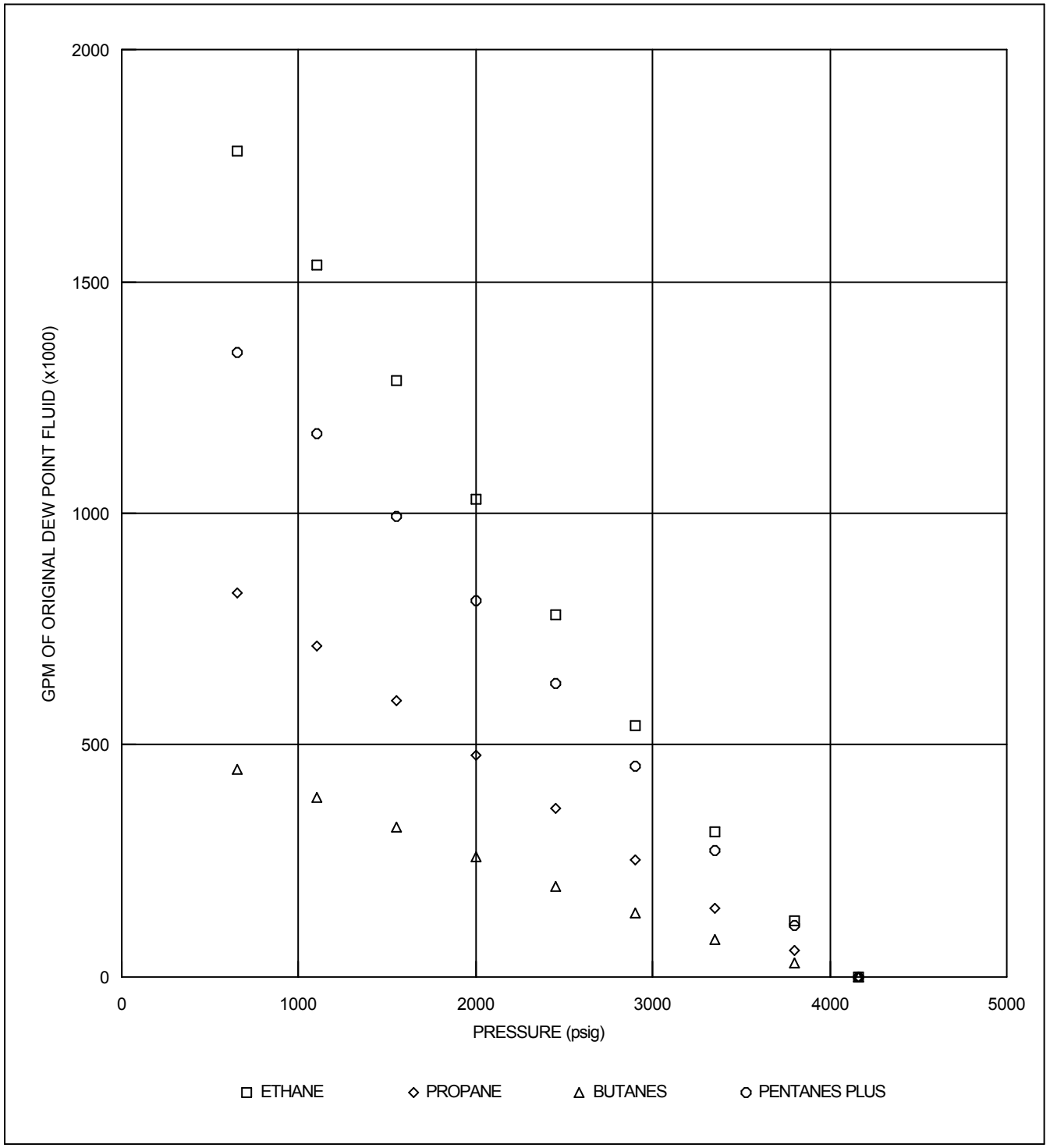
CUMULATIVE STOCK TANK LIQUID PRODUCTION AND CONDENSATION

Produced = +3.36E+01 -9.60E-03 * P +1.55E-06 * P^2 -6.08E-10 * P^3 +7.78E-14 * P^4
In Vapour = -2.75E+00 +1.70E-02 * P -1.19E-05 * P^2 +6.54E-09 * P^3 -1.56E-12 * P^4
In Retrograde = +1.69E+01 +2.88E-03 * P -1.84E-06 * P^2 +5.42E-10 * P^3 -1.01E-13 * P^4



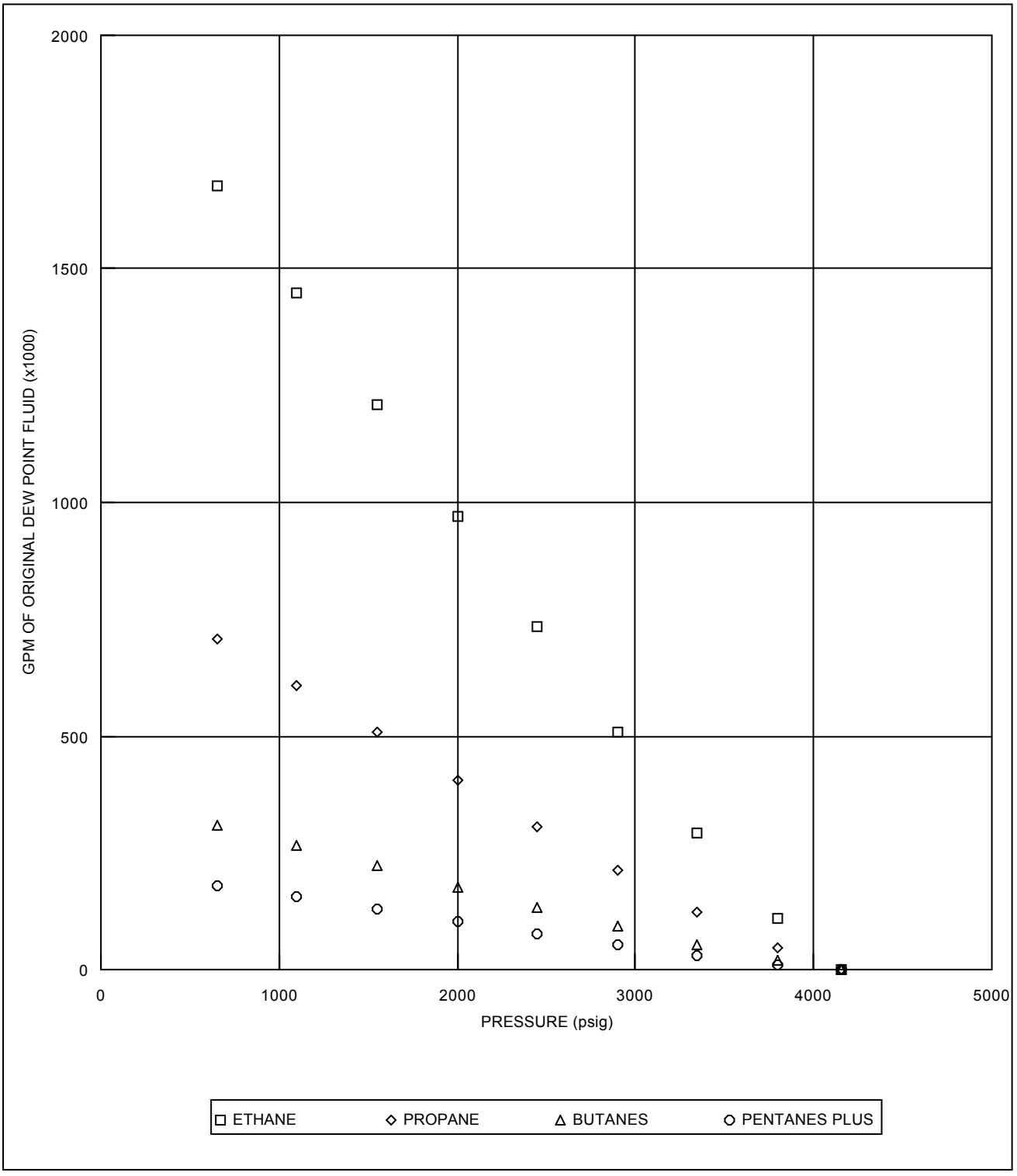
PLANT PRODUCTS IN PRODUCED WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Ethane Plus GPM Content = +2.14E+03 -5.61E-01 * P +2.34E-05 * P^2 -1.66E-08 * P^3 +3.26E-12 * P^4
Propane Plus GPM Content = +9.98E+02 -2.68E-01 * P +1.52E-05 * P^2 -8.58E-09 * P^3 +1.58E-12 * P^4
Butanes Plus GPM Content = +5.43E+02 -1.50E-01 * P +1.03E-05 * P^2 -4.99E-09 * P^3 +8.69E-13 * P^4
Pentanes Plus GPM Content = +1.63E+03 -4.59E-01 * P +6.48E-05 * P^2 -2.61E-08 * P^3 +3.47E-12 * P^4



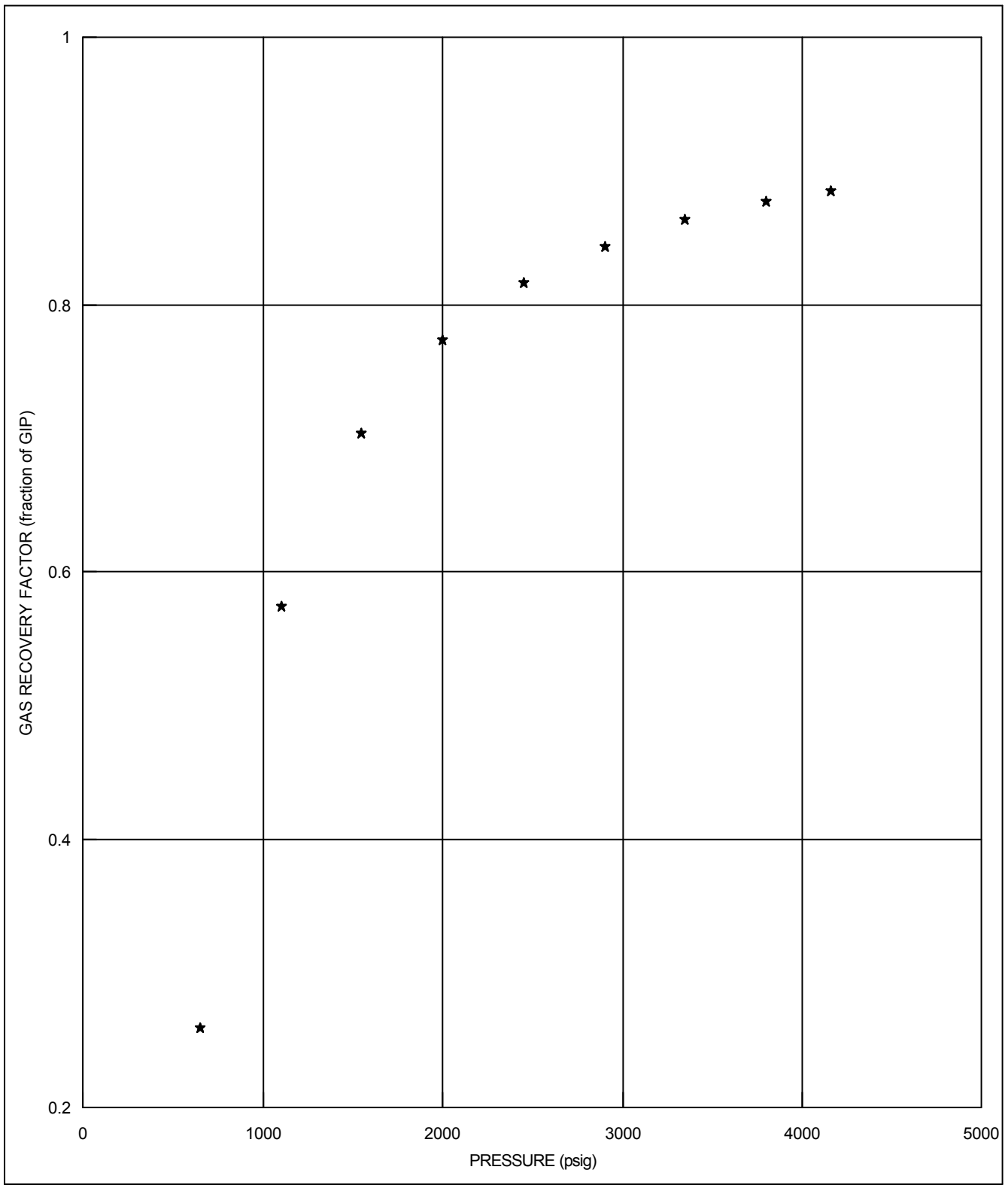
PLANT PRODUCTS
IN PRIMARY SEPARATOR GAS

Ethane Plus GPM C o n t e n t = +2.02E+03 -5.24E-01 * P +1.83E-05 * P^2 -1.46E-08 * P^3 +3.00E-12 * P^4
Propane Plus GPM C o n t e n t = +8.50E+02 -2.24E-01 * P +8.61E-06 * P^2 -6.21E-09 * P^3 +1.26E-12 * P^4
Butanes Plus GPM C o n t e n t = +3.74E+02 -9.96E-02 * P +3.92E-06 * P^2 -2.69E-09 * P^3 +5.55E-13 * P^4
Pentanes Plus GPM C o n t e n t = +2.18E+02 -5.76E-02 * P +1.79E-06 * P^2 -1.43E-09 * P^3 +3.12E-13 * P^4



GAS RECOVERY FACTOR

Gas Recovery Factor = -1.78E-01 +1.10E-03 * P -4.73E-07 * P^2 +9.59E-11 * P^3 -7.42E-15 * P^4



CONSTANT MASS STUDY
@ 289 °F
On MDT Sample from L - 284 (ex MPSR BA 0497) - taken in the 2755 Sand

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)
5000		0.8158	0.00412	242.98	0.975	0.05839	0.0338
4800		0.8375	0.00423	236.68	0.961	0.05994	0.0328
4600		0.8611	0.00434	230.21	0.947	0.06163	0.0318
4400		0.8877	0.00448	223.29	0.934	0.06353	0.0307
4200		0.9179	0.00463	215.95	0.922	0.06569	0.0297
4135	*	0.9292	0.00469	213.32	0.919	0.06651	0.0293
4000		0.9532	0.00481	207.96	0.912	0.06822	0.0285
3900		0.9732	0.00491	203.67	0.908	0.06965	0.0280
3800		0.9932	0.00501	199.57	0.903	0.07109	0.0274
3770	**	1.0000	0.00504	198.22	0.902	0.07157	0.0273

* Reservoir Pressure
** 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

@ 289 °F

On MDT Sample from L - 284 (ex MPSR BA 0497) - taken in the 2755 Sand

Pressure (psig)	Relative Volume (V/Vsat) (1)	Retrograde Liquid Deposit (Bbl/MMSCF) (2)	(Volume%) (3)
3770 *	1.0000	0.00	0.00
3600	1.0389	0.81	0.09
3400	1.0912	1.98	0.22
3200	1.1525	3.41	0.38
2900	1.2625	6.02	0.67
2600	1.4057	9.34	1.04
2300	1.5879	13.03	1.45
2000	1.8286	15.72	1.75
1700	2.1558	17.79	1.98
1400	2.6308	19.14	2.13
1100	3.3652	20.04	2.23
800	4.6507	20.49	2.28

* 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

@ 289 °F

On MDT Sample from L - 284 (ex MPSR BA 0497) - taken in the 2755 Sand

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)
3770	*	0.000	0.902	0.902	0.0273	0.00	0.00
3400		8.519	0.893	0.890	0.0251	2.61	0.29
3000		18.415	0.887	0.881	0.0228	7.37	0.82
2600		28.829	0.883	0.876	0.0209	11.41	1.27
2200		39.705	0.883	0.875	0.0192	14.29	1.59
1800		50.793	0.887	0.879	0.0178	16.44	1.83
1400		61.933	0.895	0.886	0.0165	17.70	1.97
1000		72.925	0.908	0.893	0.0154	18.06	2.01
600		83.770	0.929	0.903	0.0146	17.61	1.96

* 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

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COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		3770 **	3400	3000
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	18.86	18.90	18.95
Nitrogen	N2	0.16	0.16	0.16
Methane	C1	67.16	67.35	67.61
Ethane	C2	6.49	6.50	6.50
Propane	C3	2.76	2.76	2.75
Iso-Butane	iC4	0.48	0.48	0.48
N-Butane	nC4	0.77	0.77	0.76
Iso-Pentane	iC5	0.26	0.26	0.26
N-Pentane	nC5	0.27	0.27	0.27
Hexanes	C6	0.43	0.42	0.42
Heptanes	C7	0.70	0.67	0.56
Octanes	C8	0.65	0.58	0.49
Nonanes	C9	0.36	0.30	0.26
Decanes	C10	0.19	0.18	0.16
Undecanes	C11	0.10	0.09	0.09
Dodecanes Plus	C12+	0.36	0.31	0.28
TOTAL		100.00	100.00	100.00
Stream Properties				
Molecular Weight	:	26.76	26.50	26.17
Gravity (AIR = 1.000)	:	0.928	0.918	0.907
Gross HV (BTU/SCF)	:	1116	1100	1081
Nett HV (BTU/SCF)	:	1014	999	981
Wobbe Index	:	1158	1148	1135
Critical Pressure (psia)	:	732.8	733.8	734.9
Critical Temperature (°R)	:	431.0	429.5	427.3
GPM Content				
Ethane Plus	:	4.501	4.370	4.205
Propane Plus	:	2.764	2.630	2.465
Butanes Plus	:	2.003	1.869	1.707
Pentanes Plus	:	1.603	1.469	1.310
Hexanes Plus Properties				
Mol %	:	2.79	2.55	2.26
Molecular Weight	:	120.6	119.1	117.9
Density (gm/cc @ 60 °F)	:	0.7390	0.7610	0.7596
Gravity (°API @ 60 °F)	:	59.8	54.2	54.6
Heptanes Plus Properties				
Mol %	:	2.36	2.13	1.84
Molecular Weight	:	127.2	126.0	125.6
Density (gm/cc @ 60 °F)	:	0.7487	0.7688	0.7683
Gravity (°API @ 60 °F)	:	57.3	52.4	52.5
Decanes Plus Properties				
Mol %	:	0.65	0.58	0.53
Molecular Weight	:	183.2	181.3	176.4
Density (gm/cc @ 60 °F)	:	0.8118	0.8207	0.8166
Gravity (°API @ 60 °F)	:	42.6	40.8	41.6
Undecanes Plus Properties				
Mol %		0.46	0.40	0.37
Molecular Weight	:	205.2	202.1	194.7
Density (gm/cc @ 60 °F)	:	0.8281	0.8368	0.8312
Gravity (°API @ 60 °F)	:	39.2	37.4	38.6
Dodecanes Plus Properties				
Molecular Weight	:	221.9	217.6	210.0
Density (gm/cc @ 60 °F)	:	0.8392	0.8480	0.8426
Gravity (°API @ 60 °F)	:	37.0	35.2	36.3
Recovery Factor*				
* at 500 psi abandonment pressure	:	0.8760	0.8640	0.8470

** Original Reservoir Fluid

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COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		2600	2200	1800
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	18.98	19.00	19.01
Nitrogen	N2	0.16	0.16	0.16
Methane	C1	67.77	67.82	67.82
Ethane	C2	6.51	6.52	6.52
Propane	C3	2.75	2.75	2.76
Iso-Butane	iC4	0.48	0.48	0.48
N-Butane	nC4	0.76	0.76	0.76
Iso-Pentane	iC5	0.25	0.25	0.25
N-Pentane	nC5	0.26	0.26	0.26
Hexanes	C6	0.41	0.41	0.41
Heptanes	C7	0.50	0.49	0.50
Octanes	C8	0.44	0.44	0.44
Nonanes	C9	0.24	0.24	0.24
Decanes	C10	0.15	0.15	0.14
Undecanes	C11	0.09	0.08	0.08
Dodecanes Plus	C12+	0.25	0.19	0.17
TOTAL		100.00	100.00	100.00

Stream Properties				
Molecular Weight	:	25.92	25.82	25.76
Gravity (AIR = 1.000)	:	0.898	0.895	0.893
Gross HV (BTU/SCF)	:	1066	1061	1057
Nett HV (BTU/SCF)	:	968	963	960
Wobbe Index	:	1125	1122	1119
Critical Pressure (psia)	:	735.5	736.0	736.1
Critical Temperature (°R)	:	425.8	425.4	425.1
GPM Content				
Ethane Plus	:	4.088	4.045	4.022
Propane Plus	:	2.346	2.300	2.277
Butanes Plus	:	1.588	1.542	1.516
Pentanes Plus	:	1.191	1.145	1.119
Hexanes Plus Properties				
Mol %	:	2.08	2.00	1.98
Molecular Weight	:	115.8	113.5	111.8
Density (gm/cc @ 60 °F)	:	0.7572	0.7545	0.7524
Gravity (°API @ 60 °F)	:	55.2	55.9	56.4
Heptanes Plus Properties				
Mol %	:	1.67	1.59	1.57
Molecular Weight	:	123.7	121.1	119.0
Density (gm/cc @ 60 °F)	:	0.7663	0.7633	0.7610
Gravity (°API @ 60 °F)	:	53.0	53.7	54.3
Decanes Plus Properties				
Mol %	:	0.49	0.42	0.39
Molecular Weight	:	170.4	165.3	162.1
Density (gm/cc @ 60 °F)	:	0.8115	0.8071	0.8043
Gravity (°API @ 60 °F)	:	42.7	43.6	44.3
Undecanes Plus Properties				
Mol %	:	0.34	0.27	0.25
Molecular Weight	:	187.4	182.7	178.5
Density (gm/cc @ 60 °F)	:	0.8255	0.8217	0.8183
Gravity (°API @ 60 °F)	:	39.7	40.5	41.3
Dodecanes Plus Properties				
Molecular Weight	:	203.2	197.7	194.2
Density (gm/cc @ 60 °F)	:	0.8376	0.8335	0.8308
Gravity (°API @ 60 °F)	:	37.3	38.1	38.7
Recovery Factor*				
* at 500 psi abandonment pressure :		0.8243	0.7924	0.7452

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COMPOSITIONS OF WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Pressure (psig):		1400	1000	600
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	19.00	19.00	18.96
Nitrogen	N2	0.16	0.16	0.16
Methane	C1	67.73	67.64	67.38
Ethane	C2	6.53	6.54	6.54
Propane	C3	2.76	2.78	2.79
Iso-Butane	iC4	0.48	0.48	0.49
N-Butane	nC4	0.77	0.77	0.78
Iso-Pentane	iC5	0.26	0.26	0.26
N-Pentane	nC5	0.27	0.27	0.28
Hexanes	C6	0.41	0.42	0.44
Heptanes	C7	0.54	0.57	0.65
Octanes	C8	0.48	0.51	0.59
Nonanes	C9	0.26	0.27	0.31
Decanes	C10	0.14	0.16	0.18
Undecanes	C11	0.08	0.07	0.09
Dodecanes Plus	C12+	0.13	0.10	0.10
TOTAL		100.00	100.00	100.00

Stream Properties				
Molecular Weight	:	25.81	25.86	26.10
Gravity (AIR = 1.000)	:	0.894	0.896	0.905
Gross HV (BTU/SCF)	:	1060	1063	1077
Nett HV (BTU/SCF)	:	962	965	978
Wobbe Index	:	1121	1123	1132
Critical Pressure (psia)	:	735.9	735.8	734.9
Critical Temperature (°R)	:	425.6	426.1	427.9
GPM Content				
Ethane Plus	:	4.055	4.089	4.220
Propane Plus	:	2.307	2.339	2.470
Butanes Plus	:	1.546	1.572	1.701
Pentanes Plus	:	1.146	1.172	1.295
Hexanes Plus Properties				
Mol %	:	2.04	2.10	2.36
Molecular Weight	:	110.1	108.9	108.7
Density (gm/cc @ 60 °F)	:	0.7503	0.7489	0.7487
Gravity (°API @ 60 °F)	:	56.9	57.3	57.3
Heptanes Plus Properties				
Mol %	:	1.63	1.68	1.92
Molecular Weight	:	116.6	115.1	114.4
Density (gm/cc @ 60 °F)	:	0.7581	0.7563	0.7555
Gravity (°API @ 60 °F)	:	55.0	55.4	55.6
Decanes Plus Properties				
Mol %	:	0.35	0.33	0.37
Molecular Weight	:	158.3	154.3	151.8
Density (gm/cc @ 60 °F)	:	0.8009	0.7973	0.7949
Gravity (°API @ 60 °F)	:	45.0	45.8	46.3
Undecanes Plus Properties				
Mol %	:	0.21	0.17	0.19
Molecular Weight	:	174.5	172.4	167.8
Density (gm/cc @ 60 °F)	:	0.8151	0.8133	0.8094
Gravity (°API @ 60 °F)	:	41.9	42.3	43.2
Dodecanes Plus Properties				
Molecular Weight	:	191.5	188.6	184.9
Density (gm/cc @ 60 °F)	:	0.8287	0.8265	0.8235
Gravity (°API @ 60 °F)	:	39.1	39.5	40.2
Recovery Factor*				
* at 500 psi abandonment pressure :		0.6693	0.5303	0.1985

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		3400	3000	2600
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	12.85	12.17	11.37
Nitrogen	N2	0.10	0.09	0.07
Methane	C1	36.30	33.63	30.67
Ethane	C2	5.57	5.39	5.16
Propane	C3	3.31	3.30	3.27
Iso-Butane	iC4	0.74	0.76	0.77
N-Butane	nC4	1.29	1.33	1.36
Iso-Pentane	iC5	0.55	0.57	0.60
N-Pentane	nC5	0.61	0.64	0.68
Hexanes	C6	1.33	1.43	1.55
Heptanes Plus	C7+	37.35	40.69	44.50
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	150.3	111.2	109.7
Density @ P & T	:	0.797	0.701	0.685

Hexanes Plus Properties

Mol %	:	38.68	42.12	46.05
Molecular Weight	:	345.4	226.1	205.5
Density (gm/cc @ 60 °F)	:	0.923	0.854	0.840
Gravity (°API @ 60 °F)	:	21.7	33.9	36.8

Heptanes Plus Properties

Molecular Weight	:	354.8	231.1	209.8
Density (gm/cc @ 60 °F)	:	0.926	0.857	0.842
Gravity (°API @ 60 °F)	:	21.2	33.4	36.3

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		2200	1800	1400
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	10.42	9.29	7.92
Nitrogen	N2	0.06	0.04	0.03
Methane	C1	27.37	23.71	19.62
Ethane	C2	4.85	4.45	3.92
Propane	C3	3.19	3.05	2.81
Iso-Butane	iC4	0.77	0.76	0.72
N-Butane	nC4	1.38	1.37	1.33
Iso-Pentane	iC5	0.62	0.64	0.63
N-Pentane	nC5	0.71	0.73	0.74
Hexanes	C6	1.67	1.79	1.88
Heptanes Plus	C7+	48.96	54.17	60.40
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	116.8	127.5	143.8
Density @ P & T	:	0.690	0.701	0.719

Hexanes Plus Properties

Mol %	:	50.63	55.96	62.28
Molecular Weight	:	202.9	204.9	212.9
Density (gm/cc @ 60 °F)	:	0.838	0.839	0.845
Gravity (°API @ 60 °F)	:	37.2	36.9	35.8

Heptanes Plus Properties

Molecular Weight	:	207.0	208.9	216.9
Density (gm/cc @ 60 °F)	:	0.840	0.842	0.847
Gravity (°API @ 60 °F)	:	36.7	36.4	35.3

CALCULATED LIQUID COMPOSITIONS

Pressure (psig):		1000	600 *	600 **
Component		Mol %	Mol %	Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	6.27	4.22	3.62
Nitrogen	N2	0.02	0.01	0.14
Methane	C1	15.02	9.74	7.47
Ethane	C2	3.21	2.24	2.12
Propane	C3	2.41	1.78	1.86
Iso-Butane	iC4	0.65	0.50	0.55
N-Butane	nC4	1.20	0.94	0.99
Iso-Pentane	iC5	0.59	0.48	0.55
N-Pentane	nC5	0.70	0.58	0.59
Hexanes	C6	1.86	1.64	2.20
Heptanes Plus	C7+	68.07	77.87	79.91
TOTAL		100.00	100.00	100.00

Stream Properties

Molecular Weight	:	161.6	190.1	168.2
Density @ P & T	:	0.732	0.752	0.716

Hexanes Plus Properties

Mol %	:	69.93	79.51	82.11
Molecular Weight	:	217.9	230.9	197.6
Density (gm/cc @ 60 °F)	:	0.849	0.857	0.834
Gravity (°API @ 60 °F)	:	35.1	33.4	38.1

Heptanes Plus Properties

Molecular Weight	:	221.5	234.0	200.7
Density (gm/cc @ 60 °F)	:	0.851	0.859	0.836
Gravity (°API @ 60 °F)	:	34.7	33.1	37.6

* Abandonment Pressure Liquid Composition from Material Balance
** Abandonment Pressure Liquid Composition Analysed

PETROLAB

Company: Origin Energy Resources Ltd.
Well : Yolla # 3 - 2755 sand

CALCULATED CUMULATIVE RECOVERY DURING DEPLETION

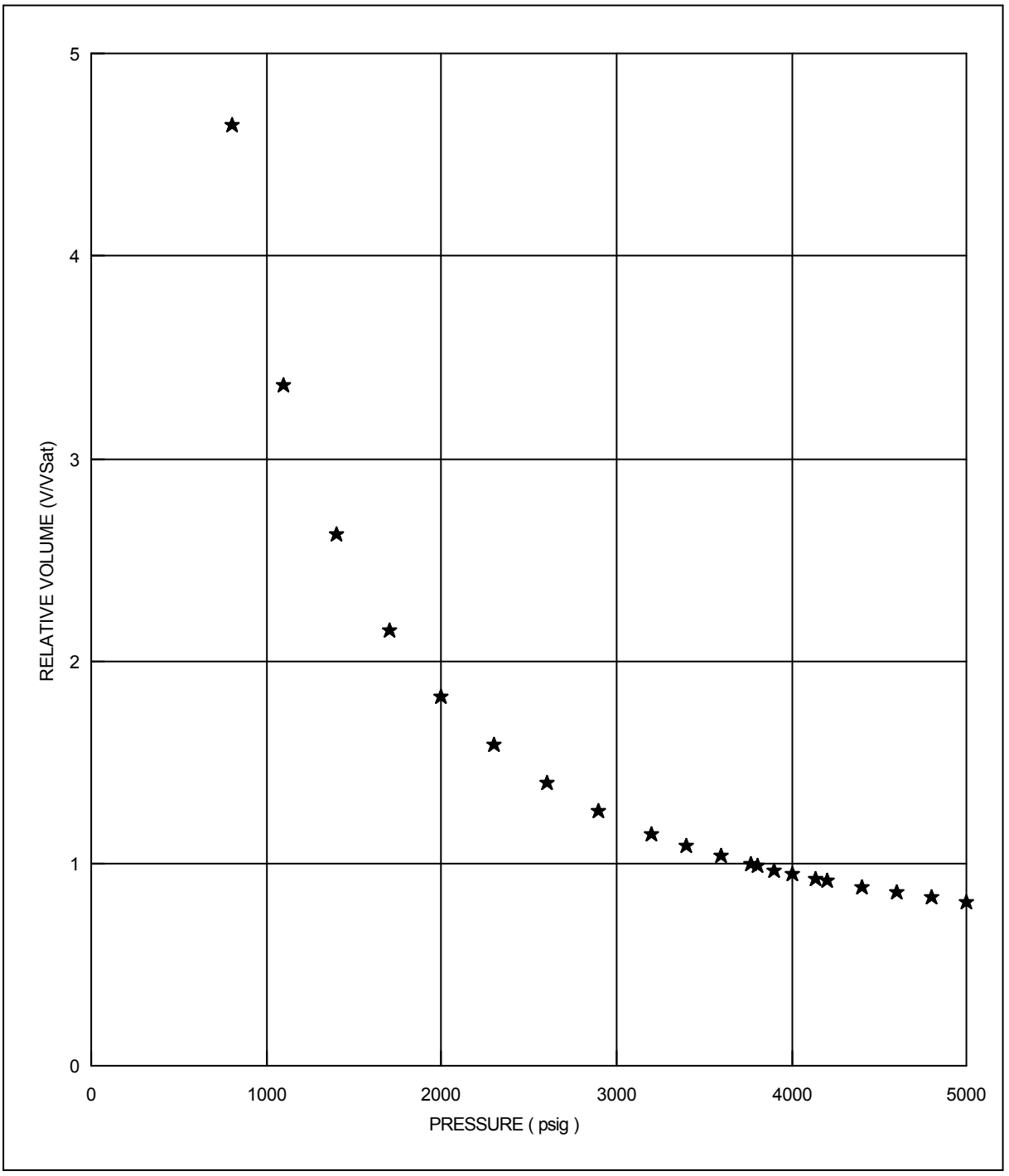
per MMSCF of Original Reservoir Fluid *

Reservoir Pressure		3770	3400	3000	2600	2200	1800	1400	1000	600
	Initial in Place	**Saturation Pressure**								
Well Stream - MSCF	**1000**	0	85.2	184.1	288.3	397.1	507.9	619.3	729.2	837.7
Stock Tank Liquid - °API @ 60 °F		53.3	59.0	59.5	60.2	61.0	61.6	62.3	62.7	62.7
Cumulative Produced (Bbl)	**0.00**	0.00	2.58	5.18	7.61	10.01	12.41	14.89	17.40	20.22
Remaining in Vapor (Bbl)	**37.12**	37.12	27.56	21.07	16.29	12.97	10.34	8.24	5.96	4.01
Remaining in Liquid (Bbl)	**0.00**	0.00	6.97	10.87	13.21	14.14	14.37	13.99	13.75	12.90
Primary Separator Gas - MSCF	**949.71**	0.00	81.26	176.23	276.56	381.52	488.55	595.90	701.69	805.53
Second Stage Gas - MSCF	**0.00**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stock Tank Gas - MSCF	**21.09**	0.00	1.65	3.35	4.97	6.60	8.25	9.98	11.74	13.71
		Total " Plant Products " - (Gallons) in Well Stream :								
Ethane	**1737**	0	148	320	502	692	885	1080	1272	1462
Propane	**761**	0	65	140	219	301	386	470	555	638
Butanes	**400**	0	34	73	115	158	202	246	290	334
Pentanes Plus	**1603**	0	125	255	379	503	627	755	884	1024
		Total " Plant Products " - (Gallons) in Primary Separator Gas :								
Ethane	**1649**	0	141	306	481	664	851	1038	1223	1404
Propane	**664**	0	57	124	196	271	348	424	500	575
Butanes	**291**	0	25	56	88	122	157	192	227	260
Pentanes Plus	**199**	0	17	39	61	86	110	135	159	183
		Total " Plant Products " - (Gallons) in Secondary Separator Gas :								
Ethane	**0**	0	0	0	0	0	0	0	0	0
Propane	**0**	0	0	0	0	0	0	0	0	0
Butanes	**0**	0	0	0	0	0	0	0	0	0
Pentanes Plus	**0**	0	0	0	0	0	0	0	0	0
		Total " Plant Products " - (Gallons) in Stock Tank Gas :								
Ethane	**78**	0	6	12	18	24	30	36	43	50
Propane	**78**	0	6	12	18	24	31	37	44	51
Butanes	**61**	0	5	10	15	20	25	30	36	42
Pentanes Plus	**53**	0	4	9	13	18	22	27	32	37
		Gas Liquid Ratios *								
1st Sep. Gas/Stock Tank Liquid (SCF/BBL)		25585	31446	36586	41200	43773	44678	43196	42112	36937
1st+2nd Sep. Gas/Stock Tank Liquid (SCF/BBL)		25585	31446	36586	41200	43773	44678	43196	42112	36937
1st+2nd Sep+STTGas/Stock Tank Liquid (SCF/BBL)		26153	32086	37239	41867	44451	45366	43892	42814	37637
1st Sep. Gas/Produced WellStream (MSCF/MMSCF)		950	954	960	963	965	965	964	962	957
1st+2nd Sep. Gas/Produced WS (MSCF/MMSCF)		950	954	960	963	965	965	964	962	957
1st+2nd Sep.+STT Gas/Produced WS (MSCF/MMSCF)		971	973	977	979	980	980	979	979	976
Stock Tank Liquid/Produced WS (STB/MMSCF)		37	30	26	23	22	22	22	23	26

* Primary Separator @ 756 psig and 86 °F; No Secondary Separator; Stock Tank @ 14.696 psia and 60 °F

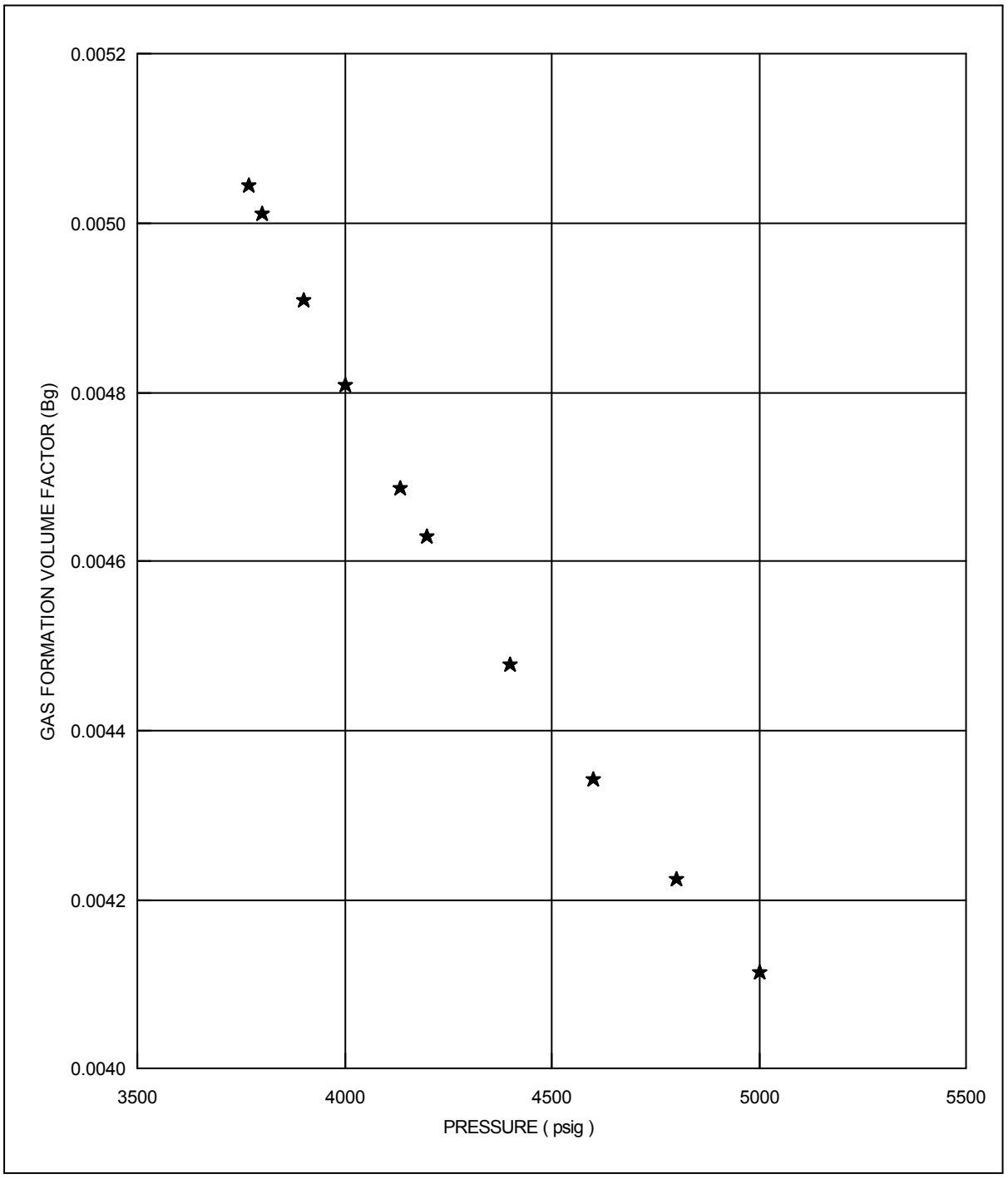
RELATIVE VOLUME

Equation of best fit
V/VSat = +9.77E+00 -9.07E-03 * P +3.75E-06 * P^2 -7.11E-10 * P^3 +5.02E-14 * P^4



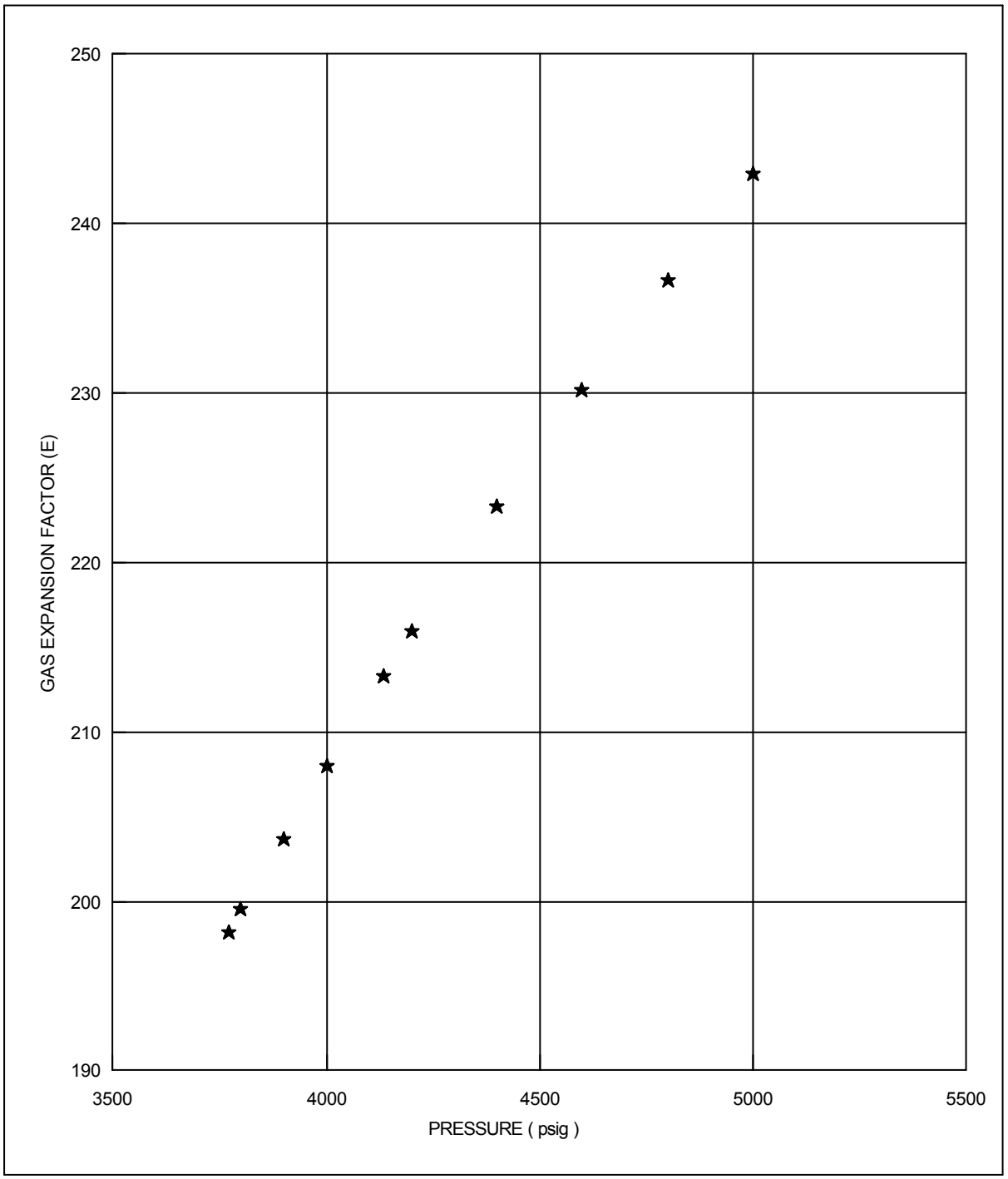
GAS FORMATION VOLUME FACTOR

Equation of best fit
Bg = +1.90E-02 -7.39E-06 * P +1.28E-09 * P^2 -7.90E-14 * P^3 +0.00E+00 * P^4



GAS EXPANSION FACTOR

Equation of best fit
E = -1.33E+02 +1.46E-01 * P -1.95E-05 * P^2 +1.05E-09 * P^3 +0.00E+00 * P^4



GAS DEVIATION FACTOR

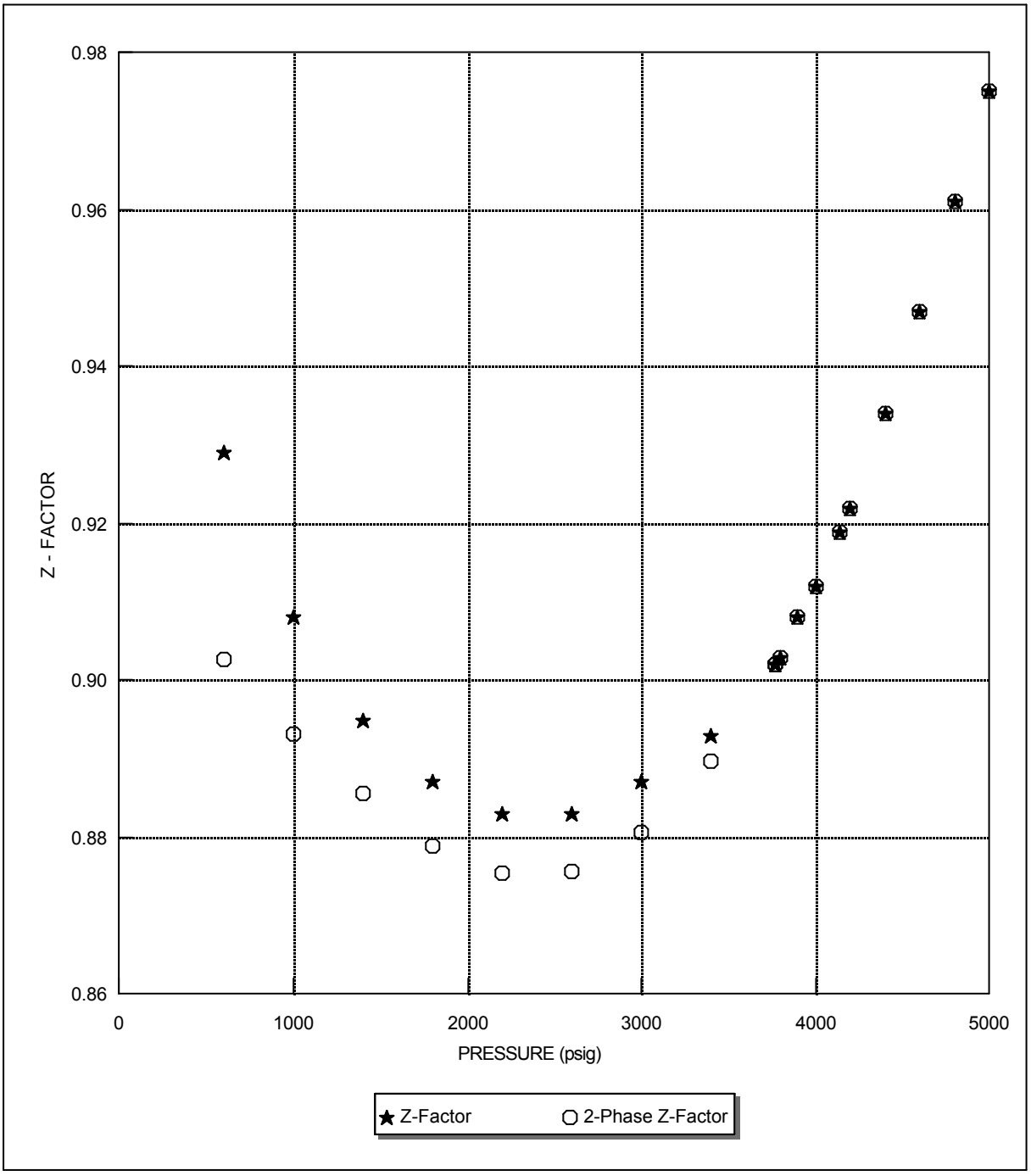
Equation of best fit

Z

$Z = +9.72E\text{-}01 - 8.96E\text{-}05 * P + 3.12E\text{-}08 * P^2 - 5.21E\text{-}12 * P^3 + 5.17E\text{-}16 * P^4$

2 phase Z

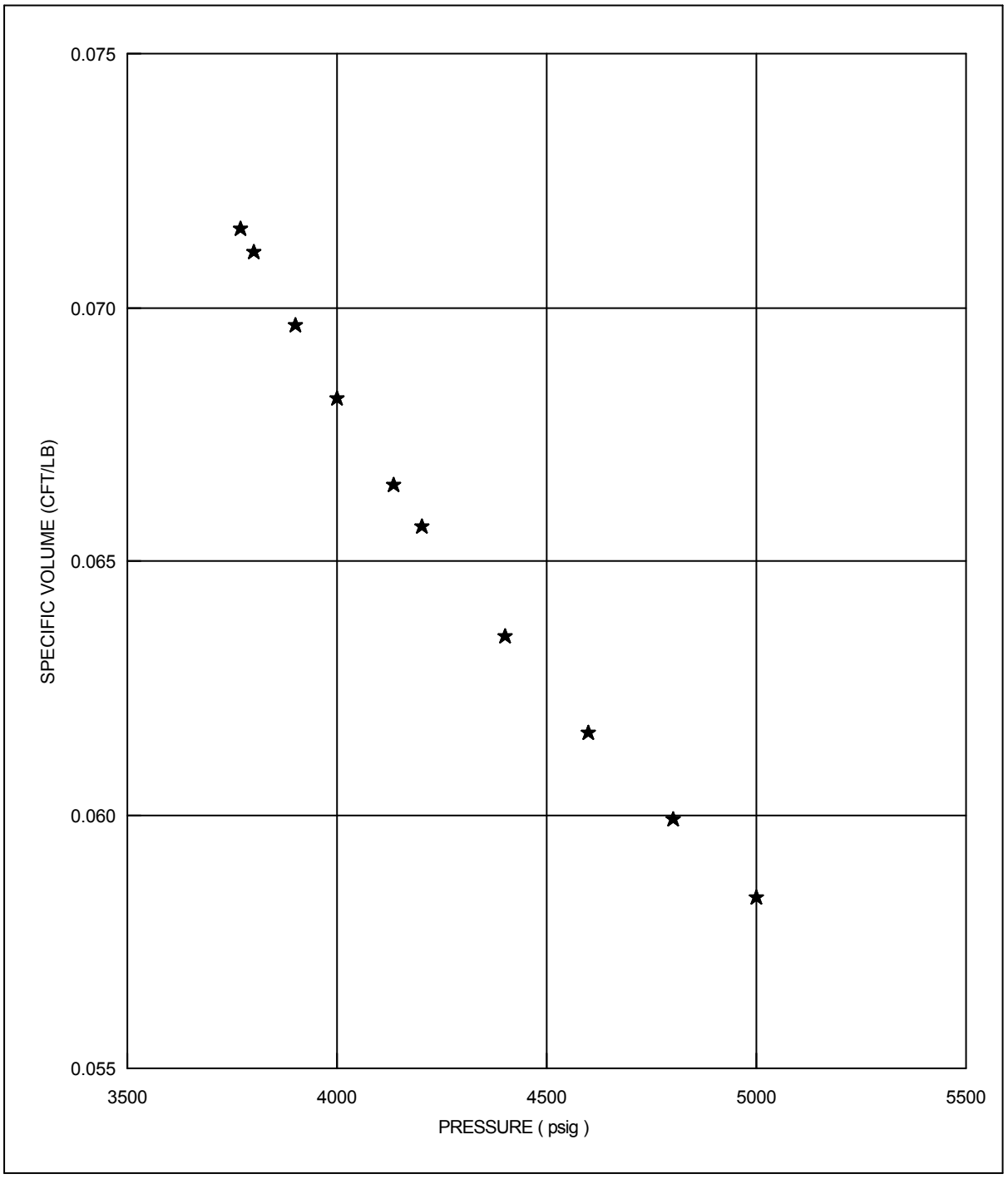
$2phZ = +9.98E\text{-}01 - 2.24E\text{-}04 * P + 1.57E\text{-}07 * P^2 - 4.81E\text{-}11 * P^3 + 5.46E\text{-}15 * P^4$



RESERVOIR FLUID SPECIFIC VOLUME

Equation of best fit

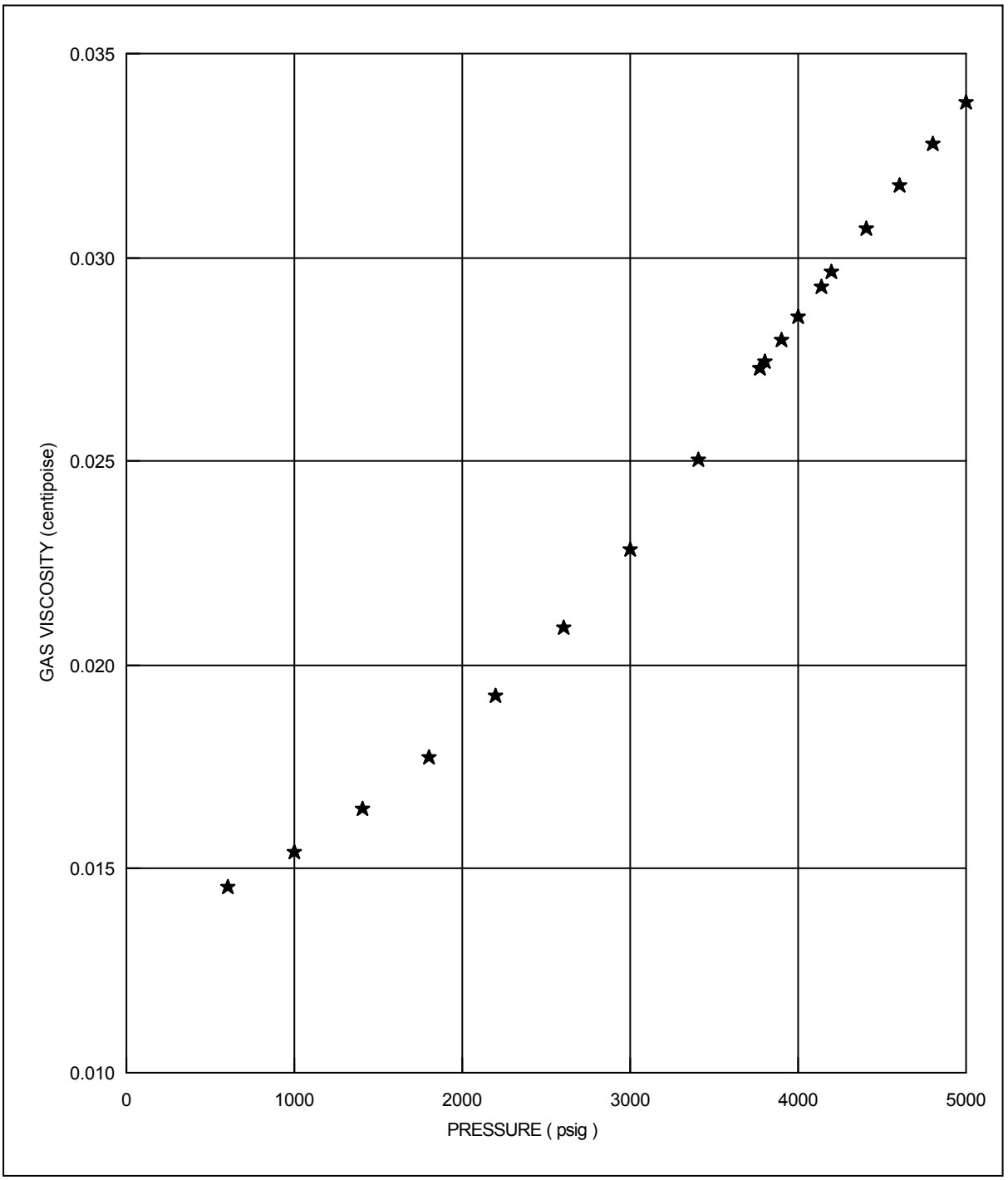
SV = +2.69E-01 -1.05E-04 * P +1.82E-08 * P^2 -1.12E-12 * P^3 +0.00E+00 * P^4



VISCOSITY OF RESERVOIR FLUID

Equation of best fit

$\mu = +1.33E\text{-}02 +2.16E\text{-}06 * P -3.58E\text{-}10 * P^2 +3.66E\text{-}13 * P^3 -4.36E\text{-}17 * P^4$



RETROGRADE CONDENSATION

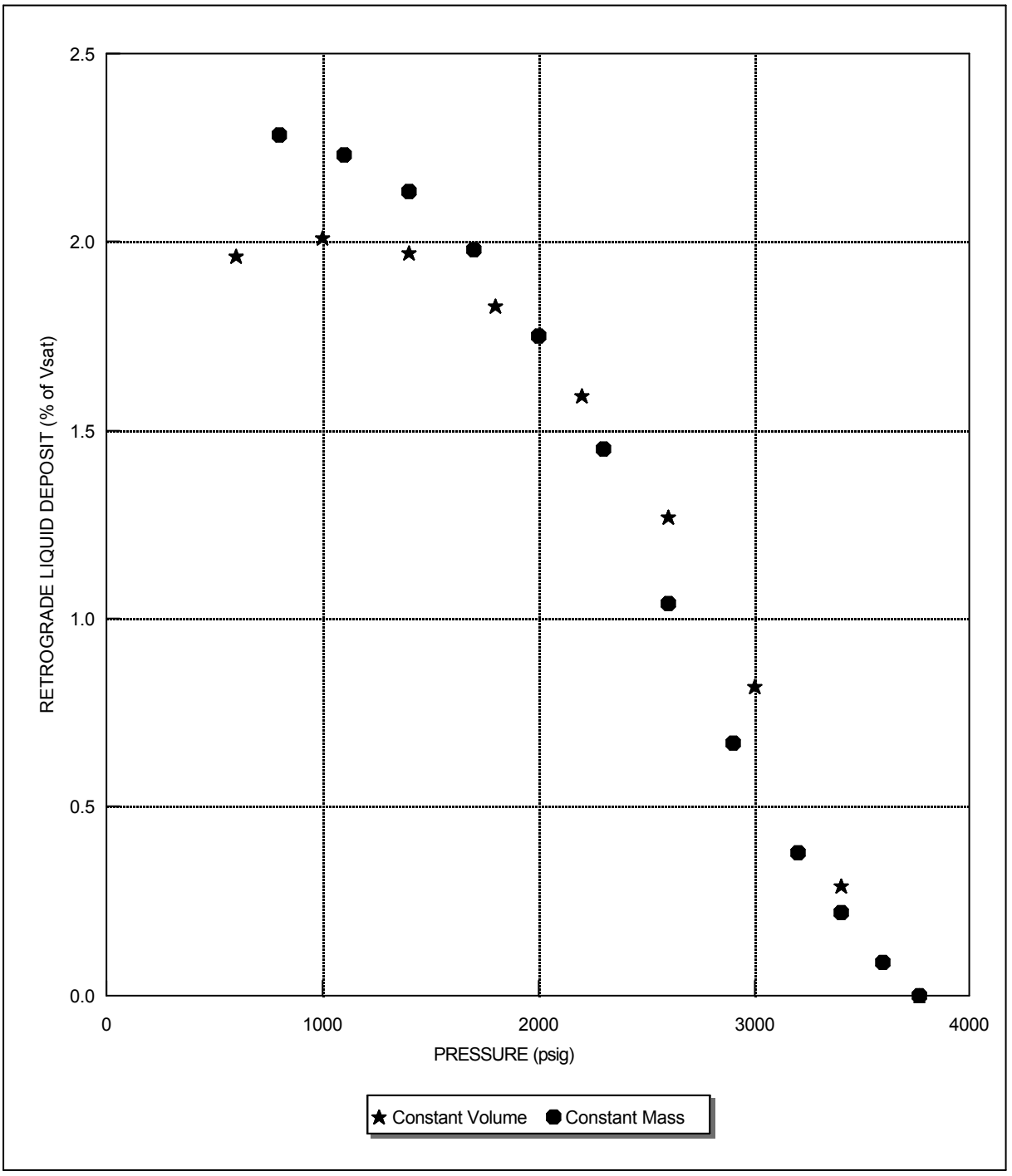
Equation of best fit

Constant Volume

RLD = +2.05E+00 -4.53E-04 * P +7.36E-07 * P^2 -3.96E-10 * P^3 +5.14E-14 * P^4

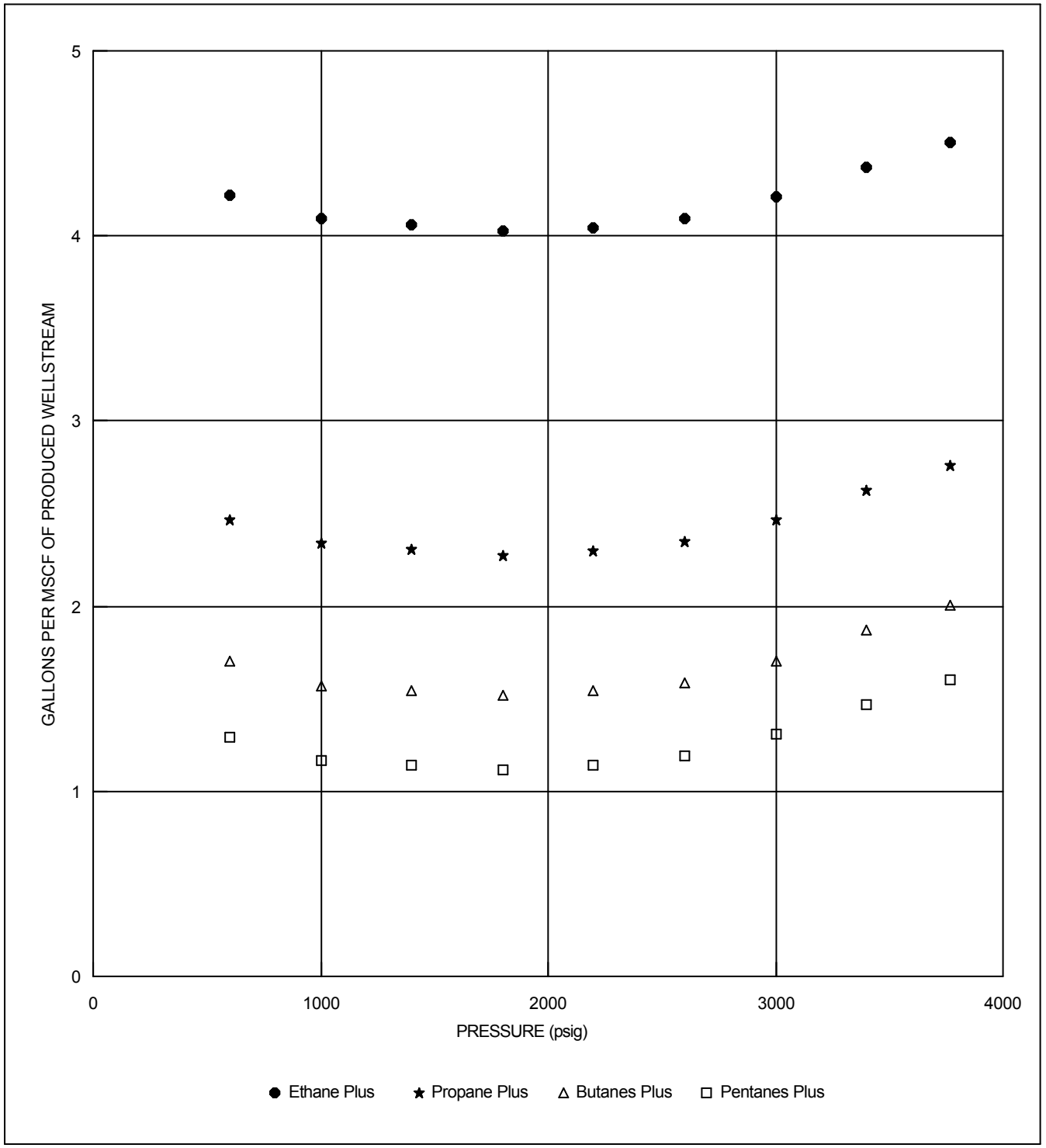
Constant Mass

RLD = +2.22E+00 -2.53E-05 * P +3.35E-07 * P^2 -3.30E-10 * P^3 +5.35E-14 * P^4



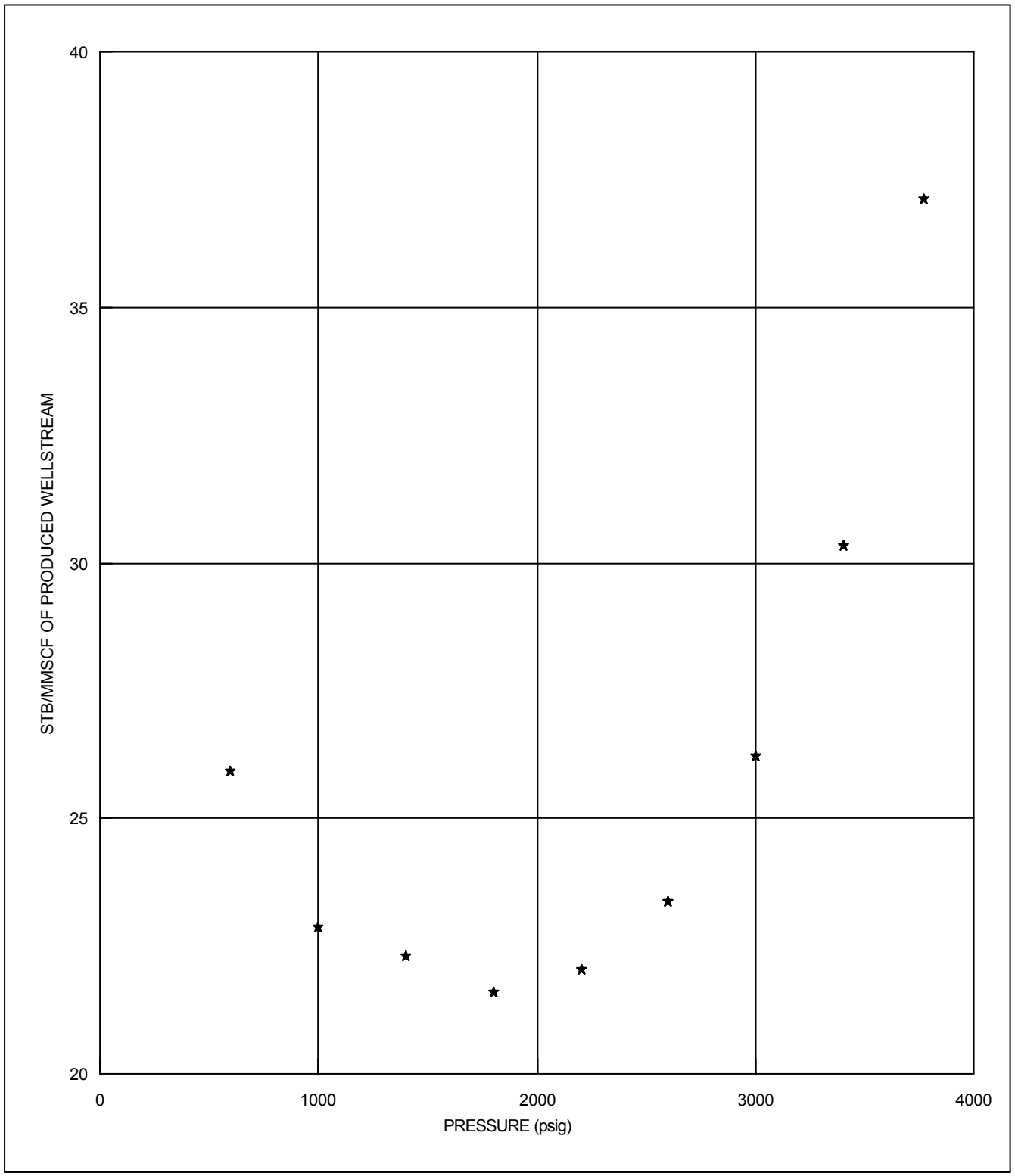
GPM CONTENT IN PRODUCED WELL STREAM

Ethane Plus GPM C o n t e n t = +4.43E+00 -3.91E-04 * P +4.55E-08 * P^2 +3.34E-11 * P^3 -4.36E-15 * P^4
Propane Plus GPM C o n t e n t = +2.68E+00 -4.08E-04 * P +6.19E-08 * P^2 +2.83E-11 * P^3 -3.80E-15 * P^4
Butanes Plus GPM C o n t e n t = +1.91E+00 -4.14E-04 * P +7.71E-08 * P^2 +2.22E-11 * P^3 -3.11E-15 * P^4
Pentanes Plus GPM C o n t e n t = +1.49E+00 -3.91E-04 * P +6.72E-08 * P^2 +2.41E-11 * P^3 -3.25E-15 * P^4



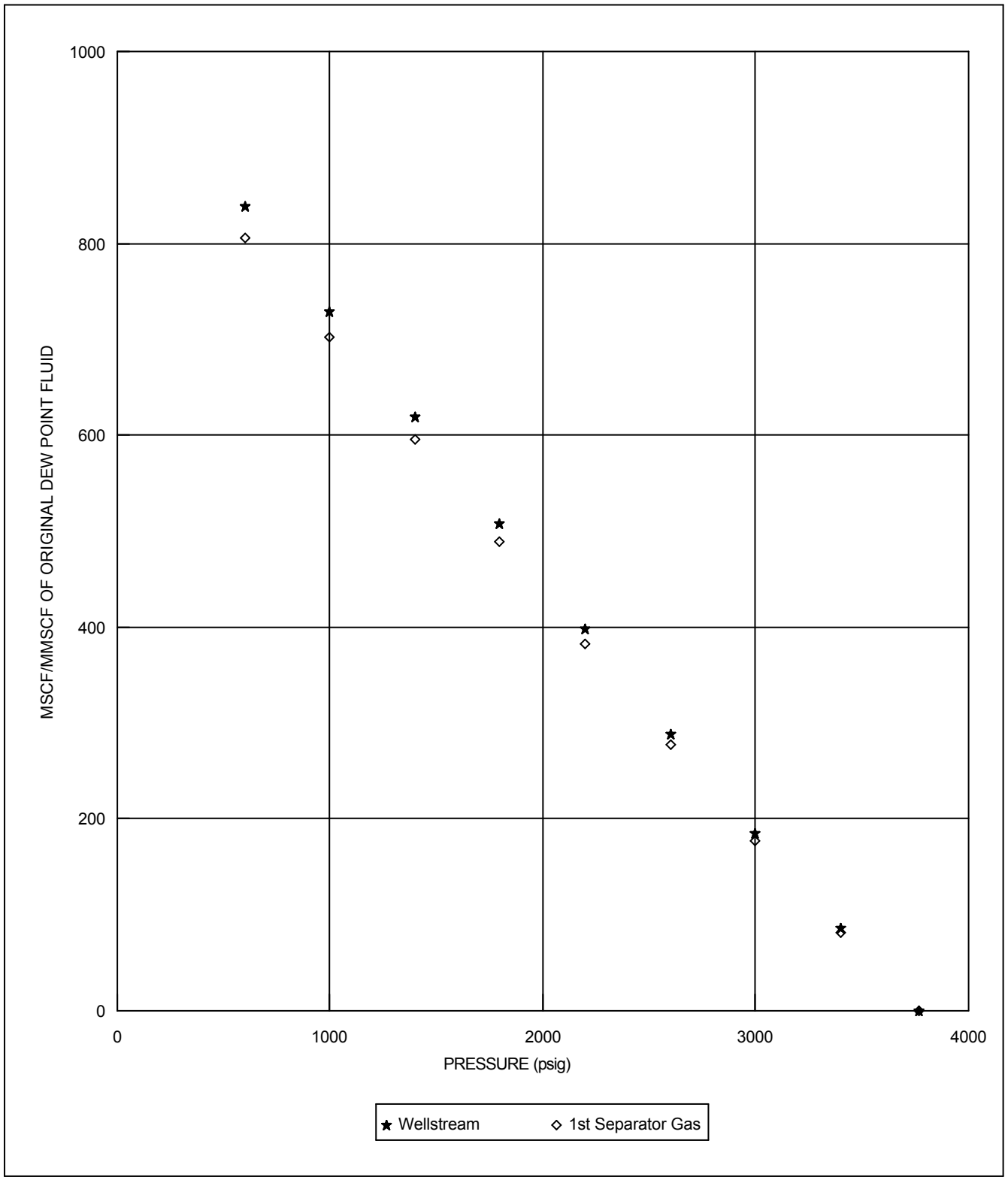
STOCK TANK LIQUID
IN PRODUCED WELLSTREAM

STL = +3.45E+01 -2.07E-02 * P +1.26E-05 * P^2 -3.67E-09 * P^3 +4.87E-13 * P^4



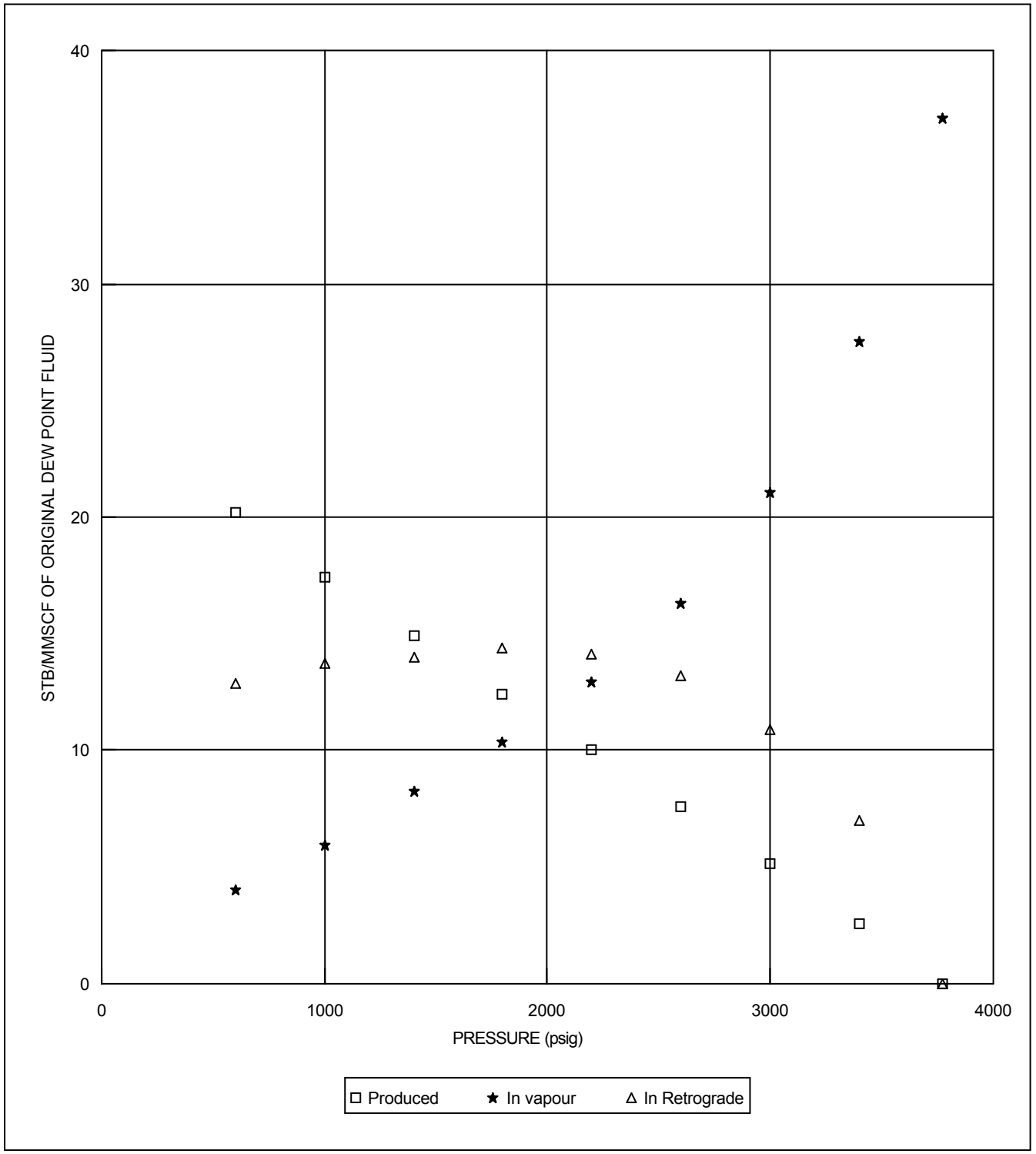
CUMULATIVE GAS PHASE PRODUCED

Cum Vol W/S = +9.92E+02 -2.47E-01 * P -1.85E-05 * P^2 +3.48E-09 * P^3 +8.66E-14 * P^4
Cum Vol Sep Gas = +9.52E+02 -2.34E-01 * P -2.01E-05 * P^2 +3.67E-09 * P^3 +9.35E-14 * P^4



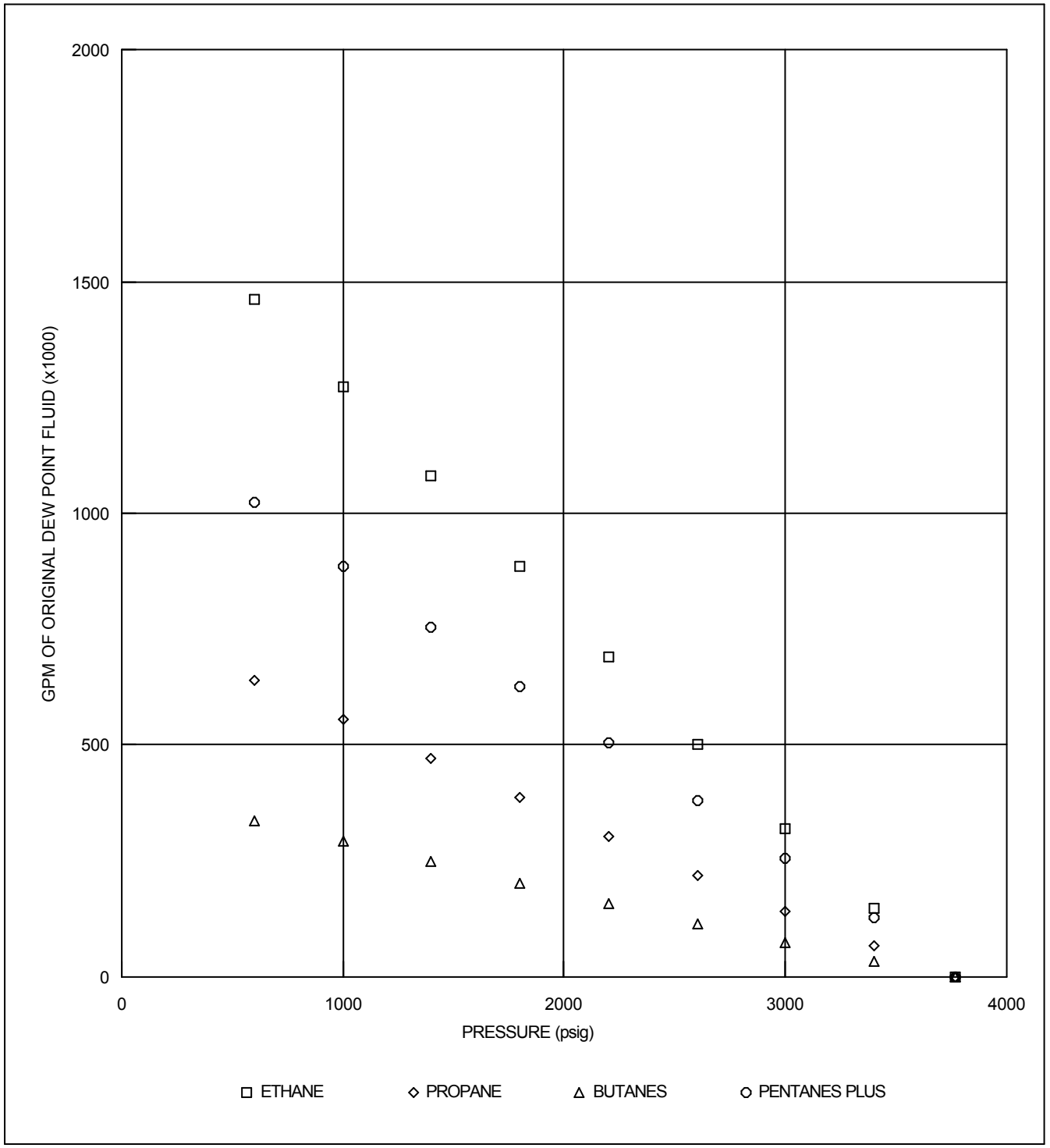
CUMULATIVE STOCK TANK LIQUID PRODUCTION AND CONDENSATION

Produced = +2.48E+01 -8.32E-03 * P +1.07E-06 * P^2 -1.55E-10 * P^3 -1.73E-15 * P^4
In Vapour = +3.73E+00 -5.20E-03 * P +1.35E-05 * P^2 -8.02E-09 * P^3 +2.16E-12 * P^4
In Retrograde = +1.12E+01 +3.83E-03 * P -2.15E-06 * P^2 +9.43E-10 * P^3 -2.21E-13 * P^4



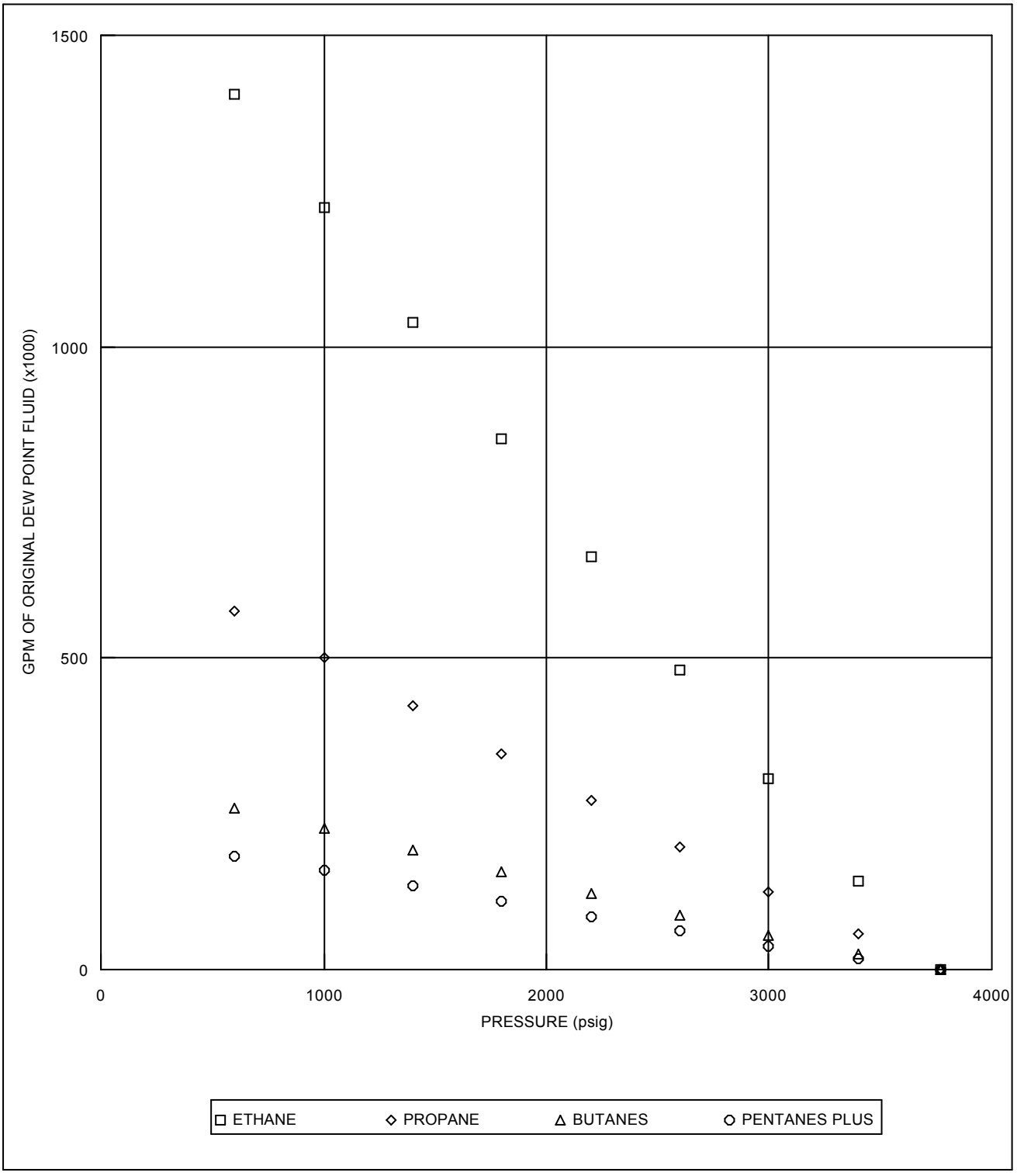
PLANT PRODUCTS IN PRODUCED WELL STREAMS
PRODUCED DURING CONSTANT VOLUME DEPLETION

Ethane Plus GPM C o n t e n t = +1.73E+03 -4.33E-01 * P -3.31E-05 * P^2 +6.55E-09 * P^3 +9.58E-14 * P^4
Propane Plus GPM C o n t e n t = +7.58E+02 -1.93E-01 * P -1.27E-05 * P^2 +2.69E-09 * P^3 +2.88E-14 * P^4
Butanes Plus GPM C o n t e n t = +3.98E+02 -1.03E-01 * P -5.07E-06 * P^2 +9.96E-10 * P^3 +5.17E-14 * P^4
Pentanes Plus GPM C o n t e n t = +1.25E+03 -4.02E-01 * P +4.33E-05 * P^2 -7.12E-09 * P^3 +1.62E-13 * P^4



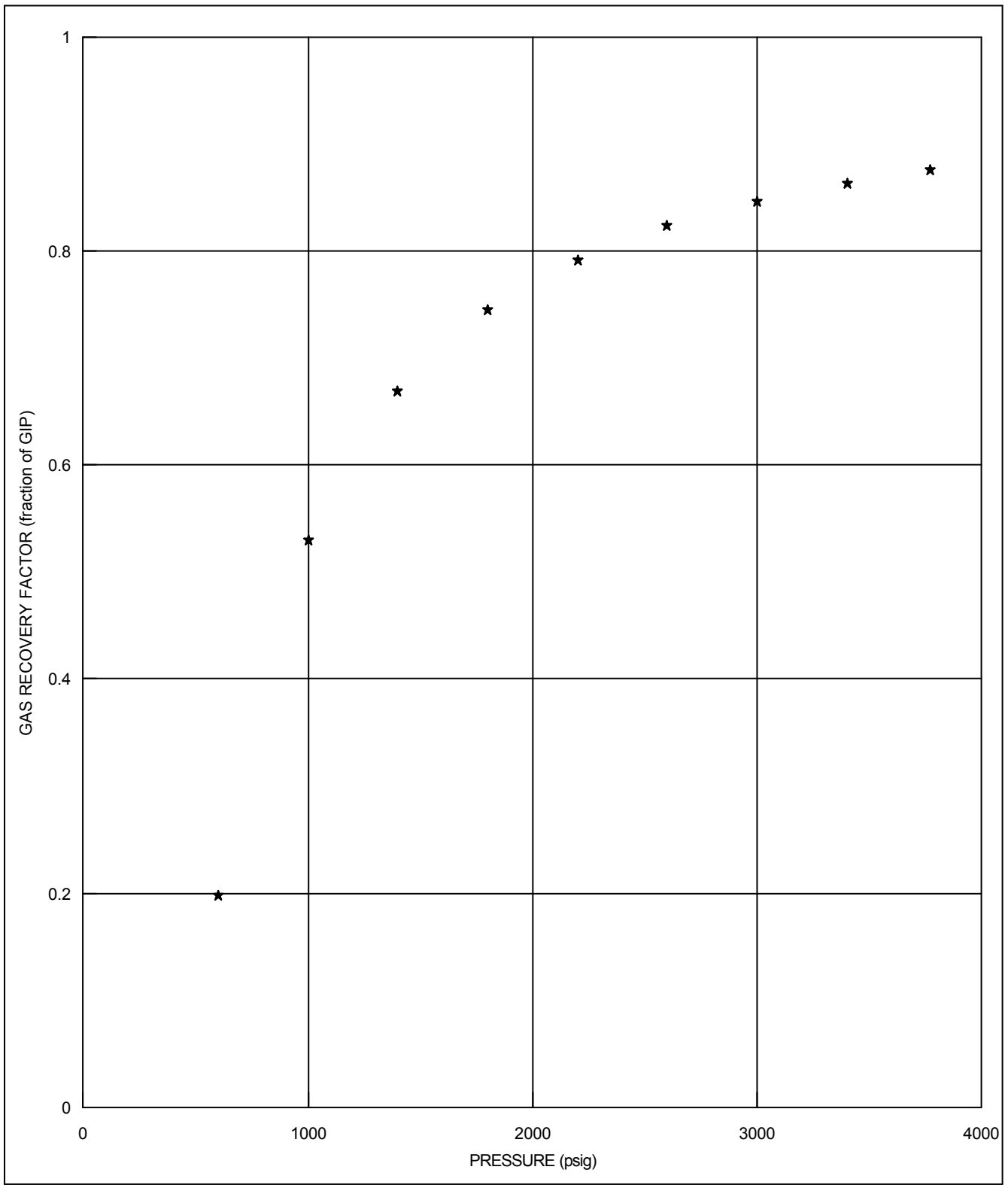
PLANT PRODUCTS
IN PRIMARY SEPARATOR GAS

Ethane Plus GPM Content = +1.66E+03 -4.10E-01 * P -3.46E-05 * P^2 +6.40E-09 * P^3 +1.62E-13 * P^4
Propane Plus GPM Content = +6.80E+02 -1.67E-01 * P -1.47E-05 * P^2 +2.65E-09 * P^3 +8.97E-14 * P^4
Butanes Plus GPM Content = +3.07E+02 -7.39E-02 * P -7.70E-06 * P^2 +1.28E-09 * P^3 +6.32E-14 * P^4
Pentanes Plus GPM Content = +2.15E+02 -5.05E-02 * P -5.90E-06 * P^2 +8.20E-10 * P^3 +7.70E-14 * P^4



GAS RECOVERY FACTOR

Gas Recovery Factor = -2.83E-01 +1.30E-03 * P -6.15E-07 * P^2 +1.37E-10 * P^3 -1.16E-14 * P^4



WATER ANALYSIS

Sample Type		Tool #0632 - 2718 Sand MDT Sample Water
Test/Reference	Unit	
PROPERTIES: APHA 20th Ed		
pH at Measured Temp.*		6.2
Measured Temp.*	°C	23.0
Electrical Conductivity @ 25°C*	µS/cm	44700
Resistivity @ 25°C*	M.Ohm	0.22
ANIONS mg/L APHA 20th ed		
Hydroxide as OH*	mg/L	<1
Carbonate as CO3*	mg/L	<1
Bicarbonate as HCO3*	mg/L	1247
Chloride as Cl*	mg/L	15346
Nitrate as NO3*	mg/L	<0.1
Sulphate as SO4*	mg/L	3917
Total Anions*	mg/L	20511
ANIONS meq/L APHA 20th ed		
Hydroxide as OH*	meq/L	<0.01
Carbonate as CO3*	meq/L	<0.01
Bicarbonate as HCO3*	meq/L	20.45
Chloride as Cl*	meq/L	432.28
Nitrate as NO3*	meq/L	0.01
Sulphate as SO4*	meq/L	81.55
Total Anions*	meq/L	534.29
CATIONS mg/L APHA 20th ed		
Potassium as K*	mg/L	1363
Sodium as Na*	mg/L	11525
Barium as Ba*	mg/L	3
Calcium as Ca*	mg/L	508
Iron as Fe*	mg/L	8
Magnesium as Mg*	mg/L	105
Strontium as Sr*	mg/L	10
Aluminium as Al*	mg/L	<0.05
Total Cations*	mg/L	13522
CATIONS meq/L APHA 20th ed		
Potassium as K*	meq/L	34.86
Sodium as Na*	meq/L	501.30
Barium as Ba*	meq/L	0.04
Calcium as Ca*	meq/L	25.35
Iron as Fe*	meq/L	0.43
Magnesium as Mg*	meq/L	8.64
Strontium as Sr*	meq/L	0.23
Aluminium as Al*	meq/L	<0.01
Total Cations*	meq/L	570.86
DERIVED PARAMETERS APHA 20th ed		
Ion balance (Diff * 100/Sum)*	%	3.31
Acceptance Criteria*	%	5
Satisfactory*		Yes
Total Alkalinity (calc as CaCO3)*	mg/L	1022
Total Cations + Anions*	mg/L	34033
Hardness (calc as CaCO3)*	mg/L	1701
Calculated Total Dissolved Solids	mg/L	28608

DERIVED PARAMETERS If the ion balance in this sample is unsatisfactory it is most likely due to a component or components of the sample that is not within the scope of this analysis.

COMPOSITIONAL ANALYSIS OF
Flashed Gas From Bottom Hole Water Sample
Cylinder # : MPSR BA 0632

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	63.76	
Nitrogen	N2	1.10	
Methane	C1	31.88	
Ethane	C2	2.67	0.715
Propane	C3	0.33	0.091
Iso-Butane	iC4	0.02	0.007
N-Butane	nC4	0.03	0.009
Iso-Pentane	iC5	0.00	0.000
N-Pentane	nC5	0.00	0.000
Hexanes	C6	0.02	0.008
Heptanes	C7	0.12	0.051
Octanes	C8	0.05	0.023
Nonanes	C9	0.02	0.010
Decanes	C10	0.00	0.000
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	0.914

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	34.67
Gas Gravity	:	1.201
Pc	:	922.7
Tc	:	480.6
Mol Weight C6+	:	99.9
Density C6+	:	0.6889
Mol Weight C7+	:	101.5
Density C7+	:	0.6911
Mol Weight C10+	:	--
Density C10+	:	--
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	393
Nett	:	355
Wobbe Index	:	359
Zpt *	:	0.971

Isokinetic Wellhead Samples

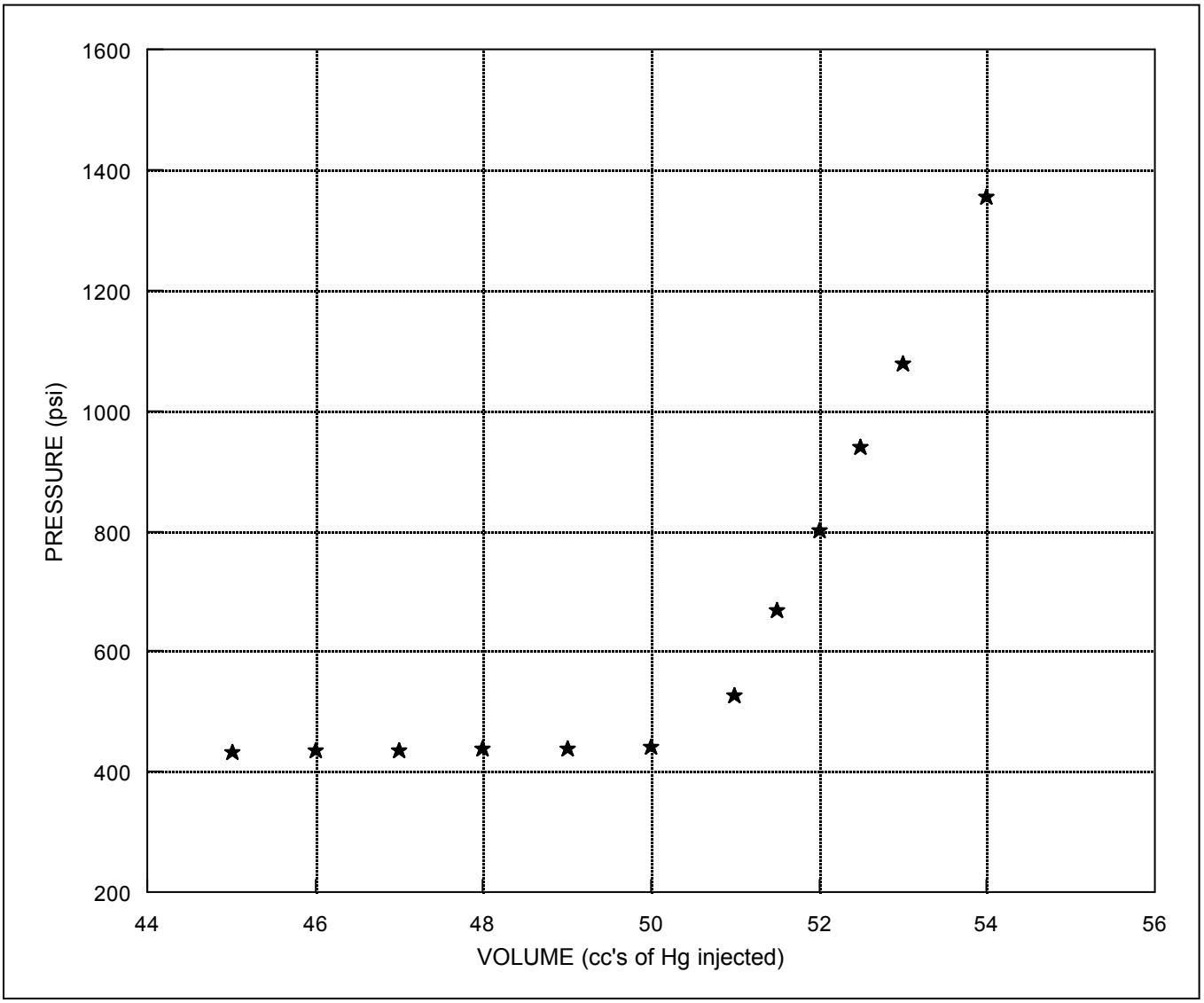
Surface Samples Validity Check
SAND 2973
Saturation Pressure : 445 psig @ 77 ° F

Surface Samples Set # 1 of 2

Sampling Conditions

Date	:	September 27, 2004
Pressure	:	500 psig
Temperature	:	90.5 ° F
Time interval	:	11:18 - 12:33
Coupled with Cylinder #	:	4963 - A (gas)
Cylinder #	:	PT 3144 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 623
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
45.00	433
46.00	435
47.00	437
48.00	438
49.00	440
50.00	442
51.00	527
51.50	669
52.00	801
52.50	941
53.00	1080
54.00	1356



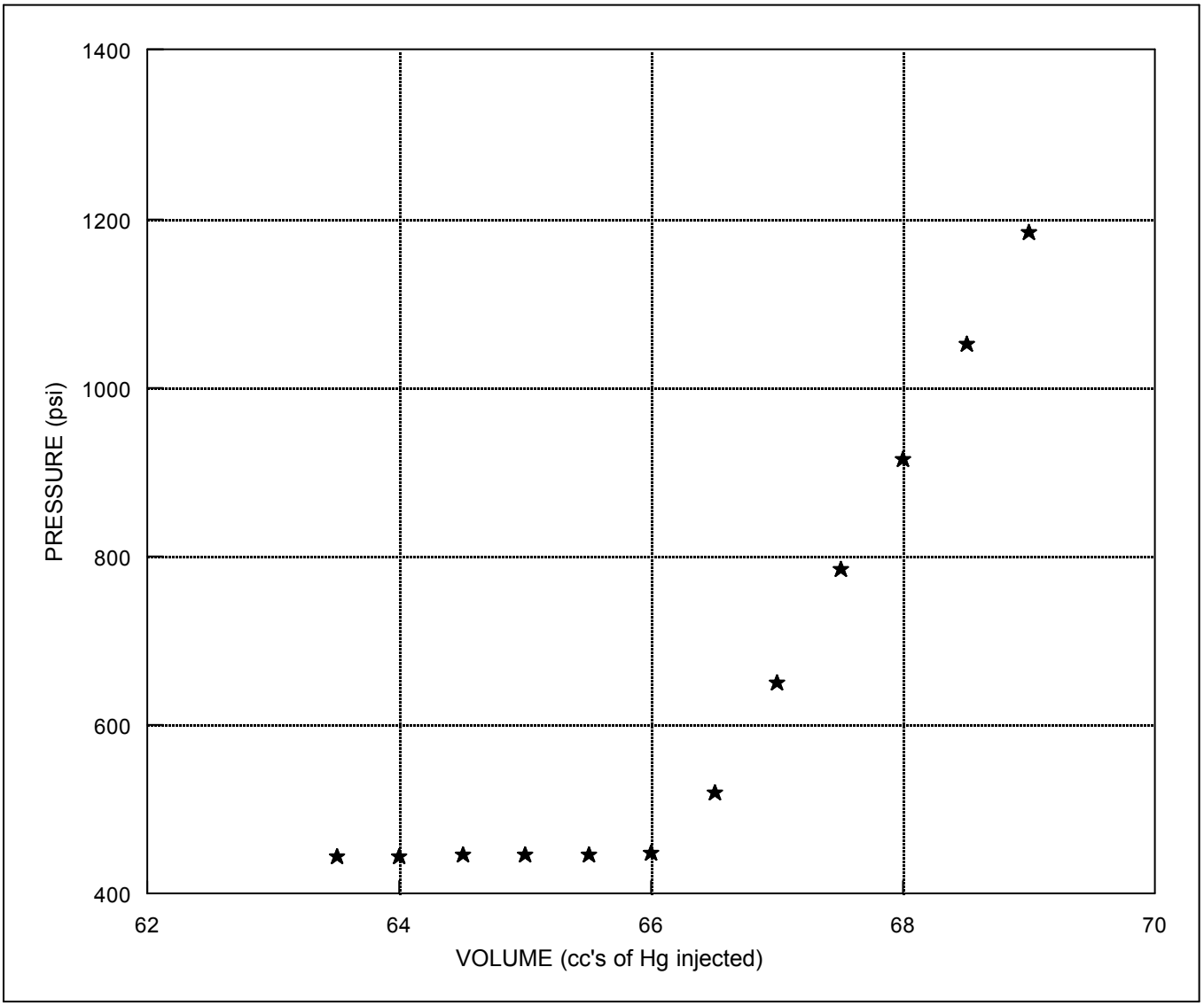
Surface Samples Validity Check
SAND 2973
Saturation Pressure : 448 psig @ 77 ° F

Surface Samples Set # 2 of 2

Sampling Conditions

Date	:	September 27, 2004
Pressure	:	500 psig
Temperature	:	90.9 ° F
Time interval	:	14:22 - 15:12
Coupled with Cylinder #	:	5561 - A (gas)
Cylinder #	:	TS 23819 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 624
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
63.50	444
64.00	445
64.50	446
65.00	447
65.50	447
66.00	448
66.50	520
67.00	650
67.50	785
68.00	915
68.50	1052
69.00	1184



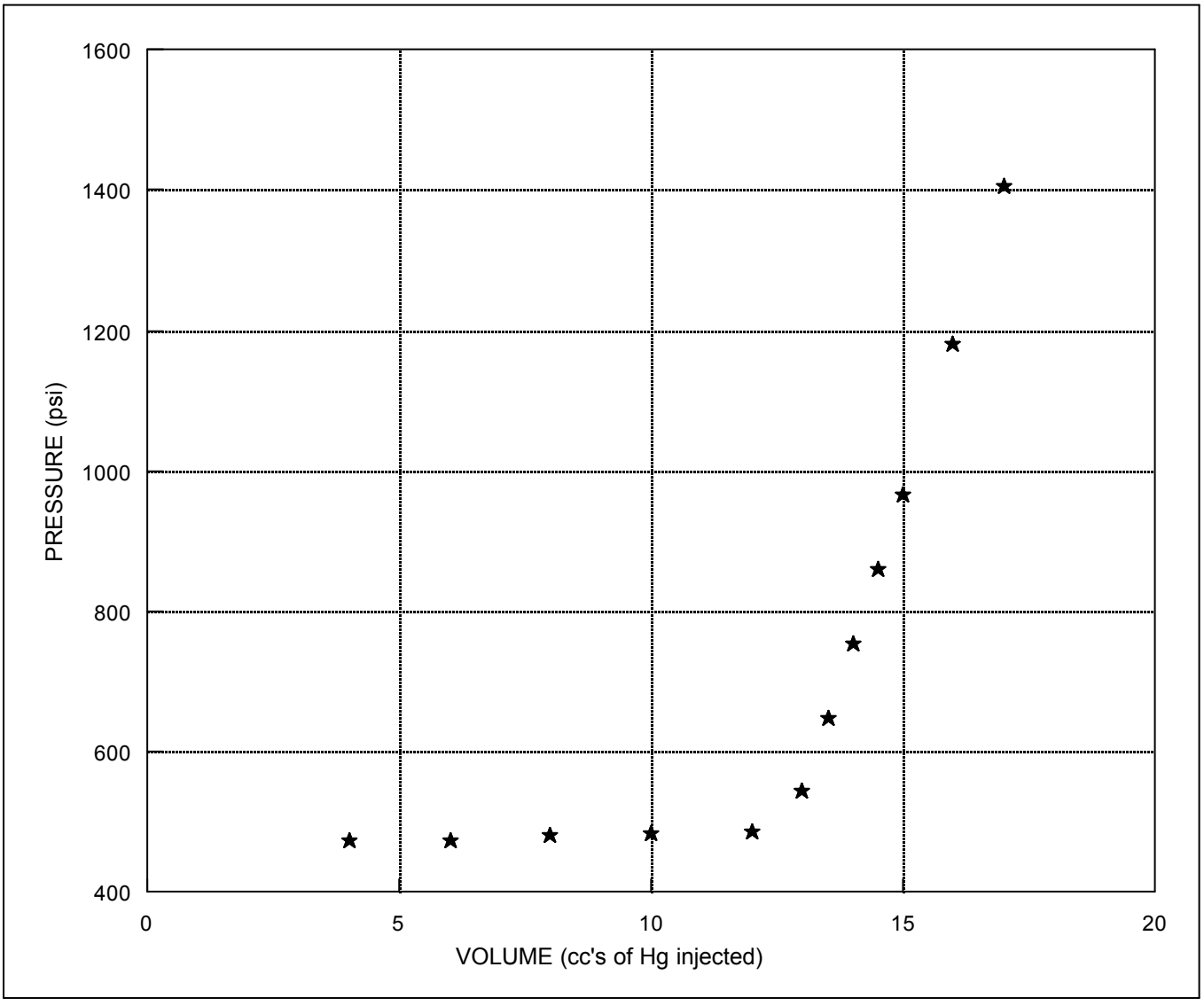
Surface Samples Validity Check
SAND UEVCM
Saturation Pressure : 486 psig @ 68 ° F

Surface Samples Set # 1 of 2

Sampling Conditions

Date	:	September 28, 2004
Pressure	:	500 psig
Temperature	:	82.3 ° F
Time interval	:	09:29 - 09:49
Coupled with Cylinder #	:	5671 - A (gas)
Cylinder #	:	PT 1062 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 600
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
4.00	474
6.00	474
8.00	480
10.00	482
12.00	486
13.00	543
13.50	647
14.00	755
14.50	859
15.00	966
16.00	1182
17.00	1406



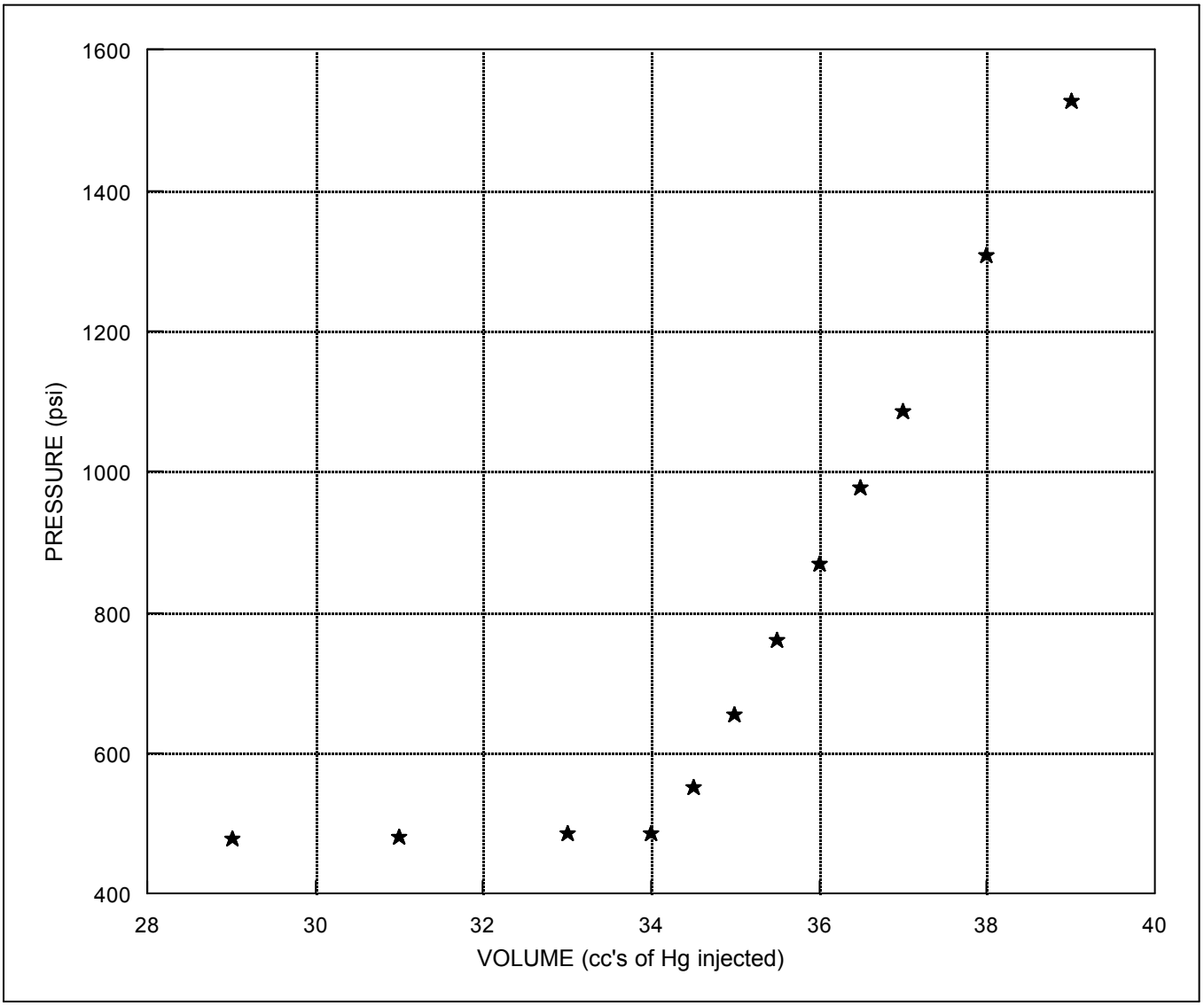
Surface Samples Validity Check
SAND UEVCM
Saturation Pressure : 487 psig @ 68 ° F

Surface Samples Set # 2 of 2

Sampling Conditions

Date	:	September 28, 2004
Pressure	:	500 psig
Temperature	:	85.1 ° F
Time interval	:	11:15 - 11:34
Coupled with Cylinder #	:	5051 - A (gas)
Cylinder #	:	TS 9212 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 602
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
29.00	478
31.00	481
33.00	486
34.00	487
34.50	553
35.00	656
35.50	762
36.00	870
36.50	979
37.00	1086
38.00	1308
39.00	1529



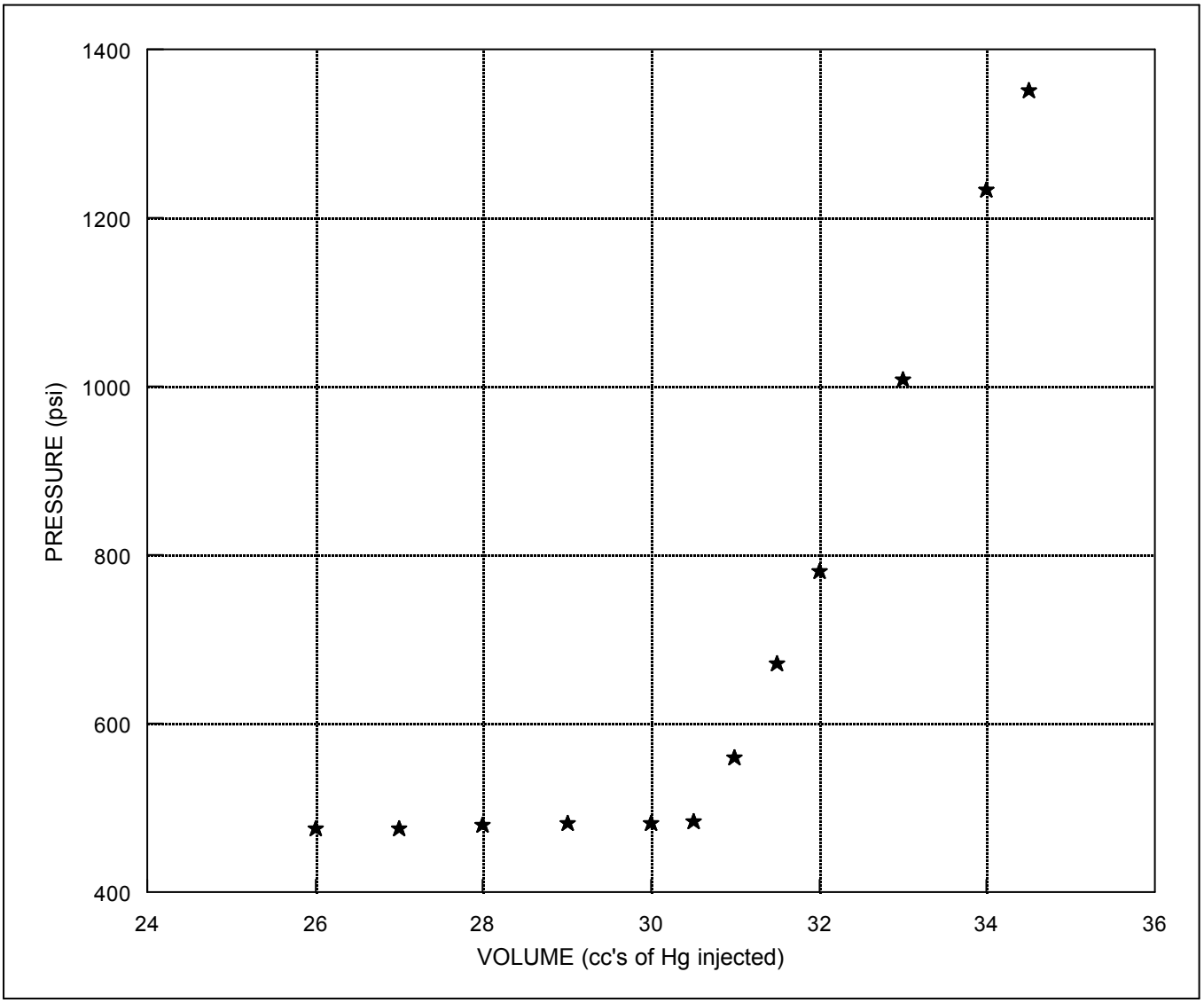
Surface Samples Validity Check
SAND 2809
Saturation Pressure : 483 psig @ 75 ° F

Surface Samples Set # 1 of 2

Sampling Conditions

Date	:	September 29, 2004
Pressure	:	500 psig
Temperature	:	80.2 ° F
Time interval	:	07:31 - 07:56
Coupled with Cylinder #	:	5641 - A (gas)
Cylinder #	:	PT 1083 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 478
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
26.00	475
27.00	476
28.00	479
29.00	481
30.00	482
30.50	483
31.00	560
31.50	672
32.00	782
33.00	1008
34.00	1235
34.50	1352



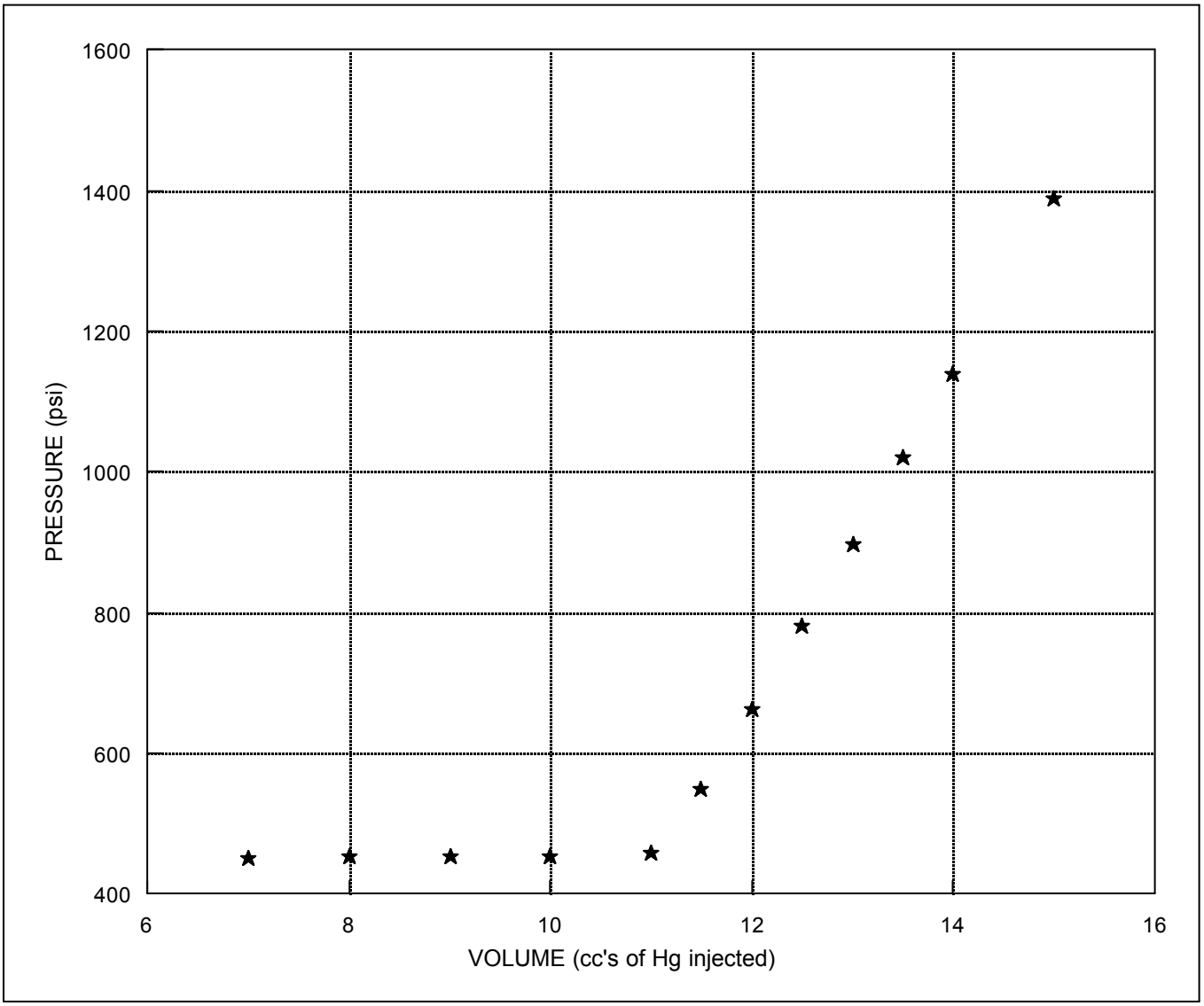
Surface Samples Validity Check
SAND 2809
Saturation Pressure : 460 psig @ 75 ° F

Surface Samples Set # 2 of 2

Sampling Conditions

Date	:	September 29, 2004
Pressure	:	500 psig
Temperature	:	85.3 ° F
Time interval	:	09:22 - 09:47
Coupled with Cylinder #	:	0276 - A (gas)
Cylinder #	:	TS - 1602 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 131
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
7.00	452
8.00	453
9.00	453
10.00	454
11.00	458
11.50	549
12.00	664
12.50	781
13.00	898
13.50	1022
14.00	1140
15.00	1388



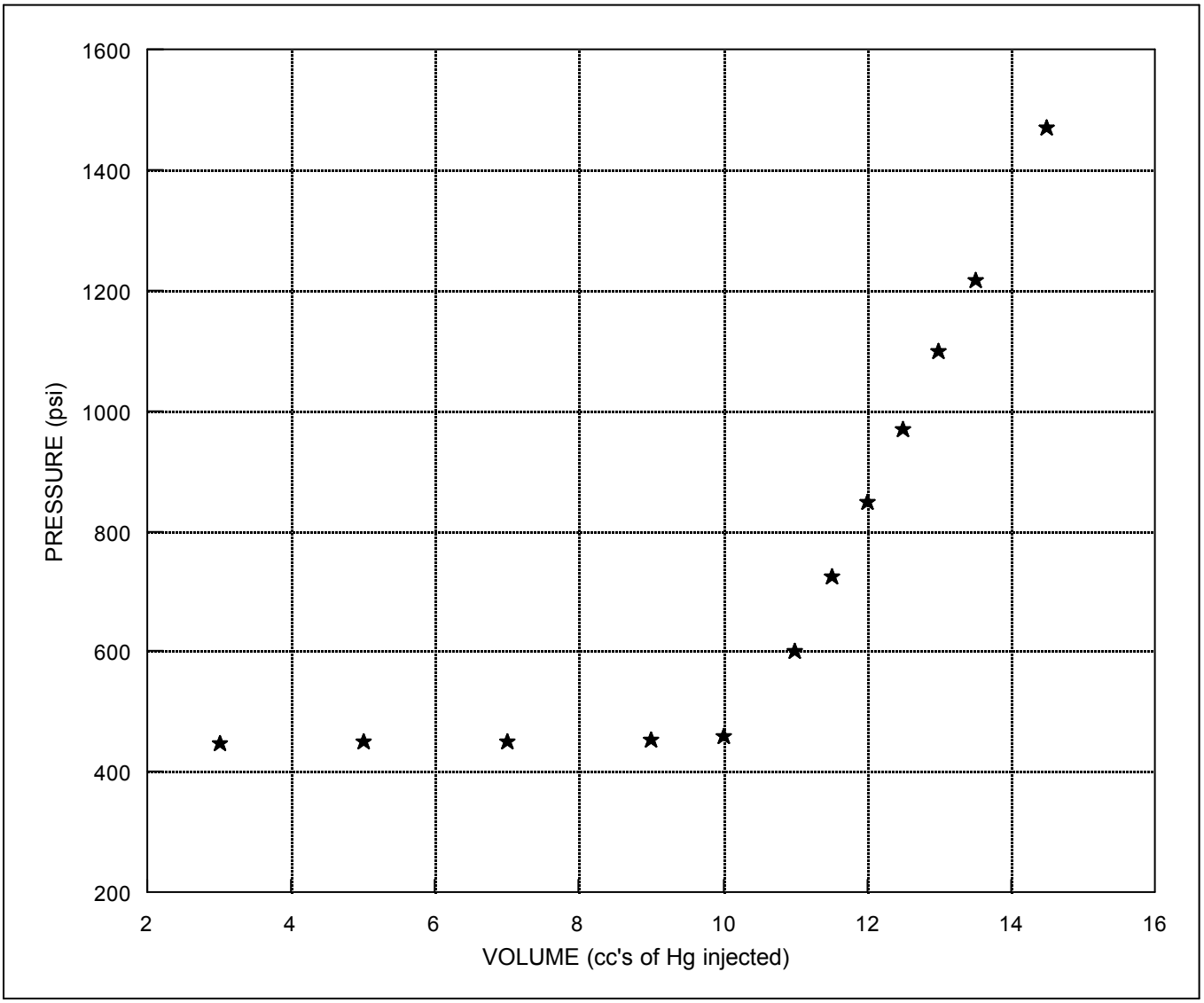
Surface Samples Validity Check
SAND 2755
Saturation Pressure : 458 psig @ 72 ° F

Surface Samples Set # 1 of 2

Sampling Conditions

Date	:	September 30, 2004
Pressure	:	500 psig
Temperature	:	84.6 ° F
Time interval	:	00:33 - 01:33
Coupled with Cylinder #	:	5037 - A (gas)
Cylinder #	:	TS 5601 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 603
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
3.00	448
5.00	450
7.00	452
9.00	454
10.00	458
11.00	602
11.50	725
12.00	848
12.50	970
13.00	1100
13.50	1217
14.50	1470



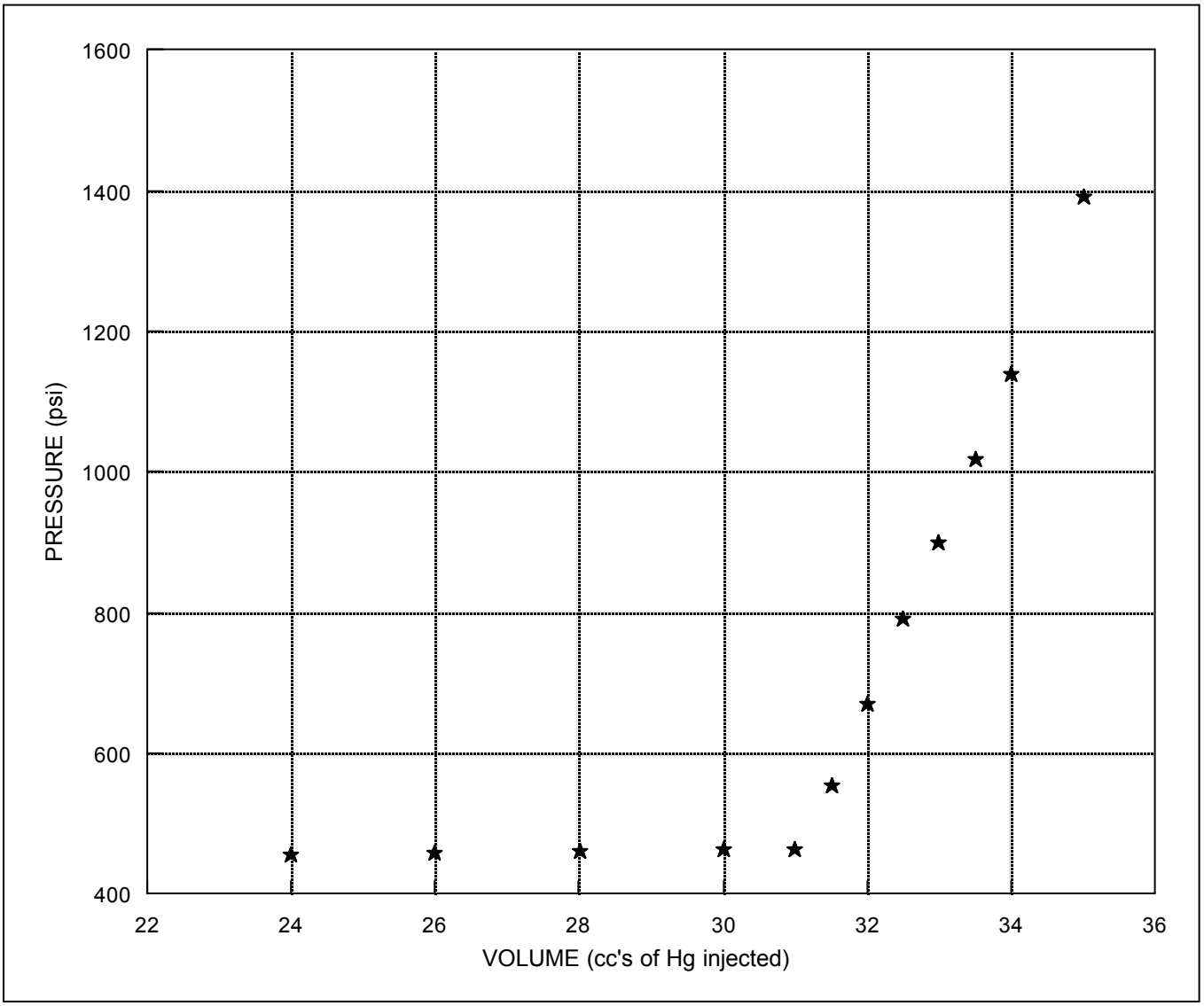
Surface Samples Validity Check
SAND 2755
Saturation Pressure : 465 psig @ 72 ° F

