299001

HALLIBURTON

SDL

END OF WELL REPORT

FOR

SAGASCO RESOURCES LIMITED

KING-1

30th OCTOBER - 22nd NOVEMBER, 1992

HALLIBURTON SDL
(A Division of Halliburton Aust. Pty Ltd.)
2/17-19 Musgrave Avenue
Welland, South Australia, 5007
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299002

CONTENTS

SECTION 1: SUMMARIES

SERVICE AND CREW

Halliburton SDL were contracted to provide a mudlogging and data acquisition service for KING-1. Full service commenced at 133m, Spud, and continued till the bridge plug was set. Five End Of Well Reports were tendered to SAGASCO on completion of drilling. The service was performed with a purpose-built pressurised laboratory located on the rig, connected to an array of external sensors. Full details Section 5. This unit was manned on a continuous basis by a crew of four, two of each being on shift at any time. The crew comprised of:

Data Engineers:	Logging Geologists	Samplers
G. Unsworth	P. Cartledge	I. Kazem
M. Woodmansee	M. Smith	C. Madge
A. Ford	N. Brown	
A. Oraekwuotu		

WELL SUMMARY

WELL NAME	KING 1
TYPE	VERTICAL WILDCAT
SPUD DATE	30TH OCTOBER 1992
TOTAL DEPTH	2223M, 17TH NOVEMBER 09:30 HRS,1992
OBJECTIVE	TO TEST THE HYDROCARBON POTENTIAL OF THE EASTERN VIEW COAL MEASURES.
LOCATION	39° 35' 24.4" SOUTH, 145° 31' 08.8" EAST
	LINE HB77A-306S, SHOT POINT 300
PERMIT/BASIN	T/18P - BASS BASIN
ELEVATIONS	FOR THIS REPORT WILL BE FROM THE ROTARY TABLE
ROTARY TABLE TO MSL	22M
WATER DEPTH	72.84M
RIG NAME	OCEAN EPOCH
TYPE	SEMISUBMERSIBLE
CONTRACTOR	DIAMOND M. GENERAL CO.
CONTROL WELLS	CORMORANT-1, TOOLKA-1A, AROO-1 AND YOLLA-1.