Surface Samples Set # 3 of 3

Sampling Conditions

Date	:	September 30, 2004
Pressure	:	500 psig
Temperature	:	83.1 ° F
Time interval	:	03:51 - 04:21
Coupled with Cylinder #	:	5046 - A (gas)
Cylinder #	:	PT 1007 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 601
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
24.00	457
26.00	460
28.00	461
30.00	464
31.00	465
31.50	554
32.00	670
32.50	792
33.00	900
33.50	1018
34.00	1140
35.00	1391



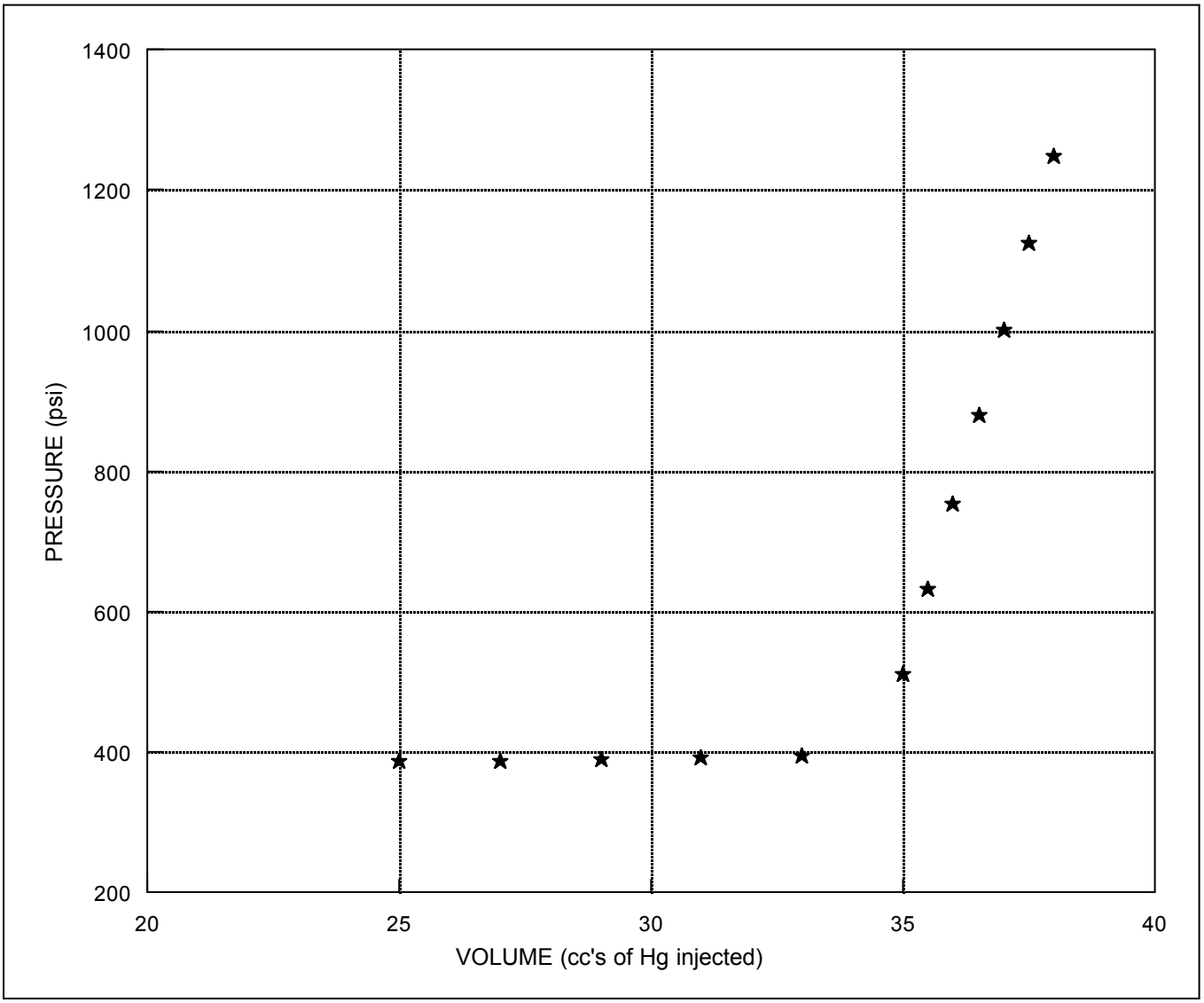
Surface Samples Validity Check
SAND 2809
Saturation Pressure : 400 psig @ 77 ° F

Surface Samples Set # 1 of 2

Sampling Conditions

Date	:	October 2, 2004
Pressure	:	500 psig
Temperature	:	83.8 ° F
Time interval	:	02:10 - 02:40
Coupled with Cylinder #	:	A - 1966 (gas)
Cylinder #	:	PT 1090 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 418
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
25.00	386
27.00	388
29.00	389
31.00	393
33.00	395
35.00	511
35.50	632
36.00	753
36.50	881
37.00	1001
37.50	1125
38.00	1248



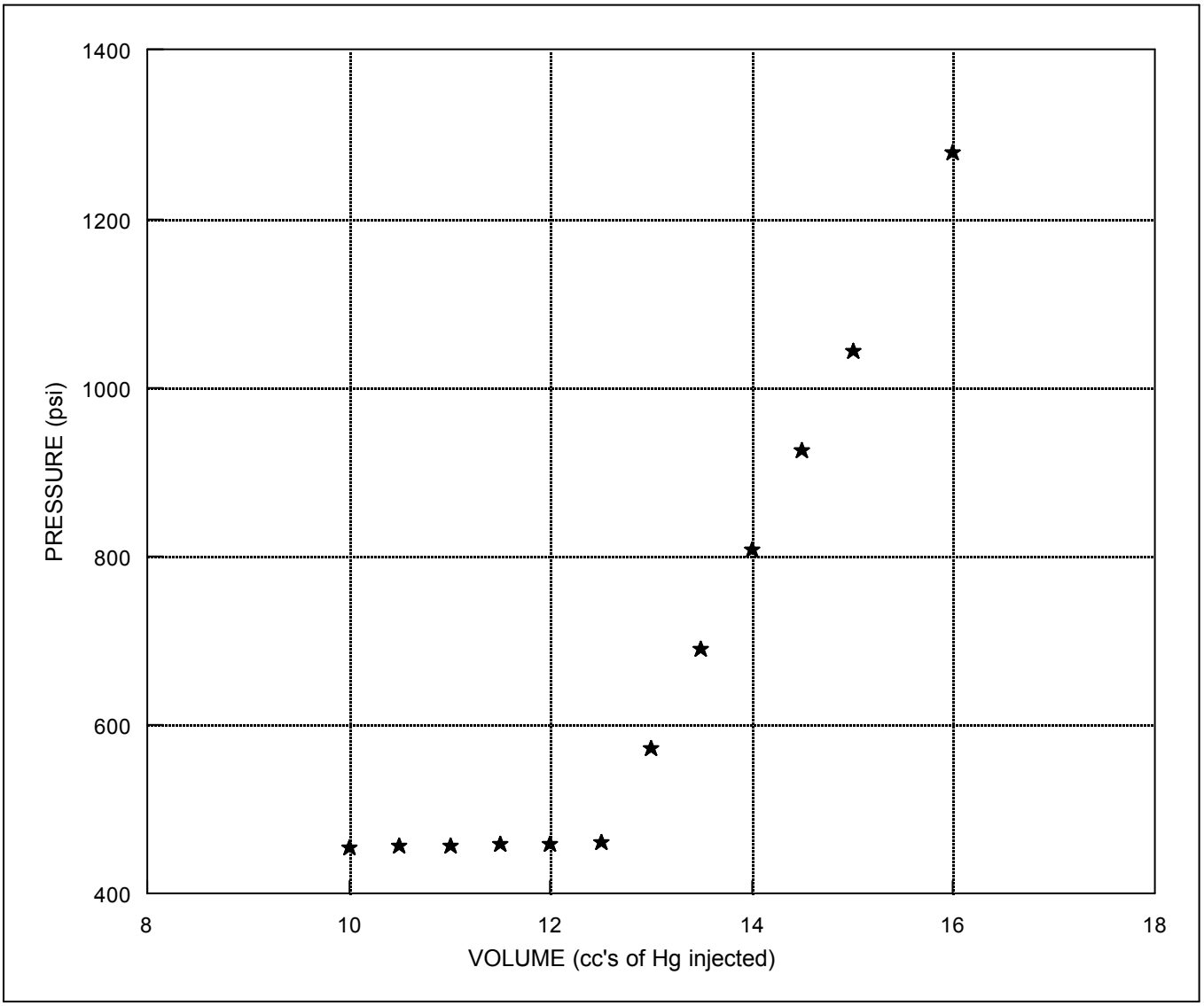
Surface Samples Validity Check
SAND 2809
Saturation Pressure : 464 psig @ 77 ° F

Surface Samples Set # 2 of 2

Sampling Conditions

Date	:	October 2, 2004
Pressure	:	500 psig
Temperature	:	90.9 ° F
Time interval	:	04:02 - 04:27
Coupled with Cylinder #	:	A - 2005 (gas)
Cylinder #	:	PT 1041 (liquid)
Transfered into PETROLAB Cylinder #	:	L - 235
Sampled by	:	PETROTECH

Volume (cc's)	Pressure (psi)
10.00	456
10.50	458
11.00	458
11.50	459
12.00	460
12.50	462
13.00	573
13.50	690
14.00	808
14.50	926
15.00	1044
16.00	1279



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 158 of 197
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COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2973
Cylinder # : 4963 - A

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.13	
Nitrogen	N2	0.22	
Methane	C1	71.15	
Ethane	C2	5.24	1.402
Propane	C3	1.70	0.469
Iso-Butane	iC4	0.34	0.111
N-Butane	nC4	0.44	0.139
Iso-Pentane	iC5	0.15	0.055
N-Pentane	nC5	0.14	0.051
Hexanes	C6	0.18	0.070
Heptanes	C7	0.18	0.076
Octanes	C8	0.08	0.036
Nonanes	C9	0.04	0.020
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	2.434

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	23.79
Gas Gravity	:	0.824
Pc	:	746.0
Tc	:	408.2
Mol Weight C6+	:	96.2
Density C6+	:	0.6840
Mol Weight C7+	:	103.3
Density C7+	:	0.6934
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	922
Nett	:	834
Wobbe Index	:	1016
Zpt *	:	0.916

* (P)ressure : 500 psig * (T)emperature : 91 °F

Date Sampled: September 27, 2004 @ 11:18 - 12:33 hrs

Lab Opening Pressure : 565 psig @ : 115 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 159 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2973
Cylinder # : 5561 - A

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.03	
Nitrogen	N2	0.21	
Methane	C1	71.38	
Ethane	C2	5.22	1.397
Propane	C3	1.68	0.463
Iso-Butane	iC4	0.29	0.095
N-Butane	nC4	0.43	0.136
Iso-Pentane	iC5	0.15	0.055
N-Pentane	nC5	0.13	0.047
Hexanes	C6	0.16	0.062
Heptanes	C7	0.17	0.072
Octanes	C8	0.09	0.041
Nonanes	C9	0.05	0.025
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	2.398

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	23.72
Gas Gravity	:	0.822
Pc	:	745.7
Tc	:	407.6
Mol Weight C6+	:	97.5
Density C6+	:	0.6857
Mol Weight C7+	:	104.2
Density C7+	:	0.6945
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	921
Nett	:	833
Wobbe Index	:	1017
Zpt *	:	0.916

* (P)ressure : 500 psig * (T)emperature : 91 °F

Date Sampled: September 27, 2004 @ 14:22 - 15:12 hrs

Lab Opening Pressure : 573 psig @ : 115 °F

PETROLAB

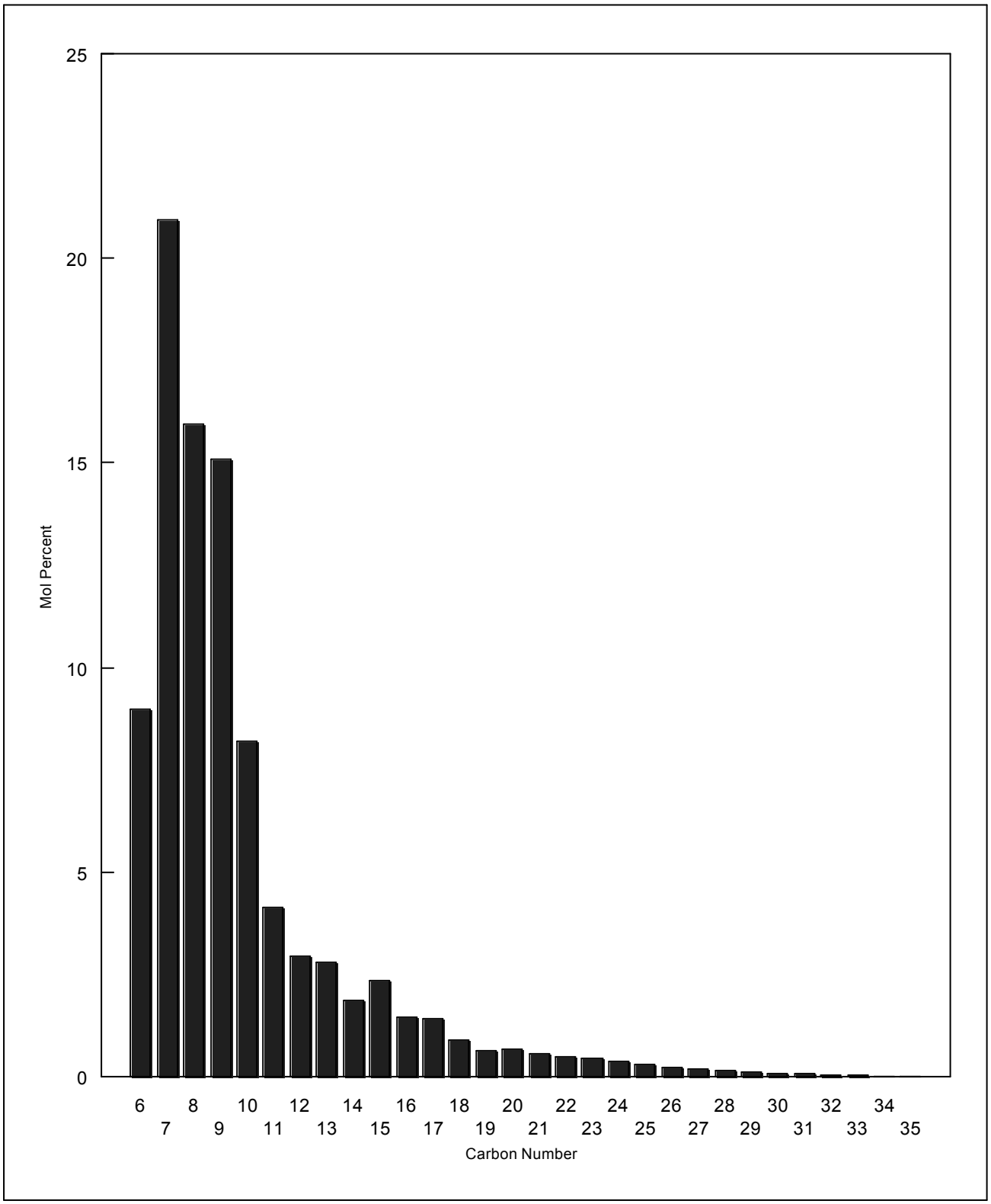
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2973 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 623 ex PT - 3144

Component		Mol %
Hexanes minus	C6-	8.77
Hexanes	C6	8.99
Heptanes	C7	20.95
Octanes	C8	15.94
Nonanes	C9	15.11
Decanes	C10	8.19
Undecanes	C11	4.15
Dodecanes	C12	2.94
Tridecanes	C13	2.80
Tetradecanes	C14	1.86
Pentadecanes	C15	2.34
Hexadecanes	C16	1.43
Heptadecanes	C17	1.42
Octadecanes	C18	0.90
Nonadecanes	C19	0.64
Eicosanes	C20	0.65
Heneicosanes	C21	0.55
Docosanes	C22	0.48
Tricosanes	C23	0.43
Tetracosanes	C24	0.35
Pentacosanes	C25	0.29
Hexacosanes	C26	0.22
Heptacosanes	C27	0.19
Octacosanes	C28	0.14
Nonacosanes	C29	0.11
Triacontanes	C30	0.07
Hentriacontanes	C31	0.05
Dotriacontanes	C32	0.02
Tritriacontanes	C33	0.02
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	126.6
Density @ 60 °F Calculated *	:	0.7634

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2973 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 623 ex PT - 3144



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 162 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

2973 SAND

Cylinder # L - 623 ex PT - 3144

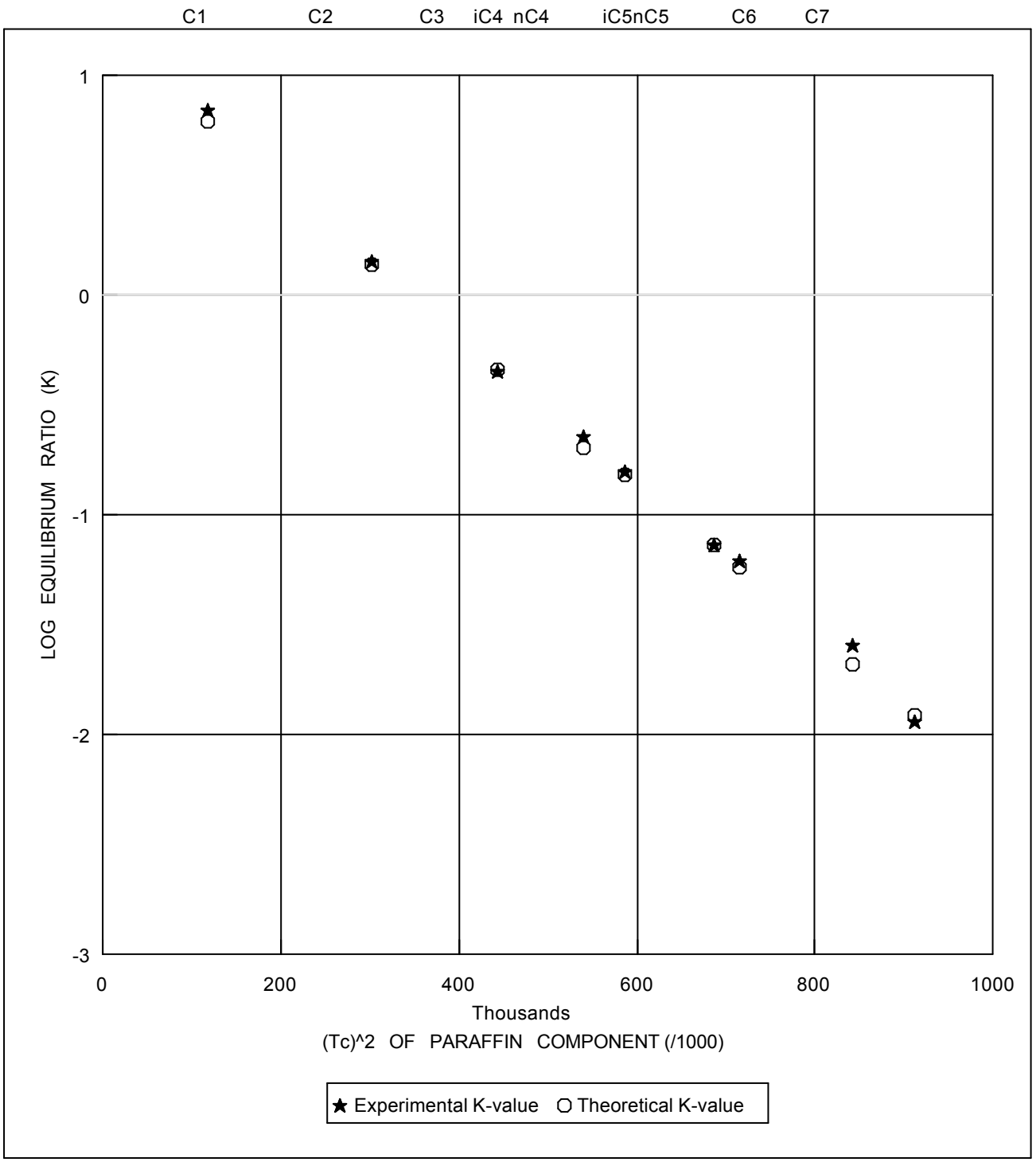
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.34	23.43	6.55
Nitrogen	N2	0.00	0.09	0.02
Methane	C1	0.22	37.51	10.25
Ethane	C2	0.43	12.51	3.68
Propane	C3	1.28	10.49	3.76
Iso-Butane	iC4	0.93	3.01	1.49
N-Butane	nC4	2.07	4.68	2.77
Iso-Pentane	iC5	2.12	1.82	2.04
N-Pentane	nC5	2.49	1.67	2.27
Hexanes	C6	8.88	2.05	7.04
Heptanes	C7	20.70	1.90	15.64
Octanes	C8	15.75	0.62	11.68
Nonanes	C9	14.93	0.18	10.96
Decanes	C10	8.09	0.02	5.92
Undecanes	C11	4.10	0.02	3.00
Dodecanes Plus	C12+	17.68	0.01	12.93
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.7310	0.2690	1.0000
Mass Ratio	:	0.9034	0.0966	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.1760 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	300 SCF	--
Stream Properties				
Molecular Weight	:	124.6	36.21	100.8
Density obs. (gm/cc)	:	0.7628 @ 60 °F	--	0.7187 @ PT*
Gravity (AIR = 1.000)	:	53.8 °API @ 60 °F	1.261	65.2
GHV (BTU/scf)	:	--	1517	--
Hexanes Plus Properties				
Mol %	:	90.13	4.80	67.17
Molecular Weight	:	131.6	93.8	130.9
Density (gm/cc @ 60 °F)	:	0.7743	0.6806	0.7728
Gravity (°API @ 60 °F)	:	51.1	76.2	51.4
Heptanes Plus Properties				
Mol %	:	81.24	2.75	60.13
Molecular Weight	:	136.8	101.0	136.4
Density (gm/cc @ 60 °F)	:	0.7811	0.6905	0.7802
Gravity (°API @ 60 °F)	:	49.5	73.2	49.7
Decanes Plus Properties				
Mol %	:	29.87	0.05	21.85
Molecular Weight	:	188.8	146.4	188.8
Density (gm/cc @ 60 °F)	:	0.8226	0.7395	0.8226
Gravity (°API @ 60 °F)	:	40.3	59.7	40.4
Undecanes Plus Properties				
Mol %	:	21.78	0.03	15.93
Molecular Weight	:	209.2	154.6	209.1
Density (gm/cc @ 60 °F)	:	0.8340	0.7467	0.8339
Gravity (°API @ 60 °F)	:	38.0	57.8	38.0
Dodecanes Plus Properties				
Mol %	:	17.68	0.01	12.93
Molecular Weight	:	223.6	169.8	223.6
Density (gm/cc @ 60 °F)	:	0.8413	0.7591	0.8413
Gravity (°API @ 60 °F)	:	36.5	54.7	36.5

* (P)ressure : 500 psig * (T)emperature : 91 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # 4963 - A and Liquid Cylinder # L - 623 ex PT - 3144



COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from 2973 SAND in

Component		Cyl # L - 623 ex PT - 3144 Separator Liquid Mol %	Cyl # 4963 - A Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	6.55	20.13	19.87
Nitrogen	N2	0.02	0.22	0.22
Methane	C1	10.25	71.15	70.00
Ethane	C2	3.68	5.24	5.21
Propane	C3	3.76	1.70	1.74
Iso-Butane	iC4	1.49	0.34	0.36
N-Butane	nC4	2.77	0.44	0.48
Iso-Pentane	iC5	2.04	0.15	0.19
N-Pentane	nC5	2.27	0.14	0.18
Hexanes	C6	7.04	0.18	0.31
Heptanes	C7	15.64	0.18	0.47
Octanes	C8	11.68	0.08	0.30
Nonanes	C9	10.96	0.04	0.25
Decanes	C10	5.92	0.01	0.12
Undecanes	C11	3.00	0.00	0.06
Dodecanes Plus	C12+	12.93	0.00	0.24
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0189	0.9811	1.0000
Mass Ratio	:	0.0754	0.9246	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	49261 SCF ***	--
Stream Properties				
Molecular Weight	:	100.82	23.79	25.25
Density obs. (gm/cc)	:	0.7187 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	65.20 API @ 60 ° F	0.824	--
GHV (BTU/scf)	:	--	922	--
Hexanes Plus Properties				
Mol %	:	67.17	0.49	1.75
Molecular Weight	:	130.9	96.2	121.4
Density (gm/cc @ 60 °F)	:	0.7728	0.6840	0.7515
Gravity (°API @ 60 °F)	:	51.4	75.2	56.6
Heptanes Plus Properties				
Mol %	:	60.13	0.31	1.44
Molecular Weight	:	136.4	103.3	129.4
Density (gm/cc @ 60 °F)	:	0.7802	0.6934	0.7640
Gravity (°API @ 60 °F)	:	49.7	72.4	53.5
Decanes Plus Properties				
Mol %	:	21.85	0.01	0.42
Molecular Weight	:	188.8	134.0	187.5
Density (gm/cc @ 60 °F)	:	0.8226	0.7278	0.8208
Gravity (°API @ 60 °F)	:	40.4	62.7	40.7
Undecanes Plus Properties				
Mol %	:	15.93	0.00	0.30
Molecular Weight	:	209.1	--	209.1
Density (gm/cc @ 60 °F)	:	0.8339	--	0.8339
Gravity (°API @ 60 °F)	:	38.0	--	38.0
Dodecanes Plus Properties				
Mol %	:	12.93	0.00	0.24
Molecular Weight	:	223.6	--	223.6
Density (gm/cc @ 60 °F)	:	0.8413	--	0.8413
Gravity (°API @ 60 °F)	:	36.5	--	36.5

* (P)ressure : 500 psig * (T)emperature : 91 °F

** (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 49261 SCF / SEP BBL @ PT = 57932 SCF / ST BBL

57932 = 57926 * (1.1017 * 1.0449) / (1.1017 * 1.0448)

PETROLAB

Company : Origin Energy Resources Ltd.	Page : 165 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND UEVCM
Cylinder # : 5671 - A

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	7.40	
Nitrogen	N2	0.44	
Methane	C1	75.82	
Ethane	C2	9.05	2.422
Propane	C3	4.80	1.324
Iso-Butane	iC4	0.80	0.262
N-Butane	nC4	0.97	0.306
Iso-Pentane	iC5	0.24	0.088
N-Pentane	nC5	0.20	0.072
Hexanes	C6	0.16	0.062
Heptanes	C7	0.09	0.038
Octanes	C8	0.02	0.009
Nonanes	C9	0.01	0.005
Decanes	C10	0.00	0.000
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	4.588

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	21.98
Gas Gravity	:	0.761
Pc	:	693.1
Tc	:	403.2
Mol Weight C6+	:	90.8
Density C6+	:	0.6764
Mol Weight C7+	:	99.9
Density C7+	:	0.6890
Mol Weight C10+	:	--
Density C10+	:	--
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	1143
Nett	:	1036
Wobbe Index	:	1310
Zpt *	:	0.903

* (P)ressure : 500 psig * (T)emperature : 82 °F

Date Sampled: September 28, 2004 @ 09:29 - 09:49 hrs

Lab Opening Pressure : 550 psig @ : 115 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 166 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND UEVCM
Cylinder # : 5051 - A

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	7.35	
Nitrogen	N2	0.49	
Methane	C1	75.84	
Ethane	C2	9.04	2.419
Propane	C3	4.81	1.326
Iso-Butane	iC4	0.79	0.259
N-Butane	nC4	0.99	0.312
Iso-Pentane	iC5	0.23	0.084
N-Pentane	nC5	0.20	0.072
Hexanes	C6	0.15	0.058
Heptanes	C7	0.08	0.034
Octanes	C8	0.02	0.009
Nonanes	C9	0.01	0.005
Decanes	C10	0.00	0.000
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	4.578

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	21.96
Gas Gravity	:	0.761
Pc	:	692.9
Tc	:	402.9
Mol Weight C6+	:	90.9
Density C6+	:	0.6765
Mol Weight C7+	:	100.3
Density C7+	:	0.6895
Mol Weight C10+	:	--
Density C10+	:	--
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	1142
Nett	:	1035
Wobbe Index	:	1310
Zpt *	:	0.905

* (P)ressure : 500 psig * (T)emperature : 85 °F

Date Sampled: September 28, 2004 @ 11:15 - 11:34 hrs

Lab Opening Pressure : 555 psig @ : 115 °F

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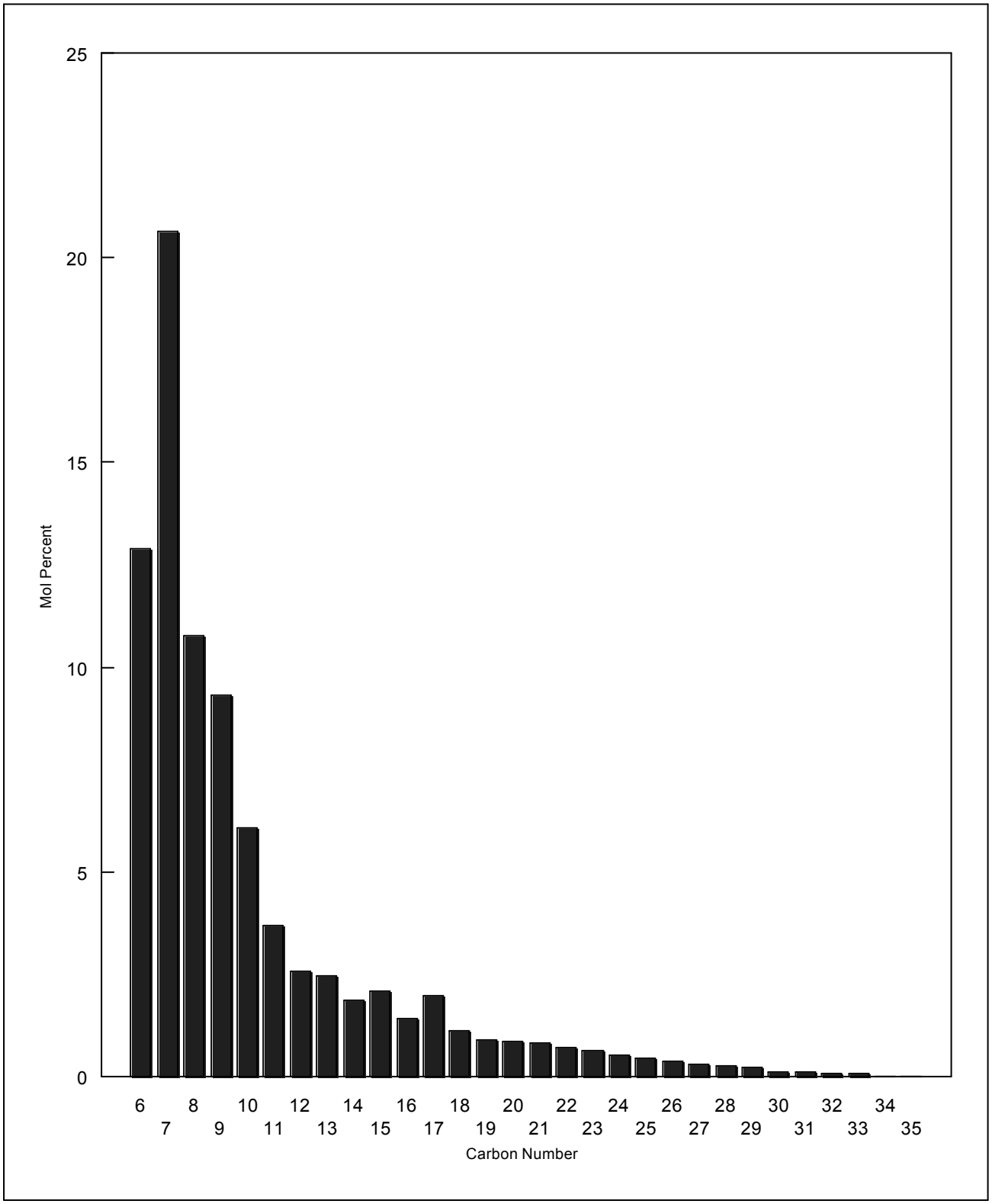
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
UEVCM SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 602 ex TS - 9212

Component		Mol %
Hexanes minus	C6-	17.04
Hexanes	C6	12.89
Heptanes	C7	20.63
Octanes	C8	10.77
Nonanes	C9	9.31
Decanes	C10	6.07
Undecanes	C11	3.68
Dodecanes	C12	2.58
Tridecanes	C13	2.45
Tetradecanes	C14	1.84
Pentadecanes	C15	2.08
Hexadecanes	C16	1.40
Heptadecanes	C17	1.96
Octadecanes	C18	1.11
Nonadecanes	C19	0.88
Eicosanes	C20	0.86
Heneicosanes	C21	0.80
Docosanes	C22	0.69
Tricosanes	C23	0.62
Tetracosanes	C24	0.51
Pentacosanes	C25	0.44
Hexacosanes	C26	0.36
Heptacosanes	C27	0.30
Octacosanes	C28	0.24
Nonacosanes	C29	0.20
Triacontanes	C30	0.09
Hentriacontanes	C31	0.10
Dotriacontanes	C32	0.05
Tritriacontanes	C33	0.05
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	125.7
Density @ 60 °F Calculated *	:	0.7596

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
UEVCM SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 602 ex TS - 9212



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Company : Origin Energy Resources Ltd. | Page : 169 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

UEVCM SAND

Cylinder # L - 602 ex TS - 9212

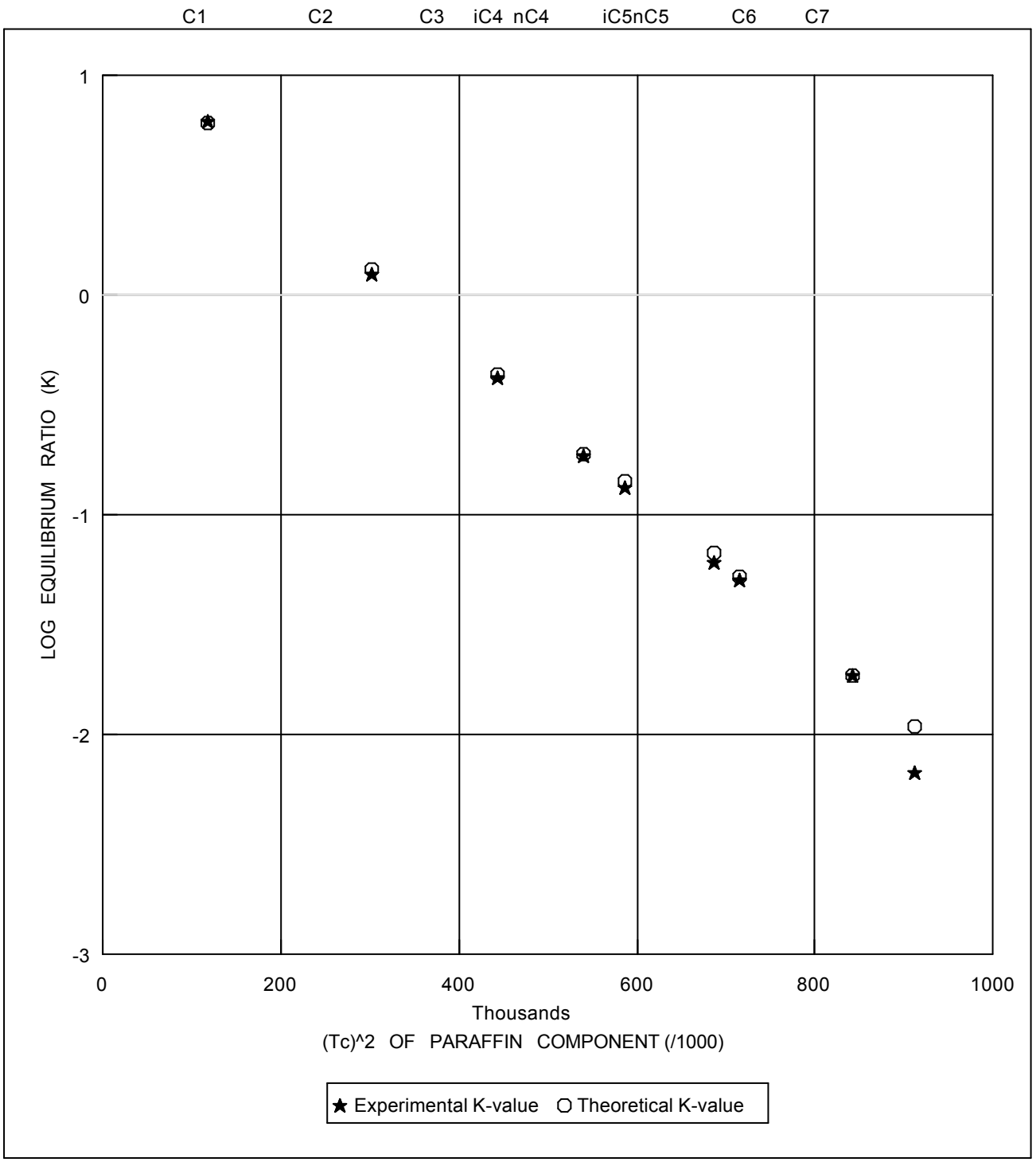
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.09	5.67	2.49
Nitrogen	N2	0.00	0.08	0.03
Methane	C1	0.17	28.20	12.21
Ethane	C2	0.58	16.12	7.26
Propane	C3	2.95	22.57	11.38
Iso-Butane	iC4	2.29	6.87	4.26
N-Butane	nC4	5.09	10.57	7.45
Iso-Pentane	iC5	4.17	3.24	3.77
N-Pentane	nC5	4.78	2.88	3.96
Hexanes	C6	12.41	2.27	8.05
Heptanes	C7	19.87	1.22	11.85
Octanes	C8	10.37	0.23	6.01
Nonanes	C9	8.96	0.07	5.14
Decanes	C10	5.85	0.01	3.34
Undecanes	C11	3.54	0.00	2.02
Dodecanes Plus	C12+	18.88	0.00	10.78
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.5702	0.4298	1.0000
Mass Ratio	:	0.8035	0.1965	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.3970 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	622 SCF	--
Stream Properties				
Molecular Weight	:	121.5	39.42	86.4
Density obs. (gm/cc)	:	0.7543 @ 60 °F	--	0.6740 @ PT*
Gravity (AIR = 1.000)	:	55.9 °API @ 60 °F	1.380	78.2
GHV (BTU/scf)	:	--	2151	--
Hexanes Plus Properties				
Mol %	:	79.89	3.80	47.19
Molecular Weight	:	136.7	90.1	135.1
Density (gm/cc @ 60 °F)	:	0.7792	0.6753	0.7765
Gravity (°API @ 60 °F)	:	49.9	77.8	50.6
Heptanes Plus Properties				
Mol %	:	67.47	1.53	39.14
Molecular Weight	:	146.4	99.0	145.6
Density (gm/cc @ 60 °F)	:	0.7907	0.6878	0.7894
Gravity (°API @ 60 °F)	:	47.3	74.0	47.6
Decanes Plus Properties				
Mol %	:	28.27	0.01	16.14
Molecular Weight	:	204.4	133.9	204.3
Density (gm/cc @ 60 °F)	:	0.8322	0.7277	0.8321
Gravity (°API @ 60 °F)	:	38.4	62.8	38.4
Undecanes Plus Properties				
Mol %	:	22.42	0.00	12.80
Molecular Weight	:	222.7	--	222.7
Density (gm/cc @ 60 °F)	:	0.8413	--	0.8413
Gravity (°API @ 60 °F)	:	36.5	--	36.5
Dodecanes Plus Properties				
Mol %	:	18.88	0.00	10.78
Molecular Weight	:	236.9	--	236.9
Density (gm/cc @ 60 °F)	:	0.8479	--	0.8479
Gravity (°API @ 60 °F)	:	35.2	--	35.2

* (P)ressure : 500 psig * (T)emperature : 85 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # 5051-A and Liquid Cylinder # L - 602 ex TS - 9212



PETROLAB

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from UEVCM SAND in

Component		Cyl # L - 602 ex TS - 9212 Separator Liquid Mol %	Cyl # 5051-A Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	2.49	7.35	7.05
Nitrogen	N2	0.03	0.49	0.46
Methane	C1	12.21	75.84	71.94
Ethane	C2	7.26	9.04	8.93
Propane	C3	11.38	4.81	5.21
Iso-Butane	iC4	4.26	0.79	1.00
N-Butane	nC4	7.45	0.99	1.39
Iso-Pentane	iC5	3.77	0.23	0.45
N-Pentane	nC5	3.96	0.20	0.43
Hexanes	C6	8.05	0.15	0.63
Heptanes	C7	11.85	0.08	0.80
Octanes	C8	6.01	0.02	0.39
Nonanes	C9	5.14	0.01	0.32
Decanes	C10	3.34	0.00	0.20
Undecanes	C11	2.02	0.00	0.12
Dodecanes Plus	C12+	10.78	0.00	0.68
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0613	0.9387	1.0000
Mass Ratio	:	0.2043	0.7957	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	15898 SCF ***	--
Stream Properties				
Molecular Weight	:	86.39	21.96	25.91
Density obs. (gm/cc)	:	0.6740 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	78.24 API @ 60 ° F	0.761	--
GHV (BTU/scf)	:	--	1142	--
Hexanes Plus Properties				
Mol %	:	47.19	0.26	3.14
Molecular Weight	:	135.1	90.9	131.7
Density (gm/cc @ 60 °F)	:	0.7765	0.6765	0.7704
Gravity (°API @ 60 °F)	:	50.6	77.5	52.0
Heptanes Plus Properties				
Mol %	:	39.14	0.11	2.51
Molecular Weight	:	145.6	100.3	143.7
Density (gm/cc @ 60 °F)	:	0.7894	0.6895	0.7861
Gravity (°API @ 60 °F)	:	47.6	73.5	48.3
Decanes Plus Properties				
Mol %	:	16.14	0.00	1.00
Molecular Weight	:	204.3	--	204.3
Density (gm/cc @ 60 °F)	:	0.8321	--	0.8321
Gravity (°API @ 60 °F)	:	38.4	--	38.4
Undecanes Plus Properties				
Mol %	:	12.80	0.00	0.80
Molecular Weight	:	222.7	--	222.7
Density (gm/cc @ 60 °F)	:	0.8413	--	0.8413
Gravity (°API @ 60 °F)	:	36.5	--	36.5
Dodecanes Plus Properties				
Mol %	:	10.78	0.00	0.68
Molecular Weight	:	236.9	--	236.9
Density (gm/cc @ 60 °F)	:	0.8479	--	0.8479
Gravity (°API @ 60 °F)	:	35.2	--	35.2

* (P)ressure : 500 psig * (T)emperature : 85 °F

** (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 15898 SCF / SEP BBL @ PT = 22210 SCF / ST BBL

22210 = 22210 * (1.1466 * 1.0512) / (1.1466 * 1.0512)

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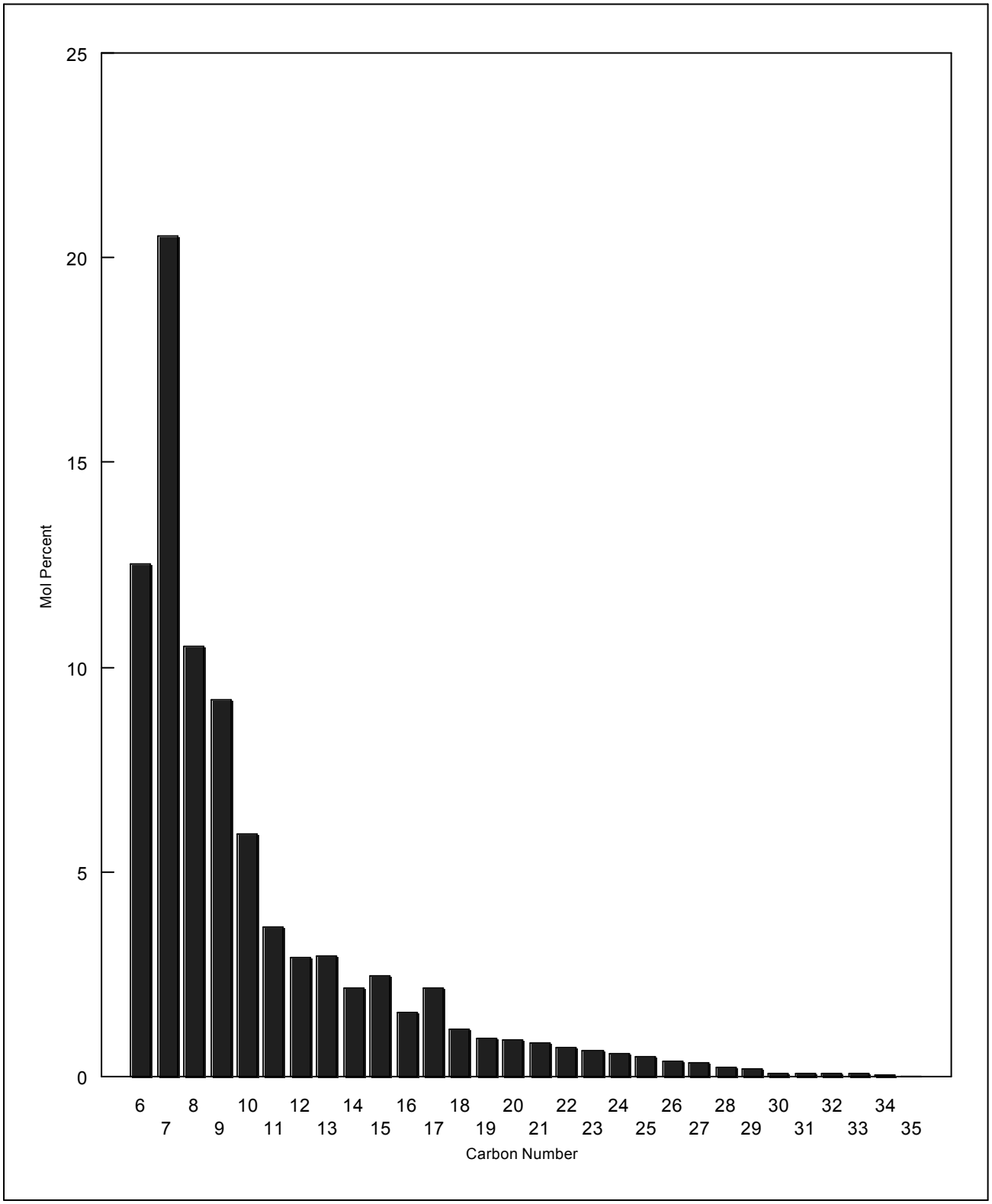
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
UEVCM SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 600

Component		Mol %
Hexanes minus	C6-	16.02
Hexanes	C6	12.52
Heptanes	C7	20.54
Octanes	C8	10.50
Nonanes	C9	9.22
Decanes	C10	5.94
Undecanes	C11	3.66
Dodecanes	C12	2.89
Tridecanes	C13	2.95
Tetradecanes	C14	2.17
Pentadecanes	C15	2.45
Hexadecanes	C16	1.57
Heptadecanes	C17	2.14
Octadecanes	C18	1.15
Nonadecanes	C19	0.91
Eicosanes	C20	0.89
Heneicosanes	C21	0.80
Docosanes	C22	0.71
Tricosanes	C23	0.61
Tetracosanes	C24	0.54
Pentacosanes	C25	0.49
Hexacosanes	C26	0.35
Heptacosanes	C27	0.31
Octacosanes	C28	0.21
Nonacosanes	C29	0.17
Triacontanes	C30	0.08
Hentriacontanes	C31	0.07
Dotriacontanes	C32	0.07
Tritriacontanes	C33	0.05
Tetratriacontanes	C34	0.02
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	127.6
Density @ 60 °F Calculated *	:	0.7618

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
UEVCM SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 600



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Company : Origin Energy Resources Ltd. | Page : 174 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

UEVCM SAND

Cylinder # L - 600

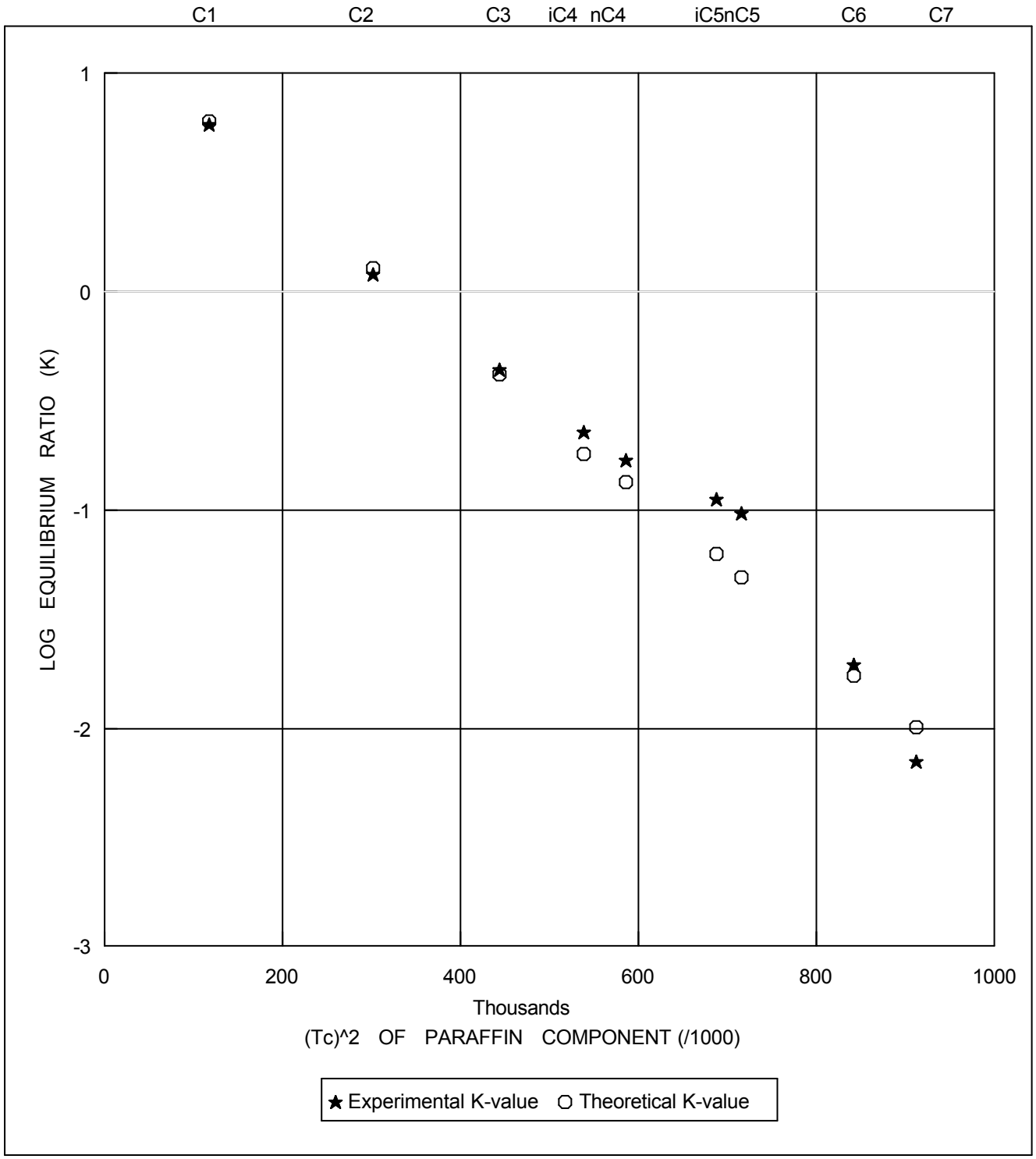
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.08	5.98	2.45
Nitrogen	N2	0.00	0.09	0.04
Methane	C1	0.19	32.33	13.06
Ethane	C2	0.59	17.86	7.51
Propane	C3	2.74	23.33	10.98
Iso-Butane	iC4	1.80	6.14	3.54
N-Butane	nC4	3.69	8.82	5.74
Iso-Pentane	iC5	2.23	2.04	2.16
N-Pentane	nC5	2.34	1.67	2.07
Hexanes	C6	12.87	1.11	8.16
Heptanes	C7	21.12	0.51	12.87
Octanes	C8	10.80	0.09	6.51
Nonanes	C9	9.48	0.03	5.70
Decanes	C10	6.11	0.00	3.66
Undecanes	C11	3.76	0.00	2.26
Dodecanes Plus	C12+	22.21	0.00	13.29
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.5996	0.4004	1.0000
Mass Ratio	:	0.8398	0.1602	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.3249 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	532 SCF	--
Stream Properties				
Molecular Weight	:	127.5	36.43	91.1
Density obs. (gm/cc)	:	0.7641 @ 60 °F	--	0.6881 @ PT*
Gravity (AIR = 1.000)	:	53.5 °API @ 60 °F	1.272	73.9
GHV (BTU/scf)	:	--	1979	--
Hexanes Plus Properties				
Mol %	:	86.35	1.74	52.45
Molecular Weight	:	138.5	89.3	137.9
Density (gm/cc @ 60 °F)	:	0.7812	0.6742	0.7801
Gravity (°API @ 60 °F)	:	49.5	78.2	49.7
Heptanes Plus Properties				
Mol %	:	73.48	0.63	44.29
Molecular Weight	:	148.1	98.8	147.8
Density (gm/cc @ 60 °F)	:	0.7922	0.6875	0.7917
Gravity (°API @ 60 °F)	:	46.9	74.1	47.0
Decanes Plus Properties				
Mol %	:	32.08	0.00	19.21
Molecular Weight	:	204.2	--	204.2
Density (gm/cc @ 60 °F)	:	0.8319	--	0.8319
Gravity (°API @ 60 °F)	:	38.4	--	38.4
Undecanes Plus Properties				
Mol %	:	25.97	0.00	15.55
Molecular Weight	:	220.7	--	220.7
Density (gm/cc @ 60 °F)	:	0.8402	--	0.8402
Gravity (°API @ 60 °F)	:	36.7	--	36.7
Dodecanes Plus Properties				
Mol %	:	22.21	0.00	13.29
Molecular Weight	:	233.2	--	233.2
Density (gm/cc @ 60 °F)	:	0.8461	--	0.8461
Gravity (°API @ 60 °F)	:	35.6	--	35.6

* (P)ressure : 500 psig * (T)emperature : 81 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # 5671 - A and Liquid Cylinder # L - 600



PETROLAB

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from UEVCM SAND in

Component		Cyl # L - 600 Separator Liquid Mol %	Cyl # 5671 - A Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	2.45	7.40	7.10
Nitrogen	N2	0.04	0.44	0.42
Methane	C1	13.06	75.82	72.05
Ethane	C2	7.51	9.05	8.96
Propane	C3	10.98	4.80	5.17
Iso-Butane	iC4	3.54	0.80	0.96
N-Butane	nC4	5.74	0.97	1.26
Iso-Pentane	iC5	2.16	0.24	0.36
N-Pentane	nC5	2.07	0.20	0.31
Hexanes	C6	8.16	0.16	0.64
Heptanes	C7	12.87	0.09	0.86
Octanes	C8	6.51	0.02	0.41
Nonanes	C9	5.70	0.01	0.35
Decanes	C10	3.66	0.00	0.22
Undecanes	C11	2.26	0.00	0.14
Dodecanes Plus	C12+	13.29	0.00	0.79
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0601	0.9399	1.0000
Mass Ratio	:	0.2094	0.7906	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	15723 SCF ***	--
Stream Properties				
Molecular Weight	:	91.06	21.98	26.13
Density obs. (gm/cc)	:	0.6881 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	73.95 API @ 60 ° F	0.761	--
GHV (BTU/scf)	:	--	1143	--
Hexanes Plus Properties				
Mol %	:	52.45	0.28	3.41
Molecular Weight	:	137.9	90.8	134.2
Density (gm/cc @ 60 °F)	:	0.7801	0.6764	0.7739
Gravity (°API @ 60 °F)	:	49.7	77.5	51.2
Heptanes Plus Properties				
Mol %	:	44.29	0.12	2.77
Molecular Weight	:	147.8	99.9	145.8
Density (gm/cc @ 60 °F)	:	0.7917	0.6890	0.7885
Gravity (°API @ 60 °F)	:	47.0	73.7	47.8
Decanes Plus Properties				
Mol %	:	19.21	0.00	1.15
Molecular Weight	:	204.2	--	204.2
Density (gm/cc @ 60 °F)	:	0.8319	--	0.8319
Gravity (°API @ 60 °F)	:	38.4	--	38.4
Undecanes Plus Properties				
Mol %	:	15.55	0.00	0.93
Molecular Weight	:	220.7	--	220.7
Density (gm/cc @ 60 °F)	:	0.8402	--	0.8402
Gravity (°API @ 60 °F)	:	36.7	--	36.7
Dodecanes Plus Properties				
Mol %	:	13.29	0.00	0.79
Molecular Weight	:	233.2	--	233.2
Density (gm/cc @ 60 °F)	:	0.8461	--	0.8461
Gravity (°API @ 60 °F)	:	35.6	--	35.6

* (P)ressure : 500 psig * (T)emperature : 81 °F

** Saturation (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 15723 SCF / SEP BBL @ PT = 20832 SCF / ST BBL

20832 = 20255 * (1.1460 * 1.0527) / (1.1075 * 1.0591)

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : 5641 - A

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.53	
Nitrogen	N2	0.15	
Methane	C1	66.24	
Ethane	C2	7.74	2.072
Propane	C3	3.32	0.916
Iso-Butane	iC4	0.51	0.167
N-Butane	nC4	0.78	0.246
Iso-Pentane	iC5	0.19	0.070
N-Pentane	nC5	0.18	0.065
Hexanes	C6	0.17	0.066
Heptanes	C7	0.12	0.051
Octanes	C8	0.04	0.018
Nonanes	C9	0.02	0.010
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.686

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.85
Gas Gravity	:	0.861
Pc	:	747.5
Tc	:	421.2
Mol Weight C6+	:	94.0
Density C6+	:	0.6809
Mol Weight C7+	:	102.9
Density C7+	:	0.6929
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	971
Nett	:	880
Wobbe Index	:	1047
Zpt *	:	0.900

* (P)ressure : 500 psig * (T)emperature : 80 °F

Date Sampled: September 29, 2004 @ 07:31 - 07:56 hrs

Lab Opening Pressure : 540 psig @ : 115 °F

PETROLAB

Company : Origin Energy Resources Ltd.	Page : 178 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : 0276 - A

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.41	
Nitrogen	N2	0.14	
Methane	C1	66.35	
Ethane	C2	7.76	2.077
Propane	C3	3.36	0.927
Iso-Butane	iC4	0.52	0.170
N-Butane	nC4	0.78	0.246
Iso-Pentane	iC5	0.18	0.066
N-Pentane	nC5	0.17	0.062
Hexanes	C6	0.16	0.062
Heptanes	C7	0.11	0.046
Octanes	C8	0.03	0.014
Nonanes	C9	0.02	0.010
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.685

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.80
Gas Gravity	:	0.859
Pc	:	747.1
Tc	:	420.9
Mol Weight C6+	:	93.8
Density C6+	:	0.6807
Mol Weight C7+	:	103.1
Density C7+	:	0.6932
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	972
Nett	:	880
Wobbe Index	:	1048
Zpt *	:	0.903

* (P)ressure : 500 psig * (T)emperature : 85 °F

Date Sampled: September 29, 2004 @ 09:22 - 09:47 hrs

Lab Opening Pressure : 535 psig @ : 115 °F

PETROLAB

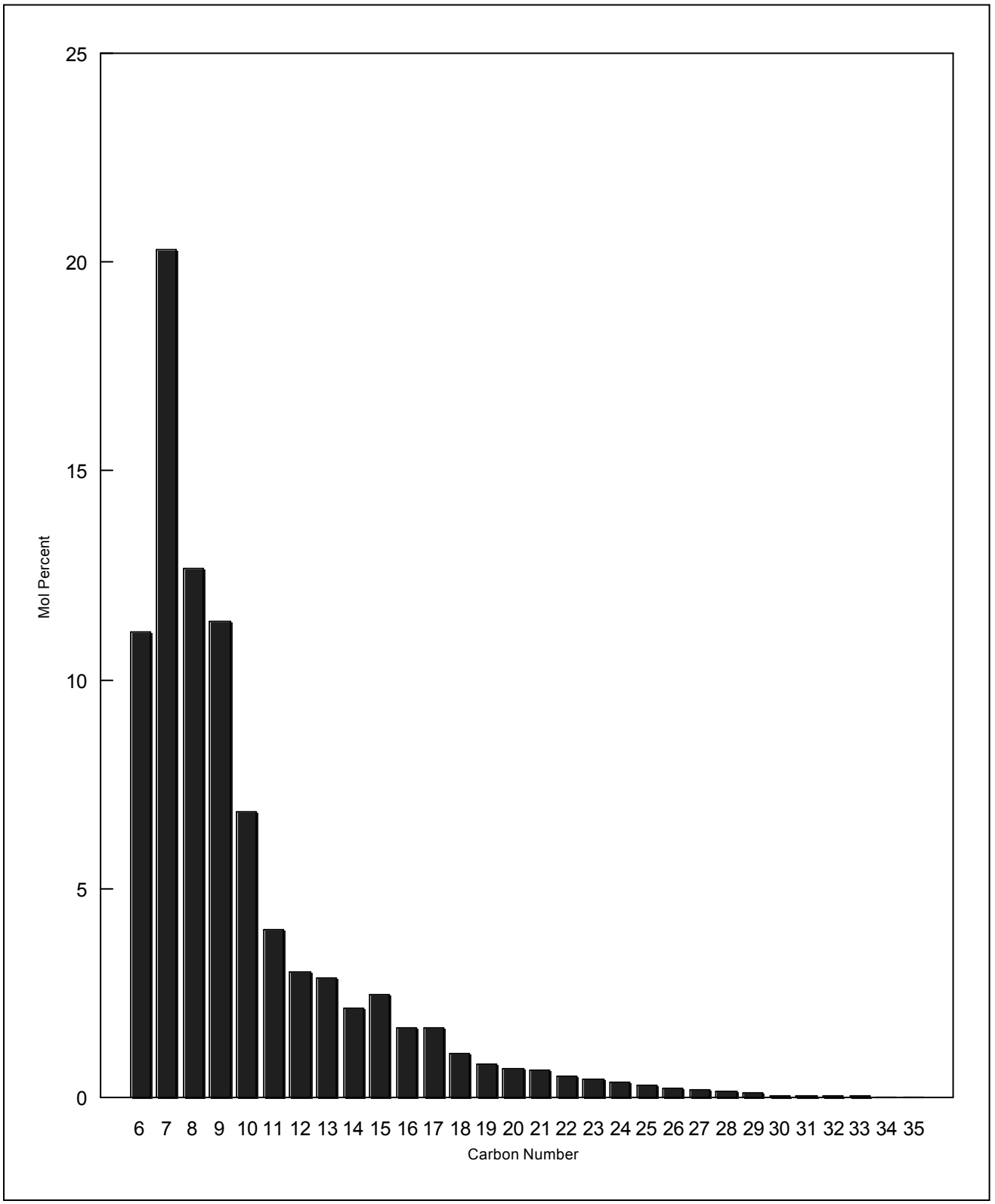
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2809 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 478 ex PT - 1083

Component		Mol %
Hexanes minus	C6-	14.38
Hexanes	C6	11.15
Heptanes	C7	20.29
Octanes	C8	12.65
Nonanes	C9	11.39
Decanes	C10	6.84
Undecanes	C11	4.01
Dodecanes	C12	3.01
Tridecanes	C13	2.86
Tetradecanes	C14	2.15
Pentadecanes	C15	2.44
Hexadecanes	C16	1.66
Heptadecanes	C17	1.65
Octadecanes	C18	1.05
Nonadecanes	C19	0.80
Eicosanes	C20	0.69
Heneicosanes	C21	0.63
Docosanes	C22	0.51
Tricosanes	C23	0.44
Tetracosanes	C24	0.34
Pentacosanes	C25	0.28
Hexacosanes	C26	0.22
Heptacosanes	C27	0.19
Octacosanes	C28	0.13
Nonacosanes	C29	0.10
Triacontanes	C30	0.04
Hentriacontanes	C31	0.04
Dotriacontanes	C32	0.04
Tritriacontanes	C33	0.02
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	124.3
Density @ 60 °F Calculated *	:	0.7582

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2809 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 478 ex PT - 1083



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 181 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

2809 SAND

Cylinder # L - 478 ex PT - 1083

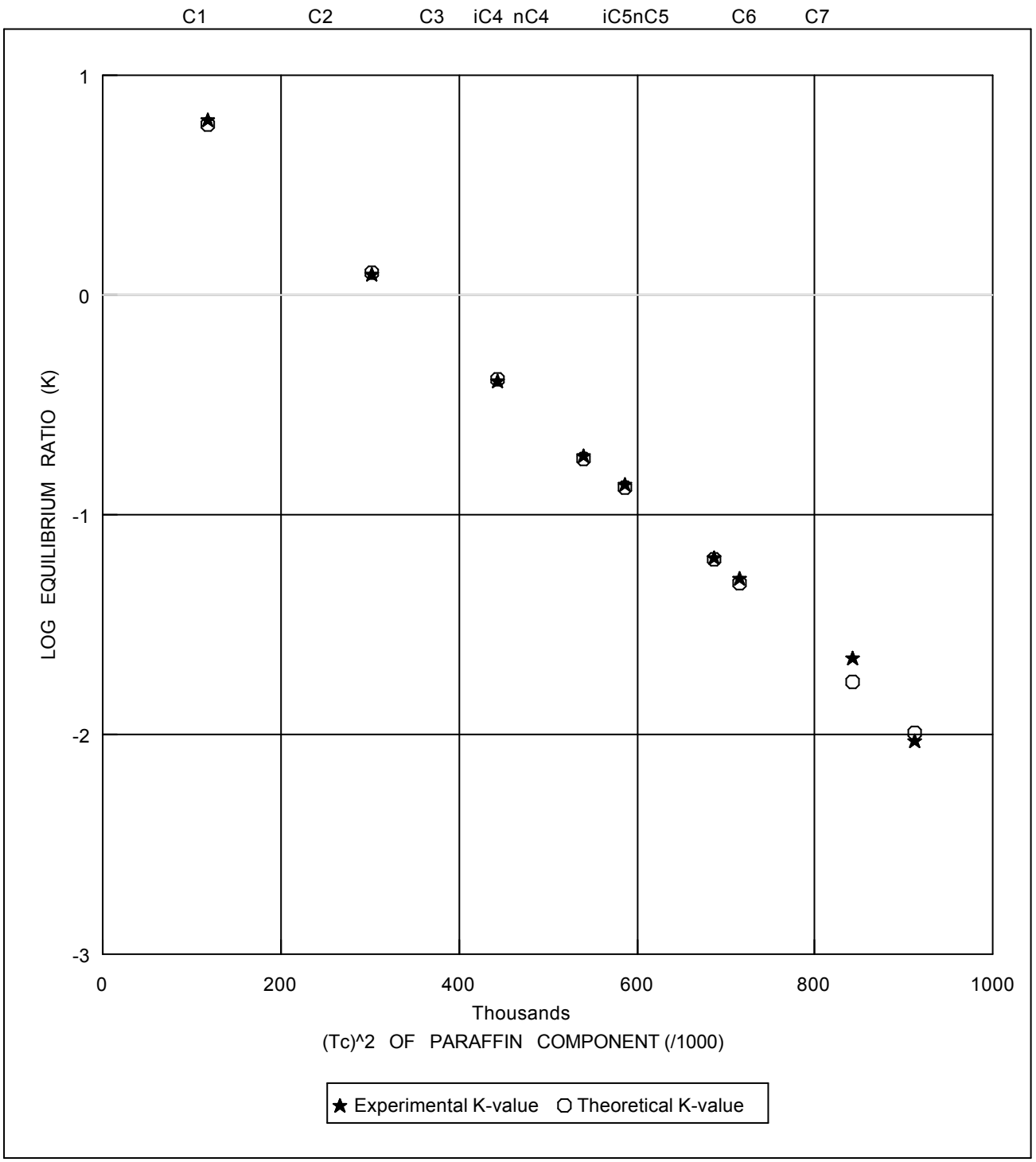
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.26	17.55	7.03
Nitrogen	N2	0.00	0.07	0.03
Methane	C1	0.15	26.43	10.45
Ethane	C2	0.52	14.95	6.17
Propane	C3	2.18	17.42	8.15
Iso-Butane	iC4	1.49	4.71	2.75
N-Butane	nC4	3.81	8.38	5.60
Iso-Pentane	iC5	3.19	2.65	2.98
N-Pentane	nC5	4.06	2.63	3.50
Hexanes	C6	10.98	2.38	7.61
Heptanes	C7	19.99	1.79	12.86
Octanes	C8	12.46	0.59	7.81
Nonanes	C9	11.22	0.33	6.95
Decanes	C10	6.74	0.11	4.14
Undecanes	C11	3.95	0.01	2.41
Dodecanes Plus	C12+	19.00	0.01	11.56
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.6082	0.3918	1.0000
Mass Ratio	:	0.8241	0.1759	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.3243 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	531 SCF	--
Stream Properties				
Molecular Weight	:	122.2	40.49	90.2
Density obs. (gm/cc)	:	0.7572 @ 60 °F	--	0.6954 @ PT*
Gravity (AIR = 1.000)	:	55.2 °API @ 60 °F	1.415	71.8
GHV (BTU/scf)	:	--	1905	--
Hexanes Plus Properties				
Mol %	:	84.35	5.22	53.34
Molecular Weight	:	133.5	94.4	132.0
Density (gm/cc @ 60 °F)	:	0.7759	0.6815	0.7729
Gravity (°API @ 60 °F)	:	50.7	75.9	51.4
Heptanes Plus Properties				
Mol %	:	73.36	2.84	45.73
Molecular Weight	:	140.9	103.1	140.0
Density (gm/cc @ 60 °F)	:	0.7852	0.6931	0.7833
Gravity (°API @ 60 °F)	:	48.5	72.4	49.0
Decanes Plus Properties				
Mol %	:	29.69	0.13	18.11
Molecular Weight	:	192.9	137.8	192.8
Density (gm/cc @ 60 °F)	:	0.8251	0.7315	0.8249
Gravity (°API @ 60 °F)	:	39.8	61.8	39.9
Undecanes Plus Properties				
Mol %	:	22.95	0.02	13.97
Molecular Weight	:	210.2	158.4	210.2
Density (gm/cc @ 60 °F)	:	0.8346	0.7499	0.8345
Gravity (°API @ 60 °F)	:	37.9	57.0	37.9
Dodecanes Plus Properties				
Mol %	:	19.00	0.01	11.56
Molecular Weight	:	223.4	169.8	223.3
Density (gm/cc @ 60 °F)	:	0.8412	0.7591	0.8412
Gravity (°API @ 60 °F)	:	36.6	54.7	36.6

* (P)ressure : 500 psig * (T)emperature : 81 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # 5641 - A and Liquid Cylinder # L - 478 ex PT - 1083



PETROLAB

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from 2809 SAND in

Component		Cyl # L - 478 ex PT - 1083 Separator Liquid Mol %	Cyl # 5641 - A Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	7.03	20.53	19.86
Nitrogen	N2	0.03	0.15	0.14
Methane	C1	10.45	66.24	63.46
Ethane	C2	6.17	7.74	7.66
Propane	C3	8.15	3.32	3.56
Iso-Butane	iC4	2.75	0.51	0.62
N-Butane	nC4	5.60	0.78	1.02
Iso-Pentane	iC5	2.98	0.19	0.33
N-Pentane	nC5	3.50	0.18	0.35
Hexanes	C6	7.61	0.17	0.54
Heptanes	C7	12.86	0.12	0.75
Octanes	C8	7.81	0.04	0.43
Nonanes	C9	6.95	0.02	0.37
Decanes	C10	4.14	0.01	0.22
Undecanes	C11	2.41	0.00	0.12
Dodecanes Plus	C12+	11.56	0.00	0.57
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0498	0.9502	1.0000
Mass Ratio	:	0.1598	0.8402	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	19569 SCF ***	--
Stream Properties				
Molecular Weight	:	90.17	24.85	28.10
Density obs. (gm/cc)	:	0.6954 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	71.78 API @ 60 ° F	0.861	--
GHV (BTU/scf)	:	--	971	--
Hexanes Plus Properties				
Mol %	:	53.34	0.36	3.00
Molecular Weight	:	132.0	94.0	127.7
Density (gm/cc @ 60 °F)	:	0.7729	0.6809	0.7643
Gravity (°API @ 60 °F)	:	51.4	76.1	53.5
Heptanes Plus Properties				
Mol %	:	45.73	0.19	2.46
Molecular Weight	:	140.0	102.9	137.3
Density (gm/cc @ 60 °F)	:	0.7833	0.6929	0.7777
Gravity (°API @ 60 °F)	:	49.0	72.5	50.3
Decanes Plus Properties				
Mol %	:	18.11	0.01	0.91
Molecular Weight	:	192.8	134.0	192.1
Density (gm/cc @ 60 °F)	:	0.8249	0.7278	0.8241
Gravity (°API @ 60 °F)	:	39.9	62.7	40.0
Undecanes Plus Properties				
Mol %	:	13.97	0.00	0.69
Molecular Weight	:	210.2	--	210.2
Density (gm/cc @ 60 °F)	:	0.8345	--	0.8345
Gravity (°API @ 60 °F)	:	37.9	--	37.9
Dodecanes Plus Properties				
Mol %	:	11.56	0.00	0.57
Molecular Weight	:	223.3	--	223.3
Density (gm/cc @ 60 °F)	:	0.8412	--	0.8412
Gravity (°API @ 60 °F)	:	36.6	--	36.6

* (P)ressure : 500 psig * (T)emperature : 81 °F

** (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 19569 SCF / SEP BBL @ PT = 25915 SCF / ST BBL

25915 = 25925 * (1.0778 * 1.0538) / (1.0778 * 1.0542)

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 184 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2755
Cylinder # : 5037 - A

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	21.38	
Nitrogen	N2	0.17	
Methane	C1	68.19	
Ethane	C2	6.28	1.681
Propane	C3	2.35	0.648
Iso-Butane	iC4	0.40	0.131
N-Butane	nC4	0.54	0.170
Iso-Pentane	iC5	0.16	0.059
N-Pentane	nC5	0.15	0.054
Hexanes	C6	0.16	0.062
Heptanes	C7	0.12	0.051
Octanes	C8	0.06	0.027
Nonanes	C9	0.03	0.015
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	2.903

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.45
Gas Gravity	:	0.847
Pc	:	751.2
Tc	:	415.1
Mol Weight C6+	:	95.7
Density C6+	:	0.6832
Mol Weight C7+	:	104.1
Density C7+	:	0.6945
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	928
Nett	:	839
Wobbe Index	:	1008
Zpt *	:	0.908

* (P)ressure : 500 psig * (T)emperature : 85 °F

Date Sampled: September 30, 2004 @ 00:33 - 01:33 hrs

Lab Opening Pressure : 570 psig @ : 115 °F

PETROLAB

Company : Origin Energy Resources Ltd.	Page : 185 of 197
Well : Yolla # 3	File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2755
Cylinder # : 5046 - A

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	21.25	
Nitrogen	N2	0.19	
Methane	C1	68.24	
Ethane	C2	6.30	1.686
Propane	C3	2.32	0.640
Iso-Butane	iC4	0.42	0.138
N-Butane	nC4	0.54	0.170
Iso-Pentane	iC5	0.17	0.062
N-Pentane	nC5	0.16	0.058
Hexanes	C6	0.17	0.066
Heptanes	C7	0.13	0.055
Octanes	C8	0.06	0.027
Nonanes	C9	0.04	0.020
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	2.927

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.46
Gas Gravity	:	0.847
Pc	:	750.6
Tc	:	415.2
Mol Weight C6+	:	96.0
Density C6+	:	0.6837
Mol Weight C7+	:	104.5
Density C7+	:	0.6949
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	931
Nett	:	842
Wobbe Index	:	1011
Zpt *	:	0.907

* (P)ressure : 500 psig * (T)emperature : 83 °F

Date Sampled: September 30, 2004 @ 03:51 - 04:21 hrs

Lab Opening Pressure : 570 psig @ : 115 °F

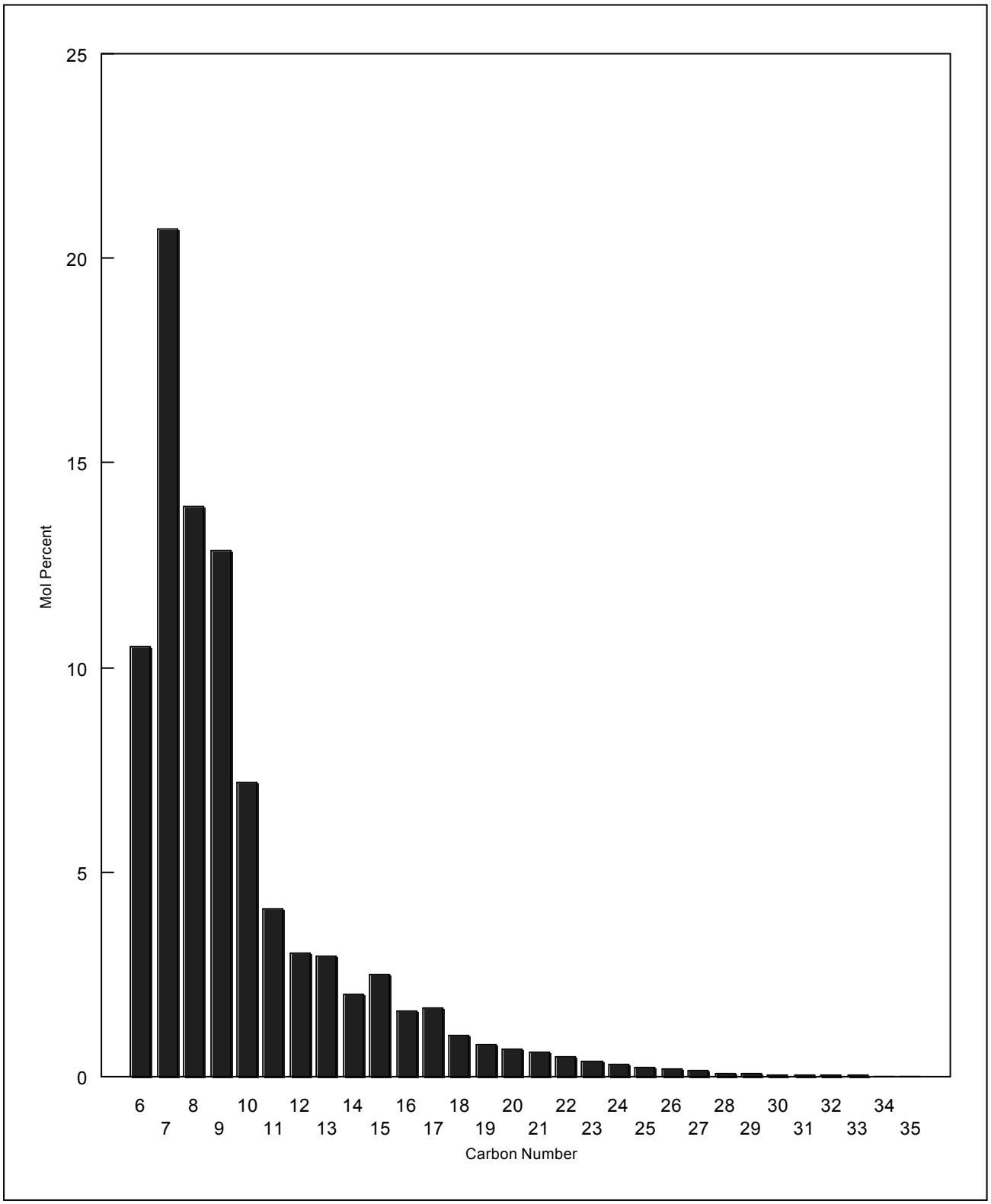
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2755 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 601 ex PT - 1007

Component		Mol %
Hexanes minus	C6-	12.10
Hexanes	C6	10.52
Heptanes	C7	20.71
Octanes	C8	13.93
Nonanes	C9	12.85
Decanes	C10	7.19
Undecanes	C11	4.08
Dodecanes	C12	3.02
Tridecanes	C13	2.94
Tetradecanes	C14	2.02
Pentadecanes	C15	2.49
Hexadecanes	C16	1.58
Heptadecanes	C17	1.65
Octadecanes	C18	1.01
Nonadecanes	C19	0.76
Eicosanes	C20	0.68
Heneicosanes	C21	0.58
Docosanes	C22	0.47
Tricosanes	C23	0.38
Tetracosanes	C24	0.29
Pentacosanes	C25	0.22
Hexacosanes	C26	0.16
Heptacosanes	C27	0.13
Octacosanes	C28	0.08
Nonacosanes	C29	0.06
Triacontanes	C30	0.03
Hentriacontanes	C31	0.03
Dotriacontanes	C32	0.03
Tritriacontanes	C33	0.01
Tetratriacontanes	C34	0.00
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	124.3
Density @ 60 °F Calculated *	:	0.7590

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2755 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 601 ex PT - 1007



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 188 of 197
Well : Yolla # 3 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

2755 SAND

Cylinder # L - 601 ex PT - 1007

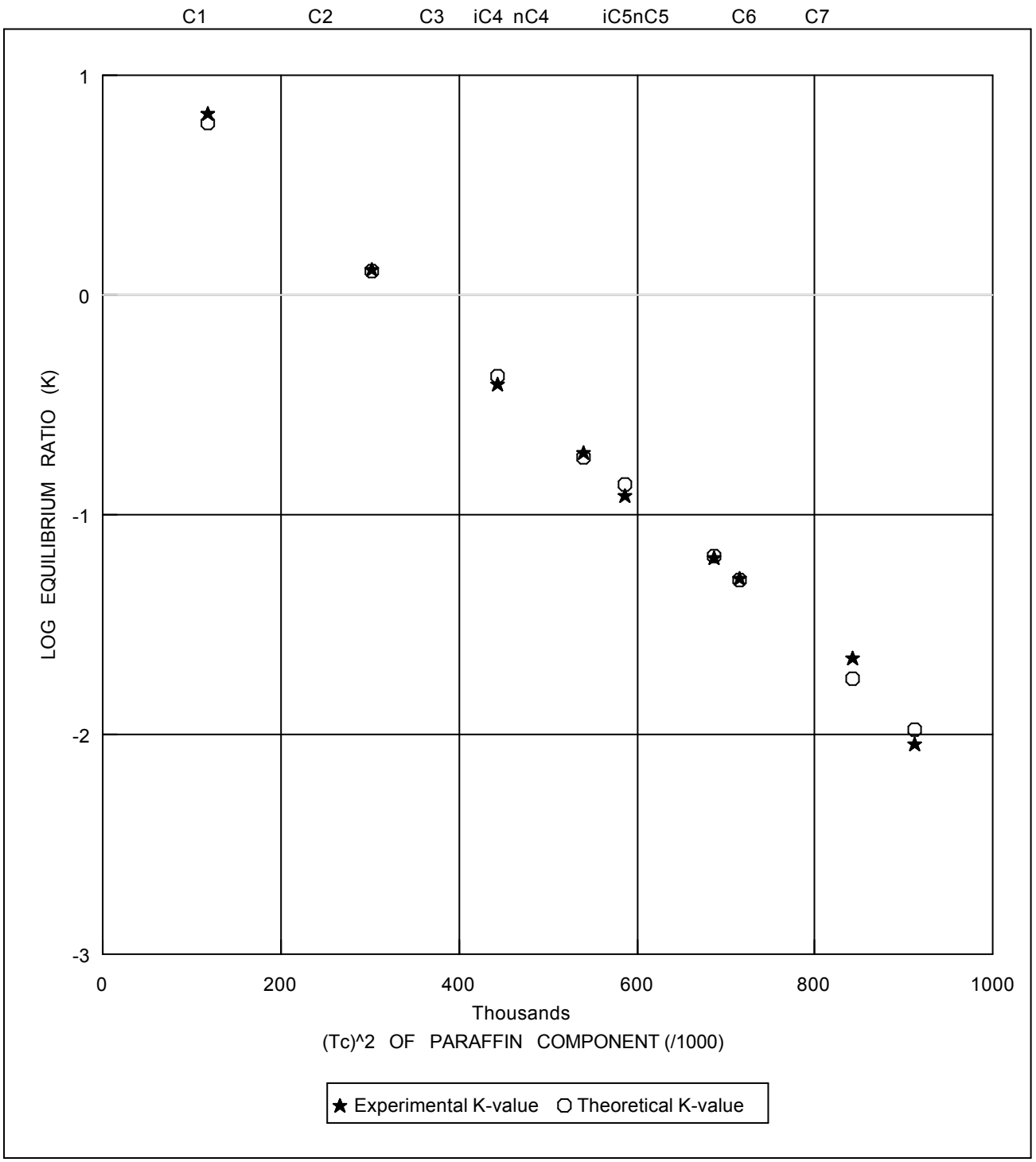
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.32	21.40	7.22
Nitrogen	N2	0.00	0.09	0.03
Methane	C1	0.18	30.63	10.14
Ethane	C2	0.49	13.72	4.82
Propane	C3	1.85	14.12	5.86
Iso-Butane	iC4	1.31	3.93	2.17
N-Butane	nC4	3.24	6.72	4.38
Iso-Pentane	iC5	2.87	2.23	2.66
N-Pentane	nC5	3.55	2.14	3.09
Hexanes	C6	10.32	2.18	7.65
Heptanes	C7	20.31	1.80	14.25
Octanes	C8	13.66	0.67	9.41
Nonanes	C9	12.60	0.29	8.57
Decanes	C10	7.05	0.06	4.76
Undecanes	C11	4.00	0.01	2.70
Dodecanes Plus	C12+	18.26	0.01	12.29
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.6729	0.3271	1.0000
Mass Ratio	:	0.8660	0.1340	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.2381 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	402 SCF	--
Stream Properties				
Molecular Weight	:	121.9	38.79	94.7
Density obs. (gm/cc)	:	0.7575 @ 60 °F	--	0.7076 @ PT*
Gravity (AIR = 1.000)	:	55.1 °API @ 60 °F	1.353	68.3
GHV (BTU/scf)	:	--	1711	--
Hexanes Plus Properties				
Mol %	:	86.19	5.02	59.63
Molecular Weight	:	131.6	94.4	130.6
Density (gm/cc @ 60 °F)	:	0.7738	0.6815	0.7717
Gravity (°API @ 60 °F)	:	51.2	75.9	51.7
Heptanes Plus Properties				
Mol %	:	75.88	2.84	51.98
Molecular Weight	:	138.1	102.4	137.5
Density (gm/cc @ 60 °F)	:	0.7822	0.6922	0.7809
Gravity (°API @ 60 °F)	:	49.2	72.7	49.5
Decanes Plus Properties				
Mol %	:	29.31	0.08	19.75
Molecular Weight	:	189.1	140.1	189.0
Density (gm/cc @ 60 °F)	:	0.8225	0.7337	0.8224
Gravity (°API @ 60 °F)	:	40.4	61.2	40.4
Undecanes Plus Properties				
Mol %	:	22.26	0.02	14.99
Molecular Weight	:	206.6	158.4	206.5
Density (gm/cc @ 60 °F)	:	0.8323	0.7499	0.8323
Gravity (°API @ 60 °F)	:	38.3	57.0	38.3
Dodecanes Plus Properties				
Mol %	:	18.26	0.01	12.29
Molecular Weight	:	219.6	169.8	219.6
Density (gm/cc @ 60 °F)	:	0.8391	0.7591	0.8391
Gravity (°API @ 60 °F)	:	37.0	54.7	37.0

* (P)ressure : 500 psig * (T)emperature : 83 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # 5046 - A and Liquid Cylinder # L - 601 ex PT - 1007



COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from 2755 SAND in

Component		Cyl # L - 601 ex PT - 1007 Separator Liquid Mol %	Cyl # 5046 - A Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	7.22	21.25	20.82
Nitrogen	N2	0.03	0.19	0.19
Methane	C1	10.14	68.24	66.47
Ethane	C2	4.82	6.30	6.25
Propane	C3	5.86	2.32	2.43
Iso-Butane	iC4	2.17	0.42	0.47
N-Butane	nC4	4.38	0.54	0.66
Iso-Pentane	iC5	2.66	0.17	0.25
N-Pentane	nC5	3.09	0.16	0.25
Hexanes	C6	7.65	0.17	0.40
Heptanes	C7	14.25	0.13	0.56
Octanes	C8	9.41	0.06	0.34
Nonanes	C9	8.57	0.04	0.30
Decanes	C10	4.76	0.01	0.15
Undecanes	C11	2.70	0.00	0.08
Dodecanes Plus	C12+	12.29	0.00	0.38
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0305	0.9695	1.0000
Mass Ratio	:	0.1084	0.8916	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	31646 SCF ***	--
Stream Properties				
Molecular Weight	:	94.68	24.46	26.60
Density obs. (gm/cc)	:	0.7076 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	68.27 API @ 60 ° F	0.847	--
GHV (BTU/scf)	:	--	931	--
Hexanes Plus Properties				
Mol %	:	59.63	0.41	2.21
Molecular Weight	:	130.6	96.0	124.4
Density (gm/cc @ 60 °F)	:	0.7717	0.6837	0.7582
Gravity (°API @ 60 °F)	:	51.7	75.3	54.9
Heptanes Plus Properties				
Mol %	:	51.98	0.24	1.81
Molecular Weight	:	137.5	104.5	133.2
Density (gm/cc @ 60 °F)	:	0.7809	0.6949	0.7713
Gravity (°API @ 60 °F)	:	49.5	71.9	51.8
Decanes Plus Properties				
Mol %	:	19.75	0.01	0.61
Molecular Weight	:	189.0	134.0	188.2
Density (gm/cc @ 60 °F)	:	0.8224	0.7278	0.8212
Gravity (°API @ 60 °F)	:	40.4	62.7	40.6
Undecanes Plus Properties				
Mol %	:	14.99	0.00	0.46
Molecular Weight	:	206.5	--	206.5
Density (gm/cc @ 60 °F)	:	0.8323	--	0.8323
Gravity (°API @ 60 °F)	:	38.3	--	38.3
Dodecanes Plus Properties				
Mol %	:	12.29	0.00	0.38
Molecular Weight	:	219.6	--	219.6
Density (gm/cc @ 60 °F)	:	0.8391	--	0.8391
Gravity (°API @ 60 °F)	:	37.0	--	37.0

* (P)ressure : 500 psig * (T)emperature : 83 °F

** (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 31646 SCF / SEP BBL @ PT = 39181 SCF / ST BBL

39181 = 39181 * (1.0865 * 1.0499) / (1.0865 * 1.0499)

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 191 of 197
Well : Yolla # 4 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : A - 1966

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.79	
Nitrogen	N2	0.15	
Methane	C1	66.14	
Ethane	C2	7.56	2.023
Propane	C3	3.24	0.893
Iso-Butane	iC4	0.51	0.167
N-Butane	nC4	0.76	0.240
Iso-Pentane	iC5	0.19	0.070
N-Pentane	nC5	0.18	0.065
Hexanes	C6	0.18	0.070
Heptanes	C7	0.17	0.072
Octanes	C8	0.08	0.036
Nonanes	C9	0.04	0.020
Decanes	C10	0.01	0.005
Undecanes	C11	0.00	0.000
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.661

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.97
Gas Gravity	:	0.865
Pc	:	748.2
Tc	:	421.7
Mol Weight C6+	:	96.2
Density C6+	:	0.6840
Mol Weight C7+	:	103.5
Density C7+	:	0.6937
Mol Weight C10+	:	134.0
Density C10+	:	0.7278
Mol Weight C11+	:	--
Density C11+	:	--
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	971
Nett	:	880
Wobbe Index	:	1044
Zpt *	:	0.902

* (P)ressure : 500 psig * (T)emperature : 84 °F

Date Sampled: October 2, 2004 @ 02:10 - 02:40 hrs

Lab Opening Pressure : 565 psig @ : 115 °F

PETROLAB

Company : Origin Energy Resources Ltd. | Page : 192 of 197
Well : Yolla # 4 | File : O - 24037

COMPOSITIONAL ANALYSIS OF
Separator Gas - SAND 2809
Cylinder # : A - 2005

Component		Mol %	GPM
Hydrogen Sulphide	H2S	0.00	
Carbon Dioxide	CO2	20.63	
Nitrogen	N2	0.14	
Methane	C1	66.20	
Ethane	C2	7.58	2.029
Propane	C3	3.27	0.902
Iso-Butane	iC4	0.51	0.167
N-Butane	nC4	0.77	0.243
Iso-Pentane	iC5	0.20	0.073
N-Pentane	nC5	0.19	0.069
Hexanes	C6	0.17	0.066
Heptanes	C7	0.17	0.072
Octanes	C8	0.09	0.041
Nonanes	C9	0.05	0.025
Decanes	C10	0.02	0.011
Undecanes	C11	0.01	0.006
Dodecanes Plus	C12+	0.00	0.000
TOTAL		100.00	3.704

Pressure Base	:	14.696
Zsc	:	0.997
Mol Weight	:	24.99
Gas Gravity	:	0.866
Pc	:	747.4
Tc	:	421.9
Mol Weight C6+	:	98.9
Density C6+	:	0.6876
Mol Weight C7+	:	106.3
Density C7+	:	0.6972
Mol Weight C10+	:	138.3
Density C10+	:	0.7320
Mol Weight C11+	:	147.0
Density C11+	:	0.7400
Mol Weight C12+	:	--
Density C12+	:	--
Heating Value (BTU/ft3)		
Gross	:	976
Nett	:	884
Wobbe Index	:	1049
Zpt *	:	0.906

* (P)ressure : 500 psig * (T)emperature : 91 °F

Date Sampled: October 2, 2004 @ 04:02 - 04:27 hrs

Lab Opening Pressure : 570 psig @ : 115 °F

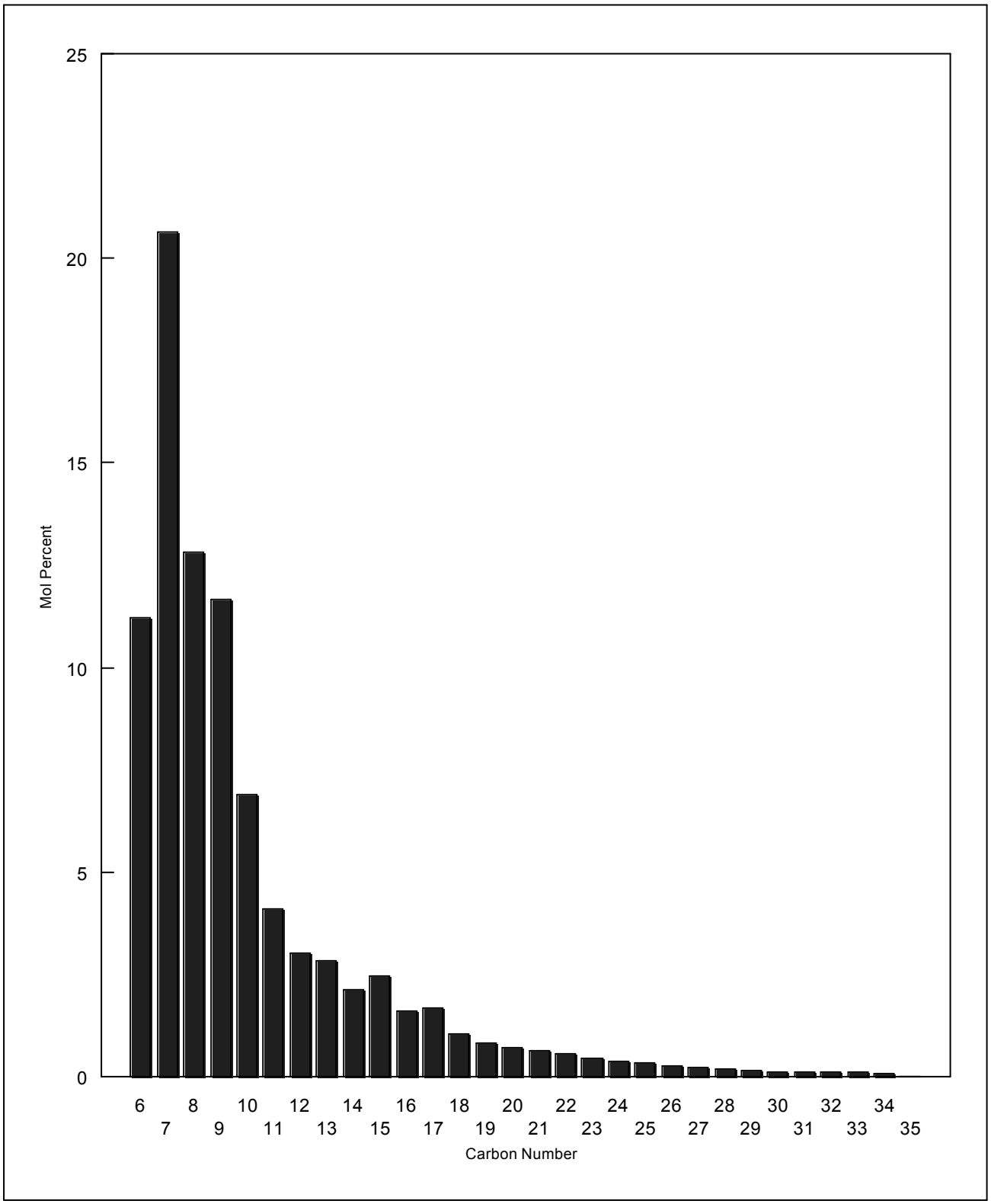
FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2809 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 418 ex PT - 1090

Component		Mol %
Hexanes minus	C6-	12.97
Hexanes	C6	11.20
Heptanes	C7	20.63
Octanes	C8	12.82
Nonanes	C9	11.65
Decanes	C10	6.89
Undecanes	C11	4.08
Dodecanes	C12	3.01
Tridecanes	C13	2.82
Tetradecanes	C14	2.11
Pentadecanes	C15	2.46
Hexadecanes	C16	1.61
Heptadecanes	C17	1.68
Octadecanes	C18	1.02
Nonadecanes	C19	0.80
Eicosanes	C20	0.72
Heneicosanes	C21	0.63
Docosanes	C22	0.54
Tricosanes	C23	0.45
Tetracosanes	C24	0.37
Pentacosanes	C25	0.31
Hexacosanes	C26	0.26
Heptacosanes	C27	0.22
Octacosanes	C28	0.16
Nonacosanes	C29	0.14
Triacontanes	C30	0.11
Hentriacontanes	C31	0.10
Dotriacontanes	C32	0.09
Tritriacontanes	C33	0.10
Tetratriacontanes	C34	0.05
Pentatriacontanes Plus	C35+	0.00
TOTAL		100.00

Molecular Weight Calculated *	:	127.0
Density @ 60 °F Calculated *	:	0.7626

*Calculation based on generalized properties as published by Katz and Firoozabadi

FINGERPRINT ANALYSIS
BY CAPILLARY GAS CHROMATOGRAPHY
2809 SAND
On Stock Tank Oil from atmospheric flash of sample in cylinder # L - 418 ex PT - 1090



PETROLAB

Company : Origin Energy Resources Ltd. | Page : 195 of 197
Well : Yolla # 4 | File : O - 24037

COMPOSITIONAL ANALYSIS OF SEPARATOR LIQUID

2809 SAND

Cylinder # L - 418 ex PT - 1090

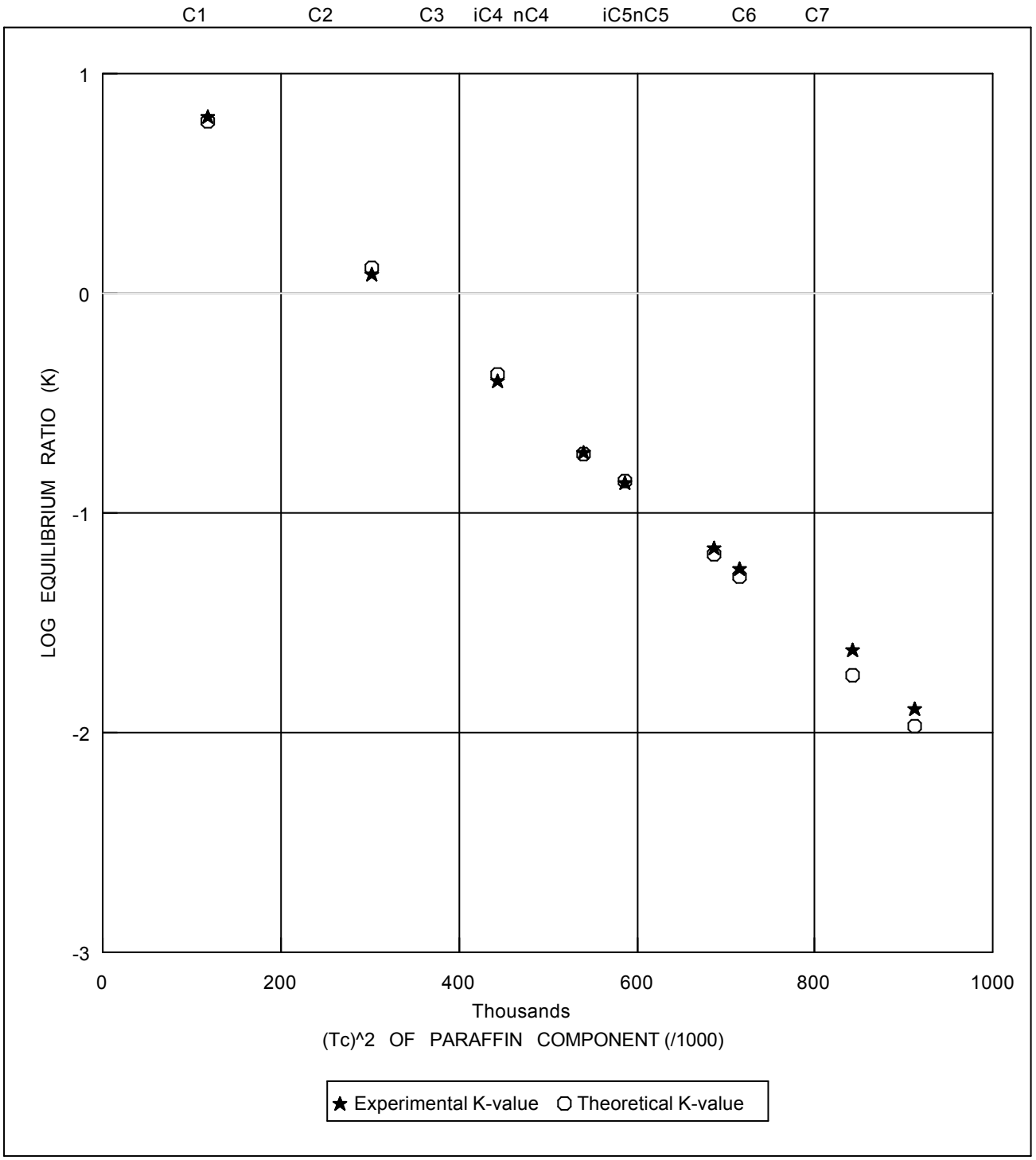
Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.27	18.42	7.14
Nitrogen	N2	0.00	0.06	0.02
Methane	C1	0.16	26.88	10.27
Ethane	C2	0.54	15.26	6.11
Propane	C3	2.23	17.47	8.00
Iso-Butane	iC4	1.50	4.62	2.68
N-Butane	nC4	3.84	8.21	5.49
Iso-Pentane	iC5	2.96	2.38	2.74
N-Pentane	nC5	3.74	2.34	3.21
Hexanes	C6	10.91	2.10	7.58
Heptanes	C7	20.09	1.57	13.08
Octanes	C8	12.49	0.45	7.93
Nonanes	C9	11.35	0.16	7.11
Decanes	C10	6.71	0.05	4.19
Undecanes	C11	3.97	0.02	2.48
Dodecanes Plus	C12+	19.24	0.00	11.97
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.6217	0.3783	1.0000
Mass Ratio	:	0.8367	0.1633	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.3020 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	497 SCF	--
Stream Properties				
Molecular Weight	:	123.6	39.65	91.8
Density obs. (gm/cc)	:	0.7593 @ 60 °F	--	0.6984 @ PT*
Gravity (AIR = 1.000)	:	54.7 °API @ 60 °F	1.385	70.9
GHV (BTU/scf)	:	--	1837	--
Hexanes Plus Properties				
Mol %	:	84.76	4.35	54.34
Molecular Weight	:	134.9	92.9	133.7
Density (gm/cc @ 60 °F)	:	0.7776	0.6794	0.7752
Gravity (°API @ 60 °F)	:	50.3	76.6	50.9
Heptanes Plus Properties				
Mol %	:	73.85	2.25	46.76
Molecular Weight	:	142.5	101.3	141.7
Density (gm/cc @ 60 °F)	:	0.7868	0.6908	0.7854
Gravity (°API @ 60 °F)	:	48.2	73.1	48.5
Decanes Plus Properties				
Mol %	:	29.92	0.07	18.64
Molecular Weight	:	196.6	137.7	196.5
Density (gm/cc @ 60 °F)	:	0.8275	0.7314	0.8274
Gravity (°API @ 60 °F)	:	39.3	61.8	39.3
Undecanes Plus Properties				
Mol %	:	23.21	0.02	14.45
Molecular Weight	:	214.7	146.9	214.6
Density (gm/cc @ 60 °F)	:	0.8372	0.7400	0.8371
Gravity (°API @ 60 °F)	:	37.4	59.5	37.4
Dodecanes Plus Properties				
Mol %	:	19.24	0.00	11.97
Molecular Weight	:	228.7	--	228.7
Density (gm/cc @ 60 °F)	:	0.8440	--	0.8440
Gravity (°API @ 60 °F)	:	36.0	--	36.0

* (P)ressure : 500 psig * (T)emperature : 84 °F

SEPARATOR SAMPLES QUALITY CHECK

On Separator Samples From Gas Cylinder # A - 1966 and Liquid Cylinder # L - 418 ex PT - 1090



PETROLAB

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Using Separator Samples from 2809 SAND in

Component		Cyl # L - 418 ex PT - 1090 Separator Liquid Mol %	Cyl # A - 1966 Separator Gas Mol %	Recombined Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	7.14	20.79	20.16
Nitrogen	N2	0.02	0.15	0.14
Methane	C1	10.27	66.14	63.56
Ethane	C2	6.11	7.56	7.49
Propane	C3	8.00	3.24	3.46
Iso-Butane	iC4	2.68	0.51	0.61
N-Butane	nC4	5.49	0.76	0.98
Iso-Pentane	iC5	2.74	0.19	0.31
N-Pentane	nC5	3.21	0.18	0.32
Hexanes	C6	7.58	0.18	0.52
Heptanes	C7	13.08	0.17	0.77
Octanes	C8	7.93	0.08	0.44
Nonanes	C9	7.11	0.04	0.37
Decanes	C10	4.19	0.01	0.20
Undecanes	C11	2.48	0.00	0.11
Dodecanes Plus	C12+	11.97	0.00	0.56
TOTAL		100.00	100.00	100.00

Ratios				
Molar Ratio	:	0.0462	0.9538	1.0000
Mass Ratio	:	0.1512	0.8488	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000	--	-- @ PT**
Gas Liquid Ratio	:	1.0000 @ PT*	20877 SCF ***	--
Stream Properties				
Molecular Weight	:	91.83	24.97	28.06
Density obs. (gm/cc)	:	0.6984 @ PT*	--	-- @ PT**
Gravity (AIR = 1.000)	:	70.90 API @ 60 ° F	0.865	--
GHV (BTU/scf)	:	--	971	--
Hexanes Plus Properties				
Mol %	:	54.34	0.48	2.97
Molecular Weight	:	133.7	96.2	127.9
Density (gm/cc @ 60 °F)	:	0.7752	0.6840	0.7634
Gravity (°API @ 60 °F)	:	50.9	75.2	53.7
Heptanes Plus Properties				
Mol %	:	46.76	0.30	2.45
Molecular Weight	:	141.7	103.5	137.2
Density (gm/cc @ 60 °F)	:	0.7854	0.6937	0.7764
Gravity (°API @ 60 °F)	:	48.5	72.3	50.6
Decanes Plus Properties				
Mol %	:	18.64	0.01	0.87
Molecular Weight	:	196.5	134.0	195.8
Density (gm/cc @ 60 °F)	:	0.8274	0.7278	0.8266
Gravity (°API @ 60 °F)	:	39.3	62.7	39.5
Undecanes Plus Properties				
Mol %	:	14.45	0.00	0.67
Molecular Weight	:	214.6	--	214.6
Density (gm/cc @ 60 °F)	:	0.8371	--	0.8371
Gravity (°API @ 60 °F)	:	37.4	--	37.4
Dodecanes Plus Properties				
Mol %	:	11.97	0.00	0.56
Molecular Weight	:	228.7	--	228.7
Density (gm/cc @ 60 °F)	:	0.8440	--	0.8440
Gravity (°API @ 60 °F)	:	36.0	--	36.0

* (P)ressure : 500 psig * (T)emperature : 84 °F

** (P)ressure : 5000 psig * (T)emperature : 60 °F

*** 20877 SCF / SEP BBL @ PT = 27182 SCF / ST BBL

27182 = 27211 * (1.0752 * 1.0531) / (1.0752 * 1.0542)

(B) Amdel Report

13 October 2004

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Upstream Origin Energy Resources Ltd
GPO Box 2576
Adelaide SA 5001
Australia

Attention: Joe Parvar

Project **04PEAD09987**

Customer Sample ID	Sand UEVCM	Sand 2755	Sand 2973
Well ID	Yolla 3	Yolla 3	Yolla 3
Sample Type	Water	Water	Water
Date Sampled	28/09/2004	30/09/2004	27/09/2004
Time Sampled	11:55	4:30	1440
Description	Water from Sep	Water from Sep	Water from Sep

Test/Reference	Unit			
Mercury				
Mercury	µg/L	4	6	58

amdel
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Customer Sample ID	Sand 2809	Sand 2809
Well ID	Yolla 3	Yolla 4
Sample Type	Water	Water
Date Sampled		02/10/2004
Time Sampled		0428
Description		Water from Sep

Test/Reference	Unit		
Mercury			
Mercury	µg/L	3	6

Authorised By: Mohammad Massoumi
Senior Petroleum Chemist

Signature:



Final Report

- Indicates Not Requested ** Indicates NATA Accredited Test*

Samples will be discarded after 30 days unless otherwise notified.

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The samples were not collected by Amdel staff.

22 October 2004

amdel
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Upstream Origin Energy Resources Ltd
GPO Box 2576
Adelaide SA 5001
Australia

Attention: Joe Parvar

Project **04PEAD09980**

Customer Sample ID		Sand 2973	Sand 2809	Sand UEVCM
Well ID		Yolla 3	Yolla 3	Yolla 3
Sample Type		Condensate	Condensate	Condensate
Description		Stock Tank Sample Cont 2	Stock Tank Sample Cont 7	Stock Tank Sample Cont 5
Test/Reference	Unit			
Mercury				
Mercury	ppb	40	60	40

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Customer Sample ID		Sand 2755	Sand 2809
Well ID		Yolla 3	Yolla 4
Sample Type		Condensate	Condensate
Description		Stock Tank Sample Cont 9	Stock Tank Sample Cont 10
Test/Reference	Unit		
Mercury			
Mercury	ppb	60	20

Authorised By: Mohammad Massoumi
Senior Petroleum Chemist

Signature:



Final Report

- Indicates Not Requested ** Indicates NATA Accredited Test*

Samples will be discarded after 30 days unless otherwise notified.

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The samples were not collected by Amdel staff.

18 November 2004

Upstream Origin Energy
Bass Gas Plant
GPO Box 2576
Adelaide
SA 5001

Attention: Joe Parvar

REPORT 04PEAD10818

CLIENT REFERENCE:

WELL NAME/RE: Yolla 3, from UEVCM

MATERIAL: Condensate

WORK REQUIRED: Crude oil assay

AUTHOR'S NAME: Mohammad Massoumi

Please direct technical enquiries regarding this work, to the signatory below, under whose supervision the work was carried out. This report relates specifically to the sample or samples submitted for testing.

Diane Cass
Operations Manager
Petroleum Services

dc.rn

\\jupiter\Petroleum\Secretary\petroleum\Docs-03\04pead10818.doc

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CRUDE OIL ASSAY

Yolla 3, from UEVCM

INDEX **Page No.**

Physical Properties of the whole crude oil	1-2
True Boiling Point Distillation	3-4
True Boiling Point Curve	5
Physical Properties of the fractions	6-19
Methods	20
Gas Chromatogram	Appendix

PHYSICAL PROPERTIES

Client: Upstream Origin Energy Report: 04PEAD10818

Sample: Condensate
Yolla 3, from UEVCM

Method		Description	Units	Condensate
IP2	ASTM D611	Aniline Point	°C	-
IP143		Asphaltenes	% wt	-
IP364	ASTM D976	Calculated Cetane Index		-
IP219	ASTM D2500	Cloud Point	°C	-
IP17		Colour by Lovibond Tintometer		-
IP274	ASTM D2624	Conductivity of Fuels	pS/m	-
IP13	ASTM D189	Conradson Carbon Residue	% wt	-
IP154	ASTM D130	Copper Corrosion		-
IP365	ASTM D4052	Density @ 15°C	g/mL	0.7584
IP21		Diesel Index		-
	ASTM D5185	Trace Elements		
		Silver	mg/kg	<1
		Aluminium	mg/kg	<1
		Boron	mg/kg	<1
		Barium	mg/kg	<1
		Calcium	mg/kg	<1
		Chromium	mg/kg	<1
		Copper	mg/kg	<1
		Iron	mg/kg	<1
		Magnesium	mg/kg	<1
		Manganese	mg/kg	<1
		Molybdenum	mg/kg	<1
		Sodium	mg/kg	2
		Nickel	mg/kg	<1
		Phosphorus	mg/kg	1
		Lead	mg/kg	<1
		Silicon	mg/kg	<1
		Tin	mg/kg	<1
		Titanium	mg/kg	<1
		Vanadium	mg/kg	<1
		Zinc	mg/kg	<1
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	-
IP131	ASTM D381	Existent Gum by Evaporation	mg/100mL	-
IP170		Flash Point Abel Closed Cup	°C	-
IP34	ASTM D93	Flash Point Pensky Martens Closed Cup	°C	-
IP156	ASTM D1319	Fluorescent Indicator Absorption Aromatics	% vol	-
IP15	ASTM D97	Pour Point	°C	3
IP365	ASTM D4052	Specific Gravity @ 60/60°F		0.7587
IP216		Total Contaminant	mg/L	-
	ASTM D2270	Viscosity Index		-
IP289	ASTM D1094	Water Reaction Interface Rating		-
	ASTM D1796	Total Water And Sediment	%vol	0.10
	ASTM D1796	Water And Sediment (Tube 1)	mL	0.10
	ASTM D1796	Water And Sediment (Tube 2)	mL	0.10
IP160/9(	ASTM D1298	API Gravity	degrees	55.00

- = not determined

Approved Signatory: _____
Mohammad Massoumi

Date: 17-Nov-04 Accreditation No: 2013

This report relates specifically to the sample submitted for testing.

Report No: 04PEAD10818

CONDENSATE SAMPLE

TEST	UNIT	RESULT
Total Sulphur	% wt	0.01
Ash	%wt	<0.01
Mercury	ppb	40
Kinematic Viscosity @ 25°C	cSt	1.191
Acid Number	mgKOH/g	0.146
Lead	ppb	20
Hydrogen Sulphide	mg/kg	<1
Mercaptans	mg/kg	4
Methanol	% wt	<1
Arsenic	ppb	20

ppb = µg/L

TABLE 1

ASTM D2892 DISTILLATION AND DENSITIES :
Crude Oil (Yolla 3, from UEVCM)
Report # 04PEAD10818

Temp (deg F)	Temp (deg C)	Density at 15 °C	Cumulative Weight (%)	Cumulative Volume (%)	Mid Volume (%)	Specific Gravity (60/60 °F)	API Gravity
LPG	LPG	0.5760	3.4	4.5	2.2	0.5762	114.1
104.0	40.0	0.6223	8.6	10.8	7.7	0.6225	95.8
158.0	70.0	0.6778	15.3	18.4	14.6	0.6780	77.2
201.2	94.0	0.7271	25.5	29.0	23.7	0.7273	63.1
230.0	110.0	0.7536	35.5	39.0	34.0	0.7538	56.2
257.0	125.0	0.7593	44.0	47.5	43.2	0.7596	54.8
284.0	140.0	0.7691	48.4	51.9	49.7	0.7694	52.4
302.0	150.0	0.7797	53.6	56.9	54.4	0.7800	49.9
347.0	175.0	0.7816	59.7	62.8	59.8	0.7820	49.4
374.0	190.0	0.7838	63.9	66.9	64.9	0.7842	48.9
410.0	210.0	0.7955	68.5	71.2	69.1	0.7959	46.3
446.0	230.0	0.8034	72.9	75.5	73.4	0.8038	44.5
519.8	271.0	0.8203	80.0	82.0	78.7	0.8207	40.9
626.0	330.0	0.8169	88.8	90.2	86.1	0.8173	41.6
330+	330+	0.8435	99.9	100.1	95.2	0.8439	36.2

This report relates specifically to the sample tested.

Approved Signatory _____

Mohammad Massoumi

Accreditation No: 2013

Date 17-Nov-04

TABLE 2

ASTM D2892 DISTILLATION AND DENSITIES
Crude Oil (Yolla 3, from UEVCM)
Report # 04PEAD10818

Temp (deg F)	Temp (deg C)	Weight (%)	Volume (%)
LPG	LPG	3.4	4.5
104.0	40.0	5.2	6.3
158.0	70.0	6.7	7.5
201.2	94.0	10.2	10.6
230.0	110.0	10.0	10.0
257.0	125.0	8.5	8.4
284.0	140.0	4.4	4.4
302.0	150.0	5.2	5.0
347.0	175.0	6.1	5.9
374.0	190.0	4.3	4.1
410.0	210.0	4.5	4.3
446.0	230.0	4.5	4.2
519.8	271.0	7.0	6.5
626.0	330.0	8.8	8.2
330+	330+	11.1	10.0

This report relates specifically to the sample tested.

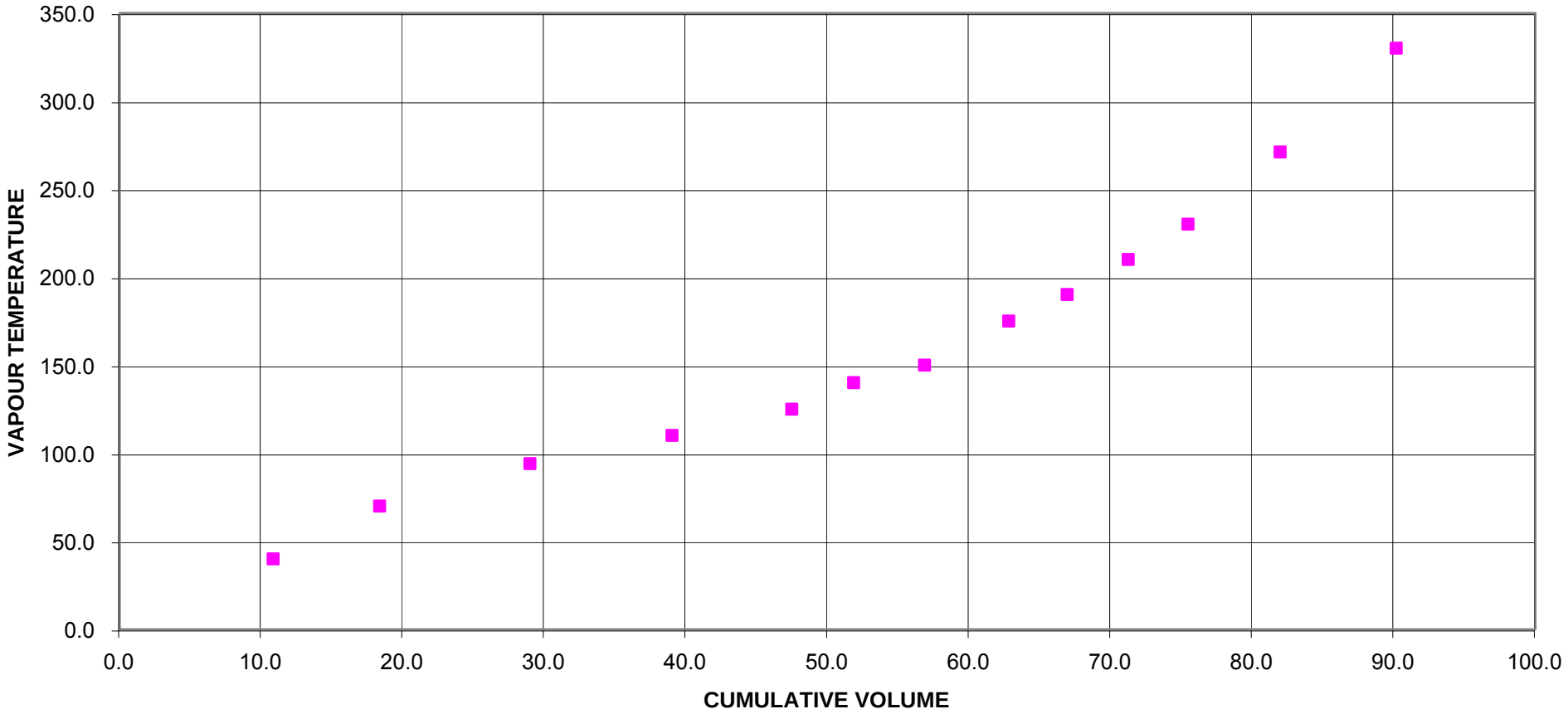
Approved Signatory _____

Mohammad Massoumi

Accreditation No: 2013

Date 17-Nov-04

TRUE BOILING POINT CURVE CRUDE OIL
Yolla 3, from UEVCM



PHYSICAL PROPERTIES

Client: Upstream Origin Energy Report: 04PEAD10818

Sample: Condensate
Yolla 3, from UEVCM

Method		Description	Units	Cut C5-70°C
IP2	ASTM D611	Aniline Point	°C	-
IP143		Asphaltenes	% wt	-
IP364	ASTM D976	Calculated Cetane Index		-
IP219	ASTM D250	Cloud Point	°C	-
IP17		Colour by Lovibond Tintometer		-
IP274	ASTM D262	Conductivity of Fuels	pS/m	-
IP13	ASTM D189	Conradson C Residue on 10% Dis Residue	% wt	-
IP154	ASTM D130	Copper Corrosion		-
IP365	ASTM D405	Density @ 15°C	g/mL	0.6537
IP21		Diesel Index		
	ASTM D518	Trace Elements		
		Silver	mg/L	-
		Aluminium	mg/L	-
		Boron	mg/L	-
		Barium	mg/L	-
		Calcium	mg/L	-
		Cadmium	mg/L	-
		Chromium	mg/L	-
		Copper	mg/L	-
		Iron	mg/L	-
		Magnesium	mg/L	-
		Manganese	mg/L	-
		Molybdenum	mg/L	-
		Sodium	mg/L	-
		Nickel	mg/L	-
		Phosphorus	mg/L	-
		Lead	mg/L	-
		Silicon	mg/L	-
		Tin	mg/L	-
		Titanium	mg/L	-
		Vanadium	mg/L	-
		Zinc	mg/L	-
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	-
IP131	ASTM D381	Existent Gum by Evaporation	mg/100mL	-
IP170		Flash Point Abel Closed Cup	°C	-
IP34	ASTM D93	Flash Point Pensky Martens Closed Cup	°C	-
IP156	ASTM D131	Fluorescent Indicator Absorption Aromati	% vol	-
IP15	ASTM D97	Pour Point	°C	-
IP365	ASTM D405	Specific Gravity @ 60/60°F		0.6537
IP216		Total Contaminant	mg/L	-
	ASTM D227	Viscosity Index		-
IP289	ASTM D109	Water Reaction Interface Rating		-
	ASTM D400	Total Water And Sediment	%vol	-
	ASTM D400	Water And Sediment(Tube 1)	mL	-
	ASTM D400	Water And Sediment(Tube 2)	mL	-
IP160/9	ASTM D129	API Gravity	degrees	84.96

- = not determined

Approved Signatory: _____
Mohammad Massoumi

Date: 17-Nov-04 Accreditation No: 2013

This report relates specifically to the sample submitted for testing.

Report No: 04PEAD10818

CUT C5 – 70°C

TEST	UNIT	RESULT
Total Sulphur	mg/kg	10.25
Kinematic Viscosity @ 25°C	cSt	0.407

PHYSICAL PROPERTIES

Client: Upstream Origin Energy Report: 04PEAD10818

Sample: Condensate
Yolla 3, from UEVCM

Method		Description	Units	Cut 70-150°C
IP2	ASTM D611	Aniline Point	°C	-
IP143		Asphaltenes	% wt	-
IP364	ASTM D976	Calculated Cetane Index		-
IP219	ASTM D250	Cloud Point	°C	-
IP17		Colour by Lovibond Tintometer		-
IP274	ASTM D262	Conductivity of Fuels	pS/m	-
IP13	ASTM D189	Conradson C Residue on 10% Dis Residue	% wt	-
IP154	ASTM D130	Copper Corrosion		-
IP365	ASTM D405	Density @ 15°C	g/mL	0.7530
IP21		Diesel Index		
	ASTM D518	Trace Elements		
		Silver	mg/L	-
		Aluminium	mg/L	-
		Boron	mg/L	-
		Barium	mg/L	-
		Calcium	mg/L	-
		Cadmium	mg/L	-
		Chromium	mg/L	-
		Copper	mg/L	-
		Iron	mg/L	-
		Magnesium	mg/L	-
		Manganese	mg/L	-
		Molybdenum	mg/L	-
		Sodium	mg/L	-
		Nickel	mg/L	-
		Phosphorus	mg/L	-
		Lead	mg/L	-
		Silicon	mg/L	-
		Tin	mg/L	-
		Titanium	mg/L	-
		Vanadium	mg/L	-
		Zinc	mg/L	-
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	-
IP131	ASTM D381	Existent Gum by Evaporation	mg/100mL	-
IP170		Flash Point Abel Closed Cup	°C	-
IP34	ASTM D93	Flash Point Pensky Martens Closed Cup	°C	-
IP156	ASTM D131	Fluorescent Indicator Absorption Aromati	% vol	-
IP15	ASTM D97	Pour Point	°C	-
IP365	ASTM D405	Specific Gravity @ 60/60°F		0.7532
IP216		Total Contaminant	mg/L	-
	ASTM D227	Viscosity Index		-
IP289	ASTM D109	Water Reaction Interface Rating		-
	ASTM D400	Total Water And Sediment	%vol	-
	ASTM D400	Water And Sediment(Tube 1)	mL	-
	ASTM D400	Water And Sediment(Tube 2)	mL	-
IP160/9	ASTM D129	API Gravity	degrees	56.37

- = not determined

Approved Signatory: _____
Mohammad Massoumi

Date: 17-Nov-04 Accreditation No: 2013

This report relates specifically to the sample submitted for testing.

Report No: 04PEAD10818

CUT 70 – 150°C

TEST	UNIT	RESULT
Total Sulphur	mg/kg	7.61
Kinematic Viscosity @ 25°C	cSt	0.678

PHYSICAL PROPERTIES

Client: Upstream Origin Energy Report: 04PEAD10818

Sample: Condensate
Yolla 3, from UEVCM

Method		Description	Units	Cut C5-190°C
IP2	ASTM D611	Aniline Point	°C	-
IP143		Asphaltenes	% wt	-
IP364	ASTM D976	Calculated Cetane Index		-
IP219	ASTM D250	Cloud Point	°C	-
IP17		Colour by Lovibond Tintometer		-
IP274	ASTM D262	Conductivity of Fuels	pS/m	-
IP13	ASTM D189	Conradson C Residue on 10% Dis Residue	% wt	-
IP154	ASTM D130	Copper Corrosion		-
IP365	ASTM D405	Density @ 15°C	g/mL	0.7367
IP21		Diesel Index		
	ASTM D518	Trace Elements		
		Silver	mg/L	-
		Aluminium	mg/L	-
		Boron	mg/L	-
		Barium	mg/L	-
		Calcium	mg/L	-
		Cadmium	mg/L	-
		Chromium	mg/L	-
		Copper	mg/L	-
		Iron	mg/L	-
		Magnesium	mg/L	-
		Manganese	mg/L	-
		Molybdenum	mg/L	-
		Sodium	mg/L	-
		Nickel	mg/L	-
		Phosphorus	mg/L	-
		Lead	mg/L	-
		Silicon	mg/L	-
		Tin	mg/L	-
		Titanium	mg/L	-
		Vanadium	mg/L	-
		Zinc	mg/L	-
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	-
IP131	ASTM D381	Existent Gum by Evaporation	mg/100mL	-
IP170		Flash Point Abel Closed Cup	°C	-
IP34	ASTM D93	Flash Point Pensky Martens Closed Cup	°C	-
IP156	ASTM D131	Fluorescent Indicator Absorption Aromati	% vol	-
IP15	ASTM D97	Pour Point	°C	-
IP365	ASTM D405	Specific Gravity @ 60/60°F		0.7369
IP216		Total Contaminant	mg/L	-
	ASTM D227	Viscosity Index		-
IP289	ASTM D109	Water Reaction Interface Rating		-
	ASTM D400	Total Water And Sediment	%vol	-
	ASTM D400	Water And Sediment(Tube 1)	mL	-
	ASTM D400	Water And Sediment(Tube 2)	mL	-
IP160/9	ASTM D129	API Gravity	degrees	60.52

- = not determined

Approved Signatory: _____
Mohammad Massoumi

Date: 17-Nov-04 Accreditation No: 2013

This report relates specifically to the sample submitted for testing.

Report No: 04PEAD10818

CUT C5 – 190°C

TEST	UNIT	RESULT
Total Sulphur	mg/kg	8.89
Kinematic Viscosity @ 25°C	cSt	0.625

PHYSICAL PROPERTIES

Client: Upstream Origin Energy Report: 04PEAD10818

Sample: Condensate
Yolla 3, from UEVCM

Method		Description	Units	Cut 140-230°C
IP2	ASTM D611	Aniline Point	°C	55.0
IP143		Asphaltenes	% wt	-
IP364	ASTM D976	Calculated Cetane Index		-
IP219	ASTM D250	Cloud Point	°C	-
IP17		Colour by Lovibond Tintometer		-
IP274	ASTM D262	Conductivity of Fuels	pS/m	-
IP13	ASTM D189	Conradson C Residue on 10% Dis Residue	% wt	-
IP154	ASTM D130	Copper Corrosion		-
IP365	ASTM D405	Density @ 15°C	g/mL	0.7880
IP21		Diesel Index		
	ASTM D518	Trace Elements		
		Silver	mg/L	-
		Aluminium	mg/L	-
		Boron	mg/L	-
		Barium	mg/L	-
		Calcium	mg/L	-
		Cadmium	mg/L	-
		Chromium	mg/L	-
		Copper	mg/L	-
		Iron	mg/L	-
		Magnesium	mg/L	-
		Manganese	mg/L	-
		Molybdenum	mg/L	-
		Sodium	mg/L	-
		Nickel	mg/L	-
		Phosphorus	mg/L	-
		Lead	mg/L	-
		Silicon	mg/L	-
		Tin	mg/L	-
		Titanium	mg/L	-
		Vanadium	mg/L	-
		Zinc	mg/L	-
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	-
IP131	ASTM D381	Existent Gum by Evaporation	mg/100mL	-
IP170		Flash Point Abel Closed Cup	°C	-
IP16	ASTM D238	Freezing Point	°C	-54.5
	ASTM D132	Smoke Point	mm	24
IP15	ASTM D97	Pour Point	°C	-
IP365	ASTM D405	Specific Gravity @ 60/60°F		0.7884
IP216		Total Contaminant	mg/L	-
	ASTM D227	Viscosity Index		-
IP289	ASTM D109	Water Reaction Interface Rating		-
	ASTM D400	Total Water And Sediment	%vol	-
	ASTM D400	Water And Sediment(Tube 1)	mL	-
	ASTM D400	Water And Sediment(Tube 2)	mL	-
IP160/9	ASTM D129	API Gravity	degrees	47.98

- = not determined

Approved Signatory: _____
Mohammad Massoumi

Date: 17-Nov-04 Accreditation No: 2013

This report relates specifically to the sample submitted for testing.

Report No: 04PEAD10818

CUT 140 – 230°C

TEST	UNIT	RESULT
Total Sulphur	mg/kg	64.42
Kinematic Viscosity @ 25°C	cSt	1.193

PHYSICAL PROPERTIES

Client: Upstream Origin Energy Report: 04PEAD10818

Sample: Condensate
Yolla 3, from UEVCM

Method		Description	Units	Cut 190-230°C
IP2	ASTM D611	Aniline Point	°C	-
IP143		Asphaltenes	% wt	-
IP364	ASTM D976	Calculated Cetane Index		-
IP219	ASTM D250	Cloud Point	°C	-
IP17		Colour by Lovibond Tintometer		-
IP274	ASTM D262	Conductivity of Fuels	pS/m	-
IP13	ASTM D189	Conradson C Residue on 10% Dis Residue	% wt	-
IP154	ASTM D130	Copper Corrosion		-
IP365	ASTM D405	Density @ 15°C	g/mL	0.7992
IP21		Diesel Index		
	ASTM D518	Trace Elements		
		Silver	mg/L	-
		Aluminium	mg/L	-
		Boron	mg/L	-
		Barium	mg/L	-
		Calcium	mg/L	-
		Cadmium	mg/L	-
		Chromium	mg/L	-
		Copper	mg/L	-
		Iron	mg/L	-
		Magnesium	mg/L	-
		Manganese	mg/L	-
		Molybdenum	mg/L	-
		Sodium	mg/L	-
		Nickel	mg/L	-
		Phosphorus	mg/L	-
		Lead	mg/L	-
		Silicon	mg/L	-
		Tin	mg/L	-
		Titanium	mg/L	-
		Vanadium	mg/L	-
		Zinc	mg/L	-
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	-
IP131	ASTM D381	Existent Gum by Evaporation	mg/100mL	-
IP170		Flash Point Abel Closed Cup	°C	-
IP16	ASTM D238	Freezing Point	°C	-34.5
	ASTM D132	Smoke Point	mm	22
IP15	ASTM D97	Pour Point	°C	-
IP365	ASTM D405	Specific Gravity @ 60/60°F		0.7996
IP216		Total Contaminant	mg/L	-
	ASTM D227	Viscosity Index		-
IP289	ASTM D109	Water Reaction	Interface Rating	-
	ASTM D400	Total Water And Sediment	%vol	-
	ASTM D400	Water And Sediment(Tube 1)	mL	-
	ASTM D400	Water And Sediment(Tube 2)	mL	-
IP160/9	ASTM D129	API Gravity	degrees	45.46

- = not determined

Approved Signatory: _____
Mohammad Massoumi

Date: 17-Nov-04 Accreditation No: 2013

This report relates specifically to the sample submitted for testing.

Report No: 04PEAD10818

CUT 190 – 230°C

TEST	UNIT	RESULT
Total Sulphur	mg/kg	126.13
Kinematic Viscosity @ 25°C	cSt	1.787

PHYSICAL PROPERTIES

Client: Upstream Origin Energy Report: 04PEAD10818

Sample: Condensate
Yolla 3, from UEVCM

Method		Description	Units	Cut 230-330°C
IP2	ASTM D611	Aniline Point	°C	83.8
IP143		Asphaltenes	% wt	-
IP364	ASTM D976	Calculated Cetane Index		60.9
IP219	ASTM D250	Cloud Point	°C	6
IP17		Colour by Lovibond Tintometer		-
IP274	ASTM D262	Conductivity of Fuels	pS/m	-
IP13	ASTM D189	Conradson C Residue on 10% Dis Residue	% wt	0.12
IP154	ASTM D130	Copper Corrosion		-
IP365	ASTM D405	Density @ 15°C	g/mL	0.8183
IP21		Diesel Index		-
	ASTM D518	Trace Elements		
		Silver	mg/L	-
		Aluminium	mg/L	-
		Boron	mg/L	-
		Barium	mg/L	-
		Calcium	mg/L	-
		Cadmium	mg/L	-
		Chromium	mg/L	-
		Copper	mg/L	-
		Iron	mg/L	-
		Magnesium	mg/L	-
		Manganese	mg/L	-
		Molybdenum	mg/L	-
		Sodium	mg/L	-
		Nickel	mg/L	-
		Phosphorus	mg/L	-
		Lead	mg/L	-
		Silicon	mg/L	-
		Tin	mg/L	-
		Titanium	mg/L	-
		Vanadium	mg/L	-
		Zinc	mg/L	-
IP16	ASTM D238	Freezing Point	°C	-
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	3.374
IP71	ASTM D445	Kinematic Viscosity @ 100°C	cSt	-
IP15	ASTM D97	Pour Point	°C	-
	ASTM D238	Smoke Point	mm	-
IP365	ASTM D405	Specific Gravity @ 60/60°F		0.8187
	ASTM D518	Total Sulphur	mg/kg	-
IP216		Total Contaminant	mg/L	-
	ASTM D227	Viscosity Index		-
IP289	ASTM D109	Water Reaction Interface Rating		-
	ASTM D400	Total Water And Sediment	%vol	-
	ASTM D400	Water And Sediment(Tube 1)	mL	-
	ASTM D400	Water And Sediment(Tube 2)	mL	-
IP160/9	ASTM D129	API Gravity	degrees	41.33

- = not determined

Approved Signatory: _____
Mohammad Massoumi

Date: 17-Nov-04 Accreditation No: 2013

This report relates specifically to the sample submitted for testing.

Report No: 04PEAD10818

CUT 230 – 330°C

TEST	UNIT	RESULT
Total Sulphur	mg/kg	380.23

PHYSICAL PROPERTIES

Client: Upstream Origin Energy Report: 04PEAD10818

Sample: Condensate
Yolla 3, from UEVCM

Method		Description	Units	Cut 330°C+
IP2	ASTM D611	Aniline Point	°C	-
IP143		Asphaltenes	% wt	-
IP364	ASTM D976	Calculated Cetane Index		-
IP219	ASTM D2500	Cloud Point	°C	-
IP17		Colour by Lovibond Tintometer		-
IP274	ASTM D2624	Conductivity of Fuels	pS/m	-
IP13	ASTM D189	Conradson Carbon Residue	% wt	1.12
IP154	ASTM D130	Copper Corrosion		-
IP365	ASTM D4052	Density @ 15°C	g/mL	0.8435
IP21		Diesel Index		-
	ASTM D5185	Trace Elements		
		Silver	mg/kg	<1
		Aluminium	mg/kg	5
		Boron	mg/kg	<1
		Barium	mg/kg	<1
		Calcium	mg/kg	40
		Cadmium	mg/kg	<1
		Chromium	mg/kg	<1
		Copper	mg/kg	<1
		Iron	mg/kg	4
		Magnesium	mg/kg	2
		Manganese	mg/kg	<1
		Molybdenum	mg/kg	<1
		Sodium	mg/kg	24
		Nickel	mg/kg	<1
		Phosphorus	mg/kg	3
		Lead	mg/kg	<1
		Silicon	mg/kg	52
		Tin	mg/kg	<1
		Titanium	mg/kg	<1
		Vanadium	mg/kg	<1
		Zinc	mg/kg	1
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	-
IP16	ASTM D2386	Freezing Point	°C	-
IP71	ASTM D445	Kinematic Viscosity @ 40°C	cSt	-
IP71	ASTM D445	Kinematic Viscosity @ 100°C	cSt	-
IP15	ASTM D97	Pour Point	°C	42
	ASTM D2386	Smoke Point	mm	-
IP365	ASTM D4052	Specific Gravity @ 60/60°F		0.8439
	ASTM D5185	Total Sulphur	mg/kg	-
	ASTM D2270	Viscosity Index		-
	ASTM D4007	Total Water And Sediment	%vol	-
	ASTM D4007	Water And Sediment(Tube 1)	mL	-
	ASTM D4007	Water And Sediment(Tube 2)	mL	-
IP160/9(	ASTM D1298	API Gravity	degrees	36.17

- = not determined

Approved Signatory: _____
Mohammad Massoumi

Date: 17-Nov-04 Accreditation No: 2013

This report relates specifically to the sample submitted for testing.

Report No: 04PEAD10818

CUT 330°C+

TEST	UNIT	RESULT
Total Sulphur	%wt	0.08
Kinematic Viscosity @ 50°C	cSt	11.86
Ash Content	%wt	0.03

Report No: 04PEAD10818

METHODS

TEST	METHODS
True Boiling Point	ASTM D2892
Density-API Gravity	ASTM D4052
Kinematic Viscosity	ASTM D445
Sulphur Content	ASTM D5453, IP336
Trace Elements	ASTM D5185
PONA	GC (gas chromatography)
Smoke Point	ASTM D1322
Freezing Point	ASTM D2386
Conradson Carbon Residue	ASTM D189
Pour Point	ASTM D97
Cloud Point	ASTM D2500
Calculated Cetane Index	ASTM D976
Mercury	AAS
Aniline Point	ASTM D611
Water and Sediment	ASTM D1796
Ash Content	ASTM D482
Acid Number	ASTM D974
Lead	IP224
Hydrogen Sulphide	ASTM D3227
Mercaptans	ASTM D3227
Methanol	FTIR
Arsenic	UOP296

APPENDIX

PETROLEUM SERVICES LIQUID ANALYSIS Method GL-02-01

Client: Report # 04pead10818

Sample: 0
upstream petroleum
yolla-3 sand uevcm

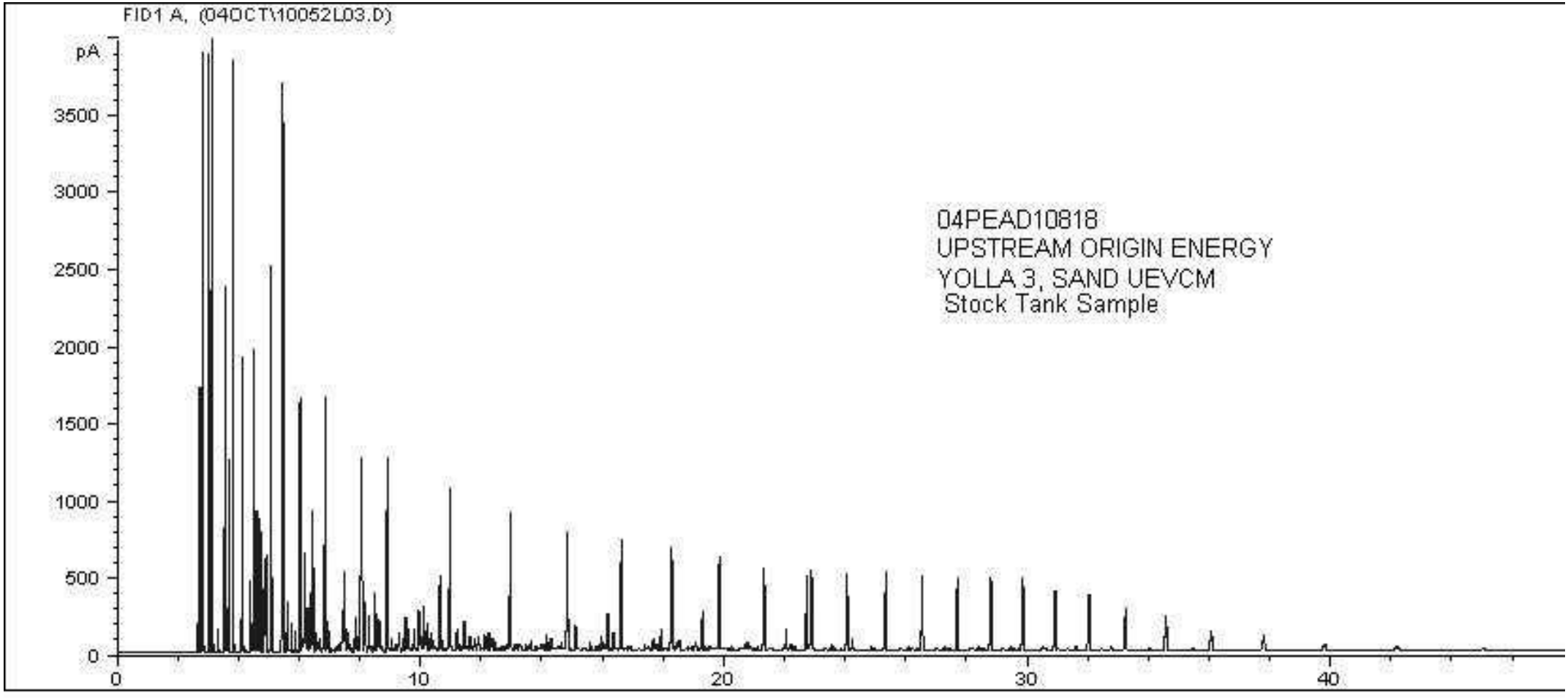
Boiling Point Range (Deg.C)	Component	Weight%	Mol%
-88.6	ETHANE	0.14	0.52
-42.1	PROPANE	1.15	3.04
-11.7	I-BUTANE	1.13	2.27
-0.5	N-BUTANE	2.72	5.44
27.9	I-PENTANE	2.86	4.62
36.1	N-PENTANE	3.50	5.64
36.1-68.9	HEXANE, C-6	7.63	10.30
80.0	BENZENE	0.49	0.73
80.7	CYCLOHEXANE	2.15	2.97
68.9-98.3	HEPTANE,C-7	9.70	11.31
100.9	METHYLCYCLOHEXANE	6.46	7.65
110.6	TOLUENE	2.29	2.89
98.3-125.6	OCTANE, C-8	8.98	9.15
136.1-144.4	ETHYLBZ+XYLENES	3.99	4.37
125.6-150.6	C-9	6.08	5.52
150.6-173.9	C-10	7.14	5.84
173.9-196.1	C-11	4.60	3.42
196.1-215.0	C-12	3.42	2.34
215.0-235.0	C-13	3.47	2.19
235.0-252.2	C-14	2.57	1.51
252.2-270.6	C-15	2.75	1.50
270.6-287.8	C-16	1.81	0.93
287.8-302.8	C-17	1.68	0.81
302.8-317.2	C-18	2.42	1.11
317.2-330.0	C-19	1.39	0.60
330.0-344.4	C-20	1.20	0.49
344.4-357.2	C-21	1.21	0.47
357.2-369.4	C-22	1.18	0.44
369.4-380.0	C-23	1.16	0.42
380.0-391.1	C-24	1.04	0.36
391.1-401.7	C-25	0.96	0.32
401.7-412.2	C-26	0.79	0.25
412.2-422.2	C-27	0.73	0.22
>422.2	C-28+	1.21	0.36
	Total	100.00	100.00
	(0.00 = LESS THAN 0.01%)		

The above boiling point ranges refer to the normal paraffin hydrocarbon boiling in that range. Aromatics, branched hydrocarbons, naphthenes and olefins may have higher or lower carbon numbers but are grouped and reported according to their boiling points.

Average molecular weight of C-8 plus fraction (calc) = 150 g/mol

This report relates specifically to the sample submitted for analysis.

Approved Signatory
Accreditation No: 2013
Date 15-Nov-04


FID1 A, (04OCT\10052L03.D)
pA
3500
3000
2500
2000
1500
1000
500
0
0
10
20
30
40
04PEAD10818
UPSTREAM ORIGIN ENERGY
YOLLA 3, SAND UEVCM
Stock Tank Sample

Report: 04PEAD10818
Sample : YOLLA #3, Stock Tank Oil From Sand UEVCM. CutC5-70°C

Components were separated on a Hewlett-Packard PONA column and quantified using a flame ionisation detector. Area counts were used directly to compute weight percentages. Components were identified by retention time comparison with a reference oil derived by pooling oils from several basins. Components in the reference oil were identified by computerised GC-MS and by comparison with published retention time data.

	Component	Weight%	Liquid vol %	Mole %
1	C 3	0.011	0.015	0.020
2	i C 4	0.151	0.179	0.203
3	n C 4	1.092	1.228	1.463
4	22 DMC 3	5.437	5.772	5.870
5	i C 5	17.597	18.482	19.000
6	n C 5	24.444	25.424	26.393
7	22 DMC 4	0.836	0.839	0.756
8	CYC 5	2.560	2.236	2.844
9	23 DMC 4	2.366	2.329	2.139
10	2 MC 5	13.102	13.063	11.844
11	3 MC 5	6.385	6.258	5.772
12	n C 6	15.273	15.064	13.807
13	22 DMC 5	0.116	0.112	0.090
14	M CYC 5	5.634	4.902	5.216
15	24 DMC 5	0.184	0.178	0.143
16	223 TMC 4	0.027	0.026	0.021
17	BZ	1.660	1.231	1.656
18	33 DMC 5	0.019	0.017	0.014
19	CYC 6	2.132	1.783	1.973
20	2 MC 6	0.178	0.171	0.139
21	23 DMC 5	0.057	0.054	0.045
22	11 DMCYC 5	0.054	0.047	0.043
23	3 MC 6	0.114	0.108	0.088
24	t 13 DMCYC 5	0.068	0.060	0.054
25	c 13 DMCYC 5	0.057	0.050	0.045
26	3 EC 5	-	-	-
27	t 12 DMCYC 5	0.079	0.070	0.063
28	n C7	0.090	0.086	0.070
29	MCYC 6	0.101	0.086	0.081
30	22 DMC 6	-	-	-
31	ECYC 5	-	-	-
32	25 DMC 6	-	-	-
33	24 DMC 6	-	-	-
34	tc 124 TMCYC 5	-	-	-
35	234 TMC 5	-	-	-
36	tc 123 TMCYC 5	-	-	-
37	233 TMC 5	-	-	-
38	TOL	0.175	0.132	0.148
39	23 DMC 6	-	-	-
40	2 M 3 EC 5	-	-	-
41	2 MC 7	-	-	-
42	4 MC 7	-	-	-
43	34 DMC 6	-	-	-
44	tt 124 TMCYC 5	-	-	-
45	3 MC 7	-	-	-
46	1 M 2 E CYC 5	-	-	-

Component		Weight%	Liquid vol %	Mole %
47	t 14 DMCYC 6	-	-	-
48	C 8-N	-	-	-
49	C 8-P	-	-	-
50	C 8-N	-	-	-
51	C 8-N	-	-	-
52	c 1 M 3 ECYC 6	-	-	-
53	C 8-P	-	-	-
54	t 12 DMCYC 6	-	-	-
55	n C 8	-	-	-
56	C 8-N	-	-	-
57	unk	-	-	-
58	C 9-P	-	-	-
59	unk	-	-	-
60	C 9-P	-	-	-
61	C 9-P	-	-	-
62	n C 3 CYC 5	-	-	-
63	N	-	-	-
64	113 TMCYC 6	-	-	-
65	C 9-P	-	-	-
66	C 9-P	-	-	-
67	N	-	-	-
68	N	-	-	-
69	N	-	-	-
70	E BZ	-	-	-
71	114 TMCYC 6	-	-	-
72	unk	-	-	-
73	unk	-	-	-
74	m+p XYL	-	-	-
75	C 9-P	-	-	-
76	23 DMC 7	-	-	-
77	C 9-P	-	-	-
78	4 MC 8	-	-	-
79	2 MC 8	-	-	-
80	C 9-P	-	-	-
81	3 MC 8	-	-	-
82	N	-	-	-
83	o XYL	-	-	-
84	unk	-	-	-
85	unk	-	-	-
86	1 M 2 PCYC 5	-	-	-
87	t 1 M 4 ECYC 6	-	-	-
88	c 1 M 4 ECYC 6	-	-	-
89	N	-	-	-
90	N	-	-	-
91	N	-	-	-
92	n C9	-	-	-
93	1 M 1 ECYC 6	-	-	-
94	C 9-N	-	-	-
95	i PBZ	-	-	-
96	C 10-P	-	-	-
97	C 9-N	-	-	-
98	C 9-N	-	-	-
99	C 10-P	-	-	-
100	C 10-P	-	-	-
101	unk	-	-	-

Component		Weight%	Liquid vol %	Mole %
102	C 10-P	-	-	-
103	s BCYC 5	-	-	-
104	C 10-P	-	-	-
105	C 10-P	-	-	-
106	3 MC 9	-	-	-
107	C 10-P	-	-	-
108	unk	-	-	-
109	unk	-	-	-
110	n PBZ	-	-	-
111	N	-	-	-
112	unk	-	-	-
113	unk	-	-	-
114	m E TOL	-	-	-
115	p E TOL	-	-	-
116	135 TM BZ	-	-	-
117	N	-	-	-
118	C 10-N	-	-	-
119	C 10-P	-	-	-
120	2 MC 9	-	-	-
121	o E TOL	-	-	-
122	C 10-P	-	-	-
123	36 DMC 8	-	-	-
124	N	-	-	-
125	C 10-N	-	-	-
126	124 TM BZ	-	-	-
127	C 10-N	-	-	-
128	N	-	-	-
129	C 10-N	-	-	-
130	N	-	-	-
131	N	-	-	-
132	N	-	-	-
133	C 10-P	-	-	-
134	n C 10	-	-	-
135	unk	-	-	-
136	unk	-	-	-
137	123 TM BZ	-	-	-
138	unk	-	-	-
139	unk	-	-	-
140	unk	-	-	-
141	unk	-	-	-
142	C 10-A	-	-	-
143	C 10-N	-	-	-
144	C 11-P	-	-	-
145	unk	-	-	-
146	C 10-N	-	-	-
147	unk	-	-	-
148	unk	-	-	-
149	C 10-A	-	-	-
150	C 10-A	-	-	-
151	C 10-A	-	-	-
152	unk	-	-	-
153	C 10-A	-	-	-
154	unk	-	-	-
155	unk	-	-	-
156	unk	-	-	-

Component		Weight%	Liquid vol %	Mole %
157	unk	-	-	-
158	C 10-A	-	-	-
159	C 11-P	-	-	-
160	C 11-P	-	-	-
161	C 11-P	-	-	-
162	C 10-A	-	-	-
163	C 11-P	-	-	-
164	C 10-A	-	-	-
165	unk	-	-	-
166	unk	-	-	-
167	unk	-	-	-
168	C 10-A	-	-	-
169	n C 11	-	-	-
170	unk	-	-	-
171	C 10-A	-	-	-
172	unk	-	-	-
173	C 10-A	-	-	-
174	unk	-	-	-
175	unk	-	-	-
176	unk	-	-	-
177	unk	-	-	-
178	unk	-	-	-
179	C 12-P	-	-	-
180	unk	-	-	-
181	unk	-	-	-
182	unk	-	-	-
183	unk	-	-	-
184	C 11-A	-	-	-
185	unk	-	-	-
186	C 12-P	-	-	-
187	C 11-A	-	-	-
188	unk	-	-	-
189	n C 12	-	-	-

The symbol - signifies < 0.005%

The percentages of the component types are as follows:-

	Weight%	Liquid vol%	Mol %
Paraffins	87.478	89.404	87.877
Naphthenes	10.686	9.234	10.319
Aromatics	1.835	1.362	1.804
Unknowns	0.000	0.000	0.000
Olefins	<0.1	<0.1	<0.1
Average molecular weight	78.63	Denisty @ 15°C	0.6537

Unknown components are not used in average molecular weight and specific gravity calculations. Samples with a high proportion of unknowns may therefore have unreliable calculated molecular weights and specific gravities. Weight percents of unknown components are converted to volume% and mole% and used in calculation of molecular weight and density assuming the average properties of the PNA components of closest boiling range.

ABBREVIATIONS: D = di; T = tri; M = methyl; E = ethyl; P = propyl; B = butyl; CYC = cyclo
BZ = benzene; TOL = toluene; XYL = xylene; unk = unknown.
PREFIXES: i = iso; n = normal; s = secondary; o = ortho; m = meta; p = para; c = cis; t = trans.
SUFFIXES: A = aromatic; N = naphthene; P = paraffin.

Report: 04PEAD10818
Sample : YOLLA #3, Stock Tank Oil From Sand UEVCM. Cut 70-150°C

Components were separated on a Hewlett-Packard PONA column and quantified using a flame ionisation detector. Area counts were used directly to compute weight percentages. Components were identified by retention time comparison with a reference oil derived by pooling oils from several basins. Components in the reference oil were identified by computerised GC-MS and by comparison with published retention time data.

	Component	Weight%	Liquid vol %	Mole %
1	C 3	-	-	-
2	i C 4	-	-	-
3	n C 4	0.005	0.006	0.009
4	22 DMC 3	1.420	1.728	1.997
5	i C 5	0.035	0.042	0.050
6	n C 5	0.071	0.085	0.100
7	22 DMC 4	0.013	0.015	0.016
8	CYC 5	-	-	-
9	23 DMC 4	0.134	0.151	0.157
10	2 MC 5	0.879	1.005	1.035
11	3 MC 5	0.714	0.802	0.840
12	n C 6	4.001	4.524	4.710
13	22 DMC 5	0.175	0.194	0.177
14	M CYC 5	2.739	2.732	3.302
15	24 DMC 5	0.354	0.393	0.359
16	223 TMC 4	0.058	0.063	0.059
17	BZ	0.681	0.578	0.884
18	33 DMC 5	0.106	0.114	0.108
19	CYC 6	4.495	4.310	5.419
20	2 MC 6	2.387	2.626	2.417
21	23 DMC 5	0.697	0.749	0.706
22	11 DMCYC 5	0.470	0.465	0.486
23	3 MC 6	2.228	2.425	2.256
24	t 13 DMCYC 5	1.111	1.121	1.148
25	c 13 DMCYC 5	1.160	1.164	1.199
26	3 EC 5	-	-	-
27	t 12 DMCYC 5	1.633	1.650	1.687
28	n C7	8.245	9.004	8.348
29	MCYC 6	15.202	14.751	15.707
30	22 DMC 6	0.399	0.429	0.355
31	ECYC 5	-	-	-
32	25 DMC 6	0.957	1.030	0.850
33	24 DMC 6	0.354	0.379	0.315
34	tc 124 TMCYC 5	0.503	0.493	0.455
35	234 TMC 5	0.057	0.059	0.050
36	tc 123 TMCYC 5	0.392	0.380	0.355
37	233 TMC 5	0.019	0.019	0.017
38	TOL	8.628	7.430	9.500
39	23 DMC 6	0.246	0.258	0.218
40	2 M 3 EC 5	0.080	0.083	0.071
41	2 MC 7	2.087	2.232	1.853
42	4 MC 7	0.558	0.591	0.495
43	34 DMC 6	0.121	0.125	0.107
44	tt 124 TMCYC 5	-	-	-
45	3 MC 7	1.415	1.495	1.257
46	1 M 2 E CYC 5	3.252	3.243	2.940

Component		Weight%	Liquid vol %	Mole %
47	t 14 DMCYC 6	1.397	1.367	1.263
48	C 8-N	0.369	0.354	0.333
49	C 8-P	-	-	-
50	C 8-N	0.189	0.181	0.171
51	C 8-N	0.170	0.163	0.154
52	c 1 M 3 ECYC 6	0.243	0.240	0.196
53	C 8-P	0.045	0.047	0.040
54	t 12 DMCYC 6	1.196	1.121	1.081
55	n C 8	6.789	7.215	6.030
56	C 8-N	0.754	0.723	0.682
57	unk	0.064	0.062	0.056
58	C 9-P	0.092	0.096	0.073
59	unk	0.028	0.026	0.026
60	C 9-P	0.168	0.174	0.133
61	C 9-P	0.751	0.781	0.594
62	n C 3 CYC 5	1.701	1.636	1.538
63	N	0.016	0.015	0.014
64	113 TMCYC 6	0.411	0.394	0.330
65	C 9-P	0.338	0.351	0.267
66	C 9-P	0.106	0.110	0.084
67	N	0.033	0.032	0.030
68	N	0.035	0.034	0.032
69	N	0.066	0.063	0.060
70	E BZ	0.747	0.643	0.714
71	114 TMCYC 6	0.258	0.250	0.207
72	unk	0.026	0.025	0.022
73	unk	0.340	0.324	0.287
74	m+p XYL	6.411	5.576	6.127
75	C 9-P	-	-	-
76	23 DMC 7	-	-	-
77	C 9-P	-	-	-
78	4 MC 8	0.375	0.389	0.297
79	2 MC 8	0.749	0.787	0.593
80	C 9-P	0.066	0.069	0.052
81	3 MC 8	0.614	0.637	0.486
82	N	0.109	0.106	0.098
83	o XYL	1.134	0.962	1.083
84	unk	-	-	-
85	unk	0.102	0.096	0.087
86	1 M 2 PCYC 5	-	-	-
87	t 1 M 4 ECYC 6	0.435	0.407	0.349
88	c 1 M 4 ECYC 6	0.189	0.181	0.152
89	N	-	-	-
90	N	0.099	0.095	0.080
91	N	-	-	-
92	n C9	3.204	3.334	2.535
93	1 M 1 ECYC 6	0.173	0.163	0.139
94	C 9-N	0.050	0.047	0.040
95	i PBZ	0.026	0.023	0.022
96	C 10-P	0.018	0.018	0.013
97	C 9-N	0.053	0.051	0.043
98	C 9-N	0.203	0.192	0.163
99	C 10-P	-	-	-
100	C 10-P	0.054	0.056	0.039
101	unk	0.045	0.042	0.035

Component		Weight%	Liquid vol %	Mole %
102	C 10-P	0.026	0.027	0.019
103	s BCYC 5	0.234	0.221	0.188
104	C 10-P	-	-	-
105	C 10-P	0.031	0.031	0.022
106	3 MC 9	0.111	0.114	0.079
107	C 10-P	0.026	0.027	0.019
108	unk	-	-	-
109	unk	0.018	0.017	0.014
110	n PBZ	-	-	-
111	N	0.078	0.073	0.056
112	unk	0.083	0.078	0.063
113	unk	0.013	0.012	0.010
114	m E TOL	0.011	0.009	0.009
115	p E TOL	-	-	-
116	135 TM BZ	0.234	0.202	0.197
117	N	0.125	0.117	0.091
118	C 10-N	0.009	0.009	0.007
119	C 10-P	0.154	0.155	0.110
120	2 MC 9	0.027	0.028	0.019
121	o E TOL	0.027	0.023	0.023
122	C 10-P	-	-	-
123	36 DMC 8	0.061	0.063	0.044
124	N	-	-	-
125	C 10-N	-	-	-
126	124 TM BZ	0.121	0.103	0.102
127	C 10-N	-	-	-
128	N	-	-	-
129	C 10-N	-	-	-
130	N	-	-	-
131	N	-	-	-
132	N	-	-	-
133	C 10-P	-	-	-
134	n C 10	0.073	0.075	0.052
135	unk	-	-	-
136	unk	-	-	-
137	123 TM BZ	-	-	-
138	unk	0.009	0.009	0.007
139	unk	-	-	-
140	unk	-	-	-
141	unk	-	-	-
142	C 10-A	-	-	-
143	C 10-N	-	-	-
144	C 11-P	-	-	-
145	unk	-	-	-
146	C 10-N	-	-	-
147	unk	-	-	-
148	unk	-	-	-
149	C 10-A	-	-	-
150	C 10-A	-	-	-
151	C 10-A	-	-	-
152	unk	-	-	-
153	C 10-A	-	-	-
154	unk	-	-	-
155	unk	-	-	-
156	unk	-	-	-

Component		Weight%	Liquid vol %	Mole %
157	unk	-	-	-
158	C 10-A	-	-	-
159	C 11-P	-	-	-
160	C 11-P	-	-	-
161	C 11-P	-	-	-
162	C 10-A	-	-	-
163	C 11-P	-	-	-
164	C 10-A	-	-	-
165	unk	-	-	-
166	unk	-	-	-
167	unk	-	-	-
168	C 10-A	-	-	-
169	n C 11	-	-	-
170	unk	-	-	-
171	C 10-A	-	-	-
172	unk	-	-	-
173	C 10-A	-	-	-
174	unk	-	-	-
175	unk	-	-	-
176	unk	-	-	-
177	unk	-	-	-
178	unk	-	-	-
179	C 12-P	-	-	-
180	unk	-	-	-
181	unk	-	-	-
182	unk	-	-	-
183	unk	-	-	-
184	C 11-A	-	-	-
185	unk	-	-	-
186	C 12-P	-	-	-
187	C 11-A	-	-	-
188	unk	-	-	-
189	n C 12	-	-	-

The symbol - signifies < 0.005%

The percentages of the component types are as follows:-

	Weight%	Liquid vol%	Mol %
Paraffins	41.696	45.211	40.532
Naphthenes	39.554	38.546	40.197
Aromatics	18.022	15.552	18.664
Unknowns	0.728	0.691	0.607
Olefins	<0.1	<0.1	<0.1
Average molecular weight	102.99	Denisty @ 15°C	0.7530

Unknown components are not used in average molecular weight and specific gravity calculations. Samples with a high proportion of unknowns may therefore have unreliable calculated molecular weights and specific gravities. Weight percents of unknown components are converted to volume% and mole% and used in calculation of molecular weight and density assuming the average properties of the PNA components of closest boiling range.

ABBREVIATIONS: D = di; T = tri; M = methyl; E = ethyl; P = propyl; B = butyl; CYC = cyclo
BZ = benzene; TOL = toluene; XYL = xylene; unk = unknown.
PREFIXES: i = iso; n = normal; s = secondary; o = ortho; m = meta; p = para; c = cis; t = trans.
SUFFIXES: A = aromatic; N = naphthene; P = paraffin.

Report: 04PEAD10818
Sample : YOLLA #3, Stock Tank Oil From Sand UEVCM. Cut C5-190°C

Components were separated on a Hewlett-Packard PONA column and quantified using a flame ionisation detector. Area counts were used directly to compute weight percentages. Components were identified by retention time comparison with a reference oil derived by pooling oils from several basins. Components in the reference oil were identified by computerised GC-MS and by comparison with published retention time data.

	Component	Weight%	Liquid vol %	Mole %
1	C 3	-	-	-
2	i C 4	0.023	0.030	0.039
3	n C 4	0.180	0.225	0.304
4	22 DMC 3	0.906	1.067	1.230
5	i C 5	2.997	3.492	4.068
6	n C 5	4.182	4.825	5.676
7	22 DMC 4	0.149	0.166	0.169
8	CYC 5	0.438	0.425	0.612
9	23 DMC 4	0.493	0.538	0.560
10	2 MC 5	2.701	2.988	3.069
11	3 MC 5	14.802	16.094	16.820
12	n C 6	4.826	5.280	5.484
13	22 DMC 5	0.120	0.128	0.117
14	M CYC 5	2.491	2.405	2.899
15	24 DMC 5	0.231	0.248	0.225
16	223 TMC 4	0.040	0.042	0.039
17	BZ	0.665	0.547	0.833
18	33 DMC 5	0.063	0.066	0.061
19	CYC 6	2.888	2.680	3.360
20	2 MC 6	1.376	1.465	1.344
21	23 DMC 5	0.403	0.419	0.393
22	11 DMCYC 5	0.275	0.263	0.274
23	3 MC 6	1.275	1.343	1.246
24	t 13 DMCYC 5	0.638	0.623	0.636
25	c 13 DMCYC 5	0.663	0.644	0.661
26	3 EC 5	-	-	-
27	t 12 DMCYC 5	0.933	0.913	0.931
28	n C7	4.662	4.927	4.556
29	MCYC 6	8.581	8.059	8.559
30	22 DMC 6	0.229	0.238	0.196
31	ECYC 5	-	-	-
32	25 DMC 6	0.539	0.561	0.462
33	24 DMC 6	0.201	0.208	0.173
34	tc 124 TMCYC 5	0.331	0.314	0.289
35	234 TMC 5	-	-	-
36	tc 123 TMCYC 5	0.222	0.209	0.194
37	233 TMC 5	0.010	0.010	0.009
38	TOL	4.891	4.076	5.197
39	23 DMC 6	0.138	0.140	0.119
40	2 M 3 EC 5	0.042	0.042	0.036
41	2 MC 7	1.181	1.222	1.012
42	4 MC 7	0.317	0.325	0.271
43	34 DMC 6	0.069	0.069	0.059
44	tt 124 TMCYC 5	-	-	-
45	3 MC 7	0.591	0.605	0.507
46	1 M 2 E CYC 5	1.848	1.783	1.612

Component		Weight%	Liquid vol %	Mole %
47	t 14 DMCYC 6	0.795	0.753	0.694
48	C 8-N	0.210	0.195	0.183
49	C 8-P	-	-	-
50	C 8-N	0.107	0.099	0.093
51	C 8-N	0.096	0.090	0.084
52	c 1 M 3 ECYC 6	0.138	0.132	0.107
53	C 8-P	0.025	0.026	0.022
54	t 12 DMCYC 6	0.684	0.620	0.597
55	n C 8	3.873	3.984	3.321
56	C 8-N	0.430	0.399	0.375
57	unk	0.038	0.036	0.032
58	C 9-P	0.052	0.053	0.040
59	unk	0.017	0.015	0.015
60	C 9-P	0.099	0.099	0.075
61	C 9-P	0.451	0.453	0.344
62	n C 3 CYC 5	1.015	0.945	0.886
63	N	0.010	0.010	0.009
64	113 TMCYC 6	0.252	0.233	0.195
65	C 9-P	0.214	0.215	0.163
66	C 9-P	0.069	0.070	0.053
67	N	0.021	0.019	0.018
68	N	0.023	0.021	0.020
69	N	0.042	0.038	0.037
70	E BZ	0.451	0.376	0.416
71	114 TMCYC 6	0.185	0.173	0.143
72	unk	0.019	0.017	0.015
73	unk	0.226	0.208	0.184
74	m+p XYL	4.016	3.380	3.704
75	C 9-P	-	-	-
76	23 DMC 7	-	-	-
77	C 9-P	-	-	-
78	4 MC 8	0.256	0.257	0.195
79	2 MC 8	0.533	0.542	0.407
80	C 9-P	0.055	0.055	0.042
81	3 MC 8	0.440	0.442	0.336
82	N	0.084	0.079	0.073
83	o XYL	0.797	0.654	0.735
84	unk	-	-	-
85	unk	0.088	0.081	0.073
86	1 M 2 PCYC 5	-	-	-
87	t 1 M 4 ECYC 6	0.413	0.374	0.320
88	c 1 M 4 ECYC 6	0.193	0.179	0.150
89	N	-	-	-
90	N	0.090	0.084	0.070
91	N	-	-	-
92	n C9	3.227	3.250	2.464
93	1 M 1 ECYC 6	0.218	0.200	0.169
94	C 9-N	0.065	0.060	0.050
95	i PBZ	0.036	0.030	0.029
96	C 10-P	0.027	0.027	0.019
97	C 9-N	0.090	0.083	0.070
98	C 9-N	0.292	0.267	0.226
99	C 10-P	0.013	0.012	0.009
100	C 10-P	0.105	0.104	0.072
101	unk	0.080	0.073	0.060

Component		Weight%	Liquid vol %	Mole %
102	C 10-P	0.073	0.073	0.051
103	s BCYC 5	0.440	0.404	0.342
104	C 10-P	-	-	-
105	C 10-P	-	-	-
106	3 MC 9	0.354	0.351	0.244
107	C 10-P	0.071	0.071	0.049
108	unk	-	-	-
109	unk	-	-	-
110	n PBZ	-	-	-
111	N	0.294	0.266	0.205
112	unk	0.180	0.164	0.132
113	unk	0.040	0.036	0.029
114	m E TOL	0.036	0.030	0.029
115	p E TOL	0.027	0.023	0.022
116	135 TM BZ	0.558	0.466	0.454
117	N	0.432	0.391	0.302
118	C 10-N	0.042	0.038	0.029
119	C 10-P	0.457	0.447	0.315
120	2 MC 9	0.191	0.189	0.131
121	o E TOL	0.191	0.157	0.155
122	C 10-P	0.036	0.035	0.025
123	36 DMC 8	0.359	0.356	0.247
124	N	0.059	0.053	0.041
125	C 10-N	0.040	0.036	0.028
126	124 TM BZ	1.070	0.882	0.871
127	C 10-N	-	-	-
128	N	0.113	0.102	0.079
129	C 10-N	0.080	0.072	0.056
130	N	-	-	-
131	N	-	-	-
132	N	-	-	-
133	C 10-P	-	-	-
134	n C 10	2.559	2.537	1.761
135	unk	0.046	0.041	0.034
136	unk	0.050	0.045	0.037
137	123 TM BZ	0.111	0.090	0.091
138	unk	0.252	0.226	0.178
139	unk	0.090	0.081	0.064
140	unk	-	-	-
141	unk	0.055	0.049	0.039
142	C 10-A	0.363	0.305	0.265
143	C 10-N	0.363	0.328	0.253
144	C 11-P	0.120	0.117	0.075
145	unk	-	-	-
146	C 10-N	0.206	0.186	0.143
147	unk	-	-	-
148	unk	0.055	0.048	0.038
149	C 10-A	0.046	0.039	0.034
150	C 10-A	0.149	0.125	0.109
151	C 10-A	-	-	-
152	unk	0.069	-	-
153	C 10-A	0.180	0.152	0.132
154	unk	0.038	0.034	0.026
155	unk	-	-	-
156	unk	0.084	0.076	0.057

Component		Weight%	Liquid vol %	Mole %
157	unk	-	-	-
158	C 10-A	0.099	0.083	0.072
159	C 11-P	0.071	0.070	0.045
160	C 11-P	0.166	0.162	0.104
161	C 11-P	-	-	-
162	C 10-A	0.090	0.076	0.066
163	C 11-P	0.059	0.057	0.037
164	C 10-A	0.034	0.028	0.024
165	unk	0.034	0.030	0.023
166	unk	-	-	-
167	unk	0.038	0.034	0.025
168	C 10-A	0.019	0.016	0.014
169	n C 11	0.940	0.919	0.589
170	unk	-	-	-
171	C 10-A	-	-	-
172	unk	-	-	-
173	C 10-A	0.038	0.032	0.028
174	unk	0.034	0.030	0.022
175	unk	0.036	0.032	0.023
176	unk	-	-	-
177	unk	0.023	0.021	0.015
178	unk	-	-	-
179	C 12-P	0.023	0.022	0.013
180	unk	-	-	-
181	unk	-	-	-
182	unk	-	-	-
183	unk	-	-	-
184	C 11-A	-	-	-
185	unk	-	-	-
186	C 12-P	-	-	-
187	C 11-A	-	-	-
188	unk	-	-	-
189	n C 12	0.057	0.055	0.033

The symbol - signifies < 0.005%

The percentages of the component types are as follows:-

	Weight%	Liquid vol%	Mol %
Paraffins	57.717	61.812	59.525
Naphthenes	26.829	25.244	26.074
Aromatics	13.864	11.566	13.280
Unknowns	1.590	1.378	1.121
Olefins	<0.1	<0.1	<0.1
Average molecular weight	101.06	Denisty @ 15°C	0.7369

Unknown components are not used in average molecular weight and specific gravity calculations. Samples with a high proportion of unknowns may therefore have unreliable calculated molecular weights and specific gravities. Weight percents of unknown components are converted to volume% and mole% and used in calculation of molecular weight and density assuming the average properties of the PNA components of closest boiling range.

ABBREVIATIONS: D = di; T = tri; M = methyl; E = ethyl; P = propyl; B = butyl; CYC = cyclo
BZ = benzene; TOL = toluene; XYL = xylene; unk = unknown.
PREFIXES: i = iso; n = normal; s = secondary; o = ortho; m = meta; p = para; c = cis; t = trans.
SUFFIXES: A = aromatic; N = naphthene; P = paraffin.

Report: 04PEAD10818
Sample : YOLLA #3, Stock Tank Oil From Sand UEVCM. Cut 140-230°C

Components were separated on a Hewlett-Packard PONA column and quantified using a flame ionisation detector. Area counts were used directly to compute weight percentages. Components were identified by retention time comparison with a reference oil derived by pooling oils from several basins. Components in the reference oil were identified by computerised GC-MS and by comparison with published retention time data.

	Component	Weight%	Liquid vol %	Mole %
1	C 3	-	-	-
2	i C 4	-	-	-
3	n C 4	-	-	-
4	22 DMC 3	-	-	0.006
5	i C 5	0.006	0.008	0.012
6	n C 5	0.006	0.008	0.012
7	22 DMC 4	-	-	-
8	CYC 5	-	-	-
9	23 DMC 4	-	-	-
10	2 MC 5	-	-	-
11	3 MC 5	-	-	-
12	n C 6	-	-	-
13	22 DMC 5	-	-	-
14	M CYC 5	-	-	-
15	24 DMC 5	-	-	-
16	223 TMC 4	-	-	-
17	BZ	-	-	-
18	33 DMC 5	-	-	-
19	CYC 6	-	-	-
20	2 MC 6	-	-	-
21	23 DMC 5	-	-	-
22	11 DMCYC 5	-	-	-
23	3 MC 6	-	-	-
24	t 13 DMCYC 5	-	-	-
25	c 13 DMCYC 5	-	-	-
26	3 EC 5	-	-	-
27	t 12 DMCYC 5	-	-	-
28	n C7	0.006	0.007	0.008
29	MCYC 6	0.022	0.022	0.030
30	22 DMC 6	-	-	-
31	ECYC 5	-	-	-
32	25 DMC 6	-	-	-
33	24 DMC 6	-	-	-
34	tc 124 TMCYC 5	-	-	-
35	234 TMC 5	-	-	-
36	tc 123 TMCYC 5	-	-	-
37	233 TMC 5	-	-	-
38	TOL	0.031	0.028	0.045
39	23 DMC 6	-	-	-
40	2 M 3 EC 5	-	-	-
41	2 MC 7	0.050	0.055	0.059
42	4 MC 7	0.016	0.017	0.018
43	34 DMC 6	-	-	-
44	tt 124 TMCYC 5	-	-	-
45	3 MC 7	0.050	0.055	0.059
46	1 M 2 E CYC 5	0.255	0.264	0.306

Component		Weight%	Liquid vol %	Mole %
47	t 14 DMCYC 6	0.109	0.111	0.130
48	C 8-N	0.031	0.031	0.037
49	C 8-P	-	-	-
50	C 8-N	0.016	0.015	0.019
51	C 8-N	0.016	0.015	0.019
52	c 1 M 3 ECYC 6	0.022	0.022	0.023
53	C 8-P	0.006	0.007	0.007
54	t 12 DMCYC 6	0.221	0.215	0.265
55	n C 8	1.143	1.260	1.344
56	C 8-N	0.149	0.149	0.179
57	unk	0.031	0.032	0.036
58	C 9-P	0.053	0.057	0.055
59	unk	0.009	0.009	0.011
60	C 9-P	0.109	0.117	0.114
61	C 9-P	0.620	0.668	0.649
62	n C 3 CYC 5	1.187	1.184	1.420
63	N	0.016	0.015	0.019
64	113 TMCYC 6	0.383	0.380	0.408
65	C 9-P	0.392	0.423	0.411
66	C 9-P	0.134	0.144	0.140
67	N	0.037	0.037	0.045
68	N	0.040	0.040	0.048
69	N	0.081	0.080	0.097
70	E BZ	0.582	0.520	0.737
71	114 TMCYC 6	0.473	0.476	0.504
72	unk	0.044	0.043	0.049
73	unk	0.520	0.513	0.581
74	m+p XYL	7.129	6.431	9.018
75	C 9-P	-	-	-
76	23 DMC 7	-	-	-
77	C 9-P	-	-	-
78	4 MC 8	0.648	0.697	0.678
79	2 MC 8	1.430	1.558	1.497
80	C 9-P	0.118	0.128	0.124
81	3 MC 8	1.261	1.356	1.321
82	N	0.234	0.235	0.280
83	o XYL	2.012	1.770	2.545
84	unk	-	-	-
85	unk	0.283	0.278	0.322
86	1 M 2 PCYC 5	-	-	-
87	t 1 M 4 ECYC 6	1.317	1.280	1.401
88	c 1 M 4 ECYC 6	0.626	0.622	0.666
89	N	-	-	-
90	N	0.283	0.282	0.302
91	N	-	-	-
92	n C9	10.807	11.663	11.310
93	1 M 1 ECYC 6	0.738	0.725	0.785
94	C 9-N	0.221	0.217	0.235
95	i PBZ	0.125	0.112	0.139
96	C 10-P	0.097	0.103	0.091
97	C 9-N	0.315	0.309	0.335
98	C 9-N	1.000	0.982	1.064
99	C 10-P	0.040	0.043	0.038
100	C 10-P	0.368	0.391	0.347
101	unk	0.280	0.274	0.291

Component		Weight%	Liquid vol %	Mole %
102	C 10-P	0.271	0.288	0.256
103	s BCYC 5	1.539	1.511	1.637
104	C 10-P	-	-	-
105	C 10-P	-	-	-
106	3 MC 9	1.261	1.341	1.191
107	C 10-P	0.252	0.268	0.238
108	unk	0.009	0.009	0.009
109	unk	-	-	-
110	n PBZ	-	-	-
111	N	1.053	1.021	1.008
112	unk	0.635	0.618	0.636
113	unk	0.137	0.133	0.137
114	m E TOL	0.125	0.112	0.139
115	p E TOL	0.093	0.084	0.104
116	135 TM BZ	2.003	1.792	2.237
117	N	1.542	1.495	1.476
118	C 10-N	0.140	0.136	0.134
119	C 10-P	2.523	2.645	2.381
120	2 MC 9	0.701	0.745	0.661
121	o E TOL	0.701	0.616	0.783
122	C 10-P	0.125	0.132	0.118
123	36 DMC 8	1.305	1.387	1.232
124	N	0.368	0.356	0.352
125	C 10-N	0.215	0.208	0.206
126	124 TM BZ	4.046	3.577	4.520
127	C 10-N	-	-	-
128	N	0.420	0.408	0.403
129	C 10-N	0.262	0.254	0.250
130	N	0.044	0.042	0.042
131	N	0.019	0.018	0.018
132	N	0.022	0.021	0.021
133	C 10-P	-	-	-
134	n C 10	10.004	10.632	9.442
135	unk	0.137	0.131	0.137
136	unk	0.193	0.185	0.193
137	123 TM BZ	0.433	0.375	0.484
138	unk	0.978	0.942	0.947
139	unk	0.392	0.378	0.38
140	unk	-	-	-
141	unk	-	-	-
142	C 10-A	0.221	0.199	0.221
143	C 10-N	1.451	1.407	1.390
144	C 11-P	0.511	0.536	0.439
145	unk	0.078	0.076	0.073
146	C 10-N	0.913	0.885	0.874
147	unk	-	-	-
148	unk	0.243	0.230	0.232
149	C 10-A	0.221	0.199	0.221
150	C 10-A	0.638	0.576	0.639
151	C 10-A	0.047	0.042	0.047
152	unk	0.308	-	-
153	C 10-A	0.813	0.733	0.813
154	unk	0.184	0.178	0.172
155	unk	0.162	0.157	0.151
156	unk	0.417	0.405	0.390

Component		Weight%	Liquid vol %	Mole %
157	unk	-	-	-
158	C 10-A	0.498	0.450	0.499
159	C 11-P	0.417	0.438	0.359
160	C 11-P	0.934	0.980	0.803
161	C 11-P	0.093	0.098	0.080
162	C 10-A	0.564	0.509	0.564
163	C 11-P	0.299	0.313	0.257
164	C 10-A	0.193	0.174	0.193
165	unk	0.280	0.272	0.259
166	unk	0.137	0.133	0.127
167	unk	0.274	0.266	0.253
168	C 10-A	0.143	0.129	0.143
169	n C 11	8.705	9.126	7.478
170	unk	-	-	-
171	C 10-A	0.202	0.183	0.203
172	unk	0.165	0.160	0.153
173	C 10-A	0.339	0.306	0.340
174	unk	0.368	0.354	0.324
175	unk	-	-	-
176	unk	-	-	-
177	unk	0.389	0.375	0.343
178	unk	0.492	0.474	0.434
179	C 12-P	0.498	0.515	0.393
180	unk	0.190	0.183	0.167
181	unk	0.149	0.144	0.131
182	unk	0.100	0.096	0.088
183	unk	0.287	0.277	0.252
184	C 11-A	0.330	0.298	0.299
185	unk	0.751	0.725	0.659
186	C 12-P	0.424	0.438	0.334
187	C 11-A	0.601	0.542	0.545
188	unk	0.293	0.283	0.257
189	n C 12	7.525	7.784	5.934

The symbol - signifies < 0.005%

The percentages of the component types are as follows:-

	Weight%	Liquid vol%	Mol %
Paraffins	53.214	56.435	49.900
Naphthenes	15.778	15.472	16.428
Aromatics	22.091	19.759	25.478
Unknowns	8.917	8.334	8.194
Olefins	<0.1	<0.1	<0.1
Average molecular weight	135.63	Denisty @ 15°C	0.7884

Unknown components are not used in average molecular weight and specific gravity calculations. Samples with a high proportion of unknowns may therefore have unreliable calculated molecular weights and specific gravities. Weight percents of unknown components are converted to volume% and mole% and used in calculation of molecular weight and density assuming the average properties of the PNA components of closest boiling range.

ABBREVIATIONS: D = di; T = tri; M = methyl; E = ethyl; P = propyl; B = butyl; CYC = cyclo
BZ = benzene; TOL = toluene; XYL = xylene; unk = unknown.
PREFIXES: i = iso; n = normal; s = secondary; o = ortho; m = meta; p = para; c = cis; t = trans.
SUFFIXES: A = aromatic; N = naphthene; P = paraffin.

APPENDIX 16: PRODUCTION TESTING REPORTS

(A) Surface Data – Schlumberger Report

Schlumberger

WELL TESTING REPORT

INDEX

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean-up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Oct-2004
Report number	:	2004-025
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

WELL TEST REPORT INDEX

1 WELL AND MEASUREMENT INFORMATION

2 SEQUENCE OF EVENTS

3 MAIN RESULTS including SUMMARY OF RESULTS

4 SURFACE DATA ACQUISITION PLOTS

- Wellhead Pressure and Temperatrure Plots
- Separator Measurement Plots
- Rates Plots

5 OIL COMPUTATION RESULTS

6 GAS COMPUTATION RESULTS

7 ANNEXES

- Flow Meter Calibration
- STAN Sensor Calibration
- Surface Equipment Layout
- ENSCO 102 Equipment Layout
- Piping and Instrumentation Diagram

Schlumberger

WELL TESTING REPORT

WELL AND MEASUREMENT INFORMATION

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

WELL AND MEASUREMENT INFORMATION

GENERAL INFORMATION

Service / Client Ref.	:	Well Testing Services Package
Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean-up
Country	:	Australia
Test type	:	Production Platform Clean up
Rig/Installation	:	ENSCO 102 / Jackup

OPERATION DATA

	:	
Test Date	:	25-Sep-2004 to 30-Sep-2004
Report Number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF
Co. Representative	:	A. Wenk
Schlumberger Representative	:	L. McMurtrie
Unit system	:	US Oilfield

WELL DATA

Drill Floor Elevation	:	43.88m Above LAT
Water Depth	:	81m Below LAT
Total Depth	:	3232m MDRT
Well type	:	Production
Fluid type	:	Gas / Condensate / Water
Minimum restriction	:	3.456"

MUD PROPERTIES

Type	:	KCL Brine
Weight / viscosity	:	9.0 ppg / 1.10
Cushion type	:	Diesel / 6.8 lb-ft / 0.825

DEPTH INFORMATION

Depth unit	:	Meter (m)
Depth reference	:	Measuring Depth from Rotary Table

WELL AND MEASUREMENT INFORMATION

WELL HEAD CHOKE

Tubing pressure gauge (1)	:	Electronic strain gauge, 10K STPS-C Delta control. S/n 24978
Temperature gauge	:	Platinum resistor, STTS-B Frode Pedersen & Co
Downstream pressure gauge	:	Electronic strain gauge, 10K STPS-C Delta control. S/n 24979
Choke Manifold type	:	WOM 3" 10 kpsi fixed and adjustable chokes.
Flowline type	:	60ft 10 kpsi 3" Coflexip Hose

SEPARATOR

Capacity	:	1440 psig WP, 22000 b/d, 60 MMscf/d
Gas meter type	:	Senior Daniel Orifice Meter
I.D. of meter tube	:	5.761"
Low Gas Meter	:	Not used.
Gas line pressure gauge	:	Electronic strain gauge, Sensotec. S/n : 923449
Differential pressure gauge	:	Electronic strain gauge, Honeywell ST3000. (0-400"wc). Sn 923449
Gas line temperature gauge	:	Platinum resistor, STTS-B Frode Pedersen & Co
Gas sampling point	:	Top of gas outlet of separator
Gravitometer	:	Ranarex
Oil / Condensate line temperature gauge	:	Platinum resistor, STTS-B Frode Pedersen & Co
Oil / Condensate rate meter	:	Electronic pulse transmitter Model 308 (2 "Floco)
Oil / Condensate rate meter	:	Electronic pulse transmitter # (3" Rotron)
Oil / Condensate sampling point	:	Separator oil sight glass
Gravitometer type	:	Glass sg Hydrometer
Water rate meter	:	2" Floco meter

OTHER EQUIPMENT

Tank type / capacity	:	Single-Compartment Gauge tank 80 bbls. (0.176 bbl/cm)
Pump type / capacity	:	Electric Centrifugal Pump 5000 bbls/d
Burner type	:	3-Header Mud Burner
Burner capacity	:	9,000 bbls/d

Schlumberger

WELL TESTING REPORT

SEQUENCE OF EVENTS

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

SEQUENCE OF EVENTS

Date/Time	Events
25-Sep-04	
07:20	Rigged up FCH (Flow Control Head).
13:20	Diverted flow through gas line.
13:36	Increased adjustable choke to 64/64".
15:05	Started pressure testing well test equipment.
18:45	Pressure tested separator and started meter factors.
20:50	Stopped pressure testing, redressed separator oil bypass valve.
21:15	Rigged up slickline lubricator.
22:50	Pressure tested slickline lubricator to 4000psi.
23:30	RIH with 5.73" drift.
23:40	Tagged plug at 36m, POOH (Pulled Out Of Hole).
23:45	Slickline to surface, rigged up slickline RN plug pulling tool.
23:55	Slickline RIH (Ran In Hole).
26-Sep-04	
00:40	Slickline POOH.
00:50	Slickline to surface, with plug. Rigged up 2.71" drift.
01:25	Slickline RIH.
02:20	Tagged plug at 3463m, POOH.
02:55	Slickline to surface.
03:00	Lined up to tank and bled down slickline lubricator.
03:04	Closed FCH swab and master valves, slickline lubricator broken out.
03:50	Recommenced pressure testing separator and meter factors.
04:53	Meter factor of 2" oil floco at 0.25 bbl/min = 1.124.
05:22	Meter factor of 2" oil floco at 0.5 bbl/min = 1.057.
05:34	Meter factor of 2" oil floco at 1.0 bbl/min = 1.096.
07:00	Meter factor of 2" water floco at 0.25 bbl/min = 1.250.
07:30	Finished meter factors.
07:35	Closed FCH production valve.
07:40	Opened FCH swab valve.
07:42	Pressure tested wireline lubricator.
08:00	Opened FCH production valve.
08:02	Opened production tree swab valve.
08:45	Tested rig deluge system.
09:17	Shut in at choke manifold.
09:18	Wireline RIH with perforating guns.
09:30	Held PJSM (Pre Job Safety Meeting) prior to final perforation.
09:40	Unlocked cement line check valve.
10:55	Wireline on depth, Started correlating.
11:41	Opened choke on 24/64" to surge tank prior to perforation.
11:45	Positive indication of guns firing.
12:10	Increased adjustable choke to 32/64".
12:30	Increased adjustable choke to 48/64".
12:38	Diverted flow to starboard side boom.
13:12	Gas at surface, diesel cushion displaced.
13:35	Increased adjustable choke to 64/64".
14:07	Shut in at choke manifold.
14:15	Wireline POOH.
16:09	Wireline at surface.

SEQUENCE OF EVENTS

Date/Time	Events
26-Sep-04	
16:10	Closed Cameron tree swab valve and FCH master valve.
16:13	Bled pressure to zero via choke manifold.
16:14	Shut-in at choke manifold.
16:15	Started rigging down Wireline.
18:48	Opened FCH swab valve.
19:03	Pressure tested lubricator to 4000psi.
19:31	Bled down pressure at choke manifold to 1800psi.
19:37	Increased pressure to 3200psi.
19:39	Bled down pressure at Dowell cement unit.
19:43	Opened FCH master valve and closed kill wing (low torque, not FCH kill valve).
19:50	Opened Cameron tree swab valve.
19:53	Cycled Cameron tree swab valve to verify number of turns.
20:00	Slickline RIH gauges.
20:05	Started pumping glycol into lubricator to allow slickline gauges to pass through FCH.
20:30	Closed Cameron tree swab and FCH master valves. Bled off WHP at choke manifold.
20:36	Closed choke manifold.
20:38	Opened FCH master valve, leak on upstream line, closed FCH master valve.
20:40	Closed FCH production valve bled off pressure at choke manifold replaced seal.
20:51	Opened FCH production, SSV (Surface Safety Valve) and kill side low torque valves.
20:59	Pressure tested lubricator to 4000psi.
21:06	Opened choke manifold flushed lubricator and FCH from Dowell cement unit.
21:15	Opened needle valve on slickline lubricator, flushed from Dowell cement unit to purge gas.
21:18	Closed FCH swab valve.
21:20	Pressure tested Schlumberger flow lines to choke manifold to 4000psi.
21:39	Bled off pressure at choke manifold to zero psi.
21:57	Opened FCH swab valve.
21:59	Opened FCH master valve.
22:03	Opened Cameron tree swab valve.
22:10	Slickline RIH with gauges.
23:03	Slickline set gauges at 2983m (to test 2973m sands).
23:12	Started glycol injection into the slickline lubricator.
23:22	Started burning diesel from VST.
23:23	Opened well on 16/64" adjustable choke to port side boom (2973m sands).
23:26	Increased adjustable choke to 20/64".
23:30	Increased adjustable choke to 24/64".
23:45	Stopped methanol injection.
23:51	Increased adjustable choke to 28/64".
00:00	BSW (Basic Sediments and Water) 0.25% water with 99.75% consensate and trace sediment.
27-Sep-04	
00:16	Increased adjustable choke to 32/64".
00:25	Increased adjustable choke to 36/64".
00:57	Increased adjustable choke to 40/64".
01:02	Increased adjustable choke to 44/64".
01:04	Liquid to surface.
01:06	Increased adjustable choke to 48/64".
01:31	Decreased adjustable choke to 44/64". Well slugging liquids.

SEQUENCE OF EVENTS

Date/Time	Events
27-Sep-04	
01:36	Decreased adjustable choke to 40/64".
02:01	Bypassed steam exchanger.
02:15	BSW 65% water with 35% condensate and no sediment.
02:30	BSW 60% water with 40% condensate and no sediment.
02:45	Increased adjustable choke to 44/64". BSW 55% water with 45% condensate and sediment.
02:51	Increased adjustable choke to 48/64".
03:00	BSW 51% water with 49% condensate and no sediment.
03:15	BSW 47% water with 53% condensate and no sediment.
03:30	BSW 50% water with 50% condensate and no sediment.
03:33	Increased adjustable choke to 50/64".
03:45	BSW 50% water with 50% condensate and trace sediment.
04:00	BSW 50% water with 50% condensate and trace sediment.
04:15	BSW 50% water with 50% condensate and trace sediment.
04:30	BSW 52% water with 48% condensate and trace sediment.
04:45	BSW 60% water with 40% condensate and trace sediment.
04:46	Decreased adjustable choke to 48/64".
05:00	BSW 40% water with 60% condensate and trace sediment.
05:15	BSW 55% water with 45% condensate and and trace sediment.
05:30	Decreased adjustable choke to 44/64". BSW 60% water with 40% condensate, trace sediment.
05:45	BSW 20% water with 80% condensate and trace sediment.
05:46	Increased adjustable choke to 48/64".
06:00	BSW 50% water with 50% condensate and trace sediment.
06:15	BSW 60% water with 40% condensate and trace sediment.
06:30	BSW 60% water with 40% condensate and trace sediment.
06:31	Decreased adjustable choke to 44/64".
06:45	BSW 50% water with 50% condensate and trace sediment.
06:46	Increased adjustable choke to 48/64".
07:00	BSW 60% water with 40% condensate and trace sediment.
07:30	BSW 40% water with 60% condensate and trace sediment.
07:31	Switched to 48/64" fixed choke.
07:45	BSW 50% water with 50% condensate and trace sediment.
08:00	BSW 50% water with 50% condensate and trace sediment.
08:12	Passed flow through separator.
08:15	BSW 9% water with 91% condensate and trace sediment.
08:19	Increased separator pressure.
08:30	BSW 9% water with 91% condensate and trace sediment.
08:45	Lowered 3.0" orifice plate. BSW 48% water with 52% condensate and trace sediment.
09:00	BSW 30% water with 70% condensate and trace sediment.
09:01	Raised 3.0" orifice plate.
09:10	Lowered 2.75" orifice plate.
09:15	BSW 8% water with 92% condensate and trace sediment.
09:49	Pass flow through 2" floco.
10:00	BSW 75% water with 15% condensate and trace sediment.
10:15	BSW 28% water with 72% condensate and trace sediment. Oil gravity 0.791 @ 60 DEG F.
10:30	BSW 9% water with 91% condensate and trace sediment.
10:35	Started dumping water from separator.

SEQUENCE OF EVENTS

Date/Time	Events
27-Sep-04	
10:40	Stopped dumping water from separator (0.71 bbls dumped).
10:45	BSW 2% water with 98% condensate and trace sediment.
11:00	Started dumping water from separator. Petrotech started wellhead sampling.
11:00	BSW 30% water with 70% condensate and trace sediment.
11:05	Stopped dumping water from separator (0.70 bbls dumped).
11:30	BSW 70% water 30% condensate, trace sediment, shrk=3% at 66 DegF. Oil gravity 0.790 @ 61 DEG F.
11:55	Petrolab started sampling.
12:00	BSW 80% water with 20% condensate and trace sediment.
12:05	Petrolab finished sampling.
12:15	Started dumping water from separator. BSW 18% water 82% condensate, trace sediment.
12:27	Stopped dumping water from separator (1.64 bbls dumped).
12:30	BSW 8% water with 92% condensate and trace sediment. Shrinkage = 3% at 60 DegF.
12:45	BSW 20% water with 80% condensate and trace sediment.
13:00	BSW 90% water with 10% condensate and trace sediment.
13:05	Flare out.
13:10	Started pumping out tank.
13:15	Started dumping water from separator. BSW 17% water 83% condensate, trace sediment.
13:20	Stopped dumping water from separator (0.35 bbls dumped). Finished PVT sampling.
13:25	Diverted to boom to re-ignite gas flare.
13:30	Finished pumping out tank. BSW 2% water 98% condensate no sediment. Shrk=5.4% at 64 DegF.
13:45	Started dumping water from separator. BSW 25% water with 75% condensate and no sediment.
13:52	Petrolab started sampling.
14:00	Stopped dumping water from sep (0.52 bbls dumped). BSW 25% water 75% condensate no sediment.
14:06	Petrolab finished sampling.
14:15	BSW 25% water with 75% condensate and trace sediment.
14:30	Started dumping water from separator. BSW 20% water with 80% condensate and no sediment.
14:36	Petrolab started sampling.
14:45	Stopped dumping water from separator (1.07 bbls dumped).
14:45	BSW 6% water with 94% condensate and no sediment. Shrinkage = 3% at 60 DegF.
14:54	Petrolab finished sampling.
15:00	BSW 10% water with 90% condensate and no sediment. Oil gravity 0.796 @ 55 DEG F.
15:12	Finished wellhead sampling.
15:15	BSW 8% water with 92% condensate and no sediment.
15:30	BSW 10% water with 90% condensate and no sediment.
15:31	Shut in well at choke manifold.
15:32	Raised plate, bypassed meters.
15:40	Slickline POOH with gauges.
16:25	Closed Cameron tree swab and FCH master valves.
16:40	Bleed down lubricator at choke manifold to starboard side boom.
16:43	Closed FCH swab valve.
18:05	Opened FCH swab and master valves.
18:10	Opened Cameron tree swab valve.
18:15	RIH with 3.688" Plug.
19:00	Slickline POOH.
19:15	Started glycol injection into the slickline lubricator.
19:25	Stopped glycol injection.

SEQUENCE OF EVENTS

Date/Time	Events
27-Sep-04	
19:36	Slickline at surface, plug set.
19:37	Closed Cameron tree swab and FCH master valves.
19:40	Bled off at choke manifold to zero psi.
19:43	Closed FCH swab valve.
19:56	Opened FCH swab valve.
19:59	Opened FCH master valve.
20:03	Opened Cameron tree swab valve.
20:08	Bled down to 2724 psia, plug leak off test.
20:18	Closed choke manifold.
20:30	Test OK.
20:36	RIH with 3.813" SDD opening tool.
21:15	Opened UEVCM sand sleeve, POOH. Started glycol injection into the slickline lubricator.
21:36	Slickline to surface, rigged up slickline pulling tool. Stopped glycol injection.
21:39	Closed FCH master valve.
21:40	Bled down lubricator to zero psi.
22:05	Opened FCH master valve.
22:07	Opened Cameron tree swab valve.
22:16	Opened well on 16/64" adjustable choke to port side boom (UEVCM sands).
22:19	Increased adjustable choke to 20/64".
22:22	Increased adjustable choke to 24/64".
22:28	Increased adjustable choke to 28/64".
22:30	Started glycol injection into the slickline lubricator.
22:32	Increased adjustable choke to 32/64".
22:40	BSW 2% with no water 98% condensate and sediment.
22:47	Increased adjustable choke to 36/64".
23:00	BSW 0.75% no water with 99.25% condensate and sediment.
23:04	Increased adjustable choke to 40/64".
23:15	BSW 0.25% with no water 99.25% condensate and sediment.
23:31	Increased adjustable choke to 44/64".
23:37	Bypassed steam exchanger.
23:38	Stopped methanol injection.
23:45	BSW 0.5% with no water 99.5% condensate and sediment.
23:48	Increased adjustable choke to 48/64".
00:00	BSW 0.25% water with 99.75% condensate and trace sediment.
28-Sep-04	
00:05	Increased adjustable choke to 52/64".
00:15	BSW 9% water with 81% condensate and no sediment.
00:21	Shut in well at choke manifold.
00:31	Open FCH swab valve .
00:35	Slickline RIH with gauges.
01:02	Slickline on depth with gauges.
01:05	Started glycol injection into the slickline lubricator.
01:11	Opened well on 16/64" adjustable choke to port side boom (UEVCM sands).
01:12	Increased adjustable choke to 20/64".
01:16	Increased adjustable choke to 24/64".
01:19	Increased adjustable choke to 28/64".

SEQUENCE OF EVENTS

Date/Time	Events
28-Sep-04	
01:22	Increased adjustable choke to 32/64".
01:27	Increased adjustable choke to 36/64".
01:31	Increased adjustable choke to 40/64".
01:36	Increased adjustable choke to 44/64".
01:41	Increased adjustable choke to 48/64".
01:46	Increased adjustable choke to 52/64".
01:47	Stopped methanol injection. Bypassed steam exchanger.
02:00	BSW 1.75% water with 98% condensate and 0.25% sediment.
02:30	BSW 1.75% water with 98% condensate and 0.25% sediment.
02:42	Increased adjustable choke to 56/64".
02:45	BSW 5% water with 93% condensate and 2% sediment.
02:59	Increased adjustable choke to 60/64".
03:15	BSW 15% water with 85% condensate and trace sediment.
03:30	BSW 15% water with 85% condensate and trace sediment.
03:45	Well slugging.
04:00	BSW 9% water with 91% condensate and trace sediment.
04:13	Switched to 60/64" fixed choke.
04:22	Passed flow through separator.
04:32	Increased separator pressure.
05:00	Decreased separator pressure.
05:10	Increased separator pressure.
05:42	Passed flow through 2" floco meter.
06:22	Lowered 3.5" orifice plate.
06:45	BSW 7% water with 93% condensate and no sediment. Oil gravity 0.760 @ 34 DEG F.
07:05	Raised orifice plate.
07:06	Switched to 56/64" adjustable choke.
07:08	Decreased adjustable choke to 48/64".
07:12	Increased separator pressure.
07:24	Lowered 3.5" orifice plate.
07:30	Raised orifice plate.
07:34	Switched to 48/64" fixed choke.
07:52	Lowered 3.0" orifice plate.
08:00	Started dumping water from separator.
08:10	Stopped dumping water from separator (0.46 bbls dumped).
08:15	Switched to starboard side boom.
09:00	Started dumping water from separator.
09:15	Stopped dumping water from separator (0.41 bbls dumped). Oil gravity 0.741 @ 110 DEG F.
09:15	Diverted flow to tank to cross check floco meter.
09:20	Started wellhead sampling.
09:53	Petrolab started sampling.
10:00	Large error noted between tank and meter.
10:10	Petrolab finished sampling H2S 1.0ppm.
10:15	Started dumping water from separator. Oil gravity 0.761 @ 76 DEG F.
10:17	Petrolab started sampling.
10:26	Petrolab finished sampling H2S 1.0ppm.
10:30	Stopped dumping water from separator (0.19 bbls dumped).

SEQUENCE OF EVENTS

Date/Time	Events
28-Sep-04	
10:45	Started dumping water from separator.
11:00	Stopped dumping water from separator (1.14 bbls dumped).
11:15	Started dumping water from separator. Petrotech started wellhead sampling.
11:25	Stopped dumping water from separator (0.40 bbls dumped).
11:28	Petrolab finished sampling.
11:30	Error still present all oil rates will be taken from tank. BSW 30% water 30% condensate no sediment.
11:30	Diverted flow to tank to cross check floco meter.
11:35	Petrolab finished sampling.
12:02	Shut in well at choke manifold.
12:05	Slickline RIH with gauges to 3.688" SSD (Sliding Sleeve Door).
12:45	Slickline POOH.
13:30	Slickline at surface with gauges.
13:45	Closed Cameron tree swab and FCH master valves.
13:56	Bled pressure to zero via choke manifold.
13:58	Closed FCH swab valve.
14:20	Data acquisition stopped.
15:00	Rigged up slickline .
15:06	Opened FCH master valve.
15:10	Opened Cameron tree swab valve.
15:11	Slickline RIH to close SSD.
15:33	Slickline on depth.
15:35	Data acquisition restarted.
15:44	SSD closed.
15:46	Slickline POOH.
15:50	Started glycol injection at slickline lubricator.
16:08	Slickline at surface. Stopped glycol injection.
16:09	Closed Cameron tree swab and FCH master valves.
16:14	Bled pressure to zero via choke manifold.
16:19	Shut in at choke manifold.
16:42	Opened Cameron tree swab valve.
16:43	Opened FCH master valve.
16:47	Slickline RIH to open SSD for 2809 Sands.
17:40	Opened SSD at 2809m sands.
18:00	Started glycol injection into the slickline lubricator.
18:14	Stopped glycol injection, slickline to surface.
18:16	Closed Cameron tree swab and FCH master valves.
18:19	Bled down lubricator to zero psi.
18:23	Closed FCH swab and choke manifold valves.
18:30	Opened FCH swab valve.
18:34	Opened FCH master valve.
18:38	Opened Cameron tree swab valve.
18:40	RIH gauges on slickline.
19:30	Set gauges in 3.688" SSD (at 3276m), POOH.
19:35	Started glycol injection into the slickline lubricator.
19:40	Slickline at surface. Stopped glycol injection.
20:11	Closed Cameron tree swab and FCH master valves.

SEQUENCE OF EVENTS

Date/Time	Events
28-Sep-04	
20:15	Bled pressure to zero via choke manifold.
20:19	Closed FCH swab and choke manifold valves.
20:55	Opened FCH master valve.
21:00	Opened Cameron tree swab valve. Started glycol injection into the slickline lubricator.
21:07	Opened well on 16/64" adjustable choke to starboard side boom (2809m sands).
21:10	Increased adjustable choke to 20/64".
21:13	Increased adjustable choke to 24/64".
21:17	Increased adjustable choke to 28/64".
21:21	Increased adjustable choke to 32/64".
21:25	Increased adjustable choke to 36/64".
21:29	Increased adjustable choke to 40/64".
21:35	Increased adjustable choke to 44/64".
21:40	Increased adjustable choke to 48/64".
21:43	Liquid to surface.
21:45	Bypassed steam exchanger.
21:50	Stopped methanol injection.
21:55	Liquids slugging.
22:45	BSW 14.5% water with 85% condensate and 0.5% sediment.
23:00	BSW 11.85% water with 88% condensate and 0.15% sediment.
23:15	Increased adjustable choke to 52/64".
23:30	BSW 15.9% water with 84% condensate and 0.1% sediment.
23:32	Decreased adjustable choke to 48/64".
23:42	Decreased adjustable choke to 44/64".
23:45	BSW 10% water with 90% condensate and trace sediment.
23:53	Decreased adjustable choke to 40/64".
00:00	BSW 10% water with 90% condensate and trace sediment.
29-Sep-04	
00:01	Decreased adjustable choke to 36/64".
00:10	Decreased adjustable choke to 32/64".
00:15	BSW 10% water with 90% condensate and trace sediment.
00:23	Decreased adjustable choke to 28/64".
00:30	BSW 2% water with 98% condensate and trace sediment.
00:39	Switched to 28/64" fixed choke.
00:45	BSW 1% water with 99% condensate and trace sediment.
01:00	BSW 0.5% water with 99.5% condensate and trace sediment.
01:01	Switched to 28/64" adjustable choke.
01:02	Decreased adjustable choke to 24/64".
01:04	Passed flow through steam exchanger.
01:08	Bypassed steam exchanger.
01:13	Decreased adjustable choke to 20/64".
01:15	BSW 4% water with 96% condensate and trace sediment.
01:18	Started glycol injection into the slickline lubricator.
01:28	Increased adjustable choke to 32/64".
01:30	BSW 1% water with 99% condensate and trace sediment.
01:35	Stopped methanol injection.
01:40	Increased adjustable choke to 36/64".

SEQUENCE OF EVENTS

Date/Time	Events
29-Sep-04	
01:45	BSW 1% water with 99% condensate and trace sediment.
02:00	Liquid to surface. BSW 2% water with 98% condensate and trace sediment.
02:15	BSW 15% water with 85% condensate and trace sediment.
02:23	Decreased adjustable choke to 32/64".
02:30	BSW 3% water with 97% condensate and trace sediment.
02:35	BSW 9% water with 91% condensate and trace sediment.
02:40	BSW 10% water with 90% condensate and trace sediment.
02:45	BSW 8% water with 92% condensate and trace sediment.
02:50	BSW 5% water with 95% condensate and trace sediment.
02:51	BSW 3% water with 97% condensate and trace sediment.
02:52	Increased adjustable choke to 36/64".
03:00	BSW 12% water with 88% condensate and trace sediment.
03:05	BSW 8.5% water with 91% condensate and 0.5% sediment.
03:10	BSW 9.75% water with 90% condensate and 0.25% sediment.
03:15	BSW 20% water with 80% condensate and trace sediment.
03:16	Switched to 36/64" fixed choke.
03:30	BSW 22% water with 78% condensate and trace sediment.
03:44	Passed flow through separator.
03:45	Increased separator pressure. BSW 15% water with 85% condensate and trace sediment.
04:00	BSW 15% water with 85% condensate and trace sediment.
04:03	Switched flow to port side boom.
04:06	Lowered 3.0" orifice plate.
04:07	Passed flow through 2" floco meter.
04:15	BSW 25% water with 75% condensate and trace sediment.
04:20	Specific gravity of gas 0.843.
04:30	BSW 15% water with 85% condensate and no sediment.
04:35	Specific gravity of oil 0.772 at 48 DEG F.
04:37	Started wellhead sampling.
04:42	Started meter factor and shrinkage measurement.
04:45	BSW 14% water with 86% condensate and no sediment.
05:00	BSW 13% water with 87% condensate and no sediment.
05:01	Finished meter factor.
05:02	Lost oil level in separator, closed oil line to increase level.
05:12	Specific gravity of oil 0.768 at 56 DEG F.
05:16	Finished shrinkage measurement (10% @61 DEG F).
05:30	BSW 12% water with 88% condensate and no sediment.
05:34	Started dumping water from separator.
05:37	Stopped dumping water from separator (1.00 bbls dumped).
05:41	Started pumping out tank.
05:45	BSW 18% water with 82% condensate and no sediment.
05:49	Increase level in separator.
06:00	BSW 18% water with 82% condensate and no sediment.
06:05	Started dumping water from separator.
06:09	Stopped dumping water from separator (0.62 bbls dumped).
06:10	Started meter factor and shrinkage measurement.
06:30	BSW 12% water with 88% condensate and no sediment.

SEQUENCE OF EVENTS

Date/Time	Events
29-Sep-04	
06:37	Started dumping water from separator.
06:42	Stopped dumping water from separator (0.87 bbls dumped).
06:45	Finished shrinkage measurement (15.5% @60 DEG F).
07:05	Started dumping water from separator.
07:07	Stopped dumping water from separator (1.10 bbls dumped).
07:15	Specific gravity of oil 0.736 at 76 DEG F.
07:30	Petrotech started wellhead sampling. BSW 13% water with 87% condensate and no sediment.
07:45	Started dumping water from separator. Specific gravity of gas 0.846.
07:48	Stopped dumping water from separator (0.77 bbls dumped).
07:56	Petrotech finished wellhead sampling.
08:00	Started dumping water from separator. BSW 12% water with 88% condensate and no sediment.
08:03	Stopped dumping water from separator (0.62 bbls dumped).
08:17	Started dumping water from separator.
08:19	Stopped dumping water from separator (0.50 bbls dumped).
08:30	Started dumping water from separator.
08:32	Stopped dumping water from separator (0.12 bbls dumped).
08:45	Started dumping water from separator.
08:52	Stopped dumping water from separator (0.62 bbls dumped).
09:00	BSW 15% water with 85% condensate and no sediment.
09:20	BSW 11% water with 89% condensate and no sediment.
09:22	Petrotech started wellhead sampling.
09:47	Petrotech finished wellhead sampling.
09:49	Bypassed meters and lifted orifice plate.
09:50	Shut in well at choke manifold.
09:55	Closed swab valve on Cameron tree.
09:59	Closed FCH master valve.
10:00	Bled pressure to zero via choke manifold.
10:05	Closed choke manifold.
11:00	Flushed slickline lubricator prior to pressure testing.
11:03	Pressure tested slickline lubricator.
11:14	Bled pressure to zero via choke manifold.
11:20	Opened FCH master valve.
11:30	Opened Cameron swab valve.
11:45	Slickline RIH to close SSD.
13:20	SSD closed. slickline POOH. Started glycol injection into the slickline lubricator.
14:00	Slickline at surface. Stopped glycol injection.
14:14	Closed Cameron tree swab and FCH master valves.
14:17	Bled pressure to zero via choke manifold.
14:23	Closed FCH swab valve.
14:25	Changed out slickline tool string.
14:35	Opened FCH swab valve.
14:37	Opened FCH master valve.
14:41	Opened Cameron tree swab valve.
14:44	Slickline RIH with SSD opening tool.
15:16	Slickline opened SSD.
15:30	Slickline POOH.

SEQUENCE OF EVENTS

Date/Time	Events
29-Sep-04	
16:02	Slickline at surface.
16:03	Closed Cameron tree swab and FCH master valves.
16:04	Bled pressure to zero via choke manifold.
16:05	Changed out slickline tool string.
16:25	Opened Cameron tree swab valve and FCH master valve.
16:31	Opened well on 24/64" adjustable choke to starboard side boom (2755m sands).
16:35	Increased to 32/64" adjustable choke.
16:40	Increased to 40/64" adjustable choke.
16:45	BSW 2% water with 98% condensate and trace sediment.
16:55	Increased to 48/64" adjustable choke.
17:00	Stopped methanol injection. BSW 2.5% water with 97.5% condensate and trace sediment.
17:10	Increased to 56/64" adjustable choke.
17:15	BSW 70% water with 30% condensate and trace sediment.
17:25	Bypassed steam exchanger.
17:30	BSW 20% water with 80% condensate and trace sediment.
17:32	Switched to port side boom.
17:45	BSW 25% water with 75% condensate and trace sediment.
18:00	BSW 25% water with 75% condensate and trace sediment.
18:10	BSW 22.75% water with 77% condensate and 0.25% sediment.
18:20	BSW 23% water with 77% condensate and trace sediment.
18:25	BSW 20.85% water with 79% condensate and 0.15% sediment.
18:30	BSW 20.85% water with 79% condensate and 0.15% sediment.
18:35	BSW 24.85% water with 75% condensate and 0.15% sediment.
18:45	BSW 18.85% water with 81% condensate and 0.15% sediment.
19:00	BSW 20% water with 80% condensate and trace sediment.
19:15	BSW 21.85% water with 78% condensate and 0.15% sediment.
19:16	Decreased adjustable choke to 48/64".
19:45	BSW 14.5% water with 85% condensate and 0.5% sediment.
20:00	Decreased adjustable choke to 40/64". BSW 19.85% water with 80% condensate and 0.15% sediment.
20:15	BSW 13.9% water with 86% condensate and 0.1% sediment.
20:20	BSW 13.9% water with 86% condensate and 0.1% sediment.
20:25	BSW 12.85% water with 87% condensate and 0.15% sediment.
20:30	BSW 12.85% water with 87% condensate and 0.15% sediment.
20:33	Decreased adjustable choke to 36/64".
20:35	BSW 12.8% water with 87% condensate and 0.2% sediment.
20:40	BSW 8.9% water with 91% condensate and 0.1% sediment.
20:45	BSW 9% water with 91% condensate and trace sediment.
20:55	BSW 8% water with 92% condensate and trace sediment.
20:59	Increased to 40/64" adjustable choke.
21:00	BSW 8% water with 92% condensate and trace sediment.
21:05	Switched to 40/64" fixed choke.
21:15	BSW 20% water with 80% condensate and trace sediment.
21:28	Passed flow through separator.
21:30	Increased separator pressure.
21:38	Lowered 3.0" orifice plate.
21:46	Passed flow through 2" floco meter. BSW 15% water with 85% condensate and no sediment.

SEQUENCE OF EVENTS

Date/Time	Events
29-Sep-04	
21:47	Specific gravity of gas 0.830.
21:53	Started dumping water from separator.
21:55	Specific gravity of oil 0.784 @ 48 DEG F.
21:57	Stopped dumping water from separator (0.45 bbls dumped).
22:00	Started CGR sampling. BSW 19.8% water with 80% condensate and 0.2% sediment.
22:13	Started dumping water from separator.
22:15	Stopped dumping water from sep (0.71 bbls). BSW 15% water 85% condensate, trace sediment.
22:30	BSW 14.9% water with 85% condensate and 0.1% sediment.
22:34	Finished shrinkage test (11.5% at 48 DEG F).
22:36	Started dumping water from separator.
22:37	BSW (oil outlet) 0.2% water with 99.8% condensate and no sediment.
22:38	Stopped dumping water from separator (0.51 bbls dumped).
22:45	BSW 17% water with 83% condensate and trace sediment. Specific gravity of gas 0.831.
22:53	Specific gravity of oil 0.783 @ 46 DEG F.
23:00	BSW 22% water with 78% condensate and trace sediment.
23:04	Started dumping water from separator.
23:06	Stopped dumping water from separator (0.99 bbls dumped).
23:08	Petrotech started sampling.
23:15	BSW 15% water with 85% condensate and no sediment.
23:25	Started dumping water from separator.
23:28	Stopped dumping water from separator (0.72 bbls dumped).
23:30	BSW 14% water with 86% condensate and no sediment.
23:43	Cleared sight glass on tank to remove oil water contact.
23:45	Specific gravity of oil 0.783 @ 45 DEG F. Specific gravity of gas 0.831.
23:46	Started dumping water from separator.
23:47	H2S 60ppm, CO2 20% (supplied by Petrolab).
23:48	Stopped dumping water from separator (0.45 bbls dumped).
23:50	Finished shrinkage test (10.5% at 59 DEG F).
00:00	BSW 15% water with 85% condensate and trace sediment.
30-Sep-04	
00:04	Started dumping water from separator.
00:07	Stopped dumping water from separator (0.80 bbls dumped).
00:15	BSW 18% water with 82% condensate and no sediment.
00:20	BSW (oil outlet) 0.25% water with 99.75% condensate and no sediment.
00:30	BSW 20% water with 80% condensate and no sediment.
00:32	Started dumping water from separator.
00:33	Petrotech started wellhead sampling.
00:34	Stopped dumping water from separator (1.00 bbls dumped).
00:39	Data acquisition stopped.
00:45	BSW 18% water 82% condensate no sediment. SG of oil 0.786 @ 50 DEG F. SG of gas 0.832.
00:54	Started dumping water from separator.
00:56	Stopped dumping water from separator (0.76 bbls dumped).
01:00	BSW 19% water with 81% condensate and no sediment.
01:01	Started pumping out tank.
01:03	Data acquisition restarted.
01:15	BSW 21.85% water with 78% condensate and 0.15% sediment.

SEQUENCE OF EVENTS

Date/Time	Events
30-Sep-04	
01:18	Started dumping water from separator.
01:20	Stopped dumping water from separator (0.79 bbls dumped).
01:22	Finished shrinkage test (12% at 61 DEG F).
01:28	Stopped pumping out tank.
01:30	BSW 21.85% water with 78% condensate and 0.15% sediment.
01:36	Started dumping water from separator.
01:38	Stopped dumping water from separator (0.61 bbls dumped).
01:40	Specific gravity of gas 0.832.
01:45	BSW 20% water with 80% condensate and no sediment. Specific gravity of oil 0.783 @ 39 DEG F.
01:52	Started dumping water from separator.
01:53	Stopped dumping water from separator (0.46 bbls dumped).
02:00	BSW 18% water with 82% condensate and no sediment.
02:15	BSW 19% water with 81% condensate and trace sediment.
02:16	Started dumping water from separator.
02:19	Stopped dumping water from separator (0.82 bbls dumped).
02:23	Finished shrinkage test (12% at 61 DEG F).
02:30	BSW 20% water with 80% condensate and trace sediment.
02:45	BSW 24% water with 76% condensate and trace sediment.
02:47	Flare out.
02:51	Started dumping water from separator.
02:54	Stopped dumping water from separator (1.19 bbls dumped).
03:00	Petrotech started CGR. BSW 30% water with 70% condensate and trace sediment.
03:15	BSW 17% water with 83% condensate and no sediment.
03:20	Started dumping water from separator.
03:25	Stopped dumping water from separator (0.99 bbls dumped).
03:30	BSW 23.5% water with 75% condensate and 1.5% sediment.
03:31	Started pumping out tank.
03:34	Finished shrinkage test (11% at 58 DEG F).
03:40	Specific gravity of oil 0.786 @ 48 DEG F. Specific gravity of gas 0.831.
03:45	BSW 21.85% water with 78% condensate and 0.15% sediment.
03:47	Started dumping water from separator.
03:49	Stopped dumping water from separator (0.74 bbls dumped).
03:51	Stopped pumping out tank.
04:00	BSW 20% water with 80% condensate and no sediment.
04:10	Started dumping water from separator.
04:12	Stopped dumping water from separator (0.76 bbls dumped).
04:15	BSW 20% water with 80% condensate and trace sediment.
04:22	Finished wellhead sampling.
04:30	Started dumping water from separator.
04:31	Shut in well at choke manifold.
04:32	Stopped dumping water from separator (0.67 bbls dumped).
04:47	Opened FCH swab valve.
04:52	Closed FCH master valve (leak on grease port).
05:04	Opened FCH master valve.
05:09	Slickline RIH to retrieve gauges.
05:45	Slickline POOH.

SEQUENCE OF EVENTS

Date/Time	Events
30-Sep-04	
05:48	Started glycol injection into the slickline lubricator.
06:15	Slickline at surface with gauges. Stopped glycol injection.
06:20	Closed FCH swab and master valves.
06:25	Bled pressure to zero via choke manifold.
07:00	Flush through to choke.
07:39	Stopped Data acquisition.

Schlumberger

WELL TESTING REPORT

MAIN RESULTS

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

Schlumberger

Origin	MAIN RESULTS	1
Yolla / Yolla 3 / Production Clean-up		

FP#	Operation	Duration Time	Choke Size		Bottom hole Conditions		Wellhead Conditions		Cond Rate	Water Rate	Gas Rate	CGR	Cond API	Gas s.g.	BSW	CO2	H2S
			size	Type	Press	Temp.	Press	Temp.									
		hrs	64th		psia	degC	psia	degC	stbd	bwpd	MMscfd	bbl/Mscf	API60	Air=1	%	%	ppm
1	Perforate 2973m sands	2.40	64	Adjustable			641	34									
		9.30	0				0	0									
2	Clean up 2973m sands	8.13	50	Adjustable			671	29									
3	2973m sands	8.00	48+	Fixed			689	32	46	0.00	6.87	7	47	0.810	8	17	40
		6.75	0				2598	13									
4	UEVCM sand test	2.08	52				1647	45									
5	Clean up UEVCM sands	7.22	60	Adjustable			1560	57									
6	UEVCM sands	4.47	48+	Fixed			1763	59	813	0.00	15.63	52	53	0.768	30	17	1
		9.08	0				3040	21									
7	Clean up 2809m sands	6.15	52	Adjustable			2691	63									
8	2809m sands	6.57	36+	Fixed			3018	70	576	0.00	17.64	33	53	0.846	11	1	1
		6.68	0				3121	21									
9	Clean up 2755m sands	4.57	56	Adjustable			1656	62									
10	2755m sands	7.43	40+	Fixed			2221	65	262	6.00	16.51	16	50	0.815	20	20	60

Remarks :
* Values are taken at end of each flow period or the nearest available value where applicable.

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 1 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
25-Sep-04																			
07:20					Rigged up FCH.														
15:05		18	17	20	Started pressure testing well test equipment.														
15:10		75	18	19															
15:15		57	17	19															
15:20		105	16	20															
15:25		24	16	19															
15:30		21	16	20															
15:35		18	15	20															
15:40		18	15	20															
15:45		18	15	19															
15:50		27	15	20															
15:55		45	15	20															
16:00		1024	15	20															
16:05		1028	15	20															
16:10		989	15	20															
16:15		1014	15	20															
16:20		942	15	20															
16:25		890	15	251															
16:30		988	15	20															
16:35		1029	15	958															
16:40		960	15	940															
16:45		1001	15	977															
16:50		997	15	973															
16:55		911	15	889															
17:00		1019	15	995															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 2 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
25-Sep-04																			
17:05		1003	15	979															
17:10		103	15	101															
17:15		1002	15	977															
17:20		892	15	870															
17:25		1017	15	993															
17:30		87	15	89															
17:35		27	15	30															
17:40		27	15	30															
17:45		27	14	30															
17:50		27	14	31															
17:55		27	14	30															
18:00		394	14	383															
18:05		1014	14	990															
18:10		1011	14	984															
18:15		1005	14	981															
18:20		4093	14	18															
18:25		4095	14	18															
18:30		4091	14	18															
18:35		4076	14	18															
18:40		16	14	18															
18:45		21	14	22	Pressure tested separator and started meter factors.														
18:50		24	14	27															
18:55		24	15	25															
19:00		15	15	18															
19:05		16	15	18															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 3 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
25-Sep-04																			
19:10		13	15	18															
19:15		255	15	247															
19:20		1049	15	1024															
19:25		28	15	30															
19:30		1044	15	1019															
19:35		860	14	838															
19:40		22	14	25															
19:45		993	14	968															
19:50		28	14	31															
19:55		1198	14	1169															
20:00		1183	14	1154															
20:05		30	14	32															
20:10		31	14	33															
20:15		1124	14	1097															
20:20		980	14	956															
20:25		76	14	76															
20:30		56	14	57															
20:35		1013	13	989															
20:40		45	13	47															
20:45		999	13	975															
20:50		914	13	892	Stopped pressure testing, redressed separator oil bypass valve.														
20:55		39	13	41															
21:00		41	13	43															
21:05		42	13	43															
21:10		42	13	43															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 4 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
25-Sep-04																			
21:15		42	13	43	Rigged up slickline lubricator.														
21:20		42	13	43															
21:25		41	13	43															
21:30		39	13	42															
21:35		39	13	41															
21:40		39	13	41															
21:45		42	13	41															
21:50		43	13	41															
21:55		43	13	41															
22:00		42	13	41															
22:05		42	13	41															
22:10		42	13	41															
22:15		42	13	41															
22:20		42	13	41															
22:25		42	13	41															
22:30		42	13	41															
22:35		42	13	41															
22:40		42	13	41															
22:45		42	13	41															
22:50		42	12	41	Pressure tested slickline lubricator to 4000psi.														
22:55		42	12	41															
23:00		42	12	41															
23:05		42	12	41															
23:10		42	12	41															
23:15		42	12	41															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 5 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
25-Sep-04																			
23:20		42	12	41															
23:25		42	12	41															
23:30		42	12	41	RIH with 5.73" drift.														
23:35		42	12	41															
23:40		42	12	41	Tagged plug at 36m, POOH.														
23:45		42	12	41	Slickline to surface, rigged up slickline pulling tool.														
23:50		42	12	41															
23:55		42	12	41	Slickline RIH.														
26-Sep-04																			
00:00		42	12	41															
00:05		42	12	41															
00:10		42	12	30															
00:15		42	13	24															
00:20		42	13	21															
00:25		42	13	18															
00:30		42	13	18															
00:35		42	13	18															
00:40		42	12	18	Slickline POOH.														
00:45		42	12	18															
00:50		42	12	18	Slickline to surface, rigged up 2.71" drift.														
00:55		42	12	18															
01:00		42	12	18															
01:05		42	12	15															
01:10		42	12	15															
01:15		42	12	15															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 6 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
01:20		42	12	15															
01:25		42	12	15	Slickline RIH.														
01:30		18	12	20															
01:35		16	12	19															
01:40		15	12	18															
01:45		16	12	18															
01:50		16	12	18															
01:55		16	12	18															
02:00		16	12	18															
02:05		16	12	18															
02:10		15	12	18															
02:15		15	12	18															
02:20		16	12	18	Tagged plug at 3463m, POOH.														
02:25		15	12	18															
02:30		16	12	18															
02:35		16	12	18															
02:40		15	12	18															
02:45		15	12	18															
02:50		15	12	18															
02:55		15	12	18	Slickline to surface.														
03:00		16	12	18	Lined up to tank and bled down slickline lubricator.														
03:04		27	12	15	Closed FCH swab and master valves, slickline lubricator broken out.														
03:05		27	12	15															
03:10		27	12	15															
03:15		27	12	15															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 7 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
03:20		27	12	15															
03:25		27	12	15															
03:30		28	12	15															
03:35		27	12	15															
03:40		27	12	15															
03:45		27	12	15															
03:50		12	12	15	Recommenced pressure testing separator and meter factors.														
03:55		12	12	15															
04:00		24	12	26															
04:05		1256	12	1225															
04:10		1111	12	1084															
04:15		1102	12	1075															
04:20		325	12	317															
04:25		1035	12	1011															
04:30		1032	12	1008															
04:35		1027	12	1003															
04:40		22	12	24															
04:45		22	12	24															
04:50		16	13	19															
04:55		16	13	18															
05:00		15	13	20															
05:05		17	14	19															
05:10		17	15	20															
05:15		16	15	20															
05:20		18	16	20															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 8 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
05:25		28	16	27															
05:30		28	17	30															
05:35		28	18	30															
05:40		69	18	68															
05:45		16	18	18															
05:50		16	18	18															
05:55		16	17	18															
06:00		16	17	18															
06:05		16	17	18															
06:10		16	16	18															
06:15		15	16	18															
06:20		16	16	18															
06:25		16	16	18															
06:30		16	15	18															
06:35		16	15	18															
06:40		16	15	18															
06:45		16	15	18															
06:50		31	17	31															
06:55		70	18	68															
07:00		16	17	19															
07:05		21	17	22															
07:10		28	18	30															
07:15		28	18	30															
07:20		27	17	29															
07:25		15	17	18															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 9 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
07:30		15	17	18	Finished meter factors.														
07:35		12	17	15	Closed FCH production valve.														
07:40		12	17	15	Opened FCH swab valve.														
07:42		12	17	15	Pressure tested wireline lubricator.														
07:45		12	17	15															
07:50		13	16	15															
07:55		12	16	15															
08:00		12	16	15	Opened FCH production valve.														
08:02		12	16	15	Opened production tree swab valve.														
08:05		12	16	15															
08:10		12	16	15															
08:15		12	15	15															
08:20		12	15	15															
08:25		12	15	15															
08:30		12	15	15															
08:35		13	15	15															
08:40		12	15	15															
08:45		12	15	15															
08:50		12	15	15															
08:55		38	15	38															
09:00		28	16	30															
09:05		27	17	27															
09:10		27	17	27															
09:15		12	17	15															
09:17		12	17	15	Shut in at choke manifold.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 10 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
09:18		13	17	14	Wireline RIH with perforating guns.														
09:20		12	17	12															
09:25		12	17	12															
09:30		16	16	12	Held PJSM prior to final perforation.														
09:35		18	16	13															
09:40		22	16	12	Unlocked cement line check valve.														
09:45		24	16	12															
09:50		26	16	12															
09:55		28	16	12															
10:00		30	16	13															
10:05		30	16	13															
10:10		33	16	13															
10:15		36	16	12															
10:20		42	16	12															
10:25		45	16	12															
10:30		51	16	13															
10:35		60	16	12															
10:40		66	15	12															
10:45		75	15	12															
10:50		84	15	12															
10:55		97	15	12	Wireline on depth, Started correlating.														
11:00		90	15	39															
11:05		91	15	14															
11:10		84	15	12															
11:15		88	15	14															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 11 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
11:20		88	15	14															
11:25		88	14	15															
11:30		84	14	18															
11:35		81	15	21															
11:40		81	15	25															
11:41		82	15	25	Opened choke on 24/64" to surge tank prior to perforation.														
11:45	24	23	14	24	Positive indication of guns firing.														
11:50	24	58	14	27															
11:55	24	69	14	30															
12:00	24	93	13	30															
12:05	24	139	13	27															
12:10	32	166	13	36	Increased adjustable choke to 32/64".														
12:15	32	100	14	62															
12:20	32	132	16	77															
12:25	32	183	18	97															
12:30	48	263	19	126	Increased adjustable choke to 48/64".														
12:35	48	291	21	253															
12:38	48	352	22	308	Diverted flow to starboard side burner.														
12:40	48	293	22	183															
12:45	48	296	25	185															
12:50	48	347	27	214															
12:55	48	413	29	252															
13:00	48	507	30	307															
13:05	48	637	32	382															
13:10	48	832	34	496															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 12 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
13:12	48	938	35	584	Gas at surface, diesel cushion displaced.														
13:15	48	1094	37	664															
13:20	48	1233	38	612															
13:25	48	1102	34	359															
13:30	48	1035	33	346															
13:35	48	1019	34	346	Increased adjustable choke to 64/64".														
13:40	48	904	35	509															
13:45	64	863	36	495															
13:50	64	816	36	466															
13:55	64	752	36	428															
14:00	64	689	35	392															
14:05	64	641	34	363															
14:07		639	34	273	Shut in at choke manifold.														
14:10		818	33	24															
14:15		1038	32	21	Wireline POOH.														
14:20		1237	31	21															
14:25		1420	30	21															
14:30		1587	29	21															
14:35		1742	29	21															
14:40		1885	28	21															
14:45		2020	27	21															
14:50		2146	27	21															
14:55		2263	26	21															
15:00		2372	25	21															
15:05		2472	24	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 13 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
15:10		2564	24	21															
15:15		2647	24	21															
15:20		2723	23	21															
15:25		2790	23	21															
15:30		2848	22	21															
15:35		2900	22	21															
15:40		2944	22	21															
15:45		2983	22	20															
15:50		3016	21	21															
15:55		3045	21	21															
16:00		3067	21	21															
16:05		3087	21	21															
16:09		3073	21	21	Wireline at surface.														
16:10		3070	21	20	Closed Cameron tree swab valve and FCH master valve.														
16:13		69	18	37	Bled pressure to zero via choke manifold.														
16:14		19	12	21	Shut-in at choke manifold.														
16:15		18	10	21	Started rigging down Wireline.														
16:20		22	11	21															
16:25		21	12	21															
16:30		21	12	21															
16:35		22	13	21															
16:40		22	13	21															
16:45		22	13	21															
16:50		22	13	21															
16:55		21	14	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 14 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
17:00		22	14	21															
17:05		22	14	21															
17:10		22	14	21															
17:15		22	14	21															
17:20		22	14	21															
17:25		22	14	21															
17:30		21	14	21															
17:35		22	14	21															
17:40		22	14	21															
17:45		22	14	21															
17:50		22	14	21															
17:55		21	14	21															
18:00		22	14	21															
18:05		22	14	21															
18:10		22	14	21															
18:15		22	14	21															
18:20		22	14	21															
18:25		21	14	21															
18:30		22	14	21															
18:35		22	14	21															
18:40		22	14	21															
18:45		22	14	21															
18:48		21	14	21	Opened FCH swab valve.														
18:50		22	14	21															
18:55		18	14	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 15 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
19:00		36	14	21															
19:03		68	14	21	Pressure tested lubricator to 4000psi.														
19:05		521	14	21															
19:10		4111	14	21															
19:15		4154	14	21															
19:20		4134	14	21															
19:25		4104	14	21															
19:30		4062	14	21															
19:31		4051	14	21	Bled down pressure at choke manifold to 1800psi.														
19:35		1827	14	21															
19:37		1818	14	21	Increased pressure to 3200psi.														
19:39		3224	14	21	Bled down pressure at Dowell cement unit.														
19:40		3209	14	21															
19:43		3181	14	21	Opened FCH master valve and closed kill wing (low torque, not FCH kill valve).														
19:45		2774	14	21															
19:50		2803	14	21	Opened Cameron tree swab valve.														
19:53		3164	14	21	Cycled Cameron tree swab valve to verify number of turns.														
19:55		3170	14	21															
20:00		3169	14	21	RIH slickline gauges.														
20:05		3170	14	21	Started pumping glycol into lubricator to allow slickline gauges to pass through FCH.														
20:10		3172	14	21															
20:15		3172	14	21															
20:20		3175	13	21															
20:25		3176	13	21															
20:30		3176	13	21	Closed Cameron tree swab and FCH master valves. Bled off WHP at choke manifold.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 16 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
20:35		303	12	44															
20:36		61	10	21	Closed choke manifold.														
20:38		65	8	21	Opened FCH master valve, leak on upstream line, closed FCH master valve.														
20:40		19	7	21	Closed FCH production valve bled off pressure at choke manifold replaced seal.														
20:45		19	7	21															
20:50		19	8	21															
20:51		25	8	21	Opened FCH production, SSV and kill side low torque valves.														
20:55		31	9	21															
20:59		53	9	21	Pressure tested lubricator to 4000psi.														
21:00		167	10	21															
21:05		3126	9	21															
21:06		3111	9	21	Opened choke manifold flushed lubricator and FCH from Dowell cement unit.														
21:10		48	11	21															
21:15		30	12	21	Opened needle valve on slickline lubricator, flushed from Dowell cement unit to purge gas.														
21:18		36	12	21	Closed FCH swab valve.														
21:20		37	12	21	Pressure tested Schlumberger flow lines to choke manifold to 4000psi.														
21:25		4109	12	21															
21:30		4075	12	21															
21:35		4052	12	21															
21:39		3909	12	21	Bled off pressure at choke manifold to zero psi.														
21:40		22	12	21															
21:45		26	12	21															
21:50		22	12	21															
21:55		22	12	21															
21:57		24	12	21	Opened FCH swab valve.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 17 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
21:59		28	12	21	Opened FCH master valve.														
22:00		803	12	21															
22:03		2005	12	21	Opened Cameron tree swab valve.														
22:05		3153	12	21															
22:10		3154	12	21	Slickline RIH with gauges.														
22:15		3159	12	21															
22:20		3157	12	21															
22:25		3158	12	21															
22:30		3158	12	21															
22:35		3157	12	21															
22:40		3157	12	21															
22:45		3158	12	21															
22:50		3157	12	24															
22:55		3157	12	24															
23:00		3158	12	24															
23:03		3158	12	24	Slickline set gauges at 2983m (to test 2973m sands).														
23:05		3157	12	24															
23:10		3157	12	24															
23:12		3159	12	24	Started methanol injection.														
23:15		3159	12	24															
23:20		3157	12	21															
23:22		3158	12	21	Started burning diesel from VST.														
23:23		3157	12	21	Opened well on 16/64" adjustable choke to port side burner (2973m sands).														
23:25	16	3128	12	124															
23:26	24	3116	13	89	Increased adjustable choke to 20/64".														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 18 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
26-Sep-04																			
23:30	24	2979	14	220	Increased adjustable choke to 24/64".														
23:35	24	2777	15	235															
23:40	24	2650	16	223															
23:45	24	2546	16	166	Stopped methanol injection.														
23:50	24	2521	17	154															
23:51	28	2516	17	154	Increased adjustable choke to 28/64".														
23:55	28	2434	17	252															
00:00	28	2331	17	279	BSW 0.25% with trace sediment.														
27-Sep-04																			
00:05	28	2254	18	304															
00:10	28	2192	19	252															
00:15	28	2167	19	198															
00:16	32	2166	19	191	Increased adjustable choke to 32/64".														
00:20	32	2131	20	243															
00:25	36	2115	20	265	Increased adjustable choke to 36/64".														
00:30	36	2006	21	338															
00:35	36	1934	22	360															
00:40	36	1863	22	313															
00:45	36	1787	23	322															
00:50	36	1716	23	316															
00:55	36	1647	23	302															
00:57	40	1613	23	387	Increased adjustable choke to 40/64".														
01:00	40	1537	24	373															
01:02	44	1484	24	420	Increased adjustable choke to 44/64".														
01:04	44	1418	24	500	Liquid to surface.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 19 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
01:05	44	1396	24	497															
01:06	48	1368	25	488	Increased adjustable choke to 48/64".														
01:10	48	1283	27	593															
01:15	48	1171	27	549															
01:20	48	1083	27	497															
01:25	48	1017	27	477															
01:30	48	958	27	451															
01:31	44	942	27	395	Decreased adjustable choke to 44/64". Well slugging liquids.														
01:35	44	929	27	319															
01:36	40	932	27	359	Decreased adjustable choke to 40/64".														
01:40	40	945	27	272															
01:45	40	957	26	278															
01:50	40	969	26	281															
01:55	40	972	26	289															
02:00	40	975	26	317															
02:01	40	978	26	295	Bypassed steam exchanger.														
02:05	40	981	27	199															
02:10	40	987	27	215															
02:15	40	987	27	199	BSW 65% with no sediment.														
02:20	40	987	27	202															
02:25	40	987	27	202															
02:30	40	987	27	201	BSW 60% with no sediment.														
02:35	40	984	27	199															
02:40	40	987	27	199															
02:45	44	987	27	217	Increased adjustable choke to 44/64". BSW 55% with no sediment.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 20 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
02:50	44	951	27	238															
02:51	48	947	27	231	Increased adjustable choke to 48/64".														
02:55	48	905	28	282															
03:00	48	857	28	249	BSW 51% with no sediment.														
03:05	48	828	28	241															
03:10	48	805	28	237															
03:15	48	783	28	229	BSW 47% with no sediment.														
03:20	48	768	28	223															
03:25	48	755	28	221															
03:30	48	746	28	217	BSW 50% with no sediment.														
03:33	50	742	28	221	Increased adjustable choke to 50/64".														
03:35	50	732	28	239															
03:40	50	714	28	229															
03:45	50	707	28	235	BSW 50% with trace sediment.														
03:50	50	698	28	226															
03:55	50	689	28	220															
04:00	50	686	28	220	BSW 50% with trace sediment.														
04:05	50	683	28	220															
04:10	50	680	28	219															
04:15	50	674	28	217	BSW 50% with trace sediment.														
04:20	50	671	28	217															
04:25	50	671	28	221															
04:30	50	674	29	223	BSW 52% with trace sediment.														
04:35	50	674	29	217															
04:40	50	668	28	214															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 21 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
04:45	50	671	29	217	BSW 60% with trace sediment.														
04:46	48	671	29	216	Decreased adjustable choke to 48/64".														
04:50	48	680	29	202															
04:55	48	692	29	205															
05:00	48	701	29	210	BSW 40% with trace sediment.														
05:05	48	701	29	208															
05:10	48	704	29	208															
05:15	48	713	29	215	BSW 55% with trace sediment.														
05:20	48	710	29	211															
05:25	48	712	29	222															
05:30	44	713	29	214	Decreased adjustable choke to 44/64". BSW 60% with trace sediment.														
05:35	44	740	29	187															
05:40	44	762	29	188															
05:45	44	774	29	191	BSW 20% with trace sediment.														
05:46	48	769	29	222	Increased adjustable choke to 48/64".														
05:50	48	752	29	217															
05:55	48	746	29	231															
06:00	48	743	29	220	BSW 50% with trace sediment.														
06:05	48	743	29	226															
06:10	48	734	29	217															
06:15	48	731	29	230	BSW 60% with trace sediment.														
06:20	48	728	29	217															
06:25	48	725	29	214															
06:30	48	722	29	216	BSW 60% with trace sediment.														
06:31	44	719	29	211	Decreased adjustable choke to 44/64".														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 22 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
06:35	44	737	29	188															
06:40	44	755	29	190															
06:45	44	768	29	200	BSW 50% with trace sediment.														
06:46	48	765	29	226	Increased adjustable choke to 48/64".														
06:50	48	746	29	214															
06:55	48	731	29	215															
07:00	48	728	30	229	BSW 60% with trace sediment.														
07:05	48	731	30	220															
07:10	48	725	30	214															
07:15	48	716	30	208															
07:20	48	713	30	213															
07:25	48	713	30	220															
07:30	48	710	30	211	BSW 40% with trace sediment.														
07:31	48+	710	30	211	Switched to 48/64" fixed choke.														
07:35	48+	707	30	208															
07:40	48+	707	30	211															
07:45	48+	707	30	211	BSW 50% with trace sediment.														
07:50	48+	704	30	208															
07:55	48+	710	30	212															
08:00	48+	704	30	206	BSW 50% with trace sediment.														
08:05	48+	707	30	213															
08:10	48+	710	30	211															
08:12	48+	710	30	208	Passed flow through separator.														
08:15	48+	713	31	226	BSW 9% with trace sediment.														
08:19	48+	707	30	257	Increased separator pressure.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 23 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
08:20	48+	704	30	290															
08:25	48+	707	30	305															
08:30	48+	713	30	305	BSW 9% with trace sediment.														
08:35	48+	708	30	305															
08:40	48+	700	31	302															
08:45	48+	701	31	305	Lowered 3.0" orifice plate. BSW 48% with trace sediment.														
08:50	48+	705	31	305															
08:55	48+	704	31	305															
09:00	48+	700	31	305	BSW 30% with trace sediment.														
09:00					BSW 30% with trace sediment.														
09:01					Raised 3.0" orifice plate.														
09:05	48+	695	31	302															
09:10	48+	707	31	310	Lowered 2.75" orifice plate.														
09:15	48+	715	31	306	BSW 8% with trace sediment.														
09:20	48+	719	31	308															
09:25	48+	712	31	308	251	108	16	16.3					0.812	17	40		7.124		
09:30	48+	701	32	305	252	113	16	16.2						17	40		7.282		
09:35	48+	698	32	305	252	113	16	16.2						17	40		7.298		
09:40	48+	707	32	306	251	109	17	16.5						17	40		7.163		
09:45	48+	707	32	308	251	107	17	16.8						17	40		7.089		
09:49					Pass flow through 2" floco.														
09:50	48+	701	31	305	251	109	17	16.9						17	40		7.149		
09:55	48+	692	32	305	252	112	17	16.7						17	40		7.252		
10:00	48+	686	32	305	253	112	17	16.8						17	40		7.265		
10:00					BSW 75% with trace sediment.														