LOCATION MAP

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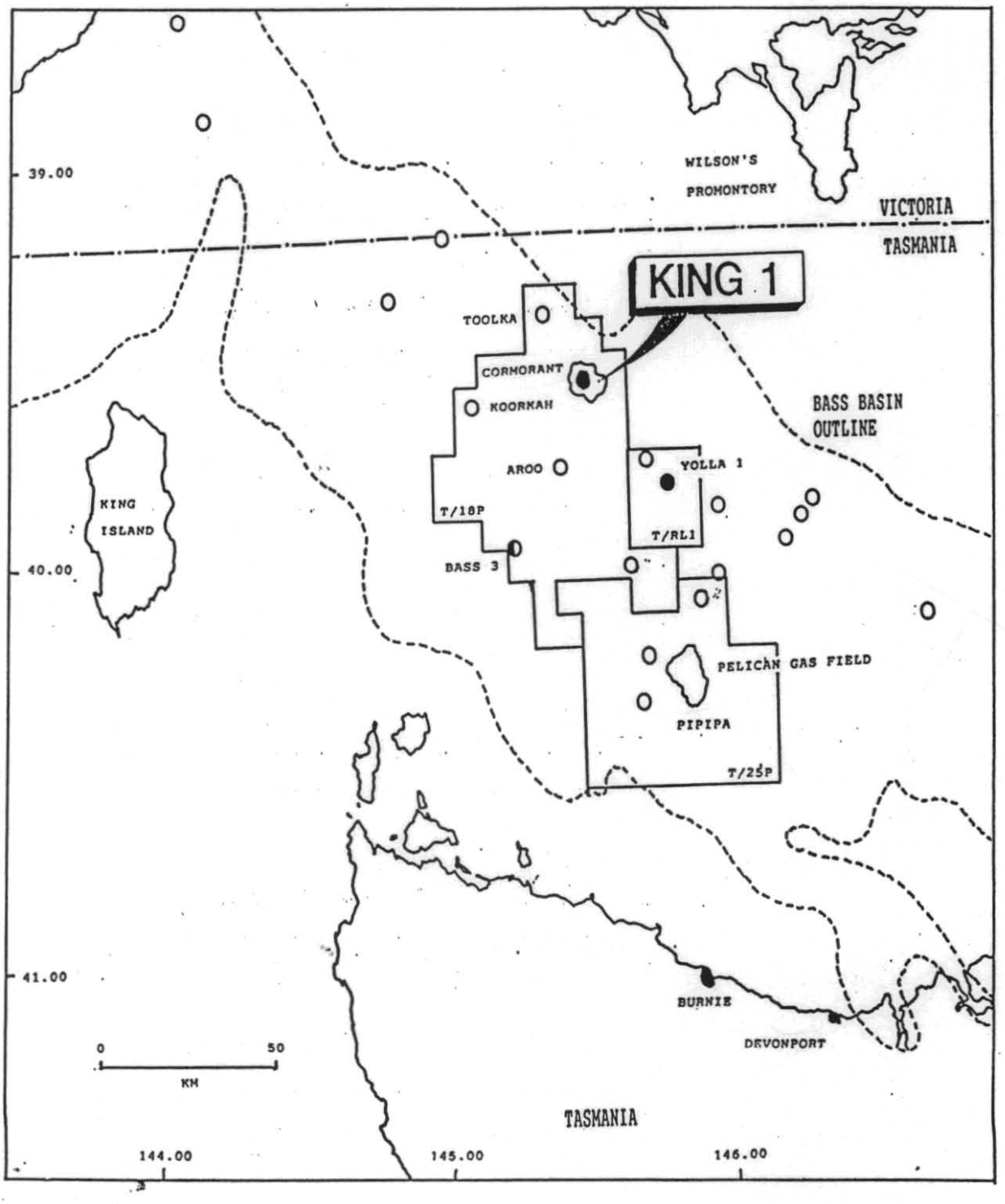
LOCATION MAP - KING 1
SAGASCO RESOURCES Ltd



5 cm

ANTICIPATED STRATIGRAPHICAL SUMMARY

	PROGNOSED	ACTUAL
SUBSEA	75m	72.84m
Torquay	75m	72.84m
Intra-Torquay	404m	405m
Early Miocene	659m	755m
Demons Bluff Formation	1035m	1050m
Top EVCM	1269m	1247m
Total Depth	**2200m**	**2223m**

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CONDENSED LITHOLOGY SUMMARY

299010

HALLIBURTON GEODATA

CONDENSED LITHOLOGY COLUMN

SAGASCO RES. LTD.
KING 1

RKB
MEASURED DEPTH
500
1000
1500
2000

SL 22M
WD 72.8m
762mm
127m
340mm
394.44m
LOT 1.71sg
244mm
1237m
PIT 1.7sg

PROGNOSED

TORQUAY

INTRA-TORQUAY

EARLY MIOCENE

DEMONS BLUFF FM

TOP EVCM

BASE N. ASPERUS

NEAR BASE N. ASPER

NEAR BASE UP. M.D.

LIMESTONE: Off white-cream, calcarenite-predomanantly bioclastic, medium to very course grained, slightly argillaceous, common, glauconite, abundant shell fragments & Forams, friable to occasionally hard, poor to fair intraparticle porosity, NO SHOW.

CLAYSTONE: Light grey, slightly greenish or brownish in places, non-slightly calcareous in places, trace pyrite & glauconite, abundant shell fragments and Forams, soft-firm, slightly dispersed, sticky.

LIMESTONE: Off white-cream, microcrystalline-very coarse, bioclastic calcarenite, abundant glauconite, argillaceous in places, abundant Forams and shell fragments, friable-hard, nil-poor intergranular porosity, NO SHOW.