H2S and CO2 values supplied by Petrolab

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 24 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
10:05	48+	680	32	303	253	110	17	16.8						17	40		7.187		
10:10	48+	692	32	308	253	106	17	17.0						17	40		7.056		
10:15	48+	695	32	308	252	103	17	17.3				47.39	0.812	17	40		6.965		
10:15					BSW 28% with trace sediment. Oil gravity 0.791 @ 60 DEG F.														
10:20	48+	707	32	310	252	100	17	17.4						17	40		6.847		
10:25	48+	719	33	312	252	100	18	17.8						17	40		6.857		
10:30	48+	713	32	311	253	103	18	18.3						17	40		6.957		
10:30					BSW 9% with trace sediment.														
10:35	48+	710	32	311	254	107	18	18.1						17	40		7.110		
10:35					Started dumping water from separator.														
10:40	48+	704	32	311	255	109	18	18.0						17	40		7.189		
10:40					Stopped dumping water from separator (0.71 bbls dumped).														
10:45	48+	700	32	308	255	109	18	17.9						17	40		7.180		
10:45					BSW 2% with trace sediment.														
10:50	48+	698	33	308	256	108	18	17.9						17	40		7.173		
10:55	48+	692	33	313	256	108	18	17.9						17	40		7.178		
11:00	48+	700	33	309	256	106	18	18.1						17	40		7.091		
11:00					Started dumping water from separator. Petrotech started wellhead sampling.														
11:00					BSW 30% with trace sediment.														
11:05	48+	707	33	311	256	103	19	18.5						17	40		7.001		
11:05					Stopped dumping water from separator (0.70 bbls dumped).														
11:10	48+	707	33	311	256	103	19	18.6						17	40		6.986		
11:15	48+	701	33	311	257	105	19	18.5					0.810	17	40	134	7.086		19
11:20	48+	698	33	311	257	108	18	18.4						17	40		7.186		
11:25	48+	689	33	308	257	109	18	18.3						17	40		7.223		

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 25 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
11:30	48+	680	33	308	257	108	18	18.3				47.53		17	40	109	7.195		15
11:30					BSW 70% with trace sediment, shrinkage = 3% at 66 DegF. Oil gravity 0.790 @ 61 DEG F.														
11:35	48+	689	33	308	256	104	18	18.4						17	40		7.026		
11:40	48+	702	33	311	256	100	19	18.8						17	40		6.874		
11:45	48+	704	33	314	256	98	19	19.0						17	40	109	6.828		16
11:50	48+	698	33	311	257	103	19	19.0						17	40		7.020		
11:55					Petrolab started sampling.														
11:55	48+	689	33	308	259	108	19	18.9						17	40		7.185		
12:00	48+	676	33	305	259	110	19	18.8						17	40	101	7.262		14
12:00					BSW 80% with trace sediment.														
12:05	48+	676	33	308	259	107	19	18.7						17	40		7.171		
12:05					Petrolab finished sampling.														
12:10	48+	673	33	308	258	104	19	18.9						17	40		7.065		
12:15	48+	694	33	311	257	97	19	19.0						17	40	119	6.789		18
12:15					Started dumping water from separator. BSW 18% with trace sediment.														
12:20	48+	701	33	314	257	95	19	19.4						17	40		6.737		
12:25	48+	697	33	311	257	96	20	19.5						17	40		6.767		
12:27					Stopped dumping water from separator (1.64 bbls dumped).														
12:30	48+	697	33	311	258	102	19	19.4						17	40	116	6.976		17
12:30					BSW 8% with trace sediment. Shrinkage = 3% at 60 DegF.														
12:35	48+	691	33	309	258	105	19	19.3						17	40		7.072		
12:40	48+	689	33	309	258	105	19	19.1						17	40		7.100		
12:45	48+	694	33	312	258	104	19	19.1						17	40	92	7.039		13
12:45					BSW 20% with trace sediment.														
12:50	48+	697	34	311	258	103	19	19.4						17	40		6.994		

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 26 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
12:55	48+	692	33	311	258	103	19	19.3						17	40		7.022		
13:00	48+	682	33	308	258	107	19	19.0						17	40	84	7.145		12
13:00					BSW 90% with trace sediment.														
13:05	48+	679	33	308	258	107	19	18.7											
13:05					Flare out.														
13:10	48+	674	33	308	258	106	19	18.6					0.810	17	40	63	7.113		9
13:10					Started pumping out tank.														
13:15	48+	695	33	311	257	100	19	18.8						17	40		6.889		
13:15					Started dumping water from separator. BSW 17% with trace sediment.														
13:20	48+	701	33	311	257	98	19	19.2						17	40		6.834		
13:20					Stopped dumping water from separator (0.35 bbls dumped). Finished PVT sampling.														
13:25	48+	701	33	313	257	99	19	19.2						17	40		6.851		
13:25					Diverted to burner to re-ignite gas flare.														
13:30	48+	692	33	311	258	104	19	19.1						17	40		7.063		
13:30					Finished pumping out tank. BSW 2% with no sediment. Shrinkage = 5.4% at 64 DegF.														
13:35	48+	682	33	308	258	107	19	19.0						17	40		7.157		
13:40	48+	677	33	311	258	108	19	19.0						17	40		7.178		
13:45	48+	686	33	311	258	104	19	19.0						17	40		7.035		
13:45					Started dumping water from separator. BSW 25% with no sediment.														
13:50	48+	695	33	311	257	100	19	19.1						17	40		6.899		
13:52					Petrolab started sampling.														
13:55	48+	691	33	311	257	100	19	19.0						17	40		6.895		
14:00	48+	683	33	308	258	103	19	18.8						17	40	13	7.034		2
14:00					Stopped dumping water from separator (0.52 bbls dumped). BSW 25% with no sediment.														
14:05	48+	674	33	308	259	106	19	18.6						17	40		7.152		

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 27 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
14:06					Petrolab finished sampling.														
14:10	48+	678	33	308	258	104	19	18.5						17	40		7.058		
14:15	48+	692	33	311	258	99	19	18.6						17	40	84	6.898		12
14:15					BSW 25% with trace sediment.														
14:20	48+	692	33	311	257	97	19	18.7						17	40		6.815		
14:25	48+	689	33	311	258	99	19	18.6						17	40		6.906		
14:30	48+	680	33	308	259	103	18	18.4						17	40	38	7.057		5
14:30					Started dumping water from separator. BSW 20% with no sediment.														
14:35	48+	671	32	305	259	106	18	18.2						17	40		7.141		
14:36					Petrolab started sampling.														
14:40	48+	680	32	308	258	102	18	18.1						17	40		7.001		
14:45	48+	689	32	311	257	99	18	18.1						17	40	46	6.872		7
14:45					Stopped dumping water from separator (1.07 bbls dumped).														
14:45					BSW 6% with no sediment. Shrinkage = 3% at 60 DegF.														
14:50	48+	686	32	311	257	97	18	18.1						17	40		6.811		
14:54					Petrolab finished sampling.														
14:55	48+	677	32	308	258	101	18	17.9						17	40		6.973		
15:00	48+	671	32	305	257	105	18	17.7				46.72		17	40	46	7.091		7
15:00					BSW 10% with no sediment. Oil gravity 0.796 @ 55 DEG F.														
15:05	48+	675	32	305	257	103	18	17.5						17	40		7.025		
15:10	48+	682	32	308	256	100	18	17.6						17	40		6.889		
15:12					Finished wellhead sampling.														
15:15	48+	683	32	308	255	98	18	17.6						17	40	46	6.823		7
15:15					BSW 8% with no sediment.														
15:20	48+	680	32	305	255	100	18	17.5						17	40		6.891		

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 28 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
15:25	48+	677	32	310	255	102	17	17.4						17	40		6.944		
15:30	48+	689	32	308	254	100	17	17.4						17	40	46	6.872		7
15:30					BSW 10% with no sediment.														
15:31		689	32	308	Shut in well at choke manifold.														
15:32		736	32	89	Raised plate, bypassed meters.														
15:35		852	32	21															
15:40		1034	30	21	Slickline POOH.														
15:45		1203	28	21															
15:50		1358	27	21															
15:55		1503	26	21															
16:00		1637	25	21															
16:05		1763	24	21															
16:10		1882	23	21															
16:15		1992	22	21															
16:20		2097	22	21															
16:25		2180	21	21	Closed Cameron tree swab and FCH master valves.														
16:30		2149	21	21															
16:35		2137	20	21															
16:40		2115	19	24	Bleed down lubricator at choke manifold to starboard side burner.														
16:43		19	11	21	Closed FCH swab valve.														
16:45		19	11	21															
16:50		22	11	21															
16:55		22	12	21															
17:00		25	12	21															
17:05		25	12	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 29 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
17:10		25	12	21															
17:15		25	12	21															
17:20		25	12	21															
17:25		25	12	21															
17:30		25	12	21															
17:35		25	12	21															
17:40		28	12	21															
17:45		28	12	21															
17:50		28	12	21															
17:55		28	12	21															
18:00		28	12	21															
18:05		28	12	21	Opened FCH swab and master valves.														
18:10		1343	15	21	Opened Cameron tree swab valve.														
18:15		3034	20	21	RIH with 3.688" Plug.														
18:20		3043	19	21															
18:25		3051	18	21															
18:30		3058	17	21															
18:35		3065	16	21															
18:40		3070	15	21															
18:45		3076	15	21															
18:50		3082	15	21															
18:55		3086	14	21															
19:00		3091	14	21	Slickline POOH.														
19:05		3085	14	21															
19:10		3083	14	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 30 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
19:15		3080	14	21	Started glycol injection.														
19:20		3079	13	21															
19:25		3077	13	21	Stopped glycol injection.														
19:30		3073	13	21															
19:35		3070	13	21															
19:36		3038	13	21	Slickline at surface.														
19:37		3037	13	21	Closed Cameron tree swab and FCH master valves.														
19:40		2272	13	59	Bled off at choke manifold to zero psi.														
19:43		22	-1	21	Closed FCH swab valve.														
19:45		19	-1	21															
19:50		19	1	21															
19:55		19	3	21															
19:56		19	3	21	Opened FCH swab valve.														
19:59		20	4	21	Opened FCH master valve.														
20:00		641	4	21															
20:03		3017	9	21	Opened Cameron tree swab valve.														
20:05		3028	13	21															
20:08		3022	14	41	Bled down to 2724 psia, plug leak off test.														
20:10		2988	14	99															
20:15		2822	16	141															
20:18		2725	17	103	Closed choke manifold.														
20:20		2728	16	21															
20:25		2728	16	21															
20:30		2727	15	21	Test OK.														
20:35		2728	15	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 31 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
20:36		2728	14	21	RIH with 3.813" SDD.														
20:40		2727	14	21															
20:45		2728	14	21															
20:50		2730	13	21															
20:55		2731	13	21															
21:00		2734	13	21															
21:05		2734	13	21															
21:10		2734	13	21															
21:15		2734	13	21	Opened UEVCM sand sleeve, POOH. Started glycol injection.														
21:20		2731	12	21															
21:25		2730	12	21															
21:30		2721	12	21															
21:35		2709	12	21															
21:36		2707	12	21	Slickline to surface, rigged up slick line pulling tool. Stopped glycol injection.														
21:39		2694	12	21	Closed FCH master valve.														
21:40		2673	12	21	Bled down lubricator to zero psi.														
21:45		20	1	21															
21:50		22	2	21															
21:55		25	4	21															
22:00		24	5	21															
22:05		1235	6	21	Opened FCH master valve.														
22:07		1810	10	21	Opened Cameron tree swab valve.														
22:10		2607	13	21															
22:15		2598	13	21															
22:16	16	2595	13	21	Opened well on 16/64" adjustable choke to port side burner (UEVCM sands).														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 32 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
22:19	20	2561	12	86	Increased adjustable choke to 20/64".														
22:20	20	2534	12	196															
22:22	24	2481	13	195	Increased adjustable choke to 24/64".														
22:25	24	2381	14	261															
22:28	28	2282	15	241	Increased adjustable choke to 28/64".														
22:30	28	2199	16	313	Started methanol injection.														
22:32	32	2121	17	306	Increased adjustable choke to 32/64".														
22:35	32	2027	19	351															
22:40	32	1987	22	351	BSW 2% sediment.														
22:45	32	1993	25	354															
22:47	36	1998	25	354	Increased adjustable choke to 36/64".														
22:50	36	1966	26	435															
22:55	36	1942	28	430															
23:00	36	1930	29	427	BSW 0.75% sediment with no water.														
23:04	40	1916	30	479	Increased adjustable choke to 40/64".														
23:05	40	1902	30	512															
23:10	40	1870	32	503															
23:15	40	1861	34	503	BSW 0.25% sediment with no water.														
23:20	40	1860	35	500															
23:25	40	1861	36	503															
23:30	40	1864	37	503															
23:31	44	1864	37	505	Increased adjustable choke to 44/64".														
23:35	44	1823	38	612															
23:37	44	1812	38	476	Bypassed steam exchanger.														
23:38	44	1809	38	480	Stopped methanol injection.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 33 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
27-Sep-04																			
23:40	44	1806	39	497															
23:45	44	1806	40	581	BSW 0.5% sediment with no water.														
23:48	48	1817	40	650	Increased adjustable choke to 48/64".														
23:50	48	1783	40	638															
23:55	48	1737	41	647															
00:00	48	1719	42	571	BSW 0.25% with trace sediment.														
28-Sep-04																			
00:05	52	1706	42	599	Increased adjustable choke to 52/64".														
00:10	52	1650	43	573															
00:15	52	1646	44	553	BSW 9% with no sediment.														
00:20	52	1647	45	547															
00:21		1650	45	547	Shut in well at choke manifold.														
00:25		1968	44	21															
00:30		2090	41	21															
00:31		2099	40	21	Open FCH swab valve .														
00:35		2131	37	21	Slickline RIH with gauges.														
00:40		2152	35	21															
00:45		2164	33	21															
00:50		2173	31	21															
00:55		2182	29	21															
01:00		2191	28	21															
01:02		2194	28	21	Slickline on depth with gauges.														
01:05		2200	27	21	Started methanol injection.														
01:10		2206	26	21															
01:11		2207	26	32	Opened well on 16/64" adjustable choke to port side burner (UEVCM sands).														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 34 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
01:12	20	2202	26	92	Increased adjustable choke to 20/64".														
01:15	20	2179	26	146															
01:16	24	2176	27	150	Increased adjustable choke to 24/64".														
01:19	28	2149	30	242	Increased adjustable choke to 28/64".														
01:20	28	2134	31	293															
01:22	32	2116	32	296	Increased adjustable choke to 32/64".														
01:25	32	2077	33	357															
01:27	36	2062	34	370	Increased adjustable choke to 36/64".														
01:30	36	2021	35	438															
01:31	40	2012	36	451	Increased adjustable choke to 40/64".														
01:35	40	1956	37	521															
01:36	44	1947	38	528	Increased adjustable choke to 44/64".														
01:40	44	1885	39	607															
01:41	48	1874	39	618	Increased adjustable choke to 48/64".														
01:45	48	1810	41	682															
01:46	52	1799	41	683	Increased adjustable choke to 52/64".														
01:47	52	1770	41	774	Stopped methanol injection. Bypassed steam exchanger.														
01:50	52	1722	42	600															
01:55	52	1722	44	573															
02:00	52	1716	45	568	BSW 2% with 0.25% sediment.														
02:05	52	1707	46	562															
02:10	52	1701	47	559															
02:15	52	1695	47	556															
02:20	52	1689	48	553															
02:25	52	1686	48	553															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 35 2004 25

Time	Flowing Condition															Production Rate			
	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
02:30	52	1683	49	553	BSW 1% with 0.25% sediment.														
02:35	52	1686	49	553															
02:40	52	1686	50	553															
02:42	56	1685	50	560	Increased adjustable choke to 56/64".														
02:45	56	1644	50	620	BSW 7% with 2% sediment.														
02:50	56	1626	51	615															
02:55	56	1623	51	615															
02:59	60	1621	52	615	Increased adjustable choke to 60/64".														
03:00	60	1609	52	663															
03:05	60	1566	52	676															
03:10	60	1562	53	676															
03:15	60	1559	53	673	BSW 15% with trace sediment.														
03:20	60	1554	54	670															
03:25	60	1554	54	670															
03:30	60	1551	55	668	BSW 15% with trace sediment.														
03:35	60	1554	55	670															
03:40	60	1556	55	670															
03:45	60	1554	56	670	Well slugging.														
03:50	60	1557	56	670															
03:55	60	1560	56	670															
04:00	60	1560	56	670	BSW 9% with trace sediment.														
04:05	60	1560	57	670															
04:10	60	1560	57	670															
04:13	60+	1560	57	670	Switched to 60/64" fixed choke.														
04:15	60+	1560	57	676															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 36 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
04:20	60+	1557	57	675															
04:22	60+	1558	57	676	Passed flow through separator.														
04:25	60+	1560	57	667															
04:30	60+	1555	58	662															
04:32	60+	1555	58	697	Increased separator pressure.														
04:35	60+	1555	58	867															
04:40	60+	1558	58	903															
04:45	60+	1556	58	926															
04:50	60+	1556	58	966															
04:55	60+	1559	58	966															
05:00	60+	1556	58	852	Decreased separator pressure.														
05:05	60+	1557	58	691															
05:10	60+	1555	58	668	Increased separator pressure.														
05:15	60+	1559	58	911															
05:20	60+	1553	58	873															
05:25	60+	1554	58	808															
05:30	60+	1551	58	776															
05:35	60+	1551	59	775															
05:40	60+	1551	59	762															
05:42	60+	1551	59	762	Passed flow through 2" floco meter.														
05:45	60+	1551	59	761															
05:50	60+	1551	59	762															
05:55	60+	1551	59	759															
06:00	60+	1551	59	759															
06:05	60+	1547	59	758															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 37 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
06:10	60+	1547	59	758															
06:15	60+	1549	59	761															
06:20	60+	1546	59	759															
06:22	60+	1546	59	759	Lowered 3.5" orifice plate.														
06:25	60+	1544	59	762															
06:30	60+	1544	59	762															
06:35	60+	1546	59	762															
06:40	60+	1545	59	762															
06:45	60+	1545	59	762	BSW 7% with no sediment. Oil gravity 0.760 @ 34 DEG F.							55.30	0.780						
06:50	60+	1545	59	759															
06:55	60+	1542	59	759															
07:00	60+	1542	59	759															
07:05	60+	1542	60	756	Raised orifice plate.														
07:06	56	1542	60	759	Switched to 56/64" adjustable choke.														
07:08	48	1684	60	370	Decreased adjustable choke to 48/64".														
07:10	48	1849	59	318															
07:12	48	1942	58	267	Increased separator pressure.														
07:15	48	1820	57	783															
07:20	48	1753	58	847															
07:24	48	1738	58	847	Lowered 3.5" orifice plate.														
07:25	48	1737	58	847															
07:30	48	1731	58	844	Raised orifice plate.														
07:34	48+	1731	58	847	Switched to 48/64" fixed choke.														
07:35	48+	1734	58	850															
07:40	48+	1740	58	841															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 38 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
07:45	48+	1740	58	841															
07:50	48+	1740	58	841															
07:52	48+	1742	58	844	Lowered 3.0" orifice plate.														
07:55	48+	1740	58	844															
08:00	48+	1742	58	844	Started dumping water from separator.														
08:05	48+	1742	58	844															
08:10	48+	1742	58	844	747	139	33	33.4				55.30	0.780	17	1	813	17.203	0	47
08:10					Stopped dumping water from separator (0.46 bbls dumped).														
08:15	48+	1739	58	844	748	139	33	32.8						17	1	813	17.229	36	47
08:15					Switched to starboard side burner.														
08:20	48+	1736	57	844	748	139	33	32.6						17	1	813	17.226	36	47
08:25	48+	1730	57	844	749	139	33	32.9						17	1	813	17.217	36	47
08:30	48+	1733	57	841	749	136	33	32.6						17	1	813	17.102	0	48
08:35	48+	1736	57	841	749	134	32	32.4						17	1	813	16.958	0	48
08:40	48+	1730	57	839	748	132	32	32.3						17	1	813	16.835	0	48
08:45	48+	1724	57	839	749	132	32	32.3						17	1	813	16.799	0	48
08:50	48+	1727	57	838	749	130	32	32.1						17	1	813	16.731	0	49
08:55	48+	1730	57	838	749	128	32	32.3						17	1	813	16.569	0	49
09:00	48+	1745	57	841	748	124	33	32.6					0.768	17	1	813	16.401	0	50
09:00					Started dumping water from separator.														
09:05	48+	1758	57	844	749	122	33	32.9						17	1	813	16.274	0	50
09:10	48+	1746	57	844	750	126	33	33.0						17	1	813	16.496	0	49
09:15	48+	1745	57	847	750	130	33	33.0				54.4		17	1	813	16.760	32	48
09:15					Stopped dumping water from separator (0.41 bbls dumped). Oil gravity 0.741 @ 110 DEG F.														
09:15					Diverted flow to tank to cross check flocco meter.														

Meter readings inacurate
Tank Flow rate used for this period.

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 39 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
09:20	48+	1745	57	847	751	133	33	32.8						17	1	813	17.023	32	48
09:20					Started wellhead sampling.														
09:25	48+	1742	57	849	751	133	33	32.5						17	1	813	17.011	32	48
09:30	48+	1742	57	847	751	133	32	32.3						17	1	813	17.029	0	48
09:35	48+	1742	57	850	751	133	32	32.3						17	1	813	16.999	0	48
09:40	48+	1742	58	850	751	132	32	32.4						17	1	813	16.953	0	48
09:45	48+	1745	58	853	752	131	32	32.3						17	1	813	16.921	0	48
09:50	48+	1745	58	850	753	131	32	32.3						17	1	813	16.919	0	48
09:53					Petrolab started sampling.														
09:55	48+	1748	58	853	754	131	32	32.2						17	1	813	16.943	0	48
10:00	48+	1751	58	853	755	132	32	32.3											
10:00					Large error noted between tank and meter.									17	1	813	17.019	0	48
10:05	48+	1748	58	854	755	134	32	32.1						17	1	813	17.120	0	47
10:10	48+	1748	58	854	756	135	32	32.1						17	1	813	17.210	0	47
10:10					Petrolab finished sampling H2S 1.0ppm.														
10:15	48+	1745	58	854	757	136	32	32.0				52.90		17	1	813	17.275	0	47
10:15					Started dumping water from separator. Oil gravity 0.761 @ 76 DEG F.														
10:17					Petrolab started sampling.														
10:20	48+	1745	58	854	757	136	32	32.0						17	1	813	17.295	0	47
10:25	48+	1742	58	854	757	136	32	32.3						17	1	813	17.276	0	47
10:26					Petrolab finished sampling H2S 1.0ppm.														
10:30	48+	1739	58	853	757	136	32	32.4						17	1	813	17.264	14	47
10:30					Stopped dumping water from separator (0.19 bbls dumped).														
10:35	48+	1734	58	853	757	135	33	32.5						17	1	813	17.234	14	47
10:40	48+	1730	58	854	757	135	33	32.6						17	1	813	17.216	14	47

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 40 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
10:45	48+	1724	58	853	758	135	33	33.2						17	1	813	17.180	0	47
10:45					Started dumping water from separator.														
10:50	48+	1718	58	854	758	135	34	33.6						17	1	813	17.166	0	47
10:55	48+	1709	58	854	759	135	34	33.7						17	1	813	17.195	0	47
11:00	48+	1697	57	851	759	135	34	33.9						17	1	813	17.193	87	47
11:00					Stopped dumping water from separator (1.14 bbls dumped).														
11:05	48+	1706	58	850	759	132	34	34.1						17	1	813	16.975	87	48
11:10	48+	1709	58	848	759	129	35	34.7						17	1	813	16.733	87	49
11:15	48+	1709	57	853	759	126	35	34.9						17	1	813	16.539	0	49
11:15					Started dumping water from separator. Petrotech started wellhead sampling.														
11:20	48+	1709	57	849	759	127	35	34.9						17	1	813	16.596	0	49
11:25	48+	1705	58	847	758	128	35	34.8						17	1	813	16.651	46	49
11:25					Stopped dumping water from separator (0.40 bbls dumped).														
11:28					Petrolab finished sampling.														
11:30	48+	1700	58	852	758	128	35	34.8						17	1	813	16.686	190	49
11:30					Error still present all oil rates will be taken from tank. BSW 30% with no sediment.														
11:30					Diverted flow to tank to cross check flocco meter.														
11:35	48+	1727	58	856	758	125	35	35.0						17	1	813	16.456	190	49
11:35					Petrolab finished sampling.														
11:40	48+	1691	57	848	758	130	35	34.9						17	1	813	16.821	190	48
11:45	48+	1721	57	850	758	128	35	34.5						17	1	813	16.693	190	49
11:50	48+	1691	57	851	759	134	35	34.7						17	1	813	17.100	190	48

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 41 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
11:50	48+	1691	57	851	759	134	35	34.7						17	1	813	17.100	190	48
11:55	48+	1682	57	853	758	131	35	34.6						17	1	813	16.882	190	48
12:00	48+	1763	59	856	756	113	35	34.8						17	1	813	15.626	190	52
12:02		1756	58	856	Shut in well at choke manifold.														
12:05		1929	58	25	Slickline RIH with gauges to 3.688" SSD.														
12:10		2038	56	22															
12:15		2075	54	22															
12:20		2090	52	22															
12:25		2098	50	22															
12:30		2109	49	22															
12:35		2117	48	22															
12:40		2127	47	22															
12:45		2139	46	22	Slickline POOH.														
12:50		2148	45	22															
12:55		2160	45	22															
13:00		2169	44	22															
13:05		2178	44	22															
13:10		2190	44	22															
13:15		2199	43	22															
13:20		2208	43	22															
13:25		2220	43	22															
13:30		2228	42	22	Slickline at surface with gauges.														
13:35		2241	42	22															
13:40		2250	41	22															
13:45		2259	41	22	Closed Cameron tree swab and FCH master valves.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 42 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
13:50		2268	40	21															
13:55		2253	39	22															
13:56		2252	39	21	Bled pressure to zero via choke manifold.														
13:58		218	35	71	Closed FCH swab valve.														
14:00		18	27	21															
14:05		21	27	21															
14:10		24	28	21															
14:15		24	28	22															
14:20		24	27	21	Data acquisition stopped.														
15:00					Rigged up slickline .														
15:06					Opened FCH master valve.														
15:10					Opened Cameron tree swab valve.														
15:11					Slickline RIH to close SSD.														
15:33					Slickline on depth.														
15:35		2451	30	21	Data acquisition restarted.														
15:40		2459	30	21															
15:44		2477	30	21	SSD closed.														
15:45		2480	30	21															
15:46		2486	30	21	Slickline POOH.														
15:50		2501	30	21	Started glycol injection at slickline lubricator.														
15:55		2519	29	21															
16:00		2540	29	21															
16:05		2558	29	21															
16:08		2570	29	21	Slickline at surface. Stopped glycol injection.														
16:09		2573	29	21	Closed Cameron tree swab and FCH master valves.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 43 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
16:10		2577	29	21															
16:14		2567	29	21	Bled pressure to zero via choke manifold.														
16:15		2564	29	21															
16:19		18	14	21	Shut in at choke manifold.														
16:20		18	14	21															
16:25		22	15	21															
16:30		24	16	21															
16:35		24	17	21															
16:40		21	17	21															
16:42		22	17	21	Opened Cameron tree swab valve.														
16:43		1426	18	21	Opened FCH master valve.														
16:45		2659	22	21															
16:47		2682	26	21	Slickline RIH to open SSD for 2809 Sands.														
16:50		2694	26	21															
16:55		2709	26	21															
17:00		2727	26	21															
17:05		2742	26	21															
17:10		2760	25	21															
17:15		2772	25	21															
17:20		2789	25	21															
17:25		2805	25	21															
17:30		2820	25	21															
17:35		2835	24	21															
17:40		2847	24	21	Opened SSD at 2809m sands.														
17:45		3009	24	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 44 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
17:50		3010	24	21															
17:55		3010	24	21															
18:00		3009	23	21	Started glycol injection into the slickline lubricator.														
18:05		3012	23	21															
18:10		3012	23	21															
18:14		3013	23	21	Stopped glycol injection, slickline to surface.														
18:15		3013	23	21															
18:16		3007	23	21	Closed Cameron tree swab and FCH master valves.														
18:19		1461	21	58	Bled down lubricator to zero psi.														
18:20		721	15	47															
18:23		18	8	21	Closed FCH swab and choke manifold valves.														
18:25		22	8	21															
18:30		22	10	21	Opened FCH swab valve.														
18:34		25	10	21	Opened FCH master valve.														
18:35		1784	12	21															
18:38		1533	17	21	Opened Cameron tree swab valve.														
18:40		2983	20	21	RIH gauges on slickline.														
18:45		2989	22	21															
18:50		2992	21	21															
18:55		2995	20	21															
19:00		2998	20	21															
19:05		3001	20	21															
19:10		3001	20	21															
19:15		3001	20	21															
19:20		3004	20	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 45 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
19:25		3007	20	21															
19:30		3010	20	21	Set gauges in 3.688" SSD (at 3276m), POOH.														
19:35		3015	20	21	Started glycol injection into the slickline lubricator.														
19:40		3019	20	21	Slickline at surface. Stopped glycol injection.														
19:45		3019	20	21															
19:50		3022	20	21															
19:55		3025	19	21															
20:00		3028	19	21															
20:05		3031	19	21															
20:10		3034	19	21															
20:11		3034	19	21	Closed Cameron tree swab and FCH master valves.														
20:15		3014	19	22	Bled pressure to zero via choke manifold.														
20:19		21	5	21	Closed FCH swab and choke manifold valves.														
20:20		19	4	21															
20:25		25	6	21															
20:30		25	8	21															
20:35		24	8	21															
20:40		28	9	21															
20:45		28	10	21															
20:50		28	10	21															
20:55		27	10	21	Opened FCH master valve.														
21:00		1804	17	21	Opened Cameron tree swab valve. Started methanol injection.														
21:05		3040	21	21															
21:07	16	3040	20	21	Opened well on 16/64" adjustable choke to starboard side burner (2809m sands).														
21:10	20	2997	17	88	Increased adjustable choke to 20/64".														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 46 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
21:13	20	2914	18	199	Increased adjustable choke to 24/64".														
21:15	20	2848	19	308															
21:17	28	2825	18	296	Increased adjustable choke to 28/64".														
21:21	32	2787	22	322	Increased adjustable choke to 32/64".														
21:25	36	2793	27	461	Increased adjustable choke to 36/64".														
21:29	40	2779	32	582	Increased adjustable choke to 40/64".														
21:30	40	2758	33	714															
21:35	44	2711	38	840	Increased adjustable choke to 44/64".														
21:40	48	2592	40	827	Increased adjustable choke to 48/64".														
21:43		2493	41	935	Liquid to surface.														
21:45	48	2640	47	817	Bypassed steam exchanger.														
21:50	48	2654	47	767	Stopped methanol injection.														
21:55	48	2650	48	730	Liquids slugging.														
22:00	48	2658	49	738															
22:05	48	2653	50	724															
22:10	48	2670	51	730															
22:15	48	2683	52	730															
22:20	48	2694	52	737															
22:25	48	2709	53	732															
22:30	48	2715	54	738															
22:35	48	2721	55	744															
22:40	48	2727	55	747															
22:45	48	2736	56	747	BSW 15% with 0.5% sediment.														
22:50	48	2740	57	744															
22:55	48	2745	57	746															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 47 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
28-Sep-04																			
23:00	48	2748	58	747	BSW 12% with 0.15% sediment.														
23:05	48	2754	59	745															
23:10	48	2758	59	747															
23:15	52	2763	60	747	Increased adjustable choke to 52/64".														
23:20	52	2688	61	849															
23:25	52	2686	62	849															
23:30	52	2691	63	849	BSW 16% with 0.1% sediment.														
23:32	48	2694	63	850	Decreased adjustable choke to 48/64".														
23:35	48	2764	64	747															
23:40	48	2790	64	753															
23:42	44	2820	64	641	Decreased adjustable choke to 44/64".														
23:45	44	2869	65	650	BSW 10% with trace sediment.														
23:50	44	2887	65	653															
23:53	40	2906	65	554	Decreased adjustable choke to 40/64".														
23:55	40	2943	65	550															
29-Sep-04																			
00:00	36	2965	64	556	BSW 10% with trace sediment.														
00:01	36	2966	64	551	Decreased adjustable choke to 36/64".														
00:05	36	3025	64	457															
00:10	36	3044	63	376	Decreased adjustable choke to 32/64".														
00:15	36	3085	63	369	BSW 10% with trace sediment.														
00:20	36	3085	62	395															
00:23	28	3093	62	346	Decreased adjustable choke to 28/64".														
00:25	28	3118	62	334															
00:30	28	3124	61	372	BSW 2% with trace sediment.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 48 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
00:35	28	3121	60	392															
00:39	28+	3118	59	439	Switched to 28/64" fixed choke.														
00:40	28+	3109	59	513															
00:45	28+	3100	59	704	BSW 1% with trace sediment.														
00:50	28+	3097	59	753															
00:55	28+	3094	58	758															
01:00	28+	3094	58	761	BSW 0.5% with trace sediment.														
01:01	28+	3091	58	763	Switched to 28/64" adjustable choke.														
01:02	24	3097	58	483	Decreased adjustable choke to 24/64".														
01:04	24	3127	58	345	Passed flow through steam exchanger.														
01:05	24	3132	58	375															
01:08	24	3135	57	375	Bypassed steam exchanger.														
01:10	24	3133	57	354															
01:13	20	3133	56	357	Decreased adjustable choke to 20/64".														
01:15	20	3149	56	234	BSW 4% with trace sediment.														
01:18	20	3151	55	234	Started methanol injection.														
01:20	20	3148	55	233															
01:25	20	3145	53	218															
01:28	32	3107	53	598	Increased adjustable choke to 32/64".														
01:30	32	3057	53	649	BSW 1% with trace sediment.														
01:35	32	3035	55	690	Stopped methanol injection.														
01:40	36	3028	56	862	Increased adjustable choke to 36/64".														
01:45	36	2977	57	600	BSW 1% with trace sediment.														
01:50	36	2971	58	632															
01:55	36	2965	59	641															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 49 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
02:00	36	2968	60	485	Liquid to surface. BSW 2% with trace sediment.														
02:05	36	2980	61	462															
02:10	36	2986	61	462															
02:15	36	2995	61	462	BSW 15% with trace sediment.														
02:20	36	3001	62	462															
02:23	32	3001	62	459	Decreased adjustable choke to 32/64".														
02:25	32	3038	62	366															
02:30	32	3058	61	369	BSW 3% with trace sediment.														
02:35	32	3061	61	377	BSW 9% with trace sediment.														
02:40	32	3058	61	392	BSW 10% with trace sediment.														
02:45	32	3058	61	418	BSW 8% with trace sediment.														
02:50	32	3055	60	454	BSW 5% with trace sediment.														
02:51	32	3055	60	448	BSW 3% with trace sediment.														
02:52	36	3041	60	513	Increased adjustable choke to 36/64".														
02:55	36	3004	60	477															
03:00	36	2992	61	471	BSW 12% with trace sediment.														
03:05	36	2992	62	464	BSW 9% with 0.5% sediment.														
03:10	36	2989	62	462	BSW 10% with 0.25% sediment.														
03:15	36	2994	62	466	BSW 20% with trace sediment.														
03:16	36+	2995	62	465	Switched to 36/64" fixed choke.														
03:20	36+	2998	63	468															
03:25	36+	3001	63	468															
03:30	36+	3004	63	468	BSW 22% with trace sediment.														
03:35	36+	3004	63	465															
03:40	36+	3001	63	465															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 50 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
03:44	36+	3001	63	470	Passed flow through separator.														
03:45	36+	3001	63	489	Increased separator pressure. BSW 15% with trace sediment.														
03:50	36+	3004	63	747															
03:55	36+	3004	64	841															
04:00	36+	3007	64	841	BSW 15% with trace sediment.														
04:03	36+	3007	64	838	Switched flow to port side burner.														
04:05	36+	3007	64	841															
04:06	36+	3007	64	841	Lowered 3.0" orifice plate.														
04:07	36+	3007	64	843	Passed flow through 2" floco meter.														
04:10	36+	3007	64	844															
04:15	36+	3007	64	844															
04:15	36+	3007	64	844	BSW 25% with trace sediment.														
04:20	36+	3010	64	844															
04:20	36+	3010	64	844	Specific gravity of gas 0.843.														
04:25	36+	3007	64	844	751.287	136	23	23.1					0.843	1	1		17.777	0	
04:30	36+	3010	65	844		137	23	23.4				52.97		1	1	705	17.783	0	40
04:30	36+				BSW 15% with no sediment.														
04:35	36+	3009	65	843	750.993	137	24	23.6						1	1		17.789	0	
04:35	36+				Specific gravity of oil 0.772 at 48 DEG F.														
04:37	36+				Started wellhead sampling.														
04:40	36+	3011	65	842	750.687	137	24	24.1						1	1		17.760	0	
04:42	36+				Started meter factor and shrinkage measurement.														
04:45	36+	3011	65	842	750.393	137	24	24.4						1	1	689	17.738	40	39
04:45	36+				BSW 14% with no sediment.														
04:50	36+	3010	65	841	750.26	137	25	24.6						1	1		17.710	40	

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	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
04:55	36+	3010	65	844	750.14	136	25	24.8						1	1		17.638	40	
05:00	36+	3010	65	844	750.113	136	25	25.0						1	1	673	17.627	40	38
05:00	36+				BSW 13% with no sediment.														
05:01	36+				Finished meter factor.														
05:02	36+				Lost oil level in separator, closed oil line to increase level.														
05:05	36+	3010	65	844	750.347	138	25	25.2						1	1		17.731	40	
05:10	36+	3013	65	841	750.293	139	25	25.4						1	1		17.786	40	
05:12	36+				Specific gravity of oil 0.768 at 56 DEG F.														
05:15	36+	3013	65	842	750.32	139	26	25.6						1	1	568	17.775	40	32
05:16	36+				Finished shrinkage measurement (10% @61 DEG F).														
05:20	36+	3013	66	844	750.1	137	26	25.8						1	1		17.672	40	
05:25	36+	3013	66	844	750.187	138	26	26.0						1	1		17.670	40	
05:30	36+	3013	66	841	749.98	138	26	26.0						1	1	730	17.681	40	41
05:30	36+				BSW 12% with no sediment.														
05:34	36+				Started dumping water from separator.														
05:35	36+	3013	66	841	749.833	138	26	26.1						1	1		17.670	40	
05:37	36+				Stopped dumping water from separator (1.00 bbls dumped).														
05:40	36+	3012	66	842	749.553	137	26	26.2						1	1		17.638	22	
05:41	36+				Started pumping out tank.														
05:45	36+	3014	66	841	749.573	138	26	26.2						1	1	697	17.646	22	40
05:45	36+				BSW 18% with no sediment.														
05:49	36+				Increase level in separator.														
05:50	36+	3014	66	842	749.587	138	26	26.3						1	1		17.695	22	
05:55	36+	3014	66	844	749.513	139	26	26.3						1	1		17.740	22	
06:00	36+	3013	66	844	749.6	139	26	26.2						1	1	495	17.741	22	28

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	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
06:00	36+				BSW 18% with no sediment.														
06:05	36+	3013	66	844	749.753	138	26	26.2						1	1		17.705	22	
06:05	36+				Started dumping water from separator.														
06:09	36+				Stopped dumping water from separator (0.62 bbls dumped).														
06:10	36+	3013	67	843	750.033	138	26	26.1						1	1		17.699	22	
06:10	36+				Started meter factor and shrinkage measurement.														
06:15	36+	3013	67	840	749.913	138	26	26.1						1	1	713	17.698	22	40
06:20	36+	3013	67	841	749.607	138	26	26.2						1	1		17.691	22	
06:25	36+	3013	67	841	749.107	138	26	26.2						1	1		17.699	22	
06:30	36+	3013	67	841	748.86	139	26	26.4						1	1	470	17.702	22	27
06:30	36+				BSW 12% with no sediment.														
06:35	36+	3016	67	841	748.773	139	26	26.3						1	1		17.718	22	
06:37	36+				Started dumping water from separator.														
06:40	36+	3016	67	841	749	138	26	26.3						1	1		17.685	22	
06:42	36+				Stopped dumping water from separator (0.87 bbls dumped).														
06:45	36+	3016	67	844	749.393	138	27	26.5						1	1	632	17.670	32	36
06:45	36+				Finished shrinkage measurement (15.5% @60 DEG F).														
06:50	36+	3016	67	841	749.46	138	27	26.5						1	1		17.680	32	
06:55	36+	3016	67	841	749.347	139	27	26.6						1	1		17.706	32	
07:00	36+	3016	67	841	749.073	139	27	26.7						1	1	657	17.698	32	37
07:05	36+	3016	67	841	749.047	139	27	26.5						1	1		17.699	32	
07:05	36+				Started dumping water from separator.														
07:07	36+				Stopped dumping water from separator (1.10 bbls dumped).														
07:10	36+	3016	68	844	749.207	138	27	26.5						1	1		17.680	51	
07:15	36+	3016	68	841	749.067	139	27	26.6						1	1	397	17.690	51	22

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	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
07:15	36+				Specific gravity of oil 0.736 at 76 DEG F.														
07:20	36+	3016	68	841	749.047	139	27	26.5						1	1		17.696	51	
07:25	36+	3015	68	841	748.853	139	27	26.5						1	1		17.710	51	
07:30	36+	3016	68	841	748.927	139	27	26.5						1	1	705	17.697	51	40
07:30	36+				Petrotech started wellhead sampling. BSW 13% with no sediment.														
07:35	36+	3016	68	841	749.133	139	27	26.7						1	1		17.697	51	
07:40	36+	3015	68	841	749.247	139	27	26.7						1	1		17.691	51	
07:45	36+	3016	68	841	749.433	139	27	27.0						1	1	697	17.676	51	39
07:45	36+				Started dumping water from separator. Specific gravity of gas 0.846.														
07:48	36+				Stopped dumping water from separator (0.77 bbls dumped).														
07:50	36+	3016	68	841	749.273	138	27	27.3						1	1		17.633	22	
07:55	36+	3016	68	841	749.087	139	28	27.6						1	1		17.638	22	
07:56	36+				Petrotech finished wellhead sampling.														
08:00	36+	3015	68	841	748.707	139	28	27.9						1	1	592	17.613	22	34
08:00	36+				Started dumping water from separator. BSW 12% with no sediment.														
08:03	36+				Stopped dumping water from separator (0.62 bbls dumped).														
08:05	36+	3018	68	841	748.56	138	28	28.2						1	1		17.573	48	
08:10	36+	3019	69	841	748.573	138	29	28.5						1	1		17.531	48	
08:15	36+	3019	69	842	748.9	138	29	28.5						1	1	624	17.537	48	36
08:17	36+				Started dumping water from separator.														
08:19	36+				Stopped dumping water from separator (0.50 bbls dumped).														
08:20	36+	3019	69	841	748.833	138	29	28.6						1	1		17.542	36	
08:25	36+	3019	69	841	748.84	139	29	28.5						1	1		17.579	36	
08:30	36+	3019	69	841	748.607	139	29	28.5						1	1	649	17.597	36	37
08:30	36+				Started dumping water from separator.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 54 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
08:32	36+				Stopped dumping water from separator (0.12 bbls dumped).														
08:35	36+	3019	69	841	748.747	140	29	28.6						1	1		17.631	11	
08:40	36+	3018	69	841	748.7	140	28	28.4						1	1		17.632	11	
08:45	36+	3022	69	842	748.727	139	28	28.4						1	1	665	17.603	11	38
08:45	36+				Started dumping water from separator.														
08:50	36+	3021	69	841	748.813	139	29	28.7						1	1		17.589	11	
08:52	36+				Stopped dumping water from separator (0.62 bbls dumped).														
08:55	36+	3022	69	842	749.02	139	29	28.9						1	1		17.558	36	
09:00	36+	3021	69	841	749.267	139	29	29.1						1	1	486	17.578	14	28
09:00	36+				BSW 15% with no sediment.														
09:05	36+	3020	69	842	749.18	139	29	29.3						1	1		17.579	14	
09:10	36+	3021	69	844	749.26	140	30	29.5						1	1		17.583	14	
09:15	36+	3021	69	842	749.14	140	30	29.5						1	1	608	17.602	50	35
09:20	36+	3021	70	842	748.913	140	30	29.5						1	1		17.575	50	
09:20	36+				BSW 11% with no sediment.														
09:22	36+				Petrotech started wellhead sampling.														
09:25	36+	3021	70	842	749.12	140	30	29.6						1	1		17.579	50	
09:30	36+	3021	70	840	749.18	139	30	29.7						1	1	681	17.537	51	39
09:35	36+	3021	70	842	749.64	139	30	29.8						1	1		17.560	51	
09:40	36+	3018	70	842	749.333	140	30	29.8						1	1		17.599	51	
09:45	36+	3018	70	842	749.093	141	30	29.8						1	1	576	17.641	10	33
09:47		3018	70	842	Petrotech finished wellhead sampling.														
09:49		3021	70	842	Bypassed meters and lifted orifice plate.														
09:50		3023	70	832	Shut in well at choke manifold.														
09:55		3202	68	22	Closed swab valve on Cameron tree.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 55 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
09:59		3151	65	22	Closed FCH master valve.														
10:00		3133	64	22	Bled pressure to zero via choke manifold.														
10:05		19	52	22	Closed choke manifold.														
10:10		25	51	22															
10:15		27	49	22															
10:20		35	48	22															
10:25		19	47	22															
10:30		18	45	22															
10:35		18	44	22															
10:40		18	43	22															
10:45		18	42	22															
10:50		18	41	21															
10:55		18	40	22															
11:00		21	39	21	Flushed slickline lubricator prior to pressure testing.														
11:03		106	38	21	Pressure tested slickline lubricator.														
11:05		4024	38	22															
11:10		4054	38	21															
11:14		3959	39	22	Bled pressure to zero via choke manifold.														
11:15		187	39	24															
11:20		22	26	22	Opened FCH master valve.														
11:25		1451	30	21															
11:30		1453	32	22	Opened Cameron swab valve.														
11:35		1453	34	22															
11:40		2248	35	22															
11:45		3081	36	22	Slickline RIH to close SSD.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 56 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
11:50		3081	36	22															
11:55		3081	36	21															
12:00		3083	36	22															
12:05		3084	36	21															
12:10		3084	35	21															
12:15		3085	35	22															
12:20		3087	35	22															
12:25		3090	34	22															
12:30		3090	34	22															
12:35		3090	34	21															
12:40		3093	33	21															
12:45		3099	33	21															
12:50		3102	33	21															
12:55		3105	32	21															
13:00		3111	32	22															
13:05		3117	32	22															
13:10		3123	32	21															
13:15		3129	32	22															
13:20		3132	32	22	SSD closed. slickline POOH. Started glycol injection.														
13:25		3135	32	22															
13:30		3138	32	22															
13:35		3141	31	22															
13:40		3144	31	22															
13:45		3147	31	21															
13:50		3147	30	22															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 57 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
13:55		3150	30	21															
14:00		3150	29	21	Slickline at surface. Stopped glycol injection.														
14:05		3150	29	20															
14:10		3153	28	20															
14:14		3147	27	20	Closed Cameron tree swab and FCH master valves.														
14:15		3144	27	20															
14:17		3141	27	20	Bled pressure to zero via choke manifold.														
14:20		938	20	38															
14:23		19	13	20	Closed FCH swab valve.														
14:25		18	13	20	Changed out slickline tool string.														
14:30		21	14	19															
14:35		22	15	20	Opened FCH swab valve.														
14:37		21	15	20	Opened FCH master valve.														
14:40		1502	16	20															
14:41		1600	19	20	Opened Cameron tree swab valve.														
14:44		3121	24	20	Slickline RIH with SSD opening tool.														
14:45		3124	25	20															
14:50		3127	25	21															
14:55		3130	24	21															
15:00		3133	23	21															
15:05		3139	23	21															
15:10		3139	23	21															
15:15		3142	22	21															
15:16		3145	22	21	Slickline opened SSD.														
15:20		3145	22	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 58 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
15:25		3148	22	21															
15:30		3148	22	21	Slickline POOH.														
15:35		3148	21	21															
15:40		3148	21	21															
15:45		3148	21	21															
15:50		3148	21	21															
15:55		3145	21	21															
16:00		3118	20	21															
16:02		3102	20	21	Slickline at surface.														
16:03		638	18	155	Closed Cameron tree swab and FCH master valves.														
16:04		22	8	21	Bled pressure to zero via choke manifold.														
16:05		22	5	21	Changed out slickline tool string.														
16:10		28	6	21															
16:15		28	8	21															
16:20		30	9	21															
16:25		1749	11	21	Opened Cameron tree swab valve and FCH master valve.														
16:30		3121	21	21															
16:31	24	3121	21	21	Opened well on 24/64" adjustable choke to starboard side burner (2755m sands).														
16:35	32	2960	20	255	Increased to 32/64" adjustable choke.														
16:40	40	2709	26	415	Increased to 40/64" adjustable choke.														
16:45	40	2461	36	489	BSW 2% with trace sediment.														
16:50	40	2357	41	635															
16:55	48	2305	44	595	Increased to 48/64" adjustable choke.														
17:00	48	2142	47	803	Stopped methanol injection. BSW 2.5% with trace sediment.														
17:05	48	1994	48	746															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 59 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
17:10	56	2051	52	804	Increased to 56/64" adjustable choke.														
17:15	56	1854	53	973	BSW 70% with trace sediment.														
17:20	56	1799	55	684															
17:25	56	1761	55	652	Bypassed steam exchanger.														
17:30	56	1740	56	644	BSW 20% with trace sediment.														
17:32	56	1733	56	636	Switched to port side burner.														
17:35	56	1719	56	644															
17:40	56	1704	56	644															
17:45	56	1704	57	638	BSW 25% with trace sediment.														
17:50	56	1700	57	638															
17:55	56	1695	58	635															
18:00	56	1692	58	632	BSW 25% with trace sediment.														
18:05	56	1686	58	630															
18:10	56	1686	59	632	BSW 23% with 0.25% sediment.														
18:15	56	1686	59	630															
18:20	56	1683	60	629	BSW 23% with trace sediment.														
18:25	56	1680	60	629	BSW 21% with 0.15% sediment.														
18:30	56	1680	60	626	BSW 21% with 0.15% sediment.														
18:35	56	1677	60	626	BSW 25% with 0.15% sediment.														
18:40	56	1674	60	624															
18:45	56	1668	60	621	BSW 19% with 0.15% sediment.														
18:50	56	1671	61	626															
18:55	56	1668	61	624															
19:00	56	1662	61	621	BSW 20% with trace sediment.														
19:05	56	1659	61	618															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 60 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
19:10	56	1659	61	621															
19:15	56	1656	62	621	BSW 22% with 0.15% sediment.														
19:16	48	1654	62	615	Decreased adjustable choke to 48/64".														
19:20	48	1766	62	486															
19:25	48	1845	62	509															
19:30	48	1888	62	518															
19:35	48	1915	62	527															
19:40	48	1930	62	530															
19:45	48	1935	62	533	BSW 15% with 0.5% sediment.														
19:50	48	1939	62	533															
19:55	48	1939	62	533															
20:00	40	1939	63	536	Decreased adjustable choke to 40/64". BSW 20% with 0.15% sediment.														
20:05	40	2080	62	398															
20:10	40	2161	62	413															
20:15	40	2206	62	419	BSW 14% with 0.1% sediment.														
20:20	40	2230	62	424	BSW 14% with 0.1% sediment.														
20:25	40	2245	62	427	BSW 13% with 0.15% sediment.														
20:30	40	2254	62	427	BSW 13% with 0.15% sediment.														
20:33	36	2267	62	353	Decreased adjustable choke to 36/64".														
20:35	36	2302	61	354	BSW 13% with 0.2% sediment.														
20:40	36	2359	61	363	BSW 9% with 0.1% sediment.														
20:45	36	2390	61	366	BSW 9% with trace sediment.														
20:50	36	2408	61	369															
20:55	36	2417	60	372	BSW 8% with trace sediment.														
20:59	40	2412	60	427	Increased to 40/64" adjustable choke.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 61 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
21:00	40	2393	60	451	BSW 8% with trace sediment.														
21:05	40+	2335	61	439	Switched to 40/64" fixed choke.														
21:10	40+	2287	61	451															
21:15	40+	2260	61	448	BSW 20% with trace sediment.														
21:20	40+	2248	62	445															
21:25	40+	2245	62	445															
21:28	40+	2242	62	464	Passed flow through separator.														
21:30	40+	2242	62	549	Increased separator pressure.														
21:35	40+	2242	62	835															
21:38	40+	2242	62	835	Lowered 3.0" orifice plate.														
21:40	40+	2239	62	838															
21:45	40+	2239	62	839															
21:46	40+	2237	62	838	Passed flow through 2" floco meter. BSW 15% with no sediment.														
21:47	40+	2236	62	838	Specific gravity of gas 0.830.														
21:50	40+	2234	62	838															
21:53	40+	2233	62	838	Started dumping water from separator.														
21:55	40+	2233	62	838	757.807	130	26	25.5					0.830	20	60		16.670	0	
21:55	40+				Specific gravity of oil 0.784 @ 48 DEG F.							50.1							
21:57	40+				Stopped dumping water from separator (0.45 bbls dumped).														
22:00	40+	2230	62	838	757.62	130	26	26.0						20	60		16.625	18	
22:00	40+				Started CGR sampling. BSW 20% with 0.2% sediment.														
22:05	40+	2230	63	838	757.293	129	26	26.4						20	60		16.588	18	
22:10	40+	2233	63	838	756.873	129	27	26.8						20	60		16.556	18	
22:13	40+				Started dumping water from separator.														
22:15	40+	2233	63	838	756.64	129	27	27.2						20	60		16.503	46	

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 62 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
22:15	40+				Stopped dumping water from separator (0.71 bbls dumped). BSW 15% with trace sediment.														
22:20	40+	2233	63	837	756.767	129	28	27.7						20	60		16.474	46	
22:25	40+	2233	63	838	757.253	129	28	27.6						20	60		16.481	46	
22:30	40+	2233	63	838	757.92	129	28	28.0						20	60	296	16.521	46	18
22:30	40+				BSW 15% with 0.1% sediment.														
22:34	40+				Finished shrinkage test (11.5% at 48 DEG F).														
22:35	40+	2227	63	838	758.653	130	28	28.2						20	60		16.558	46	
22:36	40+				Started dumping water from separator.														
22:37	40+				BSW (oil outlet) 0.2% with no sediment.														
22:38	40+				Stopped dumping water from separator (0.51 bbls dumped).														
22:40	40+	2227	63	838	758.387	130	28	27.9						20	60		16.567	26	
22:45	40+	2230	63	838	758.127	129	28	28.0						20	60	252	16.533	26	15
22:45	40+				BSW 17% with trace sediment. Specific gravity of gas 0.831.														
22:50	40+	2230	63	838	757	130	30	28.2						20	60		16.464	26	
22:53	40+				Specific gravity of oil 0.783 @ 46 DEG F.														
22:55	40+	2230	63	836	757	130	30	28.5						20	60		16.464	26	
23:00	40+	2233	63	838	756.687	129	29	28.7						20	60	431	16.437	26	26
23:00	40+				BSW 22% with trace sediment.														
23:04	40+				Started dumping water from separator.														
23:05	40+	2233	63	838	756.6	128	29	29.1						20	60		16.398	26	
23:06	40+				Stopped dumping water from separator (0.99 bbls dumped).														
23:08	40+				Petrotech started sampling.														
23:10	40+	2230	63	837	756.74	129	29	29.1						20	60		16.433	41	
23:15	40+	2227	63	835	756.793	130	29	29.0						20	60	330	16.516	41	20
23:15	40+				BSW 15% with no sediment.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 63 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
29-Sep-04																			
23:20	40+	2224	63	835	755.987	131	29	29.1						20	60		16.560	41	
23:25	40+	2224	63	835	755.4	131	29	29.0						20	60		16.552	41	
23:25	40+				Started dumping water from separator.														
23:28	40+				Stopped dumping water from separator (0.72 bbls dumped).														
23:30	40+	2227	63	838	755.72	130	29	29.1						20	60	350	16.480	38	21
23:30	40+				BSW 14% with no sediment.														
23:35	40+	2224	63	838	756.653	130	29	29.1						20	60		16.473	38	
23:40	40+	2221	63	838	757.733	130	29	29.0						20	60		16.497	38	
23:43	40+				Cleared sight glass on tank to remove oil water contact.														
23:45	40+	2218	63	835	758.073	131	29	29.0						20	60	272	16.561	38	16
23:45	40+				Specific gravity of oil 0.783 @ 45 DEG F. Specific gravity of gas 0.831.														
23:46	40+				Started dumping water from separator.														
23:47	40+				H2S 60ppm, CO2 20% (supplied by Petrolab).														
23:48	40+				Stopped dumping water from separator (0.45 bbls dumped).														
23:50	40+	2224	63	835	757.153	130	29	29.3						20	60		16.480	26	
23:50	40+				Finished shrinkage test (10.5% at 59 DEG F).														
23:55	40+	2227	63	838	756.813	128	29	29.3						20	60		16.395	26	
00:00	40+	2230	64	838	756.84	127	30	29.5						20	60	705	16.309	26	43
30-Sep-04																			
00:04	40+				Started dumping water from separator.														
00:05	40+	2230	64	838	757.7	128	30	29.5						20	60		16.346	26	
00:07	40+				Stopped dumping water from separator (0.80 bbls dumped).														
00:10	40+	2231	64	838	757.327	128	30	29.7						20	60		16.375	49	
00:15	40+	2230	64	838	757.273	129	30	29.8						20	60	365	16.437	49	22
00:15	40+				BSW 18% with no sediment.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 64 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
30-Sep-04																			
00:20	40+	2224	64	838	757.567	130	30	29.7						20	60		16.509	49	
00:20	40+				BSW (oil outlet) 0.25% with no sediment.														
00:25	40+	2222	64	835	757.867	131	30	29.7						20	60		16.566	49	
00:30	40+	2224	64	835	756.987	131	30	29.5						20	60	365	16.548	49	22
00:30	40+				BSW 20% with no sediment.														
00:32	40+				Started dumping water from separator.														
00:33	40+				Petrotech started wellhead sampling.														
00:34	40+				Stopped dumping water from separator (1.00 bbls dumped).														
00:35	40+	2224	64	837	756.133	130	30	29.7						20	60		16.471	49	
00:39	40+				Data acquisition stopped.														
00:45	40+															345		38	
00:45	40+				BSW 18% with no sediment. Specific gravity of oil 0.786 @ 50 DEG F. Specific gravity of gas 0.832.														
00:54	40+				Started dumping water from separator.														
00:56	40+				Stopped dumping water from separator (0.76 bbls dumped).														
01:00	40+				BSW 19% with no sediment.											368		46	
01:01	40+				Started pumping out tank.														
01:03	40+				Data acquisition restarted.														
01:05	40+	2222	64	835				30.3						20	60			46	
01:10	40+	2225	64	838	755.686	129	30	30.2						20	60		16.386	46	
01:15	40+	2224	64	838	756.817	129	30	30.4						20	60		16.402	46	
01:15	40+				BSW 22% with 0.15% sediment.														
01:18	40+				Started dumping water from separator.														
01:20	40+	2221	64	838	757.567	129	31	30.7						20	60		16.395	38	
01:20	40+				Stopped dumping water from separator (0.79 bbls dumped).														
01:22	40+				Finished shrinkage test (12% at 61 DEG F).														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 65 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
30-Sep-04																			
01:25	40+	2224	64	835	757.62	129	31	30.8						20	60		16.421	38	
01:28	40+				Stopped pumping out tank.														
01:30	40+	2224	64	835	756.847	129	31	30.8						20	60	249	16.426	38	15
01:30	40+				BSW 22% with 0.15% sediment.														
01:35	40+	2224	64	838	756.107	129	30	30.4						20	60		16.439	38	
01:36	40+				Started dumping water from separator.														
01:38	40+				Stopped dumping water from separator (0.61 bbls dumped).														
01:40	40+	2227	64	838	756.54	129	31	30.5						20	60		16.401	39	
01:40	40+				Specific gravity of gas 0.832.														
01:45	40+	2225	64	838	756.907	129	31	30.5						20	60	266	16.419	39	16
01:45	40+				BSW 20% with no sediment. Specific gravity of oil 0.783 @ 39 DEG F.														
01:50	40+	2225	64	835	757.2	129	31	30.5						20	60		16.455	39	
01:52	40+				Started dumping water from separator.														
01:53	40+				Stopped dumping water from separator (0.46 bbls dumped).														
01:55	40+	2223	64	835	756.687	130	31	30.5						20	60		16.485	36	
02:00	40+	2223	64	835	756.113	130	30	30.3						20	60	260	16.482	36	16
02:00	40+				BSW 18% with no sediment.														
02:05	40+	2224	64	838	755.9	130	30	30.2						20	60		16.466	36	
02:10	40+	2224	64	835	756.293	129	30	30.0						20	60		16.478	36	
02:15	40+	2224	64	838	756.44	129	30	29.9						20	60	389	16.465	36	24
02:15	40+				BSW 19% with trace sediment.														
02:16	40+				Started dumping water from separator.														
02:19	40+				Stopped dumping water from separator (0.82 bbls dumped).														
02:20	40+	2224	64	838	756.727	129	30	30.2						20	60		16.435	37	
02:23	40+				Finished shrinkage test (12% at 61 DEG F).														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 66 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
30-Sep-04																			
02:25	40+	2221	64	835	756.273	129	30	30.4						20	60		16.456	37	
02:30	40+	2224	64	838	756.467	129	30	30.3						20	60	345	16.473	37	21
02:30	40+				BSW 20% with trace sediment.														
02:35	40+	2224	64	837	756.387	130	31	30.6						20	60		16.485	37	
02:40	40+	2228	64	838	756.4	129	31	30.7						20	60		16.436	37	
02:45	40+	2224	64	838	756.873	129	31	30.7						20	60	422	16.445	37	26
02:45	40+				BSW 24% with trace sediment.														
02:47	40+				Flare out.														
02:50	40+	2221	64	838	757.173	129	30	30.3						20	60		16.477	37	
02:51	40+				Started dumping water from separator.														
02:54	40+				Stopped dumping water from separator (1.19 bbls dumped).														
02:55	40+	2221	64	835	757.507	129	30	30.0						20	60		16.478	39	
03:00	40+	2221	64	838	756.927	129	30	29.8						20	60	306	16.493	39	19
03:00	40+				Petrotech started CGR. BSW 30% with trace sediment.														
03:05	40+	2224	64	835	756.033	129	30	29.7						20	60		16.479	39	
03:10	40+	2224	64	838	755.867	129	30	29.9						20	60		16.503	39	
03:15	40+	2221	64	837	756.087	129	30	29.8						20	60	376	16.504	39	23
03:15	40+				BSW 17% with no sediment.														
03:20	40+	2221	64	835	756.307	129	30	30.0						20	60		16.501	39	
03:20	40+				Started dumping water from separator.														
03:25	40+	2221	64	835	755.98	129	30	30.1						20	60		16.471	37	
03:25	40+				Stopped dumping water from separator (0.99 bbls dumped).														
03:30	40+	2222	64	835	755.38	129	30	30.2						20	60	310	16.459	37	19
03:30	40+				BSW 25% with 1.5% sediment.														
03:31	40+				Started pumping out tank.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 67 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
30-Sep-04																			
03:34	40+				Finished shrinkage test (11% at 58 DEG F).														
03:35	40+	2225	64	835	754.913	129	30	30.3						20	60		16.435	37	
03:40	40+	2224	64	838	755.367	129	30	30.2						20	60		16.475	37	
03:40	40+				Specific gravity of oil 0.786 @ 48 DEG F. Specific gravity of gas 0.831.														
03:45	40+	2221	64	835	755.687	129	30	30.0						20	60		16.495	37	
03:45	40+				BSW 22% with 0.15% sediment.														
03:47	40+				Started dumping water from separator.														
03:49	40+				Stopped dumping water from separator (0.74 bbls dumped).														
03:50	40+	2224	65	835	755.747	129	30	30.1						20	60		16.479	35	
03:51	40+				Stopped pumping out tank.														
03:55	40+	2221	64	835	754.96	129	30	30.3						20	60		16.483	35	
04:00	40+	2221	65	835	754.58	129	30	30.2						20	60	284	16.481	35	17
04:00	40+				BSW 20% with no sediment.														
04:05	40+	2221	65	835	754.947	130	30	30.1						20	60		16.525	35	
04:10	40+	2221	65	835	755.173	129	30	30.4						20	60		16.493	35	
04:10	40+				Started dumping water from separator.														
04:12	40+				Stopped dumping water from separator (0.76 bbls dumped).														
04:15	40+	2221	65	835	755.193	129	30	30.3						20	60	281	16.477	39	17
04:15	40+				BSW 20% with trace sediment.														
04:20	40+	2221	65	835	754.527	129	30	30.3						20	60		16.468	39	
04:22	40+				Finished wellhead sampling.														
04:25	40+	2222	65	838	754.82	129	31	30.5						20	60		16.473	39	
04:30	40+	2221	65	835	754.947	130	30	30.4						20	60	262	16.508	39	16
04:30		2221	65	835	Started dumping water from separator.														
04:31		2222	64	835	Shut in well at choke manifold.														

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 68 2004 25

	Flowing Condition														Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
30-Sep-04																			
04:32		2257	64	127	Stopped dumping water from separator (0.67 bbls dumped).														
04:35		2521	63	24															
04:40		2817	58	24															
04:45		2976	54	24															
04:47		3012	53	24	Opened FCH swab valve.														
04:50		3046	51	24															
04:52		3043	50	24	Closed FCH master valve (leak on grease port).														
04:55		2836	48	24															
05:00		2782	45	24															
05:04		3002	44	23	Opened FCH master valve.														
05:05		3098	44	24															
05:09		3101	43	24	Slickline RIH to retrieve gauges.														
05:10		3101	42	24															
05:15		3101	41	24															
05:20		3101	39	23															
05:25		3098	38	21															
05:30		3098	37	21															
05:35		3098	36	21															
05:40		3101	35	21															
05:45		3104	34	21	Slickline POOH.														
05:48		3107	33	20	Started glycol injection.														
05:50		3107	33	21															
05:55		3110	32	21															
06:00		3113	31	21															
06:05		3117	31	21															

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	WELL TESTING DATA SHEET	Main Data 69 2004 25

	Flowing Condition															Production Rate			
Time	Choke Size	Wellhead			Separator							Cond. Gravity	Gas Gravity	CO2	H2S	Cond.	Gas	Water	CGR
		WHP Press	WHT Temp	WHPDC Press	Sep. Press	Diff Press	Gas Temp	Oil Temp											
	64ths	paia	deg C	psia	psia	"H2O	deg C	deg C				API 60	air = 1	%	ppm	stbd	MMscfd	bwpd	bbl/MM
30-Sep-04																			
06:10		3119	30	21															
06:15		3122	29	21	Slickline at surface. Stopped glycol injection.														
06:20		3122	29	21	Closed FCH swab and master valves.														
06:25		3089	28	21	Bled pressure to zero via choke manifold.														
06:30		2949	28	72															
06:35		21	4	21															
06:40		33	6	21															
06:45		34	8	21															
06:50		33	9	21															
06:55		36	10	21															
07:00		19	11	21	Flush through to choke.														
07:05		22	11	21															
07:10		16	13	19															
07:15		16	14	18															
07:20		16	14	18															
07:25		16	14	19															
07:30		15	14	18															
07:35		15	14	19															
07:39					Stopped Data acquisition.														

Schlumberger

WELL TESTING REPORT

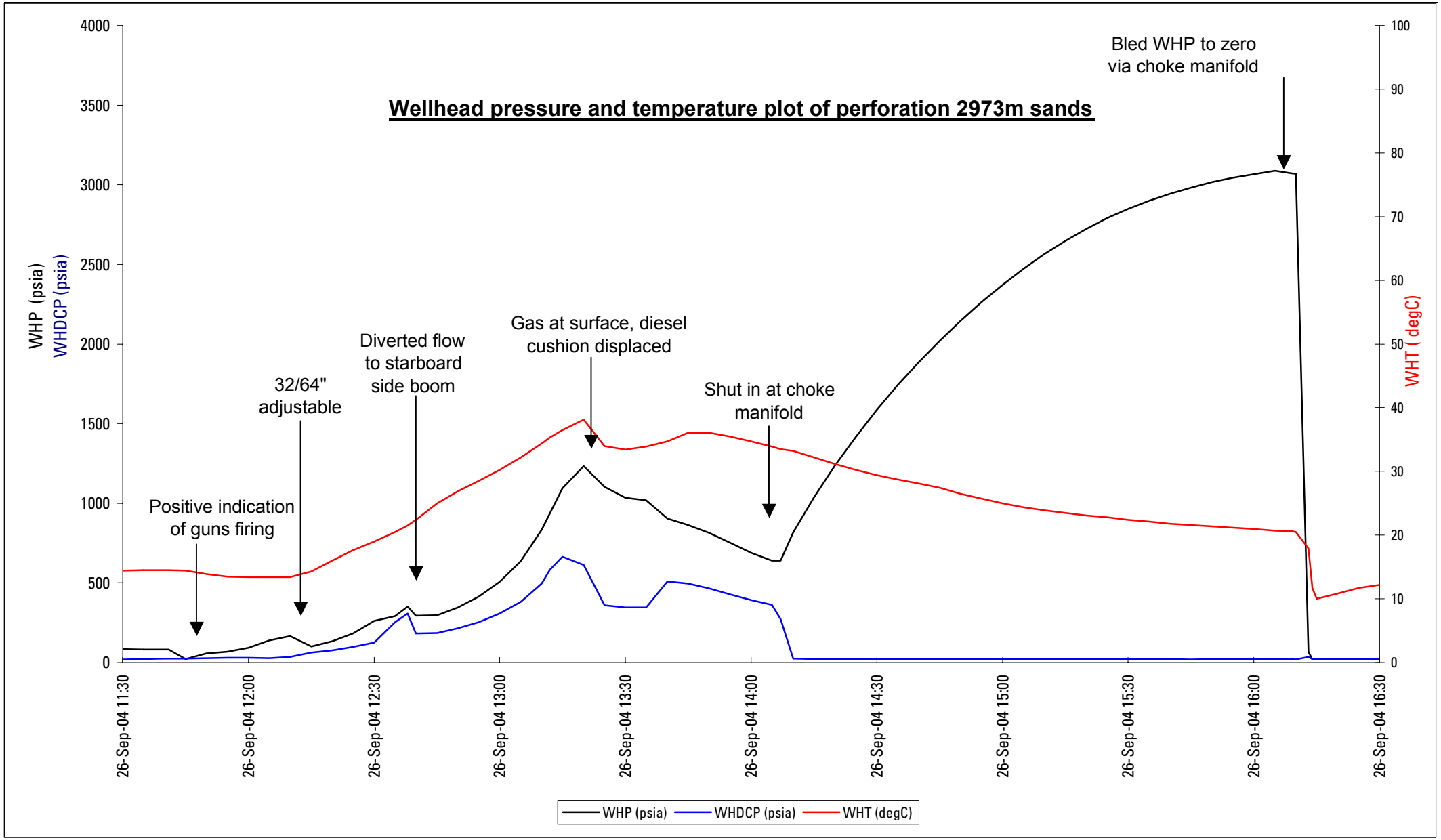
SURFACE TESTING DATA ACQUISITION PLOTS

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

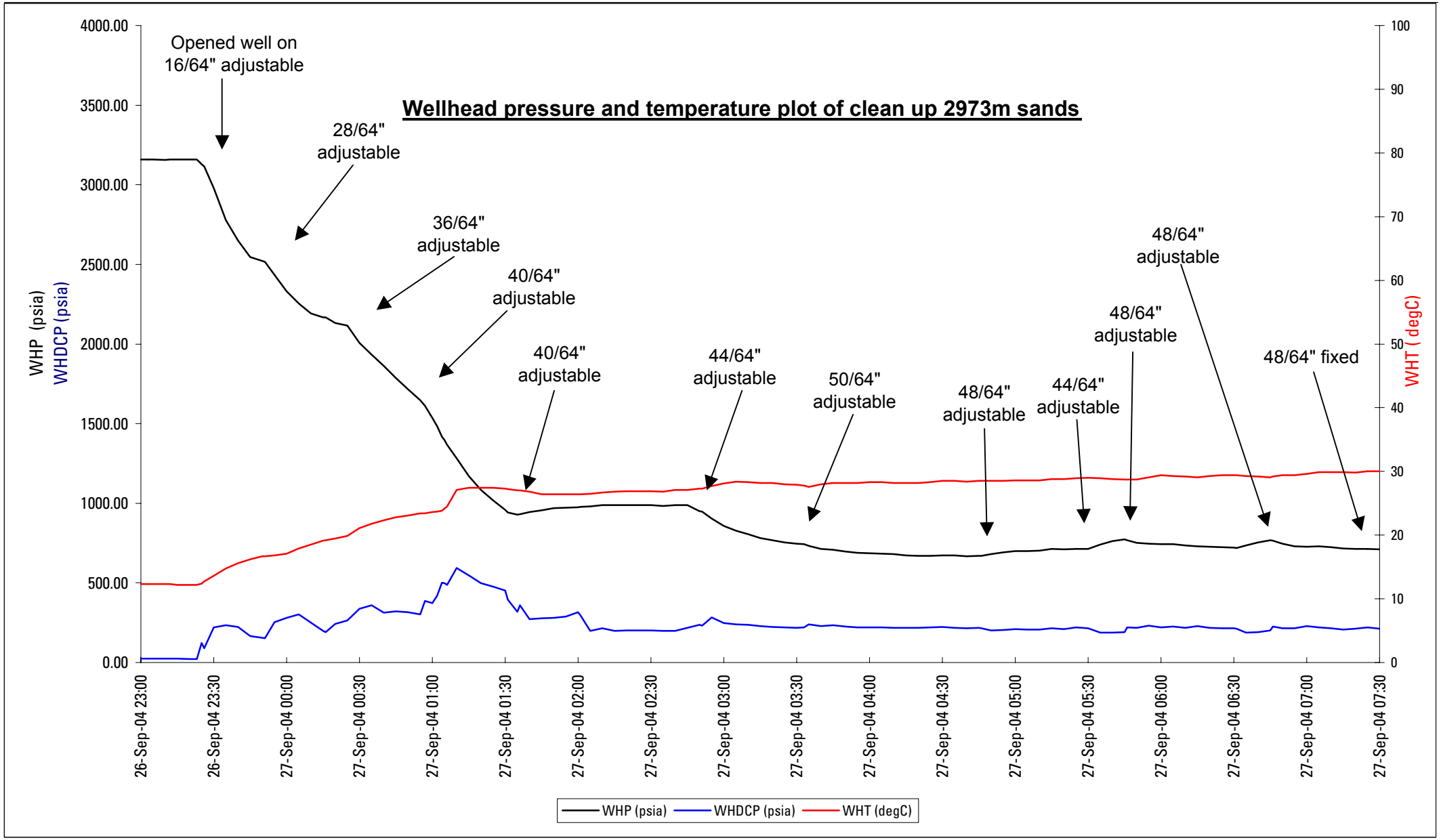
Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

From Date Time : 26-Sep-04 11:30 To Date Time : 26-Sep-04 16:30



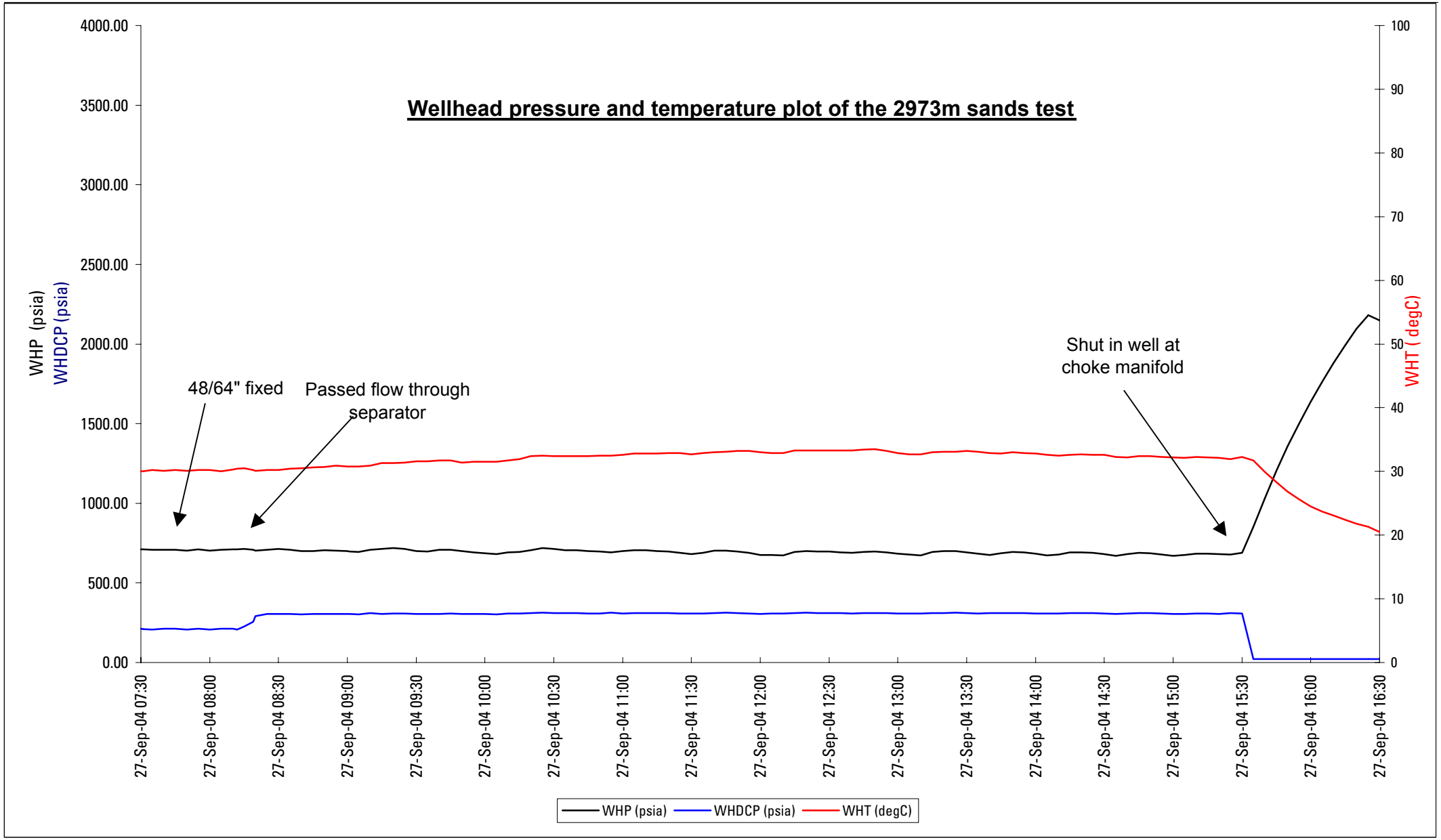
Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

From Date Time : 26-Sep-04 23:00 To Date Time : 27-Sep-04 07:30



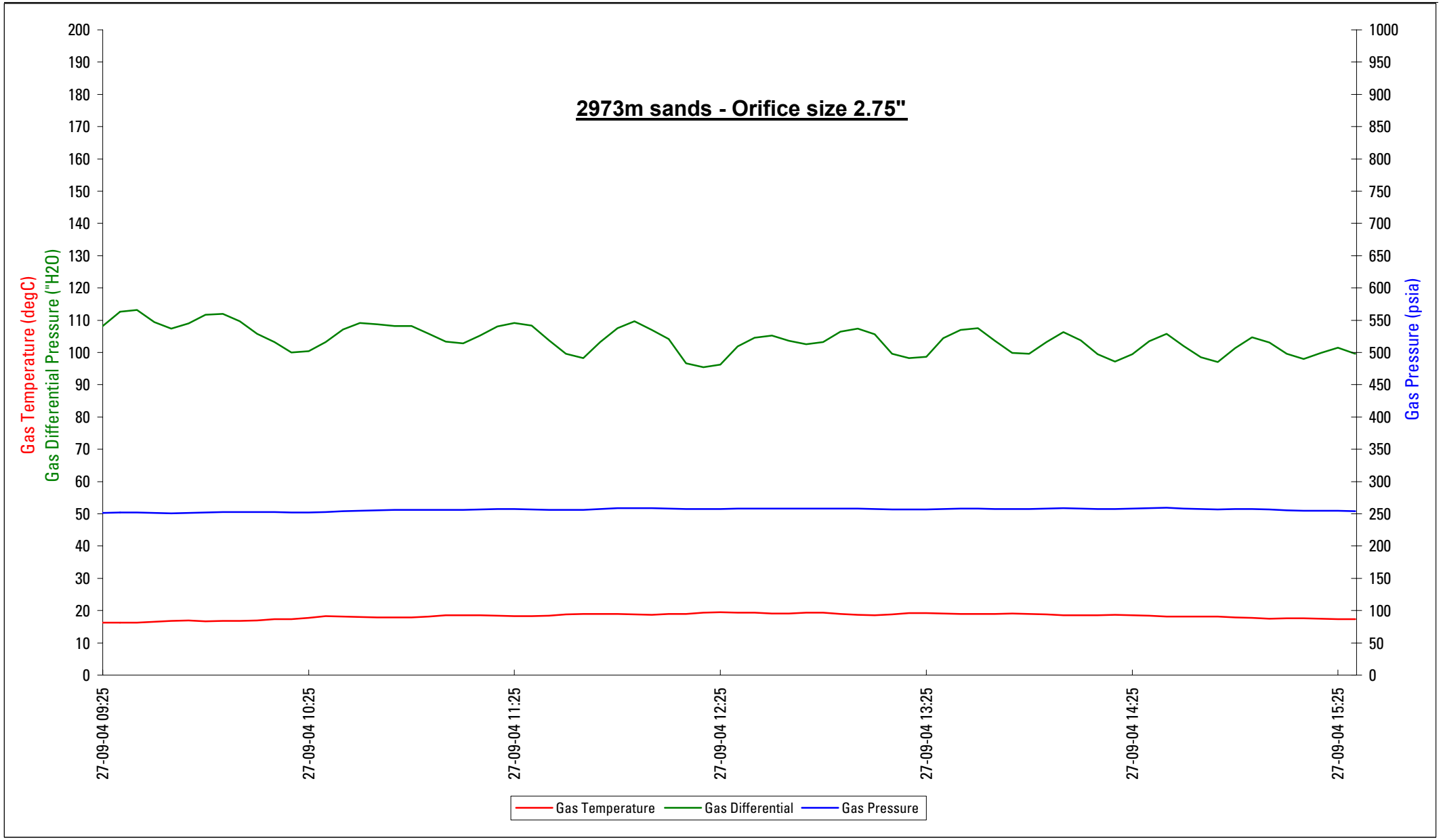
Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

From Date Time : 27-Sep-04 07:30 To Date Time : 27-Sep-04 16:30



Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Separator Plot**	Gas 1 2004-025

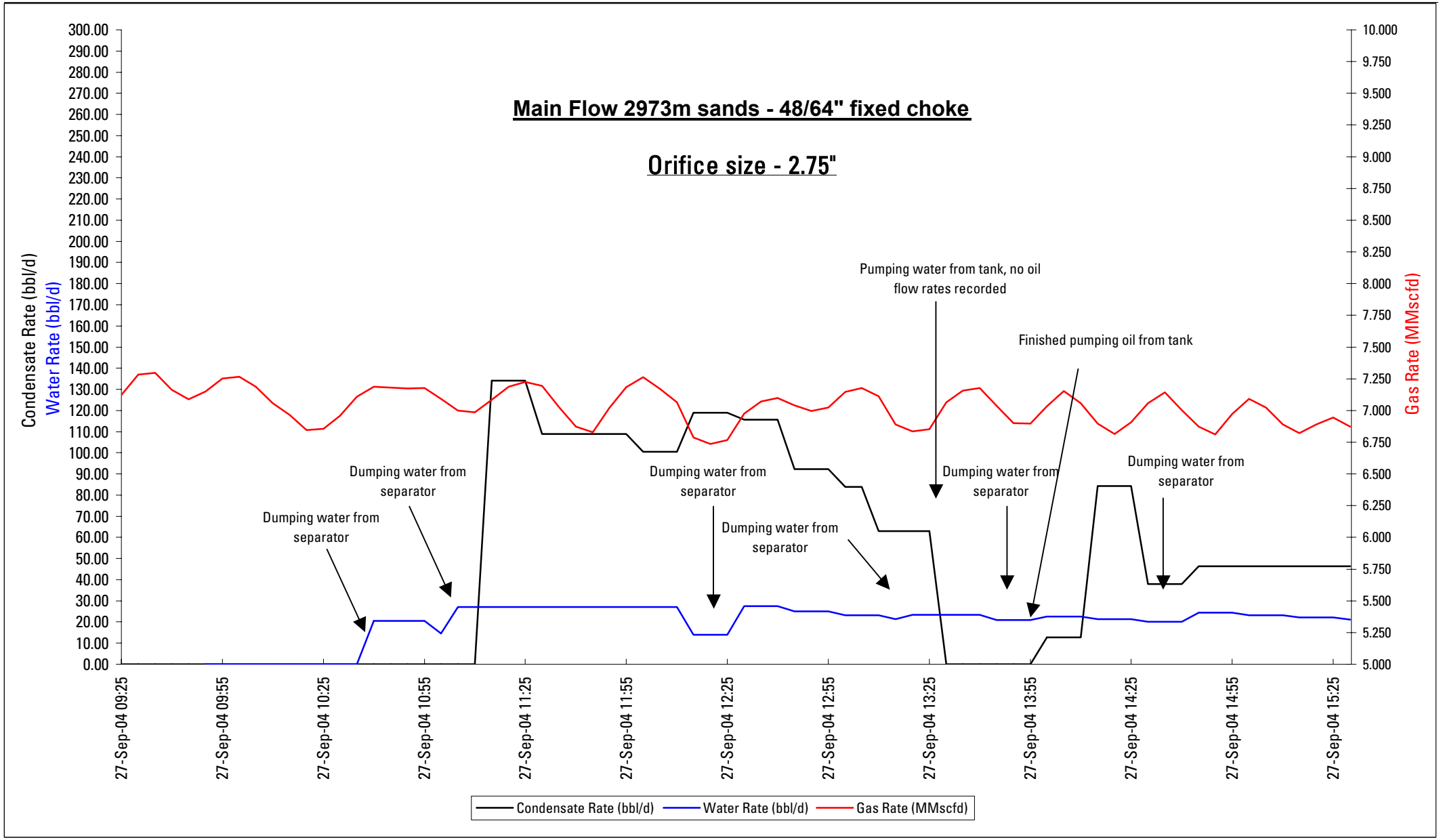
From Date Time : 27-Sep-04 09:25 To Date Time : 27-Sep-04 15:30



Gas Plot

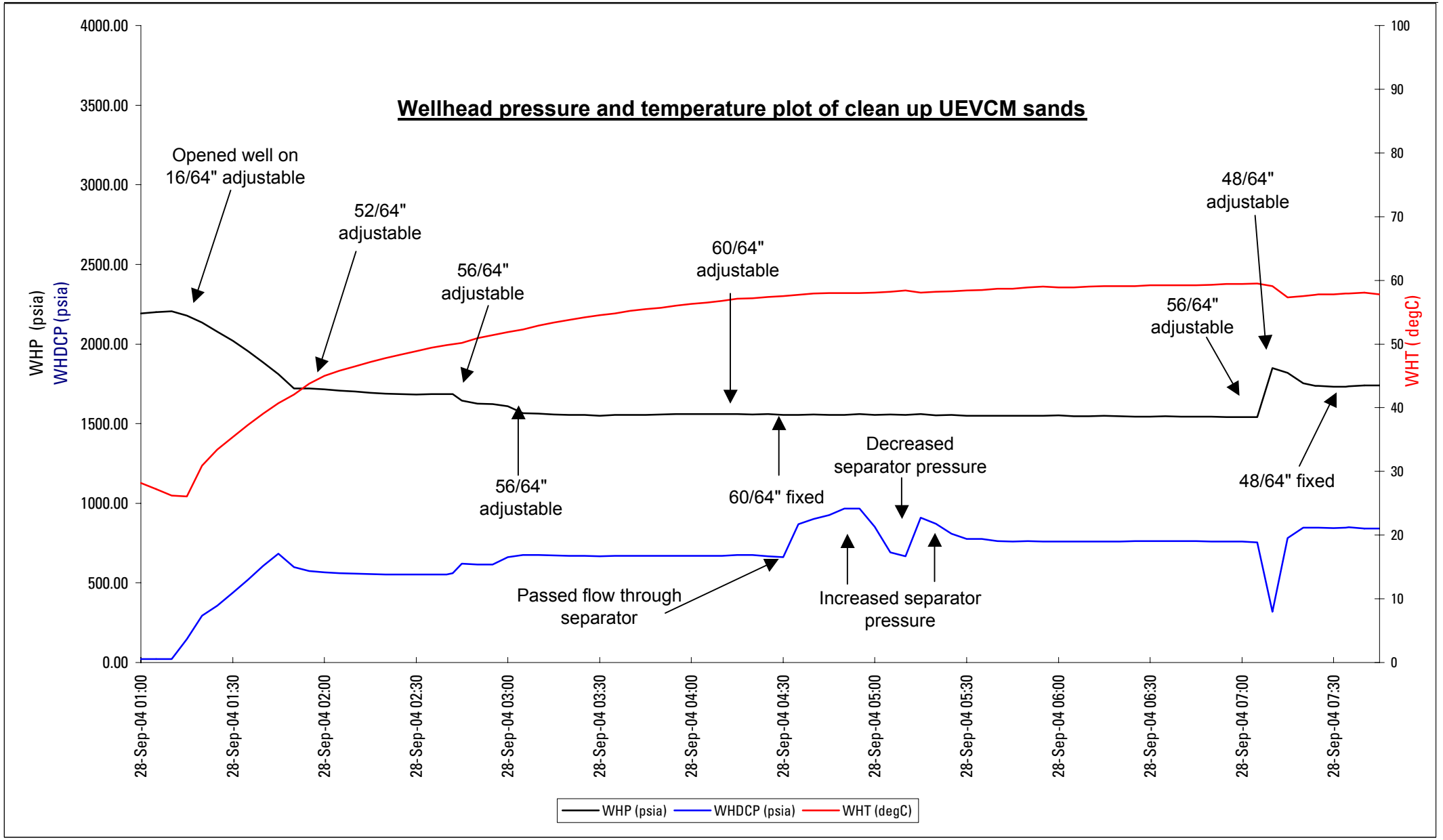
Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	**Flow Rate Plot**	Flow Rate 1 2004 25

From Date Time : 27-Sep-04 09:25 To Date Time : 27-Sep-04 15:30



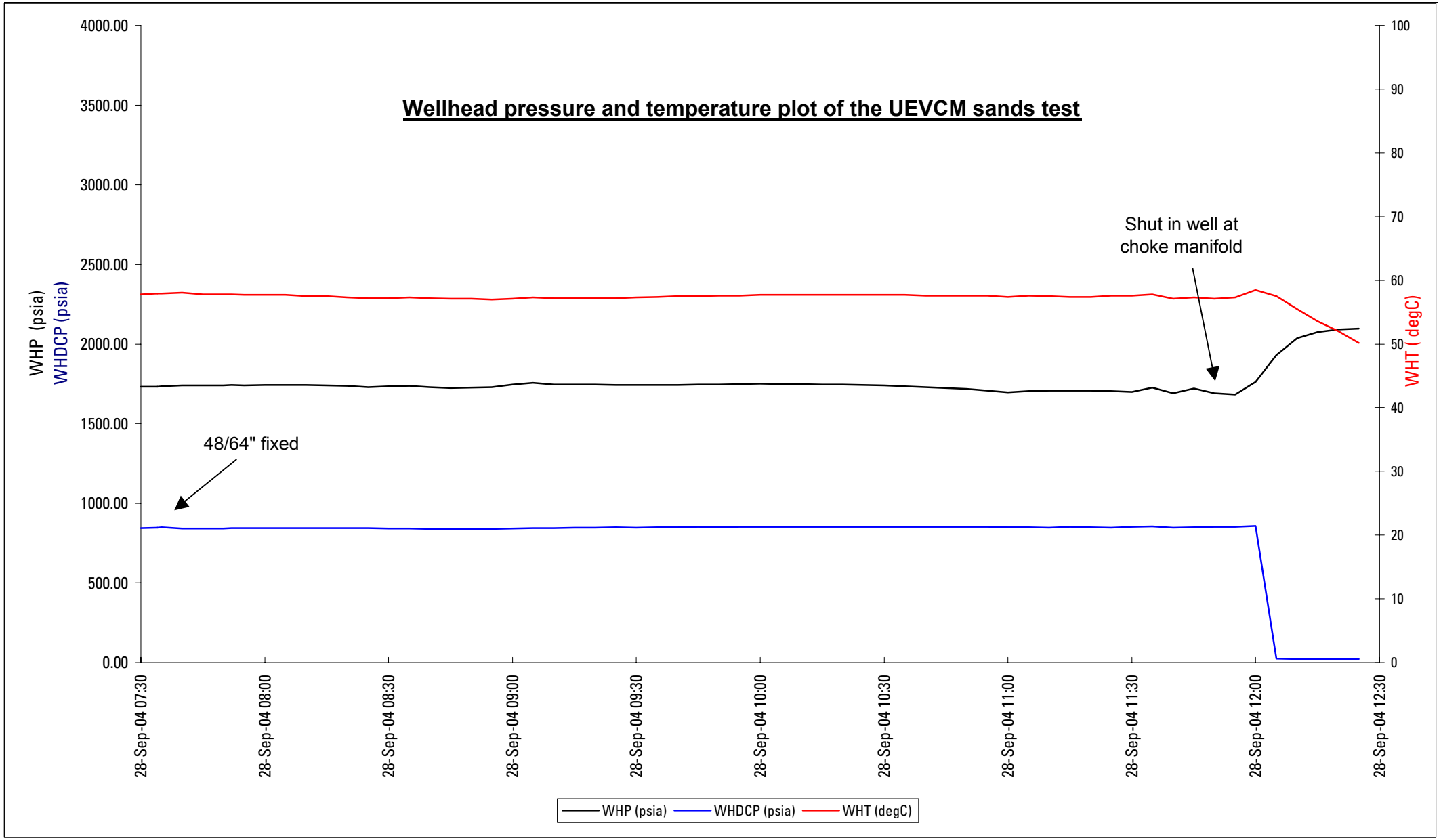
Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

From Date Time : 28-Sep-04 01:00 To Date Time : 28-Sep-04 07:45



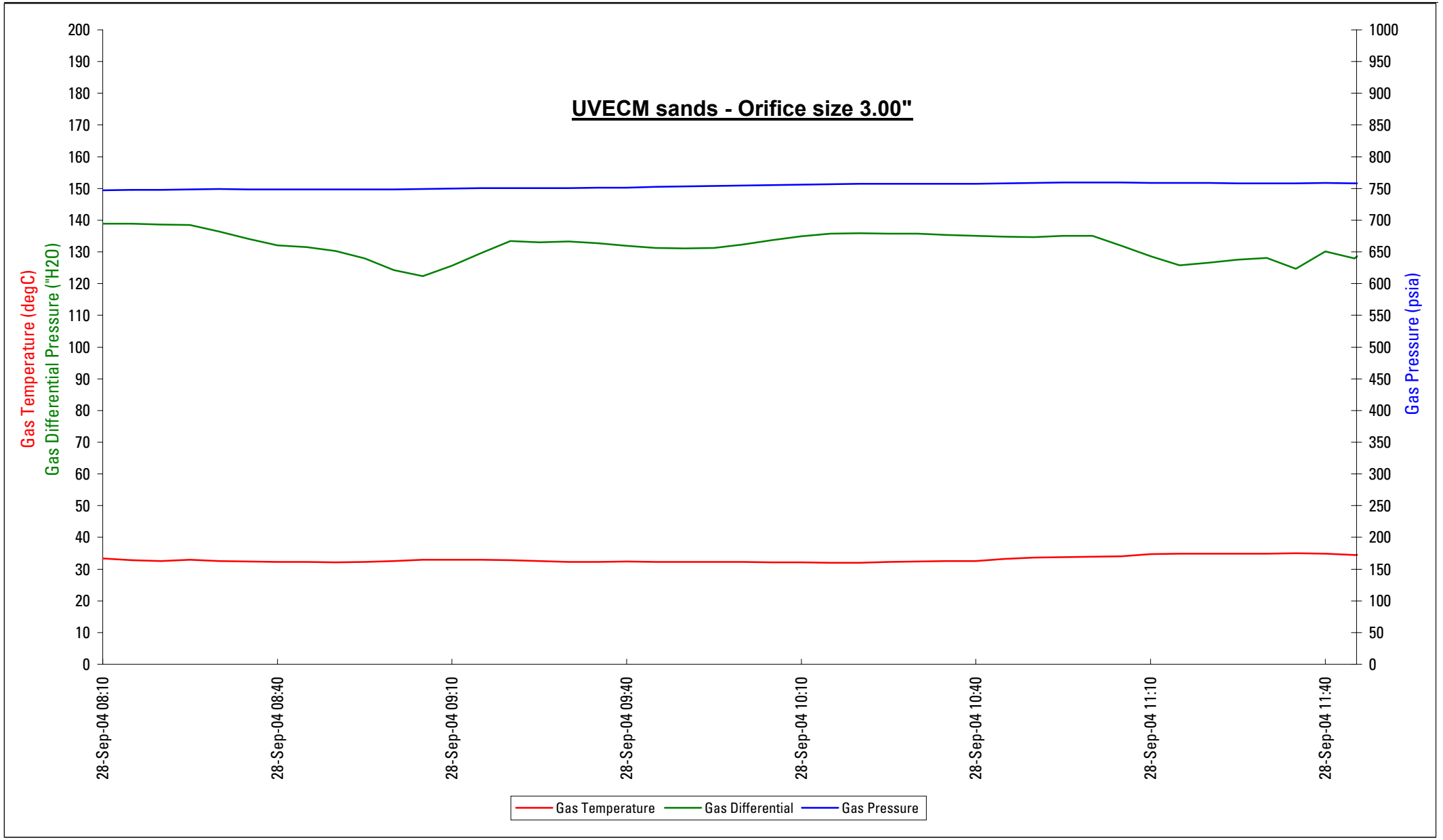
Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

From Date Time : 28-Sep-04 07:30 To Date Time : 28-Sep-04 12:30



Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Separator Plot**	Gas 1 2004-025

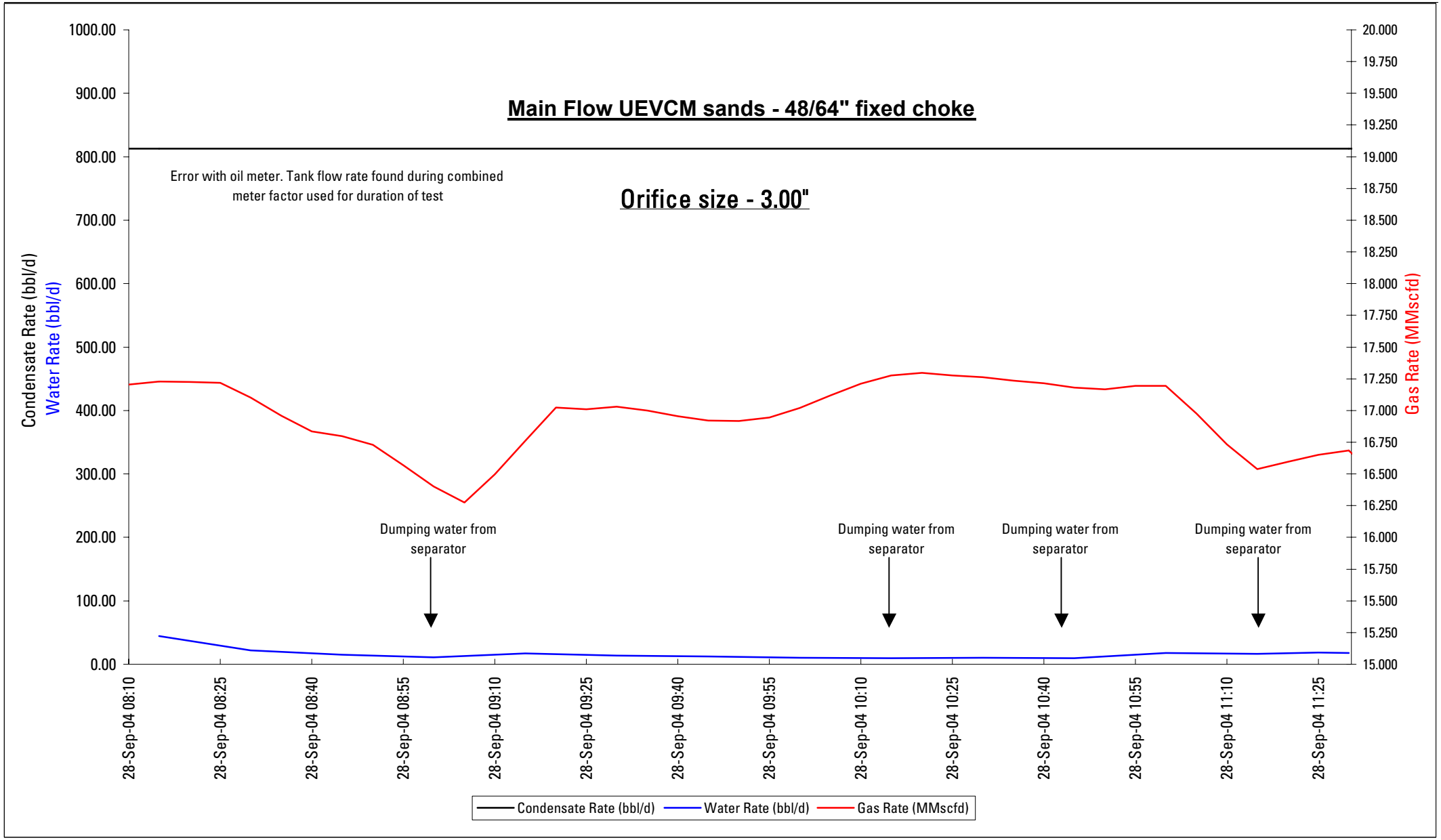
From Date Time : 28-Sep-04 08:10 To Date Time : 28-Sep-04 11:45



Gas Plot

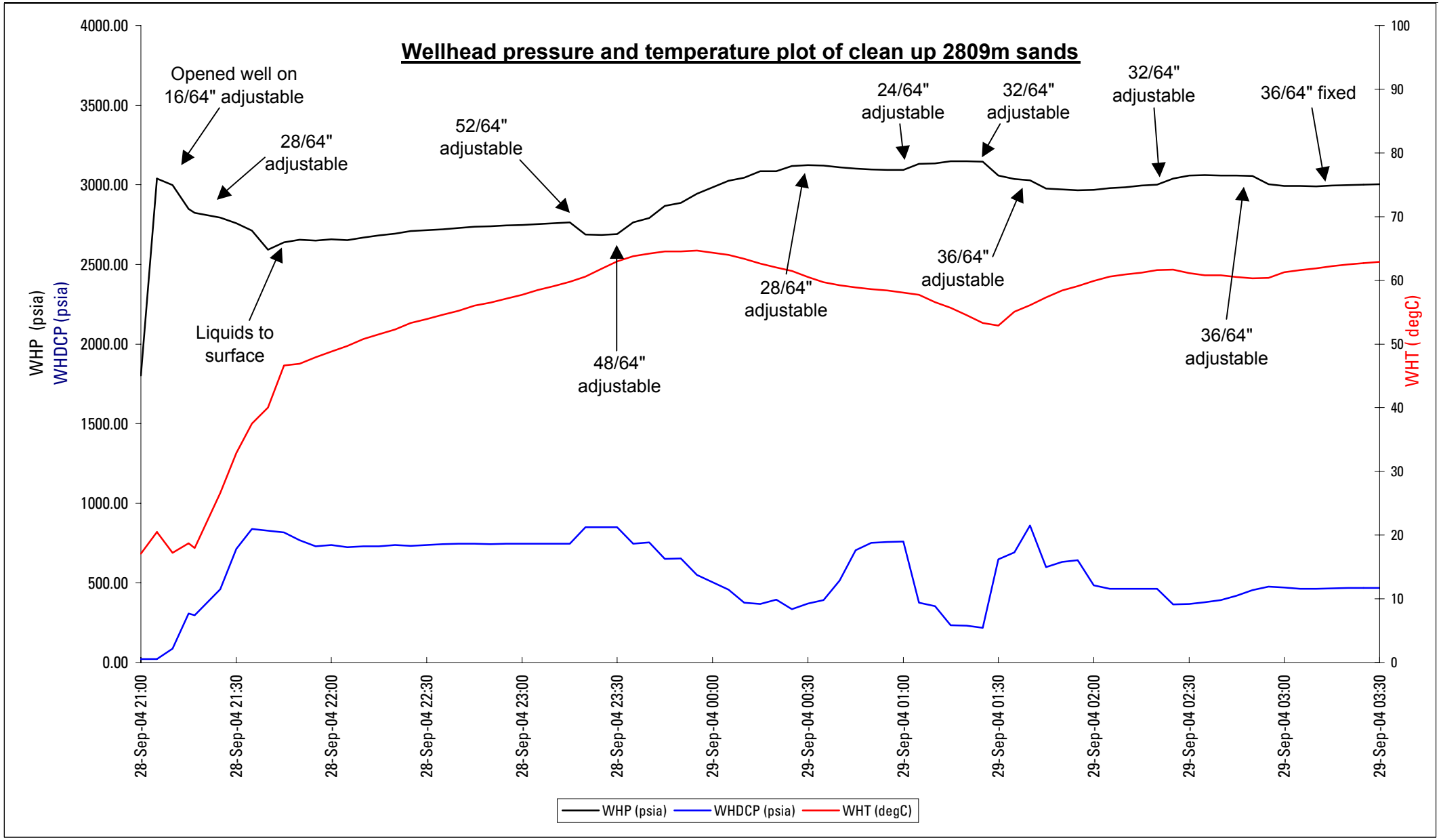
Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	**Flow Rate Plot**	Flow Rate 1 2004 25

From Date Time : 28-Sep-04 08:10 To Date Time : 28-Sep-04 11:30



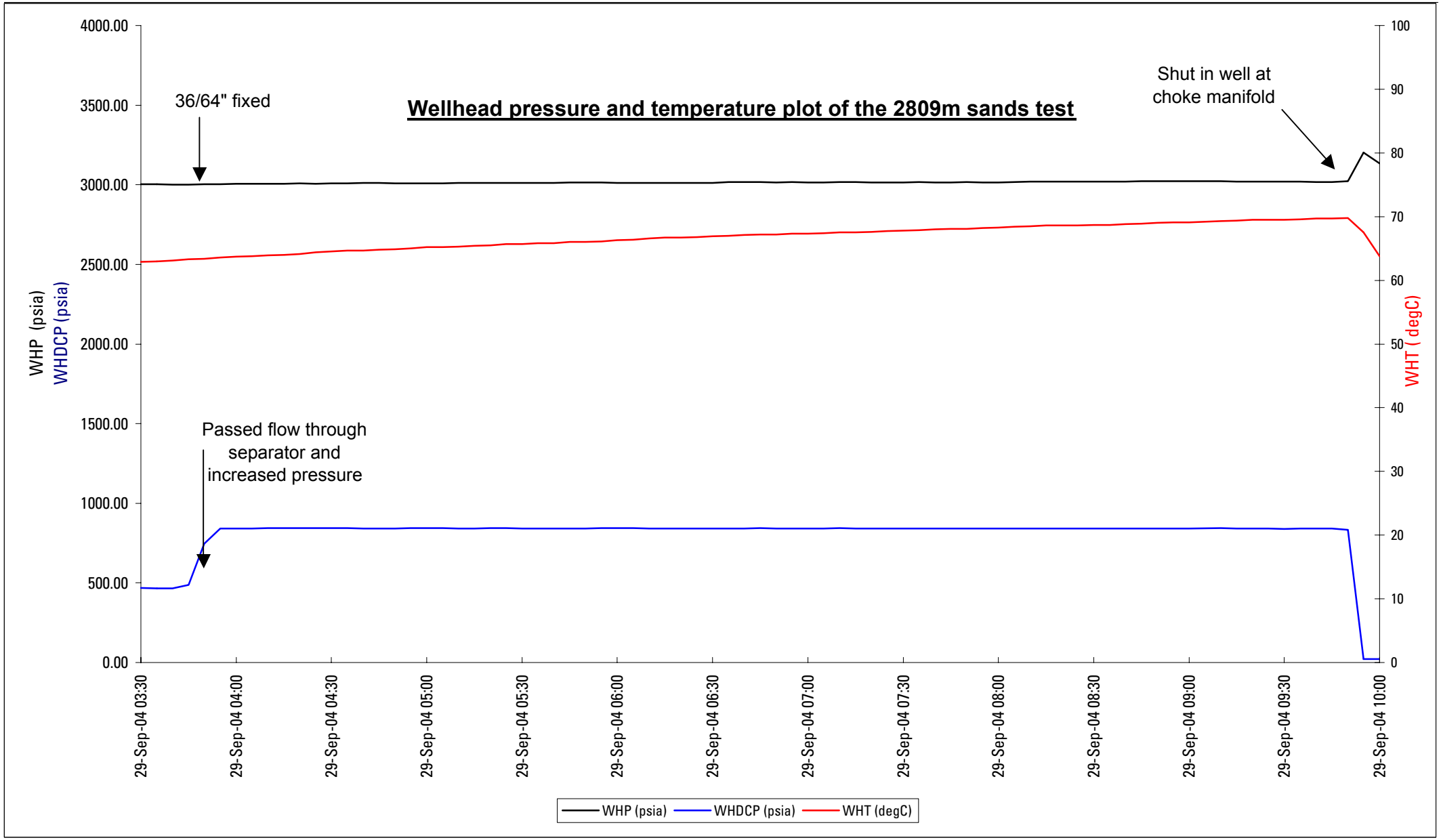
Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

From Date Time : 28-Sep-04 21:00 To Date Time : 29-Sep-04 03:30



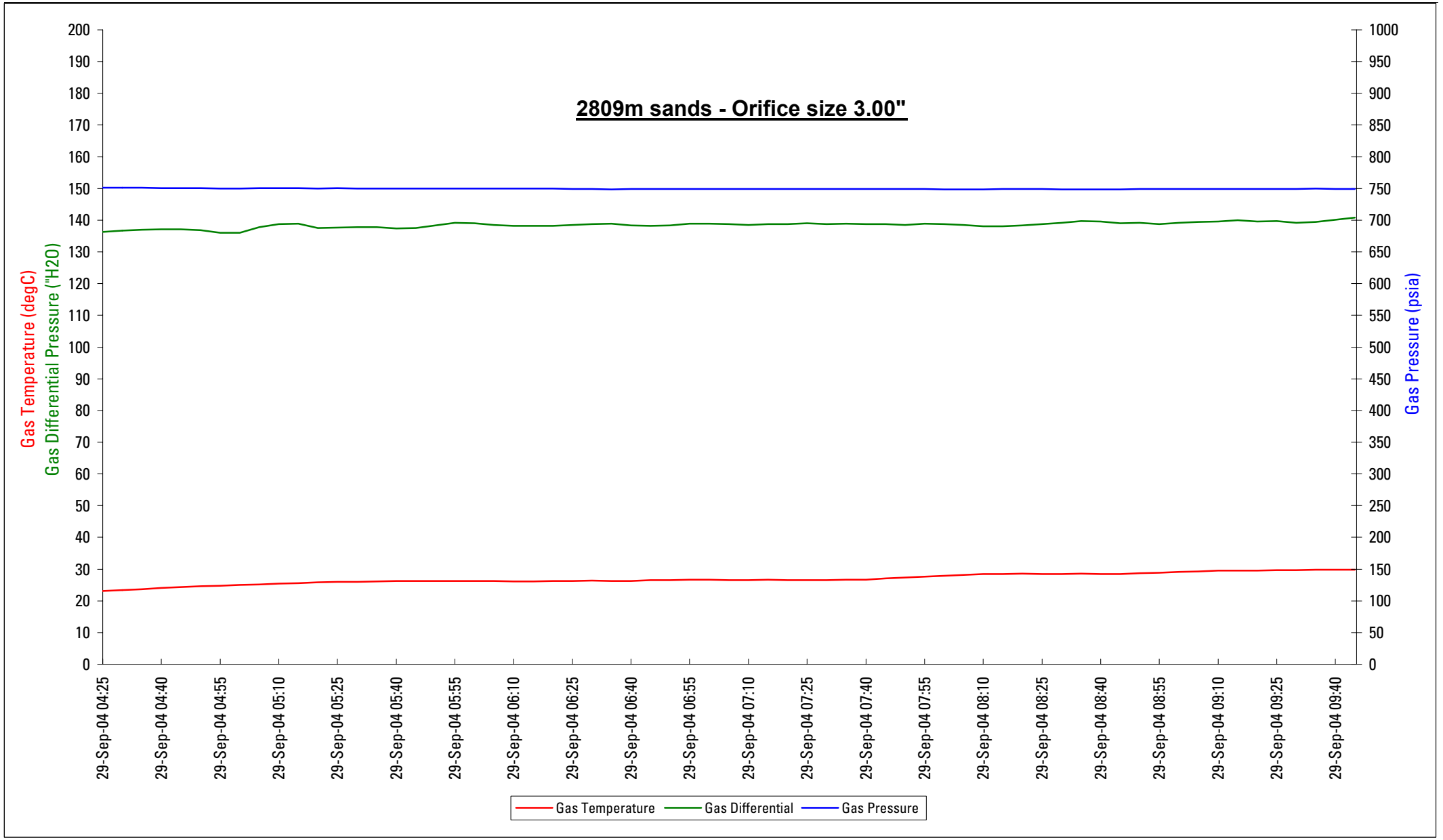
Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

From Date Time : 29-Sep-04 03:30 To Date Time : 29-Sep-04 10:00



Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Separator Plot**	Gas 1 2004-025

From Date Time : 29-Sep-04 04:25 To Date Time : 29-Sep-04 09:45

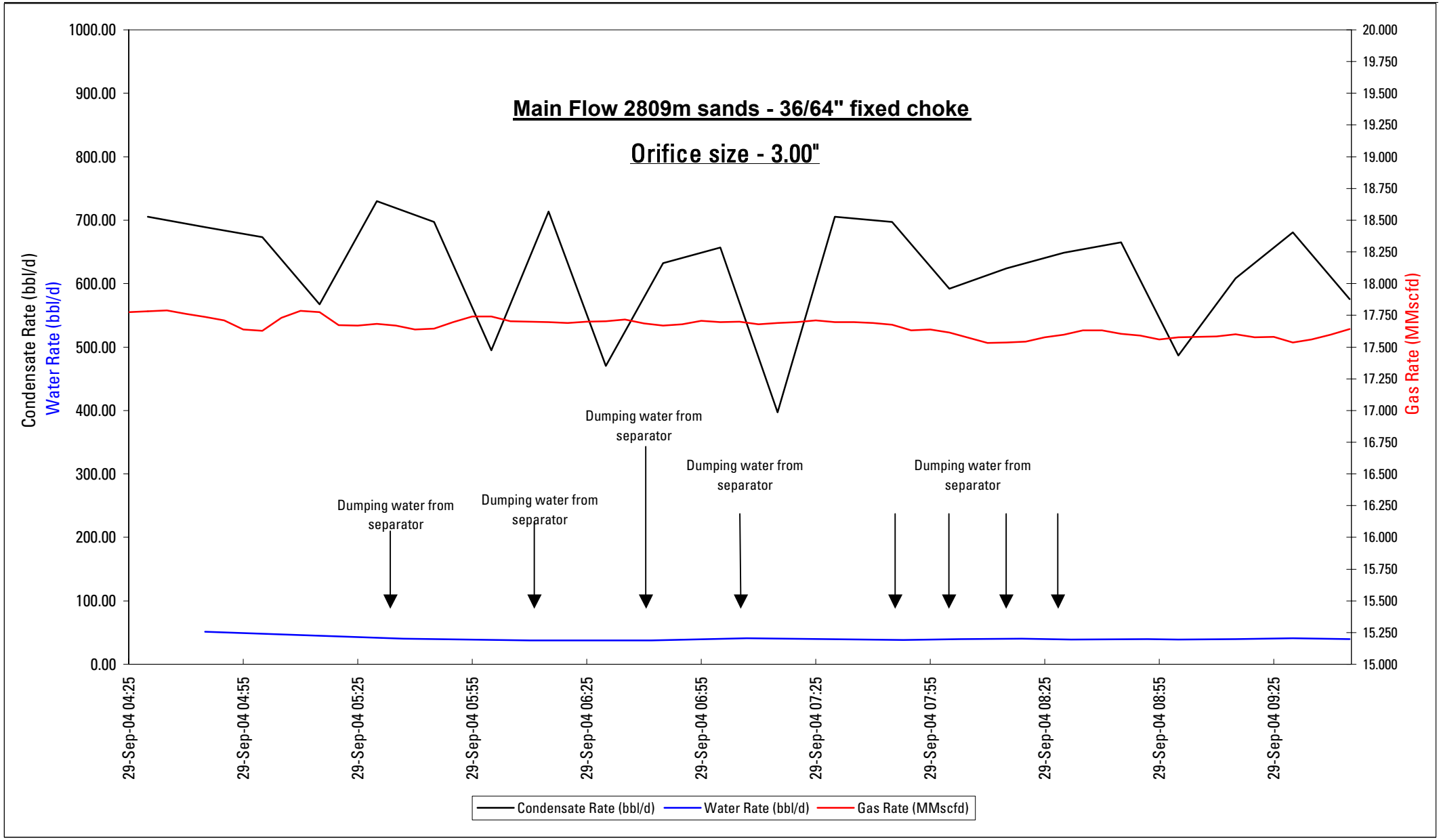


Gas Plot

Schlumberger

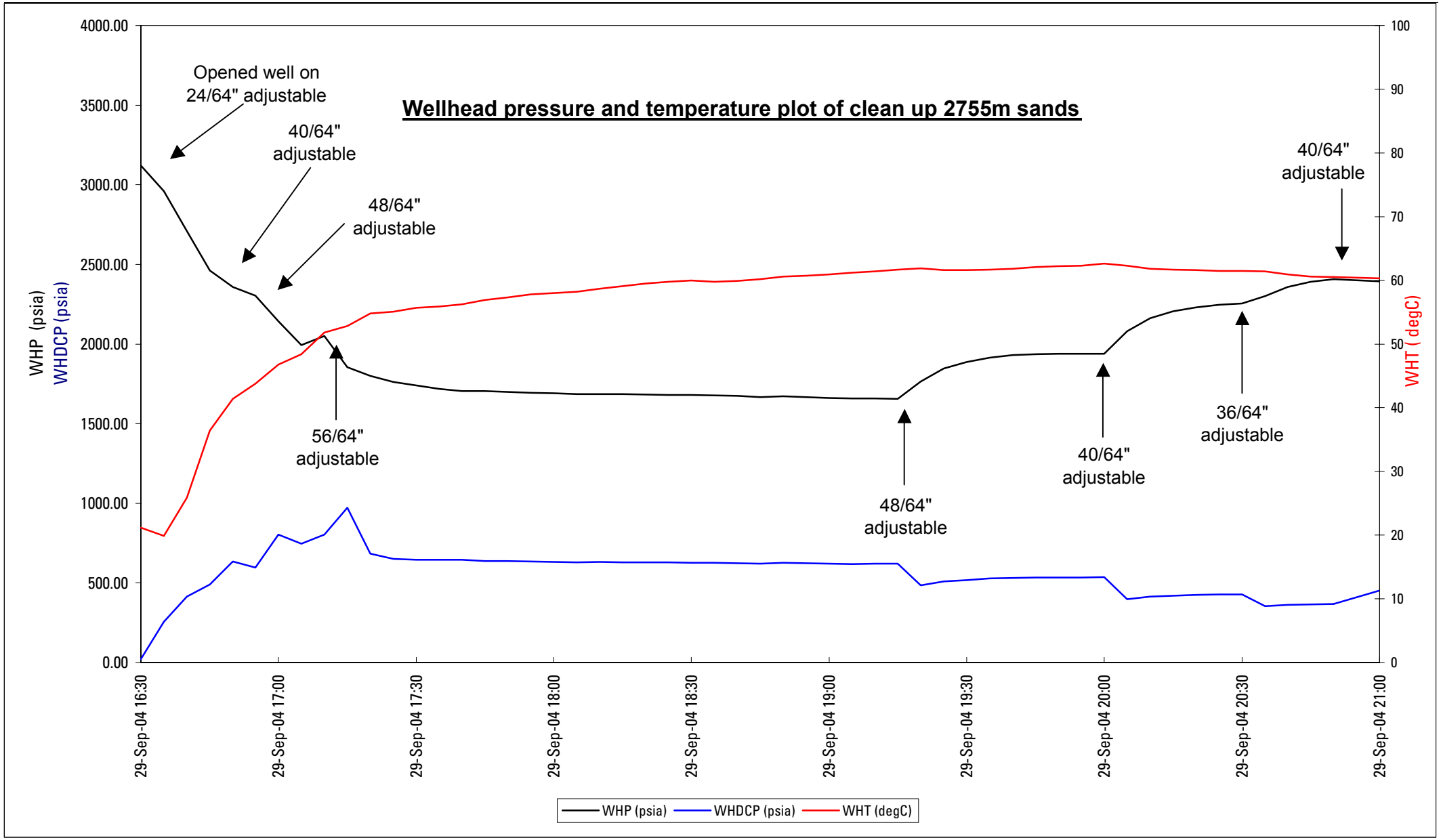
Origin	Flow Rate Plot	Flow Rate 1
Yolla / Yolla 3 / Production Clean-up		2004 25

From Date Time : 29-Sep-04 04:25 To Date Time : 29-Sep-04 09:45



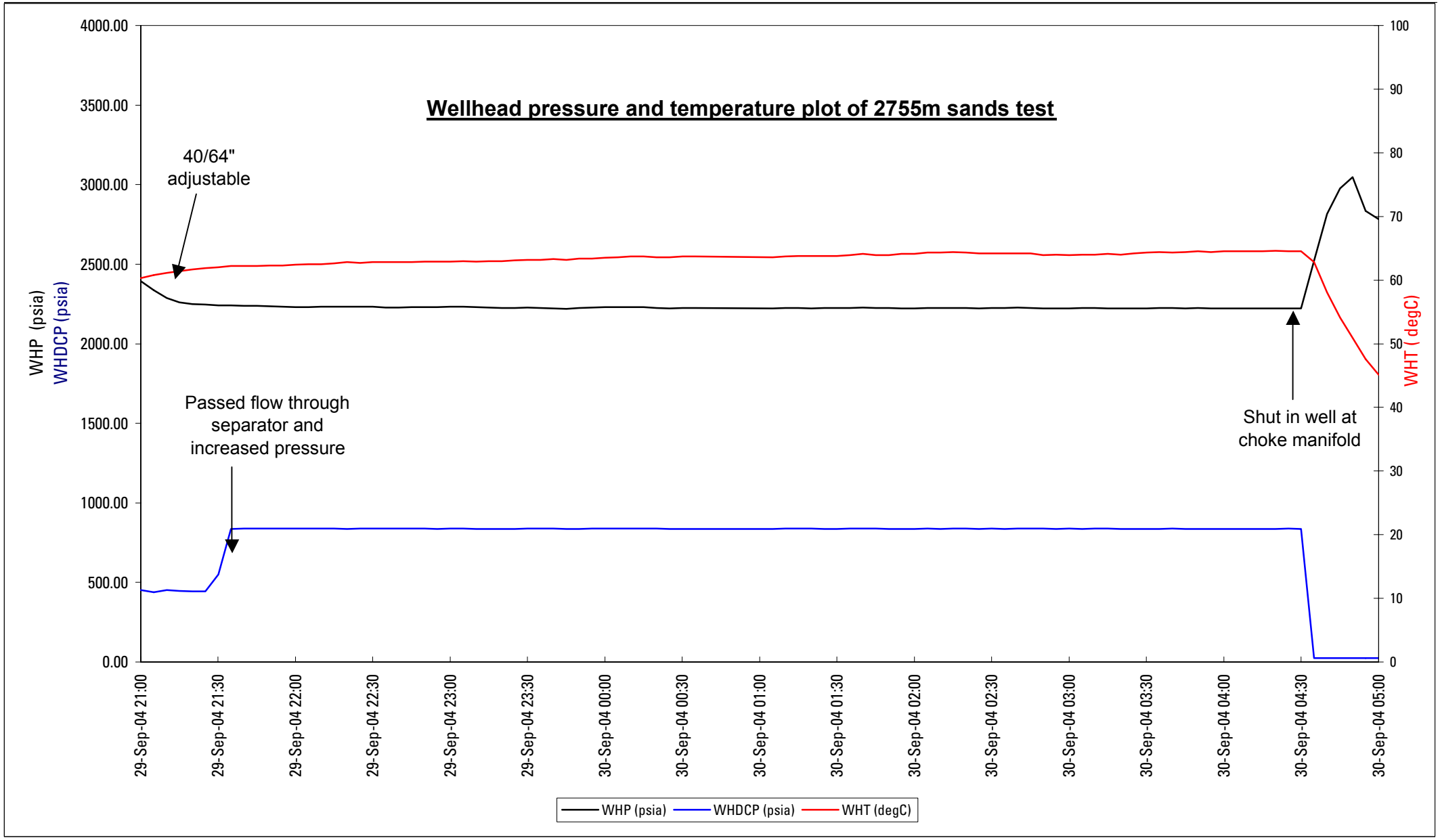
Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

From Date Time : 29-Sep-04 16:30 To Date Time : 29-Sep-04 21:00



Schlumberger	Origin Energy Yolla / Yolla 3 / Production Clean-up	**Wellhead Pressure and Temperature Plot**	Wellhead 1 2004-025

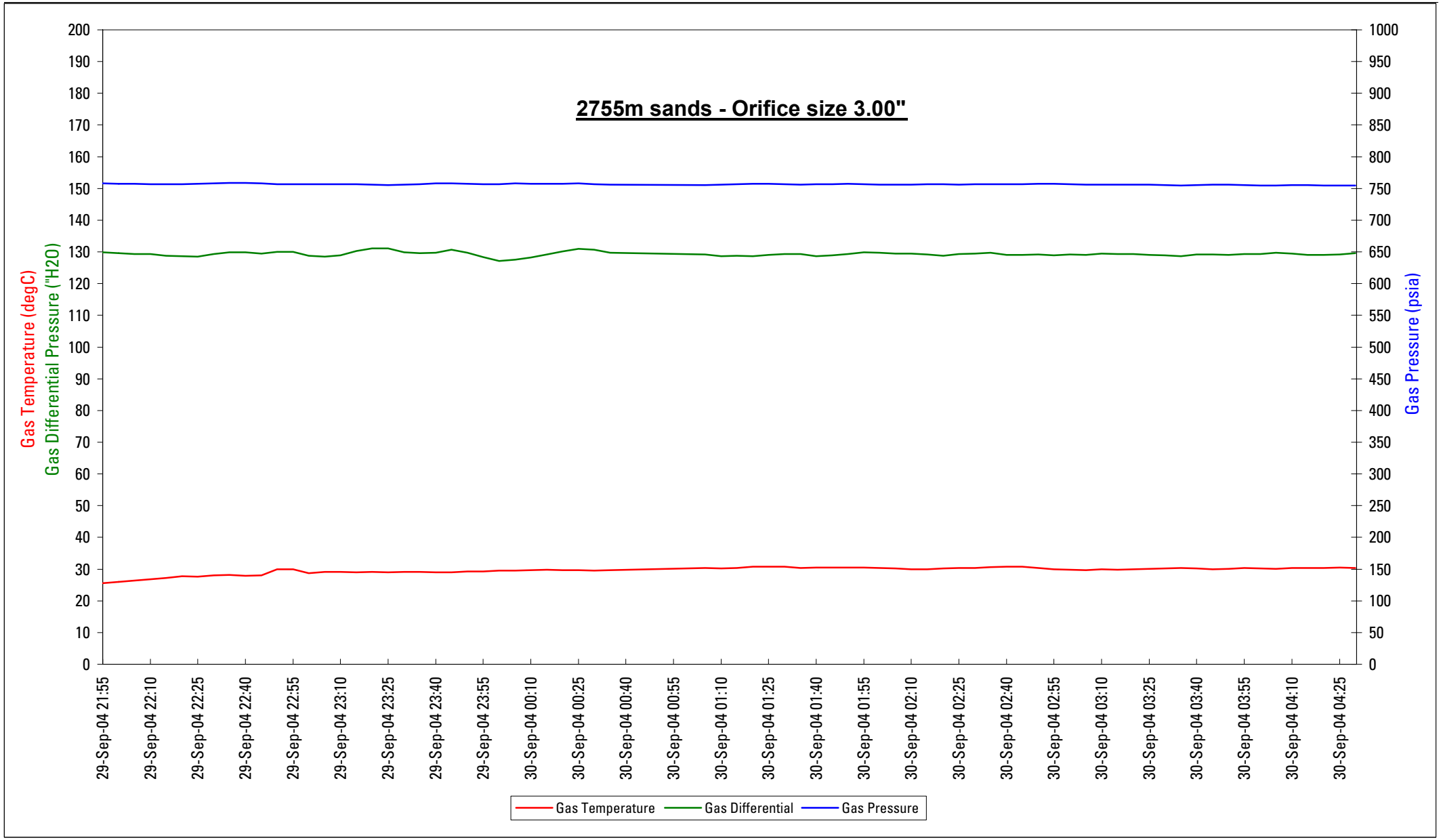
From Date Time : 29-Sep-04 21:00 To Date Time : 30-Sep-04 05:00



Schlumberger

Origin Energy Yolla / Yolla 3 / Production Clean-up	**Separator Plot**	Gas 1 2004-025

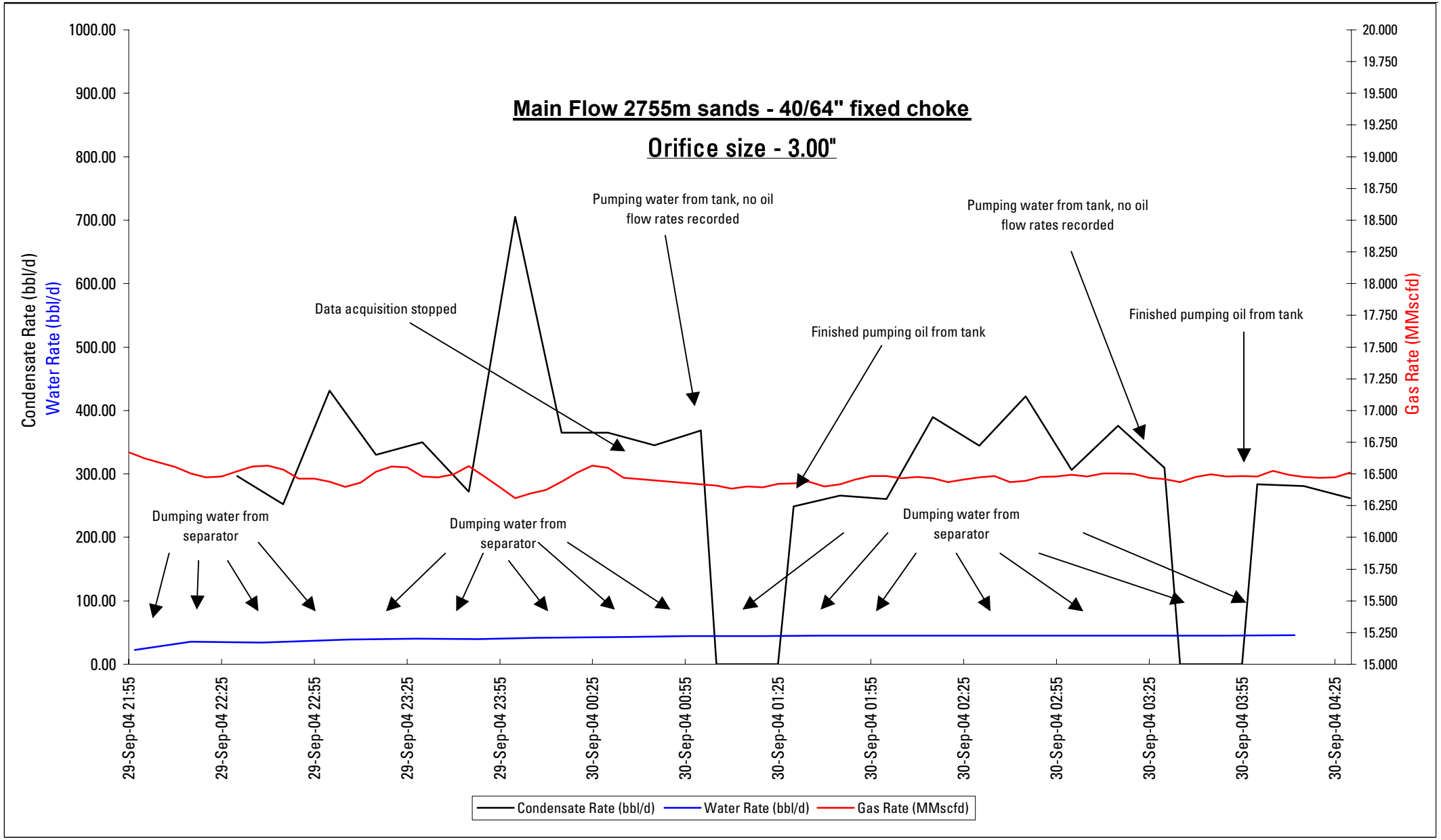
From Date Time : 29-Sep-04 21:55 To Date Time : 30-Sep-04 04:30



Gas Plot

Schlumberger	Origin Yolla / Yolla 3 / Production Clean-up	**Flow Rate Plot**	Flow Rate 1 2004 25

From Date Time : 29-Sep-04 21:55 To Date Time : 30-Sep-04 04:30



Schlumberger

WELL TESTING REPORT

OIL COMPUTATION RESULTS

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

Liquid Production Rate Measurement

I) MEASUREMENT WITH A TANK. (This method was used)

$$Vo = V \times K \times (1 - BSW/100)$$

Vo : Net oil volume at 60 degF and atmospheric pressure
V : Gross oil/condensate volume measured by tank gauging
K : Volume correction factor to be applied between the tank temperature during gauging measurement and 60 degF
BSW : Basic sediment and water

II) MEASUREMENT WITH A METER (This method was used)

Shrinkage factor is measured by shrinkage tester.

$$Vo = Vs \times f \times (1 - Shr) \times K \times (1 - BSW/100)$$

Vo : Net oil volume at 60 degF and atmospheric pressure
Vs : Gross oil/condensate volume measured by meter under separator conditions
f : Meter correction factor = $\frac{\text{Volume measured in tank}}{\text{Volume measured by meter}}$
Shr : Percentage of oil/condensate volume reduction between separator and tank conditions, reported to oil/condensate volume at separator conditions*
K : Volume correction factor to be applied between the final temperature during shrinkage measurement and 60 degF*
BSW : Basic sediment and water (taken at the oil/condensate separator outlet - if running in 3 phase)
: Basic sediment and water (taken at the oil/condensate separator inlet or upstream - if running in 2 phase)

* NOTE: In the calculation Shr is adjusted back to 60 degF, therefore K =1 (or not used)

Shrinkage factor is measured with a tank.

$$Vo = Vs \times (1 - SHR') \times K \times (1 - BSW/100)$$

$$Vwater = Vs \times CMF \times BSW/100$$

Vo, Vs, K and BSW : Same as measured with a tester
(1 - SHR') : Shrinkage factor including meter correction factor obtained from tank.

BSW : Basic sediment and water (taken at the oil/condensate separator outlet - if running in 3 phase)
: Basic sediment and water (taken at the oil/condensate separator inlet or upstream - if running in 2 phase)
* BSW from upstream of separator was used for the calculation.

Schlumberger

WELL TESTING REPORT

LIQUID COMPUTATION RESULTS - by Tank

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

Schlumberger

Origin	OIL/CONDENSATE CALCULATION SHEET	CONDENSATE
Yolla / Yolla 3 / Production Clean-up	TANK	2004 25

Date - Time		Tank		Tank	Tank Volume		Oil Gravity						Net STO	Nets STO	Cumulative
Time	Interval	Left	Right	Factor	Vol V	Temp	Gravity	Temp.	Gravity	Gravity	K	BSW	Vol (Vo)	Prod. Rate	Production
	mins	cm	cm		bbl	degC	SG/API	degC	Sg60	API60		%	bbl	stbd	bbl
27-Sep-04															
					2973m Sands										
7:31		Switched to 48/64" fixed choke													
11:00	209		2.5	Initial tank reading											0.0
11:15	15		10.5	0.176	1.41	23	0.791	15.56	0.791	47.39	0.9921	0	1.40	134	1.4
11:30	15		17.0	0.176	1.14	23	0.790	16.09	0.790	47.53	0.9921	0	1.13	109	2.5
11:45	15		23.5	0.176	1.14	23	0.790	16.09	0.790	47.53	0.9921	0	1.13	109	3.7
12:00	15		29.5	0.176	1.06	23	0.790	16.09	0.790	47.53	0.9921	0	1.05	101	4.7
12:15	15		36.6	0.176	1.25	23	0.790	16.09	0.790	47.53	0.9921	0	1.24	119	6.0
12:30	15		43.5	0.176	1.21	23	0.790	16.09	0.790	47.53	0.9921	0	1.20	116	7.2
12:45	15		49.0	0.176	0.97	23	0.790	16.09	0.790	47.53	0.9921	0	0.96	92	8.1
13:00	15		54.0	0.176	0.88	23	0.790	16.09	0.790	47.53	0.9921	0	0.87	84	9.0
13:10	10		56.5	0.176	0.44	23	0.790	16.09	0.790	47.53	0.9921	0	0.44	63	9.4
Pumped out tank.															
Finished pumping out tank															
13:30	20		53.5	Initial tank reading											0.0
13:45	15		53.5	0.176	0.00	18	0.790	16.09	0.790	47.53	0.9974	0	0.00	0	0.0
14:00	30		55.0	0.176	0.26	18	0.790	16.09	0.790	47.53	0.9974	0	0.26	13	0.3
14:15	15		60.0	0.176	0.88	18	0.790	16.09	0.790	47.53	0.9974	0	0.88	84	1.1
14:30	30		64.5	0.176	0.79	18	0.790	16.09	0.790	47.53	0.9974	0	0.79	38	1.9
14:45	30		70.0	0.176	0.97	18	0.790	16.09	0.790	47.53	0.9974	0	0.97	46	2.9
15:00	30		75.5	0.176	0.97	18	0.796	12.76	0.794	46.72	0.9974	0	0.97	46	3.9
15:15	30		81.0	0.176	0.97	18	0.796	12.76	0.794	46.72	0.9974	0	0.97	46	4.8
15:30	30		86.5	0.176	0.97	18	0.796	12.76	0.794	46.72	0.9974	0	0.97	46	5.8

Schlumberger

Origin	OIL/CONDENSATE CALCULATION SHEET	CONDENSATE
Yolla / Yolla 3 / Production Clean-up	TANK	2004 25

Date - Time		Tank		Tank	Tank Volume		Oil Gravity						Net STO	Nets STO	Cumulative
Time	Interval	Left	Right	Factor	Vol V	Temp	Gravity	Temp.	Gravity	Gravity	K	BSW	Vol (Vo)	Prod. Rate	Production
	mins	cm	cm		bbl	degC	SG/API	degC	Sg60	API60		%	bbl	stbd	bbl
28-Sep-04															
					UEVCM Sands										
9:15	0		54.5	Initial tank reading											0.0
10:00	45		201.5	0.176	25.87	32	0.761	24.41	0.767	52.9	0.9815	0	25.39	813	25.4
Pumped out tank.															
					2755m Sands										
22:15			10.1	Initial tank reading											0.0
22:30	15		27.9	0.176	3.14	31.5	0.784	8.8	0.779	50.1	0.9826	0	3.09	296	3.1
22:45	15		43.1	0.176	2.68	31	0.783	7.7	0.777	50.5	0.9831	0	2.63	252	5.7
23:00	15		69.1	0.176	4.58	32.5	0.783	7.7	0.777	50.5	0.9814	0	4.49	431	10.2
23:15	15		89.0	0.176	3.50	32	0.783	7.7	0.777	50.5	0.9820	0	3.44	330	13.6
23:30	15		110.1	0.176	3.71	32	0.783	7.2	0.777	50.6	0.9820	0	3.65	350	17.3
23:45	15		126.5	0.176	2.89	32	0.783	7.2	0.777	50.6	0.9820	0	2.83	272	20.1
0:00	15		169.0	0.176	7.48	32	0.783	7.2	0.777	50.6	0.9820	0	7.35	705	27.5
0:15	15		191.0	0.176	3.87	32.5	0.783	7.2	0.777	50.6	0.9814	0	3.80	365	31.3
0:30	15		213.0	0.176	3.87	32.5	0.783	7.2	0.777	50.6	0.9814	0	3.80	365	35.1
0:45	15		233.8	0.176	3.66	32.5	0.786	10	0.782	49.5	0.9817	0	3.59	345	38.7
1:00	15		256.0	0.176	3.91	32.5	0.786	10	0.782	49.5	0.9817	0	3.84	368	42.5

Schlumberger

Origin	OIL/CONDENSATE CALCULATION SHEET	CONDENSATE
Yolla / Yolla 3 / Production Clean-up	TANK	2004 25

Date - Time		Tank		Tank	Tank Volume		Oil Gravity						Net STO	Nets STO	Cumulative
Time	Interval	Left	Right	Factor	Vol V	Temp	Gravity	Temp.	Gravity	Gravity	K	BSW	Vol (Vo)	Prod. Rate	Production
	mins	cm	cm		bbl	degC	SG/API	degC	Sg60	API60		%	bbl	stbd	bbl
30-Sep-04															
Pumped tank out															
Finished pumping out tank															
1:28		60.0	Initial tank reading												0.0
1:30	2	62.0	0.176	0.35	31.5	0.786	10	0.782	49.5	0.9827	0	0.35	249	0.3	
1:45	15	78.0	0.176	2.82	31	0.783	7.7	0.783	49.2	0.9833	0	2.77	266	3.1	
2:00	15	93.7	0.176	2.76	33	0.783	15	0.783	49.3	0.9811	0	2.71	260	5.8	
2:15	15	117.2	0.176	4.14	33.5	0.783	15	0.783	49.3	0.9806	0	4.06	389	9.9	
2:30	15	138.0	0.176	3.66	33.5	0.783	15	0.783	49.3	0.9806	0	3.59	345	13.5	
2:45	15	163.5	0.176	4.49	34	0.783	15	0.783	49.3	0.9801	0	4.40	422	17.9	
3:00	15	182.0	0.176	3.26	34	0.783	15	0.783	49.3	0.9801	0	3.19	306	21.1	
3:15	15	204.7	0.176	4.00	34	0.783	15	0.783	49.3	0.9801	0	3.92	376	25.0	
3:30	15	223.4	0.176	3.29	33.5	0.783	15	0.783	49.3	0.9806	0	3.23	310	28.2	
Pumped out tank															
Finished pumping out tank															
3:51		59.5	Initial tank reading												0.0
4:00	9	69.8	0.176	1.81	33.5	0.786	9	0.781	49.6	0.9805	0.25	1.77	284	1.8	
4:15	15	86.8	0.176	2.99	33.5	0.786	9	0.781	49.6	0.9805	0.25	2.93	281	4.7	
4:30	15	102.8	0.176	2.82	33.5	0.786	9	0.781	49.6	0.9805	1.25	2.73	262	7.4	

Schlumberger

Origin	OIL/CONDENSATE CALCULATION SHEET	CONDENSATE
Yolla / Yolla 3 / Production Clean-up	TANK	2004 25

Date - Time		Tank		Tank	Tank Volume		Oil Gravity						Net STO	Nets STO	Cumulative
Time	Interval	Left	Right	Factor	Vol V	Temp	Gravity	Temp.	Gravity	Gravity	K	BSW	Vol (Vo)	Prod. Rate	Production
	mins	cm	cm		bbl	degC	SG/API	degC	Sg60	API60		%	bbl	stbd	bbl
29-Sep-04															
					2809m sands meter factor										
4:42	0		66.0	Initial tank reading											
5:02	20		107.5	0.176	7.30	16	0.772	8.88	0.767	53.0	0.9995	0	7.30	526	7.3
					2809m sands meter factor										
6:10			76.5	Initial tank reading											
6:45	35		150.0	0.176	12.94	16	0.768	13.33	0.766	53.1	0.9995	0	12.93	532	12.9
					2809m sands meter factor										
7:30	0		63.5	Initial tank reading											
7:45	15		94.5	0.176	5.46	15.56	0.772	8.88	0.767	53.0	1.0000	0	5.46	524	5.5
					2809m sands meter factor										
9:20	0		95.0	Initial tank reading											
9:45	25		161.5	0.176	11.70	15.56	0.772	8.88	0.767	53.0	1.0000	0	11.70	674	11.7

Schlumberger

WELL TESTING REPORT

LIQUID COMPUTATION RESULTS - by Meter

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

Schlumberger

Origin	CONDENSATE CALCULATION SHEET	CONDENSATE 1
Yolla / Yolla 3 / Production Clean-up	METER	2004 25

Date - Time		Meter		Combine			(1-Shr)	Tank	Condensate Gravity					Net STO	Nets STO	Cumul. STO	Water	Cumul.
Time	Interval	Reading	Vs	Factor	BSW	V'o	Factor	Temp.	Gravity	Temp.	Gravity	Gravity	K	Vol (Vo)	Prod. Rate	Production	Rate	H2O Prod.
	mins	bbl	bbl		%	bbl		degC	SG/API	degC	Sg60	API60		bbl	stbd	bbl	bbl/d	bbl
29-Sep-04																		
								2809m Sands										
4:07	Pass flow through 2" floco meter on 36/64" fixed choke.																	0.0
4:15	8	1.90	1.9	1.000	0	1.9	0.845	16.0	0.772	9	0.767	52.97	0.9995	1.6	288.8	1.6	0	0.0
4:30	15	10.60	8.7	1.000	0	8.7	0.845	16.0	0.772	9	0.767	52.97	0.9995	7.3	705.4	9.0	0	0.0
4:45	15	19.10	8.5	1.000	0	8.5	0.845	16.0	0.772	9	0.767	52.97	0.9995	7.2	689.2	16.1	0	0.0
5:00	15	27.40	8.3	1.000	0	8.3	0.845	16.0	0.772	9	0.767	52.97	0.9995	7.0	673.0	23.1	0	0.0
5:15	15	34.40	7.0	1.000	0	7.0	0.845	16.0	0.772	9	0.767	52.97	0.9995	5.9	567.6	29.1	0	0.0
5:30	15	43.40	9.0	1.000	0	9.0	0.845	16.0	0.768	13	0.766	53.19	0.9995	7.6	729.7	36.7	0	0.0
5:45	15	52.00	8.6	1.000	0	8.6	0.845	16.0	0.768	13	0.766	53.19	0.9995	7.3	697.3	43.9	0	0.0
6:00	15	58.10	6.1	1.000	0	6.1	0.845	16.0	0.768	13	0.766	53.19	0.9995	5.2	494.6	49.1	0	0.0
6:15	15	66.90	8.8	1.000	0	8.8	0.845	16.0	0.768	13	0.766	53.19	0.9995	7.4	713.5	56.5	0	0.0
6:30	15	72.70	5.8	1.000	0	5.8	0.845	16.0	0.768	13	0.766	53.19	0.9995	4.9	470.3	61.4	0	0.0
6:45	15	80.50	7.8	1.000	0	7.8	0.845	16.0	0.768	13	0.766	53.19	0.9995	6.6	632.4	68.0	0	0.0
7:00	15	88.60	8.1	1.000	0	8.1	0.845	16.0	0.768	13	0.766	53.19	0.9995	6.8	656.7	74.8	0	0.0
7:15	15	93.50	4.9	1.000	0	4.9	0.845	16.0	0.768	13	0.766	53.19	0.9995	4.1	397.3	79.0	0	0.0
7:30	15	102.20	8.7	1.000	0	8.7	0.845	16.0	0.768	13	0.766	53.19	0.9995	7.3	705.4	86.3	0	0.0
7:45	15	110.80	8.6	1.000	0	8.6	0.845	16.0	0.768	13	0.766	53.19	0.9995	7.3	697.3	93.6	0	0.0
8:00	15	118.10	7.3	1.000	0	7.3	0.845	16.0	0.768	13	0.766	53.19	0.9995	6.2	591.9	99.7	0	0.0
8:15	15	125.80	7.7	1.000	0	7.7	0.845	16.0	0.768	13	0.766	53.19	0.9995	6.5	624.3	106.2	0	0.0
8:30	15	133.80	8.0	1.000	0	8.0	0.845	16.0	0.768	13	0.766	53.19	0.9995	6.8	648.6	113.0	0	0.0
8:45	15	142.00	8.2	1.000	0	8.2	0.845	16.0	0.768	13	0.766	53.19	0.9995	6.9	664.9	119.9	0	0.0
9:00	15	148.00	6.0	1.000	0	6.0	0.845	16.0	0.768	13	0.766	53.19	0.9995	5.1	486.5	125.0	0	0.0
9:15	15	155.50	7.5	1.000	0	7.5	0.845	16.0	0.768	13	0.766	53.19	0.9995	6.3	608.1	131.3	0	0.0
9:30	15	163.90	8.4	1.000	0	8.4	0.845	16.0	0.768	13	0.766	53.19	0.9995	7.1	681.1	138.4	0	0.0
9:45	15	171.00	7.1	1.000	0	7.1	0.845	16.0	0.768	13	0.766	53.19	0.9995	6.0	575.7	144.4	0	0.0

Schlumberger

WELL TESTING REPORT

GAS COMPUTATION RESULTS

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

Gas Production Rate Measurement by Orifice Meter

Reference is made to the rules and coefficients given in AGA gas measurement Committee Report No. 3 for orifice metering.

I) EQUATIONS

$$Q = C \sqrt{Hw \times Pf}$$

Q : Production rate at reference conditions
C : Orifice flow coefficient*
Hw : Differential pressure in inches of water
Pf : Flowing pressure in psiA

$$C = Fu \times Fb \times Fg \times Y \times Ftf \times Fpv$$

Fu : Unit conversion factor in desired reference conditions
Fb : Basic orifice factor (Q in Cu. ft/day)
Fg : Specific gravity factor
Y : Expansion factor
Ftf : Flowing temperature factor
Fpv : Supercompressibilty factor (estimated)

*C is computed with 6 decimal points and could differ slightly from hand calculator results

Remarks
Fm : Manometer factor is equal one since only bellows type meter are used.
Fr : Reynolds factor is considered to be one.

TABLE of Fu FACTOR

UNITS	REFERENCE CONDITIONS			
	60 degF 14.73 psia	0 degC 760 mm Hg*	15 degC 760 mm Hg*	15 degC 750 mm Hg*
Cu. ft/hr	1	0.9483	1.0004	1.0137
Cu. ft/D	24	22.76	24.009	24.329
m3/hr	0.02832	0.02685	0.02833	0.0287
m3/D	0.6796	0.6445	0.6799	0.6889

** mercury at 32 F*

II) METER DATA

ID of meter tube : **5.761"**

III) SUPERCOMPRESSIBILITY FACTOR Fpv

The coefficient is calculated from AGA NX 19 manual for natural gas free of air, CO2 and H2S. The method used to correct Fpv for CO2 and H2S is based on Wichert and Aziz data (Hydrocarbon Processing - May 1972).
Pressure and Specific gravity are adjusted according to percentages.

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 1
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
27-Sep-04																	
CO_2 and H_2S not included in computation.																	
8:12		Passed flow through separator on 48/64" fixed choke							2973m Sands								
8:45	33	Lowered 3.00 " orifice plate.															
9:02	17	Raised 3.00 " orifice plate.															
9:10	8	Lowered 2.75 " orifice plate.															0.000
9:25	15	16	251	108	164.78	2.75	0.812	17	40	1582.05	1.1097	1.0027	0.9987	1.0246	43230	7.124	0.074
9:30	5	16	252	113	168.39	2.75	0.812	17	40	1582.05	1.1097	1.0028	0.9989	1.0247	43247	7.282	0.099
9:35	5	16	252	113	168.75	2.75	0.812	17	40	1582.05	1.1097	1.0028	0.9989	1.0247	43247	7.298	0.125
9:40	5	17	251	109	165.76	2.75	0.812	17	40	1582.05	1.1097	1.0027	0.9984	1.0245	43215	7.163	0.150
9:45	5	17	251	107	164.16	2.75	0.812	17	40	1582.05	1.1097	1.0026	0.9979	1.0244	43186	7.089	0.174
9:50	5	17	251	109	165.55	2.75	0.812	17	40	1582.05	1.1097	1.0027	0.9977	1.0244	43181	7.149	0.199
9:55	5	17	252	112	167.86	2.75	0.812	17	40	1582.05	1.1097	1.0027	0.9980	1.0246	43204	7.252	0.224
10:00	5	17	253	112	168.18	2.75	0.812	17	40	1582.05	1.1097	1.0027	0.9979	1.0246	43197	7.265	0.250
10:05	5	17	253	110	166.39	2.75	0.812	17	40	1582.05	1.1097	1.0027	0.9979	1.0246	43195	7.187	0.275
10:10	5	17	253	106	163.44	2.75	0.812	17	40	1582.05	1.1097	1.0026	0.9975	1.0245	43173	7.056	0.299
10:15	5	17	252	103	161.44	2.75	0.812	17	40	1582.05	1.1097	1.0025	0.9970	1.0244	43144	6.965	0.323
10:20	5	17	252	100	158.75	2.75	0.812	17	40	1582.05	1.1097	1.0025	0.9968	1.0243	43130	6.847	0.347
10:25	5	18	252	100	159.10	2.75	0.812	17	40	1582.05	1.1097	1.0025	0.9961	1.0243	43097	6.857	0.371
10:30	5	18	253	103	161.56	2.75	0.812	17	40	1582.05	1.1097	1.0025	0.9953	1.0242	43060	6.957	0.395
10:35	5	18	254	107	165.01	2.75	0.812	17	40	1582.05	1.1097	1.0026	0.9956	1.0244	43086	7.110	0.420
10:40	5	18	255	109	166.79	2.75	0.812	17	40	1582.05	1.1097	1.0026	0.9958	1.0245	43100	7.189	0.445
10:45	5	18	255	109	166.56	2.75	0.812	17	40	1582.05	1.1097	1.0026	0.9960	1.0246	43110	7.180	0.470

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 2
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
27-Sep-04																	
10:50	5	18	256	108	166.37	2.75	0.812	17	40	1582.05	1.1097	1.0026	0.9960	1.0246	43111	7.173	0.494
10:55	5	18	256	108	166.49	2.75	0.812	17	40	1582.05	1.1097	1.0026	0.9960	1.0246	43113	7.178	0.519
11:00	5	18	256	106	164.55	2.75	0.812	17	40	1582.05	1.1097	1.0026	0.9956	1.0246	43093	7.091	0.544
11:05	5	19	256	103	162.60	2.75	0.812	17	40	1582.05	1.1097	1.0025	0.9949	1.0245	43055	7.001	0.568
11:10	5	19	256	103	162.29	2.75	0.812	17	40	1582.05	1.1097	1.0025	0.9948	1.0244	43047	6.986	0.593
11:15	5	19	257	105	164.38	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9949	1.0244	43108	7.086	0.617
11:20	5	18	257	108	166.65	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9951	1.0245	43121	7.186	0.642
11:25	5	18	257	109	167.48	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9953	1.0245	43131	7.223	0.667
11:30	5	18	257	108	166.81	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9953	1.0245	43129	7.195	0.692
11:35	5	18	256	104	162.96	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9951	1.0244	43112	7.026	0.717
11:40	5	19	256	100	159.60	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9944	1.0242	43072	6.874	0.740
11:45	5	19	256	98	158.59	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9941	1.0242	43055	6.828	0.764
11:50	5	19	257	103	163.01	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9941	1.0243	43066	7.020	0.788
11:55	5	19	259	108	166.77	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9943	1.0245	43083	7.185	0.813
12:00	5	19	259	110	168.50	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9944	1.0245	43095	7.262	0.839
12:05	5	19	259	107	166.37	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9946	1.0245	43100	7.171	0.864
12:10	5	19	258	104	164.00	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9943	1.0244	43078	7.065	0.888
12:15	5	19	257	97	157.66	2.75	0.810	17	40	1582.05	1.1111	1.0023	0.9941	1.0243	43058	6.789	0.912
12:20	5	19	257	95	156.60	2.75	0.810	17	40	1582.05	1.1111	1.0023	0.9934	1.0242	43022	6.737	0.935
12:25	5	20	257	96	157.32	2.75	0.810	17	40	1582.05	1.1111	1.0023	0.9932	1.0242	43015	6.767	0.959
12:30	5	19	258	102	162.11	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9934	1.0243	43032	6.976	0.983
12:35	5	19	258	105	164.29	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9936	1.0243	43045	7.072	1.007
12:40	5	19	258	105	164.88	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9939	1.0244	43063	7.100	1.032
12:45	5	19	258	104	163.47	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9939	1.0244	43060	7.039	1.056
12:50	5	19	258	103	162.54	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9934	1.0243	43032	6.994	1.081
12:55	5	19	258	103	163.14	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9936	1.0243	43042	7.022	1.105

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 3
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
27-Sep-04																	
13:00	5	19	258	107	165.89	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9941	1.0244	43073	7.145	1.130
13:05	5	19	258	107	166.50	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9946	1.0245	43099	7.176	1.155
13:10	5	19	258	106	165.02	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9948	1.0245	43104	7.113	1.180
13:15	5	19	257	100	159.94	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9944	1.0243	43077	6.889	1.203
13:20	5	19	257	98	158.78	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9938	1.0242	43040	6.834	1.227
13:25	5	19	257	99	159.17	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9938	1.0242	43041	6.851	1.251
13:30	5	19	258	104	164.04	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9939	1.0243	43060	7.063	1.275
13:35	5	19	258	107	166.17	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9941	1.0244	43072	7.157	1.300
13:40	5	19	258	108	166.66	2.75	0.810	17	40	1582.05	1.1111	1.0026	0.9941	1.0244	43073	7.178	1.325
13:45	5	19	258	104	163.36	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9941	1.0243	43067	7.035	1.350
13:50	5	19	257	100	160.26	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9939	1.0243	43052	6.899	1.374
13:55	5	19	257	100	160.12	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9941	1.0243	43062	6.895	1.398
14:00	5	19	258	103	163.26	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9944	1.0245	43086	7.034	1.422
14:05	5	19	259	106	165.90	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9948	1.0246	43109	7.152	1.447
14:10	5	19	258	104	163.70	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9949	1.0246	43113	7.058	1.471
14:15	5	19	258	99	160.05	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9948	1.0245	43097	6.898	1.495
14:20	5	19	257	97	158.16	2.75	0.810	17	40	1582.05	1.1111	1.0023	0.9946	1.0244	43085	6.815	1.519
14:25	5	19	258	99	160.23	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9948	1.0245	43099	6.906	1.543
14:30	5	18	259	103	163.65	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9951	1.0247	43123	7.057	1.567
14:35	5	18	259	106	165.52	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9955	1.0247	43144	7.141	1.592
14:40	5	18	258	102	162.27	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9956	1.0247	43145	7.001	1.617
14:45	5	18	257	99	159.31	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9956	1.0246	43139	6.872	1.640
14:50	5	18	257	97	157.91	2.75	0.810	17	40	1582.05	1.1111	1.0023	0.9956	1.0245	43135	6.811	1.664
14:55	5	18	258	101	161.58	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9960	1.0247	43159	6.973	1.688
15:00	5	18	257	105	164.23	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9963	1.0247	43179	7.091	1.713
15:05	5	18	257	103	162.64	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9967	1.0247	43192	7.025	1.737

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 4
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
27-Sep-04																	
15:10	5	18	256	100	159.55	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9965	1.0246	43175	6.889	1.761
15:15	5	18	255	98	158.04	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9965	1.0245	43171	6.823	1.785
15:20	5	18	255	100	159.58	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9967	1.0245	43181	6.891	1.809
15:25	5	17	255	102	160.78	2.75	0.810	17	40	1582.05	1.1111	1.0025	0.9968	1.0245	43190	6.944	1.833
15:30	5	17	254	100	159.13	2.75	0.810	17	40	1582.05	1.1111	1.0024	0.9968	1.0244	43186	6.872	1.616
15:45	Raised plate																

Gas Computation Results

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 5
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
28-Sep-04																	
4:22		Passed flow through separator on 60/64" fixed choke.						UEVCM Sands									
6:22	120	Lowered 3.50 " orifice plate.															
7:05	43	Raised plate.															
7:06	1	Switched to 56/64" adjustable choke.															
7:08	2	Decreased to 48/64" adjustable choke.															
7:24	16	Lowered 3.50 " orifice plate.															
7:30	6	Raised plate.															
7:34	4	Switched to 48/64" fixed choke.															
7:52	18	Lowered 3.00 " orifice plate.															0.000
8:10	18	33	747	139	322.18	3.00	0.780	17	1	1907.81	1.1323	1.0011	0.9705	1.0601	53395	17.203	0.215
8:15	5	33	748	139	322.20	3.00	0.780	17	1	1907.81	1.1323	1.0011	0.9714	1.0606	53472	17.229	0.275
8:20	5	33	748	139	321.99	3.00	0.780	17	1	1907.81	1.1323	1.0011	0.9717	1.0608	53499	17.226	0.335
8:25	5	33	749	139	322.03	3.00	0.780	17	1	1907.81	1.1323	1.0011	0.9713	1.0606	53463	17.217	0.394
8:30	5	33	749	136	319.66	3.00	0.780	17	1	1907.81	1.1323	1.0011	0.9717	1.0608	53501	17.102	0.454
8:35	5	32	749	134	316.82	3.00	0.780	17	1	1907.81	1.1323	1.0011	0.9721	1.0610	53525	16.958	0.513
8:40	5	32	748	132	314.46	3.00	0.780	17	1	1907.81	1.1323	1.0011	0.9722	1.0610	53536	16.835	0.571
8:45	5	32	749	132	313.79	3.00	0.780	17	1	1907.81	1.1323	1.0010	0.9722	1.0610	53536	16.799	0.630
8:50	5	32	749	130	312.37	3.00	0.780	17	1	1907.81	1.1323	1.0010	0.9725	1.0612	53561	16.731	0.688
8:55	5	32	749	128	309.50	3.00	0.780	17	1	1907.81	1.1323	1.0010	0.9722	1.0610	53535	16.569	0.745
9:00	5	33	748	124	304.91	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9717	1.0584	53790	16.401	0.802
9:05	5	33	749	122	302.75	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9713	1.0582	53754	16.274	0.859
9:10	5	33	750	126	306.93	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9711	1.0582	53746	16.496	0.916
9:15	5	33	750	130	311.81	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9711	1.0583	53750	16.760	0.974

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 6
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
28-Sep-04																	
9:20	5	33	751	133	316.53	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9714	1.0585	53779	17.023	1.033
9:25	5	33	751	133	316.08	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9719	1.0587	53817	17.011	1.092
9:30	5	32	751	133	316.28	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9722	1.0589	53842	17.029	1.151
9:35	5	32	751	133	315.70	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9722	1.0589	53843	16.999	1.210
9:40	5	32	751	132	314.93	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9721	1.0588	53832	16.953	1.269
9:45	5	32	752	131	314.23	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9722	1.0590	53848	16.921	1.328
9:50	5	32	753	131	314.18	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9722	1.0590	53851	16.919	1.387
9:55	5	32	754	131	314.54	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9724	1.0592	53867	16.943	1.446
10:00	5	32	755	132	315.99	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9722	1.0592	53858	17.019	1.505
10:05	5	32	755	134	317.71	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9725	1.0594	53887	17.120	1.564
10:10	5	32	756	135	319.35	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9725	1.0594	53891	17.210	1.624
10:15	5	32	757	136	320.46	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9727	1.0596	53906	17.275	1.684
10:20	5	32	757	136	320.83	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9727	1.0596	53908	17.295	1.744
10:25	5	32	757	136	320.69	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9722	1.0594	53870	17.276	1.804
10:30	5	32	757	136	320.55	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9721	1.0593	53857	17.264	1.864
10:35	5	33	757	135	320.07	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9719	1.0592	53844	17.234	1.924
10:40	5	33	757	135	319.81	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9717	1.0592	53832	17.216	1.983
10:45	5	33	758	135	319.57	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9708	1.0588	53759	17.180	2.043
10:50	5	34	758	135	319.60	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9702	1.0585	53711	17.166	2.103
10:55	5	34	759	135	320.20	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9700	1.0585	53701	17.195	2.162
11:00	5	34	759	135	320.30	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9697	1.0584	53677	17.193	2.222
11:05	5	34	759	132	316.40	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9694	1.0582	53650	16.975	2.281
11:10	5	35	759	129	312.35	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9684	1.0577	53572	16.733	2.339
11:15	5	35	759	126	308.87	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9681	1.0575	53545	16.539	2.397
11:20	5	35	759	127	309.94	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9681	1.0575	53545	16.596	2.454
11:25	5	35	758	128	310.90	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9683	1.0576	53556	16.651	2.512

Gas Computation Results

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 7
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
29-Sep-04																	
11:30	5	35	758	128	311.55	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9683	1.0576	53556	16.686	2.570
11:35	5	35	758	125	307.43	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9680	1.0574	53529	16.456	2.627
11:40	5	35	758	130	314.14	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9681	1.0575	53546	16.821	2.685
11:45	5	35	758	128	311.48	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9687	1.0578	53593	16.693	2.743
11:50	5	35	759	134	319.18	3.00	0.768	17	1	1907.81	1.1411	1.0011	0.9684	1.0577	53573	17.100	2.803
11:55	5	35	758	131	315.06	3.00	0.768	17	1	1907.81	1.1411	1.0010	0.9686	1.0578	53584	16.882	2.861
12:00	5	35	756	113	291.85	3.00	0.768	17	1	1907.81	1.1411	1.0009	0.9683	1.0574	53542	15.626	2.916
12:02	2	Shut in Well at Choke Manifold.															

Gas Computation Results

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 8
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
29-Sep-04																	
3:44	Passed flow through separator on 60/64" fixed choke.							2809m Sands									
4:06	Lowered 3.00 " orifice plate.																0.000
4:25	19	23	751	136	319.95	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9872	1.1294	55560	17.777	0.235
4:30	5	23	751	137	320.40	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9867	1.1287	55501	17.783	0.296
4:35	5	24	751	137	320.75	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9864	1.1283	55460	17.789	0.358
4:40	5	24	751	137	320.81	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9855	1.1272	55361	17.760	0.420
4:45	5	24	750	137	320.76	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9850	1.1265	55300	17.738	0.481
4:50	5	25	750	137	320.48	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9847	1.1261	55261	17.710	0.543
4:55	5	25	750	136	319.40	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9844	1.1257	55221	17.638	0.604
5:00	5	25	750	136	319.43	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9840	1.1253	55183	17.627	0.665
5:05	5	25	750	138	321.52	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9837	1.1249	55149	17.731	0.727
5:10	5	25	750	139	322.72	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9834	1.1245	55111	17.786	0.789
5:15	5	26	750	139	322.75	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9831	1.1242	55074	17.775	0.850
5:20	5	26	750	137	321.11	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9827	1.1237	55034	17.672	0.912
5:25	5	26	750	138	321.29	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9824	1.1234	54998	17.670	0.973
5:30	5	26	750	138	321.50	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9824	1.1233	54996	17.681	1.034
5:35	5	26	750	138	321.41	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9822	1.1231	54976	17.670	1.096
5:40	5	26	750	137	320.95	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9821	1.1229	54954	17.638	1.157
5:45	5	26	750	138	321.10	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9821	1.1229	54955	17.646	1.218
5:50	5	26	750	138	322.11	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9819	1.1227	54937	17.695	1.280
5:55	5	26	750	139	322.92	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9819	1.1227	54936	17.740	1.341
6:00	5	26	750	139	322.83	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9821	1.1229	54956	17.741	1.403
6:05	5	26	750	138	322.16	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9821	1.1229	54957	17.705	1.464

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 9
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
29-Sep-04																	
6:10	5	26	750	138	321.93	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9822	1.1231	54978	17.699	1.526
6:15	5	26	750	138	321.91	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9822	1.1231	54977	17.698	1.587
6:20	5	26	750	138	321.91	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9821	1.1229	54955	17.691	1.649
6:25	5	26	749	138	322.10	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9821	1.1228	54950	17.699	1.710
6:30	5	26	749	139	322.38	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9817	1.1223	54911	17.702	1.772
6:35	5	26	749	139	322.56	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9819	1.1225	54929	17.718	1.833
6:40	5	26	749	138	321.96	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9819	1.1226	54931	17.685	1.895
6:45	5	27	749	138	321.88	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9816	1.1223	54898	17.670	1.956
6:50	5	27	749	138	322.06	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9816	1.1223	54899	17.680	2.017
6:55	5	27	749	139	322.64	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9814	1.1221	54879	17.706	2.079
7:00	5	27	749	139	322.62	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9813	1.1218	54858	17.698	2.140
7:05	5	27	749	139	322.42	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9816	1.1222	54895	17.699	2.202
7:10	5	27	749	138	322.07	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9816	1.1222	54896	17.680	2.263
7:15	5	27	749	139	322.35	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9814	1.1220	54876	17.690	2.325
7:20	5	27	749	139	322.36	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9816	1.1222	54895	17.696	2.386
7:25	5	27	749	139	322.63	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9816	1.1221	54893	17.710	2.447
7:30	5	27	749	139	322.39	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9816	1.1222	54893	17.697	2.509
7:35	5	27	749	139	322.59	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9813	1.1218	54859	17.697	2.570
7:40	5	27	749	139	322.47	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9813	1.1219	54860	17.691	2.632
7:45	5	27	749	139	322.52	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9808	1.1213	54807	17.676	2.693
7:50	5	27	749	138	322.05	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9803	1.1207	54751	17.633	2.754
7:55	5	28	749	139	322.49	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9798	1.1201	54695	17.638	2.816
8:00	5	28	749	139	322.37	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9793	1.1195	54637	17.613	2.877
8:05	5	28	749	138	321.96	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9788	1.1190	54582	17.573	2.938
8:10	5	29	749	138	321.50	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9783	1.1184	54528	17.531	2.999
8:15	5	29	749	138	321.59	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9783	1.1185	54531	17.537	3.060

Gas Computation Results

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 10
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
29-Sep-04																	
8:20	5	29	749	138	321.80	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9782	1.1183	54513	17.542	3.120
8:25	5	29	749	139	322.36	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9783	1.1185	54531	17.579	3.182
8:30	5	29	749	139	322.72	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9783	1.1184	54529	17.597	3.243
8:35	5	29	749	140	323.42	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9782	1.1183	54513	17.631	3.304
8:40	5	28	749	140	323.24	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9785	1.1186	54548	17.632	3.365
8:45	5	28	749	139	322.71	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9785	1.1186	54548	17.603	3.426
8:50	5	29	749	139	322.76	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9780	1.1181	54496	17.589	3.487
8:55	5	29	749	139	322.40	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9777	1.1178	54462	17.558	3.548
9:00	5	29	749	139	322.95	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9774	1.1175	54429	17.578	3.609
9:05	5	29	749	139	323.19	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9770	1.1171	54393	17.579	3.670
9:10	5	30	749	140	323.46	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9767	1.1168	54359	17.583	3.731
9:15	5	30	749	140	323.82	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9767	1.1168	54358	17.602	3.792
9:20	5	30	749	140	323.34	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9767	1.1167	54356	17.575	3.853
9:25	5	30	749	140	323.50	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9765	1.1166	54340	17.579	3.915
9:30	5	30	749	139	322.82	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9764	1.1164	54323	17.537	3.975
9:35	5	30	750	139	323.33	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9762	1.1163	54310	17.560	4.036
9:40	5	30	749	140	324.05	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9762	1.1163	54308	17.599	4.098
9:45	5	30	749	141	324.84	3.00	0.846	1	1	1907.81	1.0872	1.0011	0.9762	1.1162	54306	17.641	4.159
9:49	4	Raised plate.															
9:50	1	Shut in well at choke manifold.															

Gas Computation Results

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 11
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
30-Sep-04																	
21:28		Pass flow through Separator on 40/64" fixed choke.						2755m Sands									
21:38	10	Lower 3.00 " orifice plate.															0.000
21:55	17	26	758	130	313.73	3.00	0.830	20	60	1907.81	1.0976	1.0010	0.9832	1.0742	53135	16.670	0.197
22:00	5	26	758	130	313.29	3.00	0.830	20	60	1907.81	1.0976	1.0010	0.9824	1.0737	53065	16.625	0.255
22:05	5	26	757	129	312.93	3.00	0.830	20	60	1907.81	1.0976	1.0010	0.9817	1.0732	53008	16.588	0.312
22:10	5	27	757	129	312.78	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9811	1.0730	52931	16.556	0.370
22:15	5	27	757	129	312.12	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9804	1.0726	52875	16.503	0.427
22:20	5	28	757	129	311.96	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9796	1.0721	52808	16.474	0.484
22:25	5	28	757	129	312.00	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9798	1.0723	52824	16.481	0.541
22:30	5	28	758	129	313.05	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9791	1.0720	52773	16.521	0.599
22:35	5	28	759	130	313.90	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9788	1.0719	52750	16.558	0.656
22:40	5	28	758	130	313.83	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9793	1.0721	52790	16.567	0.714
22:45	5	28	758	129	313.28	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9791	1.0720	52774	16.533	0.771
22:50	5	30	757	130	313.70	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9759	1.0702	52482	16.464	0.828
22:55	5	30	757	130	313.70	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9759	1.0702	52482	16.464	0.885
23:00	5	29	757	129	312.19	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9780	1.0714	52653	16.437	0.943
23:05	5	29	757	128	311.76	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9774	1.0710	52598	16.398	0.999
23:10	5	29	757	129	312.42	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9774	1.0710	52599	16.433	1.057
23:15	5	29	757	130	313.92	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9775	1.0711	52613	16.516	1.114
23:20	5	29	756	131	314.84	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9774	1.0710	52596	16.560	1.171
23:25	5	29	755	131	314.64	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9775	1.0710	52607	16.552	1.229
23:30	5	29	756	130	313.34	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9774	1.0709	52595	16.480	1.286
23:35	5	29	757	130	313.18	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9774	1.0710	52599	16.473	1.343

Schlumberger

Origin	GAS CALCULATION SHEET	GAS
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
30-Sep-04																	
23:40	5	29	758	130	313.52	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9775	1.0712	52618	16.497	1.401
23:45	5	29	758	131	314.72	3.00	0.832	20	60	1907.81	1.0963	1.0010	0.9775	1.0713	52620	16.561	1.458
23:50	5	29	757	130	313.34	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9770	1.0707	52595	16.480	1.515
23:55	5	29	757	128	311.74	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9770	1.0706	52593	16.395	1.572
0:00	5	30	757	127	310.26	3.00	0.831	20	60	1907.81	1.0970	1.0010	0.9767	1.0704	52566	16.309	1.629
0:05	5	30	758	128	310.88	3.00	0.831	20	60	1907.81	1.0973	1.0010	0.9767	1.0704	52581	16.346	1.686
0:10	5	30	757	128	311.55	3.00	0.830	20	60	1907.81	1.0975	1.0010	0.9764	1.0701	52559	16.375	1.742
0:15	5	30	757	129	312.79	3.00	0.830	20	60	1907.81	1.0977	1.0010	0.9762	1.0700	52552	16.437	1.800
0:20	5	30	758	130	314.03	3.00	0.830	20	60	1907.81	1.0979	1.0010	0.9764	1.0700	52573	16.509	1.857
0:25	5	30	758	131	315.06	3.00	0.829	20	60	1907.81	1.0981	1.0010	0.9764	1.0700	52581	16.566	1.914
0:30	5	30	757	131	314.55	3.00	0.829	20	60	1907.81	1.0983	1.0010	0.9767	1.0700	52609	16.548	1.972
0:35	5	30	756	130	313.23	3.00	0.829	20	60	1907.81	1.0985	1.0010	0.9764	1.0697	52584	16.471	2.029
0:40	5	Data acquisition stopped															
0:45	5																
0:50	5																
0:55	5																
1:00	5	Data acquisition started															
1:10	10	30	756	129	311.76	3.00	0.827	20	60	1907.81	1.0999	1.0010	0.9756	1.0687	52559	16.386	2.143
1:15	5	30	757	129	312.16	3.00	0.826	20	60	1907.81	1.1001	1.0010	0.9753	1.0685	52544	16.402	2.200
1:20	5	31	758	129	312.19	3.00	0.826	20	60	1907.81	1.1003	1.0010	0.9748	1.0683	52515	16.395	2.257
1:25	5	31	758	129	312.74	3.00	0.826	20	60	1907.81	1.1005	1.0010	0.9746	1.0681	52509	16.421	2.314
1:30	5	31	757	129	312.82	3.00	0.825	20	60	1907.81	1.1007	1.0010	0.9746	1.0680	52511	16.426	2.371
1:35	5	30	756	129	312.72	3.00	0.825	20	60	1907.81	1.1009	1.0010	0.9753	1.0682	52566	16.439	2.428
1:40	5	31	757	129	312.03	3.00	0.825	20	60	1907.81	1.1011	1.0010	0.9751	1.0681	52561	16.401	2.485
1:45	5	31	757	129	312.32	3.00	0.825	20	60	1907.81	1.1013	1.0010	0.9751	1.0681	52569	16.419	2.542

Gas Computation Results

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 13
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
30-Sep-04																	
1:50	5	31	757	129	312.97	3.00	0.824	20	60	1907.81	1.1015	1.0010	0.9751	1.0680	52577	16.455	2.599
1:55	5	31	757	130	313.51	3.00	0.824	20	60	1907.81	1.1017	1.0010	0.9751	1.0679	52581	16.485	2.656
2:00	5	30	756	130	313.28	3.00	0.824	20	60	1907.81	1.1019	1.0010	0.9754	1.0680	52611	16.482	2.713
2:05	5	30	756	130	312.87	3.00	0.823	20	60	1907.81	1.1021	1.0010	0.9756	1.0680	52629	16.466	2.771
2:10	5	30	756	129	312.89	3.00	0.823	20	60	1907.81	1.1023	1.0010	0.9759	1.0681	52663	16.478	2.828
2:15	5	30	756	129	312.53	3.00	0.823	20	60	1907.81	1.1025	1.0010	0.9761	1.0681	52683	16.465	2.885
2:20	5	30	757	129	312.15	3.00	0.822	20	60	1907.81	1.1027	1.0010	0.9756	1.0678	52652	16.435	2.942
2:25	5	30	756	129	312.67	3.00	0.822	20	60	1907.81	1.1029	1.0010	0.9753	1.0675	52630	16.456	2.999
2:30	5	30	756	129	312.87	3.00	0.822	20	60	1907.81	1.1031	1.0010	0.9754	1.0676	52650	16.473	3.056
2:35	5	31	756	130	313.30	3.00	0.822	20	60	1907.81	1.1033	1.0010	0.9749	1.0672	52617	16.485	3.114
2:40	5	31	756	129	312.41	3.00	0.821	20	60	1907.81	1.1035	1.0010	0.9748	1.0671	52610	16.436	3.171
2:45	5	31	757	129	312.53	3.00	0.821	20	60	1907.81	1.1037	1.0010	0.9748	1.0671	52619	16.445	3.228
2:50	5	30	757	129	312.79	3.00	0.821	20	60	1907.81	1.1039	1.0010	0.9754	1.0674	52679	16.477	3.285
2:55	5	30	758	129	312.53	3.00	0.820	20	60	1907.81	1.1041	1.0010	0.9759	1.0676	52726	16.478	3.342
3:00	5	30	757	129	312.62	3.00	0.820	20	60	1907.81	1.1043	1.0010	0.9762	1.0677	52756	16.493	3.399
3:05	5	30	756	129	312.28	3.00	0.820	20	60	1907.81	1.1045	1.0010	0.9764	1.0676	52771	16.479	3.457
3:10	5	30	756	129	312.86	3.00	0.819	20	60	1907.81	1.1047	1.0010	0.9761	1.0674	52750	16.503	3.514
3:15	5	30	756	129	312.74	3.00	0.819	20	60	1907.81	1.1049	1.0010	0.9762	1.0674	52771	16.504	3.571
3:20	5	30	756	129	312.81	3.00	0.819	20	60	1907.81	1.1051	1.0010	0.9759	1.0672	52752	16.501	3.629
3:25	5	30	756	129	312.28	3.00	0.819	20	60	1907.81	1.1053	1.0010	0.9757	1.0670	52744	16.471	3.686
3:30	5	30	755	129	312.11	3.00	0.818	20	60	1907.81	1.1055	1.0010	0.9756	1.0668	52734	16.459	3.743
3:35	5	30	755	129	311.70	3.00	0.818	20	60	1907.81	1.1057	1.0010	0.9754	1.0666	52725	16.435	3.800
3:40	5	30	755	129	312.34	3.00	0.818	20	60	1907.81	1.1059	1.0010	0.9756	1.0666	52747	16.475	3.857
3:45	5	30	756	129	312.52	3.00	0.817	20	60	1907.81	1.1061	1.0010	0.9759	1.0668	52781	16.495	3.914
3:50	5	30	756	129	312.26	3.00	0.817	20	60	1907.81	1.1063	1.0010	0.9757	1.0666	52775	16.479	3.972
3:55	5	30	755	129	312.46	3.00	0.817	20	60	1907.81	1.1065	1.0010	0.9754	1.0663	52752	16.483	4.029

Gas Computation Results

Schlumberger

Origin	GAS CALCULATION SHEET	GAS 14
Yolla / Yolla 3 / Production Clean-up		2004 25

Pipe Dia. 5.761

Date - Time		Flowing	Pf	Hw	SQRT	Orifice	Gas	CO2	H2S	Fb	Fg	Y2	Ftf	Fpv	C	Gas Prod.	Cumulative
Time	Interval	Temp.	Absolute		(Pf x Hw)	Diameter	Gravity									Rate : Q	Production
	mins	degC	psia	" of H2O		Inches	Air=1	%	ppm							MMscfd	MMscf
30-Sep-04																	
4:00	5	30	755	129	312.33	3.00	0.816	20	60	1907.81	1.1067	1.0010	0.9756	1.0663	52769	16.481	4.086
4:05	5	30	755	130	313.02	3.00	0.816	20	60	1907.81	1.1070	1.0010	0.9757	1.0664	52791	16.525	4.144
4:10	5	30	755	129	312.61	3.00	0.816	20	60	1907.81	1.1072	1.0010	0.9753	1.0661	52759	16.493	4.201
4:15	5	30	755	129	312.19	3.00	0.816	20	60	1907.81	1.1074	1.0010	0.9754	1.0661	52778	16.477	4.258
4:20	5	30	755	129	312.00	3.00	0.815	20	60	1907.81	1.1076	1.0010	0.9754	1.0660	52782	16.468	4.315
4:25	5	31	755	129	312.21	3.00	0.815	20	60	1907.81	1.1078	1.0010	0.9751	1.0657	52764	16.473	4.372
4:30	5	30	755	130	312.80	3.00	0.815	20	60	1907.81	1.1077	1.0010	0.9753	1.0659	52775	16.508	4.430
4:31	Shut in well at choke manifold.																

Gas Computation Results

Schlumberger

WELL TESTING REPORT

WATER COMPUTATION RESULTS

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Sep-2004
Report number	:	2004 25
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

Liquid Production Rate Measurement

II) MEASUREMENT WITH A METER

$$Vo = Vs \times f$$

Vo : Net water volume
Vs : Gross water volume measured by meter
f : Meter correction factor = $\frac{\text{Volume measured in tank}}{\text{Volume measured by meter}}$

*Assumption made in this calculation is:
Only water leaves in water line, hence no dissolved gas and no shrinkage

Note as water was dumped sporadically the instantanious water flowrate is an erroneous measure.
The reported continuous water flowrate is calculated from both cumulative time and water produced.

Schlumberger

Origin	WATER
Yolla / Yolla 3 / Production Clean-up	2004 25

Date - Time		Meter Reading	Vs	Combine Factor	Net H20 Vol	Water Rate	Cumul. H2O Prod.
Time	Interval						
	mins	bbl	bbl		bbl	bbl/d	bbl
27-Sep-04							
			2973m Sands				
9:50	Passed flow through 2" floco.						
10:35	45	80.76	Initial water meter reading.				
10:40	5	81.33	0.57	1.250	0.71	21	0.7
11:00	20	81.33	0.00	1.250	0.00	15	0.7
11:05	5	81.89	0.56	1.250	0.70	27	1.4
12:15	70	81.89	0.00	1.250	0.00	14	1.4
12:27	12	83.20	1.31	1.250	1.64	28	3.0
12:30	3	83.20	0.00	1.250	0.00	27	3.0
12:45	15	83.20	0.00	1.250	0.00	25	3.0
13:00	15	83.20	0.00	1.250	0.00	23	3.0
13:15	15	83.20	0.00	1.250	0.00	21	3.0
13:20	5	83.48	0.28	1.250	0.35	23	3.4
13:45	25	83.48	0.00	1.250	0.00	21	3.4
14:00	15	83.90	0.42	1.250	0.52	23	3.9
14:15	15	83.90	0.00	1.250	0.00	21	3.9
14:30	15	83.90	0.00	1.250	0.00	20	3.9
14:45	15	84.76	0.86	1.250	1.07	24	5.0
15:00	15	84.76	0.00	1.250	0.00	23	5.0
15:15	15	84.76	0.0	1.250	0.00	22	5.0
15:30	15	84.86	0.1	1.250	0.12	22	5.1

Schlumberger

WELL TESTING REPORT

ANNEXES

Company	:	Origin Energy
Field / Well / Zone	:	Yolla / Yolla 3 / Production Clean-up
Country	:	Australia
Test date	:	25-Sep-2004 to 30-Oct-2004
Report number	:	2004-025
Area / GeoMarket / Base	:	MEA / APG / AUF

Company representative	:	A. Wenk
Schlumberger representative	:	L. McMurtrie

Schlumberger

Origin Energy	Meter 1
Yolla / Yolla 3 / Production Clean-up	2004-025

METER CALIBRATION INFORMATION SHEET

No	Date / Time		Choke Size "/64	Meter Reading bbl	Tank Reading cm	Tank Factor	Meter Factor	Final Temp. degC	Media
1	**0.25 bbl/min Oil Floco**								
	26-Sep-04								
	04:12		n/a	0	52				
	04:52		n/a	10	121	0.176	1.214	n/a	water
		Total		10	12.14				
2	**0.5 bbl/min Oil Floco**								
	26-Sep-04								
	05:02		n/a	0	121				
	05:22		n/a	10	181.1	0.176	1.058	n/a	water
		Total		10	10.58				
3	**1 bbl/min Oil Floco**								
	26-Sep-04								
	05:24		n/a	0	181.1				
	05:34		n/a	10	243.4	0.176	1.096	n/a	water
		Total		10	10.96				
4	**0.25 bbl/min Water Floco**								
	26-Sep-04								
	06:22		n/a	0	60				
	07:02		n/a	10	131	0.176	1.250	n/a	water
		Total		10	12.50				

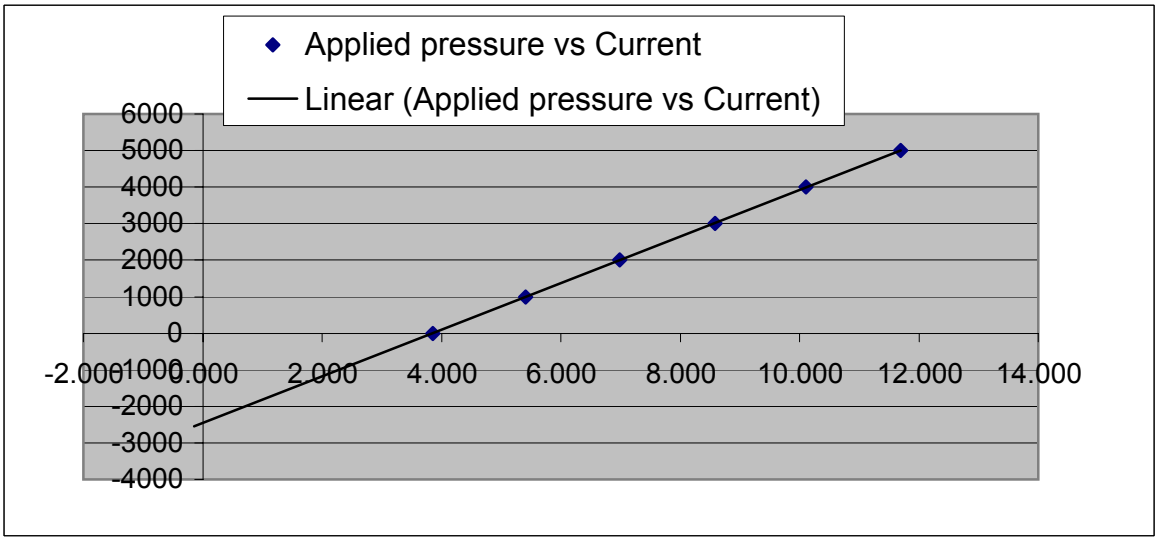
STAN SENSOR CALIBRATION

STAF-819 Channel A1

Sensor Type : Delta Control STPS-C
Sensor Serial No : 24978
Calibration Date : 18-Sep-04

Measure Name: WHP

Item	Current	Applied Pressure	Applied Pressure	Different (Current)	Different (pressure)	SLOPE C1	SLOPE C1 (Mean value)	INTERCEPT C0	Measured Pressure
	mA	psi	psia						psia
1	3.850	0	15						
2	5.410	1000	1015	1.560	1000	641.02564			
3	6.990	2000	2015	1.580	1000	632.91139	637.62585	-2455.4	
4	8.580	3000	3015	1.590	1000	628.93082			
5	10.110	4000	4015	1.530	1000	653.59477			
6	11.690	5000	5015	1.580	1000	632.91139			
7									
8									
9									
10									
11									
12									
13									
14									
15									
13									



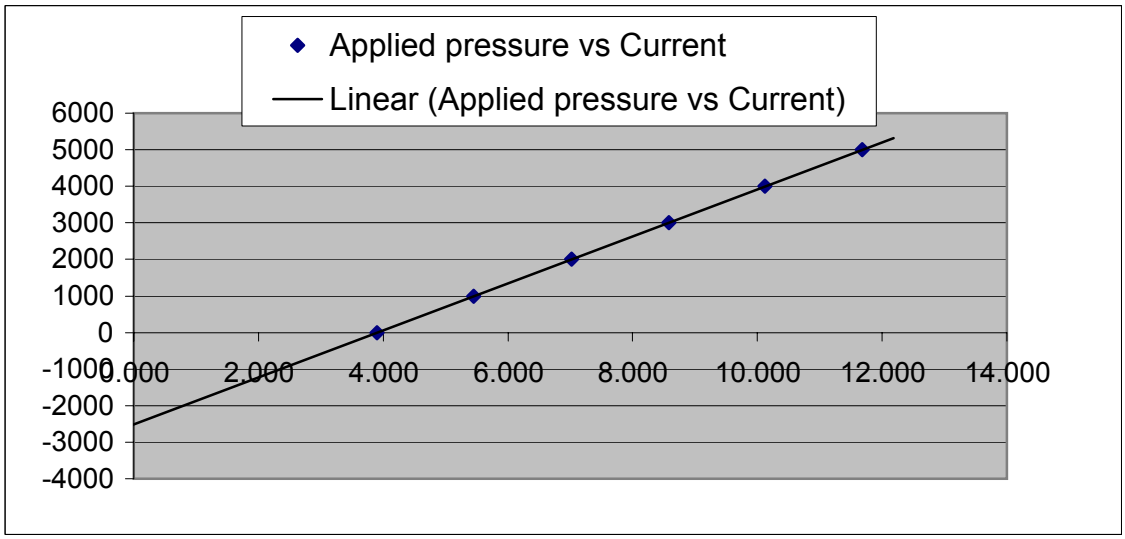
STAN SENSOR CALIBRATION

STAF-819 Channel A2

Sensor Type : Delta Control STPS-C
Sensor Serial No : 24979
Calibration Date : 18-Sep-04

Measure Name: WHDCP

Item	Current	Applied Pressure	Applied Pressure	Different (Current)	Different (pressure)	SLOPE C1	SLOPE C1 (Mean value)	INTERCEPT C0
	mA	psi	psia					
1	3.900	0	15					
2	5.450	1000	1015	1.55	1000	645.16129		
3	7.020	2000	2015	1.57	1000	636.94268	642.55187	-2506.5
4	8.580	3000	3015	1.56	1000	641.02564		
5	10.120	4000	4015	1.54	1000	649.35065		
6	11.680	5000	5015	1.56	1000	641.02564		
7								
8								
9								
10								
11								
12								
13								
14								
15								
13								



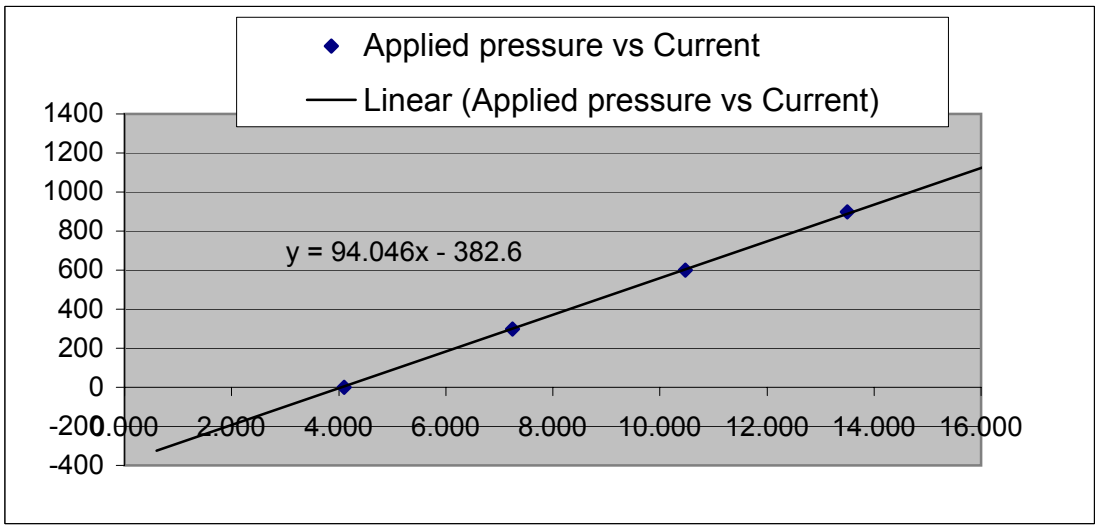
STAN SENSOR CALIBRATION STPS-A

STAF-819 Channel B1

Sensor Type : Sensotec 1.5K
Sensor Serial N : 923449
Calibartion Date : 18-Sep-04

Measure Name: GASP

Item	Current	Applied Pressure	Applied Pressure	Different (Current)	Different (pressure)	SLOPE C1	SLOPE C1 (Mean value)	INTERCEPT C0
	mA	psi	psiA					
1	4.100	0	15					
2	7.250	300	315	3.150	300	95.23810	95.46709	-377.3
3	10.470	600	615	3.220	300	93.16770	94.04649	-376.3
4	13.500	900	915	3.030	300	99.00990		
5	16.920	1200	1215	3.420	300	87.71930		
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
13								

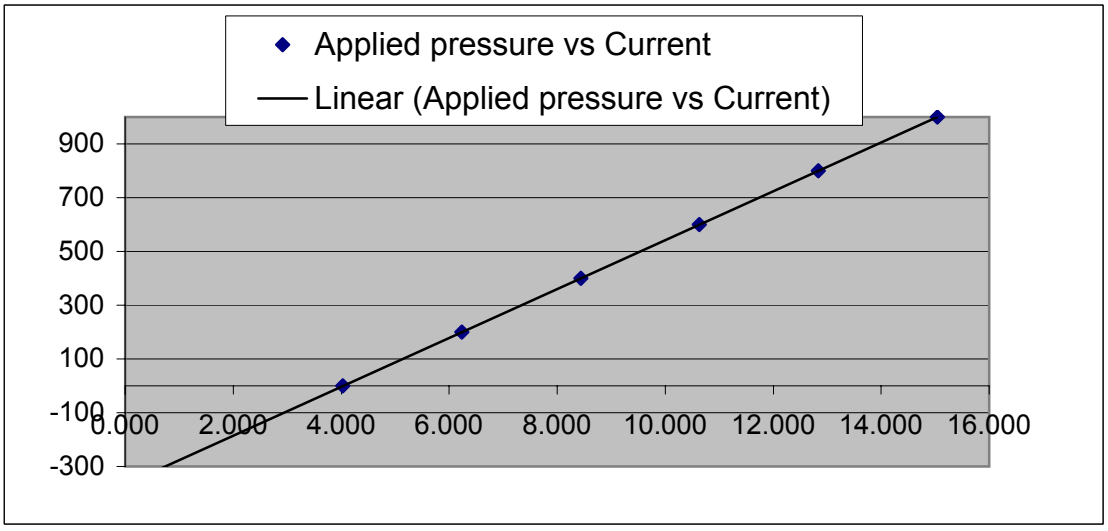


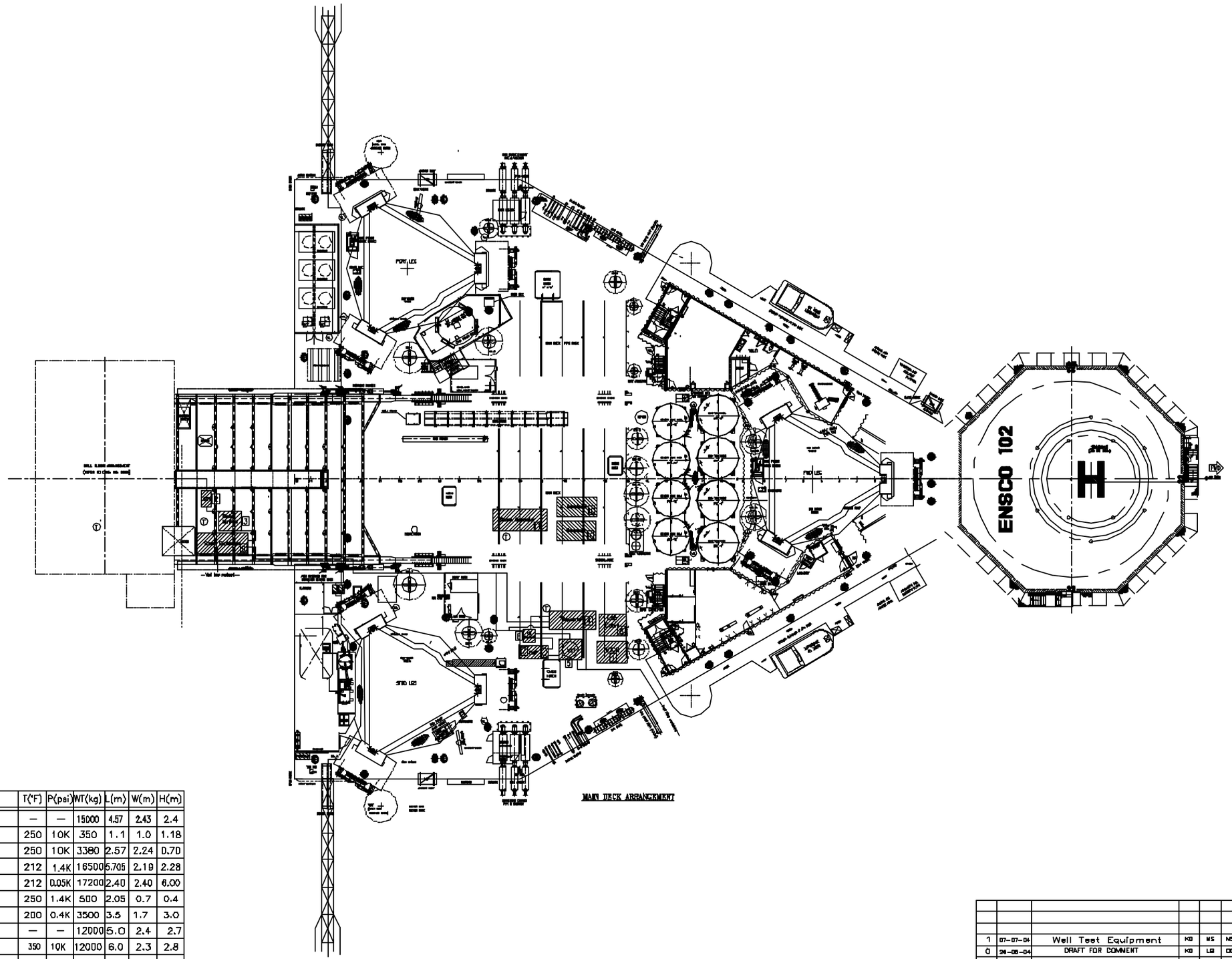
STAN SENSOR CALIBRATION differential pressure

Sensor Type : Sensotec 1.5K STAF-819 Channel B2
Sensor Serial Nc : 923449
Calibartion Date : 26-Jul-04

Measure Name: GASDP

Item	Current	Applied DP	Diff Pressure	Different (Current)	Different (pressure)	SLOPE C1	SLOPE C1 (Mean value)	INTERCEPT C0	Measured DP
	mA	"water	"water		"water				"water
1	4.030	0	0						15
2	6.232	200	200	2.202	200	90.82652			215
3	8.433	400	400	2.201	200	90.86779	90.86660	-351.2	416
4	10.635	600	600	2.202	200	90.82652			616
5	12.835	800	800	2.200	200	90.90909			816
6	15.035	1000	1000	2.200	200	90.90909			1016
7									
8									
9									
10									
11									
12									
13									
14									
15									





ITEM	DESCRIPTION	T(°F)	P(psi)	WT(kg)	L(m)	W(m)	H(m)
1	Well Test Workshop	—	—	15000	4.57	2.43	2.4
2	ESD Shut Down Valve	250	10K	350	1.1	1.0	1.18
3	Choke Manifold	250	10K	3380	2.57	2.24	0.70
4	Separator	212	1.4K	16500	5.705	2.19	2.28
5	Surge Tank	212	0.05K	17200	2.40	2.40	6.00
6	Oil Manifold	250	1.4K	500	2.05	0.7	0.4
7	Transfer Pump	200	0.4K	3500	3.5	1.7	3.0
8	Lab Cabin	—	—	12000	5.0	2.4	2.7
9	Steam Exchanger	350	10K	12000	6.0	2.3	2.8
10	Compressor	—	0.15K	6000	3	2.2	1.8
11	Steam Generator	—	0.15K	16000	6.0	2.4	2.9
Ⓔ	ESD Button						

* is wet weights

0' 10' 20' 30' 40' 50' 60' 70' FEET
0m 10m 15m 20m METRES

REV.	DATE	DESCRIPTION	DRN.	CHK.	APR.
1	07-07-04	Well Test Equipment	KD	MS	MS
0	26-05-04	DRAFT FOR COMMENT	KD	LG	DG

CONFIDENTIAL AND TRADE SECRET - DO NOT DISCLOSE, USE OR REPRODUCE WITHOUT PRIOR WRITTEN APPROVAL FROM SCHLUMBERGER

Schlumberger Oilfield Australia
Level 5, 256 St Georges Tce, Perth W.A. Australia

DRN.	K.D.	2-07-04
DES.		
CHD.	M.S.	12-07-04
APR.	M.S.	12-07-04

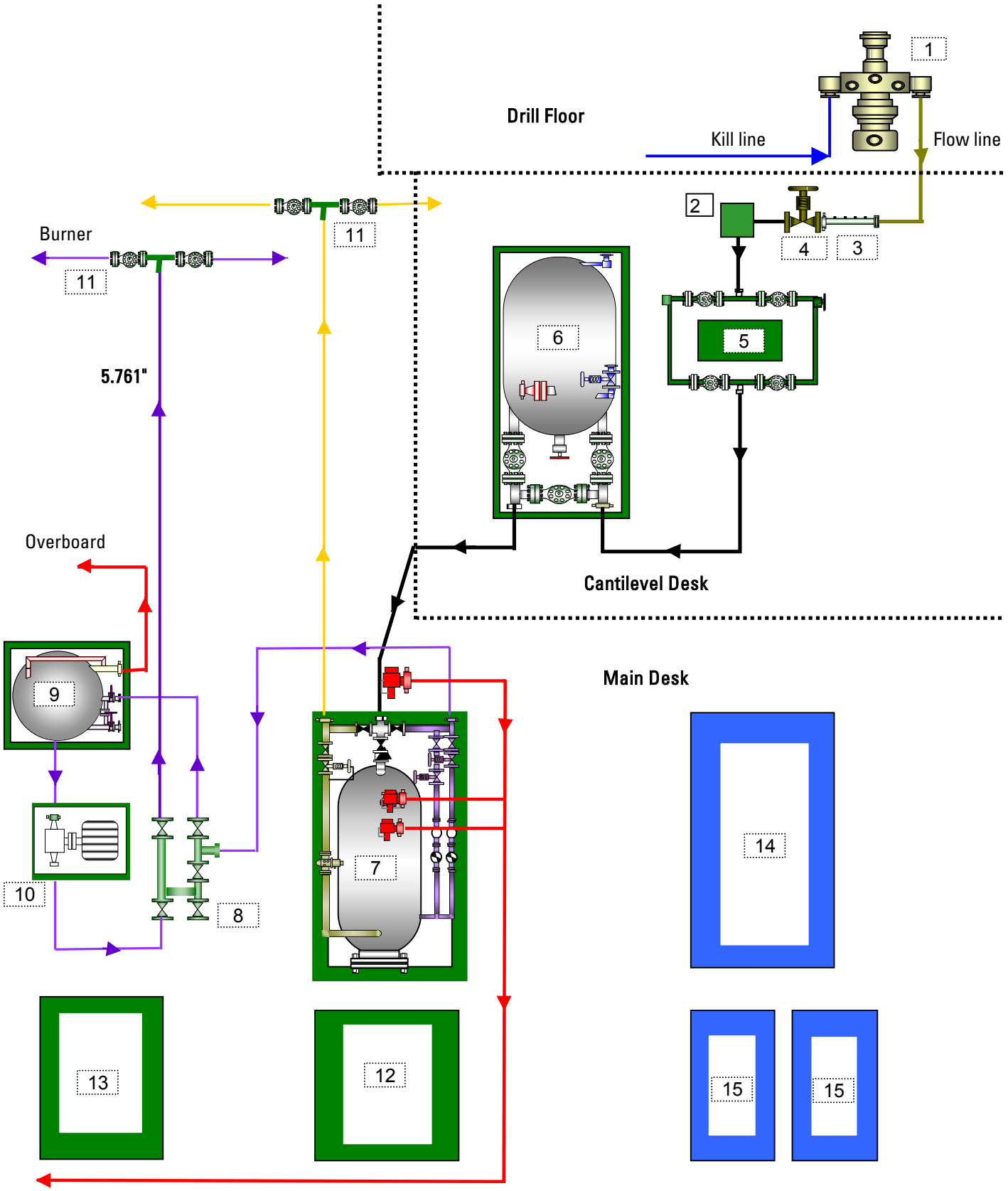
LAYOUT & HAZARDOUS AREA DRAWING

ORIGIN - YOLLA 3 & 4

SCALE	JOB No.	DRG No.	REV.	SHT	OF
NTS	2004-007	2004-007 L1	1	1	1

Schlumberger

Origin Energy Yolla / Yolla 4 / Production Clean-up	Surface Lay-out 1 2004-025



Item no	Equipment Description	Item no	Equipment Description
1	Flow Cotrol Head	9	Surge Tank
2	Petrotech Isokenetic skid	10	Transfer Pump
3	Data Header	11	Divider Manifold
4	Surface Safety Valve	12	Lab Cabin / Office
5	Choke Mainfold	13	Welltest Workshop
6	Heat Exchanger	14	Steam Generator
7	1400 psi Separator	15	900 scf/min Air Compressor
8	5-way Oil Manifold		

(B) Subsurface Data – Halliburton Report

Origin Energy

Well Name: Yolla 3
Test Type: Flowing Survey

Test Zone: 2973 Sands
Date of Survey: 26-27th September 2004

MEMORY GAUGE REPORT

Prepared For: Andrew Wenk
Date: 28th September 2004

David Whelan
Completion Products & Services
Halliburton Australia Pty Ltd

HALLIBURTON

Halliburton Australia Pty Ltd

MEMORY GAUGE FLOWING PRESSURE AND
TEMPERATURE SURVEY

MEMORY GAUGE TICKET NO:	35412
DATE:	27-Sep-04
HALLIBURTON CAMP:	Cheltenham, Victoria
HALLIBURTON OPERATOR:	David Whelan
WITNESS:	N/A
COMPANY:	Origin
DRILLING CONTRACTOR:	Ensco
LEASE NAME:	YOLLA
WELL NO:	YOLLA-3
TEST TYPE:	Flowing Survey
TEST NO:	1
TESTED ZONE:	2973 Sands
FIELD AREA:	Bass Strait
STATE:	Victoria
COUNTRY:	Australia

NOTICE: THIS REPORT IS BASED ON SOUND ENGINEERING PRACTICES, BUT BECAUSE OF VARIABLE WELL CONDITIONS AND OTHER INFORMATION WHICH MUST BE RELIED UPON HALLIBURTON MAKES NO WARRANTY, EXPRESS OR IMPLIED AS TO THE ACCURACY OF THE DATA OR OF ANY CALCULATIONS OR OPINIONS EXPRESSED HEREIN. YOU AGREE THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER DUE TO NEGLIGENCE OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH SUCH DATA, CALCULATIONS OR OPINIONS.

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SECTION 1

TEST SUMMARY & JOB INFORMATION

WELL DATA

Well Details

Well Name	Yolla - 3	
Field	Yolla	
Platfrom	Yolla A	
Derrick Floor Elevation	81	m AMSL
Top Bottom Flange	27.07	m MDRT

Completion

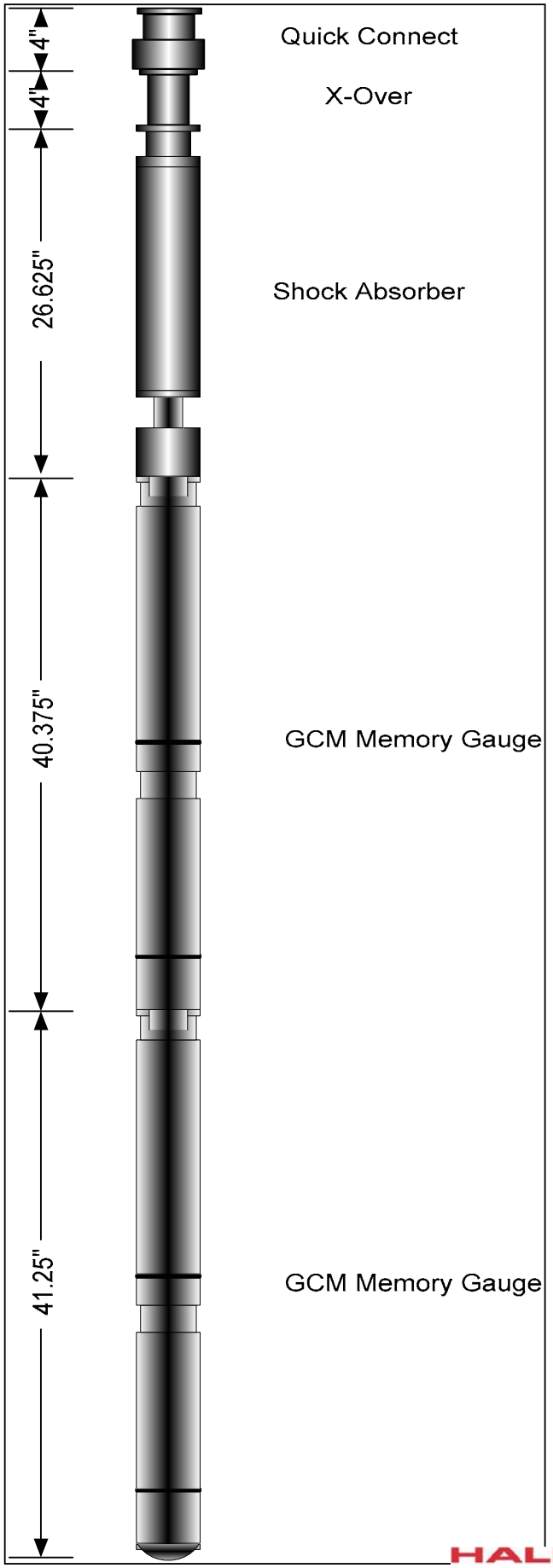
Measured m (MDRT)	**Description**
27.07	Tubing Hanger
173.47	TRSV
2191.30	5 1/2" PBR
2191.30	4 1/2" Halliburton SSD x 3.813" XD
2202.45	Packer - AHC 9 5/8"
2230.59	4 1/2" Halliburton SSD x 3.813" XD
3161.24	4 1/2" Halliburton SSD x 3.813" XD
3164.48	Packer - AHR 6 5/8"
3200.91	4 1/2" Halliburton SSD x 3.688" RD
3204.14	6 5/8" AHR Packer
3256.00	4 1/2" Halliburton SSD x 3.688" RD
3257.97	7" MWR Packer
3272.85	4 1/2" Halliburton SSD x 3.688" RD
3287.32	4 1/2" Halliburton 3.688" RN Nipple
3289.89	EOT

SURVEY EVENTS

Client	:Origin Energy	**Operator**	:David Whelan
Field	:Yolla	**Survey Date**	:26-27th September 2004
Platform	:Yolla A	**Well**	:Yolla - 3

Event	Time	Description
1	16:30:48	Start top gauge 7703
2	16:35:13	Start bottom gauge 7700
3	18:40:00	Add gauges to tools string and stab lubricator
4	19:02:00	Pressure test lubricator
5	19:31:00	Bleed lubricator pressure to 1800 psi
6	19:37:00	Increase lubricator pressure to 3200 psi
7	19:50:00	Open well
8	20:00:00	Run in hole with gauges THP 3169 psiA
9	20:30:00	Unable to run in hole with gauges shut in well
10	21:50:00	Add 5ft stem to tool string
11	22:03:00	Open well monitor thp with gauges
12	22:10:00	Run in hole with gauges THP 3159 psiA
13	23:01:53	Gauges on depth 3422 mtrs MDKB THP 3158 psiA
14	23:23:00	Open well on 16/64 choke thp
15	23:26:00	Increase choke to 20/64
16	23:30:00	Increase choke to 24/64 THP 2979 psiA
17	23:51:00	Increase choke to 28/64
18	0:16:00	Increase choke to 32/64 THP 2167 psiA
19	0:25:00	Increase choke to 36/64 THP 2006 psiA
20	0:57:00	Increase choke to 40/64 THP 1537 psiA
21	1:02:00	Increase choke to 44/64
22	1:04:00	Water to surface
23	1:06:00	Increase choke to 48/64
24	1:31:00	Decrease choke to 44/64 THP 958 psiA
25	1:36:00	Decrease choke to 40/64
26	2:45:00	Increase choke to 44/64 THP 987 psiA
27	2:51:00	Increase choke to 48/64
28	3:33:00	Increase choke to 50/64 THP 746 psiA
29	4:46:00	Decrease choke to 48/64 THP 617 psiA
30	5:30:00	Decrease choke to 44/64 THP 713 psiA
31	5:46:00	Increase choke to 48/64 THP 774 psiA
32	6:31:00	Decrease choke to 44/64 THP 722 psiA
33	6:46:00	Increase choke to 48/64 THP 768 psiA
34	7:31:00	Switch to 48/64 fixed choke THP 3169 psiA
35	8:19:00	Increase seperator pressure
36	15:31:00	Shut in well at choke manifold POOH Gauges THP 689 psiA
37	16:17:00	Out of hole monitor THP
38	16:25:00	Shut in well
39	16:39:00	Depressure lubricator
40	16:43:00	Lift lubricator and remove gauges
41	17:15:08	Stop bottom gauge
42	17:18:33	Stop top gauge

FLOWING SURVEY TOOL STRING



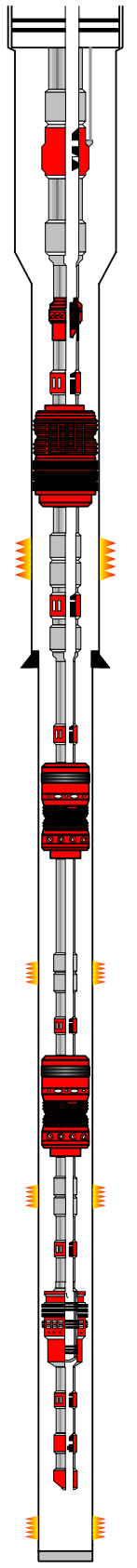
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Completion Schematic

Origin energy

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WELL :	Yolla 3	*Pick up Wt -*	*340k*
DATE :	24-Sep-04	*Slack off Wt -*	255k
RIG :	Ensco 102	*Block Wt -*	84k
		RKB	**27.07**



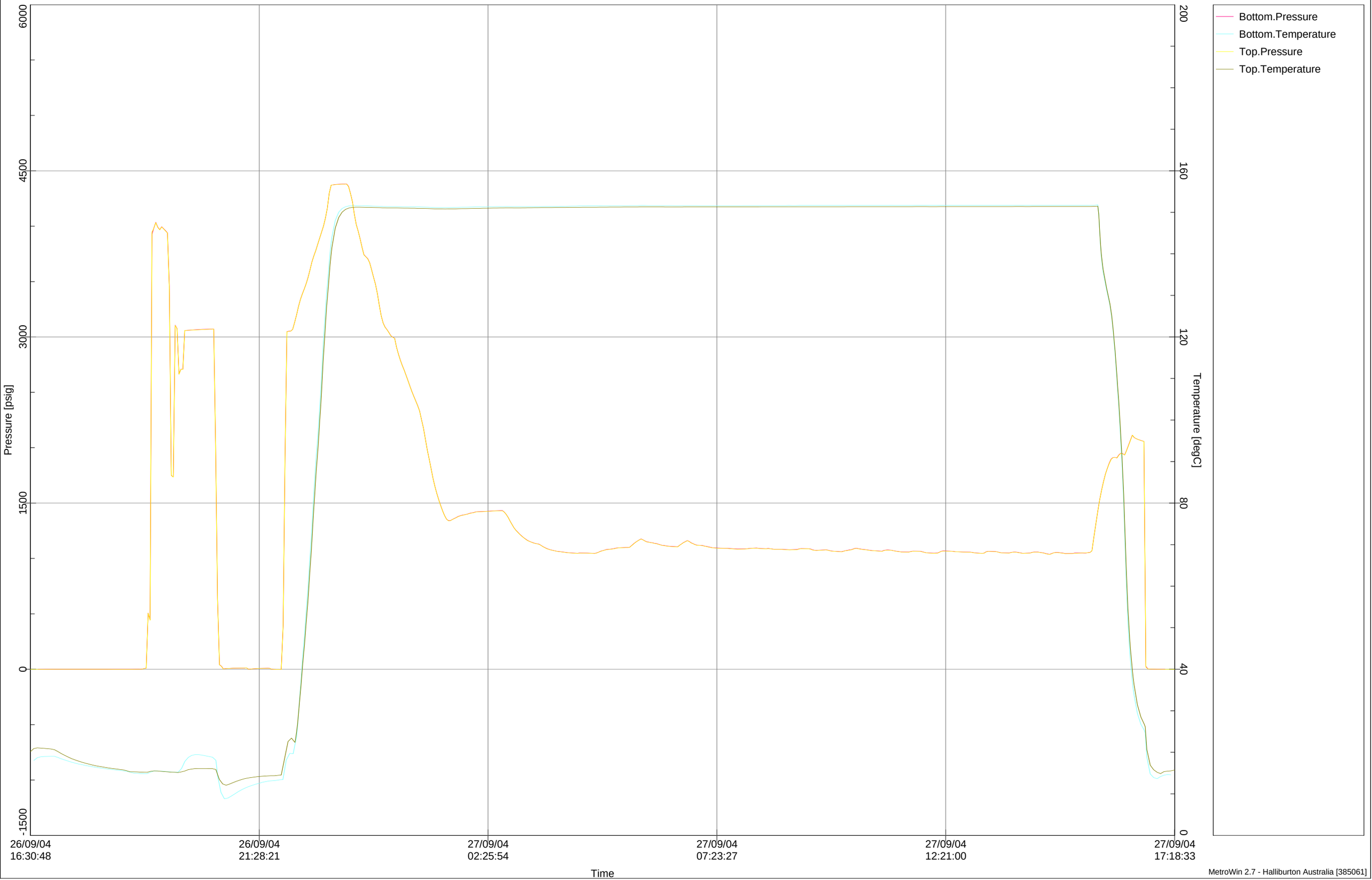
Depth m	Length	No.	Item	DESCRIPTION	O.D.	I.D.
	27.070			Rig Elevation		
27.07	0.280		**1**	Tubing Hanger (Cameron)	13.625	5.963
27.35	1.610			Hanger Pup Joint 7"K-Fox, 26#/ft P x P 13Cr 1mtr	7.000	6.276
28.96	12.882	1	**2**	**7" 29ppf 13Cr80 K-Fox tubing**	7.000	6.184
41.84	8.266			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 4mtr	7.000	6.276
50.11	105.302	11		7" 26ppf 13Cr80 K-Fox tubing	7.000	6.276
155.41	12.766	1	**3**	**7" 29ppf 13Cr80 K-Fox tubing**	7.000	6.184
168.18	3.870			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 2mtr	7.000	6.276
172.05	1.420		**4**	Flow Coupling -7" K-Fox B x P 13Cr	7.676	6.246
173.47	3.350		**5**	**TRSSSV-SP -7"-26# K-Fox B x P 13Cr (RPT)**	9.350	5.875
176.82	1.880			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 2mtr	7.000	6.276
178.70	2001.070	210		7" 26ppf 13Cr80 K-Fox tubing	7.000	6.276
2179.77	1.100			Difference B/N tubing and WL		
2180.87	3.870			Pup Joint, 7" K Fox. 26#/ft BxP 13Cr 4 Mtr	7.000	6.276
2184.74	1.420		**6**	**Flow Coupling -7" K-Fox B x P 13Cr**	7.676	6.246
2186.16	0.490		**7**	**Crossover -7"-26# K-Fox B x 5" K-Fox P 13Cr**	7.676	4.408
2186.65	1.880			Pup Joint, 5" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2188.53	1.880			Pup Joint, 5" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2190.41	0.340		**8**	**Crossover -5"-15# K-Fox B x 5 1/2"-17# NK#SB P 13Cr**	5.570	4.433
2190.75	0.220		**9**	Locator Seal Assy -5 1/2"-17# NK3SB B 13Cr	7.623	4.860
2190.97	0.336			**Extention setting of PBR**		
2191.30	3.810		**10**	Polished Bore Receptacle -5 1/2"-17# NK3SB P 13Cr	8.300	4.872
2195.11	0.340		**11**	**Crossover - 5 1/2"-17# NK3SB b x 5" - 15# K-Fox P 13Cr**	6.063	4.406
2195.45	1.880			Pup Joint, 5 1/2" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2197.33	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2199.22	1.340		**12**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
2200.56	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2202.45	2.510		**13**	**Packer-AHC 9 5/8"-43.5-53.5# - 5"-15# Fox B x P 13Cr**	8.300	4.340
2204.96	1.880			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2206.84	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2208.73	9.040		**14**	**Blast Joint - 5-15#" K-Fox B x P 13Cr**	5.583	4.337
2217.77	9.040		**14**	**Blast Joint - 5-15#" K-Fox B x P 13Cr**	5.583	4.337
2226.81	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2228.70	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2230.59	1.340		**15**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
2231.93	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2233.82	910.080	95		5" 15ppf 13Cr80 K-Fox tubing	5.000	4.408
3143.90	7.933	5		Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3151.84	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3153.73	1.440		**16**	**Flow Coupling - 5-15#" K-Fox B x P 13Cr**	5.583	4.388
3155.17	0.390		**17**	**Crossover -5"-18# K-Fox B x 4 1/2" K-Fox P 13Cr**	5.583	3.965
3155.56	3.790			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3159.35	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3161.24	1.350		**18**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
3162.59	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3164.48	1.740		**19**	**Packer-AHR 6 5/8"-24# - 4 1/2"-11.6# K-Fox B x P 13Cr**	5.720	3.920
3166.22	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3168.11	9.047	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3177.15	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3179.04	9.050		**20**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3188.09	9.040		**20**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3197.13	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3199.02	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3200.91	1.340		**21**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.600	3.813
3202.25	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3204.14	1.740		**22**	**Packer-AHR 6 5/8"-24# - 4 1/2"-11.6# K-Fox B x P 13Cr**	5.720	3.920
3205.88	0.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3206.77	9.397	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3216.17	7.782	2		Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 4 Mtr	4.500	4.000
3223.95	9.460	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3233.41	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3235.30	9.030		**23**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3244.33	9.040		**24**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3253.37	1.850			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3255.22	0.780			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3256.00	1.340		**25**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.600	3.813
3257.34	0.635			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3257.98	0.460		**26**	Seal Unit - 4 1/2" - 11.6# K-Fox Special 13Cr	4.500	4.000
3258.44	-0.470			Seal Overlap		
3257.97	1.420		**27**	**Packer-MWR 7"-32-38.5# - 5"-18# New Vam P 13Cr**	5.687	4.000
3259.39	0.270		**28**	**Crossover - 5"-18# New Vam P x 4 1/2" K Fox P 13 Cr**	5.035	3.965
3259.66	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3261.55	9.411	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3270.96	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3272.85	1.340		**29**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.570	3.688
3274.19	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3276.08	9.348	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3285.43	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3287.32	0.440		**30**	**Nipple-RN - 4 1/2" - 11.6# K-Fox B x P INC**	4.882	3.456
3287.76	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3289.65	0.240		**31**	Coupling - 4 1/2" K Fox (Cut to Muleshoe)	4.874	
3289.89				**End Of Tubing**		

SECTION 2

PLOTS

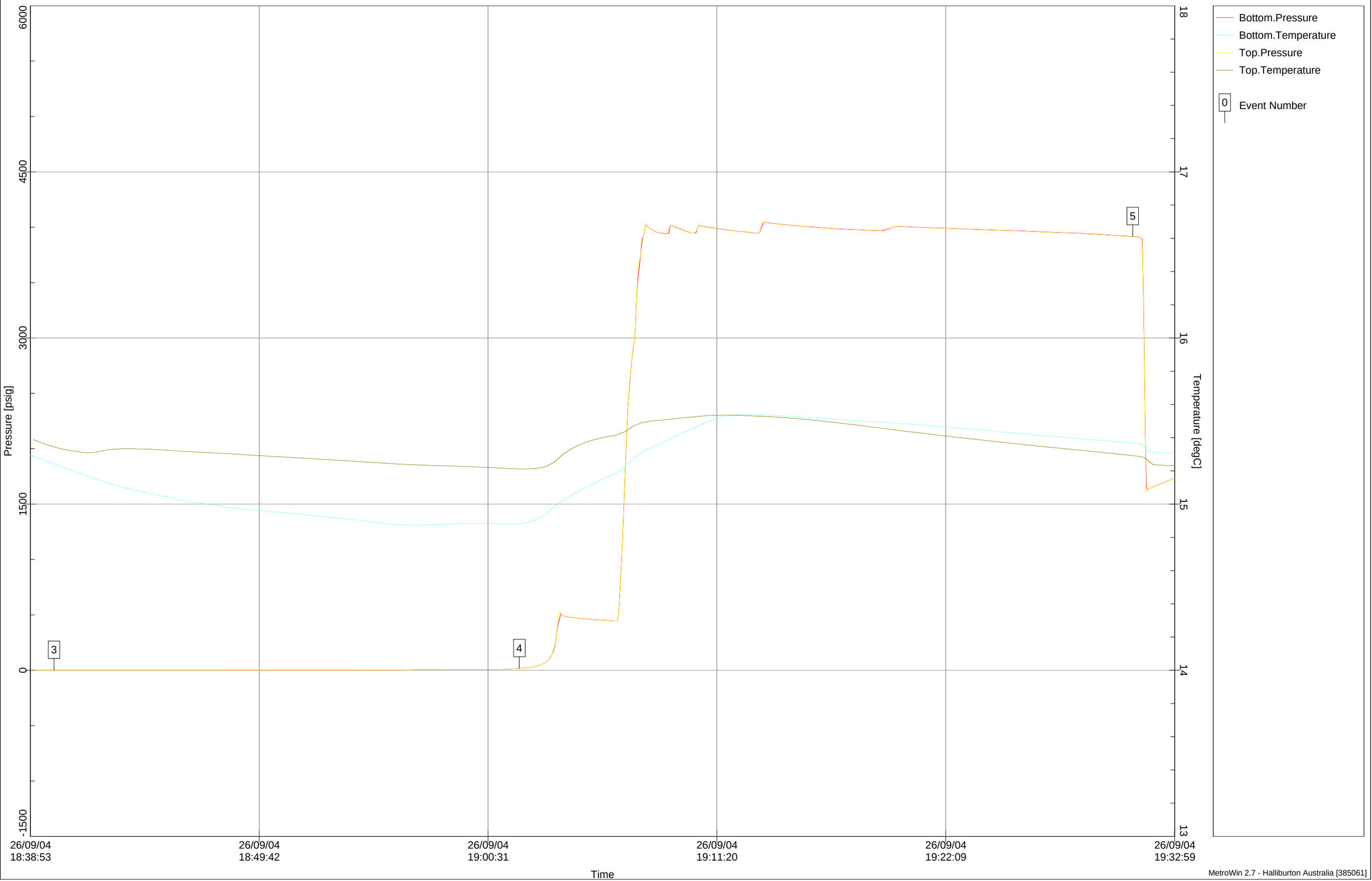
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Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Complete Plot



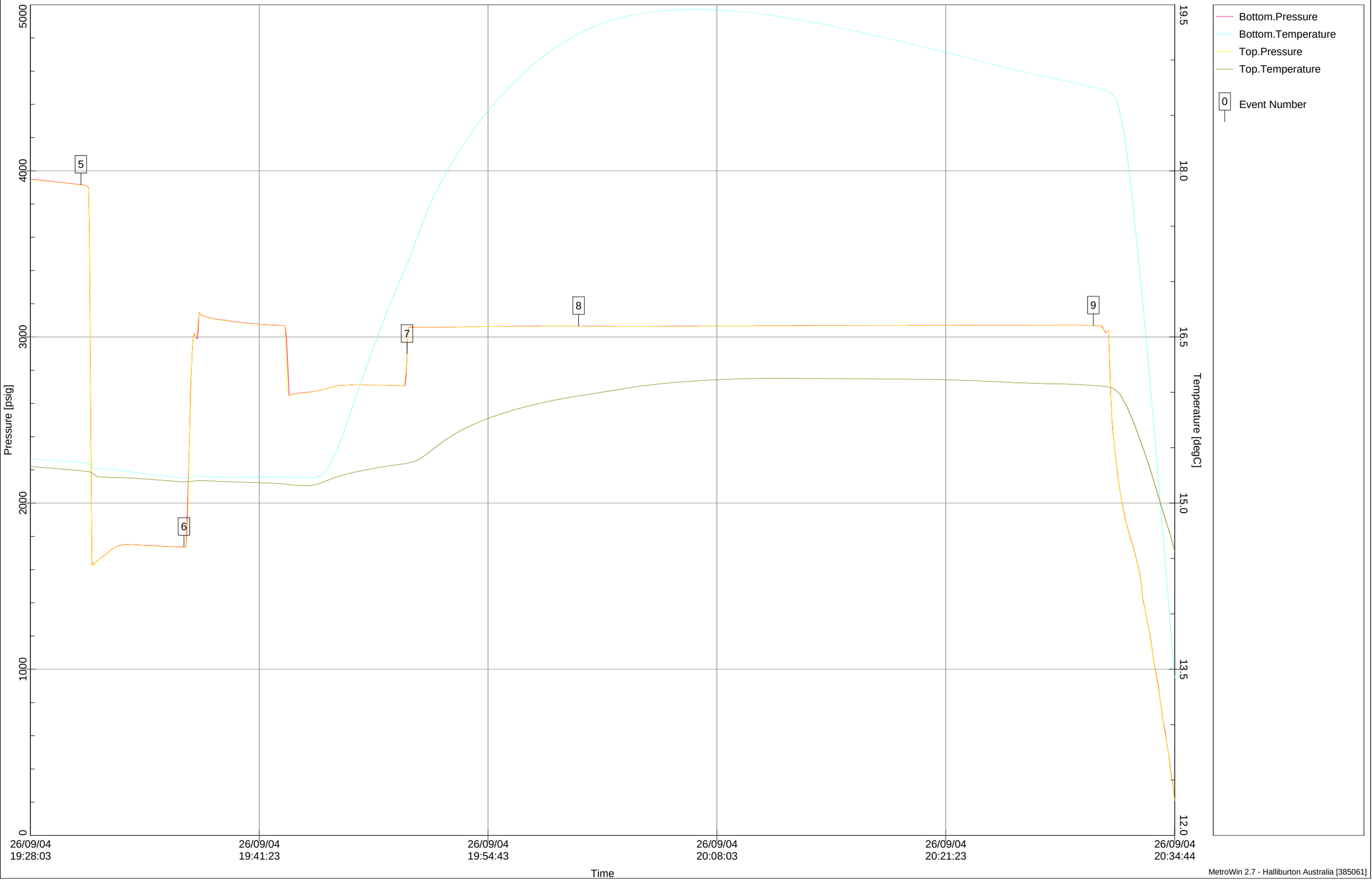
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Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 3-5



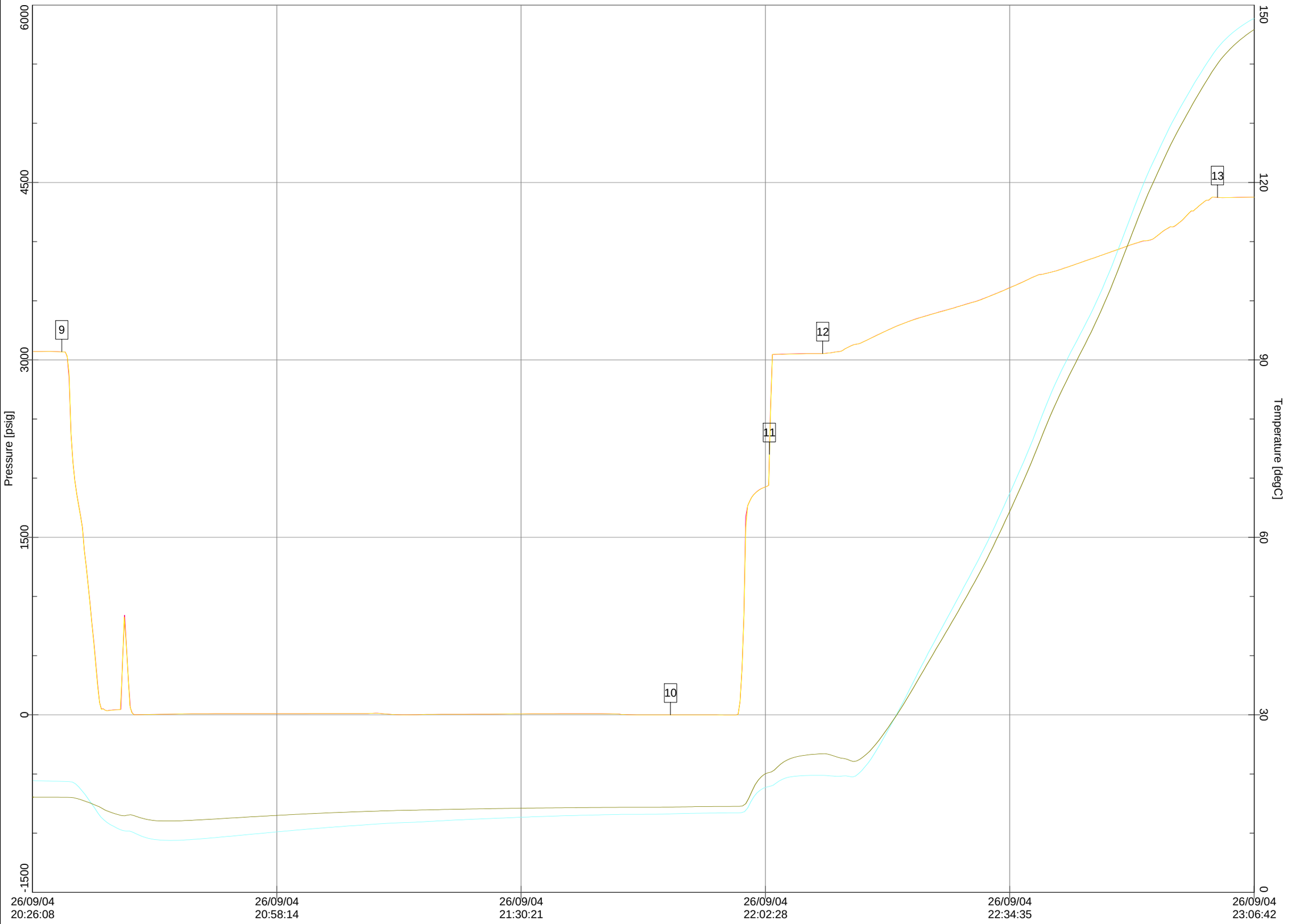
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Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 5-9



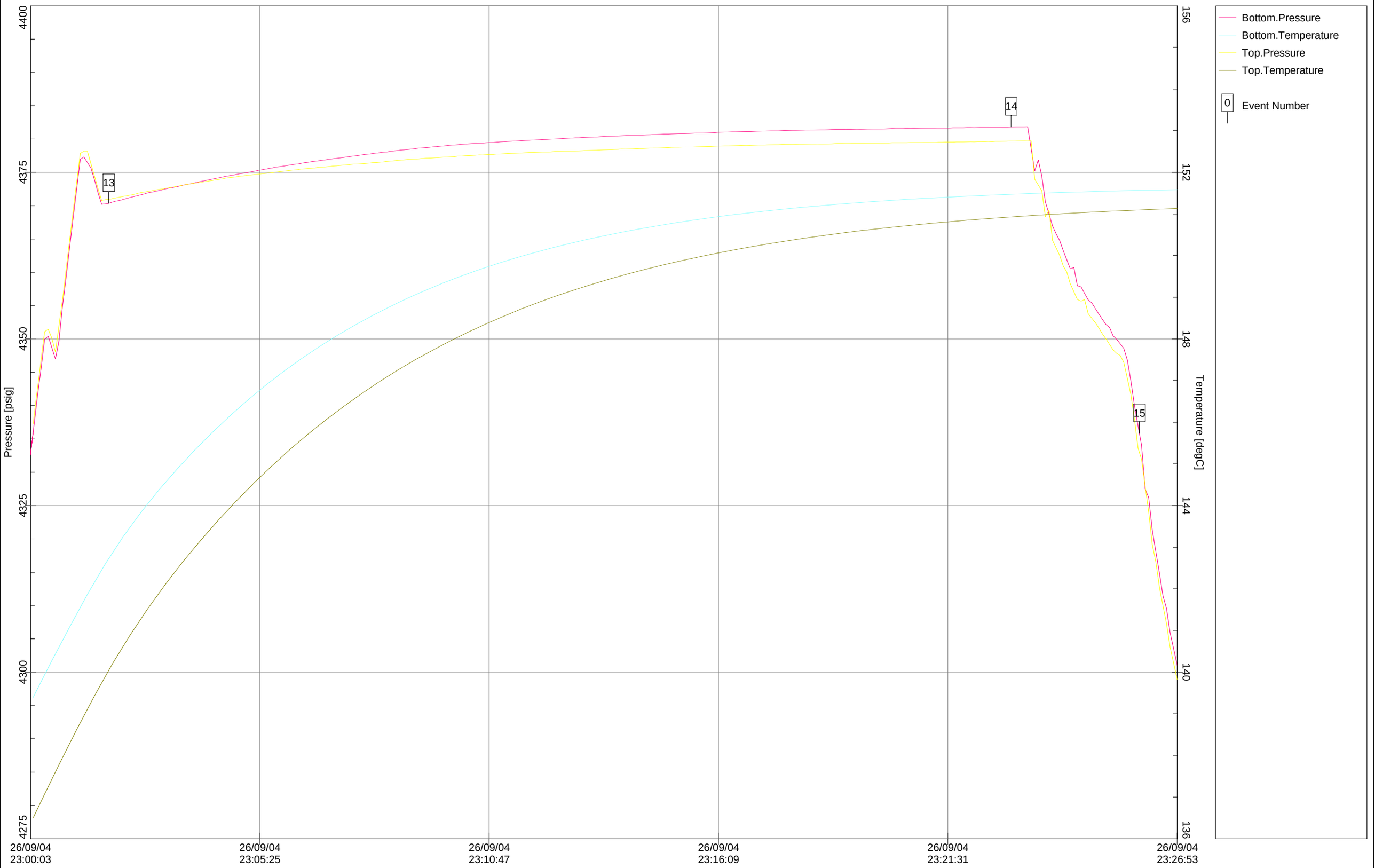
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 9-13



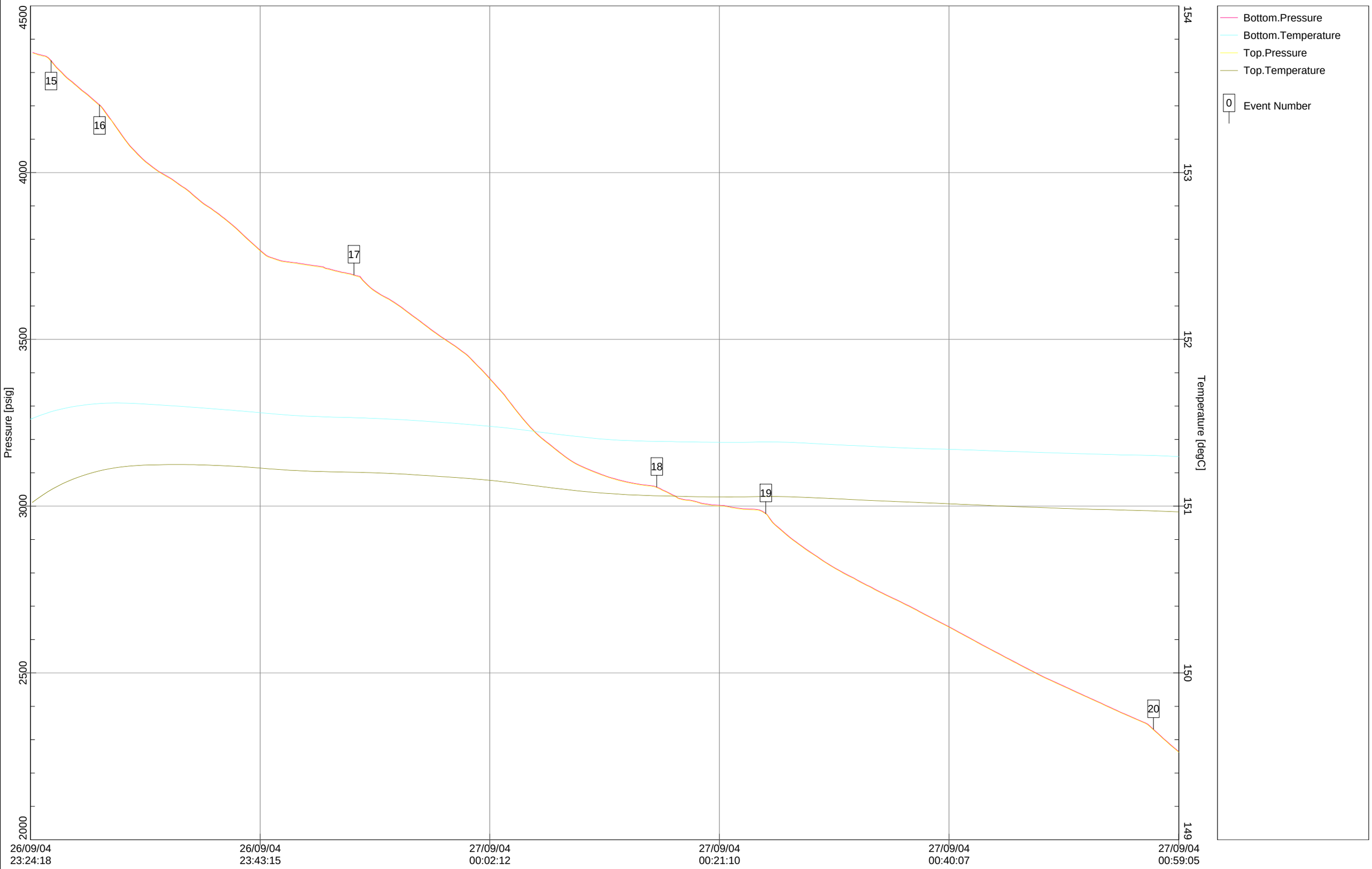
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 13-15



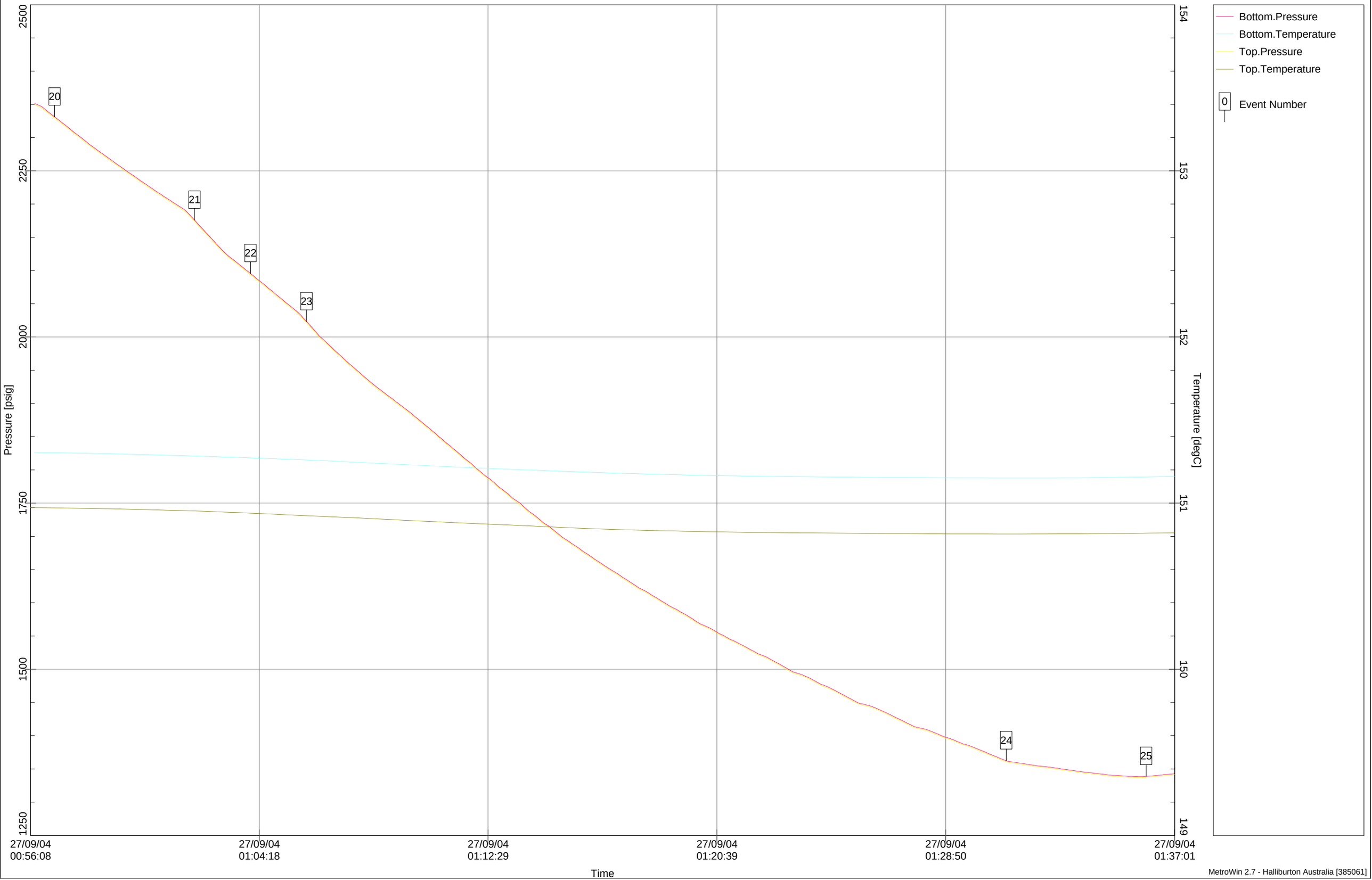
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 15-20



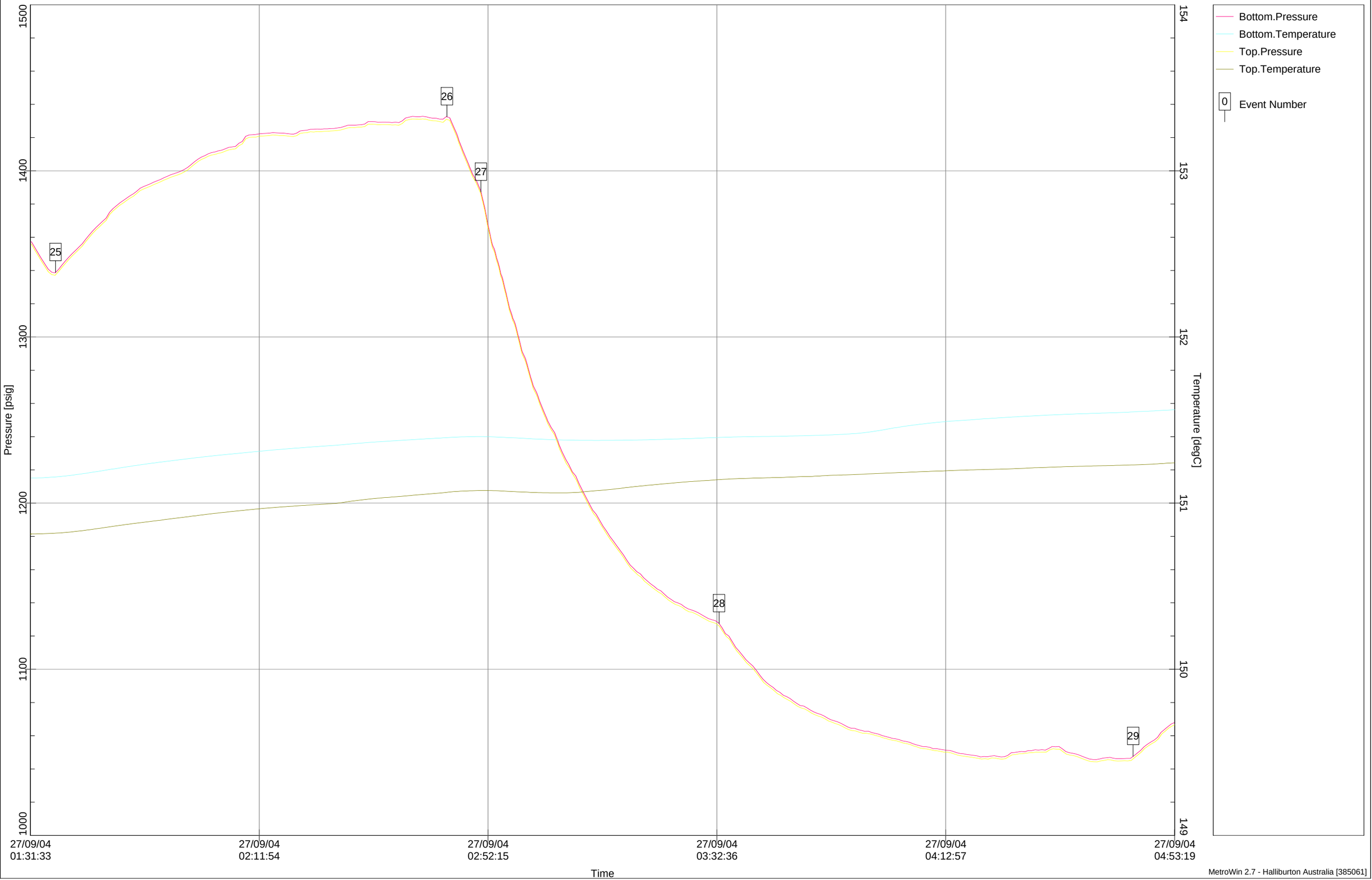
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 20-25



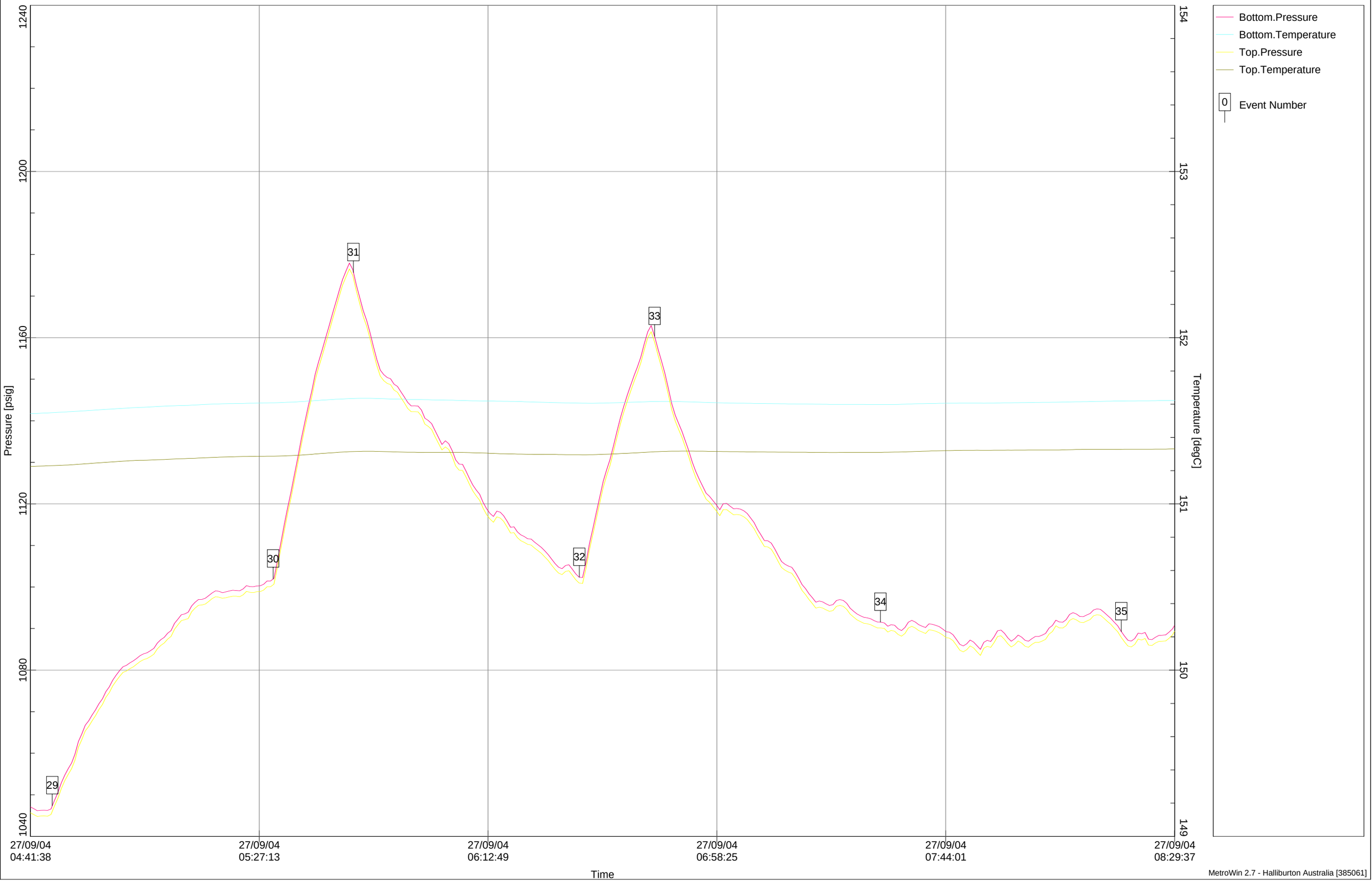
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 25-29