CLAYSTONE: Light grey-light brown, occasionally greenish, glauconite, abundant shell fragments & Forams, rare pyrite, soft-firm, soluble.

CLAYSTONE: Brown-dark brown, non calcareous, carbonaceous, slightly silty and increasing with depth, soft, soluble, graging to SILTSTONE.

SANDSTONE: Colourless, transparent-translucent, fine-coarse, predominantly medium, subangular-well rounded, good sphericity, moderately sorted, trace calcite cement, clean, trace glauconite, friable, unconsolidated, good porosity, NO SHOW.

SILTSTONE: Dark brown, very argillaceous, commonly very fine quartz grains, carbonaceous, bioturbated, common pyrite burrows, non-very calcareous in places, firm, soluble.

CLAYSTONE: Dark brown becoming brown-light brown with depth, non calcareous, trace pyrite nodules, very silty in places, micmicaceous, soluble, very soft.

SANDSTONE: Colourless, translucent-transparent, initially very coarse-coarse becoming very fine-fine with increasing depth, well sorted, subrounded to rounded, sub spherical, clean, loose unconsolidated quartz, clay residue on coarse grains.

COAL: Black, occasionally dark brown, dull, firm-hard, blocky, sub conchoidal, lignitic.

SANDSTONE: Colourless-white, very fine-fine, grades rapidly at base to coarse grained, well sorted, sub rounded, spherical, weak silica cement, white interstitial clay, trace mica & carbonaceous specs, friable-loose, poor-fair infered porosity, NO SHOW.

CLAYSTONE: Light grey, pale brown, occasionally micromicaeous and silty laminations, carbonaceous specs in places, trace pyrite & Dolomite concretion, soft-firm, sub fisile.

SANDSTONE: Off white, very fine-fine grained, well sorted, sub rounded, spherical, moderate silica cement, mud interstitial clay, trace-common interstitial mica, carbonaceous detrital, friable-hard, trace-poor porosity, NO SHOW.

SHOW G M F

SCALE 1:10000

5 cm

RIG and DRILLING SUMMARY

Rig Equipped with:
BOP equipment included: A 18 3/4" 10000 psi Cameron BOP Stack and 20" OD marine riser with: Cameron Flex/Ball joint, 18 3/4" 5000 psi 10 degree, Cameron Type "DL" 18 3/4" 5000 psi upper annular preventer, Cameron Type "DL" 18 3/4" 5000 psi lower annular preventer, Cameron Double "U11" rams, upper 5" Pipe ram, Lower Blind/Shear ram, Cameron Double "U11" rams, upper variable 3 1/2" to 7 5/8" ram, lower 5" Pipe ram, Cameron 18 3/4" 10000 psi hydraulic collet connector, 3" 10000 psi Choke and Kill lines.

914mm (36") HOLE SECTION
Depth from 95m to 133m, Mtg = 38.
762mm (30") casing set at 127m and cemented to surface.

BR1 NB1 SMITH DSJ JETS (3x24), 660mm (26") with 914mm (36") hole opener was used to spud **King-1.** NB1 tagged the sea bed at 94.84m RKB and rotary drilled from 94.84m to 133m. The hole was then flushed with 8 cu m (50 bbl) hi-vis mud and surveyed at TD (½°).

762mm (30") casing was cemented with 772 sacks class "G" at 1.833 sg (15.3 ppg), displaced with 1.59 cu m (10 bbl) of sea water.

405mm (17½") HOLE SECTION
Depth from 133m to 405m, Mtg=272.
340mm (13-3/8") casing set at 394.44m and cemented to surface.

BR2 NB2 SMITH DSJ 17½" JETS (3x18) drilled from 133m to 405m. The hole was swept at 169m with 4.8 cu m (30 bbl) hi-vis mud, and reamed as required. Minimal drag was observed on connections. At 405m (TD for 405mm (17½") hole) 15.9 cu m (100bbls) of hi-vis was circulated out prior to the bit being pumped back to the shoe, no drag was observed. The bit was then washed to bottom and 8 cu m (50 bbls) of hi-vis circulated out. The hole was then displaced with 79 cu m (500 bbl) of hi-vis mud and surveyed (½°deg).