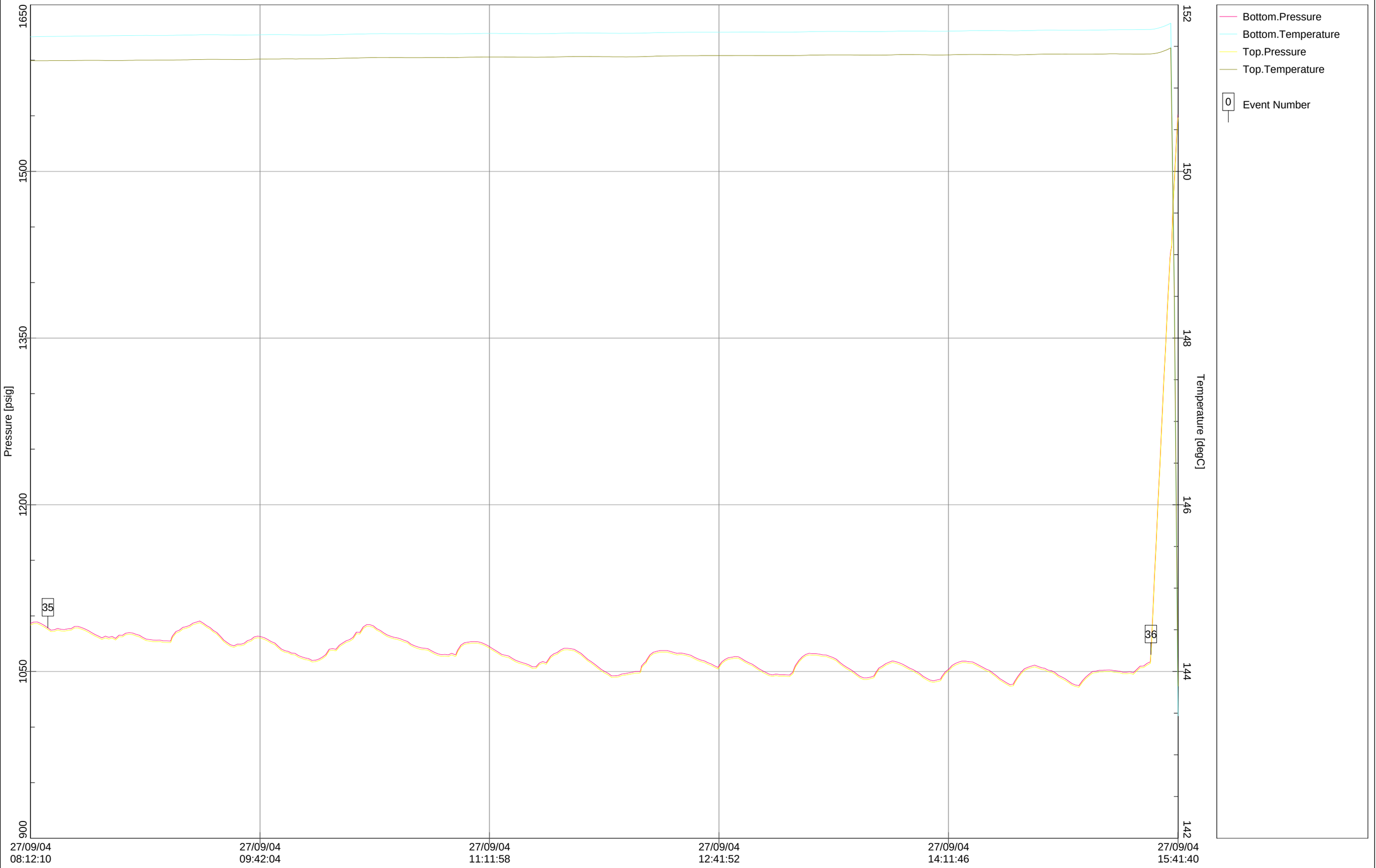
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Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 29-35



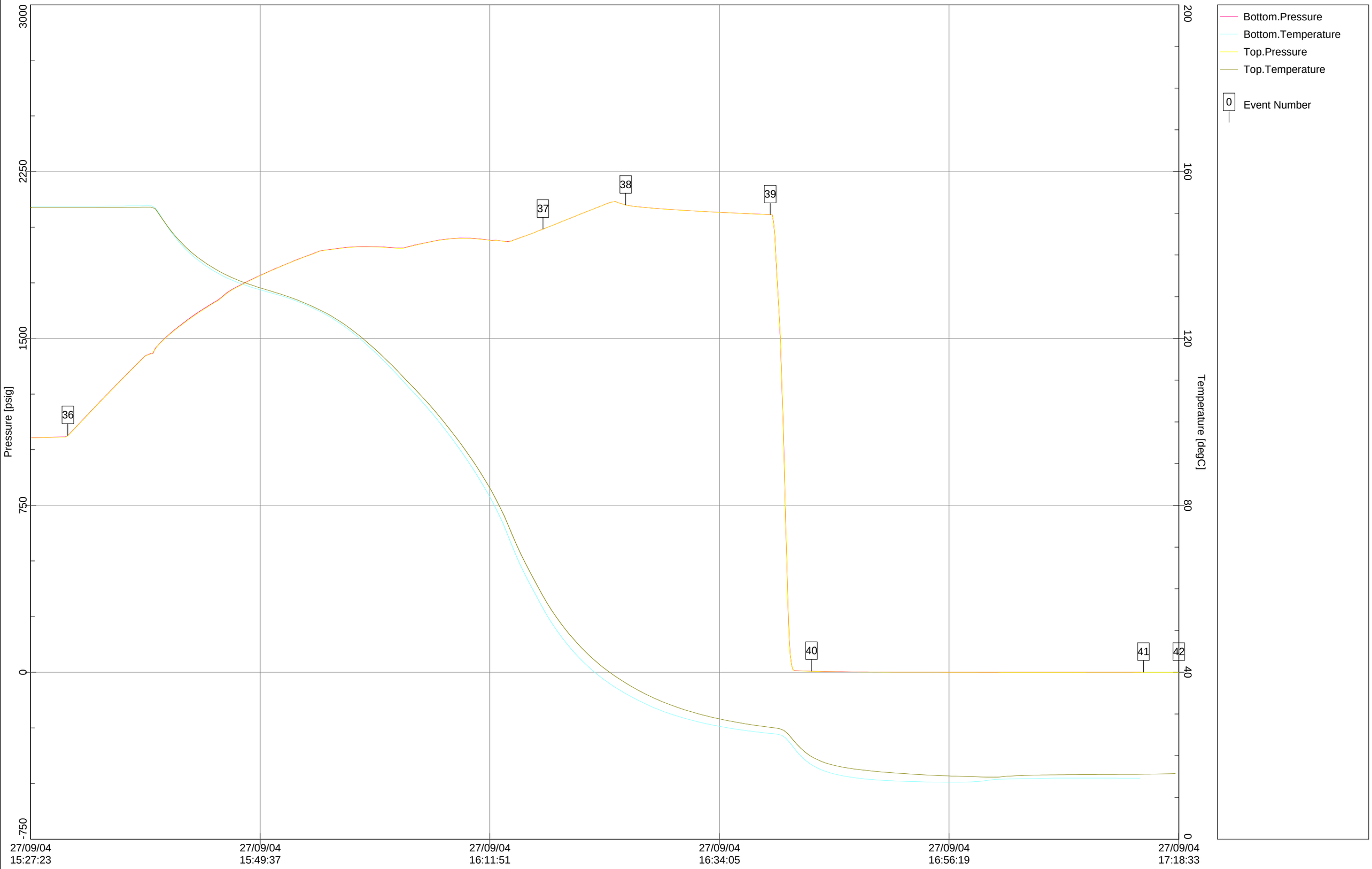
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 35-36



Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2973 Sands
Operator :David Whelan
Events 36-42



SECTION 3

DATA

SURVEY DATA

Client	:Origin Energy	Operator	:David Whelan
Field	:Yolla	Date	:26-27th September 2004
Platform	:Yolla A		
Well	:Yolla - 3		

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
1	16:30:48	-0.61	20.18			Start top gauge 7703
	16:30:48	-0.61	20.18			
	16:32:48	-1	20.56			
	16:34:48	-0.88	20.88			
2	16:35:13	-0.09	18.04	-0.86	20.93	Start bottom gauge 7700
	16:36:48	-0.25	18.3	-0.74	21.03	
	16:38:48	-0.26	18.61	-0.57	21.08	
	16:40:48	-0.15	18.8	-0.46	21.08	
	16:42:48	-0.06	18.9	-0.4	21.06	
	16:44:48	-0.01	18.96	-0.35	21.03	
	16:46:48	0.03	19	-0.32	21	
	16:48:48	0.06	19.01	-0.31	20.96	
	16:50:48	0.08	19.02	-0.28	20.93	
	16:52:48	0.1	19.02	-0.27	20.89	
	16:54:48	0.09	19.02	-0.28	20.86	
	16:56:48	0.05	19.04	-0.04	20.82	
	16:58:48	-0.08	19.11	-0.02	20.83	
	17:00:48	0.18	19.12	0.01	20.73	
	17:02:48	0.24	19.02	0.16	20.57	
	17:04:48	0.27	18.89	0.22	20.39	
	17:06:48	0.28	18.75	0.27	20.17	
	17:08:48	0.29	18.61	0.29	19.94	
	17:10:48	0.29	18.47	0.28	19.73	
	17:12:48	0.29	18.34	0.27	19.53	
	17:14:48	0.3	18.21	0.29	19.34	
	17:16:48	0.31	18.08	0.28	19.15	
	17:18:48	0.29	17.96	0.28	18.97	
	17:20:48	0.29	17.84	0.27	18.79	
	17:22:48	0.28	17.73	0.26	18.63	
	17:24:48	0.28	17.63	0.25	18.48	
	17:26:48	0.27	17.53	0.24	18.33	
	17:28:48	0.26	17.43	0.22	18.19	
	17:30:48	0.25	17.34	0.22	18.05	
	17:32:48	0.25	17.25	0.21	17.92	
	17:34:48	0.24	17.16	0.19	17.8	
	17:36:48	0.24	17.08	0.17	17.69	
	17:38:48	0.24	17	0.16	17.58	
	17:40:48	0.24	16.92	0.17	17.48	
	17:42:48	0.23	16.85	0.15	17.37	
	17:44:48	0.23	16.78	0.14	17.28	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	17:46:48	0.23	16.71	0.13	17.18	
	17:48:48	0.23	16.64	0.12	17.09	
	17:50:48	0.23	16.57	0.12	17	
	17:52:48	0.22	16.5	0.1	16.92	
	17:54:48	0.21	16.44	0.08	16.84	
	17:56:48	0.21	16.38	0.08	16.76	
	17:58:48	0.21	16.32	0.07	16.69	
	18:00:48	0.21	16.27	0.06	16.61	
	18:02:48	0.2	16.21	0.06	16.54	
	18:04:48	0.19	16.16	0.03	16.48	
	18:06:48	0.2	16.11	0.04	16.42	
	18:08:48	0.2	16.06	0.03	16.36	
	18:10:48	0.2	16.01	0.01	16.3	
	18:12:48	0.18	15.96	0.01	16.24	
	18:14:48	0.19	15.91	0	16.19	
	18:16:48	0.18	15.87	-0.01	16.14	
	18:18:48	0.18	15.82	-0.01	16.08	
	18:20:48	0.18	15.78	-0.02	16.03	
	18:22:48	0.18	15.74	-0.02	15.98	
	18:24:48	0.17	15.69	-0.03	15.94	
	18:26:48	0.18	15.65	-0.04	15.89	
	18:28:48	0.17	15.61	-0.04	15.84	
	18:30:48	0.16	15.57	-0.04	15.8	
	18:32:48	0.17	15.53	-0.06	15.75	
	18:34:48	0.18	15.47	-0.04	15.67	
	18:36:48	0.2	15.39	-0.08	15.52	
	18:38:48	0.21	15.3	-0.13	15.4	
3	18:40:00	0.18	15.24	-0.18	15.34	Add gauges to tools string and stab lubricator
	18:40:48	0.22	15.2	-0.11	15.32	
	18:42:48	0.12	15.12	-0.36	15.33	
	18:44:48	0.09	15.06	-0.35	15.33	
	18:46:48	0.06	15.01	-0.36	15.31	
	18:48:48	1.23	14.97	0.82	15.3	
	18:50:48	1.22	14.95	0.83	15.28	
	18:52:48	1.23	14.92	0.83	15.27	
	18:54:48	0.21	14.9	-0.19	15.25	
	18:56:48	4.02	14.87	3.56	15.24	
	18:58:48	7.28	14.88	6.93	15.23	
	19:00:48	7.19	14.88	6.82	15.22	
4	19:02:00	15.81	14.88	15.6	15.21	Pressure test lubricator
	19:02:48	36.43	14.91	36.7	15.22	
	19:04:48	470.19	15.08	468.62	15.35	
	19:06:48	866.55	15.2	832.99	15.43	
	19:08:48	3946.96	15.37	3944.45	15.51	
	19:10:48	4004.93	15.49	4002.6	15.53	
	19:12:48	3955.25	15.54	3952.89	15.53	
	19:14:48	4019.23	15.53	4016.87	15.52	
	19:16:48	3988.16	15.51	3985.79	15.49	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	19:18:48	3970.57	15.5	3968.28	15.46	
	19:20:48	4000.35	15.48	3998.05	15.43	
	19:22:48	3986.29	15.46	3983.97	15.4	
	19:24:48	3972.44	15.44	3970.12	15.37	
	19:26:48	3957.76	15.41	3955.43	15.35	
	19:28:48	3941.58	15.39	3939.25	15.32	
	19:30:48	3919.21	15.37	3916.87	15.3	
5	19:31:00	3916.6	15.37	3914.26	15.29	Bleed lubricator pressure
	19:32:48	1721.81	15.31	1719.98	15.23	
	19:34:48	1745.63	15.26	1744.01	15.22	
	19:36:48	1736.67	15.23	1735.04	15.19	
6	19:37:00	1736.4	15.23	1734.78	15.19	Increase lubricator pressure
	19:38:48	3109.04	15.24	3106.95	15.2	
	19:40:48	3082.4	15.23	3080.32	15.19	
	19:42:48	3069.23	15.24	3067.28	15.17	
	19:44:48	2676.39	15.24	2675.11	15.17	
	19:46:48	2711.35	15.86	2710.67	15.27	
	19:48:48	2708.6	16.71	2708	15.33	
7	19:50:00	2897.69	17.15	2910.63	15.36	Open well
	19:50:48	3058.83	17.49	3058.34	15.4	
	19:52:48	3059.53	18.12	3058.84	15.63	
	19:54:48	3063.65	18.55	3062.87	15.77	
	19:56:48	3065.04	18.88	3064.23	15.87	
	19:58:48	3065.92	19.13	3065.13	15.94	
8	20:00:00	3065.6	19.24	3064.81	15.97	Run in hole with gauges THP 3169 psiA
	20:00:48	3065.16	19.29	3064.32	15.99	
	20:02:48	3063.93	19.39	3063.01	16.04	
	20:04:48	3064.48	19.44	3063.53	16.08	
	20:06:48	3065.53	19.46	3064.55	16.1	
	20:08:48	3066.5	19.45	3065.52	16.12	
	20:10:48	3067.19	19.41	3066.19	16.13	
	20:12:48	3067.81	19.36	3066.77	16.13	
	20:14:48	3068.43	19.31	3067.4	16.12	
	20:16:48	3069.2	19.24	3068.18	16.12	
	20:18:48	3069.87	19.17	3068.9	16.12	
	20:20:48	3070.25	19.09	3069.34	16.12	
	20:22:48	3070.66	19.01	3069.78	16.11	
	20:24:48	3071.16	18.94	3070.3	16.09	
	20:26:48	3071.54	18.86	3070.61	16.08	
	20:28:48	3071.84	18.8	3070.97	16.07	
9	20:30:00	3068.51	18.75	3067.65	16.06	Unable to run in hole with gauges shut in well
	20:30:48	3033.62	18.72	3032.97	16.05	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	20:32:48	1497.6	16.92	1489.98	15.54	
	20:34:48	174.73	13.31	168.66	14.53	
	20:36:48	41.95	11.16	40.59	13.36	
	20:38:48	199.92	10.35	194.8	13.08	
	20:40:48	2.64	9.34	1.99	12.44	
	20:42:48	4.9	8.85	4.51	12.08	
	20:44:48	6.86	8.78	6.65	12.06	
	20:46:48	9.6	8.9	9.51	12.15	
	20:48:48	9.58	9.1	9.57	12.29	
	20:50:48	9.68	9.32	9.69	12.45	
	20:52:48	9.8	9.56	9.82	12.6	
	20:54:48	9.94	9.8	9.99	12.76	
	20:56:48	10.11	10.05	10.14	12.91	
	20:58:48	10.27	10.28	10.29	13.05	
	21:00:48	10.4	10.51	10.4	13.18	
	21:02:48	10.54	10.73	10.53	13.3	
	21:04:48	10.68	10.94	10.65	13.41	
	21:06:48	10.81	11.13	10.77	13.52	
	21:08:48	10.92	11.32	10.86	13.62	
	21:10:48	11.43	11.49	11.77	13.71	
	21:12:48	6.29	11.67	6.18	13.79	
	21:14:48	0	11.77	-0.16	13.85	
	21:16:48	1.24	11.88	0.95	13.9	
	21:18:48	4.28	12.02	4.17	13.96	
	21:20:48	4.68	12.16	4.55	14.02	
	21:22:48	5.03	12.28	4.88	14.07	
	21:24:48	5.45	12.4	5.3	14.12	
	21:26:48	6.17	12.5	6	14.16	
	21:28:48	7.74	12.61	7.56	14.19	
	21:30:48	8.79	12.71	8.62	14.23	
	21:32:48	9.21	12.81	9.01	14.26	
	21:34:48	9.37	12.89	9.16	14.28	
	21:36:48	9.64	12.97	9.42	14.31	
	21:38:48	9.66	13.04	9.42	14.33	
	21:40:48	9.67	13.1	9.42	14.35	
	21:42:48	8.59	13.15	8.32	14.37	
	21:44:48	0.16	13.18	-0.16	14.38	
	21:46:48	-0.25	13.18	-0.56	14.38	
	21:48:48	-0.29	13.21	-0.58	14.39	
10	21:50:00	-0.3	13.26	-0.61	14.41	Add 5ft stem to tool string
	21:50:48	-0.31	13.29	-0.65	14.43	
	21:52:48	-0.28	13.35	-0.64	14.47	
	21:54:48	-0.26	13.39	-0.63	14.5	
	21:56:48	-1.72	13.42	-2.09	14.52	
	21:58:48	-1.62	13.44	-1.99	14.53	
	22:00:48	1850.91	15.84	1849.82	17.36	
	22:02:48	1933.62	17.84	1932.98	20.2	
11	22:03:00	2068.92	17.89	2082.37	20.27	Open well monitor thp with gauges

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	22:04:48	3049.94	19.16	3047.94	21.98	
	22:06:48	3052.31	19.68	3050.46	22.98	
	22:08:48	3053.51	19.78	3052.08	23.33	
12	22:10:00	3053.55	19.78	3052.19	23.42	Run in hole with gauges THP 3159 psiA
	22:10:48	3058.54	19.72	3057.86	23.31	
	22:12:48	3086.42	19.69	3086.77	22.63	
	22:14:48	3137.41	20.17	3137.17	22.44	
	22:16:48	3198.22	23.45	3197.83	24.77	
	22:18:48	3259.35	27.93	3258.53	28.23	
	22:20:48	3313.55	32.72	3312.38	32.16	
	22:22:48	3357.88	37.8	3356.42	36.52	
	22:24:48	3395.86	42.68	3394.2	40.9	
	22:26:48	3432	47.39	3430.24	45.26	
	22:28:48	3470.61	52.18	3468.82	49.77	
	22:30:48	3510.23	57.07	3508.44	54.43	
	22:32:48	3561.27	62.39	3559.89	59.54	
	22:34:48	3616.49	68.07	3615.15	65.02	
	22:36:48	3674.43	73.98	3673.24	70.78	
	22:38:48	3723.17	80.5	3722.2	77.08	
	22:40:48	3755.2	86.6	3754.3	83.11	
	22:42:48	3798.88	91.8	3798.13	88.41	
	22:44:48	3843.82	96.73	3843.3	93.47	
	22:46:48	3888.41	102.2	3888.24	98.95	
	22:48:48	3933.45	108.55	3934.05	105.17	
	22:50:48	3978.91	115.31	3980.1	111.79	
	22:52:48	4009.82	121.67	4011.08	118.17	
	22:54:48	4091.26	127.2	4092.37	123.83	
	22:56:48	4157.17	132.22	4158.54	129	
	22:58:48	4263.48	136.67	4264.54	133.64	
	23:00:48	4354.95	140.76	4355.92	137.95	
13	23:01:53	4370.36	142.73	4370.93	140.04	Gauges on depth 3422 mtrs THP 3158 psiA
	23:02:48	4371.93	144.05	4372.08	141.53	
	23:04:48	4374.61	146.23	4374.27	144.04	
	23:06:48	4376.73	147.81	4375.74	145.92	
	23:08:48	4378.38	148.94	4376.87	147.35	
	23:10:48	4379.46	149.75	4377.68	148.4	
	23:12:48	4380.18	150.32	4378.2	149.19	
	23:14:48	4380.72	150.73	4378.68	149.76	
	23:16:48	4381.11	151.02	4379.04	150.19	
	23:18:48	4381.4	151.22	4379.27	150.51	
	23:20:48	4381.59	151.37	4379.46	150.74	
	23:22:48	4381.79	151.47	4379.67	150.92	
14	23:23:00	4381.82	151.47	4379.7	150.93	Open well on 16/64 choke thp
	23:24:48	4355.87	151.54	4353.79	151.04	
15	23:26:00	4335.83	151.57	4332.96	151.1	Increase choke to 20/64

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	23:26:48	4303.48	151.58	4301.25	151.13	
	23:28:48	4240.2	151.61	4238.04	151.19	
16	23:30:00	4202.72	151.61	4200.64	151.21	Increase choke to 24/64 THP 2979 psiA
	23:30:48	4165.28	151.62	4162.71	151.22	
	23:32:48	4068.84	151.62	4067.24	151.24	
	23:34:48	4005.76	151.61	4003.72	151.25	
	23:36:48	3959.37	151.6	3957.62	151.25	
	23:38:48	3902.29	151.59	3900.33	151.25	
	23:40:48	3848.14	151.58	3846.17	151.24	
	23:42:48	3782.64	151.56	3780.46	151.23	
	23:44:48	3737.72	151.55	3735.83	151.22	
	23:46:48	3725.54	151.54	3724.27	151.21	
	23:48:48	3713.08	151.53	3711.12	151.21	
	23:50:48	3695.98	151.53	3694.06	151.2	
17	23:51:00	3693.14	151.53	3691.67	151.2	Increase choke to 28/64
	23:52:48	3643.92	151.53	3641.78	151.2	
	23:54:48	3599.61	151.52	3597.72	151.19	
	23:56:48	3545.33	151.51	3543.3	151.18	
	23:58:48	3493.65	151.5	3491.76	151.17	
	0:00:48	3436.71	151.49	3434.74	151.16	
	0:02:48	3358.55	151.47	3356.53	151.15	
	0:04:48	3269.19	151.46	3267.26	151.13	
	0:06:48	3195.63	151.44	3193.83	151.11	
	0:08:48	3139.72	151.42	3137.84	151.1	
	0:10:48	3104.1	151.41	3102.25	151.08	
	0:12:48	3079.46	151.4	3077.45	151.07	
	0:14:48	3064.39	151.39	3062.59	151.07	
18	0:16:00	3057.28	151.39	3055.54	151.06	Increase choke to 32/64 THP 2167 psiA
	0:16:48	3043.74	151.39	3041.74	151.06	
	0:18:48	3017.62	151.38	3015.78	151.06	
	0:20:48	3003.93	151.38	3002.08	151.06	
	0:22:48	2992.33	151.38	2990.65	151.06	
	0:24:48	2982.7	151.38	2980.83	151.06	
19	0:25:00	2978.79	151.38	2976.99	151.06	Increase choke to 36/64 THP 2006 psiA
	0:26:48	2912.42	151.38	2910.63	151.06	
	0:28:48	2859.55	151.38	2857.73	151.05	
	0:30:48	2813.01	151.37	2811.19	151.04	
	0:32:48	2773.73	151.36	2771.93	151.04	
	0:34:48	2736.5	151.35	2734.68	151.03	
	0:36:48	2701.52	151.35	2699.81	151.02	
	0:38:48	2663.29	151.34	2661.5	151.02	
	0:40:48	2625.29	151.34	2623.53	151.01	
	0:42:48	2585.74	151.33	2583.92	151.01	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	0:44:48	2547.18	151.33	2545.4	151	
	0:46:48	2509.26	151.32	2507.76	150.99	
	0:48:48	2473.98	151.32	2472.18	150.99	
	0:50:48	2440.53	151.32	2438.76	150.98	
	0:52:48	2407.33	151.31	2405.7	150.98	
	0:54:48	2374.61	151.31	2372.87	150.98	
	0:56:48	2337.6	151.3	2335.84	150.97	
20	0:57:00	2331.14	151.3	2329.34	150.97	Increase choke to 40/64 THP 1537 psiA
	0:58:48	2273.01	151.3	2271.26	150.97	
	1:00:48	2214.51	151.29	2212.79	150.96	
21	1:02:00	2175.73	151.28	2173.88	150.95	Increase choke to 44/64
	1:02:48	2139.04	151.28	2137.32	150.95	
22	1:04:00	2095.44	151.27	2093.8	150.94	Water to surface
	1:04:48	2068.05	151.27	2066.33	150.93	
23	1:06:00	2023.14	151.26	2021.48	150.92	Increase choke to 48/64
	1:06:48	1988.16	151.25	1986.51	150.92	
	1:08:48	1915.31	151.24	1913.63	150.9	
	1:10:48	1847.86	151.22	1846.2	150.89	
	1:12:48	1776.98	151.21	1775.5	150.87	
	1:14:48	1710.51	151.19	1708.89	150.86	
	1:16:48	1651.85	151.18	1649.96	150.84	
	1:18:48	1599.85	151.17	1598.29	150.83	
	1:20:48	1552.67	151.17	1551.14	150.83	
	1:22:48	1510.04	151.16	1508.54	150.82	
	1:24:48	1469.97	151.16	1468.43	150.82	
	1:26:48	1432.8	151.15	1431.13	150.82	
	1:28:48	1398.29	151.15	1396.77	150.81	
	1:30:48	1365.7	151.15	1364.14	150.81	
24	1:31:00	1362.34	151.15	1360.76	150.81	Decrease choke to 44/64 THP 958 psiA
	1:32:48	1351.25	151.15	1349.74	150.81	
	1:34:48	1340.34	151.16	1338.86	150.82	
25	1:36:00	1338.87	151.16	1337.4	150.82	Decrease choke to 40/64
	1:36:48	1342.01	151.16	1340.61	150.82	
	1:38:48	1349.75	151.17	1348.37	150.83	
	1:40:48	1356.3	151.18	1354.82	150.83	
	1:42:48	1364.77	151.19	1363.29	150.84	
	1:44:48	1371.36	151.2	1369.94	150.85	
	1:46:48	1379.21	151.21	1377.74	150.86	
	1:48:48	1384.31	151.22	1382.88	150.87	
	1:50:48	1389.23	151.23	1387.85	150.88	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	1:52:48	1392.42	151.24	1390.82	150.89	
	1:54:48	1395.37	151.25	1393.89	150.9	
	1:56:48	1398.17	151.26	1396.55	150.91	
	1:58:48	1400.96	151.27	1399.51	150.92	
	2:00:48	1406.04	151.27	1404.58	150.92	
	2:02:48	1409.88	151.28	1408.46	150.93	
	2:04:48	1412.11	151.29	1410.6	150.94	
	2:06:48	1414.26	151.3	1412.81	150.95	
	2:08:48	1417.41	151.3	1415.87	150.96	
	2:10:48	1421.69	151.31	1420.19	150.96	
	2:12:48	1422.53	151.32	1420.85	150.97	
	2:14:48	1422.88	151.32	1421.43	150.97	
	2:16:48	1422.5	151.33	1420.94	150.98	
	2:18:48	1423.63	151.33	1422.11	150.98	
	2:20:48	1424.87	151.34	1423.32	150.99	
	2:22:48	1425.01	151.34	1423.63	150.99	
	2:24:48	1425.66	151.35	1424.17	151	
	2:26:48	1426.66	151.35	1425.06	151	
	2:28:48	1427.57	151.36	1426.04	151.01	
	2:30:48	1429.32	151.36	1427.77	151.02	
	2:32:48	1429.19	151.37	1427.79	151.03	
	2:34:48	1429.33	151.37	1427.8	151.04	
	2:36:48	1429.06	151.38	1427.48	151.04	
	2:38:48	1432.61	151.38	1431.08	151.05	
	2:40:48	1432.78	151.39	1431.29	151.05	
	2:42:48	1431.68	151.39	1430.04	151.06	
	2:44:48	1432.62	151.39	1431.02	151.06	
26	2:45:00	1432.66	151.39	1431.09	151.06	Increase choke to 44/64 THP 987 psiA
	2:46:48	1421.66	151.4	1420.15	151.07	
	2:48:48	1404.19	151.4	1402.7	151.07	
	2:50:48	1389.19	151.4	1387.7	151.08	
27	2:51:00	1387.22	151.4	1385.85	151.08	Increase choke to 48/64
	2:52:48	1358.67	151.4	1357.16	151.08	
	2:54:48	1335.19	151.4	1333.67	151.07	
	2:56:48	1310.04	151.39	1308.77	151.07	
	2:58:48	1287.53	151.39	1286	151.07	
	3:00:48	1266.64	151.39	1265.13	151.06	
	3:02:48	1249.23	151.38	1247.71	151.06	
	3:04:48	1234.89	151.38	1233.37	151.06	
	3:06:48	1221.33	151.38	1219.84	151.06	
	3:08:48	1208.09	151.38	1206.59	151.07	
	3:10:48	1195.31	151.38	1193.83	151.07	
	3:12:48	1184.87	151.38	1183.43	151.08	
	3:14:48	1174.98	151.38	1173.54	151.09	
	3:16:48	1165.29	151.38	1163.79	151.09	
	3:18:48	1158.09	151.38	1156.66	151.1	
	3:20:48	1151.62	151.38	1150.17	151.11	
	3:22:48	1147.05	151.38	1145.59	151.11	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	3:24:48	1141.34	151.39	1139.9	151.12	
	3:26:48	1137.82	151.39	1136.38	151.13	
	3:28:48	1134.83	151.39	1133.41	151.13	
	3:30:48	1131.09	151.39	1129.66	151.14	
	3:32:48	1128.31	151.4	1126.83	151.14	
28	3:33:00	1127.51	151.4	1126.09	151.14	Increase choke to 50/64 THP 746 psiA
	3:34:48	1119.72	151.4	1118.31	151.15	
	3:36:48	1109.69	151.4	1108.29	151.15	
	3:38:48	1102.55	151.4	1101.14	151.15	
	3:40:48	1093.77	151.4	1092.37	151.15	
	3:42:48	1088.2	151.4	1086.79	151.15	
	3:44:48	1083.84	151.4	1082.44	151.16	
	3:46:48	1079.22	151.4	1077.83	151.16	
	3:48:48	1076.2	151.41	1074.82	151.16	
	3:50:48	1073	151.41	1071.59	151.16	
	3:52:48	1069.52	151.41	1068.17	151.17	
	3:54:48	1066.9	151.41	1065.52	151.17	
	3:56:48	1064.53	151.42	1063.19	151.17	
	3:58:48	1062.74	151.42	1061.42	151.18	
	4:00:48	1061.22	151.43	1060.03	151.18	
	4:02:48	1059.17	151.45	1057.94	151.18	
	4:04:48	1057.63	151.46	1056.45	151.18	
	4:06:48	1055.78	151.47	1054.55	151.19	
	4:08:48	1053.54	151.48	1052.31	151.19	
	4:10:48	1052.33	151.48	1051.07	151.19	
	4:12:48	1051.31	151.49	1050.03	151.19	
	4:14:48	1050	151.5	1048.68	151.2	
	4:16:48	1048.68	151.5	1047.39	151.2	
	4:18:48	1047.6	151.51	1046.3	151.2	
	4:20:48	1047.51	151.51	1046.19	151.2	
	4:22:48	1047.2	151.51	1045.86	151.2	
	4:24:48	1049.73	151.52	1048.4	151.21	
	4:26:48	1050.29	151.52	1048.91	151.21	
	4:28:48	1051.47	151.53	1050.11	151.21	
	4:30:48	1051.71	151.53	1050.34	151.22	
	4:32:48	1053.63	151.53	1052.2	151.22	
	4:34:48	1049.74	151.54	1048.35	151.22	
	4:36:48	1047.93	151.54	1046.52	151.22	
	4:38:48	1045.76	151.54	1044.4	151.22	
	4:40:48	1046.52	151.54	1045.13	151.23	
	4:42:48	1046.26	151.54	1044.87	151.23	
	4:44:48	1046.41	151.55	1045.04	151.23	
29	4:46:00	1047.49	151.55	1046.11	151.23	Decrease choke to 48/64 THP 617 psiA
	4:46:48	1049.75	151.55	1048.4	151.23	
	4:48:48	1055.5	151.55	1054.14	151.23	
	4:50:48	1061.51	151.56	1060.12	151.24	
	4:52:48	1067.17	151.56	1065.78	151.24	
	4:54:48	1070.87	151.56	1069.48	151.25	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	4:56:48	1075.12	151.57	1073.71	151.25	
	4:58:48	1078.9	151.57	1077.5	151.25	
	5:00:48	1081.19	151.58	1079.82	151.26	
	5:02:48	1082.82	151.58	1081.43	151.26	
	5:04:48	1084.11	151.58	1082.74	151.26	
	5:06:48	1086.27	151.59	1084.89	151.27	
	5:08:48	1088.66	151.59	1087.24	151.27	
	5:10:48	1092.03	151.59	1090.64	151.27	
	5:12:48	1093.66	151.59	1092.24	151.27	
	5:14:48	1096.82	151.6	1095.47	151.28	
	5:16:48	1097.56	151.6	1096.16	151.28	
	5:18:48	1099.3	151.6	1097.89	151.28	
	5:20:48	1098.88	151.6	1097.46	151.28	
	5:22:48	1099.19	151.6	1097.76	151.28	
	5:24:48	1100.36	151.61	1098.94	151.29	
	5:26:48	1100.3	151.61	1098.91	151.29	
	5:28:48	1101.48	151.61	1100.1	151.29	
30	5:30:00	1101.36	151.61	1099.99	151.29	Decrease choke to 44/64 THP 713 psiA
	5:30:48	1106.02	151.61	1104.61	151.29	
	5:32:48	1118.65	151.61	1117.28	151.29	
	5:34:48	1130.56	151.61	1129.17	151.29	
	5:36:48	1142.44	151.62	1141.02	151.3	
	5:38:48	1153.25	151.62	1151.8	151.3	
	5:40:48	1161.43	151.63	1160.02	151.31	
	5:42:48	1169.89	151.63	1168.5	151.31	
	5:44:48	1176.9	151.63	1175.48	151.31	
31	5:46:00	1175.64	151.63	1174.2	151.32	Increase choke to 48/64 THP 774 psiA
	5:46:48	1171.62	151.64	1170.15	151.32	
	5:48:48	1163.36	151.64	1161.95	151.32	
	5:50:48	1154.11	151.63	1152.72	151.32	
	5:52:48	1150.26	151.63	1148.86	151.31	
	5:54:48	1148.26	151.63	1146.86	151.31	
	5:56:48	1144.42	151.63	1142.98	151.31	
	5:58:48	1143.58	151.63	1142.2	151.31	
	6:00:48	1139.96	151.63	1138.57	151.31	
	6:02:48	1136.38	151.63	1134.9	151.31	
	6:04:48	1134.8	151.62	1133.35	151.31	
	6:06:48	1129.61	151.62	1128.15	151.31	
	6:08:48	1126.98	151.62	1125.56	151.31	
	6:10:48	1122.87	151.62	1121.45	151.31	
	6:12:48	1118.35	151.62	1116.94	151.31	
	6:14:48	1118.32	151.62	1116.9	151.3	
	6:16:48	1115.37	151.62	1113.96	151.3	
	6:18:48	1113.1	151.62	1111.7	151.3	
	6:20:48	1111.74	151.61	1110.3	151.3	
	6:22:48	1110.14	151.61	1108.71	151.3	
	6:24:48	1107.79	151.61	1106.38	151.3	
	6:26:48	1104.89	151.61	1103.46	151.3	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	6:28:48	1105.44	151.61	1103.97	151.3	
	6:30:48	1102.57	151.61	1101.13	151.3	
32	6:31:00	1102.33	151.61	1100.92	151.3	Decrease choke to 44/64 THP 722 psiA
	6:32:48	1109.08	151.61	1107.63	151.3	
	6:34:48	1120.17	151.61	1118.76	151.3	
	6:36:48	1129.51	151.61	1128.08	151.3	
	6:38:48	1138.96	151.61	1137.53	151.3	
	6:40:48	1147.13	151.61	1145.7	151.31	
	6:42:48	1153.83	151.61	1152.35	151.31	
	6:44:48	1162.02	151.62	1160.59	151.31	
33	6:46:00	1160.32	151.62	1158.92	151.31	Increase choke to 48/64 THP 768 psiA
	6:46:48	1156.76	151.62	1155.3	151.31	
	6:48:48	1147.43	151.62	1146	151.32	
	6:50:48	1139.31	151.62	1137.85	151.32	
	6:52:48	1132.83	151.61	1131.35	151.32	
	6:54:48	1126.16	151.61	1124.72	151.32	
	6:56:48	1122.14	151.61	1120.7	151.32	
	6:58:48	1118.81	151.61	1117.47	151.32	
	7:00:48	1119.74	151.61	1118.31	151.31	
	7:02:48	1118.75	151.61	1117.32	151.31	
	7:04:48	1117.23	151.61	1115.82	151.31	
	7:06:48	1113.31	151.6	1111.86	151.31	
	7:08:48	1110.87	151.6	1109.46	151.31	
	7:10:48	1107.16	151.6	1105.76	151.31	
	7:12:48	1105.04	151.6	1103.63	151.31	
	7:14:48	1101.87	151.6	1100.45	151.31	
	7:16:48	1098.33	151.6	1096.96	151.31	
	7:18:48	1096.64	151.6	1095.17	151.31	
	7:20:48	1095.57	151.6	1094.09	151.31	
	7:22:48	1097	151.6	1095.57	151.31	
	7:24:48	1095.15	151.6	1093.69	151.31	
	7:26:48	1093.26	151.6	1091.85	151.31	
	7:28:48	1092.47	151.6	1091.05	151.31	
	7:30:48	1091.55	151.6	1090.16	151.31	
34	7:31:00	1091.53	151.6	1090.13	151.31	Switch to 48/64 fixed choke THP 3169 psiA
	7:32:48	1090.59	151.6	1089.21	151.31	
	7:34:48	1089.69	151.6	1088.22	151.31	
	7:36:48	1091.87	151.6	1090.53	151.31	
	7:38:48	1090.91	151.6	1089.46	151.32	
	7:40:48	1091.13	151.6	1089.71	151.32	
	7:42:48	1090.36	151.61	1088.97	151.32	
	7:44:48	1089.11	151.61	1087.64	151.32	
	7:46:48	1086.23	151.61	1084.81	151.32	
	7:48:48	1087.21	151.61	1085.79	151.32	
	7:50:48	1084.95	151.61	1083.49	151.32	
	7:52:48	1087	151.61	1085.57	151.32	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	7:54:48	1089.78	151.61	1088.42	151.32	
	7:56:48	1087.23	151.61	1085.82	151.32	
	7:58:48	1088.37	151.61	1086.97	151.32	
	8:00:48	1087.15	151.61	1085.79	151.32	
	8:02:48	1088.04	151.61	1086.6	151.32	
	8:04:48	1090.75	151.61	1089.35	151.32	
	8:06:48	1091.61	151.61	1090.17	151.32	
	8:08:48	1093.54	151.61	1092.13	151.33	
	8:10:48	1092.91	151.61	1091.51	151.33	
	8:12:48	1093.65	151.62	1092.19	151.33	
	8:14:48	1094.65	151.62	1093.24	151.33	
	8:16:48	1092.6	151.62	1091.24	151.33	
	8:18:48	1089.66	151.62	1088.24	151.33	
35	8:19:00	1089.26	151.62	1087.82	151.33	Increase seperator pressure
	8:20:48	1087.12	151.62	1085.71	151.33	
	8:22:48	1088.74	151.62	1087.33	151.33	
	8:24:48	1087.28	151.62	1085.85	151.33	
	8:26:48	1088.44	151.62	1086.96	151.33	
	8:28:48	1089.39	151.62	1087.97	151.33	
	8:30:48	1090.58	151.62	1089.21	151.33	
	8:32:48	1089.08	151.62	1087.53	151.33	
	8:34:48	1086.87	151.62	1085.43	151.33	
	8:36:48	1084.05	151.63	1082.56	151.33	
	8:38:48	1081.86	151.63	1080.42	151.33	
	8:40:48	1080.19	151.63	1078.82	151.33	
	8:42:48	1080.76	151.63	1079.34	151.33	
	8:44:48	1080.58	151.63	1079.17	151.33	
	8:46:48	1082.58	151.63	1081.19	151.33	
	8:48:48	1083.64	151.63	1082.22	151.33	
	8:50:48	1084.98	151.63	1083.57	151.33	
	8:52:48	1084.23	151.63	1082.78	151.33	
	8:54:48	1082.67	151.63	1081.26	151.33	
	8:56:48	1079.94	151.63	1078.49	151.33	
	8:58:48	1078.86	151.63	1077.45	151.33	
	9:00:48	1078.39	151.63	1076.98	151.33	
	9:02:48	1078.37	151.63	1076.99	151.33	
	9:04:48	1077.65	151.63	1076.24	151.34	
	9:06:48	1077.5	151.63	1076.13	151.34	
	9:08:48	1086.12	151.63	1084.68	151.34	
	9:10:48	1088.17	151.63	1086.76	151.34	
	9:12:48	1090.02	151.63	1088.61	151.34	
	9:14:48	1091.94	151.64	1090.56	151.34	
	9:16:48	1094.36	151.64	1092.94	151.34	
	9:18:48	1095.22	151.64	1093.8	151.34	
	9:20:48	1091.85	151.64	1090.43	151.34	
	9:22:48	1088.94	151.64	1087.53	151.34	
	9:24:48	1085.64	151.64	1084.2	151.34	
	9:26:48	1081.05	151.64	1079.64	151.34	
	9:28:48	1076.58	151.64	1075.14	151.34	
	9:30:48	1073.71	151.64	1072.3	151.34	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	9:32:48	1073.57	151.64	1072.27	151.34	
	9:34:48	1074.43	151.64	1073.04	151.34	
	9:36:48	1077.41	151.64	1076.01	151.34	
	9:38:48	1079.3	151.64	1077.87	151.34	
	9:40:48	1081.76	151.64	1080.34	151.35	
	9:42:48	1081.19	151.64	1079.75	151.35	
	9:44:48	1079.29	151.64	1077.89	151.35	
	9:46:48	1076.52	151.64	1075.08	151.35	
	9:48:48	1073.65	151.64	1072.27	151.35	
	9:50:48	1069.59	151.64	1068.19	151.35	
	9:52:48	1067.59	151.64	1066.19	151.35	
	9:54:48	1066.18	151.64	1064.75	151.35	
	9:56:48	1064.9	151.64	1063.49	151.35	
	9:58:48	1063.1	151.64	1061.67	151.35	
	10:00:48	1061.44	151.64	1060.04	151.35	
	10:02:48	1059.97	151.64	1058.5	151.35	
	10:04:48	1060.37	151.64	1058.97	151.35	
	10:06:48	1063.12	151.64	1061.68	151.35	
	10:08:48	1069.61	151.64	1068.2	151.35	
	10:10:48	1070.39	151.64	1068.98	151.35	
	10:12:48	1072.52	151.64	1071.15	151.36	
	10:14:48	1075.99	151.64	1074.57	151.36	
	10:16:48	1078.53	151.64	1077.04	151.36	
	10:18:48	1084.48	151.65	1083.08	151.36	
	10:20:48	1084.04	151.65	1082.62	151.36	
	10:22:48	1090.76	151.65	1089.34	151.36	
	10:24:48	1092.35	151.65	1090.92	151.36	
	10:26:48	1090.55	151.65	1089.15	151.37	
	10:28:48	1087.37	151.65	1085.94	151.37	
	10:30:48	1084.35	151.65	1082.91	151.37	
	10:32:48	1082.07	151.65	1080.63	151.37	
	10:34:48	1080.67	151.65	1079.27	151.37	
	10:36:48	1079.58	151.65	1078.18	151.37	
	10:38:48	1077.86	151.65	1076.42	151.36	
	10:40:48	1075.45	151.65	1074.01	151.36	
	10:42:48	1073.47	151.65	1072.05	151.36	
	10:44:48	1071.09	151.65	1069.68	151.36	
	10:46:48	1070.69	151.65	1069.28	151.36	
	10:48:48	1069.35	151.65	1067.94	151.37	
	10:50:48	1066.83	151.65	1065.41	151.37	
	10:52:48	1065.24	151.65	1063.84	151.37	
	10:54:48	1065.28	151.65	1063.89	151.37	
	10:56:48	1064.96	151.65	1063.52	151.37	
	10:58:48	1065.16	151.65	1063.72	151.37	
	11:00:48	1073.75	151.65	1072.33	151.37	
	11:02:48	1076.55	151.65	1075.12	151.37	
	11:04:48	1076.84	151.65	1075.42	151.37	
	11:06:48	1076.89	151.65	1075.48	151.37	
	11:08:48	1076.04	151.65	1074.59	151.37	
	11:10:48	1074.26	151.66	1072.85	151.37	
	11:12:48	1071.16	151.66	1069.72	151.37	
	11:14:48	1068.35	151.66	1066.93	151.37	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	11:16:48	1065.41	151.65	1064.01	151.37	
	11:18:48	1064.29	151.65	1062.86	151.37	
	11:20:48	1062.09	151.65	1060.69	151.37	
	11:22:48	1059.65	151.65	1058.23	151.37	
	11:24:48	1058.03	151.65	1056.59	151.37	
	11:26:48	1056.57	151.65	1055.16	151.37	
	11:28:48	1054.17	151.65	1052.76	151.37	
	11:30:48	1057.53	151.65	1056.09	151.37	
	11:32:48	1058.89	151.65	1057.48	151.37	
	11:34:48	1060.35	151.65	1058.94	151.37	
	11:36:48	1065.41	151.65	1063.99	151.37	
	11:38:48	1067.25	151.66	1065.86	151.37	
	11:40:48	1070.71	151.66	1069.27	151.38	
	11:42:48	1070.9	151.66	1069.44	151.38	
	11:44:48	1070.19	151.66	1068.81	151.38	
	11:46:48	1067.71	151.66	1066.28	151.38	
	11:48:48	1064.43	151.66	1063.03	151.38	
	11:50:48	1060.42	151.66	1058.97	151.38	
	11:52:48	1057.26	151.66	1055.8	151.38	
	11:54:48	1053.62	151.66	1052.2	151.38	
	11:56:48	1050.42	151.66	1049.05	151.38	
	11:58:48	1047.83	151.66	1046.39	151.38	
	12:00:48	1045.74	151.66	1044.36	151.37	
	12:02:48	1046.53	151.66	1045.06	151.37	
	12:04:48	1048.2	151.66	1046.8	151.37	
	12:06:48	1049.26	151.66	1047.92	151.37	
	12:08:48	1049.64	151.66	1048.2	151.37	
	12:10:48	1050.08	151.66	1048.68	151.38	
	12:12:48	1058.23	151.66	1056.83	151.38	
	12:14:48	1064.91	151.66	1063.51	151.38	
	12:16:48	1067.94	151.66	1066.53	151.38	
	12:18:48	1068.88	151.67	1067.44	151.38	
	12:20:48	1068.85	151.67	1067.43	151.38	
	12:22:48	1068.11	151.67	1066.67	151.39	
	12:24:48	1066.66	151.67	1065.24	151.39	
	12:26:48	1066.68	151.67	1065.23	151.39	
	12:28:48	1065.96	151.67	1064.55	151.39	
	12:30:48	1064.65	151.67	1063.25	151.39	
	12:32:48	1062.23	151.67	1060.84	151.39	
	12:34:48	1060.27	151.67	1058.84	151.39	
	12:36:48	1058.7	151.67	1057.27	151.39	
	12:38:48	1056.87	151.67	1055.44	151.39	
	12:40:48	1054.42	151.67	1052.99	151.39	
	12:42:48	1058.34	151.67	1056.89	151.39	
	12:44:48	1061.75	151.67	1060.31	151.39	
	12:46:48	1062.92	151.67	1061.52	151.39	
	12:48:48	1063.47	151.67	1062.05	151.39	
	12:50:48	1061.62	151.67	1060.22	151.39	
	12:52:48	1058.52	151.67	1057.12	151.39	
	12:54:48	1056.67	151.67	1055.28	151.39	
	12:56:48	1053.51	151.67	1052.05	151.39	
	12:58:48	1050.9	151.67	1049.47	151.39	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	13:00:48	1048.57	151.67	1047.18	151.39	
	13:02:48	1047.02	151.67	1045.63	151.39	
	13:04:48	1047.51	151.67	1046.07	151.39	
	13:06:48	1047.24	151.67	1045.84	151.39	
	13:08:48	1047.14	151.67	1045.72	151.39	
	13:10:48	1049.37	151.67	1047.98	151.39	
	13:12:48	1058.89	151.67	1057.48	151.39	
	13:14:48	1063.92	151.67	1062.53	151.39	
	13:16:48	1066.14	151.68	1064.77	151.39	
	13:18:48	1065.89	151.68	1064.47	151.4	
	13:20:48	1065.91	151.68	1064.48	151.4	
	13:22:48	1065.02	151.68	1063.62	151.4	
	13:24:48	1064.21	151.68	1062.81	151.4	
	13:26:48	1062.29	151.68	1060.88	151.4	
	13:28:48	1059.14	151.68	1057.73	151.4	
	13:30:48	1055.46	151.68	1054.05	151.4	
	13:32:48	1052.62	151.68	1051.16	151.4	
	13:34:48	1049.54	151.68	1048.12	151.4	
	13:36:48	1046.02	151.68	1044.68	151.4	
	13:38:48	1044.4	151.68	1043	151.4	
	13:40:48	1044.81	151.68	1043.38	151.4	
	13:42:48	1046.76	151.68	1045.42	151.39	
	13:44:48	1053.83	151.68	1052.45	151.39	
	13:46:48	1056.51	151.68	1055.09	151.4	
	13:48:48	1058.76	151.68	1057.34	151.4	
	13:50:48	1059.14	151.68	1057.71	151.4	
	13:52:48	1057.52	151.68	1056.14	151.4	
	13:54:48	1055.42	151.68	1054	151.4	
	13:56:48	1052.97	151.68	1051.55	151.4	
	13:58:48	1050.53	151.68	1049.1	151.4	
	14:00:48	1047.72	151.68	1046.33	151.4	
	14:02:48	1044.25	151.68	1042.93	151.4	
	14:04:48	1042.13	151.68	1040.75	151.4	
	14:06:48	1042.16	151.68	1040.7	151.4	
	14:08:48	1043.72	151.68	1042.31	151.4	
	14:10:48	1050.2	151.68	1048.77	151.4	
	14:12:48	1054.12	151.68	1052.73	151.4	
	14:14:48	1057.54	151.68	1056.1	151.4	
	14:16:48	1059.23	151.69	1057.83	151.4	
	14:18:48	1059.3	151.69	1057.89	151.4	
	14:20:48	1058.95	151.69	1057.52	151.4	
	14:22:48	1056.72	151.69	1055.33	151.4	
	14:24:48	1054.49	151.69	1053.06	151.4	
	14:26:48	1051.84	151.69	1050.52	151.4	
	14:28:48	1049.43	151.69	1048.01	151.4	
	14:30:48	1045.55	151.69	1044.09	151.4	
	14:32:48	1042.42	151.69	1040.97	151.4	
	14:34:48	1039.58	151.69	1038.15	151.4	
	14:36:48	1036.83	151.69	1035.25	151.4	
	14:38:48	1045.3	151.69	1043.87	151.4	
	14:40:48	1050.82	151.69	1049.41	151.4	
	14:42:48	1053.79	151.69	1052.43	151.4	

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	14:44:48	1055.12	151.69	1053.7	151.4	
	14:46:48	1054.64	151.69	1053.26	151.41	
	14:48:48	1053.43	151.69	1052	151.41	
	14:50:48	1051.2	151.69	1049.81	151.41	
	14:52:48	1050.12	151.69	1048.73	151.41	
	14:54:48	1046.72	151.69	1045.28	151.41	
	14:56:48	1044.21	151.69	1042.87	151.41	
	14:58:48	1041.32	151.69	1039.91	151.41	
	15:00:48	1038.36	151.69	1036.92	151.41	
	15:02:48	1037.11	151.69	1035.75	151.41	
	15:04:48	1043.23	151.69	1041.84	151.41	
	15:06:48	1047.57	151.69	1046.17	151.41	
	15:08:48	1050.34	151.7	1048.92	151.41	
	15:10:48	1051.08	151.7	1049.66	151.41	
	15:12:48	1051.17	151.7	1049.78	151.41	
	15:14:48	1051.44	151.7	1050.02	151.41	
	15:16:48	1050.86	151.7	1049.4	151.41	
	15:18:48	1050.35	151.7	1048.91	151.41	
	15:20:48	1048.92	151.7	1047.49	151.41	
	15:22:48	1049.79	151.7	1048.39	151.41	
	15:24:48	1050.01	151.7	1048.59	151.41	
	15:26:48	1054.81	151.7	1053.38	151.41	
	15:28:48	1055.97	151.7	1054.54	151.41	
	15:30:48	1058.06	151.7	1056.64	151.41	
36	15:31:00	1064.45	151.7	1062.9	151.41	Shut in well at choke manifold POOH Gauges THP 689 psiA
	15:32:48	1151.78	151.71	1150.39	151.42	
	15:34:48	1248.76	151.73	1247.38	151.43	
	15:36:48	1343.66	151.75	1342.32	151.45	
	15:38:48	1428.14	151.78	1426.7	151.48	
	15:40:48	1517.73	146.28	1515.64	146.41	
	15:42:48	1591.18	140.47	1588	141.01	
	15:44:48	1652.51	136.7	1649.44	137.36	
	15:46:48	1717.55	134.07	1715.25	134.71	
	15:48:48	1765.85	132.27	1764.08	132.79	
	15:50:48	1808.19	130.84	1806.89	131.25	
	15:52:48	1846.84	129.28	1846.13	129.61	
	15:54:48	1882.21	127.2	1881.14	127.54	
	15:56:48	1902.92	124.54	1901.41	124.95	
	15:58:48	1912.58	120.96	1911.07	121.51	
	16:00:48	1913.24	116.58	1911.62	117.31	
	16:02:48	1907.34	111.57	1905.62	112.52	
	16:04:48	1921.75	106.23	1920.45	107.36	
	16:06:48	1940.96	100.49	1939.73	101.85	
	16:08:48	1950.61	93.96	1949.39	95.58	
	16:10:48	1947.71	86.51	1946.6	88.44	
	16:12:48	1939.87	77.49	1938.84	79.81	
	16:14:48	1952.62	65.78	1952.16	68.67	
	16:16:48	1987.75	56.18	1987.47	59.17	
37	16:17:00	1991.55	55.29	1991.28	58.27	Out of hole monitor THP

Event	Time	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Description
	16:18:48	2024.68	48.44	2024.48	51.51	
	16:20:48	2062.06	42.73	2061.95	45.71	
	16:22:48	2098.84	38.44	2098.4	41.22	
	16:24:48	2102.8	35.18	2102.54	37.77	
38	16:25:00	2099.82	34.9	2099.55	37.46	Shut in well
	16:26:48	2089.06	32.58	2088.77	34.96	
	16:28:48	2081.53	30.5	2081.22	32.72	
	16:30:48	2075.52	28.92	2075.19	30.96	
	16:32:48	2070.23	27.69	2069.89	29.57	
	16:34:48	2065.48	26.74	2065.12	28.47	
	16:36:48	2061.08	25.99	2060.69	27.59	
	16:38:48	2056.97	25.41	2056.55	26.88	
39	16:39:00	2056.58	25.35	2056.16	26.81	Depressure lubricator
	16:40:48	177.49	23.47	175.33	25.01	
	16:42:48	5.43	18.2	4.72	20.11	
40	16:43:00	5.18	17.86	4.46	19.81	Lift lubricator remove gauges
	16:44:48	3.35	15.92	2.7	17.95	
	16:46:48	2.21	14.86	1.6	16.95	
	16:48:48	1.71	14.3	1.11	16.35	
	16:50:48	1.29	13.99	0.83	15.92	
	16:52:48	1.16	13.81	0.61	15.59	
	16:54:48	0.95	13.7	0.55	15.31	
	16:56:48	0.8	13.64	0.33	15.12	
	16:58:48	0.57	13.78	0.26	14.98	
	17:00:48	0.36	14.3	0.3	14.88	
	17:02:48	0.62	14.49	-0.19	15.21	
	17:04:48	0.68	14.51	-0.26	15.36	
	17:06:48	0.69	14.63	-0.21	15.43	
	17:08:48	0.72	14.65	-0.06	15.47	
	17:10:48	0.78	14.63	0.02	15.5	
	17:12:48	0.78	14.61	0.04	15.53	
	17:14:48	0.78	14.6	-0.18	15.55	
41	17:15:08	0.71	14.6	-0.2	15.57	Stop bottom gauge
	17:16:48	-0.19	15.64			
42	17:18:33	-0.11	15.73			Stop top gauge

Origin Energy

Well Name: Yolla 3
Test Type: Flowing Survey

Test Zone: UEVCM Sands
Date of Survey: 27-28th September 2004

MEMORY GAUGE REPORT

Prepared For: Andrew Wenk
Date: 28th September 2004

David Whelan
Completion Products & Services
Halliburton Australia Pty Ltd

HALLIBURTON

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MEMORY GAUGE FLOWING PRESSURE AND
TEMPERATURE SURVEY

MEMORY GAUGE TICKET NO:	35412
DATE:	28-Sep-04
HALLIBURTON CAMP:	Cheltenham, Victoria
HALLIBURTON OPERATOR:	David Whelan
WITNESS:	N/A
COMPANY:	Origin
DRILLING CONTRACTOR:	Ensco
LEASE NAME:	YOLLA
WELL NO:	YOLLA-3
TEST TYPE:	Flowing Survey
TEST NO:	2
TESTED ZONE:	UEVCM Sands
FIELD AREA:	Bass Strait
STATE:	Victoria
COUNTRY:	Australia

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HALLIBURTON

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SECTION 1

TEST SUMMARY & JOB INFORMATION

WELL DATA

Well Details

Well Name	Yolla - 3	
Field	Yolla	
Platfrom	Yolla A	
Derrick Floor Elevation	81	m AMSL
Top Bottom Flange	27.07	m MDRT

Completion

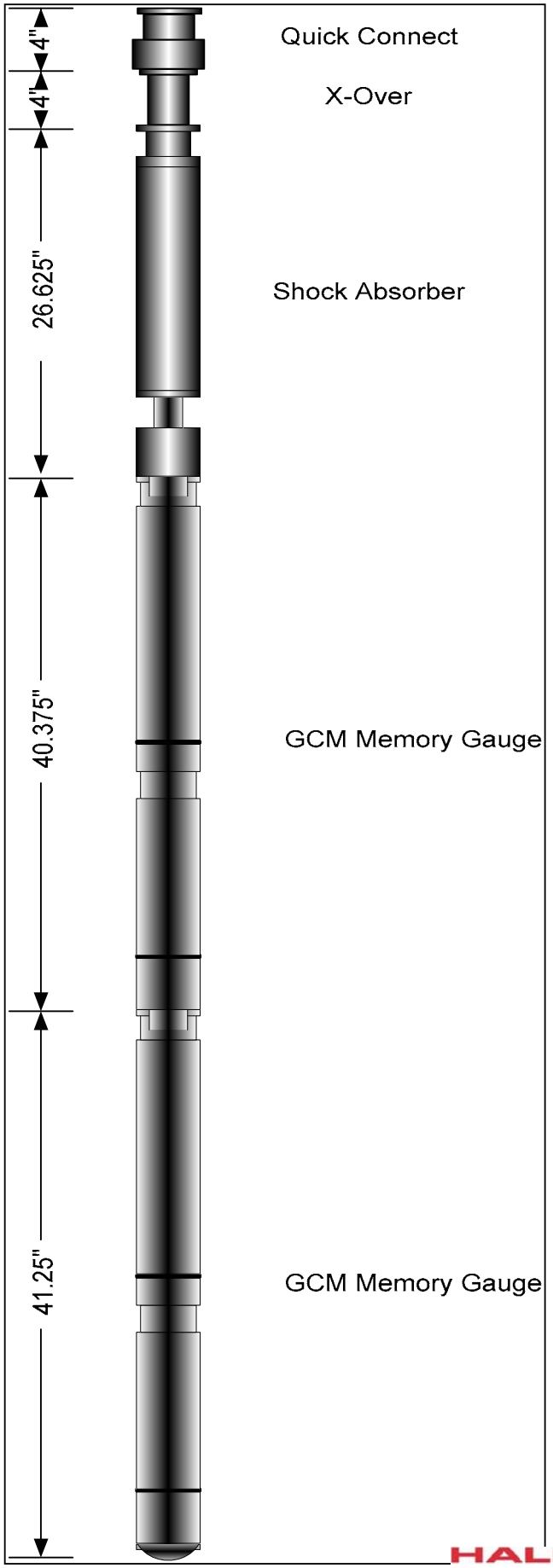
Measured m (MDRT)	**Description**
27.07	Tubing Hanger
173.47	TRSV
2191.30	5 1/2" PBR
2191.30	4 1/2" Halliburton SSD x 3.813" XD
2202.45	Packer - AHC 9 5/8"
2230.59	4 1/2" Halliburton SSD x 3.813" XD
3161.24	4 1/2" Halliburton SSD x 3.813" XD
3164.48	Packer - AHR 6 5/8"
3200.91	4 1/2" Halliburton SSD x 3.688" RD
3204.14	6 5/8" AHR Packer
3256.00	4 1/2" Halliburton SSD x 3.688" RD
3257.97	7" MWR Packer
3272.85	4 1/2" Halliburton SSD x 3.688" RD
3287.32	4 1/2" Halliburton 3.688" RN Nipple
3289.89	EOT

SURVEY EVENTS

Client	:Origin Energy	**Operator**	:David Whelan
Field	:Yolla	**Survey Date**	:27-28th September 2004
Platform	:Yolla A	**Well**	:Yolla - 3

Event	Time	Description
1	21:24:28	Start top gauge
2	21:27:26	Start bottom gauge
3	21:45:00	Add gauges to toolstring
4	0:29:00	Open swab valve
5	0:37:00	Run in hole with gauges THP 2100 psiA
6	1:04:00	On depth 2248 mtrs MDKB THP 2191 psiA
7	1:11:00	Open well on 16/64 choke THP 2179 psiA
8	1:12:00	Increase choke to 20/64
9	1:16:00	Increase choke to 24/64 THP 2179 psiA
10	1:19:00	Increase choke to 28/64
11	1:22:00	Increase choke to 32/64
12	1:27:00	Increase choke to 36/64
13	1:31:00	Increase choke to 40/64 THP 2021 psiA
14	1:36:00	Increase choke to 44/64
15	1:41:00	Increase choke to 48/64
16	1:46:00	Increase choke to 52/64 THP 1810 psiA
17	2:42:00	Increase choke to 56/64 THP 1644 psiA
18	2:59:00	Increase choke to 60/64 THP 1609 psiA
19	4:13:00	Switch to 60/64 fixed choke THP 1560 psiA
20	4:22:00	Pass flow through seperator
21	4:32:00	Increase seperator pressure THP 1555 psiA
22	5:00:00	Decrease seperator pressure THP 1556 psiA
23	5:10:00	Increase seperator pressure
24	7:06:00	Switch to 56/64 adjustable choke
25	7:08:00	Decrease choke to 48/64
26	7:12:00	Increase seperator pressure THP 1820 psiA
27	7:34:00	Switch to 48/64 fixed choke
28	12:02:00	Shut in well at choke manifold
29	12:08:00	Run in hole with gauges
30	12:31:30	On depth with gauges 3256 mtrs MDKB THP 2109 psiA
31	12:47:00	Pull out of hole with gauges
32	13:33:25	Out of hole with gauges
33	13:48:00	Shut in well
34	13:56:00	Depressure lubricator
35	14:05:00	Lift lubricator and remove gauges
36	14:16:36	Stop bottom gauge
37	14:18:28	Stop top gauge

FLOWING SURVEY TOOL STRING



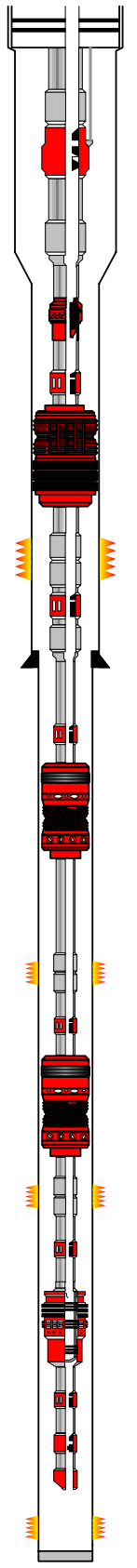
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Completion Schematic

Origin energy

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WELL :	Yolla 3	*Pick up Wt -*	*340k*
DATE :	24-Sep-04	*Slack off Wt -*	255k
RIG :	Ensco 102	*Block Wt -*	84k
		RKB	**27.07**



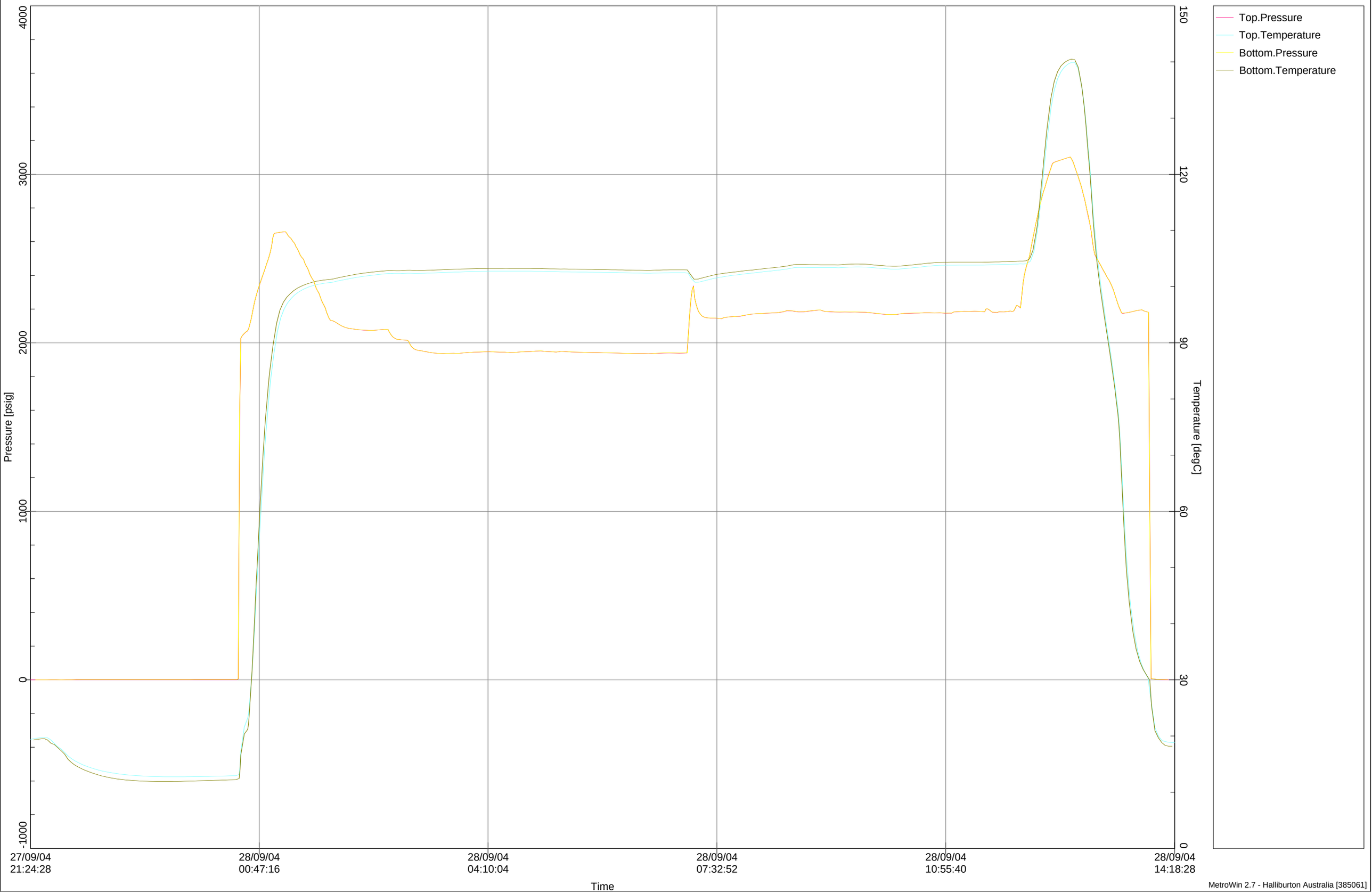
Depth m	Length	No.	Item	DESCRIPTION	O.D.	I.D.
	27.070			Rig Elevation		
27.07	0.280		**1**	Tubing Hanger (Cameron)	13.625	5.963
27.35	1.610			Hanger Pup Joint 7"K-Fox, 26#/ft P x P 13Cr 1mtr	7.000	6.276
28.96	12.882	1	**2**	**7" 29ppf 13Cr80 K-Fox tubing**	7.000	6.184
41.84	8.266			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 4mtr	7.000	6.276
50.11	105.302	11		7" 26ppf 13Cr80 K-Fox tubing	7.000	6.276
155.41	12.766	1	**3**	**7" 29ppf 13Cr80 K-Fox tubing**	7.000	6.184
168.18	3.870			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 2mtr	7.000	6.276
172.05	1.420		**4**	Flow Coupling -7" K-Fox B x P 13Cr	7.676	6.246
173.47	3.350		**5**	**TRSSSV-SP -7"-26# K-Fox B x P 13Cr (RPT)**	9.350	5.875
176.82	1.880			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 2mtr	7.000	6.276
178.70	2001.070	210		7" 26ppf 13Cr80 K-Fox tubing	7.000	6.276
2179.77	1.100			Difference B/N tubing and WL		
2180.87	3.870			Pup Joint, 7" K Fox. 26#/ft BxP 13Cr 4 Mtr	7.000	6.276
2184.74	1.420		**6**	**Flow Coupling -7" K-Fox B x P 13Cr**	7.676	6.246
2186.16	0.490		**7**	**Crossover -7"-26# K-Fox B x 5" K-Fox P 13Cr**	7.676	4.408
2186.65	1.880			Pup Joint, 5" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2188.53	1.880			Pup Joint, 5" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2190.41	0.340		**8**	**Crossover -5"-15# K-Fox B x 5 1/2"-17# NK#SB P 13Cr**	5.570	4.433
2190.75	0.220		**9**	Locator Seal Assy -5 1/2"-17# NK3SB B 13Cr	7.623	4.860
2190.97	0.336			**Extention setting of PBR**		
2191.30	3.810		**10**	Polished Bore Receptacle -5 1/2"-17# NK3SB P 13Cr	8.300	4.872
2195.11	0.340		**11**	**Crossover - 5 1/2"-17# NK3SB b x 5" - 15# K-Fox P 13Cr**	6.063	4.406
2195.45	1.880			Pup Joint, 5 1/2" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2197.33	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2199.22	1.340		**12**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
2200.56	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2202.45	2.510		**13**	**Packer-AHC 9 5/8"-43.5-53.5# - 5"-15# Fox B x P 13Cr**	8.300	4.340
2204.96	1.880			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2206.84	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2208.73	9.040		**14**	**Blast Joint - 5-15#" K-Fox B x P 13Cr**	5.583	4.337
2217.77	9.040		**14**	**Blast Joint - 5-15#" K-Fox B x P 13Cr**	5.583	4.337
2226.81	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2228.70	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2230.59	1.340		**15**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
2231.93	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2233.82	910.080	95		5" 15ppf 13Cr80 K-Fox tubing	5.000	4.408
3143.90	7.933	5		Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3151.84	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3153.73	1.440		**16**	**Flow Coupling - 5-15#" K-Fox B x P 13Cr**	5.583	4.388
3155.17	0.390		**17**	**Crossover -5"-18# K-Fox B x 4 1/2" K-Fox P 13Cr**	5.583	3.965
3155.56	3.790			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3159.35	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3161.24	1.350		**18**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
3162.59	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3164.48	1.740		**19**	**Packer-AHR 6 5/8"-24# - 4 1/2"-11.6# K-Fox B x P 13Cr**	5.720	3.920
3166.22	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3168.11	9.047	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3177.15	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3179.04	9.050		**20**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3188.09	9.040		**20**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3197.13	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3199.02	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3200.91	1.340		**21**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.600	3.813
3202.25	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3204.14	1.740		**22**	**Packer-AHR 6 5/8"-24# - 4 1/2"-11.6# K-Fox B x P 13Cr**	5.720	3.920
3205.88	0.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3206.77	9.397	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3216.17	7.782	2		Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 4 Mtr	4.500	4.000
3223.95	9.460	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3233.41	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3235.30	9.030		**23**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3244.33	9.040		**24**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3253.37	1.850			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3255.22	0.780			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3256.00	1.340		**25**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.600	3.813
3257.34	0.635			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3257.98	0.460		**26**	Seal Unit - 4 1/2" - 11.6# K-Fox Special 13Cr	4.500	4.000
3258.44	-0.470			Seal Overlap		
3257.97	1.420		**27**	**Packer-MWR 7"-32-38.5# - 5"-18# New Vam P 13Cr**	5.687	4.000
3259.39	0.270		**28**	**Crossover - 5"-18# New Vam P x 4 1/2" K Fox P 13 Cr**	5.035	3.965
3259.66	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3261.55	9.411	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3270.96	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3272.85	1.340		**29**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.570	3.688
3274.19	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3276.08	9.348	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3285.43	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3287.32	0.440		**30**	**Nipple-RN - 4 1/2" - 11.6# K-Fox B x P INC**	4.882	3.456
3287.76	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3289.65	0.240		**31**	Coupling - 4 1/2" K Fox (Cut to Muleshoe)	4.874	
3289.89				**End Of Tubing**		

SECTION 2

PLOTS

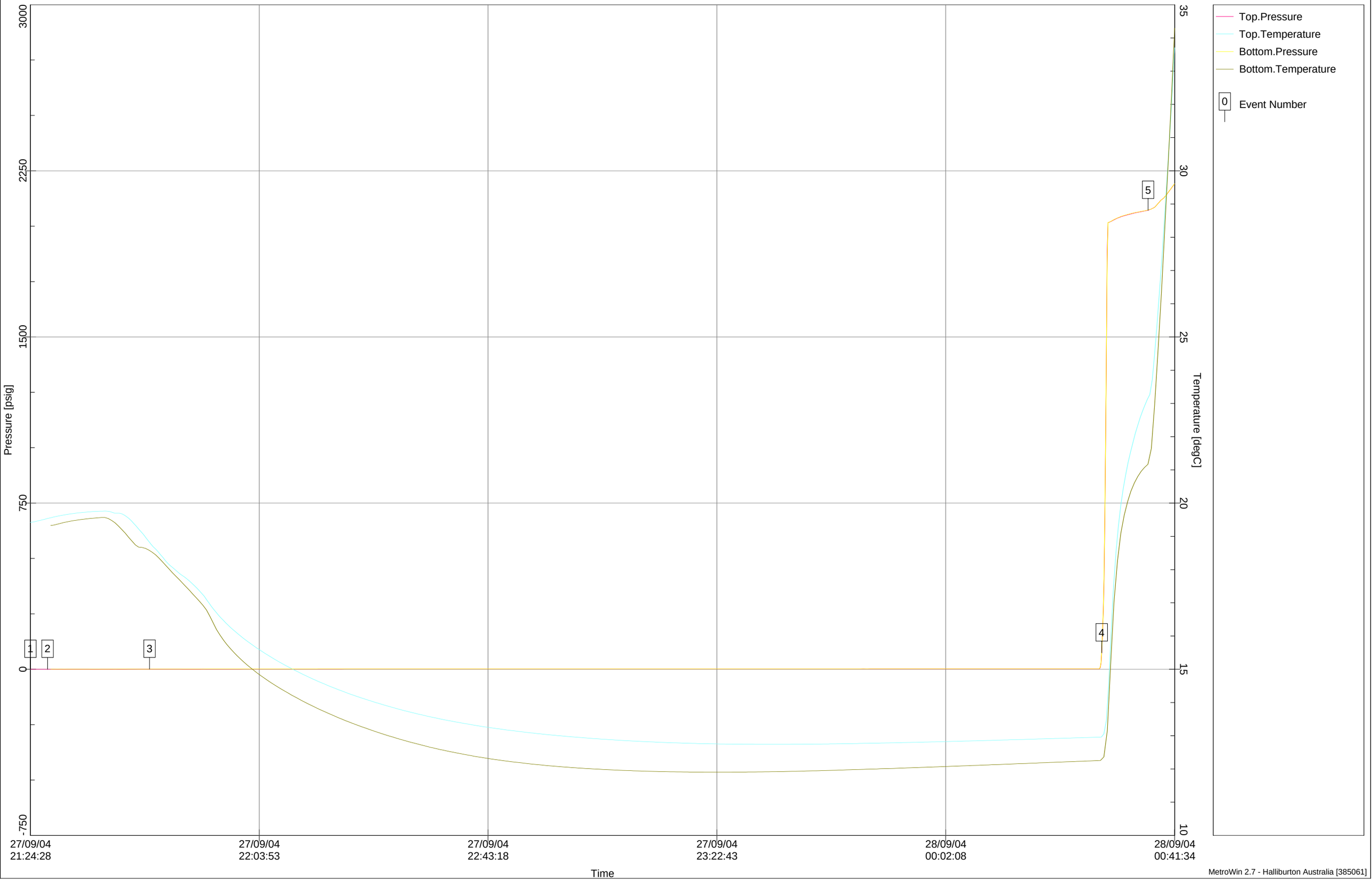
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan



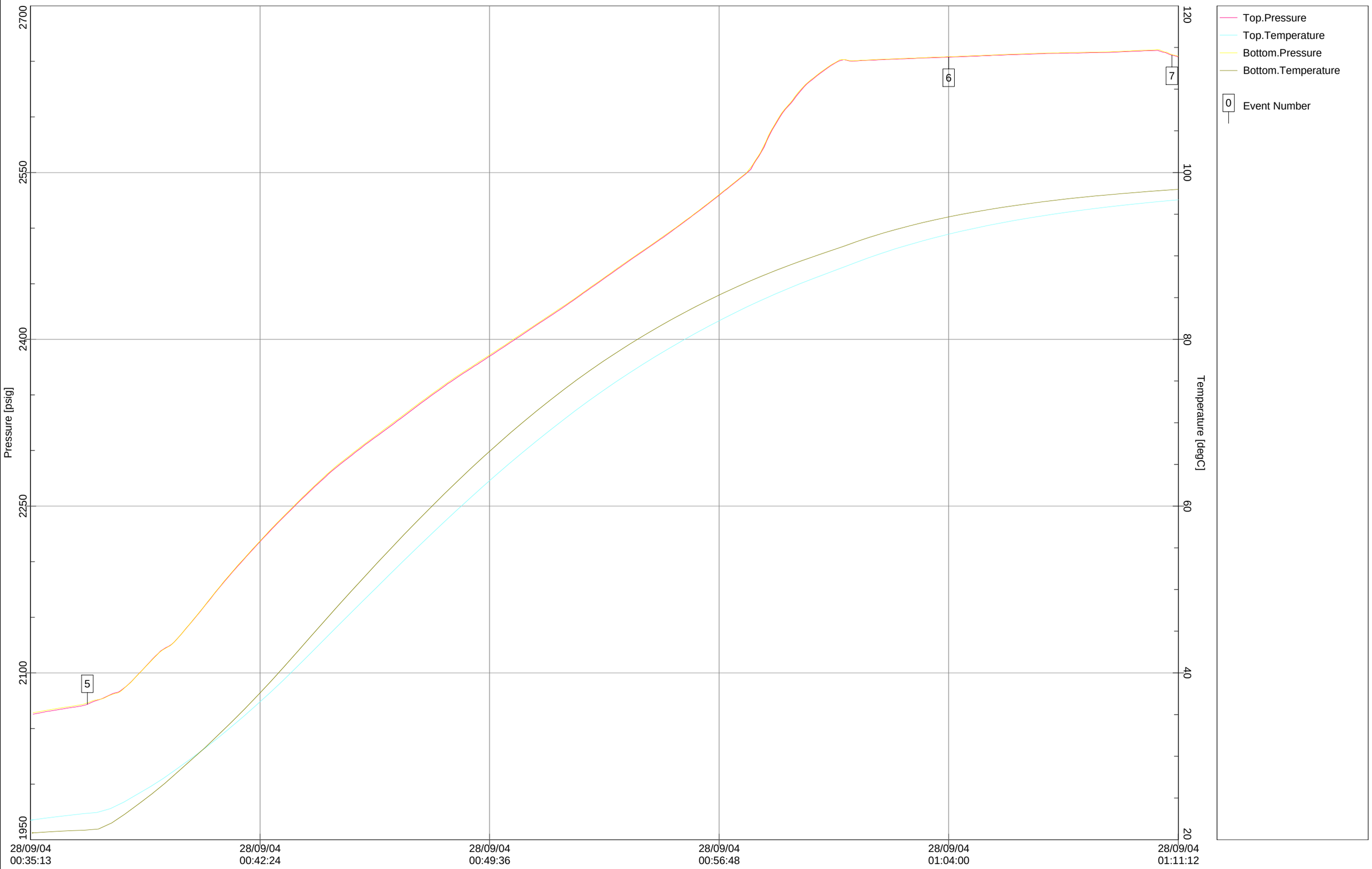
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan
Events 1-5



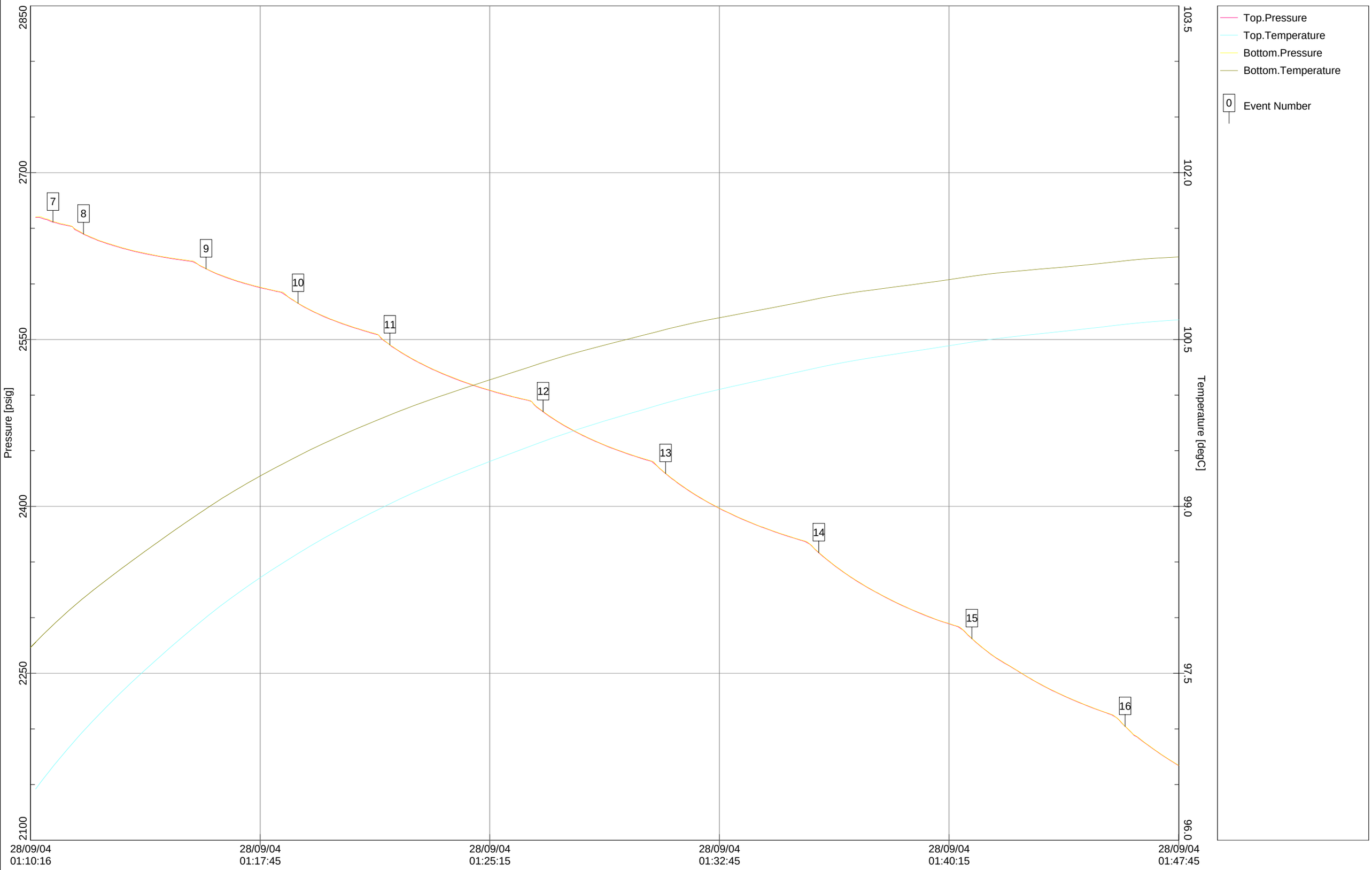
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan
Events 5-7



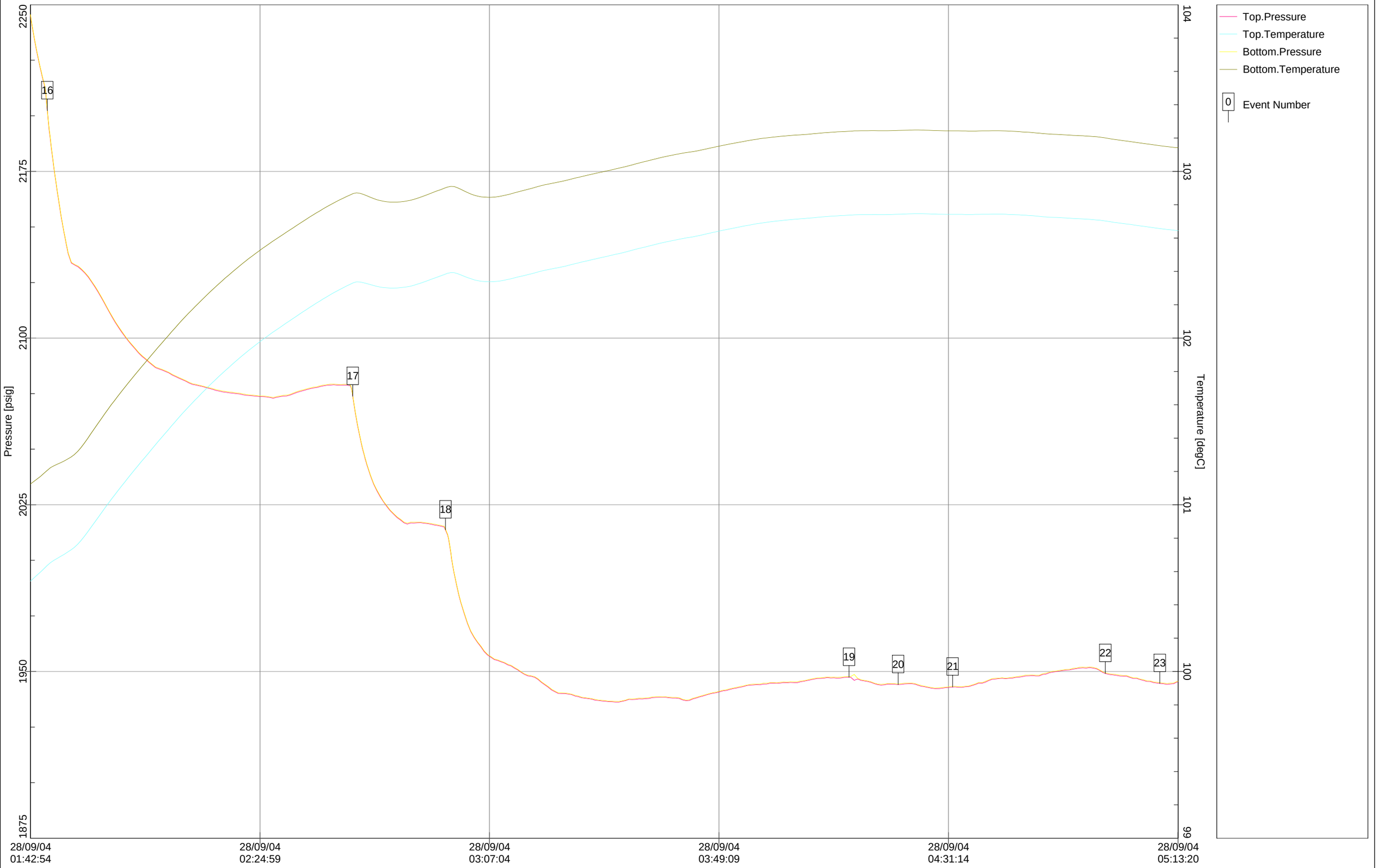
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan
Events 7-16



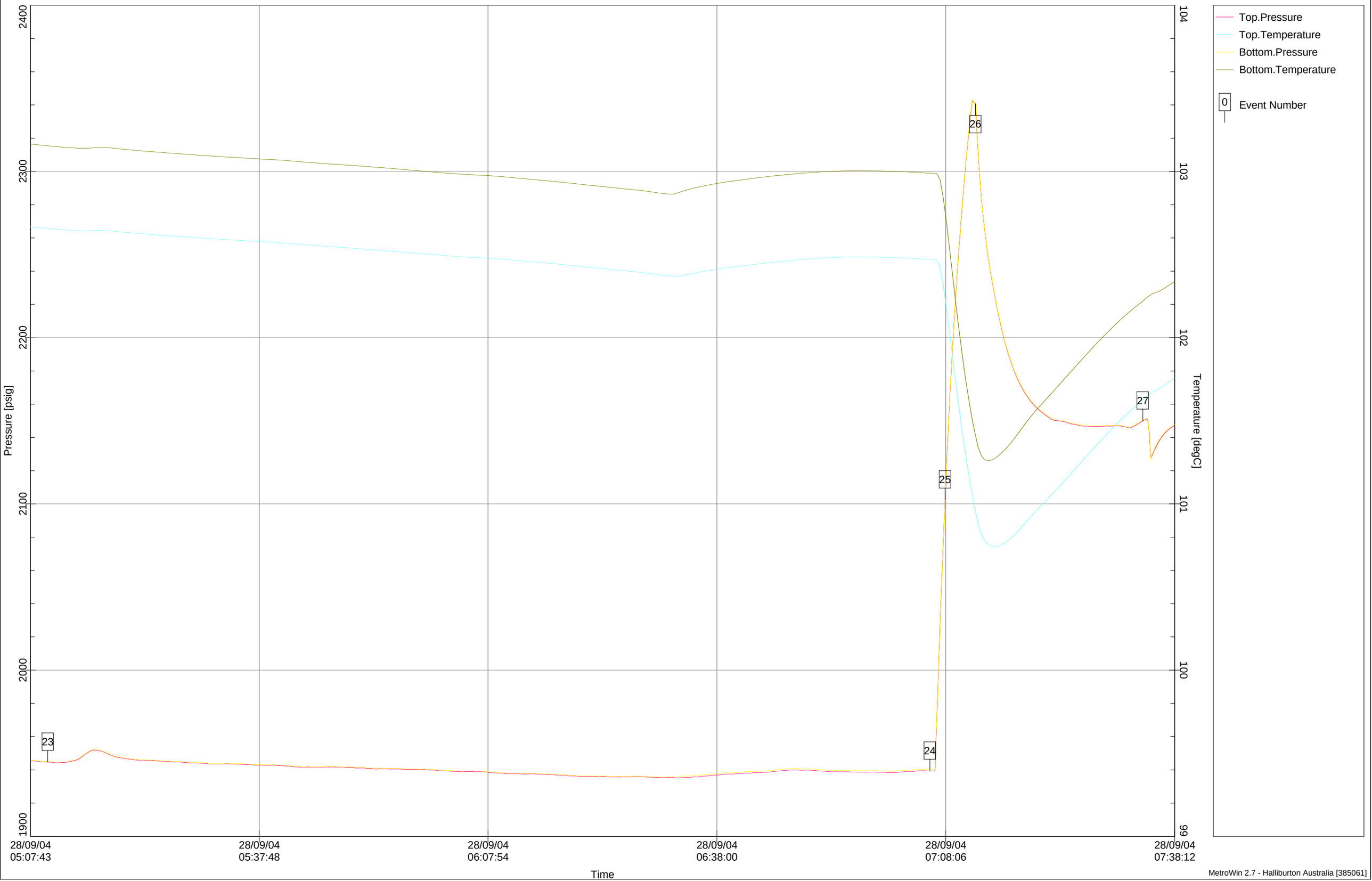
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan
Events 16-23



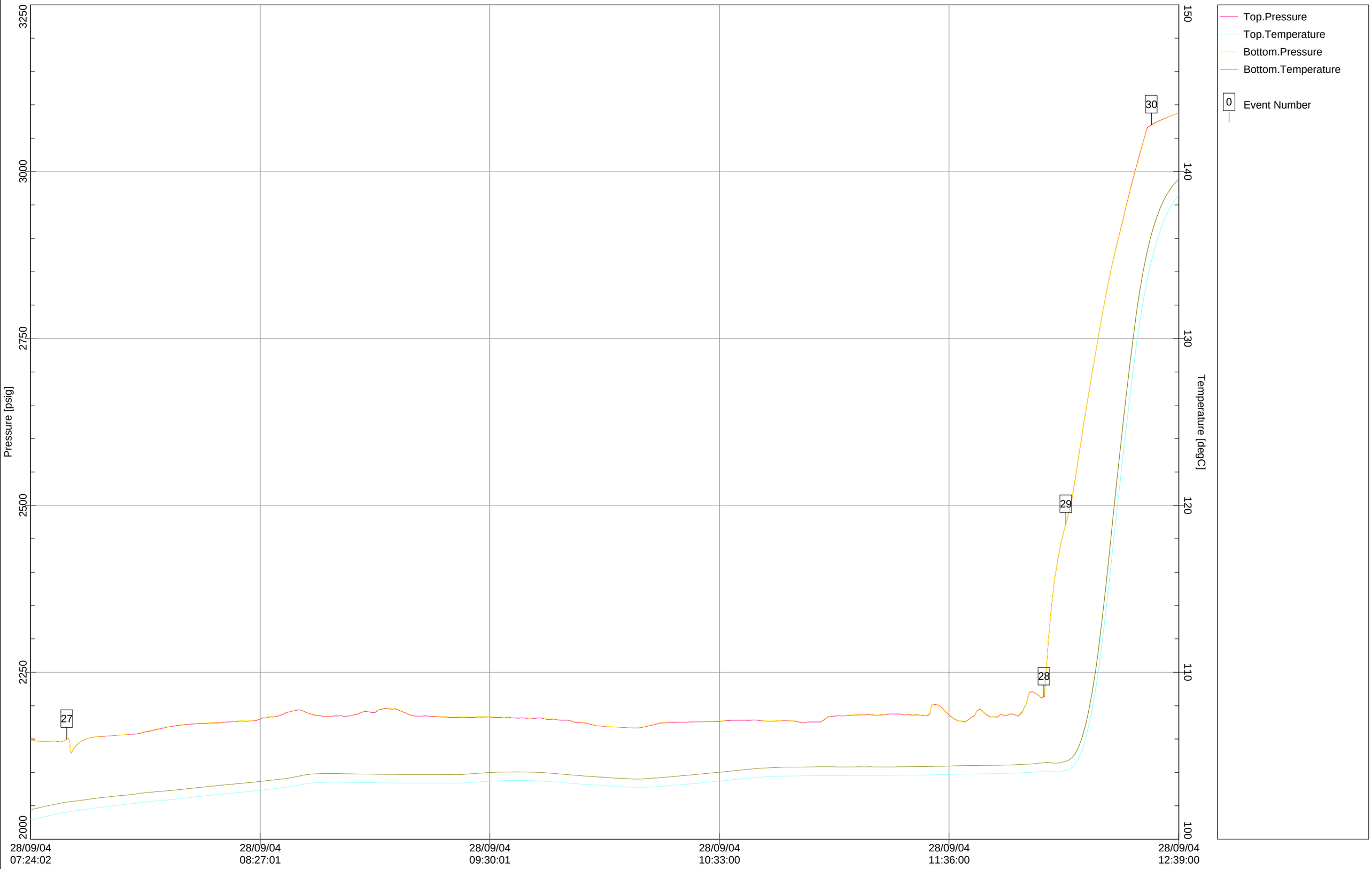
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan
Events 23-27



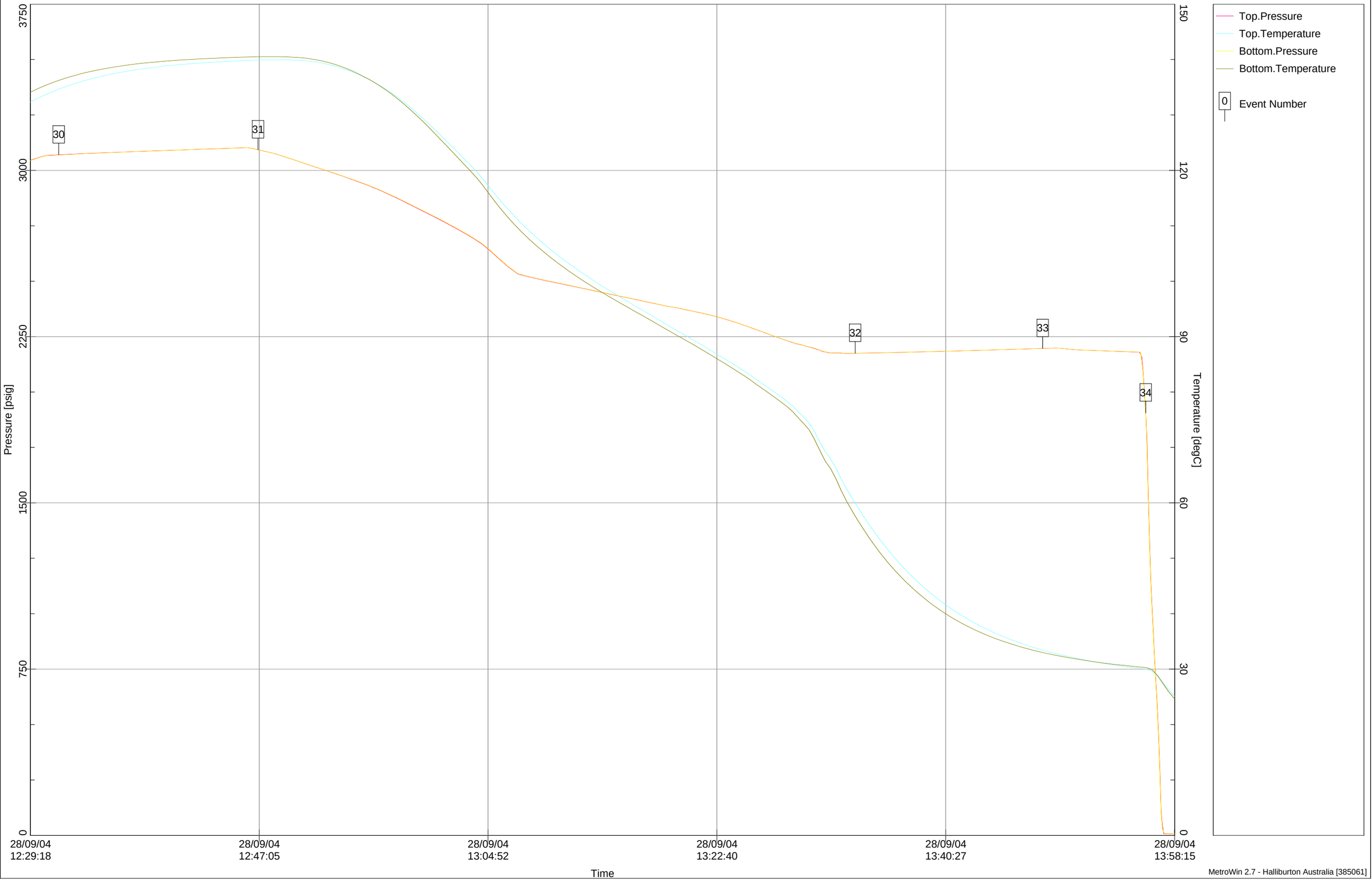
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan
Events 27-30



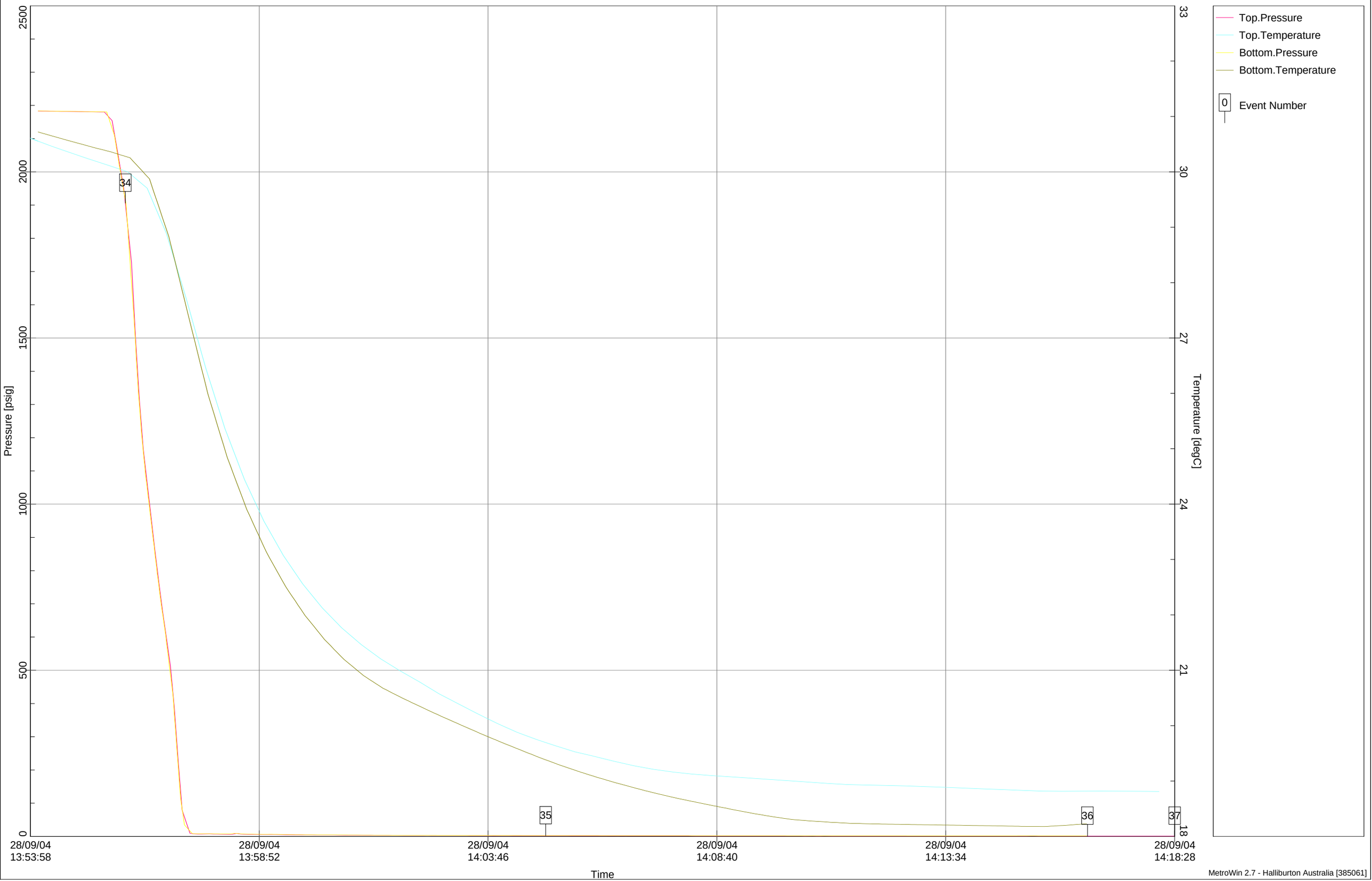
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan
Events 30-34



Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 4
Zone :UEVCM Sands
Operator :David Whelan
Events 34-37



SECTION 3

DATA

SURVEY DATA

Client	:Origin Energy	Operator	:David Whelan
Field	:Yolla	Date	:27-28th September 2004
Platform	:Yolla A		
Well	:Yolla - 3		

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
1	21:24:28	0.21	19.4			Start top gauge
	21:24:28	0.21	19.4			
	21:26:28	0.09	19.5			
2	21:27:26	0.06	19.5	0.61	19.3	Start bottom gauge
	21:28:28	0.04	19.6	0.6	19.3	
	21:30:28	0	19.7	0.58	19.4	
	21:32:28	0.01	19.7	0.6	19.5	
	21:34:28	0.02	19.7	0.6	19.5	
	21:36:28	-0.02	19.8	0.56	19.6	
	21:38:28	0.24	19.7	0.88	19.5	
	21:40:28	0.33	19.7	1.03	19.2	
	21:42:28	0.55	19.4	1.06	18.8	
	21:44:28	0.64	18.9	0.86	18.6	
3	21:45:00	0.61	18.8	0.87	18.6	Add gauges to toolstring
	21:46:28	0.54	18.5	1.02	18.4	
	21:48:28	0.56	18.1	1.04	18	
	21:50:28	0.39	17.8	0.99	17.6	
	21:52:28	0.41	17.6	1	17.3	
	21:54:28	0.66	17.2	1.32	16.9	
	21:56:28	0.75	16.7	1.58	16.2	
	21:58:28	0.83	16.3	1.55	15.7	
	22:00:28	0.86	16	1.51	15.3	
	22:02:28	0.96	15.8	1.6	15	
	22:04:28	1.01	15.5	1.63	14.8	
	22:06:28	1.02	15.3	1.63	14.5	
	22:08:28	1.05	15.1	1.66	14.3	
	22:10:28	1.07	14.9	1.67	14.1	
	22:12:28	1.1	14.8	1.7	13.9	
	22:14:28	1.21	14.6	1.8	13.8	
	22:16:28	1.26	14.5	1.85	13.6	
	22:18:28	1.31	14.3	1.9	13.5	
	22:20:28	1.39	14.2	1.96	13.3	
	22:22:28	1.4	14.1	1.97	13.2	
	22:24:28	1.38	14	1.96	13.1	
	22:26:28	1.45	13.9	2.02	13	
	22:28:28	1.44	13.8	2.01	12.9	
	22:30:28	1.45	13.7	2.02	12.8	
	22:32:28	1.44	13.6	2.01	12.7	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	22:34:28	1.43	13.5	2.01	12.6	
	22:36:28	1.48	13.5	2.05	12.5	
	22:38:28	1.47	13.4	2.05	12.5	
	22:40:28	1.46	13.3	2.05	12.4	
	22:42:28	1.47	13.3	2.05	12.3	
	22:44:28	1.46	13.2	2.05	12.3	
	22:46:28	1.46	13.2	2.04	12.2	
	22:48:28	1.46	13.1	2.05	12.2	
	22:50:28	1.45	13.1	2.05	12.2	
	22:52:28	1.45	13.1	2.05	12.1	
	22:54:28	1.45	13	2.05	12.1	
	22:56:28	1.45	13	2.05	12.1	
	22:58:28	1.44	13	2.05	12	
	23:00:28	1.45	12.9	2.06	12	
	23:02:28	1.44	12.9	2.06	12	
	23:04:28	1.45	12.9	2.06	12	
	23:06:28	1.44	12.9	2.06	12	
	23:08:28	1.45	12.8	2.08	11.9	
	23:10:28	1.44	12.8	2.08	11.9	
	23:12:28	1.44	12.8	2.08	11.9	
	23:14:28	1.45	12.8	2.09	11.9	
	23:16:28	1.46	12.8	2.09	11.9	
	23:18:28	1.45	12.8	2.09	11.9	
	23:20:28	1.46	12.8	2.1	11.9	
	23:22:28	1.45	12.8	2.11	11.9	
	23:24:28	1.45	12.7	2.11	11.9	
	23:26:28	1.46	12.7	2.11	11.9	
	23:28:28	1.46	12.7	2.11	11.9	
	23:30:28	1.47	12.7	2.12	11.9	
	23:32:28	1.47	12.7	2.13	11.9	
	23:34:28	1.48	12.7	2.13	11.9	
	23:36:28	1.47	12.7	2.14	11.9	
	23:38:28	1.48	12.7	2.14	11.9	
	23:40:28	1.47	12.7	2.14	11.9	
	23:42:28	1.48	12.8	2.14	12	
	23:44:28	1.49	12.8	2.16	12	
	23:46:28	1.5	12.8	2.17	12	
	23:48:28	1.52	12.8	2.18	12	
	23:50:28	1.51	12.8	2.19	12	
	23:52:28	1.52	12.8	2.2	12	
	23:54:28	1.53	12.8	2.2	12	
	23:56:28	1.53	12.8	2.21	12	
	23:58:28	1.53	12.8	2.21	12.1	
	0:00:28	1.53	12.8	2.22	12.1	
	0:02:28	1.55	12.8	2.23	12.1	
	0:04:28	1.55	12.8	2.23	12.1	
	0:06:28	1.56	12.8	2.24	12.1	
	0:08:28	1.55	12.9	2.24	12.1	
	0:10:28	1.56	12.9	2.25	12.1	
	0:12:28	1.56	12.9	2.25	12.1	
	0:14:28	1.57	12.9	2.26	12.2	
	0:16:28	1.57	12.9	2.26	12.2	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	0:18:28	1.58	12.9	2.26	12.2	
	0:20:28	1.58	12.9	2.27	12.2	
	0:22:28	1.59	12.9	2.26	12.2	
	0:24:28	1.58	12.9	2.28	12.2	
	0:26:28	1.6	12.9	2.28	12.2	
	0:28:28	1.61	13	2.29	12.3	
4	0:29:00	74.16	13	79.19	12.3	Open swab valve
	0:30:28	2019.53	15.5	2020.03	14.8	
	0:32:28	2043.77	20.1	2045.13	19.3	
	0:34:28	2058.37	21.9	2059.65	20.5	
	0:36:28	2068.83	23	2069.9	21.1	
5	0:37:00	2071.78	23.2	2073.07	21.2	Run in hole with gauges THP 2100 psiA
	0:38:28	2094.92	25.2	2094.76	23.9	
	0:40:28	2152.76	30.3	2152.99	30.3	
	0:42:28	2219.79	36.7	2220.3	37.8	
	0:44:28	2276.39	44.2	2277.53	46.4	
	0:46:28	2321.23	51.8	2322.46	54.7	
	0:48:28	2363.35	59.1	2364.54	62.5	
	0:50:28	2401.06	65.9	2402.14	69.4	
	0:52:28	2439.78	71.9	2440.58	75.5	
	0:54:28	2480.16	77.1	2480.86	80.5	
	0:56:28	2522	81.6	2522.55	84.7	
	0:58:28	2588.29	85.3	2589.15	88.1	
	1:00:28	2648.82	88.3	2649.3	90.8	
	1:02:28	2652.18	91	2652.5	93.3	
6	1:04:00	2653.77	92.6	2654.19	94.7	On depth 2248 mtrs MDKB THP 2191 psiA
	1:04:28	2654.28	93	2654.77	95	
	1:06:28	2656.43	94.5	2657.01	96.3	
	1:08:28	2657.79	95.6	2658.33	97.1	
	1:10:28	2659.71	96.5	2660.33	97.8	
7	1:11:00	2655.59	96.7	2656.12	97.9	Open well on 16/64 choke THP 2179 psiA
8	1:12:00	2644.76	97	2645.18	98.2	Increase choke to 20/64
	1:12:28	2639.06	97.1	2639.6	98.3	
	1:14:28	2624.65	97.6	2625.14	98.7	
9	1:16:00	2613.53	98	2613.78	99	Increase choke to 24/64 THP 2179 psiA
	1:16:28	2607.73	98.1	2608.19	99.1	
	1:18:28	2592.3	98.5	2592.75	99.4	
10	1:19:00	2582.55	98.6	2582.73	99.5	Increase choke to 28/64
	1:20:28	2563.92	98.8	2564.41	99.6	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
11	1:22:00	2545.13	99	2545.24	99.8	Increase choke to 32/64
	1:22:28	2536.64	99.1	2536.98	99.9	
	1:24:28	2511.27	99.3	2511.62	100.1	
	1:26:28	2495.55	99.5	2495.89	100.2	
12	1:27:00	2485.07	99.6	2485.38	100.3	Increase choke to 36/64
	1:28:28	2461.48	99.7	2461.82	100.4	
	1:30:28	2441.06	99.9	2441.44	100.6	
13	1:31:00	2429.55	99.9	2429.82	100.6	Increase choke to 40/64 THP 2021 psiA
	1:32:28	2402.41	100	2402.71	100.7	
	1:34:28	2378.09	100.2	2378.44	100.8	
14	1:36:00	2358.33	100.2	2358.66	100.9	Increase choke to 44/64
	1:36:28	2347.8	100.3	2348.09	100.9	
	1:38:28	2314.28	100.4	2314.62	101	
	1:40:28	2292.61	100.5	2292.9	101	
15	1:41:00	2281.1	100.5	2281.35	101.1	Increase choke to 48/64
	1:42:28	2252.57	100.5	2252.84	101.1	
	1:44:28	2224.1	100.6	2224.37	101.2	
16	1:46:00	2202.27	100.6	2202.45	101.2	Increase choke to 52/64
	1:46:28	2191.19	100.7	2191.46	101.2	
	1:48:28	2155.8	100.7	2156.06	101.3	
	1:50:28	2133.61	100.7	2133.9	101.3	
	1:52:28	2130.29	100.8	2130.6	101.4	
	1:54:28	2124.02	100.9	2124.34	101.4	
	1:56:28	2115.78	101	2116.06	101.5	
	1:58:28	2107.02	101.1	2107.36	101.6	
	2:00:28	2099.92	101.1	2100.19	101.7	
	2:02:28	2094.09	101.2	2094.39	101.8	
	2:04:28	2089.48	101.3	2089.79	101.9	
	2:06:28	2086.12	101.4	2086.45	102	
	2:08:28	2083.98	101.5	2084.32	102	
	2:10:28	2081.52	101.5	2081.87	102.1	
	2:12:28	2079.25	101.6	2079.6	102.2	
	2:14:28	2078.2	101.7	2078.45	102.2	
	2:16:28	2076.89	101.7	2077.2	102.3	
	2:18:28	2075.71	101.8	2076.03	102.4	
	2:20:28	2075.06	101.9	2075.4	102.4	
	2:22:28	2074.25	101.9	2074.63	102.5	
	2:24:28	2073.77	102	2074.11	102.5	
	2:26:28	2073.41	102	2073.74	102.6	
	2:28:28	2073.56	102.1	2073.91	102.6	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	2:30:28	2074.34	102.1	2074.66	102.6	
	2:32:28	2076.15	102.1	2076.51	102.7	
	2:34:28	2077.4	102.2	2077.79	102.7	
	2:36:28	2078.49	102.2	2078.82	102.8	
	2:38:28	2078.99	102.3	2079.31	102.8	
	2:40:28	2078.88	102.3	2079.23	102.8	
17	2:42:00	2073.88	102.3	2074.12	102.9	Increase choke to 56/64 THP 1644 psiA
	2:42:28	2066.38	102.3	2066.72	102.9	
	2:44:28	2044.13	102.3	2044.45	102.9	
	2:46:28	2031.16	102.3	2031.51	102.8	
	2:48:28	2023.52	102.3	2023.87	102.8	
	2:50:28	2018.64	102.3	2019.02	102.8	
	2:52:28	2016.85	102.3	2017.16	102.8	
	2:54:28	2016.92	102.3	2017.26	102.8	
	2:56:28	2016.15	102.4	2016.53	102.9	
	2:58:28	2015.43	102.4	2015.7	102.9	
18	2:59:00	2014.22	102.4	2014.51	102.9	Increase choke to 60/64 THP 1609 psiA
	3:00:28	1995.87	102.4	1996.11	102.9	
	3:02:28	1975.98	102.4	1976.23	102.9	
	3:04:28	1964.54	102.3	1964.82	102.9	
	3:06:28	1957.97	102.3	1958.25	102.8	
	3:08:28	1955.02	102.3	1955.32	102.8	
	3:10:28	1952.97	102.4	1953.25	102.9	
	3:12:28	1950.26	102.4	1950.56	102.9	
	3:14:28	1947.8	102.4	1948.15	102.9	
	3:16:28	1945.46	102.4	1945.77	102.9	
	3:18:28	1941.7	102.4	1942.05	102.9	
	3:20:28	1940.07	102.4	1940.34	102.9	
	3:22:28	1939.32	102.4	1939.59	103	
	3:24:28	1937.96	102.5	1938.28	103	
	3:26:28	1937.1	102.5	1937.45	103	
	3:28:28	1936.52	102.5	1936.82	103	
	3:30:28	1936.2	102.5	1936.53	103	
	3:32:28	1937.29	102.5	1937.59	103	
	3:34:28	1937.7	102.5	1938	103	
	3:36:28	1937.96	102.6	1938.3	103.1	
	3:38:28	1938.45	102.6	1938.78	103.1	
	3:40:28	1938.09	102.6	1938.42	103.1	
	3:42:28	1937.2	102.6	1937.49	103.1	
	3:44:28	1937.74	102.6	1938.08	103.1	
	3:46:28	1939.15	102.6	1939.42	103.1	
	3:48:28	1940.4	102.6	1940.67	103.1	
	3:50:28	1941.45	102.7	1941.74	103.2	
	3:52:28	1942.68	102.7	1942.98	103.2	
	3:54:28	1943.66	102.7	1944.02	103.2	
	3:56:28	1944.08	102.7	1944.38	103.2	
	3:58:28	1944.68	102.7	1944.99	103.2	
	4:00:28	1944.86	102.7	1945.22	103.2	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	4:02:28	1945.05	102.7	1945.38	103.2	
	4:04:28	1945.56	102.7	1945.78	103.2	
	4:06:28	1946.52	102.7	1946.84	103.2	
	4:08:28	1947.05	102.7	1947.34	103.2	
	4:10:28	1947.03	102.7	1947.37	103.2	
	4:12:28	1947.39	102.7	1947.72	103.2	
19	4:13:00	1947.41	102.7	1947.73	103.2	Switch to 60/64 fixed choke THP 1560 psiA
	4:14:28	1946.79	102.7	1947.06	103.2	
	4:16:28	1945.5	102.7	1945.76	103.2	
	4:18:28	1943.9	102.7	1944.23	103.2	
	4:20:28	1944.32	102.7	1944.61	103.2	
20	4:22:00	1944.11	102.7	1944.42	103.2	Pass flow through seperator
	4:22:28	1944.17	102.7	1944.43	103.2	
	4:24:28	1944.52	102.7	1944.81	103.2	
	4:26:28	1943.33	102.7	1943.61	103.2	
	4:28:28	1942.35	102.7	1942.68	103.2	
	4:30:28	1942.58	102.7	1942.88	103.2	
21	4:32:00	1943.03	102.7	1943.34	103.2	Increase seperator pressure THP 1555 psiA
	4:32:28	1943.06	102.7	1943.33	103.2	
	4:34:28	1943.16	102.7	1943.47	103.2	
	4:36:28	1944.46	102.7	1944.82	103.2	
	4:38:28	1945.7	102.7	1946	103.2	
	4:40:28	1946.83	102.7	1947.02	103.2	
	4:42:28	1946.9	102.7	1947.17	103.2	
	4:44:28	1947.46	102.7	1947.85	103.2	
	4:46:28	1948.11	102.7	1948.41	103.2	
	4:48:28	1948.65	102.7	1948.95	103.2	
	4:50:28	1949.87	102.7	1950.08	103.2	
	4:52:28	1950.52	102.7	1950.78	103.2	
	4:54:28	1951.24	102.7	1951.54	103.2	
	4:56:28	1951.52	102.7	1951.78	103.2	
	4:58:28	1951.12	102.7	1951.43	103.2	
22	5:00:00	1949.18	102.7	1949.5	103.2	Decrease seperator pressure THP 1556 psiA
	5:00:28	1948.95	102.7	1949.22	103.2	
	5:02:28	1948.13	102.7	1948.41	103.2	
	5:04:28	1947.34	102.7	1947.69	103.2	
	5:06:28	1946.33	102.7	1946.58	103.2	
	5:08:28	1945.29	102.7	1945.58	103.2	
23	5:10:00	1944.72	102.7	1945.02	103.2	Increase seperator pressure
	5:10:28	1944.6	102.7	1944.9	103.2	
	5:12:28	1944.52	102.6	1944.85	103.1	
	5:14:28	1947.83	102.6	1948.12	103.1	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	5:16:28	1951.87	102.6	1952.21	103.1	
	5:18:28	1948.54	102.6	1948.85	103.1	
	5:20:28	1946.56	102.6	1946.88	103.1	
	5:22:28	1945.8	102.6	1946.13	103.1	
	5:24:28	1945.34	102.6	1945.62	103.1	
	5:26:28	1944.79	102.6	1945.11	103.1	
	5:28:28	1944.27	102.6	1944.68	103.1	
	5:30:28	1943.89	102.6	1944.21	103.1	
	5:32:28	1943.57	102.6	1943.89	103.1	
	5:34:28	1943.41	102.6	1943.77	103.1	
	5:36:28	1943.2	102.6	1943.49	103.1	
	5:38:28	1942.75	102.6	1943.09	103.1	
	5:40:28	1942.5	102.6	1942.79	103.1	
	5:42:28	1941.85	102.6	1942.11	103.1	
	5:44:28	1941.72	102.6	1942.08	103.1	
	5:46:28	1941.66	102.6	1941.92	103	
	5:48:28	1941.67	102.5	1942.02	103	
	5:50:28	1941.14	102.5	1941.46	103	
	5:52:28	1940.82	102.5	1941.13	103	
	5:54:28	1940.64	102.5	1940.92	103	
	5:56:28	1940.46	102.5	1940.78	103	
	5:58:28	1940.29	102.5	1940.64	103	
	6:00:28	1939.83	102.5	1940.21	103	
	6:02:28	1939.39	102.5	1939.79	103	
	6:04:28	1938.91	102.5	1939.25	103	
	6:06:28	1938.9	102.5	1939.23	103	
	6:08:28	1938.31	102.5	1938.62	103	
	6:10:28	1937.68	102.5	1938.06	103	
	6:12:28	1937.62	102.5	1937.88	103	
	6:14:28	1937.36	102.5	1937.64	102.9	
	6:16:28	1937.19	102.4	1937.48	102.9	
	6:18:28	1936.47	102.4	1936.71	102.9	
	6:20:28	1936.2	102.4	1936.52	102.9	
	6:22:28	1935.85	102.4	1936.16	102.9	
	6:24:28	1935.84	102.4	1936.12	102.9	
	6:26:28	1935.8	102.4	1936.1	102.9	
	6:28:28	1935.94	102.4	1936.24	102.9	
	6:30:28	1935.27	102.4	1935.64	102.9	
	6:32:28	1935.45	102.4	1935.82	102.9	
	6:34:28	1935.63	102.4	1936.45	102.9	
	6:36:28	1936.3	102.4	1937.18	102.9	
	6:38:28	1937.06	102.4	1937.91	102.9	
	6:40:28	1937.68	102.4	1938.49	102.9	
	6:42:28	1938.11	102.4	1939.01	103	
	6:44:28	1938.62	102.4	1939.39	103	
	6:46:28	1939.4	102.5	1940.26	103	
	6:48:28	1940.05	102.5	1940.84	103	
	6:50:28	1939.74	102.5	1940.56	103	
	6:52:28	1939.06	102.5	1939.87	103	
	6:54:28	1938.86	102.5	1939.63	103	
	6:56:28	1938.78	102.5	1939.57	103	
	6:58:28	1938.71	102.5	1939.47	103	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	7:00:28	1938.4	102.5	1939.27	103	
	7:02:28	1938.76	102.5	1939.62	103	
	7:04:28	1939.57	102.5	1940.38	103	
24	7:06:00	1939.38	102.5	1940.18	103	Switch to 56/64 adjustable choke
	7:06:28	1939.4	102.5	1940.14	103	
25	7:08:00	2102.51	102.2	2103.51	102.8	Decrease choke to 48/64
	7:08:28	2148.72	102.1	2149.65	102.6	
	7:10:28	2290.99	101.4	2291.81	101.8	
26	7:12:00	2343.65	101	2342.95	101.4	Increase seperator pressure THP 1820 psiA
	7:12:28	2303.57	100.9	2303.48	101.3	
	7:14:28	2227.36	100.7	2227.58	101.3	
	7:16:28	2188.24	100.8	2188.55	101.4	
	7:18:28	2167.17	100.9	2167.59	101.5	
	7:20:28	2156.18	101	2156.54	101.6	
	7:22:28	2150.16	101.1	2150.49	101.7	
	7:24:28	2148.32	101.2	2148.72	101.8	
	7:26:28	2146.74	101.3	2147.02	101.9	
	7:28:28	2146.43	101.4	2146.86	102	
	7:30:28	2147.05	101.5	2147.43	102.1	
	7:32:28	2145.87	101.6	2146.21	102.2	
27	7:34:00	2150.01	101.6	2150.35	102.2	Switch to 48/64 fixed choke
	7:34:28	2150.98	101.6	2151.4	102.2	
	7:36:28	2140.15	101.7	2140.54	102.3	
	7:38:28	2148.11	101.8	2148.56	102.3	
	7:40:28	2152.03	101.8	2152.37	102.4	
	7:42:28	2153.8	101.9	2154.18	102.5	
	7:44:28	2154.13	101.9	2154.51	102.5	
	7:46:28	2155.17	102	2155.62	102.6	
	7:48:28	2155.99	102	2156.37	102.6	
	7:50:28	2156.78	102.1	2157.19	102.6	
	7:52:28	2157.26	102.1	2158.03	102.7	
	7:54:28	2159.23	102.2	2160.12	102.8	
	7:56:28	2161.62	102.2	2162.49	102.8	
	7:58:28	2164.19	102.3	2165.1	102.8	
	8:00:28	2166.41	102.3	2167.28	102.9	
	8:02:28	2168.57	102.4	2169.47	102.9	
	8:04:28	2170.34	102.4	2171.19	103	
	8:06:28	2171.57	102.5	2172.52	103	
	8:08:28	2172.27	102.5	2173.19	103.1	
	8:10:28	2173.08	102.6	2173.97	103.1	
	8:12:28	2173.52	102.6	2174.46	103.1	
	8:14:28	2174.1	102.7	2174.94	103.2	
	8:16:28	2174.61	102.7	2175.43	103.2	
	8:18:28	2175.53	102.7	2176.39	103.3	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	8:20:28	2175.92	102.8	2176.77	103.3	
	8:22:28	2176.69	102.8	2177.59	103.4	
	8:24:28	2177.27	102.9	2178.13	103.4	
	8:26:28	2179.11	102.9	2179.98	103.4	
	8:28:28	2181.8	103	2182.56	103.5	
	8:30:28	2182.86	103	2183.71	103.5	
	8:32:28	2185.2	103.1	2186.12	103.6	
	8:34:28	2190.13	103.1	2191.02	103.7	
	8:36:28	2192.13	103.2	2193	103.7	
	8:38:28	2193.69	103.3	2194.51	103.8	
	8:40:28	2188.11	103.3	2189.04	103.9	
	8:42:28	2185.04	103.4	2185.95	103.9	
	8:44:28	2183.56	103.4	2184.52	103.9	
	8:46:28	2183.58	103.4	2184.43	103.9	
	8:48:28	2184.56	103.4	2185.43	103.9	
	8:50:28	2183.72	103.4	2184.6	103.9	
	8:52:28	2185.28	103.4	2186.07	103.9	
	8:54:28	2188.62	103.4	2189.55	103.9	
	8:56:28	2191.05	103.4	2191.9	103.9	
	8:58:28	2189.11	103.4	2190.13	103.9	
	9:00:28	2194.66	103.4	2195.6	103.9	
	9:02:28	2195.27	103.4	2196.08	103.9	
	9:04:28	2194.83	103.4	2195.65	103.9	
	9:06:28	2190.09	103.4	2190.96	103.9	
	9:08:28	2185.57	103.4	2186.44	103.9	
	9:10:28	2183.94	103.4	2184.89	103.9	
	9:12:28	2184.8	103.4	2185.58	103.9	
	9:14:28	2183.9	103.4	2184.76	103.9	
	9:16:28	2183.12	103.4	2183.98	103.9	
	9:18:28	2182.77	103.4	2183.63	103.9	
	9:20:28	2182.48	103.4	2183.22	103.9	
	9:22:28	2182.74	103.4	2183.77	103.9	
	9:24:28	2182.3	103.4	2183.38	103.9	
	9:26:28	2182.77	103.4	2183.74	103.9	
	9:28:28	2182.62	103.5	2183.61	104	
	9:30:28	2182.74	103.5	2183.59	104	
	9:32:28	2182.45	103.5	2183.41	104	
	9:34:28	2182.08	103.5	2183.08	104	
	9:36:28	2181.69	103.5	2182.55	104	
	9:38:28	2181.63	103.5	2182.53	104	
	9:40:28	2180.5	103.5	2181.37	104	
	9:42:28	2181.11	103.5	2181.93	104	
	9:44:28	2181.07	103.5	2181.88	104	
	9:46:28	2179.22	103.5	2179.99	104	
	9:48:28	2179.11	103.4	2179.87	103.9	
	9:50:28	2178.11	103.4	2178.99	103.9	
	9:52:28	2177.06	103.4	2177.88	103.9	
	9:54:28	2174.99	103.3	2175.71	103.8	
	9:56:28	2173.77	103.3	2174.66	103.8	
	9:58:28	2170.7	103.3	2171.58	103.7	
	10:00:28	2169.38	103.2	2169.76	103.7	
	10:02:28	2168.55	103.2	2168.94	103.7	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	10:04:28	2168.07	103.2	2168.39	103.7	
	10:06:28	2167.52	103.1	2167.91	103.6	
	10:08:28	2167.03	103.1	2167.32	103.6	
	10:10:28	2166.63	103.1	2167.22	103.6	
	10:12:28	2168.12	103.1	2169.15	103.6	
	10:14:28	2170.62	103.1	2171.56	103.6	
	10:16:28	2173.36	103.2	2174.22	103.7	
	10:18:28	2174.51	103.2	2175.44	103.7	
	10:20:28	2174.84	103.2	2175.66	103.8	
	10:22:28	2175.15	103.3	2175.97	103.8	
	10:24:28	2175.15	103.3	2176.04	103.8	
	10:26:28	2175.91	103.3	2176.95	103.9	
	10:28:28	2176	103.4	2176.83	103.9	
	10:30:28	2176.15	103.4	2176.99	104	
	10:32:28	2176.15	103.5	2177	104	
	10:34:28	2177.42	103.5	2178.23	104	
	10:36:28	2178	103.6	2178.88	104.1	
	10:38:28	2178.14	103.6	2178.92	104.1	
	10:40:28	2178.02	103.6	2179	104.2	
	10:42:28	2178.39	103.7	2179.19	104.2	
	10:44:28	2177.53	103.7	2178.3	104.3	
	10:46:28	2176.58	103.7	2177.53	104.3	
	10:48:28	2176.94	103.8	2177.77	104.3	
	10:50:28	2177.73	103.8	2178.43	104.3	
	10:52:28	2177.47	103.8	2178.23	104.3	
	10:54:28	2176.05	103.8	2176.82	104.3	
	10:56:28	2174.6	103.8	2175.45	104.3	
	10:58:28	2175.62	103.8	2176.37	104.3	
	11:00:28	2175.46	103.8	2176.22	104.3	
	11:02:28	2181.87	103.8	2182.8	104.3	
	11:04:28	2184.12	103.8	2184.95	104.3	
	11:06:28	2184.78	103.8	2185.66	104.3	
	11:08:28	2185.27	103.8	2186.22	104.3	
	11:10:28	2185.73	103.8	2186.56	104.3	
	11:12:28	2186.44	103.8	2187.17	104.3	
	11:14:28	2186.54	103.8	2187.6	104.3	
	11:16:28	2185.66	103.8	2186.46	104.3	
	11:18:28	2186.28	103.8	2187.16	104.3	
	11:20:28	2187.41	103.8	2188.31	104.3	
	11:22:28	2187.45	103.8	2188.19	104.3	
	11:24:28	2186.56	103.8	2187.43	104.3	
	11:26:28	2185.63	103.8	2186.58	104.3	
	11:28:28	2185.16	103.8	2186.02	104.4	
	11:30:28	2183.89	103.9	2184.62	104.4	
	11:32:28	2201.66	103.9	2202.52	104.4	
	11:34:28	2194.15	103.9	2194.93	104.4	
	11:36:28	2183.6	103.9	2184.36	104.4	
	11:38:28	2177.21	103.9	2178.01	104.4	
	11:40:28	2175.62	103.9	2176.56	104.4	
	11:42:28	2183.57	103.9	2184.4	104.4	
	11:44:28	2195.15	103.9	2195.9	104.4	
	11:46:28	2185.48	103.9	2186.35	104.4	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	11:48:28	2183.29	103.9	2184.18	104.4	
	11:50:28	2186.8	103.9	2187.63	104.4	
	11:52:28	2187.47	104	2188.32	104.4	
	11:54:28	2183.89	104	2184.66	104.5	
	11:56:28	2195.33	104	2196.33	104.5	
	11:58:28	2222.36	104	2223.16	104.5	
	12:00:28	2216.19	104	2216.95	104.6	
28	12:02:00	2206.33	104.1	2207.09	104.6	Shut in well at choke manifold
	12:02:28	2239.32	104.1	2240.68	104.6	
	12:04:28	2367.51	104	2368.24	104.6	
	12:06:28	2437.63	104	2438.38	104.6	
29	12:08:00	2471.64	104.1	2472.22	104.7	Run in hole with gauges
	12:08:28	2481.43	104.1	2482.18	104.7	
	12:10:28	2535.87	104.5	2536.75	105.1	
	12:12:28	2605.98	105.4	2607.03	106.1	
	12:14:28	2673.12	106.9	2673.73	107.9	
	12:16:28	2737.44	109.4	2737.77	110.5	
	12:18:28	2799.19	112.6	2798.84	114.1	
	12:20:28	2853.73	116.5	2852.94	118.2	
	12:22:28	2900.43	120.5	2899.19	122.4	
	12:24:28	2945.57	124.4	2944	126.4	
	12:26:28	2988.87	128.1	2987.15	130	
	12:28:28	3029.39	131.2	3027.73	133.1	
	12:30:28	3066.91	133.6	3065.44	135.3	
30	12:31:30	3070.16	134.6	3068.9	136.2	On depth with gauges 3256 mtrs THP 2109 psiA
	12:32:28	3073.12	135.5	3072.02	136.9	
	12:34:28	3077.99	136.8	3077.34	138.1	
	12:36:28	3082.57	137.8	3082.12	138.9	
	12:38:28	3086.85	138.5	3086.47	139.4	
	12:40:28	3090.94	139	3090.88	139.8	
	12:42:28	3095.11	139.4	3095.23	140.1	
	12:44:28	3099.22	139.7	3099.38	140.3	
	12:46:28	3100.52	139.9	3100.62	140.5	
31	12:47:00	3093	139.9	3093.01	140.5	Pull out of hole with gauges
	12:48:28	3072.66	140	3072.74	140.5	
	12:50:28	3034.52	139.8	3034.81	140.3	
	12:52:28	2995.9	139.1	2996.52	139.5	
	12:54:28	2955.89	137.6	2957.11	137.8	
	12:56:28	2910.35	135.3	2912.1	135.2	
	12:58:28	2855.74	132.1	2857.91	131.7	
	13:00:28	2797.32	128	2799.71	127.3	
	13:02:28	2736.07	123.4	2738.35	122.4	
	13:04:28	2665.23	118.5	2667.21	117.3	
	13:06:28	2564.32	112.9	2566.15	111.4	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	13:08:28	2514.4	108.3	2515.91	106.8	
	13:10:28	2489.54	104.4	2490.8	103	
	13:12:28	2465.32	101.1	2466.35	99.8	
	13:14:28	2440.7	98.1	2441.55	97	
	13:16:28	2416.29	95.3	2417.03	94.3	
	13:18:28	2391.29	92.6	2391.95	91.7	
	13:20:28	2369.24	89.9	2369.88	89	
	13:22:28	2342.89	87.1	2343.54	86.3	
	13:24:28	2307.79	84.3	2308.47	83.4	
	13:26:28	2266.24	81.1	2266.92	80.2	
	13:28:28	2225.42	77.7	2226.23	76.7	
	13:30:28	2192.65	71.9	2194.09	70.5	
	13:32:28	2175.31	63.8	2176.41	61.6	
32	13:33:25	2175.03	60	2175.45	57.6	Out of hole with gauges
	13:34:28	2176.16	56.2	2176.45	53.8	
	13:36:28	2178.54	50.1	2178.69	47.9	
	13:38:28	2181.22	45.4	2181.4	43.4	
	13:40:28	2184.28	41.6	2184.37	40	
	13:42:28	2187.45	38.6	2187.65	37.4	
	13:44:28	2190.74	36.3	2190.97	35.4	
	13:46:28	2194.21	34.5	2194.5	33.9	
33	13:48:00	2196.92	33.4	2197.16	33	Shut in well
	13:48:28	2197.64	33.1	2198.08	32.8	
	13:50:28	2191.73	32	2192.07	31.9	
	13:52:28	2186.53	31.2	2186.93	31.2	
	13:54:28	2182.39	30.5	2182.81	30.6	
34	13:56:00	1906	30	1916.12	30.3	Depressure lubricator
	13:56:28	1065.15	29.7	1049.42	29.9	
	13:58:28	7.28	24.6	8.01	24.2	
	14:00:28	4.14	21.9	4.74	21.4	
	14:02:28	2.92	20.7	3.25	20.3	
	14:04:28	2.24	19.9	2.92	19.6	
35	14:05:00	2.13	19.7	2.82	19.4	Lift lubricator and remove gauges
	14:06:28	1.75	19.4	2.58	19	
	14:08:28	1.44	19.1	2.29	18.6	
	14:10:28	1.25	19	2.01	18.3	
	14:12:28	1.01	18.9	1.76	18.2	
	14:14:28	0.99	18.9	1.68	18.2	
	14:16:28	0.91	18.8	1.6	18.2	
36	14:16:36	0.91	18.8	1.6	18.2	Stop bottom gauge
	14:18:28	1	18.8			
37	14:18:28	1	18.8			Stop top gauge