The casing program included 340mm (13-3/8") casing run to a depth of 394.44m. To cement the 340mm casing a lead slurry of class "G" 760 sacks 1.582 sg (13.2 ppg) with 2.2% calcium chloride BWOC was pumped followed by a tail slurry class "G" of 500 sacks 1.797sg (15 ppg), displaced by 1.59 cu m 10 bbl of sea water.

311mm (12¼") HOLE SECTION
Depth from 405m to 1246m, Mtg = 841.
244mm (9-5/8"- ID 8.681"- 47lbs/ft) casing set at 1237.07m.
LOT @ 407m, 1.74sg EMW (14.55ppg).

BR3 NB3 SMITH FDS (Jets 3x14) drilled from the 13-3/8" csg shoe to 407m where a Leak Off Test was performed to an EMW of 1.74sg. The 311mm hole was drilled to 1246m, casing point, with a seawater/gel/polymer mud system. A 4.7 cu m (30 bbl) sweep was pumped at 448m, connections were reamed and gave minimum drag. At 1017m pump pressure increased by 400 psi and the hole packed off. Returns were lost with 9.5 cu m (60 bbl) of mud being lost

to the formation. The bit was then pulled back to 758m, maximum over pull 13.6 tonnes, at which point circulation was re-established. The bit was then washed and reamed to 1015m, bottoms up circulated, and drilling resumed to 1246m. Single shot surveys were dropped at 544,549,569,685,725,867 and 1029m with only the 1029m survey being successful. At 1246m the hole was circulated clean and a slug pumped, prior to a wiper trip being conducted to the shoe. Maximum overpull of 13.6 tonnes occurred at 1130m, 1101m and 1092m. On returning into the hole 3m of fill was encountered, the hole was circulated clean. 8 cu m (50 bbl) of hi-vis mud was spotted on the bottom prior to POOH, maximum over pull of 4.5 tonnes. Connection gas peaks were noted from 1125m over a siltstone interval, the estimated bottom hole pressure raised to 8.7/8.8ppg, and the mud weight increased from 9.1 to 9.3ppg from 1150m.

Wireline operations were performed over this section:
DSTU-DLLT-MSFL-CALI-DTD

Prior to running casing, a wiper trip was done and the hole circulated clean, minimum drag observed. The 244mm (13-3/8") casing was run to 1237.04m, circulated clean and then cemented as follows. Lead slurry, class "G", mixwater 9.72 gal/sack, 2.2% BWOC prehydrated gel, slurry weight 1.6 sg (13.2ppg), yield 1.79 cu ft per sack, excess 10% over calculated volume. Tail slurry, class "G", mixwater 5.0 gal seawater/sack, 1.0 gal/10bbl mixwater SCR-100L retarder, slurry weight 1.9 sg (15.8 ppg), yield 1.15 cu ft per sack, excess 10% over calliper volume.

216mm (8½") HOLE SECTION
Depth from 1246 to 2223m, Mtg = 977.
PIT @ 1248m, 1.71sg EMW (14.24ppg).

BR4 NB4 SMITH FDGH 216mm (JETS 3x12) drilled out float-collar and casing shoe and 151m of formation to a depth of 1397m. At 1248m a PIT was performed to an EMW of 1.71sg. The sea water gel mud was displaced to a PHPA system from 1248m. At 1397m, a drilling break was circulated with a gas and fluorescence show. The string was slugged and pulled out of the hole (POH). No overpull occurred while POH.

BR5 CB1 DBS CD93 216mm (TFA 0.86) Cut Core #1 from 1397-1402m, recovering 3.5m (70%). On running in the hole BR5 CB1 reamed from 1250-1397m. The bottom was tagged at 1397m, no fill observed. The hole was circulated for 10 minutes prior to the ball being dropped. Low ROP at 1397m caused the bit to be pulled. A flow check was performed prior to POH, no overpull occurred during the trip.