Origin Energy

Well Name: Yolla 3
Test Type: Flowing Survey

Test Zone: 2809 Sands

Test Zone: 2755 Sands
Date of Survey: 28-30th September 2004

MEMORY GAUGE REPORT

Prepared For: Andrew Wenk
Date: 30th September 2004

David Whelan
Completion Products & Services
Halliburton Australia Pty Ltd

HALLIBURTON

Halliburton Australia Pty Ltd

MEMORY GAUGE FLOWING PRESSURE AND
TEMPERATURE SURVEY

MEMORY GAUGE TICKET NO:	35412
DATE:	30-Sep-04
HALLIBURTON CAMP:	Cheltenham, Victoria
HALLIBURTON OPERATOR:	David Whelan
WITNESS:	N/A
COMPANY:	Origin
DRILLING CONTRACTOR:	Ensco
LEASE NAME:	YOLLA
WELL NO:	YOLLA-3
TEST TYPE:	Flowing Survey
TEST NO:	3
TESTED ZONE:	2809 and 2755 Sands
FIELD AREA:	Bass Strait
STATE:	Victoria
COUNTRY:	Australia

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HALLIBURTON

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SECTION 1

TEST SUMMARY & JOB INFORMATION

WELL DATA

Well Details

Well Name	Yolla - 3	
Field	Yolla	
Platfrom	Yolla A	
Derrick Floor Elevation	81	m AMSL
Top Bottom Flange	27.07	m MDRT

Completion

Measured m (MDRT)	**Description**
27.07	Tubing Hanger
173.47	TRSV
2191.30	5 1/2" PBR
2191.30	4 1/2" Halliburton SSD x 3.813" XD
2202.45	Packer - AHC 9 5/8"
2230.59	4 1/2" Halliburton SSD x 3.813" XD
3161.24	4 1/2" Halliburton SSD x 3.813" XD
3164.48	Packer - AHR 6 5/8"
3200.91	4 1/2" Halliburton SSD x 3.688" RD
3204.14	6 5/8" AHR Packer
3256.00	4 1/2" Halliburton SSD x 3.688" RD
3257.97	7" MWR Packer
3272.85	4 1/2" Halliburton SSD x 3.688" RD
3287.32	4 1/2" Halliburton 3.688" RN Nipple
3289.89	EOT

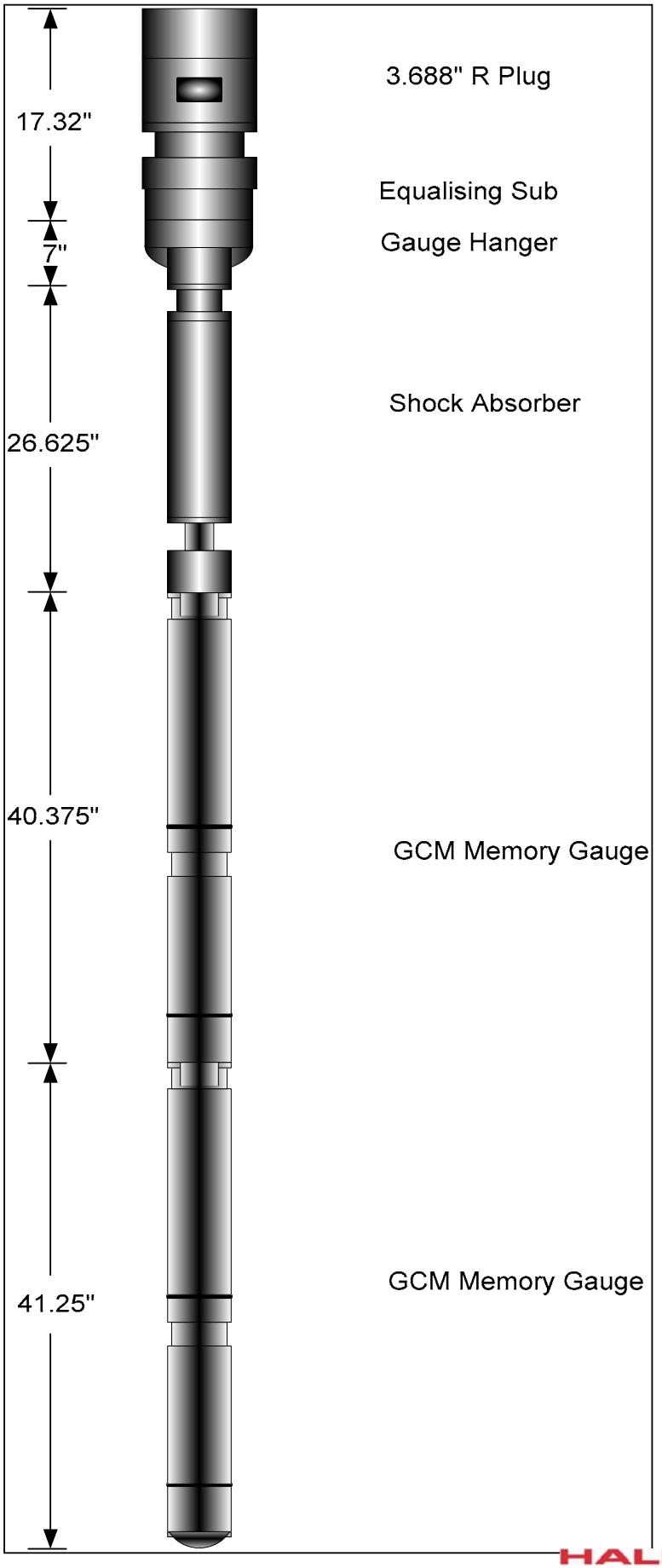
SURVEY EVENTS

Client	:Origin Energy	**Operator**	:David Whelan
Field	:Yolla	**Survey Date**	:28-30th September 2004
Platform	:Yolla A	**Well**	:Yolla - 3

	Event	Time	Description
28-Sep	1	16:31:28	Start top gauge
	2	16:34:37	Start bottom gauge
	3	18:25:00	Add guages to toolstring and stab lubricator
	4	18:36:00	Open well
	5	18:37:45	Run in hole with gauges
	6	19:20:30	Gauges on depth set in nipple 3276 mtrs MDKB
	7	19:28:00	Shear off plug and pull out of hole THP 3010 psia
	8	21:07:00	Open well on 16/64 choke SSD 2809 SANDS
	9	21:10:00	Increase choke to 20/64
	10	21:13:00	Increase choke to 24/64
	11	21:17:00	Increase choke to 28/64 THP 2848 psia
	12	21:21:00	Increase choke to 32/64
	13	21:25:00	Increase choke to 36/64
	14	21:29:00	Increase choke to 40/64 THP 2758 psia
	15	21:35:00	Increase choke to 44/64
	16	21:40:00	Increase choke to 48/64
	17	23:15:00	Increase choke to 52/64 THP 2763 psia
	18	23:32:00	Decrease choke to 48/64
	19	23:42:00	Decrease choke to 44/64 THP 2869 psia
	20	23:53:00	Decrease choke to 40/64
29-Sep	21	0:01:00	Decrease choke to 36/64 THP 2965 psia
	22	0:10:00	Decrease choke to 32/64
	23	0:23:00	Decrease choke to 28/64
	24	0:39:00	Switch to 28/64 fixed choke
	25	1:01:00	Switch to 28/64 adustable choke THP 3094 psia
	26	1:02:00	Decrease choke to 24/64
	27	1:13:00	Decrease choke to 20/64 THP 3149 psia
	28	1:28:00	Increase choke to 32/64 THP 3057 psia
	29	1:40:00	Increase choke to 36/64
	30	2:00:00	Liquid to surface THP 2968 psia
	31	2:23:00	Decrease choke to 32/64
	32	2:52:00	Increase choke to 36/64
	33	3:16:00	Switch to 36/64 fixed choke THP 2994 psia
	34	3:44:00	Pass flow through seperator THP 3001 psia
	35	3:45:00	Increase seperator pressure
	36	9:50:00	Shut in well at choke manifold
	37	11:30:00	Open well
	38	11:45:00	Slickline run in hole and close SSD 2809 SANDS
	39	14:00:00	Slickline at surface shut in well
	40	14:41:00	Open well slickline run in hole and open SSD 2755 SANDS
	41	15:16:00	Slickline open SSD
	42	16:02:00	Slickline at surface shut in well THP 3118 psia
	43	16:25:00	Open well

	44	16:31:00	Open well on 24/64 choke THP 3121 psia
	45	16:35:00	Increase choke to 32/64
	46	16:40:00	Increase choke to 40/64 THP 2461 psia
	47	17:10:00	Increase choke to 56/64
	48	19:16:00	Decrease choke to 48/64 THP 1656 psia
	49	20:00:00	Decrease choke to 40/64 THP 1939 psia
	50	20:33:00	Decrease choke to 36/64 THP 2254 psia
	51	20:59:00	Increase choke to 40/64 THP 2393 psia
	52	21:05:00	Switch to 40/64 fixed choke
	53	21:28:00	Pass flow through seperator
	54	21:30:00	Increase seperator pressure THP 2242 psia
30-Sep	55	4:31:00	Shut in well at choke manifold
	56	5:10:00	Run in hole with pulling tool on slickline
	57	5:40:00	Latch gauges and jar free
	58	5:45:00	Pull out of hole with gauges
	59	6:14:00	Out of hole shut in well
	60	6:29:00	Depressure lubricator
	61	6:45:00	Lift lubricator and remove gauges
	62	6:58:07	Stop bottom gauge
	63	7:01:28	Stop top gauge

FLOWING SURVEY TOOL STRING



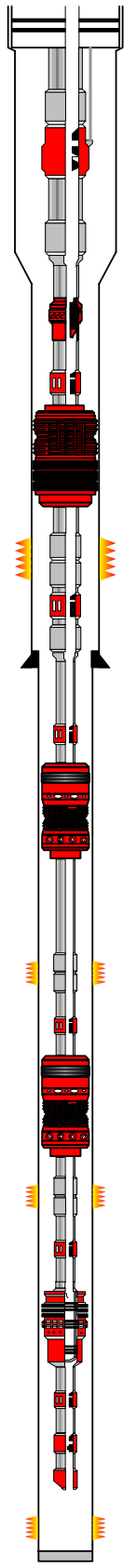
HALLIBURTON

Completion Schematic

Origin energy

HALLIBURTON

WELL :	Yolla 3	*Pick up Wt -*	*340k*
DATE :	24-Sep-04	*Slack off Wt -*	255k
RIG :	Ensco 102	*Block Wt -*	84k
		RKB	**27.07**



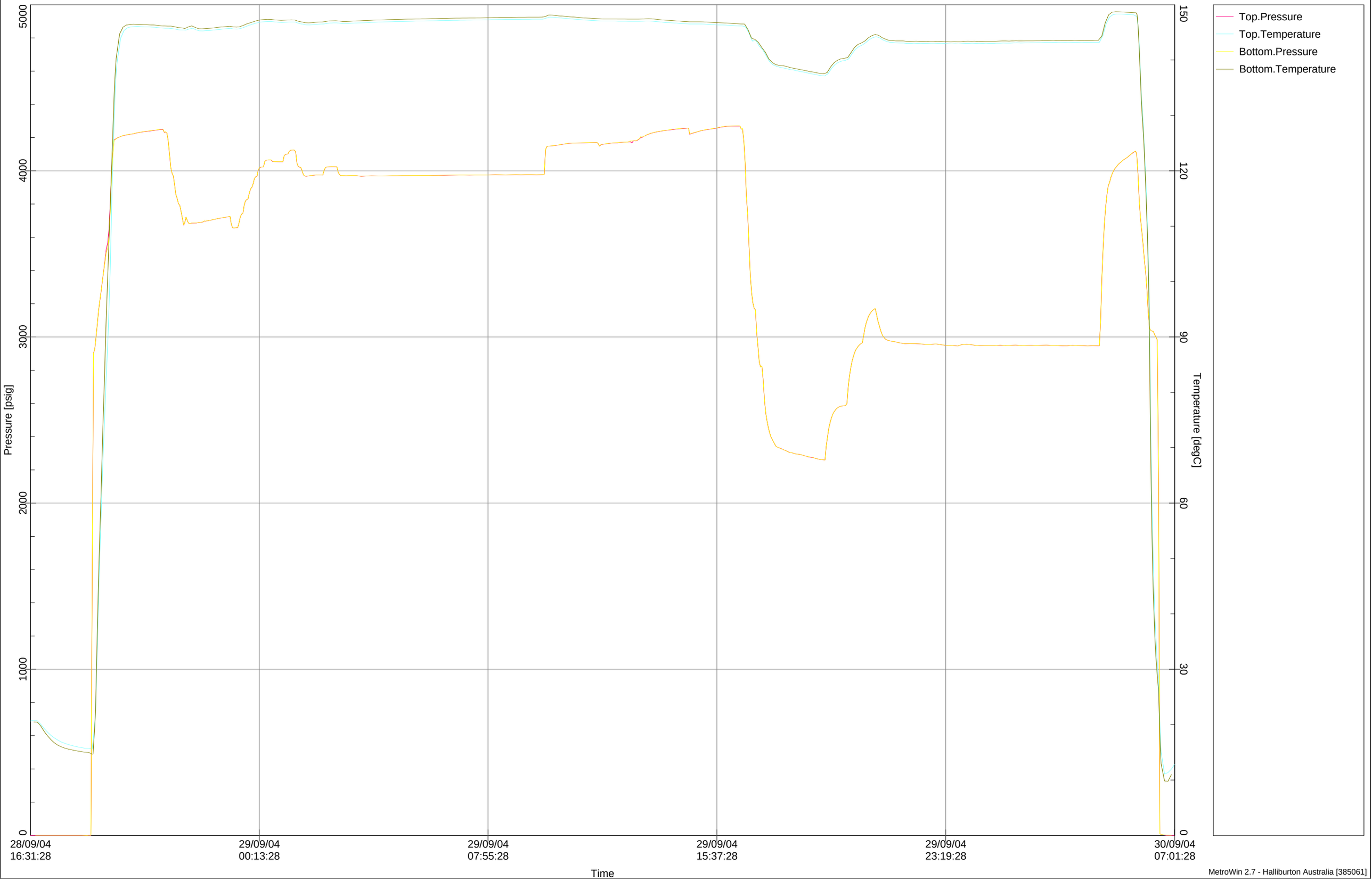
Depth m	Length	No.	Item	DESCRIPTION	O.D.	I.D.
	27.070			Rig Elevation		
27.07	0.280		**1**	Tubing Hanger (Cameron)	13.625	5.963
27.35	1.610			Hanger Pup Joint 7"K-Fox, 26#/ft P x P 13Cr 1mtr	7.000	6.276
28.96	12.882	1	**2**	**7" 29ppf 13Cr80 K-Fox tubing**	7.000	6.184
41.84	8.266			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 4mtr	7.000	6.276
50.11	105.302	11		7" 26ppf 13Cr80 K-Fox tubing	7.000	6.276
155.41	12.766	1	**3**	**7" 29ppf 13Cr80 K-Fox tubing**	7.000	6.184
168.18	3.870			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 2mtr	7.000	6.276
172.05	1.420		**4**	Flow Coupling -7" K-Fox B x P 13Cr	7.676	6.246
173.47	3.350		**5**	**TRSSSV-SP -7"-26# K-Fox B x P 13Cr (RPT)**	9.350	5.875
176.82	1.880			Pup Joint 7"K-Fox, 26#/ft B x P 13Cr 2mtr	7.000	6.276
178.70	2001.070	210		7" 26ppf 13Cr80 K-Fox tubing	7.000	6.276
2179.77	1.100			Difference B/N tubing and WL		
2180.87	3.870			Pup Joint, 7" K Fox. 26#/ft BxP 13Cr 4 Mtr	7.000	6.276
2184.74	1.420		**6**	**Flow Coupling -7" K-Fox B x P 13Cr**	7.676	6.246
2186.16	0.490		**7**	**Crossover -7"-26# K-Fox B x 5" K-Fox P 13Cr**	7.676	4.408
2186.65	1.880			Pup Joint, 5" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2188.53	1.880			Pup Joint, 5" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2190.41	0.340		**8**	**Crossover -5"-15# K-Fox B x 5 1/2"-17# NK#SB P 13Cr**	5.570	4.433
2190.75	0.220		**9**	Locator Seal Assy -5 1/2"-17# NK3SB B 13Cr	7.623	4.860
2190.97	0.336			**Extention setting of PBR**		
2191.30	3.810		**10**	Polished Bore Receptacle -5 1/2"-17# NK3SB P 13Cr	8.300	4.872
2195.11	0.340		**11**	**Crossover - 5 1/2"-17# NK3SB b x 5" - 15# K-Fox P 13Cr**	6.063	4.406
2195.45	1.880			Pup Joint, 5 1/2" K Fox. 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2197.33	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2199.22	1.340		**12**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
2200.56	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2202.45	2.510		**13**	**Packer-AHC 9 5/8"-43.5-53.5# - 5"-15# Fox B x P 13Cr**	8.300	4.340
2204.96	1.880			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2206.84	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2208.73	9.040		**14**	**Blast Joint - 5-15#" K-Fox B x P 13Cr**	5.583	4.337
2217.77	9.040		**14**	**Blast Joint - 5-15#" K-Fox B x P 13Cr**	5.583	4.337
2226.81	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2228.70	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2230.59	1.340		**15**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
2231.93	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
2233.82	910.080	95		5" 15ppf 13Cr80 K-Fox tubing	5.000	4.408
3143.90	7.933	5		Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3151.84	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3153.73	1.440		**16**	**Flow Coupling - 5-15#" K-Fox B x P 13Cr**	5.583	4.388
3155.17	0.390		**17**	**Crossover -5"-18# K-Fox B x 4 1/2" K-Fox P 13Cr**	5.583	3.965
3155.56	3.790			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3159.35	1.890			Pup Joint, 5" K-Fox, 15#/ft BxP 13Cr 2 Mtr	5.000	4.408
3161.24	1.350		**18**	**SSD-4 1/2"XD - 5"-15# K-Fox B x P 13Cr**	5.600	3.813
3162.59	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3164.48	1.740		**19**	**Packer-AHR 6 5/8"-24# - 4 1/2"-11.6# K-Fox B x P 13Cr**	5.720	3.920
3166.22	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3168.11	9.047	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3177.15	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3179.04	9.050		**20**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3188.09	9.040		**20**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3197.13	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3199.02	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3200.91	1.340		**21**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.600	3.813
3202.25	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3204.14	1.740		**22**	**Packer-AHR 6 5/8"-24# - 4 1/2"-11.6# K-Fox B x P 13Cr**	5.720	3.920
3205.88	0.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3206.77	9.397	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3216.17	7.782	2		Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 4 Mtr	4.500	4.000
3223.95	9.460	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3233.41	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3235.30	9.030		**23**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3244.33	9.040		**24**	**Blast Joint - 4 1/2"- 11.6#" K-Fox BxP 13Cr**	5.050	3.939
3253.37	1.850			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3255.22	0.780			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3256.00	1.340		**25**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.600	3.813
3257.34	0.635			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3257.98	0.460		**26**	Seal Unit - 4 1/2" - 11.6# K-Fox Special 13Cr	4.500	4.000
3258.44	-0.470			Seal Overlap		
3257.97	1.420		**27**	**Packer-MWR 7"-32-38.5# - 5"-18# New Vam P 13Cr**	5.687	4.000
3259.39	0.270		**28**	**Crossover - 5"-18# New Vam P x 4 1/2" K Fox P 13 Cr**	5.035	3.965
3259.66	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3261.55	9.411	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3270.96	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3272.85	1.340		**29**	**SSD-4 1/2"RD - 4 1/2" -11.6# K-Fox B x P 13Cr**	5.570	3.688
3274.19	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3276.08	9.348	1		4 1/2" 11.6 ppf 13Cr80 K-Fox tubing	4.500	4.000
3285.43	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3287.32	0.440		**30**	**Nipple-RN - 4 1/2" - 11.6# K-Fox B x P INC**	4.882	3.456
3287.76	1.890			Pup Joint, 4 1/2" K Fox. 11.6#/ft BxP 13Cr 2 Mtr	4.500	4.000
3289.65	0.240		**31**	Coupling - 4 1/2" K Fox (Cut to Muleshoe)	4.874	
3289.89				**End Of Tubing**		

SECTION 2

PLOTS

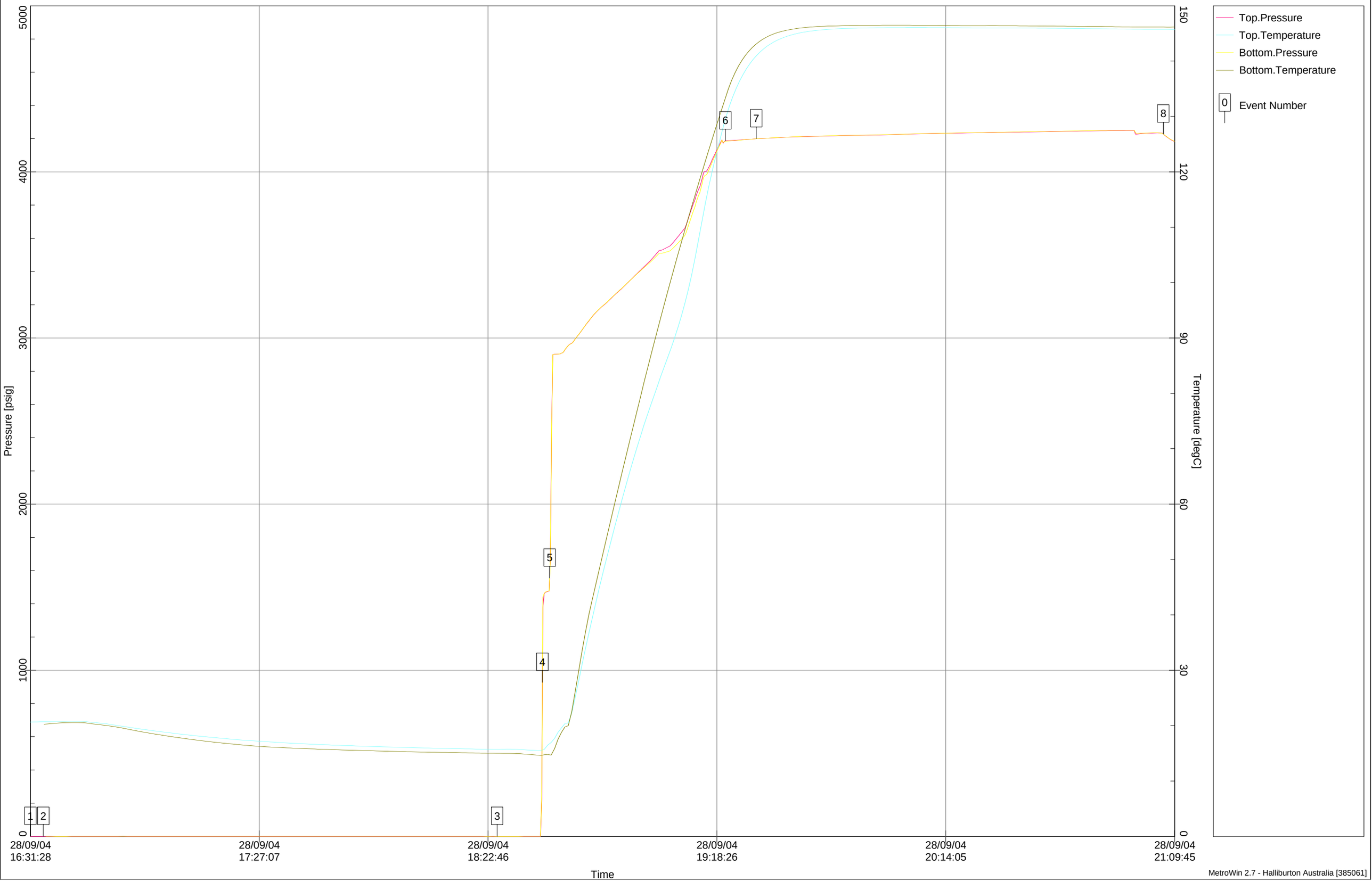
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2809 and 2755 Sands
Operator :David Whelan
Complete Plot



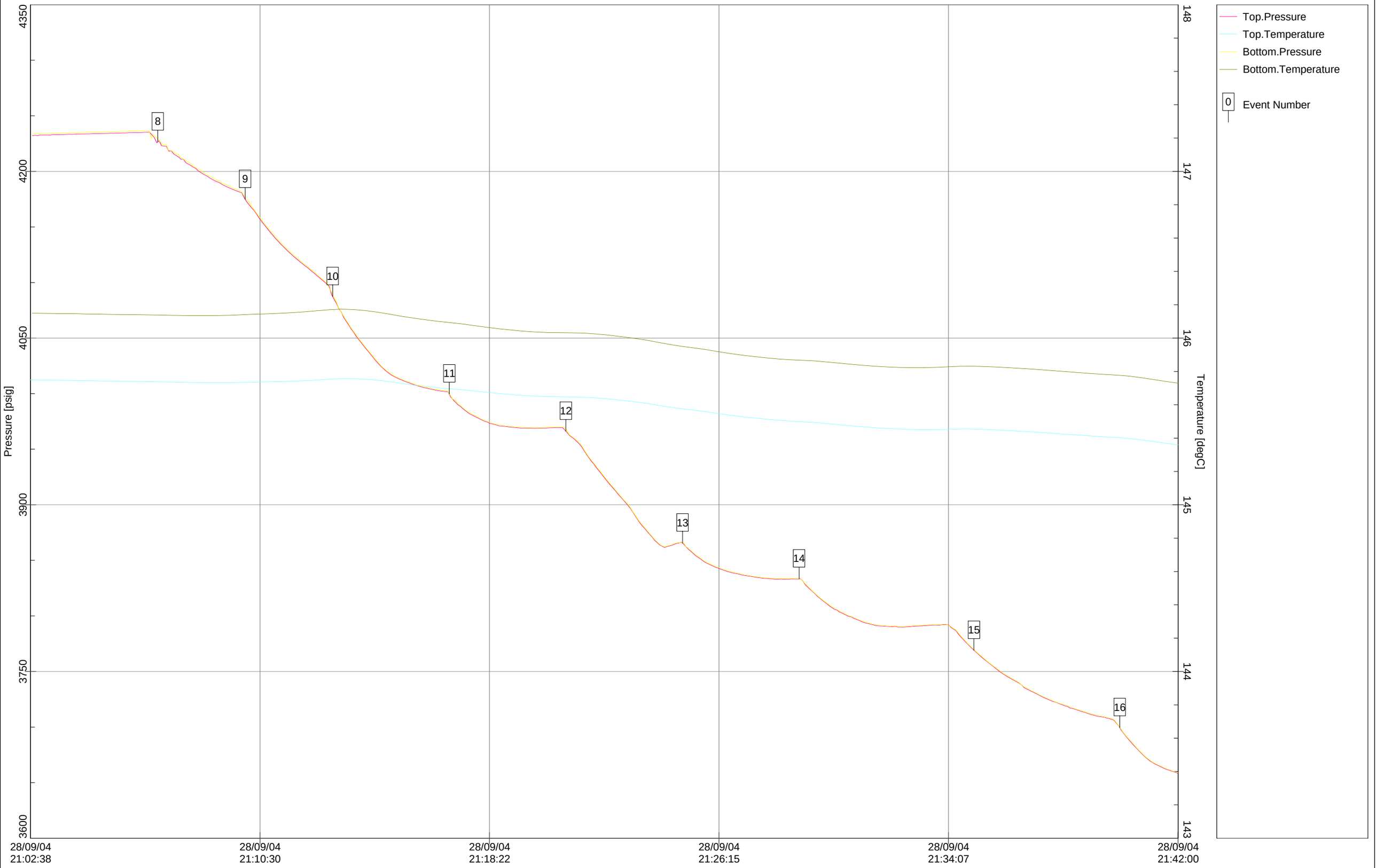
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2809 Sands
Operator :David Whelan
Events 1 - 8



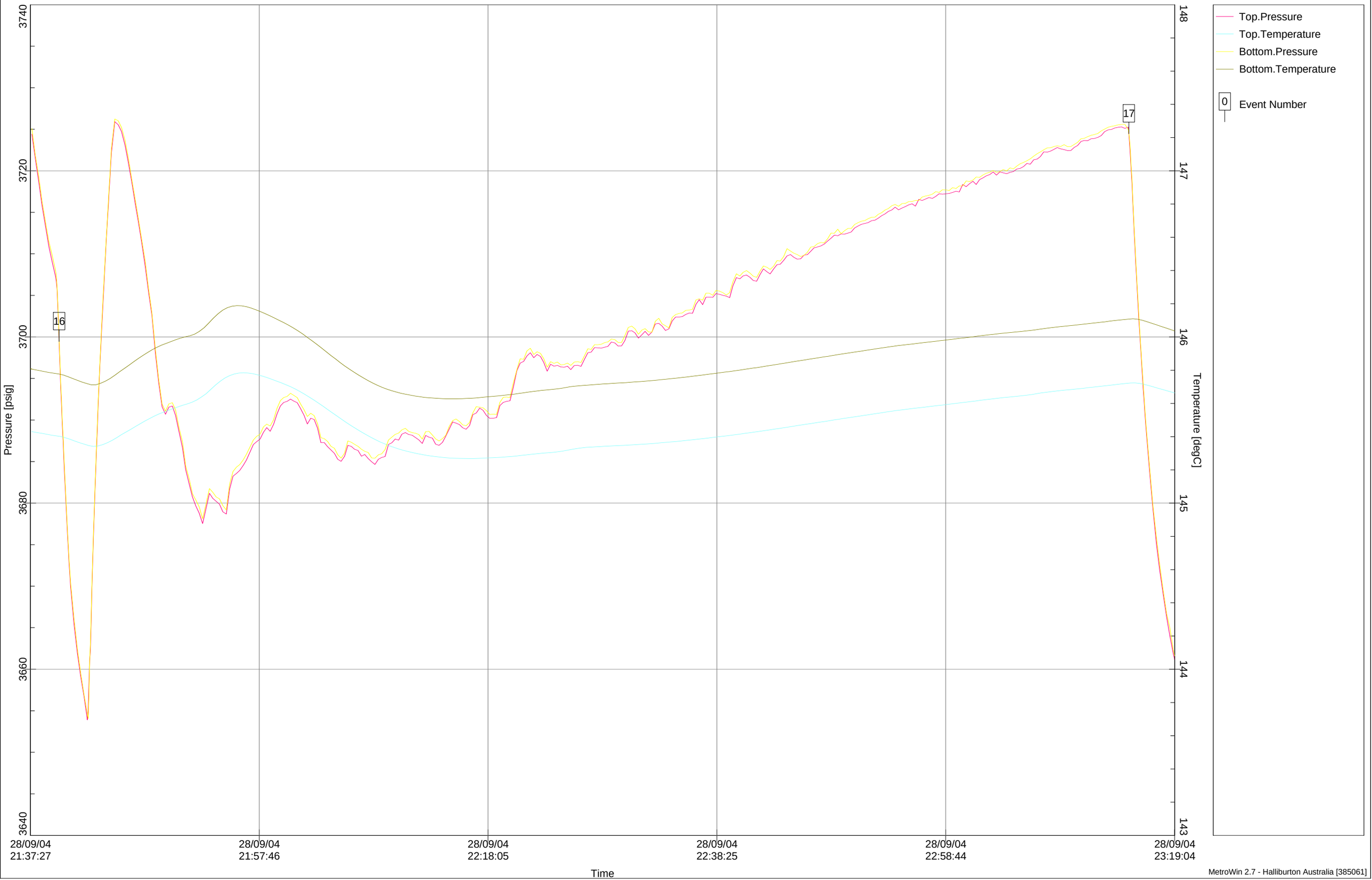
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2809 Sands
Operator :David Whelan
Events 8 - 16



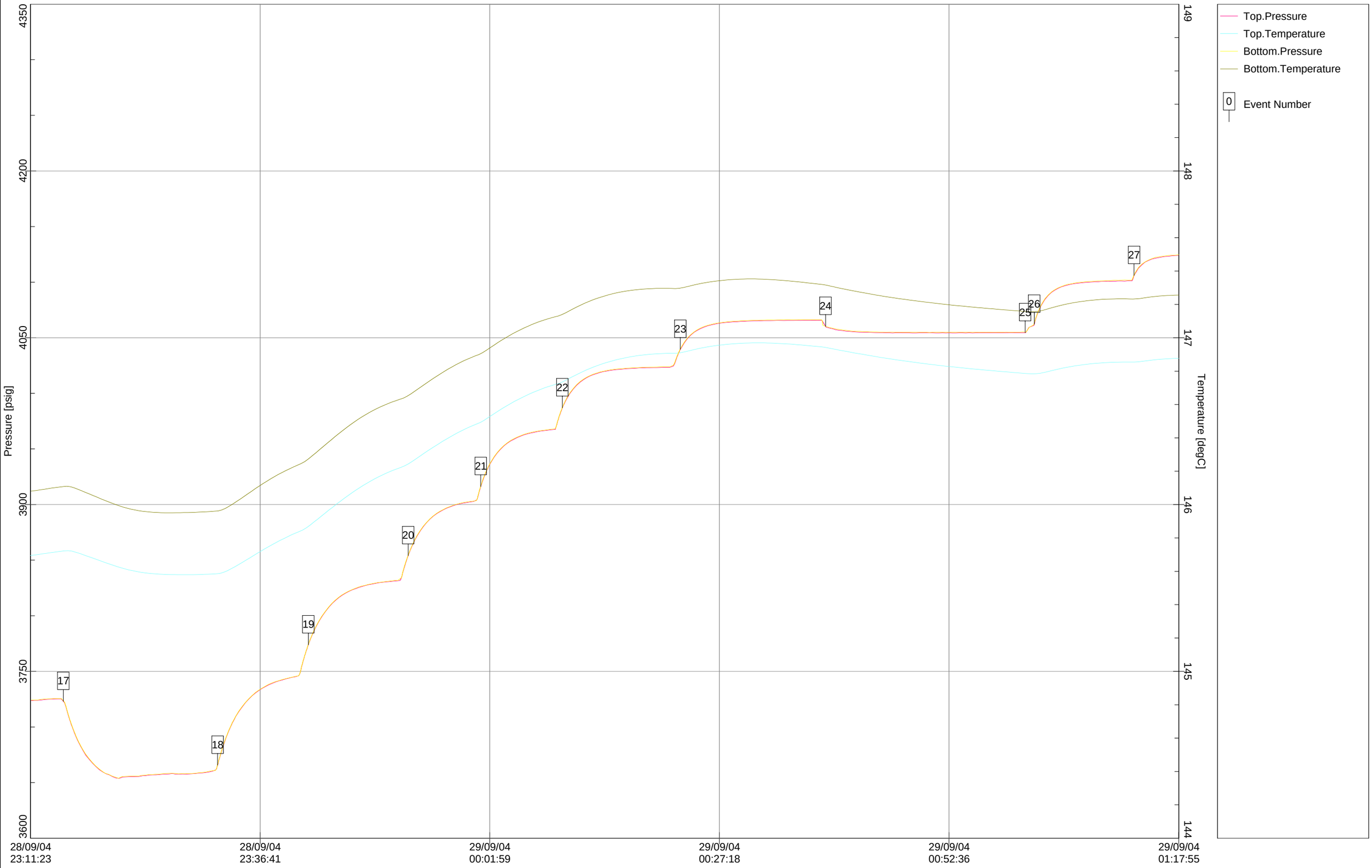
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2809 Sands
Operator :David Whelan
Events 16 - 17



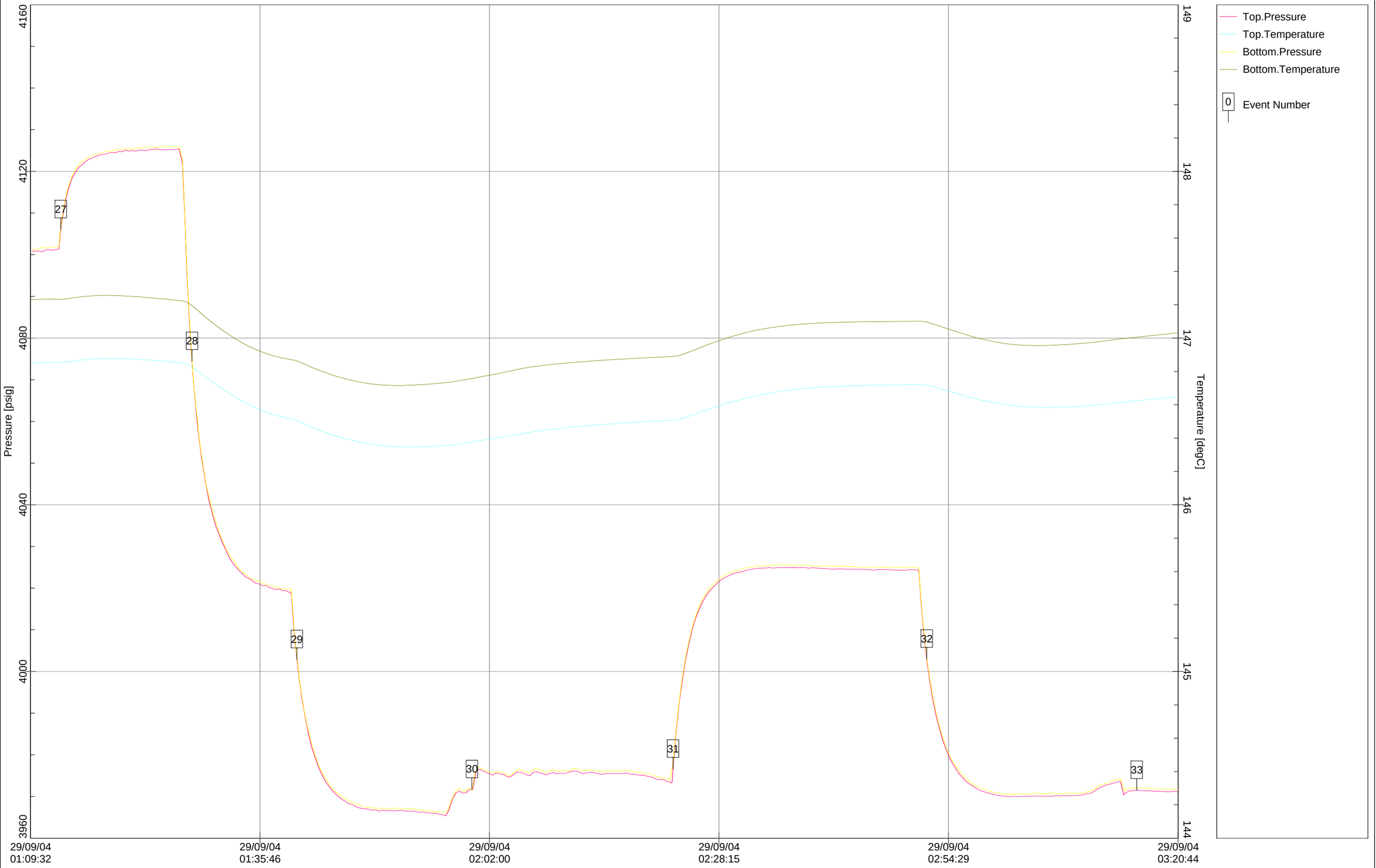
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2809 Sands
Operator :David Whelan
Events 17 - 27



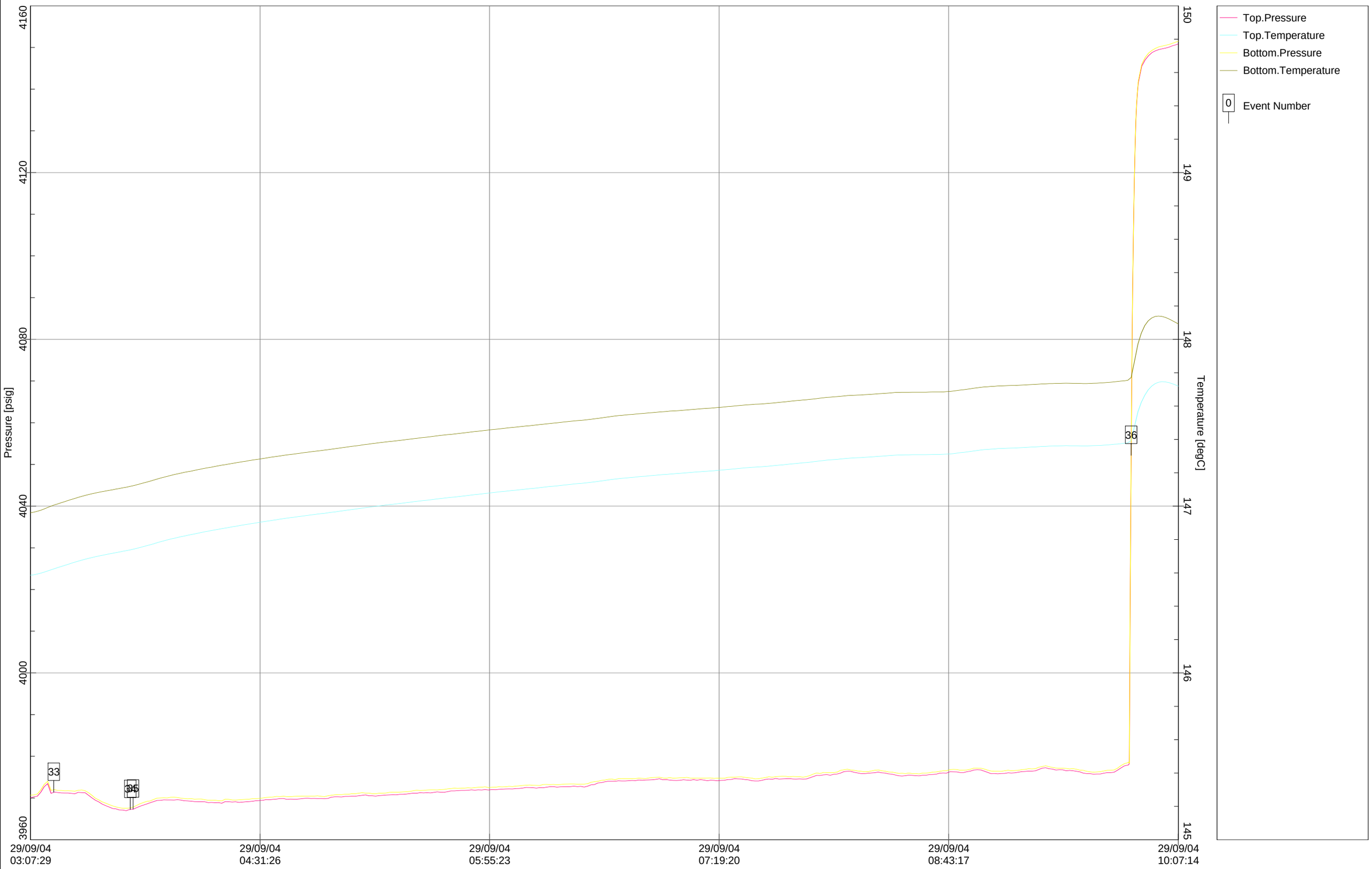
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2809 Sands
Operator :David Whelan
Events 27 - 33



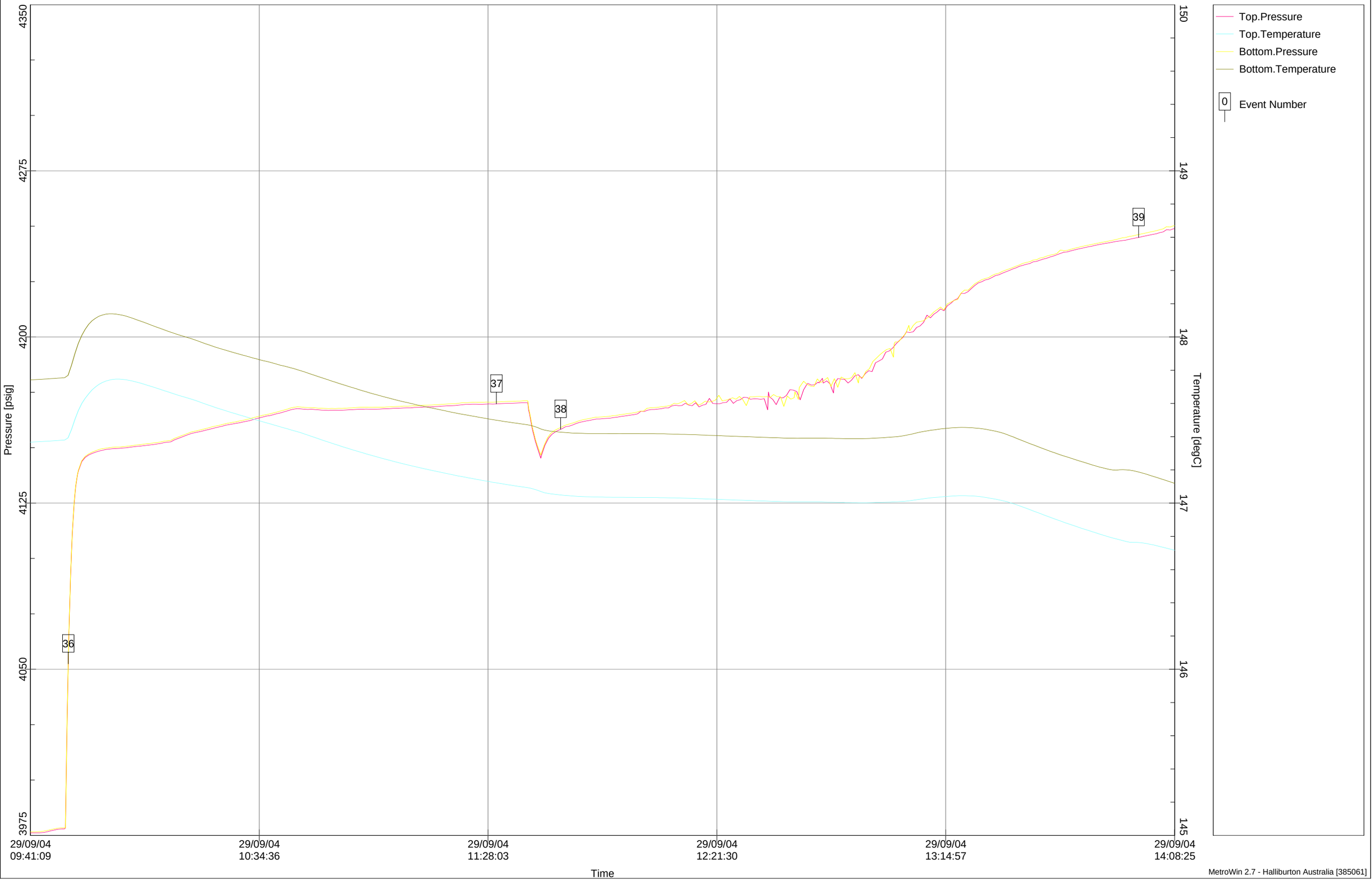
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2809 Sands
Operator :David Whelan
Events 33 - 36



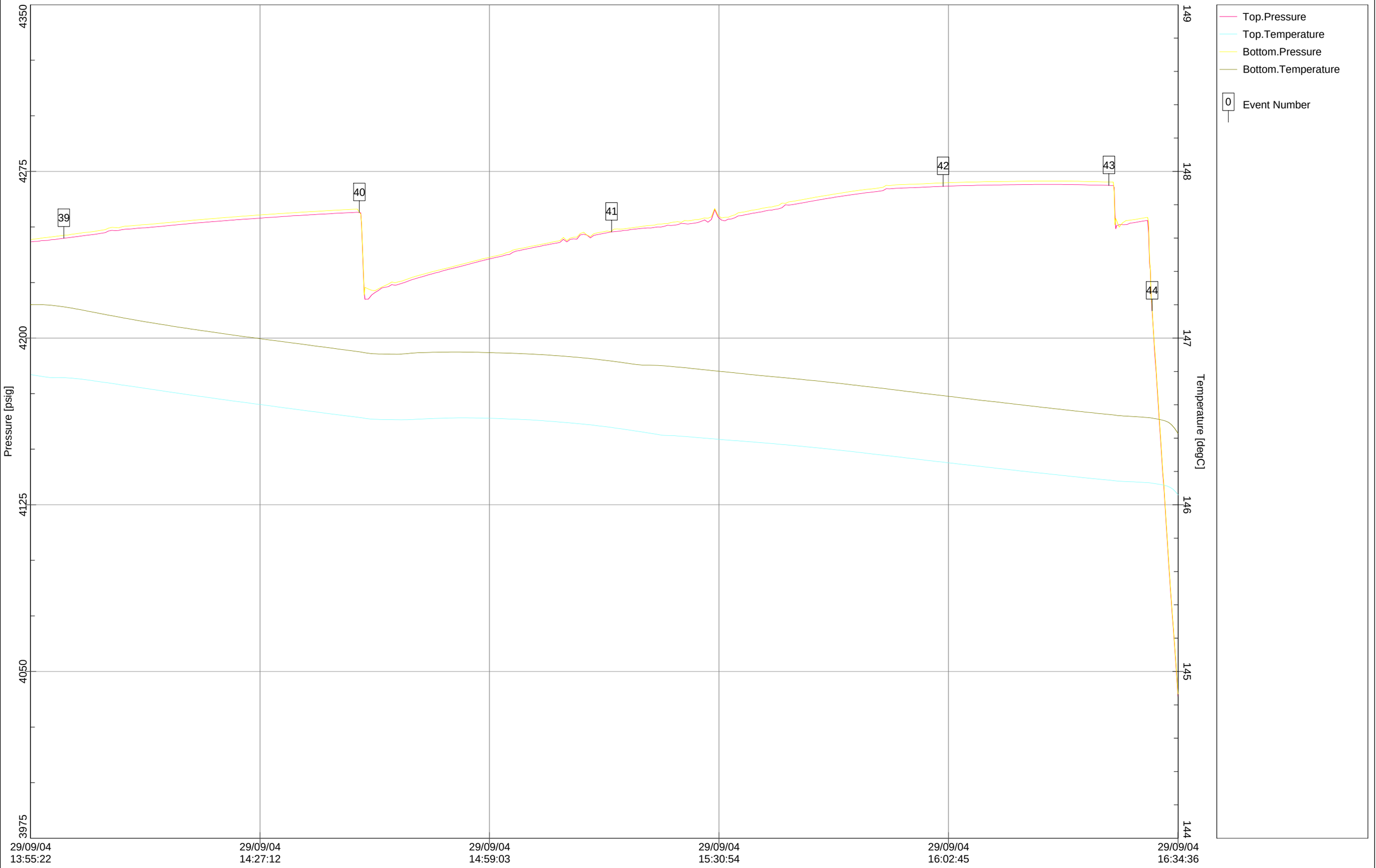
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2809 Sands
Operator :David Whelan
Events 36 - 39



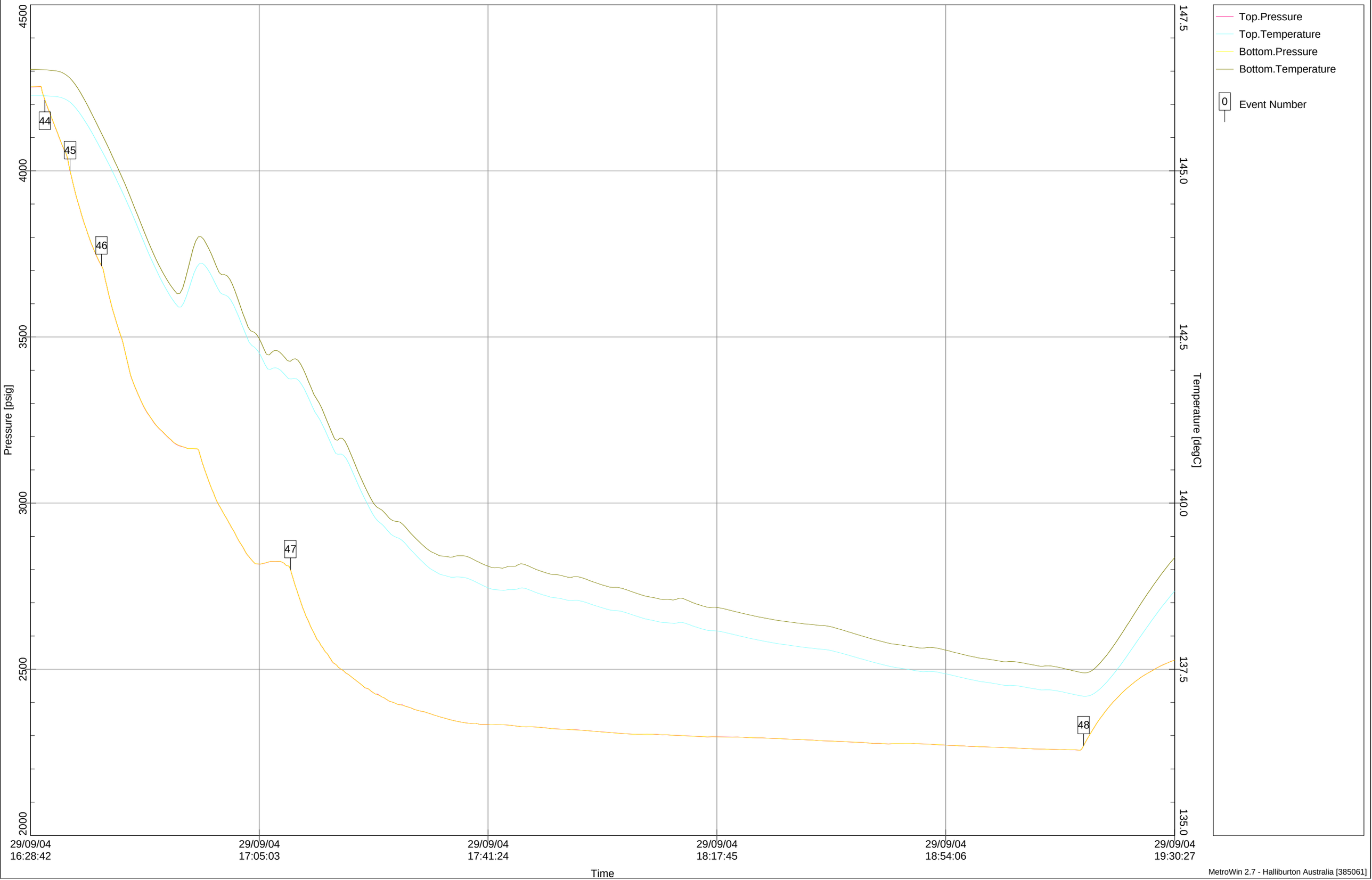
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2755 Sands
Operator :David Whelan
Events 39 - 44



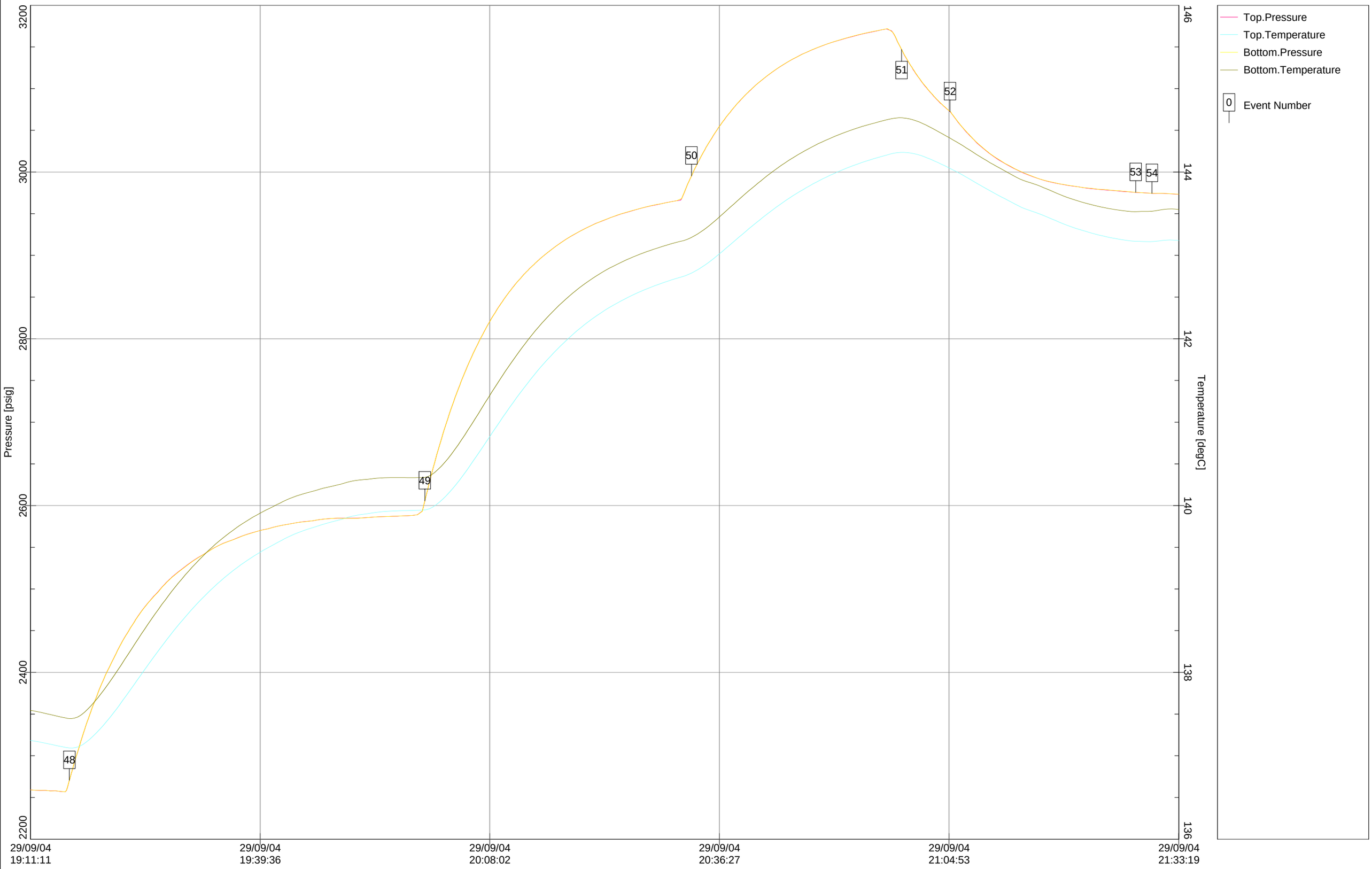
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2755 Sands
Operator :David Whelan
Events 44 - 48



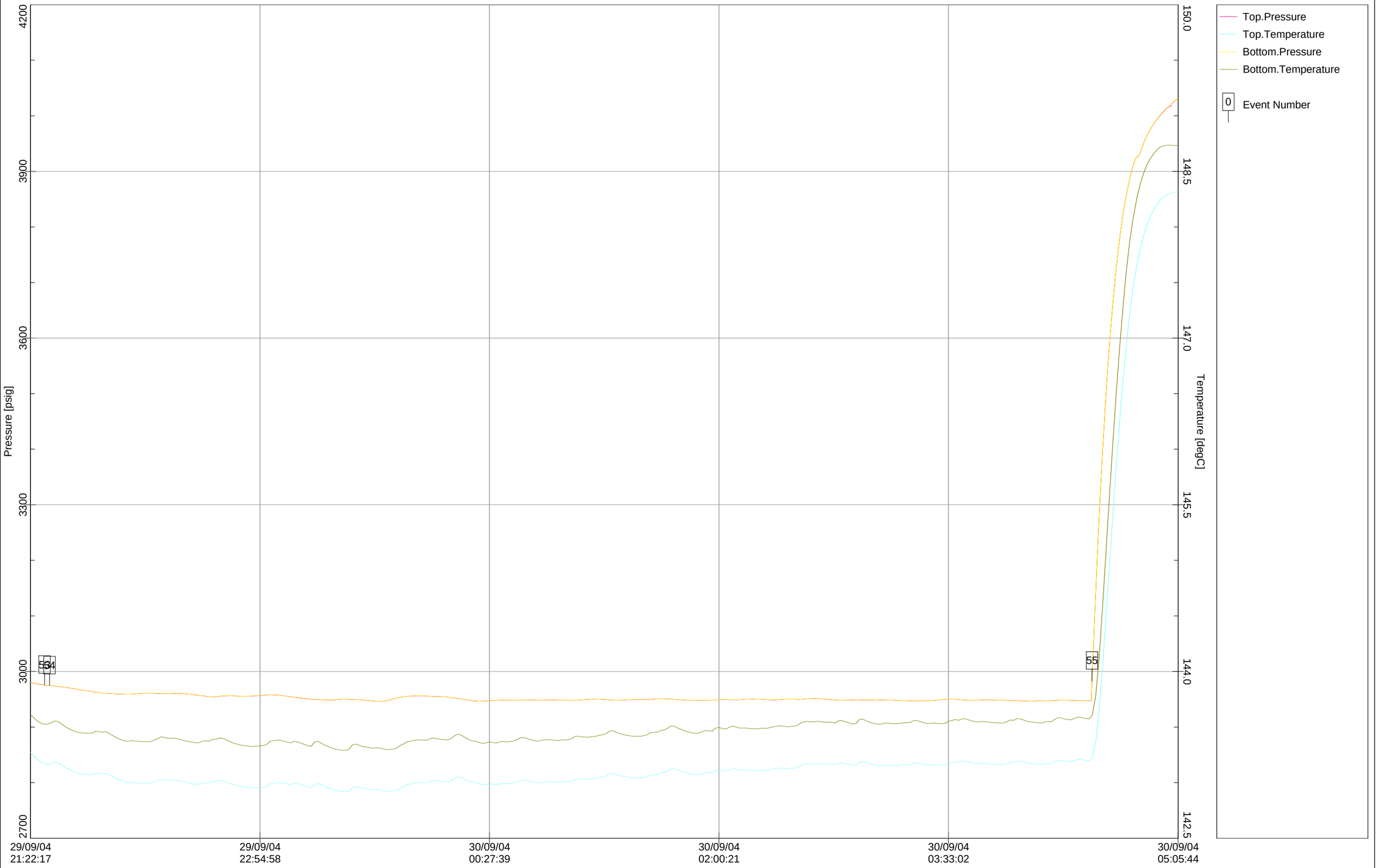
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2755 Sands
Operator :David Whelan
Events 48 - 54



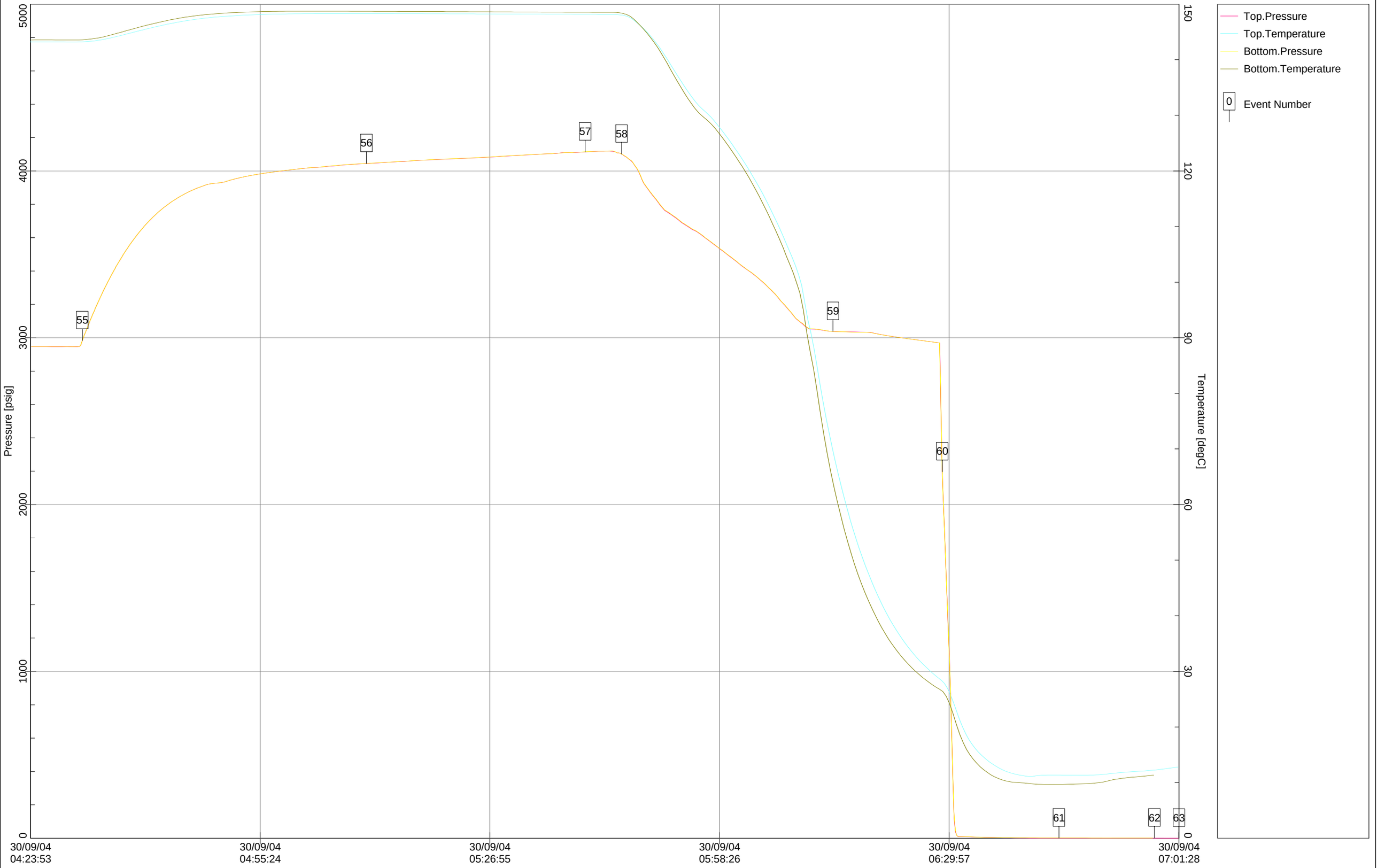
Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2755 Sands
Operator :David Whelan
Events 54 - 55



Data File Name : Pseudo tool.mpt
Tool : Oil Pseudo Tool
Job 01

Client :Origin Energy
Field :Yolla
Well :Yolla 3
Zone :2755 Sands
Operator :David Whelan
Events 55 - 63



SECTION 3

DATA

SURVEY DATA

Client	:Origin Energy	Operator	:David Whelan
Field	:Yolla	Date	:28-30th September 2004
Platform	:Yolla A		
Well	:Yolla - 3		

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
1	16:31:28	0.99	20.7			Start top gauge
	16:31:28	0.99	20.7			
2	16:34:37	0.8	20.7	1.33	20.3	Start bottom gauge
	16:36:28	0.74	20.7	1.18	20.4	
	16:41:28	0.77	20.8	1.18	20.6	
	16:46:28	0.96	20.6	1.51	20.3	
	16:51:28	1.05	20.2	1.49	19.9	
	16:56:28	1.15	19.6	1.63	19.2	
	17:01:28	1.1	19.1	1.59	18.5	
	17:06:28	1.09	18.6	1.56	17.9	
	17:11:28	1.05	18.2	1.52	17.4	
	17:16:28	1.02	17.8	1.48	17	
	17:21:28	0.98	17.5	1.43	16.6	
	17:26:28	0.91	17.2	1.39	16.3	
	17:31:28	0.89	17	1.33	16.1	
	17:36:28	0.86	16.8	1.3	15.9	
	17:41:28	0.82	16.6	1.27	15.8	
	17:46:28	0.8	16.5	1.25	15.6	
	17:51:28	0.77	16.3	1.24	15.5	
	17:56:28	0.76	16.2	1.23	15.4	
	18:01:28	0.74	16.1	1.21	15.3	
	18:06:28	0.72	16	1.2	15.2	
	18:11:28	0.7	15.9	1.19	15.2	
	18:16:28	0.69	15.8	1.18	15.1	
	18:21:28	0.68	15.8	1.18	15	
3	18:25:00	0.67	15.7	1.17	15	Add guages to toolstring and stab lubricator
	18:26:28	0.46	15.8	1.09	15	
	18:31:28	0.6	15.7	1.22	14.9	
4	18:36:00	911.69	15.5	823.91	14.6	Open well
	18:36:28	1464.05	15.7	1465.23	14.7	
5	18:37:45	1481.35	16.8	1480.76	14.7	Run in hole with gauges
	18:41:28	2928.67	20.4	2929.54	19.8	
	18:46:28	3076.59	33.9	3077.85	36.9	
	18:51:28	3209.58	49.8	3210.97	53.5	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	18:56:28	3326.51	63.8	3327.22	69.1	
	19:01:28	3446.29	75.9	3439.14	84.2	
	19:06:28	3546.78	86.5	3520.07	98.3	
	19:11:28	3718.36	98.7	3672.98	111.6	
	19:16:28	4027.76	117.3	4009.75	123.9	
6	19:20:30	4187.72	129.5	4185.43	133.3	Gauges on depth set in nipple 3276 mtrs MDKB
	19:21:28	4188.4	131.9	4186.19	135.5	
	19:26:28	4196.15	139.6	4195.83	142	
7	19:28:00	4199.76	141	4199.52	143.1	Shear off plug and pull out of hole THP 3010 psia
	19:31:28	4203.79	143.1	4204.33	144.7	
	19:36:28	4209.58	144.7	4210.51	145.7	
	19:41:28	4213.08	145.4	4214.05	146.2	
	19:46:28	4216.54	145.8	4217.46	146.3	
	19:51:28	4219.65	145.9	4220.58	146.4	
	19:56:28	4221.52	146	4222.38	146.4	
	20:01:28	4224.33	146	4225.27	146.5	
	20:06:28	4228.58	146.1	4229.47	146.4	
	20:11:28	4230.91	146	4231.83	146.4	
	20:16:28	4233.36	146	4234.37	146.4	
	20:21:28	4235.57	146	4236.46	146.4	
	20:26:28	4237.12	146	4238.65	146.4	
	20:31:28	4238.96	146	4240.49	146.4	
	20:36:28	4240.76	146	4242.29	146.3	
	20:41:28	4243.17	145.9	4244.73	146.3	
	20:46:28	4245.36	145.9	4246.97	146.3	
	20:51:28	4247.13	145.8	4248.7	146.2	
	20:56:28	4248.57	145.8	4250.19	146.2	
	21:01:28	4229.39	145.8	4231.59	146.2	
	21:06:28	4235.09	145.7	4236.48	146.1	
8	21:07:00	4226.56	145.7	4228.99	146.1	Open well on 16/64 choke SSD 2809 SANDS
9	21:10:00	4174.91	145.7	4176.33	146.1	Increase choke to 20/64
	21:11:28	4128.16	145.7	4129.3	146.2	
10	21:13:00	4087.37	145.8	4089	146.2	Increase choke to 24/64
	21:16:28	4003.59	145.7	4004.31	146.1	
11	21:17:00	3999.79	145.7	4000.25	146.1	Increase choke to 28/64 THP 2848 psia
12	21:21:00	3966.19	145.6	3968.17	146	Increase choke to 32/64
	21:21:28	3954.7	145.6	3955.4	146	
13	21:25:00	3865.61	145.6	3866.17	146	Increase choke to 36/64

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	21:26:28	3840.76	145.5	3841.35	145.9	
14	21:29:00	3833.32	145.5	3833.89	145.9	Increase choke to 40/64 THP 2758 psia
	21:31:28	3792.48	145.5	3793.1	145.8	
15	21:35:00	3769.14	145.5	3769.75	145.8	Increase choke to 44/64
	21:36:28	3740.77	145.4	3741.22	145.8	
16	21:40:00	3699.48	145.4	3699.78	145.8	Increase choke to 48/64
	21:41:28	3663.6	145.4	3664.18	145.7	
	21:46:28	3718.55	145.4	3718.89	145.8	
	21:51:28	3682.75	145.6	3683.35	146	
	21:56:28	3684.92	145.8	3685.41	146.2	
	22:01:28	3691.37	145.7	3691.92	146	
	22:06:28	3686.42	145.4	3686.91	145.8	
	22:11:28	3688.15	145.3	3688.39	145.6	
	22:16:28	3689.39	145.3	3689.83	145.6	
	22:21:28	3697.8	145.3	3698.3	145.7	
	22:26:28	3696.39	145.3	3696.82	145.7	
	22:31:28	3699.86	145.4	3700.28	145.7	
	22:36:28	3703.35	145.4	3704.1	145.8	
	22:41:28	3707.04	145.4	3707.46	145.8	
	22:46:28	3709.91	145.5	3710.24	145.9	
	22:51:28	3713.65	145.5	3713.97	145.9	
	22:56:28	3716.22	145.6	3716.85	146	
	23:01:28	3718.33	145.6	3719.26	146	
	23:06:28	3721.06	145.7	3721.48	146	
	23:11:28	3723.72	145.7	3724.17	146.1	
17	23:15:00	3724.54	145.7	3724.53	146.1	Increase choke to 52/64 THP 2763 psia
	23:16:28	3690.19	145.7	3690.69	146.1	
	23:21:28	3654.89	145.6	3655.36	146	
	23:26:28	3657.84	145.6	3658.11	146	
	23:31:28	3660.11	145.6	3660.48	146	
18	23:32:00	3665.64	145.6	3666	146	Decrease choke to 48/64
	23:36:28	3732.37	145.7	3732.66	146.1	
	23:41:28	3760.2	145.9	3760.52	146.3	
19	23:42:00	3773.88	145.9	3774.19	146.3	Decrease choke to 44/64 THP 2869 psia
	23:46:28	3821.91	146.1	3822.27	146.5	
	23:51:28	3831.31	146.2	3831.6	146.6	
20	23:53:00	3854.07	146.2	3854.4	146.7	Decrease choke to 40/64
	23:56:28	3893.4	146.4	3893.89	146.8	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
21	0:01:00	3916.25	146.5	3916.69	146.9	Decrease choke to 36/64 THP 2965 psia
	0:01:28	3926.94	146.5	3927.26	146.9	
	0:06:28	3964.3	146.7	3964.71	147.1	
22	0:10:00	3987.03	146.7	3987.41	147.1	Decrease choke to 32/64
	0:11:28	4006.51	146.8	4007.02	147.2	
	0:16:28	4021.68	146.9	4022.25	147.3	
	0:21:28	4023.48	146.9	4023.92	147.3	
23	0:23:00	4039.62	146.9	4040.16	147.3	Decrease choke to 28/64
	0:26:28	4061.69	146.9	4062.29	147.3	
	0:31:28	4065.18	147	4065.78	147.4	
	0:36:28	4065.65	147	4066.25	147.3	
24	0:39:00	4059.93	146.9	4060.4	147.3	Switch to 28/64 fixed choke
	0:41:28	4055.77	146.9	4056.47	147.3	
	0:46:28	4054.37	146.9	4055.17	147.2	
	0:51:28	4054.41	146.8	4054.9	147.2	
	0:56:28	4054.54	146.8	4054.9	147.2	
25	1:01:00	4054.52	146.8	4055.04	147.2	Switch to 28/64 adustable choke THP 3094 psia
	1:01:28	4059.04	146.8	4059.58	147.2	
26	1:02:00	4062	146.8	4063.22	147.2	Decrease choke to 24/64
	1:06:28	4098.73	146.8	4099.2	147.2	
	1:11:28	4101.17	146.9	4101.67	147.2	
27	1:13:00	4106.08	146.9	4106.49	147.2	Decrease choke to 20/64 THP 3149 psia
	1:16:28	4123.18	146.9	4123.68	147.3	
	1:21:28	4124.97	146.9	4125.52	147.2	
	1:26:28	4125.39	146.9	4126.11	147.2	
28	1:28:00	4074.42	146.8	4074.82	147.2	Increase choke to 32/64 THP 3057 psia
	1:31:28	4030.9	146.7	4031.65	147	
	1:36:28	4020.69	146.6	4020.73	146.9	
29	1:40:00	4002.86	146.5	4003.51	146.9	Increase choke to 36/64
	1:41:28	3983.96	146.5	3984.23	146.8	
	1:46:28	3967.92	146.4	3968.35	146.7	
	1:51:28	3966.73	146.3	3967.19	146.7	
	1:56:28	3965.78	146.4	3966.23	146.7	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
30	2:00:00	3971.12	146.4	3971.69	146.8	Liquid to surface THP 2968 psia
	2:01:28	3976.11	146.4	3976.44	146.8	
	2:06:28	3975.15	146.4	3975.71	146.8	
	2:11:28	3976.13	146.5	3976.66	146.9	
	2:16:28	3975.57	146.5	3976.12	146.9	
	2:21:28	3974.15	146.5	3974.62	146.9	
31	2:23:00	3976.57	146.5	3977.56	146.9	Decrease choke to 32/64
	2:26:28	4016.99	146.6	4017.6	147	
	2:31:28	4024.34	146.6	4024.91	147	
	2:36:28	4025.02	146.7	4025.5	147.1	
	2:41:28	4024.65	146.7	4025.26	147.1	
	2:46:28	4024.41	146.7	4025.03	147.1	
	2:51:28	4013.82	146.7	4014.43	147.1	
32	2:52:00	4002.98	146.7	4003.64	147.1	Increase choke to 36/64
	2:56:28	3973.79	146.7	3974.32	147	
	3:01:28	3969.86	146.6	3970.59	147	
	3:06:28	3970.12	146.6	3970.78	147	
	3:11:28	3971.73	146.6	3972.36	147	
33	3:16:00	3971.53	146.6	3972.05	147	Switch to 36/64 fixed choke THP 2994 psia
	3:16:28	3971.43	146.6	3972.02	147	
	3:21:28	3971.26	146.7	3971.76	147	
	3:26:28	3971.35	146.7	3971.91	147.1	
	3:31:28	3969.23	146.7	3969.89	147.1	
	3:36:28	3967.84	146.7	3968.35	147.1	
	3:41:28	3967.03	146.7	3967.53	147.1	
34	3:44:00	3967.1	146.7	3967.66	147.1	Pass flow through seperator THP 3001 psia
35	3:45:00	3967.34	146.7	3967.81	147.1	Increase seperator pressure
	3:46:28	3967.78	146.7	3968.28	147.1	
	3:51:28	3968.86	146.8	3969.4	147.2	
	3:56:28	3969.57	146.8	3970.1	147.2	
	4:01:28	3969.59	146.8	3970.15	147.2	
	4:06:28	3969.4	146.8	3969.82	147.2	
	4:11:28	3968.98	146.8	3969.66	147.2	
	4:16:28	3968.79	146.9	3969.34	147.2	
	4:21:28	3969.02	146.9	3969.48	147.3	
	4:26:28	3969.05	146.9	3969.63	147.3	
	4:31:28	3969.55	146.9	3969.96	147.3	
	4:36:28	3969.83	146.9	3970.19	147.3	
	4:41:28	3969.82	146.9	3970.25	147.3	
	4:46:28	3969.89	146.9	3970.51	147.3	
	4:51:28	3969.88	147	3970.37	147.3	
	4:56:28	3970	147	3970.53	147.3	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	5:01:28	3970.24	147	3970.86	147.4	
	5:06:28	3970.45	147	3971.06	147.4	
	5:11:28	3970.48	147	3971.17	147.4	
	5:16:28	3970.69	147	3971.17	147.4	
	5:21:28	3970.77	147	3971.47	147.4	
	5:26:28	3971.07	147	3971.63	147.4	
	5:31:28	3971.3	147	3971.79	147.4	
	5:36:28	3971.51	147	3972.11	147.4	
	5:41:28	3971.63	147.1	3972.23	147.4	
	5:46:28	3971.78	147.1	3972.43	147.4	
	5:51:28	3971.98	147.1	3972.58	147.4	
	5:56:28	3972.08	147.1	3972.65	147.5	
	6:01:28	3972.1	147.1	3972.7	147.5	
	6:06:28	3972.25	147.1	3972.89	147.5	
	6:11:28	3972.39	147.1	3972.98	147.5	
	6:16:28	3972.62	147.1	3973.19	147.5	
	6:21:28	3972.74	147.1	3973.26	147.5	
	6:26:28	3972.84	147.1	3973.5	147.5	
	6:31:28	3972.96	147.1	3973.58	147.5	
	6:36:28	3973.75	147.2	3974.19	147.5	
	6:41:28	3974	147.2	3974.52	147.5	
	6:46:28	3974.12	147.2	3974.61	147.5	
	6:51:28	3974.33	147.2	3974.71	147.6	
	6:56:28	3974.53	147.2	3974.95	147.6	
	7:01:28	3974.41	147.2	3974.93	147.6	
	7:06:28	3974.45	147.2	3974.78	147.6	
	7:11:28	3974.33	147.2	3974.86	147.6	
	7:16:28	3974.18	147.2	3974.87	147.6	
	7:21:28	3974.38	147.2	3974.83	147.6	
	7:26:28	3974.56	147.2	3974.97	147.6	
	7:31:28	3974.23	147.2	3974.73	147.6	
	7:36:28	3974.43	147.2	3975.15	147.6	
	7:41:28	3974.62	147.2	3975.06	147.6	
	7:46:28	3974.55	147.3	3975.16	147.6	
	7:51:28	3974.65	147.3	3975.11	147.6	
	7:56:28	3975.5	147.3	3975.81	147.6	
	8:01:28	3975.58	147.3	3976.17	147.7	
	8:06:28	3976.57	147.3	3976.92	147.7	
	8:11:28	3975.82	147.3	3976.54	147.7	
	8:16:28	3976.08	147.3	3976.65	147.7	
	8:21:28	3975.73	147.3	3976.18	147.7	
	8:26:28	3975.27	147.3	3975.76	147.7	
	8:31:28	3975.4	147.3	3975.91	147.7	
	8:36:28	3975.56	147.3	3976.01	147.7	
	8:41:28	3976.02	147.3	3976.62	147.7	
	8:46:28	3976.32	147.3	3976.85	147.7	
	8:51:28	3976.65	147.3	3977.07	147.7	
	8:56:28	3976.32	147.3	3976.9	147.7	
	9:01:28	3975.85	147.3	3976.26	147.7	
	9:06:28	3976	147.3	3976.5	147.7	
	9:11:28	3976.45	147.4	3976.93	147.7	
	9:16:28	3976.93	147.4	3977.5	147.7	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	9:21:28	3976.95	147.4	3977.34	147.7	
	9:26:28	3976.65	147.4	3977.18	147.7	
	9:31:28	3976.29	147.4	3976.76	147.7	
	9:36:28	3975.67	147.4	3976.26	147.7	
	9:41:28	3976.3	147.4	3976.64	147.7	
	9:46:28	3977.27	147.4	3977.8	147.7	
36	9:50:00	4052.68	147.4	4052.93	147.8	Shut in well at choke manifold
	9:51:28	4127.01	147.5	4127.32	147.9	
	9:56:28	4148.07	147.7	4148.67	148.1	
	10:01:28	4149.71	147.7	4150.37	148.1	
	10:06:28	4150.67	147.7	4151.33	148.1	
	10:11:28	4151.94	147.7	4152.57	148.1	
	10:16:28	4154.78	147.6	4155.45	148	
	10:21:28	4157.68	147.6	4158.36	148	
	10:26:28	4159.89	147.6	4160.64	147.9	
	10:31:28	4162.03	147.5	4162.71	147.9	
	10:36:28	4164.34	147.5	4165.02	147.9	
	10:41:28	4166.89	147.4	4167.64	147.8	
	10:46:28	4167.26	147.4	4168.08	147.8	
	10:51:28	4166.88	147.4	4167.72	147.7	
	10:56:28	4167.19	147.3	4168	147.7	
	11:01:28	4167.45	147.3	4168.27	147.7	
	11:06:28	4167.77	147.2	4168.55	147.6	
	11:11:28	4168.19	147.2	4169.04	147.6	
	11:16:28	4168.67	147.2	4169.48	147.6	
	11:21:28	4169.33	147.2	4170.17	147.5	
	11:26:28	4169.64	147.1	4170.49	147.5	
37	11:30:00	4169.8	147.1	4170.66	147.5	Open well
	11:31:28	4169.93	147.1	4170.78	147.5	
	11:36:28	4170.34	147.1	4171.18	147.5	
	11:41:28	4151.72	147.1	4152.55	147.4	
38	11:45:00	4158.33	147	4159.17	147.4	Slickline run in hole and close SSD 2809 SANDS
	11:46:28	4159.8	147	4160.63	147.4	
	11:51:28	4162.29	147	4163.12	147.4	
	11:56:28	4163.36	147	4164.24	147.4	
	12:01:28	4164.8	147	4165.64	147.4	
	12:06:28	4167.19	147	4168.06	147.4	
	12:11:28	4169.55	147	4170.47	147.4	
	12:16:28	4170.28	147	4171.24	147.4	
	12:21:28	4169.08	147	4170.94	147.4	
	12:26:28	4170.95	147	4165.53	147.4	
	12:31:28	4174.57	147	4174.85	147.4	
	12:36:28	4172.15	147	4173.56	147.4	
	12:41:28	4177.77	147	4178.63	147.4	
	12:46:28	4179.09	147	4178.64	147.4	
	12:51:28	4182.73	147	4183.96	147.4	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	12:56:28	4186.01	147	4185.83	147.4	
	13:01:28	4193.33	147	4193.24	147.4	
	13:06:28	4200.73	147	4201.9	147.4	
	13:11:28	4209.11	147	4210	147.4	
	13:16:28	4216.27	147	4217.34	147.5	
	13:21:28	4222.89	147	4223.4	147.5	
	13:26:28	4227.49	147	4228.28	147.4	
	13:31:28	4231.29	147	4232.09	147.4	
	13:36:28	4234.51	146.9	4235.26	147.3	
	13:41:28	4236.59	146.9	4238.07	147.3	
	13:46:28	4239.99	146.9	4240.7	147.3	
	13:51:28	4241.98	146.8	4242.75	147.2	
	13:56:28	4243.54	146.8	4244.77	147.2	
39	14:00:00	4244.91	146.8	4246.25	147.2	Slickline at surface shut in well
	14:01:28	4245.53	146.8	4246.88	147.2	
	14:06:28	4248.38	146.7	4249.76	147.1	
	14:11:28	4249.63	146.7	4251.07	147.1	
	14:16:28	4251.22	146.7	4252.59	147.1	
	14:21:28	4252.6	146.6	4254	147	
	14:26:28	4253.83	146.6	4255.23	147	
	14:31:28	4254.94	146.6	4256.34	147	
	14:36:28	4255.9	146.5	4257.32	146.9	
40	14:41:00	4256.69	146.5	4258.1	146.9	Open well slickline run in hole and open SSD 2755 SANDS
	14:41:28	4237.03	146.5	4236.73	146.9	
	14:46:28	4224.23	146.5	4225.38	146.9	
	14:51:28	4229.25	146.5	4230.18	146.9	
	14:56:28	4233.48	146.5	4234.26	146.9	
	15:01:28	4237.47	146.5	4238.33	146.9	
	15:06:28	4241.67	146.5	4242.37	146.9	
	15:11:28	4245.15	146.5	4246.01	146.9	
41	15:16:00	4247.71	146.5	4248.45	146.9	Slickline open SSD
	15:16:28	4247.81	146.5	4248.61	146.9	
	15:21:28	4249.55	146.4	4250.74	146.8	
	15:26:28	4251.89	146.4	4252.91	146.8	
	15:31:28	4251.74	146.4	4253.56	146.8	
	15:36:28	4256.58	146.4	4258.09	146.8	
	15:41:28	4260.27	146.4	4261.74	146.8	
	15:46:28	4263.1	146.3	4264.54	146.7	
	15:51:28	4265.45	146.3	4266.97	146.7	
	15:56:28	4267.57	146.3	4269.08	146.7	
	16:01:28	4268.22	146.3	4269.76	146.7	
42	16:02:00	4268.3	146.3	4269.83	146.7	Slickline at surface shut in well THP 3118 psia
	16:06:28	4268.72	146.2	4270.26	146.6	
	16:11:28	4269.01	146.2	4270.52	146.6	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	16:16:28	4269.13	146.2	4270.65	146.6	
	16:21:28	4268.97	146.2	4270.5	146.6	
43	16:25:00	4268.71	146.1	4270.23	146.5	Open well
	16:26:28	4248.68	146.1	4249.78	146.5	
44	16:31:00	4212.28	146.1	4213.85	146.5	Open well on 24/64 choke THP 3121 psia
	16:31:28	4189.17	146.1	4190.97	146.5	
45	16:35:00	4000.24	146	4001.8	146.4	Increase choke to 32/64
	16:36:28	3891.26	145.9	3892.54	146.2	
46	16:40:00	3713.99	145.3	3714.78	145.6	Increase choke to 40/64 THP 2461 psia
	16:41:28	3604.11	145	3605.23	145.3	
	16:46:28	3299.59	144	3300.45	144.2	
	16:51:28	3182.24	143	3183.12	143.2	
	16:56:28	3096.43	143.6	3097.15	143.9	
	17:01:28	2898.65	142.9	2899.2	143.1	
	17:06:28	2822.88	142	2823.34	142.2	
47	17:10:00	2800.18	141.9	2800.46	142.1	Increase choke to 56/64
	17:11:28	2713.01	141.8	2713.15	142.1	
	17:16:28	2529.83	140.9	2529.96	141.1	
	17:21:28	2450.78	140.1	2451.1	140.3	
	17:26:28	2399.45	139.5	2399.46	139.7	
	17:31:28	2371.68	139.1	2371.75	139.3	
	17:36:28	2343.69	138.9	2343.62	139.2	
	17:41:28	2333.87	138.7	2333.81	139	
	17:46:28	2327.77	138.7	2327.64	139.1	
	17:51:28	2321.41	138.6	2321.26	138.9	
	17:56:28	2316.28	138.5	2316.19	138.9	
	18:01:28	2308.62	138.4	2308.52	138.7	
	18:06:28	2304.87	138.3	2304.75	138.6	
	18:11:28	2301.03	138.2	2300.93	138.6	
	18:16:28	2296.69	138.1	2296.64	138.4	
	18:21:28	2296.06	138	2295.96	138.3	
	18:26:28	2292.06	137.9	2292.02	138.3	
	18:31:28	2287.96	137.8	2287.96	138.2	
	18:36:28	2283.77	137.8	2283.77	138.1	
	18:41:28	2278.73	137.6	2278.83	138	
	18:46:28	2276.53	137.5	2276.62	137.9	
	18:51:28	2274.79	137.5	2274.84	137.8	
	18:56:28	2269.49	137.4	2269.59	137.7	
	19:01:28	2265.87	137.3	2265.92	137.6	
	19:06:28	2261.75	137.2	2261.84	137.6	
	19:11:28	2258.89	137.2	2259.01	137.5	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
48	19:16:00	2270.56	137.1	2270.5	137.4	Decrease choke to 48/64 THP 1656 psia
	19:16:28	2286.66	137.1	2286.85	137.4	
	19:21:28	2416.56	137.5	2416.37	138	
	19:26:28	2491.51	138.2	2491.03	138.7	
	19:31:28	2534.9	138.8	2534.6	139.3	
	19:36:28	2559.92	139.2	2559.72	139.7	
	19:41:28	2574.63	139.5	2574.63	140	
	19:46:28	2582.53	139.7	2582.46	140.2	
	19:51:28	2584.77	139.9	2584.84	140.3	
	19:56:28	2587.37	139.9	2587.52	140.3	
49	20:00:00	2605.6	139.9	2605.73	140.3	Decrease choke to 40/64 THP 1939 psia
	20:01:28	2660.58	140	2660.58	140.4	
	20:06:28	2792.24	140.6	2792.27	141.1	
	20:11:28	2868.49	141.3	2868.45	141.8	
	20:16:28	2912.97	141.9	2912.66	142.4	
	20:21:28	2939.46	142.3	2939.64	142.8	
	20:26:28	2955.85	142.6	2955.89	143	
	20:31:28	2966.01	142.7	2966.2	143.2	
50	20:33:00	2995.23	142.8	2995.31	143.2	Decrease choke to 36/64 THP 2254 psia
	20:36:28	3054.76	143	3054.78	143.5	
	20:41:28	3108.2	143.4	3108.51	143.9	
	20:46:28	3140.01	143.8	3140.18	144.2	
	20:51:28	3158.58	144	3158.8	144.5	
	20:56:28	3170.26	144.2	3170.49	144.6	
51	20:59:00	3146.88	144.2	3147.04	144.6	Increase choke to 40/64 THP 2393 psia
	21:01:28	3108.8	144.2	3109.05	144.6	
52	21:05:00	3072.31	144	3072.55	144.4	Switch to 40/64 fixed choke
	21:06:28	3054.25	144	3054.55	144.3	
	21:11:28	3012.18	143.7	3012.41	144	
	21:16:28	2990.58	143.5	2990.7	143.8	
	21:21:28	2981.33	143.3	2981.74	143.6	
	21:26:28	2976.59	143.2	2977.15	143.5	
53	21:28:00	2975.48	143.2	2975.68	143.5	Pass flow through seperator
54	21:30:00	2974.23	143.2	2974.52	143.5	Increase seperator pressure THP 2242 psia
	21:31:28	2974.16	143.2	2974.46	143.6	
	21:36:28	2971.67	143.1	2971.79	143.5	
	21:41:28	2968	143.1	2968.05	143.5	
	21:46:28	2964.56	143.1	2964.68	143.4	
	21:51:28	2961.25	143.1	2961.52	143.5	
	21:56:28	2959.73	143	2960.37	143.4	
	22:01:28	2958.85	143	2959.12	143.4	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	22:06:28	2960.54	143	2960.61	143.4	
	22:11:28	2960.85	143	2961.18	143.4	
	22:16:28	2960.34	143	2960.4	143.4	
	22:21:28	2960.51	143	2960.95	143.4	
	22:26:28	2959.5	143	2959.49	143.4	
	22:31:28	2956.56	143	2956.41	143.4	
	22:36:28	2954.42	143	2954.44	143.4	
	22:41:28	2956.52	143	2956.64	143.4	
	22:46:28	2955.54	143	2955.97	143.3	
	22:51:28	2955.89	143	2956.03	143.3	
	22:56:28	2957.41	143	2957.79	143.3	
	23:01:28	2957.99	143	2957.99	143.4	
	23:06:28	2955.16	143	2955.49	143.4	
	23:11:28	2952.38	143	2952.54	143.4	
	23:16:28	2950.12	143	2950.4	143.3	
	23:21:28	2948.9	143	2949.14	143.3	
	23:26:28	2949.28	142.9	2949.63	143.3	
	23:31:28	2949.76	142.9	2950.03	143.3	
	23:36:28	2948.73	142.9	2948.83	143.3	
	23:41:28	2946.7	142.9	2946.95	143.3	
	23:46:28	2948.05	142.9	2948.37	143.3	
	23:51:28	2953.75	142.9	2953.93	143.3	
	23:56:28	2955.82	143	2955.9	143.4	
	0:01:28	2956.27	143	2956.51	143.4	
	0:06:28	2955.04	143	2955.16	143.4	
	0:11:28	2953.57	143	2953.84	143.4	
	0:16:28	2950.43	143	2950.66	143.4	
	0:21:28	2946.98	143	2947.18	143.4	
	0:26:28	2947.09	143	2947.17	143.4	
	0:31:28	2948.5	143	2948.69	143.4	
	0:36:28	2948.44	143	2948.49	143.4	
	0:41:28	2948.81	143	2948.69	143.4	
	0:46:28	2948.68	143	2948.91	143.4	
	0:51:28	2948.79	143	2948.95	143.4	
	0:56:28	2948.51	143	2948.82	143.4	
	1:01:28	2948.28	143	2948.48	143.4	
	1:06:28	2949.81	143	2949.94	143.4	
	1:11:28	2950.22	143	2950.46	143.4	
	1:16:28	2948.87	143.1	2949.11	143.5	
	1:21:28	2948.76	143.1	2948.85	143.4	
	1:26:28	2949.57	143	2949.71	143.4	
	1:31:28	2949.47	143.1	2949.66	143.4	
	1:36:28	2951.08	143.1	2951.42	143.5	
	1:41:28	2950.37	143.1	2950.64	143.5	
	1:46:28	2948.67	143.1	2948.87	143.5	
	1:51:28	2948.41	143.1	2948.52	143.4	
	1:56:28	2948.44	143.1	2948.7	143.5	
	2:01:28	2949.59	143.1	2949.78	143.5	
	2:06:28	2949.05	143.1	2949.17	143.5	
	2:11:28	2950.26	143.1	2950.31	143.5	
	2:16:28	2950.14	143.1	2950.27	143.5	
	2:21:28	2949.02	143.1	2949.2	143.5	

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	2:26:28	2949.93	143.1	2950.22	143.5	
	2:31:28	2949.7	143.1	2950.01	143.5	
	2:36:28	2951.19	143.2	2951.34	143.6	
	2:41:28	2951.32	143.2	2951.36	143.5	
	2:46:28	2949.35	143.2	2949.49	143.5	
	2:51:28	2948.57	143.2	2948.64	143.5	
	2:56:28	2948.72	143.2	2948.87	143.6	
	3:01:28	2948.93	143.2	2949.13	143.5	
	3:06:28	2948.7	143.2	2948.79	143.5	
	3:11:28	2947.77	143.2	2948.03	143.5	
	3:16:28	2947.35	143.2	2947.5	143.5	
	3:21:28	2947.23	143.2	2947.35	143.6	
	3:26:28	2947.43	143.2	2947.64	143.5	
	3:31:28	2949.78	143.2	2949.83	143.5	
	3:36:28	2950.18	143.2	2950.28	143.6	
	3:41:28	2948.37	143.2	2948.62	143.6	
	3:46:28	2948.54	143.2	2948.92	143.6	
	3:51:28	2948.66	143.2	2948.87	143.5	
	3:56:28	2948.14	143.2	2948.37	143.5	
	4:01:28	2947.46	143.2	2947.72	143.6	
	4:06:28	2946.71	143.2	2946.7	143.5	
	4:11:28	2947.58	143.2	2947.56	143.5	
	4:16:28	2947.95	143.2	2948.23	143.6	
	4:21:28	2948.38	143.2	2948.57	143.6	
	4:26:28	2947.56	143.2	2947.7	143.6	
55	4:31:00	2983.62	143.2	2983.78	143.6	Shut in well at choke manifold
	4:31:28	3037.28	143.2	3037.42	143.6	
	4:36:28	3488.1	144.4	3487.81	145	
	4:41:28	3754.75	146.1	3754.73	146.7	
	4:46:28	3891.74	147.3	3891.77	147.9	
	4:51:28	3946.84	147.9	3946.9	148.5	
	4:56:28	3989.35	148.2	3989.79	148.7	
	5:01:28	4015.6	148.3	4016.22	148.7	
	5:06:28	4034.42	148.3	4035.07	148.7	
56	5:10:00	4044.72	148.3	4045.41	148.7	Run in hole with pulling tool on slickline
	5:11:28	4048.34	148.3	4049.02	148.7	
	5:16:28	4061.33	148.3	4062.02	148.7	
	5:21:28	4072.03	148.3	4072.78	148.7	
	5:26:28	4082.09	148.2	4082.74	148.6	
	5:31:28	4094.94	148.2	4095.63	148.6	
	5:36:28	4106.48	148.2	4106.98	148.6	
57	5:40:00	4114.18	148.2	4114.8	148.6	Latch gauges and jar free
	5:41:28	4117.15	148.2	4117.94	148.5	
58	5:45:00	4101.12	148	4102.02	148.4	Pull out of hole with gauges

Event	Time	Pressure (Top Gauge) Kpa	Temp (Top Gauge) degC	Pressure (Bottom Gauge) Kpa	Temp (Bottom Gauge) degC	Description
	5:46:28	4054.68	147.3	4056.43	147.5	
	5:51:28	3748.14	139.7	3751.25	138.9	
	5:56:28	3599.15	130.7	3601.25	129.4	
	6:01:28	3432.05	122.3	3433.71	121	
	6:06:28	3241.01	110.3	3242.71	108.3	
	6:11:28	3051.89	87.5	3053.25	83.4	
59	6:14:00	3038.47	69.6	3037.88	64	Out of hole shut in well
	6:16:28	3035.09	56.9	3034.18	51.3	
	6:21:28	3012.65	40.2	3012.08	36.2	
	6:26:28	2981.79	31.2	2981.72	28.7	
60	6:29:00	2192.89	28.2	2191.93	26.5	Depressure lubricator
	6:31:28	9.7	21	10.6	18.4	
	6:36:28	3.53	12.9	4.14	10.9	
	6:41:28	0.62	11.1	2.36	9.8	
61	6:45:00	0.95	11.4	1.95	9.7	Lift lubricator and remove gauges
	6:46:28	1.02	11.3	1.88	9.7	
	6:51:28	0.6	11.5	1.22	10.2	
	6:56:28	0.84	12.1	1.57	11.1	
62	6:58:07	0.67	12.3	1.47	11.4	Stop bottom gauge
	7:01:28	0.54	12.8			
63	7:01:28	0.54	12.8			Stop top gauge

(C) Subsurface Data – Petrotech Report

SECTION 1

Iso-Split Ô Mini-Lab Sampling of Wellhead Fluids

WELL: YOLLA-3 & 4

ISO-SPLIT™ MINI-LAB SAMPLING OF WELLHEAD FLUIDS

REPORT TYPE: FINAL

Client	:	Origin Energy Resources Ltd.
Well	:	Yolla-3 & Yolla-4
Permit	:	T/L1
Date	:	20 September – 02 October 2004
Client Representative	:	Joe Parvar
Date of reporting	:	January 2005
Project number	:	55564
Project co-ordinator	:	Robyn Tamke
Participants	:	Brian Toole Simon Chew
Report prepared by	:	Robyn Tamke/Hans Petter Hjermstad
Report reviewed by	:	Harry Brummenaes Brian Toole
Number of issues	:	7
Distribution Petrotech	:	1
Distribution Origin	:	6

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SUMMARY

Petrotech performed an onsite Iso-Split sampling programme at the wellhead during the drill stem testing (DST) of Yolla-3 and Yolla-4. At the request of the client no isokinetic sampling was performed at the test separator. A four zone DST was performed on Yolla-3 and one zone was tested on Yolla-4, where successful wellhead Iso-Split sampling was carried out during the clean up and main flow periods.

The production data from the MiniLab has been analysed, corrected and compared with the test separator data at a common reference point. There is good agreement between the Iso-Split CGR measurements and the test separator values for the tests of Yolla-3 where the condensate flow rate was sufficient to be measured by the Floco meter. Two of the tests in this well (sand 2973 and 2755) had condensate flow rates out side the linear range of the meter and the flow rate had to be measured at the gauge tank. The CGRs for the test of the 2973 sand show decreasing CGRs with time for all three independent measurements (Iso-Split, Floco meter and tank). The produced well stream was not representative of the reservoir fluid due to liquid loading in the near well bore. None of the PVT samples can be recombined to a representative sample of the reservoir fluid. Agreement exists between the Iso-Split CGRs and values calculated from the tank rates for the test of the 2755 sand.

The 2809 sand was also tested in the re-entry of Yolla-4. Poor agreement exists between the CGRs from the three independent measurements. The Floco meter gave condensate rates 40 % higher than the MiniLab Iso-Split method, whereas the tank measured about 25 % lower condensate production.

The 2" Floco meter was not calibrated during the different tests. The meter factor was assumed ideal (1.000). Due to lack of proper meter calibration and the uncertainty normally associated with tank measurements the Iso-Split results for all sands of both wells are regarded as best representing the producing CGRs during the tests.

The recombination ratios for the four PVT sets from the MiniLab are given below based on the Iso-Split values.

Sand	Sample No.	Pressure (psi)	Temp. (^{o}C)	Recom. Ratio (bbl/mmscf)
2973	1.01	500	32.5	n.a.[1]
2973	1.02	500	32.7	n.a.[1]
UEVCM	1.03	500	27.4	63.6
UEVCM	1.04	500	29.5	62.9
2809	1.05	500	27.4	51.1
2809	1.06	500	29.5	50.7
2755	1.07	500	29.0	31.5
2755	1.08	500	28.4	31.6

1) Well stream not representative of reservoir fluid due to liquid loading

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1. INTRODUCTION

Petrotech performed an onsite Iso-Split sampling programme at the wellhead only during the drill stem testing (DST) of Yolla-3 and Yolla-4. At the request of the client no isokinetic sampling was performed at the test separator.

2. CGR MEASURED AT THE WELL HEAD BY THE ISO-SPLIT™ METHOD

Thornton Research Centre, Chester, Great Britain carried out the initial development of the specialised Iso-Split™ MiniLab wellhead sampling technique.

A mixing/sampling manifold is installed upstream of the choke manifold. The manifold contains a static mixing device to collect liquid from the wall and to distribute it homogeneously into the body of the flowing gas stream. A dynamic representative sample fraction of the two-phase stream is withdrawn isokinetically downstream of the mixing device through a probe inserted radially into the well stream. The isokinetic sampling rate (same linear velocity as the well head fluid stream) is calculated from the probe size and the gas flow rate. The probe is traversed over half of the cross section and the stream sampled at four positions, each representing one quarter of the total cross sectional area. The isokinetic velocity at each point is calculated from the velocity profile and the total flow rate. The liquid fraction has been shown to have little impact on the velocity profile, and a fixed velocity profile is assumed. The average GOR of the four positions will represent the correct CGR of the well stream. The equipment and procedures used for the Iso-Split sampling are explained below.

The isokinetic sample stream is processed in a separation unit (MiniLab.), which enables a wide range of process conditions to be used. Both conventional PVT samples and non-pressurised samples (Recom sets) for compositional characterisation were taken from the MiniLab.

The CGR and WGR split stream measurements at the wellhead are given in Table 5.1.1. The measured values have been corrected for the effect of the sampling probe position by taking the average value of the four positions. The measured values are further corrected to the reference of standard conditions.

3. ISO-SPLIT SAMPLING PROCEDURES

Figure 3.3 depicts a schematic layout of the surface equipment. The mixing/sampling manifold was connected in the well flow line upstream of the choke manifold, between the flow head and choke. A diagram of the mixing manifold is shown in Figure 3.5. The manifold used is a new generation device developed by Petrotech, which is 15K rated and has an injectable mixing device and sampling probe.

The MiniLab. unit should be located as close as possible to the manifold to minimise the length of the sampling flow line from the manifold to the MiniLab. Figure 3.4 is a schematic layout of the MiniLab. separation units. Traditionally, the wellhead sampling technique assumed a homogenous mixture of gas and liquids in the sampling section

downstream of the mixer and fluids were withdrawn by a probe oriface in the centre of the stream. To obtain representative results, for the case of non-homogeneous mixtures of gas and liquid downstream of the mixer, Petrotech has developed a new sampling procedure. This is detailed below and was used for the sampling in this report.

The pipe cross-section at the sampling section downstream of the mixer has been divided into four imaginary rings. The area of each ring has been adjusted so that the product of each ring area and the average flow velocity in each ring is 25% of the total flow in the pipe. Using an injectable probe, which can traverse the flow, the probe is located approximately in the middle of each ring so that samples can be collected from each imaginary flow ring. The CGR and WGR for the wellstream are given by the average of the results for the four sample points.

The liquid fraction has been shown to have little impact on velocity profile, so a fixed velocity profile is assumed. The relative positions of the four sampling points are indicated in Table 3.1 and on the assumed velocity profile shown in Figure 3.1.

Table 3.1 Probe position from flow centre line

Probe Position	Distance from pipe centre (mm)
P1	-25
P2	-16
P3	6
P4	21

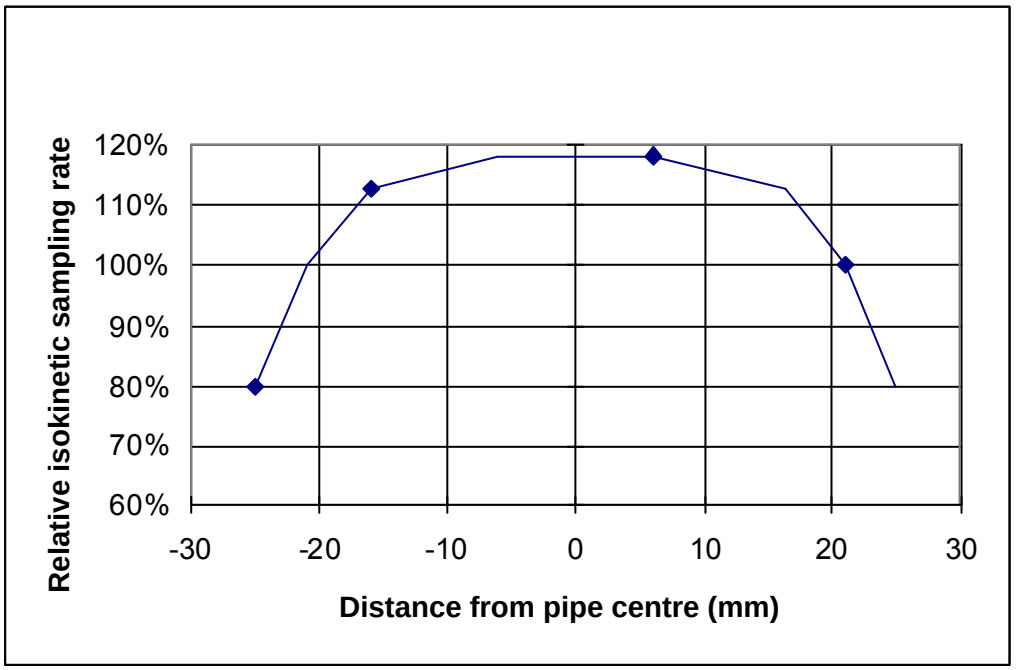


Figure 3.1 Velocity profile and sampling rate

Generally, representative samples can be obtained at deviations within 10% of the isokinetic sampling rate. That is, at each probe position we should get repeatable results for the range 90 – 110 % of isokinetic sampling rate. Consequently, this makes

deviations from the assumed velocity profile less critical. Accuracy and repeatability of MiniLab. CGR and WGR measurements has not been defined but is generally considered to be approximately 5-8 % and 2-5 % respectively.

The different sampling and measurements are detailed as follows:

CGR measurements: Separation at controlled conditions of temperature and pressure for comparison and to indicate well stability and test separator efficiency.

Compositional sampling: Compositional sampling tests to provide detailed flowing well fluid composition. Samples comprise gas and condensate at atmospheric pressure and were taken in conjunction with the PVT sampling tests. (Recom sample sets 1 - 4).

PVT sampling: Standard PVT sample sets, each PVT set comprises 1 x 600 cc pressurised condensate sample and 1 x 20L gas samples. (10 sets were taken from the MiniLab.)

Recom sample sets taken from the MiniLab. for compositional analysis comprise 2 gases (flash gas (FG) and small flash gas (SFG)) and 1 condensate (small flash liquid (SFL)). Following analysis, the compositions are recombined mathematically to give the flowing well stream composition. The samples taken are at atmospheric pressure for ease of transport back to Petrotech's laboratory.

Figure 3.2 below illustrates the source of the samples during the test procedure.

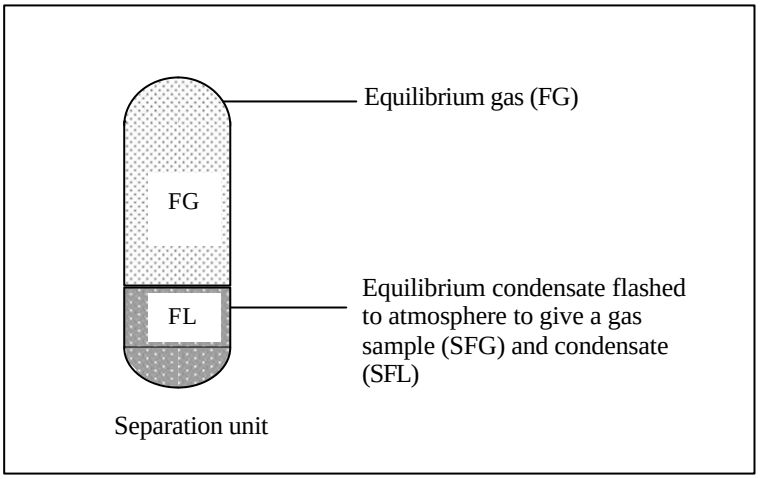


Figure 3.2 Recombination samples taken from MiniLab. separator

The flash process for sampling of the pressurised liquid from the separator is carried out using a special flash unit. The flash unit is used to carry out a controlled flash of a pressurised liquid to atmospheric pressure and quantify the resulting equilibrium liquid and gas obtained.

Compositional analyses are recombined as follows; SFG and SFL to give the equilibrium test condition flash liquid (FL); FG and FL are recombined to give flowing well fluid composition.

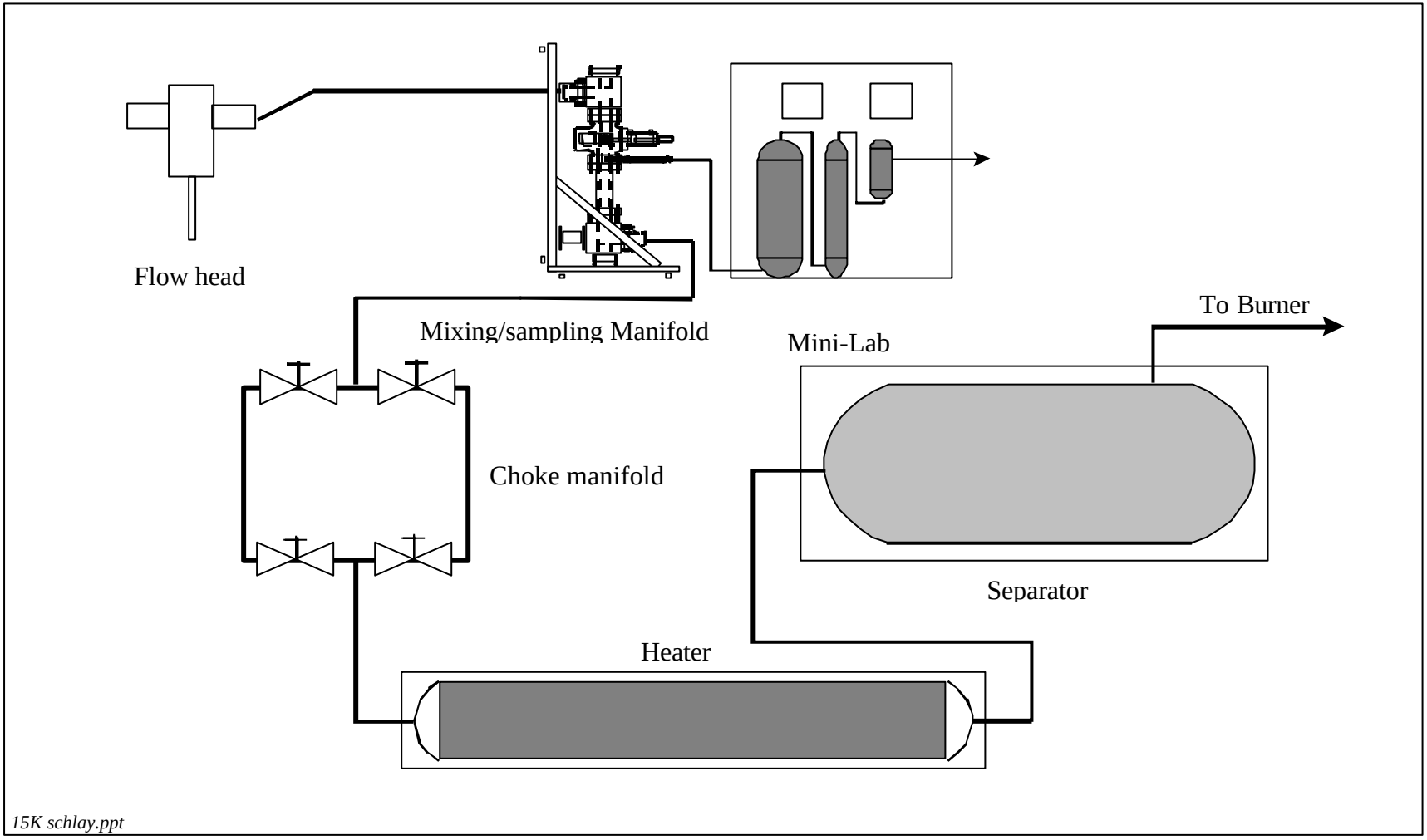


Figure 3.3 Schematic diagram of surface equipment layout

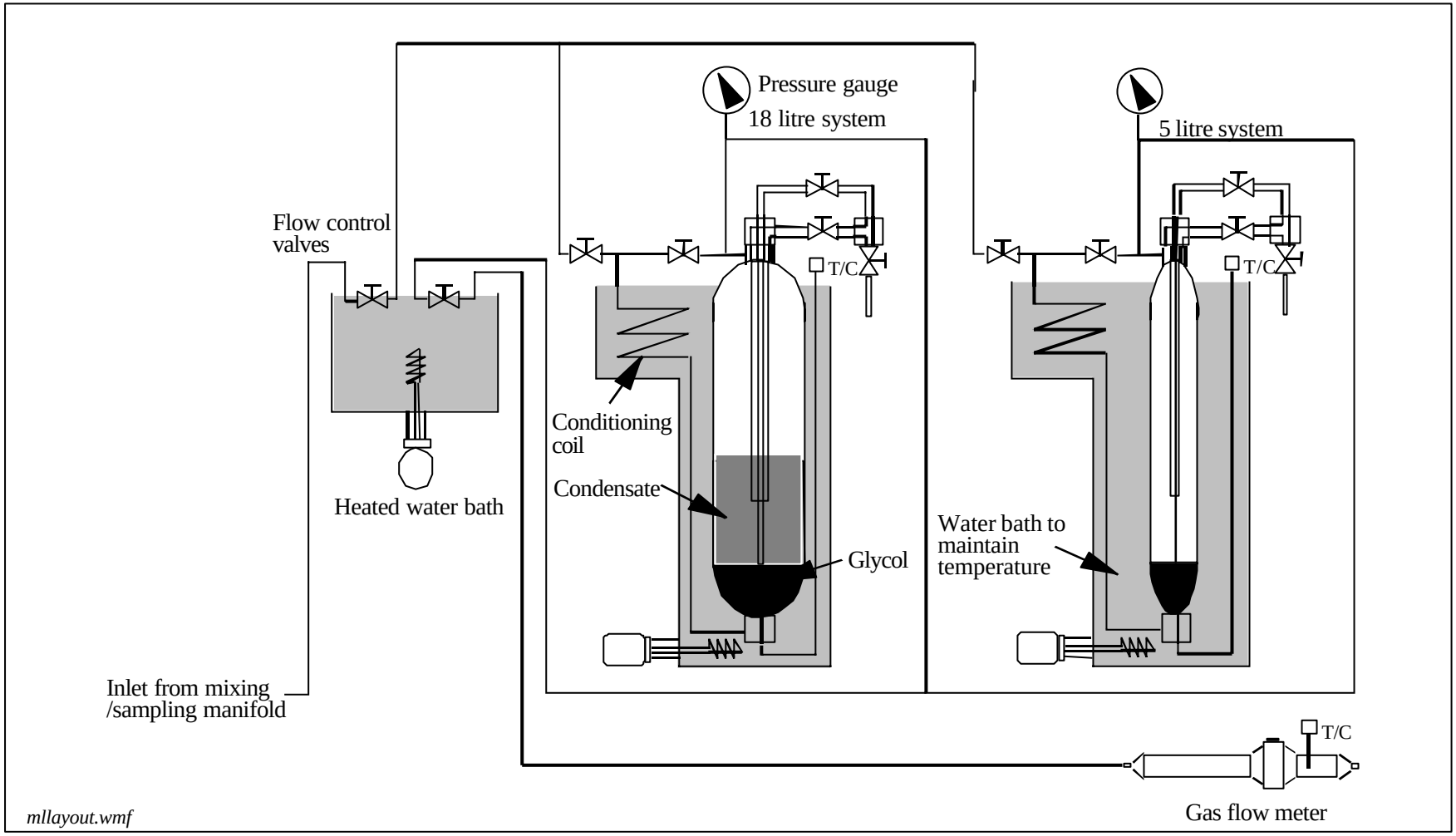


Figure 3.4 Schematic diagram of MiniLab. layout

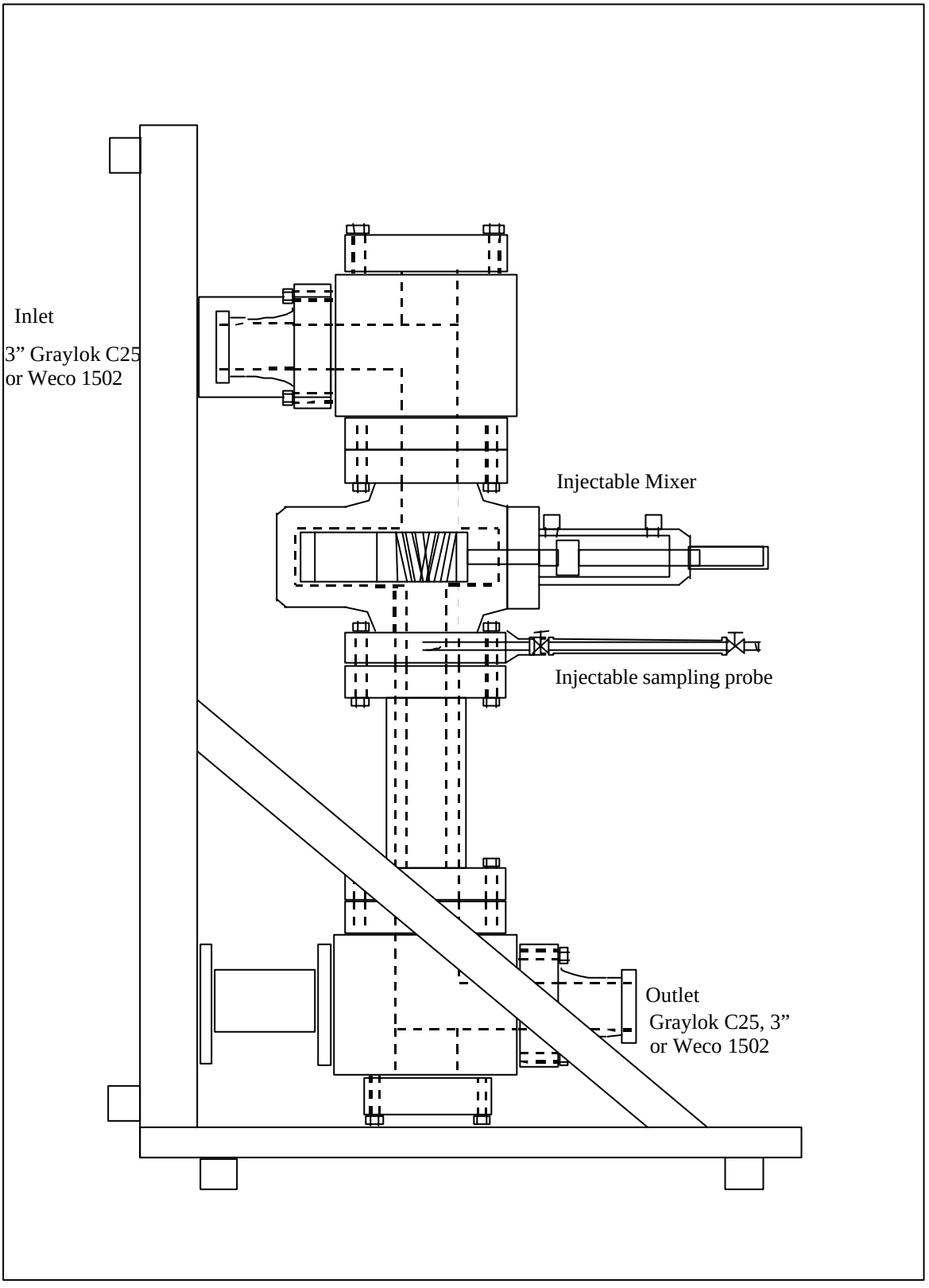


Figure 3.5 Schematic diagram of mixing/sampling manifold

4. COMPOSITIONAL ANALYSIS METHODS

4.1 Mathematical recombination method

The obtained compositions of the Recom sets from the MiniLab. have been recombined using the GOR from the Iso-Split measurements presented in Table 5.1.1.

During the mathematical recombination of the separator gas and liquid phase compositions for determination of the well stream composition, the recombination ratio (GOR Sm^3/Sm^3) has to be converted to mole basis. The number of moles of gas at standard conditions (60^oF, 1013.25mbar) is calculated from the molar volume of an ideal gas (23.645 litre/mole).

During compositional comparison of recombined well stream fluid compositions, it is important to take the accuracy of the different analyses into account. Difference in the C_{10+} fraction can often be traced to analytical uncertainty in the molecular weight determination of the condensate.

To calculate the volume of produced liquid into moles, both the density and molecular weight of the condensate have to be used. The error in determination of the condensate density is normally less than 1%. The accuracy in calculated density for the C_{10+} fraction, is dependent on the accuracy in the GC analysis of the C_1-C_9 fractions. The molecular weight of the bulk condensate is measured by cryoscopy and the error is typically 5-7%. The uncertainty in the bulk molecular weight analysis will, of course, also be reflected in the C_{10+} molecular weight. In the molar balance to obtain the recombined well stream fluid composition, the uncertainty in the condensate average molecular weight will dominate over the uncertainty in the condensate density.

The reported liquid density at test condition is calculated from a mass balance:

$$\rho_{tc} = (\rho_{sto} + GOR_2 \cdot \rho_g)/B_o$$

where:

ρ_{tc} = test condition separator liquid density (kg/m^3)
ρ_{sto} = density of stock tank condensate (kg/m^3)
ρ_g = density of flash gas from separator liquid (kg/m^3)
GOR_2= stock tank gas/stock tank liquid ratio (Sm^3/Sm^3)
$1/B_o$ = shrinkage of separator condensate to standard conditions (m^3/Sm^3)

(Note that for this report the calculations have been performed in metric units and subsequently converted back to field units.)

The calculated test condition liquid density is very sensitive to error in the determination of the shrinkage. The reported GOR_2 is determined during the flash of condensate to atmospheric conditions by use of the special flash unit. The shrinkage is determined by flashing a fixed condensate volume from test conditions to atmospheric conditions.

4.2 Offshore Analytical Methods

4.2.1 Gas Analysis

The analysis was performed using a Hewlett Packard 5890 Series II gas chromatograph using Helium as carrier gas. O_2, N_2, CO_2 and hydrocarbons from C_1 and up to C_{10} were detected.

C_1, C_2 , N_2 and CO_2 were separated from the heavier hydrocarbons on a DC200 column and detected with a thermal conductivity detector (TCD) at 250°C. O_2, N_2 and C_2 were separated on a molecular sieve column. CO_2 and C_1 were separated on a Porapak Q column. This analysis is carried out isothermally at 30°C.

C_3 and up to C_{10} were separated on a fused silica PONA column (50 meter x 0.2 mm) and detected with a flame ionization detector (FID) at 250°C. The stationary phase is cross linked methyl silicon (0.5mm film thickness).

This analysis is carried out with a temperature programme starting at 30°C for 15 minutes and increasing at rates of 1.5°C/min up to 70°C for 0.5 minute and 3°C/min up to 130°C for 15 minutes.

The gas chromatograph is calibrated with calibration gas, containing N_2, CO_2 and C_1 to C_6. Calibration is performed each day and checked against the previous calibration results using the same calibration gas.

4.2.2 Oil Analysis

The analysis was carried out by a Hewlett Packard 5890 Series II gas chromatograph, using Helium as carrier gas.

C_1 to nC_9 were separated from the heavier hydrocarbons on a OV-101 column and thereafter separated on a PONA column (same type as for gas analysis) and detected on a flame ionisation detector (FID) at 300°C.

Iso-Octane is used as internal standard to calculate the C_{10+} weight % .

The analysis is carried out with a temperature programme starting at 35°C for 15 minutes and increasing at rates of 1.5°C/min up to 70°C and 3°C/min up to 130°C for 10 minutes and finally 15°C/min to 250°C for 15 minutes.

4.2.3 Grouping of C_{6+} components - gas and condensate GC analysis

The C_{6+} fraction of the sample is divided into C_6, C_7, C_8, C_9 and C_{10+} groups. Each group consists of all components eluting after the previous normal paraffin and including the normal paraffin. The paraffin (P), naphthene (N) and aromatic (A) content in each group is reported.

The single components are identified by the retention times found during analysis of a PNA-calibration standard supplied by Hewlett Packard.

4.2.4 Density (ASTM D 4052-91)

Density of condensate was measured with an Anton Paar DMA-35 density meter, calibrated with air and distilled water before analysis. A fixed volume, U-shaped glass tube in contact with an oscillator is filled with sample. The oscillation frequency of the undamped glass tube is mass dependent, thus density of the sample can be determined from the oscillation frequency.

4.2.5 Molecular weight

Molecular weight of the condensate is determined by freezing point depression with a Roebling cryometer. The instrument is calibrated with Benzil ($C_{14}H_{10}O_2$) before analysis.

5. RESULTS

5.1 MiniLab. sampling and measurements

Table 5.1.1 MiniLab CGR Measurements

Operator	Origin Energy Resources Ltd
Well	Yolla-3
Test No.	**1 2973 Sand**

				PVT #1	PVT #2
MINI-LAB SAMPLING		**CGR**	**CGR**	**CGR**	**CGR**
Test no.		1	2	3	4
Date		**27.09.04**	**27.09.04**	**27.09.04**	**27.09.04**
Time		**08:16 - 08:36**	**09:40 - 10:05**	**11:18 - 12:33**	**14:22 - 15:12**
Flow Period		**Main Flow**	**Main Flow**	**Main Flow**	**Main Flow**
Choke Size		**48/64**	**48/64**	**48/64**	**48/64**
Probe Position		1	2	3	4
Gas Rate	MM Scf/D	**6.1**	**7.4**	**7.2**	**7.2**
Separator P	bara	34.5	34.5	34.5	34.5
Separator T	°C	33.0	33.2	32.5	32.7
Shrinkage	m^3/Sm^3	1.166	1.207	1.156	1.226
GOR @ sep cond	Sm^3/m^3	8570	21663	16631	18999
GOR @ stab cond	Sm^3/m^3	9991	26145	19218	23284
CGR @ stab cond	bbls/10-6 Scf	**17.83**	**6.81**	**9.27**	**7.65**
WGR	bbls/10-6 Scf	11.8	4.7	3.3	2.3

Operator	Origin Energy Resources Ltd
Well	Yolla-3
Test No.	**2 UEVCM Sand**

				PVT #3	PVT #4
MINI-LAB SAMPLING		**CGR**	**CGR**	**CGR**	**CGR**
Test no.		5	6	7	8
Date		**28.09.04**	**28.09.04**	**28.09.04**	**28.09.04**
Time		**07:38 - 07:50**	**08:36 - 08:46**	**09:29 - 09:49**	**11:15 - 11:34**
Flow Period		**Main Flow**	**Main Flow**	**Main Flow**	**Main Flow**
Choke Size		**48/64**	**48/64**	**48/64**	**48/64**
Probe Position		1	3	2	4
Gas Rate	MM Scf/D	**18.0**	**17.6**	**17.6**	**17.6**
Separator P	bara	34.5	34.5	34.5	34.5
Separator T	°C	33.0	29.8	27.4	29.5
Shrinkage	m^3/Sm^3	1.331	1.341	1.361	1.342
GOR @ sep cond	Sm^3/m^3	2743	2460	2345	2315
GOR @ stab cond	Sm^3/m^3	3652	3299	3190	3106
CGR @ stab cond	bbls/10-6 Scf	**48.77**	**53.99**	**55.84**	**57.34**
WGR	bbls/10-6 Scf	-	-	1.0	6.8

Operator	Origin Energy Resources Ltd
Well	Yolla-3
Test No.	**3 2809 Sand**

				PVT #5	PVT #6
MINI-LAB SAMPLING		**CGR**	**CGR**	**CGR**	**CGR**
Test no.		9	10	11	12
Date		**29.09.04**	**29.09.04**	**29.09.04**	**29.09.04**
Time		**04:41 - 05:01**	**06:11 - 06:31**	**07:31 - 07:56**	**09:22 - 09:47**
Flow Period		**Main Flow**	**Main Flow**	**Main Flow**	**Main Flow**
Choke Size		**36/64**	**36/64**	**36/64**	**36/64**
Probe Position		1	2	3	4
Gas Rate	MM Scf/D	**18.0**	**17.6**	**17.6**	**17.6**
Separator P	bara	34.5	34.5	34.5	34.5
Separator T	°C	33.0	29.8	27.4	29.5
Shrinkage	m^3/Sm^3	1.375	1.353	1.314	1.318
GOR @ sep cond	Sm^3/m^3	3108	3247	3166	3419
GOR @ stab cond	Sm^3/m^3	4272	4394	4162	4506
CGR @ stab cond	bbls/10-6 Scf	**41.69**	**40.53**	**42.80**	**39.52**
WGR	bbls/10-6 Scf	5.93	6.58	1.88	4.61

Operator	Origin Energy Resources Ltd
Well	Yolla-3
Test No.	**4 2755 Sand**

				PVT #7		PVT #8
MINI-LAB SAMPLING		**CGR**	**CGR**	**CGR**	**CGR**	**CGR**
Test no.		13	14	15	16	17
Date		**29.09.04**	**29.09.04**	**30.09.04**	**30.09.04**	**30.09.04**
Time		**22:10 - 22:28**	**23:10 - 23:40**	**00:33 - 01:33**	**03:04 - 03:24**	**03:51 - 04:21**
Flow Period		**Main Flow**	**Main Flow**	**Main Flow**	**Main Flow**	**Main Flow**
Choke Size		**40/64**	**40/64**	**40/64**	**40/64**	**40/64**
Probe Position		1	2	3	4	4
Gas Rate	MM Scf/D	**17.5**	**17.3**	**17.3**	**17.3**	**17.3**
Separator P	bara	34.5	34.5	34.5	34.5	34.5
Separator T	°C	29.7	29.3	29.0	28.7	28.4
Shrinkage	m^3/Sm^3	**1.216**	**1.239**	**1.249**	**1.256**	**1.225**
GOR @ sep cond	Sm^3/m^3	**4967**	**5893**	**5837**	**5540**	**5918**
GOR @ stab cond	Sm^3/m^3	**6040**	**7299**	**7291**	**6960**	**7251**
CGR @ stab cond	bbls/10-6 Scf	**29.49**	**24.40**	**24.43**	**25.59**	**24.56**
WGR	bbls/10-6 Scf	**4.89**	**3.48**	**3.48**	**3.71**	**3.57**

Operator	Origin Energy Resources Ltd
Well	Yolla-4
Test No.	**2809 Sand**

				PVT #9	PVT #10
MINI-LAB SAMPLING		**CGR**	**CGR**	**CGR**	**CGR**
Test no.		1	2	3	4
Date		**01.10.04**	**02.10.04**	**02.10.04**	**02.10.04**
Time		**23:59 - 00:19**	**01:02 - 01:22**	**02:10 - 02:40:30**	**04:02 - 04:27**
Flow Period		**Main Flow**	**Main Flow**	**Main Flow**	**Main Flow**
Choke Size		**36/64**	**36/64**	**36/64**	**36/64**
Probe Position		1	2	3	4
Gas Rate	MM Scf/D	**17.6**	**17.6**	**20.4**	**20.4**
Separator P	bara	34.5	34.5	34.5	34.5
Separator T	°C	29.6	28.0	28.8	27.1
Shrinkage	m^3/Sm^3	**1.265**	**1.367**	**1.371**	**1.420**
GOR @ sep cond	Sm^3/m^3	**3371**	**3124**	**3482**	**3170**
GOR @ stab cond	Sm^3/m^3	**4264**	**4270**	**4774**	**4503**
CGR @ stab cond	bbls/10-6 Scf	**41.77**	**41.71**	**37.31**	**39.56**
WGR	bbls/10-6 Scf	3.1	3.4	4.4	3.6

Table 5.1.2 Correction of MiniLab CGRs to reference conditions – Yolla-3

Time	MiniLab Pressure (psi)	MiniLab temp. (°C)	CGR (stb/mmscf)	CGR 500psi, 30°C (stb/mmscf)	CGR 500psi, 30°C (bbl/mmscf)
2973 Sand					
08:16 - 08:36	500	33.0	17.83	17.5	20.3
09:40 - 10:05	500	33.2	6.81	6.7	7.8
11:18 - 12:33	500	32.5	9.27	9.1	10.6
14:22 - 15:12	500	32.7	7.65	7.5	8.7
			Avg	10.2	11.8
			St. dev	48.7[1]	48.7
UEVCM Sand					
07:38 - 07:50	500	33.0	48.77	47.9	55.6
08:36 - 08:46	500	29.8	53.99	54.0	62.7
09:29 - 09:49	500	27.4	55.84	56.7	65.8
11:15 - 11:34	500	29.5	57.34	57.5	66.7
			Avg	54.0	62.7
			St. dev	8.0	8.0
2809 Sand					
04:41 - 05:01	500	33.0	41.69	41.2	50.5
06:11 - 06:31	500	29.8	40.53	40.6	49.8
07:31 - 07:56	500	27.4	42.80	43.3	53.1
09:22 - 09:47	500	29.5	39.52	39.6	48.6
			Avg	41.1	50.5
			St. dev	3.8	3.8
2755 Sand					
22:10 - 22:28	500	29.7	29.49	29.9	35.9
23:10 - 23:40	500	29.3	24.40	24.7	29.7
00:33 - 01:33	500	29.0	24.43	24.8	29.8
03:04 - 03:24	500	28.7	25.59	26.0	31.3
03:51 - 04:21	500	28.4	24.56	25.0	30.0
			Avg	26.1	31.3
			St. dev	8.3	8.3

[1]) Liquid loading gives decreasing CGRs with time

Table 5.1.3 Correction of MiniLab CGRs to reference conditions – Yolla-4 re-entry

Time	Separator Pressure (psi)	Separator Temp. (°C)	CGR (stb/mmscf)	CGR 750psi, 30°C (stb/mmscf)	CGR 750psi, 30°C (bbl/mmscf)
00:10	500.3	29.6	41.77	41.8	49.6
01:10	500.3	28.0	41.71	42.1	49.9
02:20	500.3	28.8	37.31	37.5	44.5
04:15	500.3	27.1	39.56	40.0	47.5
			Avg	40.4	47.9
			St. dev	5.2	5.2

Table 5.1.4 Recommended recombination ratio of PVT samples at sampling conditions

Sample No	Date	Time	Sample Point	Cylinder No	Pressure (psi)	Temp. (°C)	CGR 500psi, 30°C (bbl/mmscf)	Recombination ratio (bbl/mmscf)
Main Flow "2973" Sands								
1.01a	27.09.04	11:18 - 12:33	MiniLab	4963-A	500	32.5	20.3	n.a.[1]
1.01b	27.09.04	11:18 - 12:33	MiniLab	PT-3144	500	32.5		
1.02a	27.09.04	14:22 - 15:12	MiniLab	5561-A	500	32.7	20.3	n.a.[1]
1.02b	27.09.04	14:22 - 15:12	MiniLab	TS-23819	500	32.7		
Main Flow "U-EVCM" Sands								
1.03a	28.09.04	09:29 - 09:49	MiniLab	5671-A	500	27.4	62.7	63.6
1.03b	28.09.04	09:29 - 09:49	MiniLab	PT-1062	500	27.4		
1.04a	28.09.04	11:15 - 11:34	MiniLab	5051-A	500	29.5	62.7	62.9
1.04b	28.09.04	11:15 - 11:34	MiniLab	TS-9212	500	29.5		
Main Flow "2809" Sands								
1.05a	29.09.04	07:31 - 07:56	MiniLab	5641-A	500	27.4	50.5	51.1
1.05b	29.09.04	07:31 - 07:56	MiniLab	PT-1083	500	27.4		
1.06a	29.09.04	09:22 - 09:47	MiniLab	276-A	500	29.5	50.5	50.7
1.06b	29.09.04	09:22 - 09:47	MiniLab	TS-1602	500	29.5		
Main Flow "2755" Sands								
1.07a	30.09.04	00:33 - 01:33	MiniLab	5037-A	500	29.0	31.3	31.5
1.07b	30.09.04	00:33 - 01:33	MiniLab	TS-5601	500	29.0		
1.08a	30.09.04	03:51 - 04:21	MiniLab	5046-A	500	28.4	31.3	31.6
1.08b	30.09.04	03:51 - 04:21	MiniLab	PT-1007	500	28.4		

1) Well stream not representative of reservoir fluid due to liquid loading

Table 5.1.5 Density measurements on atmospheric condensate samples

Client:	Origin Energy Resources Ltd
Well:	Yolla –3 & 4
Sample point:	Minilab

Date	Time	CGR Measurement	Density (g/mL)	Temperature (°C)	Density @ 15 °C* (g/mL)	°API @ 15°C
Test 1 Yolla-3 2973 sand						
27.09.04	08:16 – 08:36	1	0.792	20.8	0.797	46.1
27.09.04	09:40 – 10:05	2	0.792	21.3	0.797	46.0
27.09.04	11:18 – 00:33	3	0.792	21.2	0.796	46.2
27.09.04	14:22 – 15:12	4	0.790	22.6	0.796	46.3
Test 2 Yolla-3 UEVCM sand						
28.09.04	07:38 – 07:50	5	0.753	22.4	0.758	55.1
28.09.04	08:36 – 08:46	6	0.756	19.9	0.760	54.7
28.09.04	09:29 – 09:49	7	0.757	22.4	0.793	54.0
28.09.04	11:15 – 11:34	8	0.755	21.8	0.760	54.6
Test 3 Yolla-3 2809 sand						
29.09.04	04:41 – 05:01	9	0.761	21.0	0.765	53.4
29.09.04	06:11 – 06:31	10	0.761	21.0	0.766	53.3
29.09.04	07:31 – 07:56	11	0.760	21.1	0.764	53.6
29.09.04	09:22 – 09:47	12	0.763	21.1	0.768	52.7
Test 4 Yolla-3 2755 sand						
29.09.04	22:10 – 22:28	13	0.771	21.1	0.776	50.9
29.09.04	23:10 – 23:40	14	0.769	21.3	0.774	51.4
30.09.04	00:33 – 01:33	15	0.770	21.3	0.775	51.1
30.09.04	03:04 – 03:24	16	0.769	21.4	0.774	51.4
30.09.04	03:51 – 04:21	17	0.769	21.5	0.774	51.3
Test 5 Yolla-4 2809 sand						
01.10.04	23:59 – 00:19	18	0.770	18.6	0.773	51.7
02.10.04	01:02 – 01:22	19	0.769	18.2	0.772	51.9
02.10.04	02:10 – 02:40	20	0.768	20.3	0.772	51.7
02.10.04	04;02 – 04:27	21	0.769	18.1	0.771	52.0

* Density is measured at ambient temperature and corrected to 15°C using correlation.

5.2 Wellhead Compositions

Table 5.2.1 Wellstream composition from Recom set 1

Operator: Origin Energy Resources Ltd
Well: Yolla-3, 2973 sand
Date: 27.09.04, 11:18 - 12:33

Components	Stock tank gas (mole%)	Stock tank liq.(mole%)	Separator gas (mole%)	Sep.liquid mole%	WH fluid mole%	MW g/mol* Dsty kg/m3**
N_2	0.430	0.000	0.205	0.106	0.204	
CO_2	23.039	0.000	19.377	5.654	19.235	
H_2S	0.000	0.000	0.000	0.000	0.000	
C_1	36.882	0.051	71.851	9.090	71.200	
C_2	12.686	0.234	5.237	3.290	5.216	
C_3	11.113	0.960	1.849	3.452	1.866	
iC_4	3.037	0.712	0.312	1.283	0.322	
nC_4	5.063	1.788	0.440	2.592	0.463	
iC_5	2.035	1.879	0.144	1.917	0.163	
nC_5	1.849	2.345	0.128	2.223	0.150	
C_6 total	1.630	6.824	0.114	5.550	0.170	85.2
P	1.598	5.845	0.111	4.803	0.160	672.3
N	0.032	0.979	0.003	0.747	0.011	
C_7 total	1.286	12.949	0.107	10.087	0.210	89.6
P	0.364	5.190	0.033	4.005	0.074	744.5
N	0.649	5.437	0.051	4.262	0.094	
A	0.273	2.323	0.023	1.820	0.042	
C_8 total	0.446	21.251	0.062	16.145	0.229	100.9
P	0.060	5.182	0.011	3.925	0.052	780.7
N	0.281	8.927	0.034	6.805	0.104	
A	0.105	7.142	0.017	5.415	0.073	
C_9 total	0.010	13.186	0.005	9.952	0.108	115.0
P	0.003	4.804	0.002	3.626	0.040	799.7
N	0.003	0.746	0.001	0.564	0.007	
A	0.004	7.636	0.002	5.763	0.062	
C_{10}+	0.492	37.820	0.168	28.659	0.464	163.3
Sum	100.000	100.000	100.000	100.000	100.000	833.6
Total						
MW g/mole	36.2	122.6	23.7	101.4	24.5	*recomb. MW
Density kg/m^3	1.530	789.1	1.001	720.7	-	**stabil. dsty
Gas gravity	1.248	-	0.817	-	-	

GOR(1)	**19218**[1]	**Sm³/Sm³**	**(gas/stock tank condensate)**
	16015	**Sm³/m³**	**(gas/separator condensate)**
GOR(2)	**49.5**	**Sm³/Sm³**	**(flash gas/separator condensate)**
Shrinkage	**1.20**	**m³/Sm³**	**(separator/stock tank condensate)**

1) The composition will not represent the reservoir fluid due to liquid loading

Table 5.2.2 Wellstream composition from Recom set 3

Operator: Origin Energy Resources Ltd
Well: Yolla-3, UEVCM sand
Date: 28.09.04, 09:29 - 09:49

Components	Stock tank gas (mole%)	Stock tank liq.(mole%)	Separator gas (mole%)	Sep.liquid mole%	WH fluid mole%	MW g/mol* Dsty kg/m3**
N_2	0.215	0.000	0.526	0.098	0.494	
CO_2	4.993	0.000	6.940	2.279	6.595	
H_2S	0.000	0.000	0.000	0.000	0.000	
C_1	27.478	0.012	76.411	12.547	71.691	
C_2	15.603	0.166	9.383	7.212	9.222	
C_3	21.922	1.619	4.682	10.885	5.140	
iC_4	6.770	1.517	0.683	3.914	0.922	
nC_4	10.786	3.858	0.848	7.020	1.304	
iC_5	3.993	3.743	0.168	3.857	0.441	
nC_5	3.689	4.677	0.134	4.226	0.436	
C_6 total	2.669	9.138	0.078	6.186	0.529	84.9
P	2.595	8.142	0.075	5.611	0.484	669.6
N	0.073	0.996	0.003	0.575	0.045	
C_7 total	1.390	13.281	0.062	7.854	0.638	92.5
P	0.374	6.165	0.020	3.522	0.279	729.1
N	0.927	6.499	0.034	3.956	0.324	
A	0.089	0.617	0.008	0.376	0.036	
C_8 total	0.416	16.946	0.042	9.402	0.733	104.1
P	0.062	5.243	0.009	2.879	0.221	761.0
N	0.309	9.217	0.023	5.151	0.402	
A	0.045	2.487	0.010	1.372	0.111	
C_9 total	0.010	8.567	0.006	4.662	0.350	119.3
P	0.006	5.366	0.003	2.920	0.218	761.3
N	0.000	0.452	0.000	0.246	0.018	
A	0.004	2.750	0.003	1.497	0.114	
C_{10}+	0.065	36.476	0.037	19.858	1.502	197.4
Sum	100.000	100.000	100.000	100.000	100.000	812.8
Total						
MW g/mole	40.8	130.4	21.7	89.5	26.7	*recomb. MW
Density kg/m^3	1.728	763.0	0.917	803.1	-	**stabil. dsty
Gas gravity	1.410	-	0.749	-	-	

GOR(1)	**3190**	**Sm³/Sm³**	**(gas/stock tank condensate)**
	2658	**Sm³/m³**	**(gas/separator condensate)**
GOR(2)	**116**	**Sm³/Sm³**	**(flash gas/separator condensate)**
Shrinkage	**1.20**	**m³/Sm³**	**(separator/stock tank condensate)**

Table 5.2.3 Wellstream composition from Recom set 5

Operator: Origin Energy Resources Ltd
Well: Yolla-3, 2809 sand
Date: 29.09.04, 07:31 - 07:56

Components	Stock tank gas (mole%)	Stock tank liq.(mole%)	Separator gas (mole%)	Sep.liquid mole%	WH fluid mole%	MW g/mol* Dsty kg/m3**
N_2	0.184	0.000	0.224	0.073	0.216	
CO_2	17.412	0.000	19.265	6.945	18.588	
H_2S	0.000	0.000	0.000	0.000	0.000	
C_1	27.903	0.026	67.272	11.145	64.188	
C_2	15.097	0.230	7.926	6.160	7.829	
C_3	17.429	1.517	3.453	7.864	3.695	
iC_4	4.529	1.163	0.487	2.505	0.598	
nC_4	8.307	3.322	0.749	5.310	0.999	
iC_5	2.797	2.948	0.179	2.888	0.328	
nC_5	2.774	3.984	0.168	3.502	0.351	
C_6 total	1.948	7.761	0.113	5.442	0.405	84.9
P	1.889	6.848	0.110	4.870	0.372	670.3
N	0.059	0.913	0.002	0.572	0.034	
C_7 total	1.197	13.094	0.079	8.349	0.534	91.1
P	0.260	5.426	0.021	3.366	0.205	737.7
N	0.776	6.317	0.048	4.107	0.271	
A	0.161	1.351	0.010	0.876	0.058	
C_8 total	0.364	18.990	0.044	11.561	0.676	102.3
P	0.045	4.799	0.009	2.903	0.168	773.7
N	0.253	9.317	0.026	5.702	0.338	
A	0.066	4.874	0.009	2.956	0.171	
C_9 total	0.007	10.515	0.004	6.324	0.351	117.7
P	0.004	5.812	0.002	3.496	0.194	770.9
N	0.000	0.611	0.000	0.367	0.020	
A	0.003	4.093	0.002	2.461	0.137	
C_{10}+	0.051	36.449	0.038	21.932	1.240	182.8
Sum	100.000	100.000	100.000	100.000	100.000	823.1
Total						
MW g/mole	39.1	125.7	24.5	91.1	28.2	*recomb. MW
Density kg/m^3	1.653	773.1	1.036	777.2	-	**stabil. dsty
Gas gravity	1.349	-	0.845	-	-	

GOR(1)	**4162**	**Sm³/Sm³**	**(gas/stock tank condensate)**
	3468	**Sm³/m³**	**(gas/separator condensate)**
GOR(2)	**96.5**	**Sm³/Sm³**	**(flash gas/separator condensate)**
Shrinkage	**1.20**	**m³/Sm³**	**(separator/stock tank condensate)**

Table 5.2.4 Wellstream composition from Recom set 7

Operator: Origin Energy Resources Ltd
Well: Yolla-3,
2755 sand
Date: 30.09.04, 00:33 - 01:33

Components	Stock tank gas (mole%)	Stock tank liq.(mole%)	Separator gas (mole%)	Sep.liquid mole%	WH fluid mole%	MW g/mol* Dsty kg/m3**
N_2	0.177	0.000	0.192	0.051	0.189	
CO_2	21.720	0.000	20.242	6.284	19.850	
H_2S	0.000	0.000	0.000	0.000	0.000	
C_1	32.650	0.026	69.284	9.465	67.605	
C_2	14.308	0.236	6.356	4.308	6.298	
C_3	14.487	1.376	2.553	5.169	2.627	
iC_4	3.713	1.045	0.379	1.817	0.419	
nC_4	6.343	2.794	0.566	3.821	0.658	
iC_5	2.137	2.638	0.143	2.493	0.209	
nC_5	1.986	3.417	0.127	3.003	0.207	
C_6 total	1.391	7.349	0.079	5.626	0.234	84.9
P	1.348	6.507	0.076	5.014	0.214	670.1
N	0.044	0.843	0.003	0.612	0.020	
C_7 total	0.827	13.348	0.050	9.726	0.321	90.9
P	0.186	5.567	0.012	4.010	0.124	739.9
N	0.484	5.977	0.029	4.388	0.151	
A	0.157	1.804	0.009	1.328	0.046	
C_8 total	0.225	19.890	0.022	14.200	0.420	102.0
P	0.026	5.041	0.004	3.590	0.105	776.5
N	0.151	9.023	0.013	6.456	0.193	
A	0.048	5.826	0.005	4.155	0.122	
C_9 total	0.006	11.600	0.002	8.245	0.233	117.1
P	0.003	6.115	0.001	4.347	0.123	774.4
N	0.000	0.677	0.000	0.481	0.014	
A	0.002	4.808	0.001	3.417	0.097	
C_{10}+	0.030	36.281	0.004	25.793	0.728	171.7
Sum	100.000	100.000	100.000	100.000	100.000	816.1
Total						
MW g/mole	36.6	121.9	24.0	97.2	26.1	*recomb. MW
Density kg/m^3	1.547	771.4	1.016	721.3	-	**stabil. dsty
Gas gravity	1.262	-	0.829	-	-	

GOR(1)	**7291**	**Sm³/Sm³**	**(gas/stock tank condensate)**
	6076	**Sm³/m³**	**(gas/separator condensate)**
GOR(2)	**60.9**	**Sm³/Sm³**	**(flash gas/separator condensate)**
Shrinkage	**1.20**	**m³/Sm³**	**(separator/stock tank condensate)**

Table 5.2.5 Wellstream composition from Recom set 9

Operator: Origin Energy Resources Ltd
Well: Yolla-3, 2755 sand
Date: 30.09.04, 00:33 - 01:33

Components	Stock tank gas (mole%)	Stock tank liq.(mole%)	Separator gas (mole%)	Sep.liquid mole%	WH fluid mole%	MW g/mol* Dsty kg/m3**
N_2	0.177	0.000	0.192	0.051	0.189	
CO_2	21.720	0.000	20.242	6.284	19.850	
H_2S	0.000	0.000	0.000	0.000	0.000	
C_1	32.650	0.026	69.284	9.465	67.605	
C_2	14.308	0.236	6.356	4.308	6.298	
C_3	14.487	1.376	2.553	5.169	2.627	
iC_4	3.713	1.045	0.379	1.817	0.419	
nC_4	6.343	2.794	0.566	3.821	0.658	
iC_5	2.137	2.638	0.143	2.493	0.209	
nC_5	1.986	3.417	0.127	3.003	0.207	
C_6 total	1.391	7.349	0.079	5.626	0.234	84.9
P	1.348	6.507	0.076	5.014	0.214	670.1
N	0.044	0.843	0.003	0.612	0.020	
C_7 total	0.827	13.348	0.050	9.726	0.321	90.9
P	0.186	5.567	0.012	4.010	0.124	739.9
N	0.484	5.977	0.029	4.388	0.151	
A	0.157	1.804	0.009	1.328	0.046	
C_8 total	0.225	19.890	0.022	14.200	0.420	102.0
P	0.026	5.041	0.004	3.590	0.105	776.5
N	0.151	9.023	0.013	6.456	0.193	
A	0.048	5.826	0.005	4.155	0.122	
C_9 total	0.006	11.600	0.002	8.245	0.233	117.1
P	0.003	6.115	0.001	4.347	0.123	774.4
N	0.000	0.677	0.000	0.481	0.014	
A	0.002	4.808	0.001	3.417	0.097	
C_{10}+	0.030	36.281	0.004	25.793	0.728	171.7
Sum	100.000	100.000	100.000	100.000	100.000	816.1
Total						
MW g/mole	36.6	121.9	24.0	97.2	26.1	*recomb. MW
Density kg/m^3	1.547	771.4	1.016	721.3	-	**stabil. dsty
Gas gravity	1.262	-	0.829	-	-	

GOR(1)	**7291**	**Sm³/Sm³**	**(gas/stock tank condensate)**
	6076	**Sm³/m³**	**(gas/separator condensate)**
GOR(2)	**60.9**	**Sm³/Sm³**	**(flash gas/separator condensate)**
Shrinkage	**1.20**	**m³/Sm³**	**(separator/stock tank condensate)**

6. DISCUSSION

The CGR measurements at reference conditions on the well head using the Iso-Split technique from the MiniLab are given in Table 5.1.2 for Yolla-3 and in Table 5.1.3 for Yolla-4. For each test the measurements have been made at four positions over the cross section of the flow in order to compensate for any uneven droplet distribution. The average value will in this case represent the correct value for the well stream. However, for both wells the uncertainty in the measurement itself is larger than the relative change due to uneven distribution and the average value has been given with standard deviations. Except for the test in the 2973 sand, the CGRs from the Iso-Split method is well defined with standard deviations typically obtained with the method being, less than 8 %. The test of the 2973 sand gave CGRs that decreased strongly with time.

The well head CGRs have been compared to the values obtained on the test separator in Appendix 1. The reported gas rates for the flow periods in the test report[2,3] have been corrected by substituting the density used in the flow calculations during the test with the value calculated from the compositions of the recombined well streams. The corrected properties have been achieved by use of an equation of state package (EOS) with good documented predictive capability[1]. This EOS was also used in order to account for the change in gas properties with the change in separator pressure and temperature. The composition used to obtain the gas properties is presented in Table 5.2.1-5.2.5. The corrections were larger than normally seen for two of the tests of Yolla-3 (UEVCM and 2809 sand) due to by incorrect compressibility factors. The corrected gas rates are reported in Table A1.1 – A1.5.

The condensate production rate on the test separator was partly measured with a 2" Floco meter and by the gauge tank. The Floco meter was not calibrated during any of the flows. An ideal meter factor was assumed (1.000). Therefore the only correction that could be made to the meter readings was the shrinkage from separator conditions to standard conditions. The condensate rates have not been corrected for the volume change due to the temperature difference between the separator and the position of the meter and any loss of condensate from carryover. The meter temperatures from the tests were not recorded and separator efficiency not measured. Both are believed to be insignificant compared to the uncertainty in the meter calibration. For two of the tests (2973 and 2755 sands) the condensate rate was below the range of the meter and had to be measured on the gauge tank. The only correction that could be applied was the temperature shrinkage using the more accurate densities from the MiniLab. This correction was insignificant. The corrected condensate rates are given in Table A1.6 – A1.12.

The corrected test separator gas and condensate rates have been used to calculate corrected test separator CGR values. The resulting CGRs have been used to calculate an adjusted separator gas-condensate ratio at a chosen common reference. By use of this procedure the CGR values obtained for the individual flow periods can be directly compared independently of drift or changes in the separator conditions. The reference conditions represent the conditions used by the MiniLab during the tests, 500 psi and 30 ^{o} C. The adjustments have been obtained by flash simulations with an EOS package[1] and the use of the expression below:

$$CGR(P_r,T_r) = CGR(P_s,T_s) \cdot CGR^*(P_r,T_r)/CGR^*(P_s,T_s)$$

where:

$CGR\ (P_r,T_r)$ = CGR corrected to reference conditions
$CGR\ (P_s,T_s)$ = Measured CGR at separator conditions
$CGR^*(P_r,T_r)$ = Simulated CGR at reference conditions
$CGR^*(P_s,T_s)$ = Simulated CGR at separator conditions

The same method was applied to the MiniLab values, Table 5.1.2. and 5.1.3 The comparison is shown in Figure A1.1 – A1.5 Figure A1.1 clearly identify that liquid was lost in the near well bore region during the test of the 2973 sand of Yolla-3. All three independent measurements give a decreasing trend with time. Therefore, none of the samples from this test can be recombined to a physical sample of the reservoir fluid. There is reasonable agreement between the test separator CGRs based on the Floco meter and the Iso-Split values for the tests of the UEVCM and 2809 sands, Figure A1.2 and A1.3. The Iso-Split values are taken to best represent the well streams for the two tests due to the uncertainty in the assumed meter factor for the Floco meter. The test separator CGRs from the test of the 2755 sand had to be based on liquid rates from the gauge tank. The average value is 17 % lower than obtained at the well head. Due to the inaccuracy of the tank measurements at such low flow rates the CGR value for this test is best represented by the Iso-Split.

The 2809 sand was also tested in the re-entry of Yolla-4. Poor agreement exists between the CGRs from the three independent measurements. The Floco meter gave condensate rates 40 % higher than the MiniLab used by the Iso-Split method, whereas the tank measured about 25 % lower condensate production. The condensate flow rates during this test were insufficient to provide accurate rates with both tank and meter. The large difference cannot be explained only by poor calibration of the meter. Again the average CGR from the Iso-Split measurement is taken to best represent the test.

The average CGRs from the MiniLab measurements have been used to calculate recommended recombination ratios for the PVT samples, Table 5.1.4, by correcting from reference to the actual sampling conditions.

7. REFERENCES

1) Calsep AS: PVTsim v.13.0 (August 2004)

2) Sclumberger: Yolla-3/Production Clean-up 2004-25

3) Sclumberger: Yolla-4/Production Clean-up 2004-25

APPENDIX 1:

Recalculation of separator oil and gas rates – Yolla-3 and Yolla-4

Table A1.1 Corrected gas rates for main flow of Yolla-3 – 2973 sand

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas rate test (mmscf/d)	Gas gravity (test)	Gas Z-factor (test)	Gas gravity (PVTsim)	Gas Z-factor (PVTsim)	Corr. factor[1]	GasRate corrected (mmscf/d)
27.09.2004 (Test 2973 Sand)										
09:30	48	252	16	7.331	0.800	0.954	0.813	0.940	1.000	7.328
09:45	48	251	17	7.137	0.800	0.954	0.813	0.940	1.000	7.134
10:00	48	253	17	7.313	0.800	0.954	0.813	0.940	0.999	7.309
10:15	48	252	17	6.965	0.812	0.953	0.813	0.940	1.006	7.007
10:30	48	253	18	6.957	0.812	0.953	0.813	0.941	1.006	6.997
10:45	48	255	18	7.180	0.812	0.953	0.813	0.941	1.006	7.220
11:00	48	256	18	7.091	0.812	0.953	0.813	0.941	1.005	7.130
11:15	48	257	19	7.086	0.810	0.953	0.813	0.941	1.004	7.116
11:30	48	257	18	7.195	0.810	0.953	0.813	0.941	1.004	7.225
11:45	48	256	19	6.828	0.810	0.953	0.813	0.941	1.004	6.857
12:00	48	259	19	7.262	0.810	0.953	0.813	0.941	1.004	7.290
12:15	48	257	19	6.789	0.810	0.953	0.813	0.941	1.004	6.816
12:30	48	258	19	6.976	0.810	0.953	0.814	0.942	1.004	7.003
12:45	48	258	19	7.039	0.810	0.953	0.814	0.941	1.004	7.067
13:00	48	258	19	7.145	0.810	0.953	0.813	0.941	1.004	7.173
13:15	48	257	19	6.889	0.810	0.953	0.813	0.941	1.004	6.918
13:30	48	258	19	7.063	0.810	0.953	0.814	0.941	1.004	7.091
13:45	48	258	19	7.035	0.810	0.953	0.813	0.941	1.004	7.063
14:00	48	258	19	7.034	0.810	0.953	0.813	0.941	1.004	7.062
14:15	48	258	19	6.898	0.810	0.953	0.813	0.941	1.004	6.926
14:30	48	259	18	7.057	0.810	0.952	0.813	0.941	1.004	7.085
14:45	48	257	18	6.872	0.810	0.953	0.813	0.941	1.004	6.901
15:00	48	257	18	7.091	0.810	0.952	0.813	0.941	1.004	7.122
15:15	48	255	18	6.823	0.810	0.953	0.813	0.941	1.005	6.854
15:30	48	254	17	6.872	0.810	0.953	0.813	0.940	1.005	6.904

Table A1.2 Corrected gas rates for main flow of Yolla-3 – UEVCM sand

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas rate test (mmscf/d)	Gas gravity (test)	Gas Z-factor (test)	Gas gravity (PVTsim)	Gas Z-factor (PVTsim)	Corr. factor1	GasRate corrected (mmscf/d)
28.09.04 (UEVCM)										
08:00	60	748	34	13.564	0.780	0.891	0.814	0.877	0.987	13.382
08:15	60	748	33	17.229	0.780	0.889	0.813	0.875	0.987	17.005
08:30	60	749	33	17.102	0.780	0.889	0.813	0.875	0.987	16.880
08:45	60	749	32	16.799	0.780	0.888	0.813	0.874	0.987	16.582
09:00	60	748	33	16.311	0.780	0.889	0.813	0.875	0.987	16.099
09:15	60	750	33	16.667	0.780	0.889	0.813	0.876	0.987	16.446
09:30	60	751	32	17.029	0.768	0.892	0.813	0.874	0.981	16.714
09:45	60	752	32	16.921	0.768	0.892	0.813	0.874	0.981	16.606
10:00	60	755	32	17.019	0.768	0.891	0.813	0.874	0.981	16.699
10:15	60	757	32	17.275	0.768	0.891	0.813	0.874	0.981	16.949
10:30	60	757	32	17.264	0.768	0.891	0.813	0.875	0.981	16.935
10:45	60	758	33	17.180	0.768	0.892	0.813	0.876	0.981	16.847
11:00	60	759	34	17.193	0.768	0.893	0.814	0.877	0.980	16.853
11:15	60	759	35	16.539	0.768	0.894	0.814	0.878	0.980	16.207
11:30	60	758	35	16.686	0.768	0.894	0.814	0.878	0.980	16.352
11:45	60	758	35	16.693	0.768	0.894	0.814	0.878	0.980	16.361
12:00	60	756	35	15.626	0.768	0.894	0.814	0.878	0.980	15.316

Table A1.3 Corrected gas rates for main flow of Yolla-3 – 2809 sand

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{0}C)	Gas rate test (mmscf/d)	Gas Gravity (test)	Gas Z-factor (test)	Gas gravity (PVTsim)	Gas Z-factor (PVTsim)	Corr. factor1	GasRate corrected (mmscf/d)
29.09.2004 (Test 2809 Sand)										
04:15	36	752	23	13.273	0.842	0.785	0.834	0.844	0.969	12.863
04:30	36	751	23	17.797	0.842	0.787	0.835	0.845	0.970	17.254
04:45	36	750	24	17.753	0.842	0.790	0.835	0.847	0.970	17.221
05:00	36	750	25	17.642	0.842	0.792	0.835	0.848	0.970	17.118
05:15	36	750	26	17.791	0.842	0.794	0.836	0.849	0.970	17.265
05:30	36	750	26	17.697	0.842	0.795	0.836	0.850	0.971	17.177
05:45	36	750	26	17.662	0.842	0.796	0.836	0.850	0.971	17.146
06:00	36	750	26	17.757	0.842	0.795	0.836	0.850	0.971	17.238
06:15	36	750	26	17.713	0.842	0.795	0.836	0.850	0.971	17.194
06:30	36	749	26	17.718	0.842	0.796	0.836	0.851	0.971	17.204
06:45	36	749	27	17.686	0.842	0.796	0.836	0.851	0.971	17.171
07:00	36	749	27	17.714	0.842	0.797	0.836	0.851	0.971	17.201
07:15	36	749	27	17.705	0.842	0.797	0.836	0.851	0.971	17.192
07:30	36	749	27	17.713	0.842	0.796	0.836	0.851	0.971	17.199
07:45	36	749	27	17.676	0.846	0.795	0.836	0.852	0.972	17.180
08:00	36	749	28	17.613	0.846	0.798	0.837	0.853	0.972	17.125
08:15	36	749	29	17.537	0.846	0.799	0.837	0.854	0.972	17.053
08:30	36	749	29	17.597	0.846	0.799	0.837	0.854	0.972	17.113
08:45	36	749	28	17.603	0.846	0.799	0.837	0.854	0.972	17.117
09:00	36	749	29	17.578	0.846	0.801	0.837	0.855	0.972	17.094
09:15	36	749	30	17.602	0.846	0.802	0.838	0.856	0.973	17.120
09:30	36	749	30	17.537	0.846	0.802	0.838	0.856	0.973	17.057
09:45	36	749	30	17.641	0.846	0.803	0.838	0.857	0.973	17.158

Table A1.4 Corrected gas rates for main flow of Yolla-3 – 2755 sand

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas rate test (mmscf/d)	Gas gravity (test)	Gas Z-factor (test)	Gas gravity (PVTsim)	Gas Z-factor (PVTsim)	Corr. factor1	GasRate corrected (mmscf/d)
29.09.2004 (Test 2755 Sand)										
22:00	36	758	26	16.625	0.830	0.909	0.832	0.854	1.031	17.143
22:15	36	757	27	16.510	0.830	0.870	0.832	0.856	1.007	16.621
22:30	36	758	28	16.527	0.830	0.871	0.832	0.857	1.006	16.631
22:45	36	758	28	16.533	0.831	0.870	0.832	0.857	1.007	16.644
23:00	36	757	29	16.444	0.831	0.872	0.833	0.858	1.007	16.551
23:15	36	757	29	16.523	0.831	0.872	0.833	0.859	1.006	16.628
23:30	36	756	29	16.486	0.831	0.872	0.833	0.859	1.006	16.593
23:45	36	758	29	16.567	0.831	0.872	0.833	0.859	1.006	16.671
00:00	36	757	30	16.309	0.831	0.873	0.833	0.860	1.006	16.410
00:15	36	757	30	16.430	0.831	0.873	0.833	0.860	1.006	16.529
00:30	36	757	30	16.535	0.831	0.873	0.833	0.860	1.006	16.638
00:45	36	757	30	16.464	0.832	0.873	0.833	0.861	1.006	16.568
01:00	36	757	30	16.464	0.832	0.873	0.833	0.861	1.006	16.568
01:15	36	757	30	16.366	0.832	0.874	0.834	0.861	1.006	16.467
01:30	36	757	31	16.384	0.832	0.874	0.834	0.862	1.006	16.483
01:45	36	757	31	16.370	0.832	0.874	0.834	0.861	1.006	16.471
02:00	36	756	30	16.428	0.832	0.874	0.834	0.861	1.006	16.531
02:15	36	756	30	16.405	0.832	0.873	0.833	0.860	1.006	16.511
02:30	36	756	30	16.407	0.832	0.874	0.834	0.861	1.006	16.510
02:45	36	757	31	16.373	0.832	0.874	0.834	0.862	1.006	16.472
03:00	36	757	30	16.415	0.832	0.873	0.833	0.860	1.006	16.521
03:15	36	756	30	16.420	0.832	0.873	0.833	0.860	1.007	16.527
03:30	36	755	30	16.369	0.832	0.874	0.834	0.861	1.006	16.474
03:45	36	756	30	16.406	0.831	0.874	0.833	0.861	1.006	16.506
04:00	36	755	30	16.386	0.831	0.874	0.834	0.861	1.006	16.486
04:15	36	755	30	16.375	0.831	0.874	0.834	0.861	1.006	16.474
04:30	36	755	30	16.403	0.831	0.874	0.834	0.861	1.006	16.501

Table A1.5 Corrected gas rates for main flow of Yolla-4 re-entry– 2809 sand

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{0}C)	Gas rate test (mmscf/d)	Gas gravity (test)	Gas Z-factor (test)	Gas gravity (PVTsim)	Gas Z-factor (PVTsim)	Corr. factor[1]	GasRate corrected (mmscf/d)
02.10.2004 (Test 2809 Sand)										
01:30	36	753	23	16.653	0.836	0.855	0.834	0.844	1.007	16.771
01:45	36	752	26	18.378	0.836	0.860	0.836	0.849	1.006	18.493
02:00	36	751	27	18.309	0.836	0.861	0.836	0.851	1.006	18.419
02:15	36	751	27	18.263	0.836	0.862	0.836	0.851	1.006	18.370
02:30	36	752	28	18.192	0.839	0.862	0.837	0.853	1.007	18.313
02:45	36	751	28	18.189	0.839	0.862	0.837	0.853	1.007	18.308
03:00	36	751	28	18.143	0.839	0.863	0.837	0.854	1.006	18.259
03:15	36	750	28	18.103	0.839	0.863	0.837	0.854	1.007	18.222
03:30	36	751	28	18.094	0.837	0.864	0.837	0.854	1.006	18.197
03:45	36	750	29	18.097	0.837	0.864	0.837	0.854	1.006	18.201
04:00	36	751	29	18.089	0.837	0.865	0.837	0.855	1.006	18.190
04:15	36	751	29	18.083	0.837	0.865	0.837	0.855	1.005	18.182
04:30	36	750	29	18.060	0.839	0.865	0.838	0.856	1.006	18.170
04:45	36	604	28	4.186	0.839	0.890	0.838	0.881	1.006	4.210

Table A1.6 Corrected Floco oil rates for main flow of Yolla-3 – 2973 sand

Time	Separator pressure (psi)	Separator temp. (^{0}C)	Meter temp. (^{0}C)	(1-shr)*K (stb/bbl)	Meter factor	Oil Rate (bbl/d)	Oil Rate (stb/d)	Oil Rate +carryover (bbl/d)	Oil Rate +carryover (stb/d)
27.09.2004 (Test 2973 Sand)									
11:15	256.7	18.5	18.5	0.928	1.000	151.5	140.6	151.5	140.6
11:30	257.0	18.3	18.3	0.928	1.000	123.1	114.2	123.1	114.2
11:45	255.9	19.0	19.0	0.929	1.000	123.1	114.3	123.1	114.3
12:00	258.9	18.8	18.8	0.928	1.000	113.6	105.5	113.6	105.5
12:15	257.2	19.0	19.0	0.929	1.000	134.5	124.9	134.5	124.9
12:30	258.0	19.4	19.4	0.929	1.000	130.7	121.4	130.7	121.4
12:45	258.0	19.1	19.1	0.929	1.000	104.2	96.7	104.2	96.7
13:00	258.4	19.0	19.0	0.929	1.000	94.7	87.9	94.7	87.9
13:15	256.8	18.8	18.8	0.928	1.000	71.0	65.9	71.0	65.9
14:15	257.6	18.6	18.6	0.928	1.000	14.3	13.3	14.3	13.3
14:30	258.8	18.4	18.4	0.928	1.000	95.2	88.4	95.2	88.4
14:45	257.5	18.1	18.1	0.928	1.000	42.8	39.7	42.8	39.7
15:00	257.5	17.7	17.7	0.927	1.000	52.4	48.6	52.4	48.6
15:15	255.0	17.6	17.6	0.927	1.000	52.4	48.6	52.4	48.6
15:30	254.1	17.4	17.4	0.927	1.000	52.4	48.5	52.4	48.5

Table A1.7 Oil rates for main flow of Yolla-3 on tank – 2973 sand

Time	Separator pressure (psi)	Separator temp. (^{o}C)	Oil Rate tank (stb/d)
27.09.2004 (Test 2973 Sand)			
11:00	256.0	18.1	104.4
11:15	256.7	18.5	104.4
11:30	257.0	18.3	104.4
11:45	255.9	19.0	104.4
12:00	258.9	18.8	104.4
12:15	257.2	19.0	104.4
12:30	258.0	19.4	104.4
12:45	258.0	19.1	104.4
13:00	258.4	19.0	104.4
13:30	257.7	19.1	69.5
13:45	257.5	19.0	69.5
14:00	258.3	18.8	69.5
14:15	257.6	18.6	69.5
14:30	258.8	18.4	69.5
14:45	257.5	18.1	69.5
15:00	257.5	17.7	69.5
15:15	255.0	17.6	69.5
15:30	254.1	17.4	69.5

Table A1.8 Corrected Floco oil rates for main flow of Yolla-3 – UEVCM sand

Time	Separator pressure (psi)	Separator temp. (^{o}C)	Meter temp. (^{o}C)	(1-shr)*K (stb/bbl)	Meter factor	Oil Rate (bbl/d)	Oil Rate (stb/d)	Oil Rate +carryover (bbl/d)	Oil Rate +carryover (stb/d)
28.09.04 (UEVCM)									
08:00	748.0	34.0	34.0	0.802	1.000	1177.7	944.6	1177.7	944.6
08:15	747.6	32.8	32.8	0.799	1.000	1160.6	927.5	1160.6	927.5
08:30	748.9	32.6	32.6	0.799	1.000	1214.6	970.1	1214.6	970.1
08:45	748.6	32.3	32.3	0.798	1.000	1406.1	1122.0	1406.1	1122.0
09:00	748.4	32.6	32.6	0.799	1.000	1509.7	1205.7	1509.7	1205.7
09:15	750.2	33.0	33.0	0.800	1.000	1587.9	1269.7	1587.9	1269.7
09:30	750.9	32.3	32.3	0.798	1.000	1274.8	1017.2	1274.8	1017.2
09:45	752.3	32.3	32.3	0.798	1.000	1411.0	1125.9	1411.0	1125.9
10:00	754.6	32.3	32.3	0.798	1.000	1413.0	1127.5	1413.0	1127.5
10:15	756.7	32.0	32.0	0.797	1.000	1281.7	1021.7	1281.7	1021.7
10:30	757.1	32.4	32.4	0.798	1.000	1192.6	951.9	1192.6	951.9
10:45	758.0	33.2	33.2	0.800	1.000	1197.4	958.0	1197.4	958.0
11:00	759.3	33.9	33.9	0.802	1.000	1111.3	891.0	1111.3	891.0
11:15	758.6	34.9	34.9	0.804	1.000	1087.4	874.6	1087.4	874.6
11:30	758.0	34.8	34.8	0.804	1.000	1024.4	823.6	1024.4	823.6
11:45	757.9	34.5	34.5	0.803	1.000	1210.2	972.2	1210.2	972.2
12:00	756.2	34.8	34.8	0.804	1.000	1241.6	998.3	1241.6	998.3

Table A1.9 Corrected Floco oil rates for main flow of Yolla-3 – 2809 sand

Time	Separator pressure (psi)	Separator temp. (^{o}C)	Meter temp. (^{o}C)	(1-shr)*K (stb/bbl)	Meter factor	Oil Rate (bbl/d)	Oil Rate (stb/d)	Oil Rate +carryover (bbl/d)	Oil Rate +carryover (stb/d)
29.09.2004 (Test 2809 Sand)									
4:15	751.7	22.5	22.5	0.658	1.000	182.3	120.0	182.3	120.0
4:30	751.2	23.4	23.4	0.661	1.000	834.8	551.7	834.8	551.7
4:45	750.4	24.4	24.4	0.664	1.000	815.6	541.4	815.6	541.4
5:00	750.1	25.0	25.0	0.666	1.000	796.4	530.1	796.4	530.1
5:15	750.3	25.6	25.6	0.667	1.000	671.7	448.2	671.7	448.2
5:30	750.0	26.0	26.0	0.669	1.000	863.6	577.3	863.6	577.3
5:45	749.6	26.2	26.2	0.669	1.000	825.2	552.2	825.2	552.2
6:00	749.6	26.2	26.2	0.669	1.000	585.3	391.7	585.3	391.7
6:15	749.9	26.1	26.1	0.669	1.000	844.4	564.8	844.4	564.8
6:30	748.9	26.4	26.4	0.670	1.000	556.5	372.7	556.5	372.7
6:45	749.4	26.5	26.5	0.670	1.000	748.4	501.5	748.4	501.5
7:00	749.1	26.7	26.7	0.671	1.000	777.2	521.2	777.2	521.2
7:15	749.1	26.6	26.6	0.670	1.000	470.2	315.2	470.2	315.2
7:30	748.9	26.5	26.5	0.670	1.000	834.8	559.3	834.8	559.3
7:45	749.4	27.0	27.0	0.672	1.000	825.2	554.2	825.2	554.2
8:00	748.7	27.9	27.9	0.674	1.000	700.4	472.3	700.4	472.3
8:15	748.9	28.5	28.5	0.676	1.000	738.8	499.5	738.8	499.5
8:30	748.6	28.5	28.5	0.676	1.000	767.6	519.0	767.6	519.0
8:45	748.7	28.4	28.4	0.676	1.000	786.8	531.7	786.8	531.7
9:00	749.3	29.1	29.1	0.678	1.000	575.7	390.3	575.7	390.3
9:15	749.1	29.5	29.5	0.679	1.000	719.6	488.8	719.6	488.8
9:30	749.2	29.7	29.7	0.680	1.000	806.0	547.9	806.0	547.9
9:45	749.1	29.8	29.8	0.680	1.000	681.3	463.3	681.3	463.3

Table A1.10 Corrected Floco oil rates for main flow of Yolla-3 – 2755 sand

Time	Separator pressure (psi)	Separator temp. (^{o}C)	Meter temp. (^{o}C)	(1-shr)*K (stb/bbl)	Meter factor	Oil Rate (bbl/d)	Oil Rate (stb/d)	Oil Rate +carryover (bbl/d)	Oil Rate +carryover (stb/d)
29.09.2004 (Test 2755 Sand)									
22:00	757.6	26.0	26.0	0.734	1.000	45.6	33.5	45.6	33.5
22:15	756.6	27.2	27.2	0.739	1.000	13.4	9.9	13.4	9.9
22:30	757.9	28.0	28.0	0.742	1.000	24.4	18.1	24.4	18.1
22:45	758.1	28.0	28.0	0.742	1.000	7.8	5.8	7.8	5.8
23:00	756.7	28.7	28.7	0.745	1.000	18.7	13.9	18.7	13.9
23:15	756.8	29.0	29.0	0.746	1.000	8.0	6.0	8.0	6.0
23:30	755.7	29.1	29.1	0.746	1.000	6.8	5.0	6.8	5.0
23:45	758.1	29.0	29.0	0.746	1.000	9.0	6.7	9.0	6.7
00:00	756.8	29.5	29.5	0.748	1.000	22.3	16.7	22.3	16.7
00:15	757.3	29.8	29.8	0.749	1.000	13.8	10.3	13.8	10.3
00:30	757.0	29.5	29.5	0.748	1.000	11.6	8.6	11.6	8.6
02:00	756.1	30.3	30.3	0.751	1.000	4.4	3.3	4.4	3.3
02:15	756.4	29.9	29.9	0.749	1.000	24.4	18.3	24.4	18.3
02:30	756.5	30.3	30.3	0.751	1.000	13.8	10.4	13.8	10.4
02:45	756.9	30.7	30.7	0.752	1.000	72.7	54.7	72.7	54.7
03:00	756.9	29.8	29.8	0.749	1.000	29.6	22.2	29.6	22.2
03:15	756.1	29.8	29.8	0.749	1.000	8.5	6.3	8.5	6.3

Table A1.11 Oil rates for main flow of Yolla-3 on tank – 2755 sand

Time	Separator pressure (psi)	Separator temp. (°C)	Oil Rate tank (stb/d)
29.09.2004 (Test 2755 Sand)			
22:30	757.9	28.0	370.9
22:45	758.1	28.0	370.9
23:00	756.7	28.7	370.9
23:15	756.8	29.0	370.9
23:30	755.7	29.1	370.9
23:45	758.1	29.0	370.9
00:00	756.8	29.5	370.9
00:15	757.3	29.8	370.9
00:30	757.0	29.5	370.9
00:45	757.0	30.0	370.9
01:00	757.0	30.0	370.9
01:30	756.8	30.8	332.9
01:45	756.9	30.5	332.9
02:00	756.1	30.3	332.9
02:15	756.4	29.9	332.9
02:30	756.5	30.3	332.9
02:45	756.9	30.7	332.9
03:00	756.9	29.8	332.9
03:15	756.1	29.8	332.9
03:30	755.4	30.2	332.9
03:45	755.7	30.0	282.7
04:00	754.6	30.2	282.7
04:15	755.2	30.3	282.7
04:30	754.9	30.4	282.7

Table A1.12 Corrected Floco oil rates for main flow of Yolla-4 re-entry – 2809 sand

Time	Separator pressure (psi)	Separator temp. (°C)	Meter temp. (°C)	(1-shr)*K (stb/bbl)	Meter factor	Oil Rate (bbl/d)	Oil Rate (stb/d)	Oil Rate +carryover (bbl/d)	Oil Rate +carryover (stb/d)
02.10.2004 (Test 2809 Sand)									
01:30	753	23	23	0.692	1.000	0.0	0.0	0.0	0.0
01:45	752	26	26	0.704	1.000	1385.8	975.2	1385.8	975.2
02:00	751	27	27	0.708	1.000	1463.9	1036.6	1463.9	1036.6
02:15	751	27	27	0.709	1.000	1321.7	937.5	1321.7	937.5
02:30	752	28	28	0.712	1.000	1438.7	1024.9	1438.7	1024.9
02:45	751	28	28	0.714	1.000	1419.3	1014.0	1419.3	1014.0
03:00	751	28	28	0.716	1.000	1337.9	957.6	1337.9	957.6
03:15	750	28	28	0.716	1.000	1500.6	1073.7	1500.6	1073.7
03:30	751	28	28	0.716	1.000	1320.4	945.8	1320.4	945.8
03:45	750	29	29	0.717	1.000	1489.4	1067.9	1489.4	1067.9
04:00	751	29	29	0.718	1.000	1483.1	1065.2	1483.1	1065.2
04:15	751	29	29	0.719	1.000	1227.9	883.0	1227.9	883.0
04:30	750	29	29	0.721	1.000	1331.6	959.5	1331.6	959.5

Table A1.12 Corrected separator CGR at reference condition for Yolla-3 – 2973 sand based on oil rates from Floco meter

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas Rate (mmscf/d)	Oil Rate (stb/d)	CGR (stb/mmscf)	CGR 500psi, 30? C (stb/mmscf)	CGR 500psi, 30? C (bbl/mmscf)
27.09.2004 (Test 2973 Sand)								
11:15	48	256.7	18.5	7.116	140.6	19.8	20.2	23.4
11:30	48	257.0	18.3	7.225	114.2	15.8	16.2	18.8
11:45	48	255.9	19.0	6.857	114.3	16.7	17.0	19.7
12:00	48	258.9	18.8	7.290	105.5	14.5	14.8	17.1
12:15	48	257.2	19.0	6.816	124.9	18.3	18.7	21.7
12:30	48	258.0	19.4	7.003	121.4	17.3	17.6	20.5
12:45	48	258.0	19.1	7.067	96.7	13.7	13.9	16.2
13:00	48	258.4	19.0	7.173	87.9	12.3	12.5	14.5
13:15	48	256.8	18.8	6.918	65.9	9.5	9.7	11.3
14:30	48	258.8	18.4	7.085	88.4	12.5	12.8	14.8
14:45	48	257.5	18.1	6.901	39.7	5.8	5.9	6.8
15:00	48	257.5	17.7	7.122	48.6	6.8	7.0	8.1
15:15	48	255.0	17.6	6.854	48.6	7.1	7.3	8.4
15:30	48	254.1	17.4	6.904	48.5	7.0	7.2	8.4
						Avg	12.9	15.0
						St. dev	37.1	37.1

Table A1.13 Corrected separator CGR at reference condition for Yolla-3 – 2973 sand based on oil rates from gauge tank

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas Rate (mmscf/d)	Oil Rate tank (stb/d)	CGR (stb/mmscf)	CGR 500psi, 30^{oC} (stb/mmscf)	CGR 500psi, 30^{oC} (bbl/mmscf)
27.09.2004 (Test 2973 Sand)								
11:00	48	256.0	18.1	7.130	104.4	14.6	15.0	17.4
11:15	48	256.7	18.5	7.116	104.4	14.7	15.0	17.4
11:30	48	257.0	18.3	7.225	104.4	14.5	14.8	17.2
11:45	48	255.9	19.0	6.857	104.4	15.2	15.5	18.0
12:00	48	258.9	18.8	7.290	104.4	14.3	14.6	17.0
12:15	48	257.2	19.0	6.816	104.4	15.3	15.6	18.1
12:30	48	258.0	19.4	7.003	104.4	14.9	15.2	17.6
12:45	48	258.0	19.1	7.067	104.4	14.8	15.1	17.5
13:00	48	258.4	19.0	7.173	104.4	14.6	14.8	17.2
14:30	48	258.8	18.4	7.085	69.5	9.8	10.0	11.6
14:45	48	257.5	18.1	6.901	69.5	10.1	10.3	12.0
15:00	48	257.5	17.7	7.122	69.5	9.8	10.0	11.6
15:15	48	255.0	17.6	6.854	69.5	10.1	10.4	12.1
15:30	48	254.1	17.4	6.904	69.5	10.1	10.4	12.0
						Avg	13.3	15.5
						St. dev	18.2	18.2

Table A1.14 Corrected separator CGR at reference condition for Yolla-3 – UEVCM sand based on oil rates from Floco meter

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas Rate (mmscf/d)	Oil Rate (stb/d)	CGR (stb/mmscf)	CGR 500psi, 30°C (stb/mmscf)	CGR 500psi, 30°C (bbl/mmscf)
28.09.04 (UEVCM)								
08:00	60	748.0	34.0	13.382	944.6	70.6	67.7	78.5
08:15	60	747.6	32.8	17.005	927.5	54.5	52.6	61.0
08:30	60	748.9	32.6	16.880	970.1	57.5	55.5	64.3
08:45	60	748.6	32.3	16.582	1122.0	67.7	65.4	75.9
09:00	60	748.4	32.6	16.099	1205.7	74.9	72.3	83.9
09:15	60	750.2	33.0	16.446	1269.7	77.2	74.4	86.3
09:30	60	750.9	32.3	16.714	1017.2	60.9	58.8	68.2
09:45	60	752.3	32.3	16.606	1125.9	67.8	65.5	76.0
10:00	60	754.6	32.3	16.699	1127.5	67.5	65.3	75.7
10:15	60	756.7	32.0	16.949	1021.7	60.3	58.4	67.7
10:30	60	757.1	32.4	16.935	951.9	56.2	54.3	63.0
10:45	60	758.0	33.2	16.847	958.0	56.9	54.7	63.5
11:00	60	759.3	33.9	16.853	891.0	52.9	50.7	58.8
11:15	60	758.6	34.9	16.207	874.6	54.0	51.5	59.7
11:30	60	758.0	34.8	16.352	823.6	50.4	48.1	55.8
11:45	60	757.9	34.5	16.361	972.2	59.4	56.8	65.9
12:00	60	756.2	34.8	15.316	998.3	65.2	62.2	72.2
						Avg	59.7	69.2
						St. dev	13.0	13.0

Table A1.15 Corrected separator CGR at reference condition for Yolla-3 – 2809 sand based on oil rates from Floco meter

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas Rate (mmscf/d)	Oil Rate (stb/d)	CGR (stb/mmscf)	CGR 500psi, 30°C (stb/mmscf)	CGR 500psi, 30°C (bbl/mmscf)
29.09.2004 (Test 2809 Sand)								
4:45	36	750.4	24.4	17.221	551.7	32.0	41.6	51.0
5:00	36	750.1	25.0	17.118	541.4	31.6	41.0	50.3
5:15	36	750.3	25.6	17.265	530.1	30.7	39.7	48.7
5:30	36	750.0	26.0	17.177	448.2	26.1	33.7	41.3
5:45	36	749.6	26.2	17.146	577.3	33.7	43.4	53.3
6:00	36	749.6	26.2	17.238	552.2	32.0	41.3	50.7
6:15	36	749.9	26.1	17.194	391.7	22.8	29.4	36.0
6:30	36	748.9	26.4	17.204	564.8	32.8	42.3	51.9
6:45	36	749.4	26.5	17.171	372.7	21.7	27.9	34.3
7:00	36	749.1	26.7	17.201	501.5	29.2	37.5	46.0
7:15	36	749.1	26.6	17.192	521.2	30.3	39.0	47.9
7:30	36	748.9	26.5	17.199	315.2	18.3	23.6	29.0
7:45	36	749.4	27.0	17.180	559.3	32.6	41.8	51.3
8:00	36	748.7	27.9	17.125	554.2	32.4	41.4	50.8
8:15	36	748.9	28.5	17.053	472.3	27.7	35.4	43.4
8:30	36	748.6	28.5	17.113	499.5	29.2	37.3	45.7
8:45	36	748.7	28.4	17.117	519.0	30.3	38.7	47.5
9:00	36	749.3	29.1	17.094	531.7	31.1	39.6	48.6
9:15	36	749.1	29.5	17.120	390.3	22.8	29.0	35.6
9:30	36	749.2	29.7	17.057	488.8	28.7	36.4	44.7
9:45	36	749.1	29.8	17.158	547.9	31.9	40.6	49.8
						Avg	37.2	45.6
						St. dev	14.7	14.7

Table A1.16 Corrected separator CGR at reference condition for Yolla-3 – 2755 sand based on oil rates from gauge tank

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas Rate (mmscf/d)	Oil Rate tank (stb/d)	CGR (stb/mmscf)	CGR 500psi, 30°C (stb/mmscf)	CGR 500psi, 30°C (bbl/mmscf)
29.09.2004 (Test 2755 Sand)								
22:30	36	757.9	28.0	16.631	370.9	22.3	22.5	27.1
22:45	36	758.1	28.0	16.644	370.9	22.3	22.5	27.0
23:00	36	756.7	28.7	16.551	370.9	22.4	22.6	27.1
23:15	36	756.8	29.0	16.628	370.9	22.3	22.4	27.0
23:30	36	755.7	29.1	16.593	370.9	22.4	22.5	27.0
23:45	36	758.1	29.0	16.671	370.9	22.3	22.4	26.9
00:00	36	756.8	29.5	16.410	370.9	22.6	22.7	27.2
00:15	36	757.3	29.8	16.529	370.9	22.4	22.5	27.0
00:30	36	757.0	29.5	16.638	370.9	22.3	22.4	26.9
02:00	36	756.1	30.3	16.531	370.9	22.4	22.4	27.0
02:15	36	756.4	29.9	16.511	370.9	22.5	22.5	27.0
02:45	36	756.9	30.7	16.472	332.9	20.2	20.2	24.2
03:00	36	756.9	29.8	16.521	332.9	20.2	20.2	24.3
03:15	36	756.1	29.8	16.527	332.9	20.1	20.2	24.3
03:30	36	755.4	30.2	16.474	332.9	20.2	20.2	24.3
03:45	36	755.7	30.0	16.506	332.9	20.2	20.2	24.3
04:00	36	754.6	30.2	16.486	332.9	20.2	20.2	24.3
04:15	36	755.2	30.3	16.474	332.9	20.2	20.2	24.3
04:30	36	754.9	30.4	16.501	332.9	20.2	20.2	24.2
						Avg	21.5	25.9
						St. dev	5.4	5.4

Table A1.17 Corrected separator CGR at reference condition for Yolla-4 re-entry – 2809 sand based on oil rates from Floco meter

Time	Choke (64ths)	Separator Pressure (psi)	Separator Temp. (^{o}C)	Gas Rate (mmscf/d)	Oil Rate (stb/d)	CGR (stb/mmscf)	CGR 500psi, 30°C (stb/mmscf)	CGR 500psi, 30°C (bbl/mmscf)
02.10.2004 (Test 2809 Sand)								
01:45	36.0	751.9	26.0	18.493	975.2	52.7	53.7	65.9
02:00	36.0	750.9	26.6	18.419	1036.6	56.3	57.1	70.1
02:15	36.0	751.3	26.9	18.370	937.5	51.0	51.7	63.5
02:30	36.0	751.5	27.6	18.313	1024.9	56.0	56.6	69.4
02:45	36.0	750.9	28.0	18.308	1014.0	55.4	55.9	68.6
03:00	36.0	751.0	28.3	18.259	957.6	52.4	52.9	64.9
03:15	36.0	750.3	28.2	18.222	1073.7	58.9	59.4	72.9
03:30	36.0	750.7	28.4	18.197	945.8	52.0	52.4	64.3
03:45	36.0	750.1	28.5	18.201	1067.9	58.7	59.1	72.5
04:00	36.0	750.5	28.8	18.190	1065.2	58.6	58.9	72.3
04:15	36.0	750.7	29.0	18.182	883.0	48.6	48.8	59.9
04:30	36.0	750.4	29.3	18.170	959.5	52.8	53.0	65.0
						Avg	55.0	67.4
						St. dev	6.1	6.1

Table A1.18 Average test separator CGR at reference conditions for Yolla-3 and Yolla-4 tests

Sand	Choke (64 ths)	CGR 500psi, 30°C (stb/mmscf)	CGR 500psi, 30°C (bbl/mmscf)	Standard deviation %	Comments
Yolla-3					
2973	48	12.9	15.0	37.1	oil rate by meter
2973	48	13.3	15.5	18.2	oil rate by tank
UEVCM	60	59.7	69.2	13.0	oil rate by meter
2809	36	37.2	45.6	14.7	oil rate by meter
2755	36	21.5	25.9	5.4	oil rate by tank
Yolla -4					
2809	36	55.0	67.4	6.1	oil rate by meter
2809	36	28.8	35.3	0.8	oil rate by tank

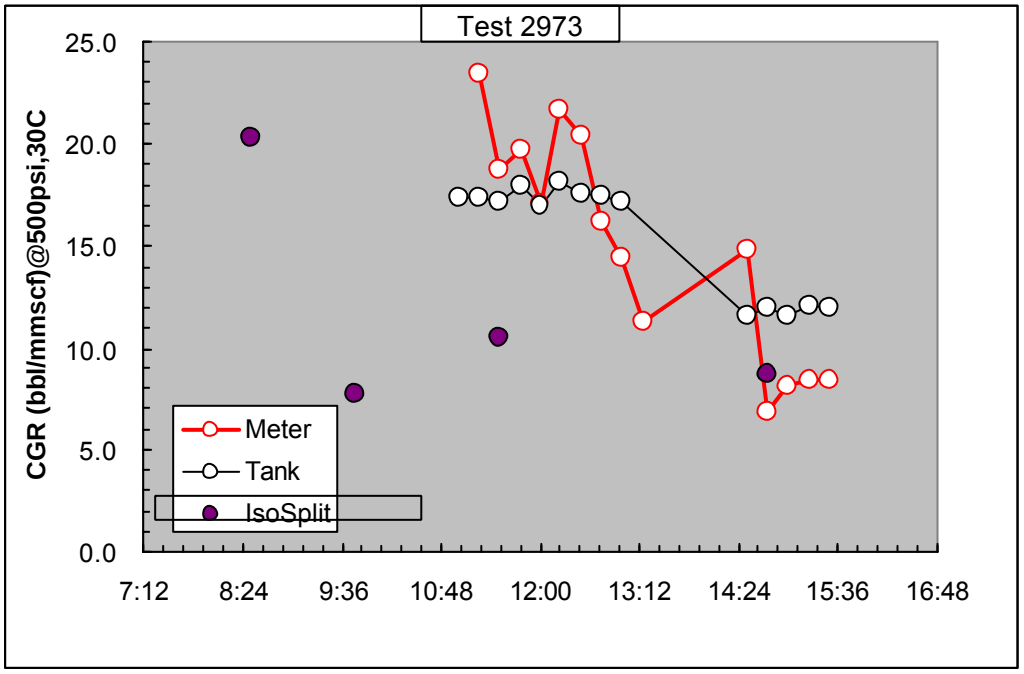


Figure A1.1 CGR variation at test separator main flow of Yolla-3 – 2973 sand

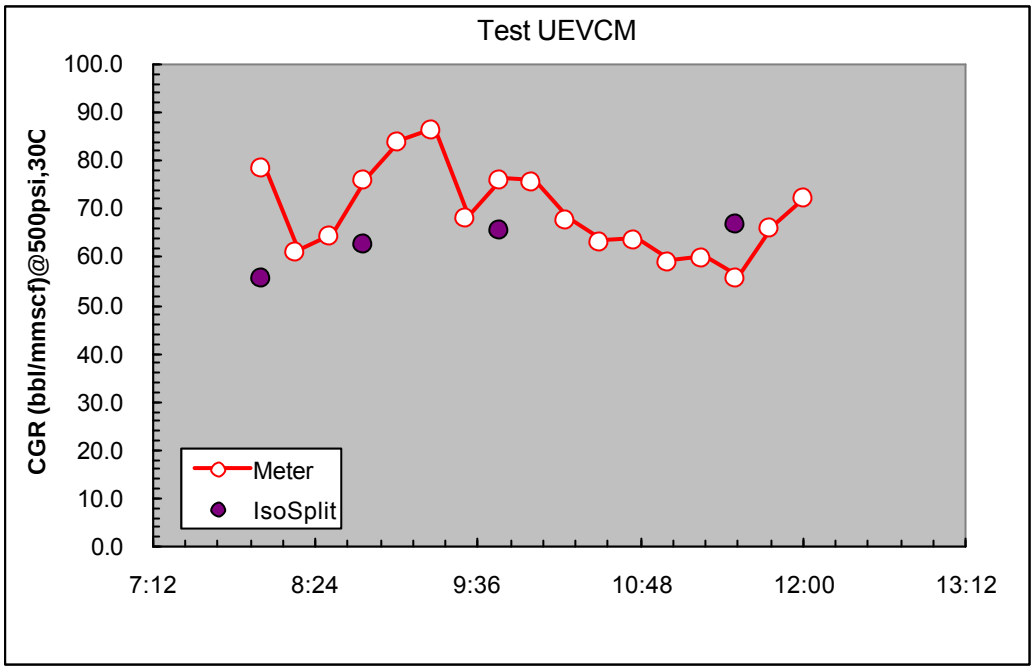


Figure A1.2 CGR variation at test separator main flow of Yolla-3 – UEVCM sand

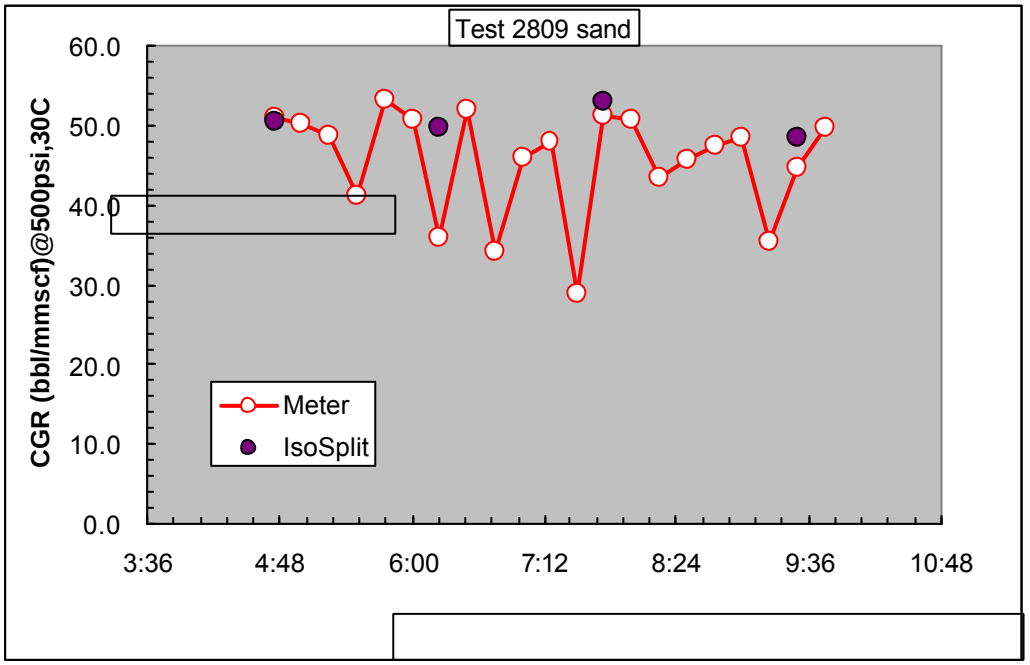


Figure A1.3 CGR variation at test separator main flow of Yolla-3 – 2809 sand

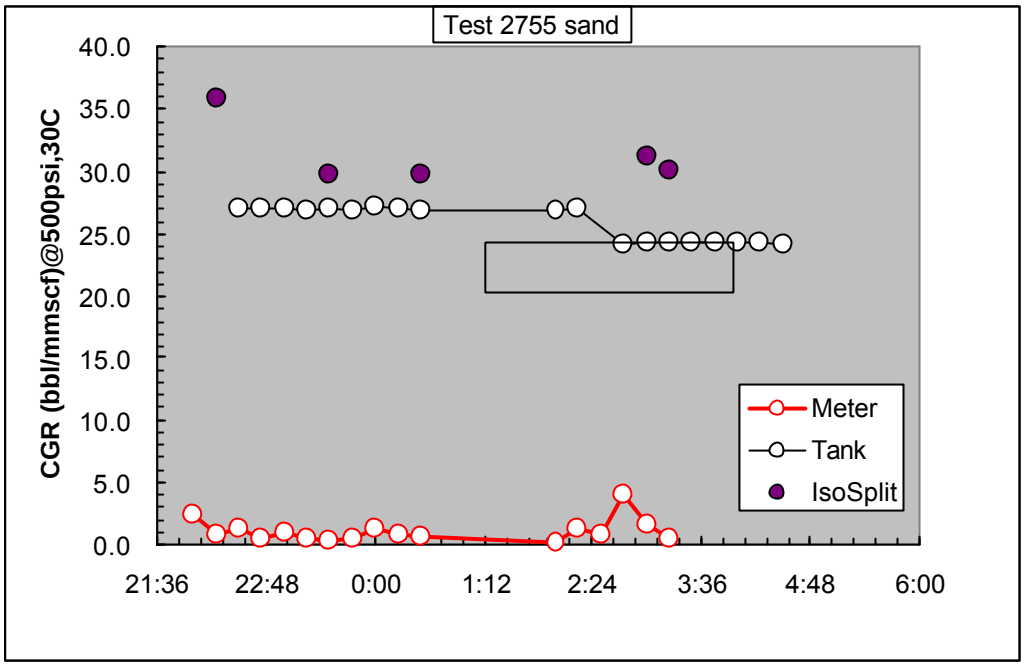


Figure A1.4 CGR variation at test separator main flow of Yolla-3 – 2973 sand

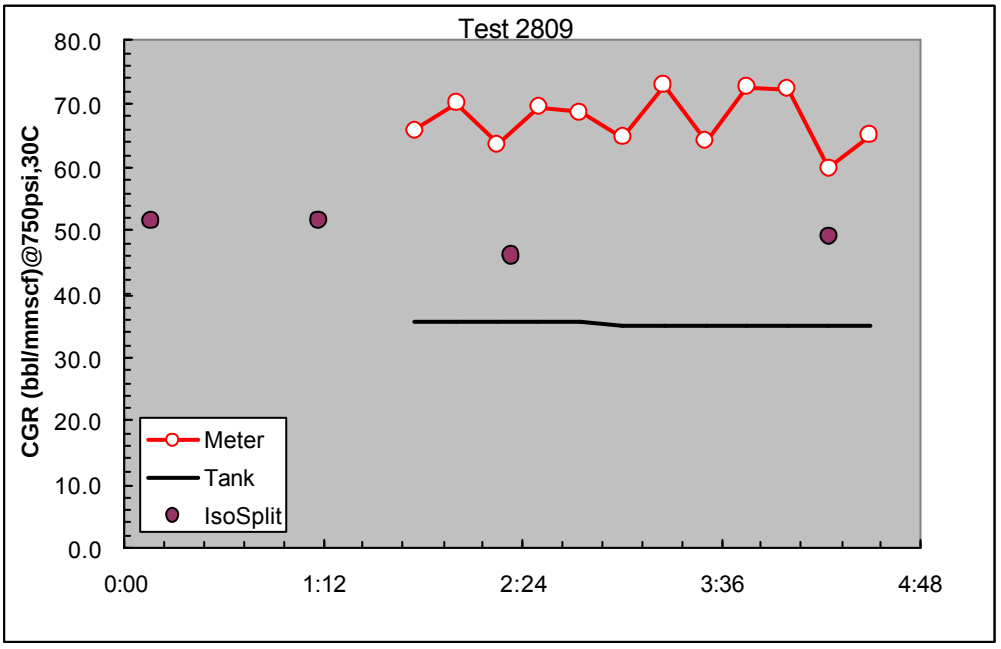


Figure A1.5 CGR variation at test separator main flow of Yolla-4 re-entry – 2809 sand

SECTION 2

MINILAB PVT SAMPLING

WELL: YOLLA-3 & 4

MINILAB PVT SAMPLING

REPORT TYPE: FINAL

Client	:	Origin Energy Resources Ltd.
Well	:	Yolla-3 & Yolla-4
Permit	:	T/L1
Date	:	20 September – 02 October 2004
Client representative	:	Joe Parvar
Date of reporting	:	January 2005
Project number	:	55564
Project co-ordinator	:	Robyn Tamke
Participants	:	Brian Toole
		Simon Chew
Report prepared by	:	Brian Toole
Report reviewed by	:	David Roberts
Number of issues	:	7
Distribution Petrotech	:	1
Distribution Origin	:	6

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1. OVERVIEW

During production testing of the well Yolla-3 and Yolla-4, Petrotech performed PVT sampling at the wellhead using the Petrotech MiniLab.

The sampling sheets for PVT sets are presented in the Tables section of the report, as Tables 2 - 21. Table 1 presents an overview of the pressurised hydrocarbon samples collected during the test.

2. SAMPLING

Each PVT set taken consists of one 500cc pressurised condensate sample with a gas cap of 50cc and one 20 Litre gas sample.

Table 1: Hydrocarbon Sample List – Yolla-3

Client	Origin Energy Resources Ltd
Well	Yolla-3
Rig	Ensco-102

Sample No	Date	Time	Fluid	Volume	Sample Point	Cylinder No	Press (psi)	Comments
Main Flow "2973" Sands								
1.01a	27.09.04	11:18 - 12:33	Gas	20L	MiniLab	4963-A	500.0	PVT#1
1.01b	27.09.04	11:18 - 12:33	Condensate	550	MiniLab	PT-3144	400.0	PVT#1
1.01c	27.09.04	11:18 - 12:33	Gas	2 x 405cc	MiniLab	-	0.5	SFG#1
1.01d	27.09.04	11:18 - 12:33	Condensate	36.8cc	MiniLab	-	Atm.	SFL#1
1.01e	27.09.04	11:18 - 12:33	Gas	2 x 405cc	MiniLab	-	3.0	FG#1
1.02a	27.09.04	14:22 - 15:12	Gas	20L	MiniLab	5561-A	504.0	PVT#2
1.02b	27.09.04	14:22 - 15:12	Condensate	550cc	MiniLab	TS-23819	400.0	PVT#2
1.02c	27.09.04	14:22 - 15:12	Gas	2 x 405cc	MiniLab	-	0.5	SFG#2
1.02d	27.09.04	14:22 - 15:12	Gas	2 x 405cc	MiniLab	-	3.0	FG#2
Main Flow "U-EVCM" Sands								
1.03a	28.09.04	09:29 - 09:49	Gas	20L	MiniLab	5671-A	500.0	PVT#3
1.03b	28.09.04	09:29 - 09:49	Condensate	550cc	MiniLab	PT-1062	430.0	PVT#3
1.03c	28.09.04	09:29 - 09:49	Gas	2 x 405cc	MiniLab	-	0.5	SFG#3
1.03d	28.09.04	09:29 - 09:49	Condensate	15.9cc	MiniLab	-	Atm.	SFL#3
1.03e	28.09.04	09:29 - 09:49	Gas	2 x 405cc	MiniLab	-	3.0	FG#3
1.04a	28.09.04	11:15 - 11:34	Gas	20L	MiniLab	5051-A	504.0	PVT#4
1.04b	28.09.04	11:15 - 11:34	Condensate	550cc	MiniLab	TS-9212	460.0	PVT#4
1.04c	28.09.04	11:15 - 11:34	Gas	2 x 405cc	MiniLab	-	0.5	SFG#4
1.04d	28.09.04	11:15 - 11:34	Condensate	16.9cc	MiniLab	-	Atm.	SFL#4
1.04e	28.09.04	11:15 - 11:34	Gas	2 x 405cc	MiniLab	-	3.0	FG#4
Main Flow "2809" Sands								
1.05a	29.09.04	07:31 - 07:56	Gas	20L	MiniLab	5641-A	500.0	PVT#5
1.05b	29.09.04	07:31 - 07:56	Condensate	550cc	MiniLab	PT-1083	430.0	PVT#5
1.05c	29.09.04	07:31 - 07:56	Gas	2 x 405cc	MiniLab	-	0.5	SFG#5
1.05d	29.09.04	07:31 - 07:56	Condensate	19.0	MiniLab	-	Atm.	SFL#5
1.05e	29.09.04	07:31 - 07:56	Gas	2 x 405cc	MiniLab	-	3.0	FG#5
1.06a	29.09.04	09:22 - 09:47	Gas	20L	MiniLab	276-A	504.0	PVT#6
1.06b	29.09.04	09:22 - 09:47	Condensate	550cc	MiniLab	TS-1602	410.0	PVT#6
1.06c	29.09.04	09:22 - 09:47	Gas	2 x 405cc	MiniLab	-	0.5	SFG#6
1.06d	29.09.04	09:22 - 09:47	Condensate	21.0	MiniLab	-	Atm.	SFL#6
1.06e	29.09.04	09:22 - 09:47	Gas	2 x 405cc	MiniLab	-	3.0	FG#6

Table 1 (continued): Hydrocarbon Sample List – Yolla-3

Sample No	Date	Time	Fluid	Volume	Sample Point	Cylinder No	Press (psi)	Comments
Main Flow "2755" Sands								
1.07a	30.09.04	00:33 - 01:33	Gas	20L	MiniLab	5037-A	500.0	PVT#7
1.07b	30.09.04	00:33 - 01:33	Condensate	550cc	MiniLab	TS-5601	400.0	PVT#7
1.07c	30.09.04	00:33 - 01:33	Gas	2 x 405cc	MiniLab	-	0.5	SFG#7
1.07d	30.09.04	00:33 - 01:33	Condensate	30.0cc	MiniLab	-	Atm.	SFL#7
1.07e	30.09.04	00:33 - 01:33	Gas	2 x 405cc	MiniLab	-	3.0	FG#7
1.08a	30.09.04	03:51 - 04:21	Gas	20L	MiniLab	5046-A	504.0	PVT#8
1.08b	30.09.04	03:51 - 04:21	Condensate	550cc	MiniLab	PT-1007	400.0	PVT#8
1.08c	30.09.04	03:51 - 04:21	Gas	2 x 405cc	MiniLab	-	0.5	SFG#8
1.08d	30.09.04	03:51 - 04:21	Condensate	53.8cc	MiniLab	-	Atm.	SFL#8
1.08e	30.09.04	03:51 - 04:21	Gas	2 x 405cc	MiniLab	-	3.0	FG#8

Table 2: Hydrocarbon Sample List – Yolla-4

Client	Origin Energy Resources Ltd
Well	Yolla-4
Rig	Ensco-102

Sample No	Date	Time	Fluid	Volume	Sample Point	Cylinder No	Press (psi)	Comments
Main Flow "2809" Sands								
2.01a	02.10.04	02:10 - 02:40	Gas	20L	MiniLab	A-1966	501.0	PVT#9
2.01b	02.10.04	02:10 - 02:40	Condensate	550	MiniLab	PT-1090	416.0	PVT#9
2.01c	02.10.04	02:10 - 02:40	Gas	2 x 405cc	MiniLab	-	0.5	SFG#9
2.01d	02.10.04	02:10 - 02:40	Condensate	27.0	MiniLab	-	Atm.	SFL#9
2.01e	02.10.04	02:10 - 02:40	Gas	2 x 405cc	MiniLab	-	3.0	FG#9
2.02a	02.10.04	04:02 - 04:27	Gas	20L	MiniLab	A-2005	504.0	PVT#10
2.02b	02.10.04	04:02 - 04:27	Condensate	550	MiniLab	PT-1041	400.0	PVT#10
2.02c	02.10.04	04:02 - 04:27	Gas	2 x 405cc	MiniLab	-	0.5	SFG#10
2.02d	02.10.04	04:02 - 04:27	Condensate	23.0	MiniLab	-	Atm.	SFL#10

Table 2: Mini-Lab PVT Set 1 Gas Sample No. 1.01a

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	1 "2973" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.01a
Set number	PVT #1
Sample point	Mini-Lab
Sample nature	Gas
Date	27.09.04
Sampled by	Brian/Simon
Sampling commenced	11:18
Sampling completed	12:33
Cylinder number	4963-A
Cylinder coupled with	PT-3144

MINILAB SEPARATOR CONDITIONS

Time	11:18 - 12:33	
Pressure	500	psig
Temperature	32.5	°C
Cond rate (std cond)	86.00	bbls/day
Gas rate (std cond)	7.2	MMscf/d
Shrinkage factor	1.196	
CGR (std cond)	7.91	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	46.2	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	18.1	°C

BOTTOM HOLE CONDITIONS

Time	11:30	
Flowing pressure	1057.0	psig
Flowing temperature	151.0	°C
Perforated Interval	3404.0 - 3407.0	mRT

PRODUCTION CONDITIONS

Time	11:30	
Wellhead pressure	680	psig
Wellhead temperature	33	°C
Choke size	48/64	inch

COMMENTS

PVT set taken during CGR No. 3

Table 3: Mini-Lab PVT Set 1 Condensate Sample 1.01b

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	1 "2973" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.01b
Set number	PVT #1
Sample point	Mini-Lab
Sample nature	Condensate
Date	27.09.04
Sampled by	Brian/Simon
Sampling commenced	11:18
Sampling completed	12:33
Cylinder number	PT-3144
Cylinder coupled with	4963-A

MINILAB SEPARATOR CONDITIONS

Time	11:18 - 12:33	
Pressure	500	psig
Temperature	32.5	°C
Cond rate (std cond)	86.00	bbls/day
Gas rate (std cond)	7.2	MMscf/d
Shrinkage factor	1.196	
CGR (std cond)	7.91	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	46.2	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	700	cc
Sample volume	500	cc
Transfer fluid remaining	150	cc
Transfer pressure	500.0	psig
Shipping pressure	400.0	psig
Ambient temperature	18.1	°C

BOTTOM HOLE CONDITIONS

Time	11:30	
Flowing pressure	1057.0	psig
Flowing temperature	151.0	°C
Perforated Interval	3404.0 - 3407.0	mRT

PRODUCTION CONDITIONS

Time	11:30	
Wellhead pressure	680	psig
Wellhead temperature	33	°C
Choke size	48/64	inch

COMMENTS

PVT set taken during CGR No. 3

Table 4: Mini-Lab PVT Set 2 Gas Sample 1.02a

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	1 "2973" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.02a
Set number	PVT #2
Sample point	Mini-Lab
Sample nature	Gas
Date	27.09.04
Sampled by	Brian/Simon
Sampling commenced	14:22
Sampling completed	15:12
Cylinder number	5561-A
Cylinder coupled with	TS-23819

MINILAB SEPARATOR CONDITIONS

Time	14:22-15:12	
Pressure	500	psig
Temperature	32.7	°C
Cond rate (std cond)	56.95	bbls/day
Gas rate (std cond)	7.2	MMscf/d
Shrinkage factor	1.196	
CGR (std cond)	7.91	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	46.3	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	13.9	°C

BOTTOM HOLE CONDITIONS

Time	14:30	
Flowing pressure	1045.0	psig
Flowing temperature	151.5	°C
Perforated Interval	3404.0 - 3407.0	mRT

PRODUCTION CONDITIONS

Time	14:30	
Wellhead pressure	680	psig
Wellhead temperature	33	°C
Choke size	48/64	inch

COMMENTS

PVT set taken during CGR No. 4

Table 5: Mini-Lab PVT Set 2 Condensate Sample 1.02b

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	1 "2973" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.02b
Set number	PVT #2
Sample point	Mini-Lab
Sample nature	Condensate
Date	27.09.04
Sampled by	Brian/Simon
Sampling commenced	14:22
Sampling completed	15:12
Cylinder number	TS-23819
Cylinder coupled with	5561-A

MINILAB SEPARATOR CONDITIONS

Time	11:18 - 12:33	
Pressure	500	psig
Temperature	32.7	°C
Cond rate (std cond)	56.95	bbls/day
Gas rate (std cond)	7.2	MMscf/d
Shrinkage factor	1.196	
CGR (std cond)	7.91	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	46.3	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	629	cc
Sample volume	500	cc
Transfer fluid remaining	79	cc
Transfer pressure	500.0	psig
Shipping pressure	400.0	psig
Ambient temperature	13.9	°C

BOTTOM HOLE CONDITIONS

Time	14:30	
Flowing pressure	1045.0	psig
Flowing temperature	151.5	°C
Perforated Interval	3404.0 - 3407.0	mRT

PRODUCTION CONDITIONS

Time	14:30	
Wellhead pressure	680	psig
Wellhead temperature	33	°C
Choke size	48/64	inch

COMMENTS

PVT set taken during CGR No. 4

Table 6: Mini-Lab PVT Set 3 Gas Sample 1.03a

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	2 "U-EVCM" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.03a
Set number	PVT #3
Sample point	Mini-Lab
Sample nature	Gas
Date	28.09.04
Sampled by	Brian/Simon
Sampling commenced	09:29
Sampling completed	09:49
Cylinder number	5671-A
Cylinder coupled with	PT-1062

MINILAB SEPARATOR CONDITIONS

Time	09:29 - 09:49	
Pressure	500	psig
Temperature	27.4	°C
Cond rate (std cond)	980.67	bbls/day
Gas rate (std cond)	17.6	MMscf/d
Shrinkage factor	1.348	
CGR (std cond)	55.72	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	54.0	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	14.9	°C

BOTTOM HOLE CONDITIONS

Time	09:30	
Flowing pressure	2183.2	psig
Flowing temperature	103.8	°C
Perforated Interval	2210.2 - 2225.2	mRT

PRODUCTION CONDITIONS

Time	09:30	
Wellhead pressure	1742	psig
Wellhead temperature	57	°C
Choke size	48/64	inch

COMMENTS

PVT set taken during CGR No. 7

Table 7: Mini-Lab PVT Set 3 Condensate Sample 1.03b

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	2 "U-EVCM" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.03b
Set number	PVT #3
Sample point	Mini-Lab
Sample nature	Condensate
Date	28.09.04
Sampled by	Brian/Simon
Sampling commenced	09:29
Sampling completed	09:49
Cylinder number	PT-1062
Cylinder coupled with	5671-A

MINILAB SEPARATOR CONDITIONS

Time	09:29 - 09:49	
Pressure	500	psig
Temperature	27.4	°C
Cond rate (std cond)	980.67	bbls/day
Gas rate (std cond)	17.6	MMscf/d
Shrinkage factor	1.348	
CGR (std cond)	55.72	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	54.0	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	700	cc
Sample volume	500	cc
Transfer fluid remaining	150	cc
Transfer pressure	500.0	psig
Shipping pressure	430.0	psig
Ambient temperature	14.9	°C

BOTTOM HOLE CONDITIONS

Time	09:30	
Flowing pressure	2183.2	psig
Flowing temperature	103.8	°C
Perforated Interval	2210.2 - 2225.2	mRT

PRODUCTION CONDITIONS

Time	09:30	
Wellhead pressure	1742	psig
Wellhead temperature	57	°C
Choke size	48/64	inch

COMMENTS

PVT set taken during CGR No. 7

Table 8: Mini-Lab PVT Set 4 Gas Sample 1.04a

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	2 "U-EVCM" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.04a
Set number	PVT #4
Sample point	Mini-Lab
Sample nature	Gas
Date	28.09.04
Sampled by	Brian/Simon
Sampling commenced	11:15
Sampling completed	11:34
Cylinder number	5051-A
Cylinder coupled with	TS-9212

MINILAB SEPARATOR CONDITIONS

Time	11:15-11:34	
Pressure	500	psig
Temperature	29.5	°C
Cond rate (std cond)	980.67	bbls/day
Gas rate (std cond)	17.6	MMscf/d
Shrinkage factor	1.348	
CGR (std cond)	55.72	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	54.6	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	19.9	°C

BOTTOM HOLE CONDITIONS

Time	11:30	
Flowing pressure	2184.3	psig
Flowing temperature	104.0	°C
Perforated Interval	2210.2 - 2225.2	mRT

PRODUCTION CONDITIONS

Time	11:30	
Wellhead pressure	1700	psig
Wellhead temperature	58	°C
Choke size	48/64	inch

COMMENTS

PVT set taken during CGR No. 8

Table 9: Mini-Lab PVT Set 4 Condensate Sample 1.04b

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	2 "U-EVCM" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.04b
Set number	PVT #4
Sample point	Mini-Lab
Sample nature	Condensate
Date	28.09.04
Sampled by	Brian/Simon
Sampling commenced	11:15
Sampling completed	11:34
Cylinder number	TS-9212
Cylinder coupled with	5051-A

MINILAB SEPARATOR CONDITIONS

Time	11:15-11:34	
Pressure	500	psig
Temperature	29.5	°C
Cond rate (std cond)	980.67	bbls/day
Gas rate (std cond)	17.6	MMscf/d
Shrinkage factor	1.348	
CGR (std cond)	55.72	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	54.6	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	629	cc
Sample volume	500	cc
Transfer fluid remaining	79	cc
Transfer pressure	500.0	psig
Shipping pressure	460.0	psig
Ambient temperature	19.9	°C

BOTTOM HOLE CONDITIONS

Time	11:30	
Flowing pressure	2184.3	psig
Flowing temperature	104.0	°C
Perforated Interval	2210.2 - 2225.2	mRT

PRODUCTION CONDITIONS

Time	11:30	
Wellhead pressure	1700	psig
Wellhead temperature	58	°C
Choke size	48/64	inch

COMMENTS

PVT set taken during CGR No. 8

Table 10: Mini-Lab PVT Set 5 Gas Sample 1.05a

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	3 "2809" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.05a
Set number	PVT #5
Sample point	Mini-Lab
Sample nature	Gas
Date	29.09.04
Sampled by	Brian/Simon
Sampling commenced	07:31
Sampling completed	07:56
Cylinder number	5641-A
Cylinder coupled with	PT-1083

MINILAB SEPARATOR CONDITIONS

Time	07:31-07:56	
Pressure	500	psig
Temperature	26.8	°C
Cond rate (std cond)	724.06	bbls/day
Gas rate (std cond)	17.6	MMscf/d
Shrinkage factor	1.34	
CGR (std cond)	41.14	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	53.6	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	14.6	°C

BOTTOM HOLE CONDITIONS

Time	07:45	
Flowing pressure	3974.9	psig
Flowing temperature	147.5	°C
Perforated Interval	3236.5 - 3242.5	mRT
	3246.5 - 3248.5	mRT

PRODUCTION CONDITIONS

Time	07:45	
Wellhead pressure	3016	psig
Wellhead temperature	68	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 11

Table 11: Mini-Lab PVT Set 5 Condensate Sample 1.05b

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	3 "2809" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.05b
Set number	PVT #5
Sample point	Mini-Lab
Sample nature	Condensate
Date	29.09.04
Sampled by	Brian/Simon
Sampling commenced	07:31
Sampling completed	07:56
Cylinder number	PT-1083
Cylinder coupled with	5641-A

MINILAB SEPARATOR CONDITIONS

Time	07:31-07:56	
Pressure	500	psig
Temperature	26.8	°C
Cond rate (std cond)	724.06	bbls/day
Gas rate (std cond)	17.6	MMscf/d
Shrinkage factor	1.34	
CGR (std cond)	41.14	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	53.6	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	700	cc
Sample volume	500	cc
Transfer fluid remaining	150	cc
Transfer pressure	500.0	psig
Shipping pressure	430.0	psig
Ambient temperature	14.6	°C

BOTTOM HOLE CONDITIONS

Time	07:45	
Flowing pressure	3974.9	psig
Flowing temperature	147.5	°C
Perforated Interval	3236.5 - 3242.5	mRT
	3246.5 - 3248.5	mRT

PRODUCTION CONDITIONS

Time	07:45	
Wellhead pressure	3016	psig
Wellhead temperature	68	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 11

Table 12: Mini-Lab PVT Set 6 Gas Sample 1.06a

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	3 "2809" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.06a
Set number	PVT #4
Sample point	Mini-Lab
Sample nature	Gas
Date	29.09.04
Sampled by	Brian/Simon
Sampling commenced	09:22
Sampling completed	09:47
Cylinder number	276-A
Cylinder coupled with	TS-1602

MINILAB SEPARATOR CONDITIONS

Time	09:22 - 09:47	
Pressure	500	psig
Temperature	29.6	°C
Cond rate (std cond)	724.06	bbls/day
Gas rate (std cond)	17.6	MMscf/d
Shrinkage factor	1.34	
CGR (std cond)	41.14	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	52.7	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	18.5	°C

BOTTOM HOLE CONDITIONS

Time	9:30	
Flowing pressure	3976.5	psig
Flowing temperature	147.6	°C
Perforated Interval	3236.5 - 3242.5	mRT
	3246.5 - 3248.5	mRT

PRODUCTION CONDITIONS

Time	9:30	
Wellhead pressure	3021	psig
Wellhead temperature	70	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 12

Table 13: Mini-Lab PVT Set 6 Condensate Sample 1.06b

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	3 "2809" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.06b
Set number	PVT #4
Sample point	Mini-Lab
Sample nature	Condensate
Date	29.09.04
Sampled by	Brian/Simon
Sampling commenced	09:22
Sampling completed	09:47
Cylinder number	TS-1602
Cylinder coupled with	276-A

MINILAB SEPARATOR CONDITIONS

Time	09:22 - 09:47	
Pressure	500	psig
Temperature	29.6	°C
Cond rate (std cond)	724.06	bbls/day
Gas rate (std cond)	17.6	MMscf/d
Shrinkage factor	1.34	
CGR (std cond)	41.14	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	52.7	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	629	cc
Sample volume	500	cc
Transfer fluid remaining	79	cc
Transfer pressure	500.0	psig
Shipping pressure	410.0	psig
Ambient temperature	18.5	°C

BOTTOM HOLE CONDITIONS

Time	9:30	
Flowing pressure	3976.5	psig
Flowing temperature	147.6	°C
Perforated Interval	3236.5 - 3242.5	mRT
	3246.5 - 3248.5	mRT

PRODUCTION CONDITIONS

Time	9:30	
Wellhead pressure	3021	psig
Wellhead temperature	70	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 12

Table 14: Mini-Lab PVT Set 7 Gas Sample 1.07a

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	4 "2755" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.07a
Set number	PVT #7
Sample point	Mini-Lab
Sample nature	Gas
Date	30.09.04
Sampled by	Brian/Simon
Sampling commenced	00:33
Sampling completed	01:33
Cylinder number	5037-A
Cylinder coupled with	TS-5601

MINILAB SEPARATOR CONDITIONS

Time	00:33 - 01:33	
Pressure	500	psig
Temperature	29.02	°C
Cond rate (std cond)	428.18	bbls/day
Gas rate (std cond)	17.3	MMscf/d
Shrinkage factor	1.242	
CGR (std cond)	24.75	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	51.1	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	12.7	°C

BOTTOM HOLE CONDITIONS

Time	00:45	
Flowing pressure	2948.8	psig
Flowing temperature	143.2	°C
Perforated Interval	3180.0 - 3186.0	mRT
	3190.0 - 3196.0	mRT

PRODUCTION CONDITIONS

Time	00:45	
Wellhead pressure	2224	psig
Wellhead temperature	64	°C
Choke size	40/64	inch

COMMENTS

PVT set taken during CGR No. 15

Table 15: Mini-Lab PVT Set 7 Condensate Sample 1.07b

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	4 "2755" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.07b
Set number	PVT #7
Sample point	Mini-Lab
Sample nature	Condensate
Date	30.09.04
Sampled by	Brian/Simon
Sampling commenced	00:33
Sampling completed	01:33
Cylinder number	TS-5601
Cylinder coupled with	5037-A

MINILAB SEPARATOR CONDITIONS

Time	00:33 - 01:33	
Pressure	500	psig
Temperature	29.02	°C
Cond rate (std cond)	428.18	bbls/day
Gas rate (std cond)	17.3	MMscf/d
Shrinkage factor	1.242	
CGR (std cond)	24.75	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	51.1	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	629	cc
Sample volume	500	cc
Transfer fluid remaining	79	cc
Transfer pressure	500.0	psig
Shipping pressure	400.0	psig
Ambient temperature	12.7	°C

BOTTOM HOLE CONDITIONS

Time	00:45	
Flowing pressure	2948.8	psig
Flowing temperature	143.2	°C
Perforated Interval	3180.0 - 3186.0	mRT
	3190.0 - 3196.0	mRT

PRODUCTION CONDITIONS

Time	00:45	
Wellhead pressure	2224	psig
Wellhead temperature	64	°C
Choke size	40/64	inch

COMMENTS

PVT set taken during CGR No. 15

Table 16: Mini-Lab PVT Set 8 Gas Sample 1.08a

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	4 "2755" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.08a
Set number	PVT #8
Sample point	Mini-Lab
Sample nature	Gas
Date	30.09.04
Sampled by	Brian/Simon
Sampling commenced	03:51
Sampling completed	04:21
Cylinder number	5046-A
Cylinder coupled with	PT-1007

MINILAB SEPARATOR CONDITIONS

Time	03:51-04:21	
Pressure	500	psig
Temperature	28.4	°C
Cond rate (std cond)	428.18	bbls/day
Gas rate (std cond)	17.3	MMscf/d
Shrinkage factor	1.242	
CGR (std cond)	24.75	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	51.3	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	13.8	°C

BOTTOM HOLE CONDITIONS

Time	4:00	
Flowing pressure	2947.6	psig
Flowing temperature	143.4	°C
Perforated Interval	3180.0 - 3186.0	mRT
	3190.0 - 3196.0	mRT

PRODUCTION CONDITIONS

Time	4:00	
Wellhead pressure	2221	psig
Wellhead temperature	65	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 17

Table 17: Mini-Lab PVT Set 8 Condensate Sample 1.08b

Client	Origin Energy
Well	Yolla-3
Permit No.	T/L1
Rig	Ensco 102
Test	4 "2755" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	1.08b
Set number	PVT #8
Sample point	Mini-Lab
Sample nature	Condensate
Date	30.09.04
Sampled by	Brian/Simon
Sampling commenced	03:51
Sampling completed	04:21
Cylinder number	PT-1007
Cylinder coupled with	5046-A

MINILAB SEPARATOR CONDITIONS

Time	03:51-04:21	
Pressure	500	psig
Temperature	28.4	°C
Cond rate (std cond)	428.18	bbls/day
Gas rate (std cond)	17.3	MMscf/d
Shrinkage factor	1.242	
CGR (std cond)	24.75	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	51.3	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	700	cc
Sample volume	500	cc
Transfer fluid remaining	150	cc
Transfer pressure	500.0	psig
Shipping pressure	400.0	psig
Ambient temperature	13.8	°C

BOTTOM HOLE CONDITIONS

Time	04:00	
Flowing pressure	2947.6	psig
Flowing temperature	143.4	°C
Perforated Interval	3180.0 - 3186.0	mRT
	3190.0 - 3196.0	mRT

PRODUCTION CONDITIONS

Time	04:00	
Wellhead pressure	2221	psig
Wellhead temperature	65	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 17

Table 18: Mini-Lab PVT Set 9 Gas Sample 2.01a

Client	Origin Energy
Well	Yolla-4
Permit No.	T/L1
Rig	Ensco 102
Test	1 "2809" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	2.01a
Set number	PVT #9
Sample point	Mini-Lab
Sample nature	Gas
Date	02.10.04
Sampled by	Brian/Simon
Sampling commenced	02:10
Sampling completed	02:40
Cylinder number	A-1966
Cylinder coupled with	PT-1090

MINILAB SEPARATOR CONDITIONS

Time	02:10-02:40	
Pressure	500	psig
Temperature	28.8	°C
Cond rate (std cond)	960.00	bbls/day
Gas rate (std cond)	20.4	MMscf/d
Shrinkage factor	1.371	
CGR (std cond)	37.31	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	51.7	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	14.6	°C

BOTTOM HOLE CONDITIONS

Time	-	
Flowing pressure	-	psig
Flowing temperature	-	°C
Perforated Interval	3236.5 - 3242.5	mRT
	3246.5 - 3248.5	mRT

PRODUCTION CONDITIONS

Time	02:10	
Wellhead pressure	3029	psig
Wellhead temperature	68	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 20
Bottom Hole data not available

Table 19: Mini-Lab PVT Set 9 Condensate Sample 2.01b

Client	Origin Energy
Well	Yolla-4
Permit No.	T/L1
Rig	Ensco 102
Test	1 "2809" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	2.01b
Set number	PVT #9
Sample point	Mini-Lab
Sample nature	Condensate
Date	02.10.04
Sampled by	Brian/Simon
Sampling commenced	02:10
Sampling completed	02:40
Cylinder number	PT-1090
Cylinder coupled with	A-1966

MINILAB SEPARATOR CONDITIONS

Time	02:10-02:40	
Pressure	500	psig
Temperature	28.8	°C
Cond rate (std cond)	960.00	bbls/day
Gas rate (std cond)	20.4	MMscf/d
Shrinkage factor	1.371	
CGR (std cond)	37.31	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	51.7	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	700	cc
Sample volume	500	cc
Transfer fluid remaining	150	cc
Transfer pressure	500.0	psig
Shipping pressure	416.0	psig
Ambient temperature	14.6	°C

BOTTOM HOLE CONDITIONS

Time	-	
Flowing pressure	-	psig
Flowing temperature	-	°C
Perforated Interval	3236.5 - 3242.5	mRT
	3246.5 - 3248.5	mRT

PRODUCTION CONDITIONS

Time	02:10	
Wellhead pressure	3029	psig
Wellhead temperature	68	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 20
Bottom Hole data not available

Table 20: Mini-Lab PVT Set 10 Gas Sample 2.02a

Client	Origin Energy
Well	Yolla-4
Permit No.	T/L1
Rig	Ensco 102
Test	1 "2809" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	2.02a
Set number	PVT #10
Sample point	Mini-Lab
Sample nature	Gas
Date	02.10.04
Sampled by	Brian/Simon
Sampling commenced	04:02
Sampling completed	04:27
Cylinder number	A-2005
Cylinder coupled with	PT-1041

MINILAB SEPARATOR CONDITIONS

Time	04:02-04:27	
Pressure	500	psig
Temperature	27.1	°C
Cond rate (std cond)	937.00	bbls/day
Gas rate (std cond)	20.4	MMscf/d
Shrinkage factor	1.42	
CGR (std cond)	20.4	bbls/MMscf
Gas gravity	N/A	
Cond gravity (@15°C)	52	°API

SAMPLING CONDITIONS

Transfer fluid	-	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	-	cc
Transfer pressure	500.0	psig
Shipping pressure	500.0	psig
Ambient temperature	13.7	°C

BOTTOM HOLE CONDITIONS

Time	-	
Flowing pressure	-	psig
Flowing temperature	-	°C
Perforated Interval	3236.5 - 3242.5	mRT
	3246.5 - 3248.5	mRT

PRODUCTION CONDITIONS

Time	04:02	
Wellhead pressure	3029	psig
Wellhead temperature	68	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 21
Bottom Hole data not available

Table 21: Mini-Lab PVT Set 10 Condensate Sample 2.02b

Client	Origin Energy
Well	Yolla-4
Permit No.	T/L1
Rig	Ensco 102
Test	1 "2809" SAND
Flow period	Main Flow

SAMPLING DATA

Sample number	2.02b
Set number	PVT #10
Sample point	Mini-Lab
Sample nature	Condensate
Date	02.10.04
Sampled by	Brian/Simon
Sampling commenced	04:02
Sampling completed	04:27
Cylinder number	PT-1041
Cylinder coupled with	A-2005

MINILAB SEPARATOR CONDITIONS

Time	4:02-04:27	
Pressure	500	psig
Temperature	27.1	°C
Cond rate (std cond)	937.00	bbls/day
Gas rate (std cond)	20.4	MMscf/d
Shrinkage factor	1.42	
CGR (std cond)	20.4	bbls/MMscf
Gas gravity	N/A	
Oil gravity (@15°C)	52	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	700	cc
Sample volume	500	cc
Transfer fluid remaining	150	cc
Transfer pressure	500.0	psig
Shipping pressure	400.0	psig
Ambient temperature	13.7	°C

BOTTOM HOLE CONDITIONS

Time	-	
Flowing pressure	-	psig
Flowing temperature	-	°C
Perforated Interval	3236.5 - 3242.5	mRT
	3246.5 - 3248.5	mRT

PRODUCTION CONDITIONS

Time	4:02	
Wellhead pressure	3029	psig
Wellhead temperature	68	°C
Choke size	36/64	inch

COMMENTS

PVT set taken during CGR No. 21
Bottom Hole data not available