BR6 RRCB1 DBS CD93 216mm (TFA 0.86) cut core #2 from 1402 to 1410.5m, recovering 5.7m (70%). BR6 was POH at 1410.5m after the coring tool packing off. A flow check was conducted at 1410.5m, no overpull occurred while POH.

BR7 NB5 SMITH F1 216mm (jets 11,11,10) drilled from 1410.5 to 1423.5m. On running into the hole BR7 NB5 reamed from 1389-1410m prior to drilling new hole. Connections were reamed and drill breaks at 1420m and 1423m were flow checked. A sample was circulated to surface from the 1423m drill break, this sample contained sandstone showing oil fluorescence, based on this sample coring operations were resumed. No overpull occurred while tripping out of the hole.

BR8 RRCB1 DBS CD93 216mm (TFA 0.86), cored from 1423.5 to 1434m recovering 9.4m (89%). No overpull occurred while tripping out of the hole.

BR9 RRCB1 DBS CD93 216mm (TFA 0.86), cored from 1434 to 1440m, recovery 5m (83%). BR9 RRCB1 washed to bottom from 1401-1434m and was POH at 1440m due to the coring tool packing off.

BR10 RRB5 SMITH F1 216mm (jets 11,11,10) drilled from 1440 to 2041m a total of 601m in 39 rotating hours. This section consisted mainly of claystone and sandstone with coal stringers. On returning into the hole BR10 RRB5 tagged at 1424m (top cored section) with 4.5 tonnes. The bit was then washed and reamed down to 1440m. Connections were reamed, and all drill breaks were flow checked. Drill breaks were generally associated with coal stringers. Bottoms up was circulated at 1734m following a drill break and the riser flushed. A survey dropped at 1734m gave 3/4deg. At 1734m a wiper trip was conducted to the shoe, overpull 32 tonnes max 1701-1591m, 22 tonnes max 1586-1516m, 22 tonnes 1384-1327m, and swabbing caused by swelling claystone occurred during this trip. On running into the hole the bit tagged at

1688m with 11 tonnes and was, therefore, washed and reamed down to 1734m. Drilling resumed from 1734 to 1869m, connections were reamed and all drill breaks were flow checked. At 1869m a second wiper trip was conducted to 1680m. Less overpull was observed during this trip. Drilling then resumed from 1869-2041m, again connections were reamed and flow checks performed at 1902, 1915, 1978m and 2038m where hi-torque 700 amps also occurred. BR10 RRB5 was POH at 2041m for a bit change. Hole conditions were tight and the bit was back reamed from 2041 to 1586m.

BR11 NB6 SMITH F1 216mm (jets 11,11,10) drilled from 2041 to 2223m (TD). On running into the hole BR11 NB6 reamed from 1979 to 2041m, no fill was encountered on bottom. Connections were reamed and all drill breaks were flow checked. Drill breaks were generally associated with coal stringers. At 2223m (TD) a wiper trip was conducted to the shoe. 4.5-9 tonnes overpull occurred from 2223 to 2158m, 22.5 tonnes overpull occurred through a tight spot at 2145-2148m, 22.5 tonnes overpull at 2035-2015m with hi-torque 500 amps. The bit was back reamed out to 1701m prior to being pulled out to the shoe. On RIH the bit was washed down from 2182-2187m and then reamed to bottom from 2214m. The hole was then circulated surface to surface and surveyed (2 deg). While POH maximum overpull of 2-4.5 tonnes was measured.

Halliburton Logging Services ran the following logs:

Run #1. HRI-LSS-MSFL-GR-SP
Run #2. SDL-DSN-CSNG-ML-GR
Run #3. HFDT-GR
Run #4. SED-GR
Run #5. SFT (x4)
Run #6. VSP

King-1 was plugged back and abandoned on 22nd November, 1992.

299015

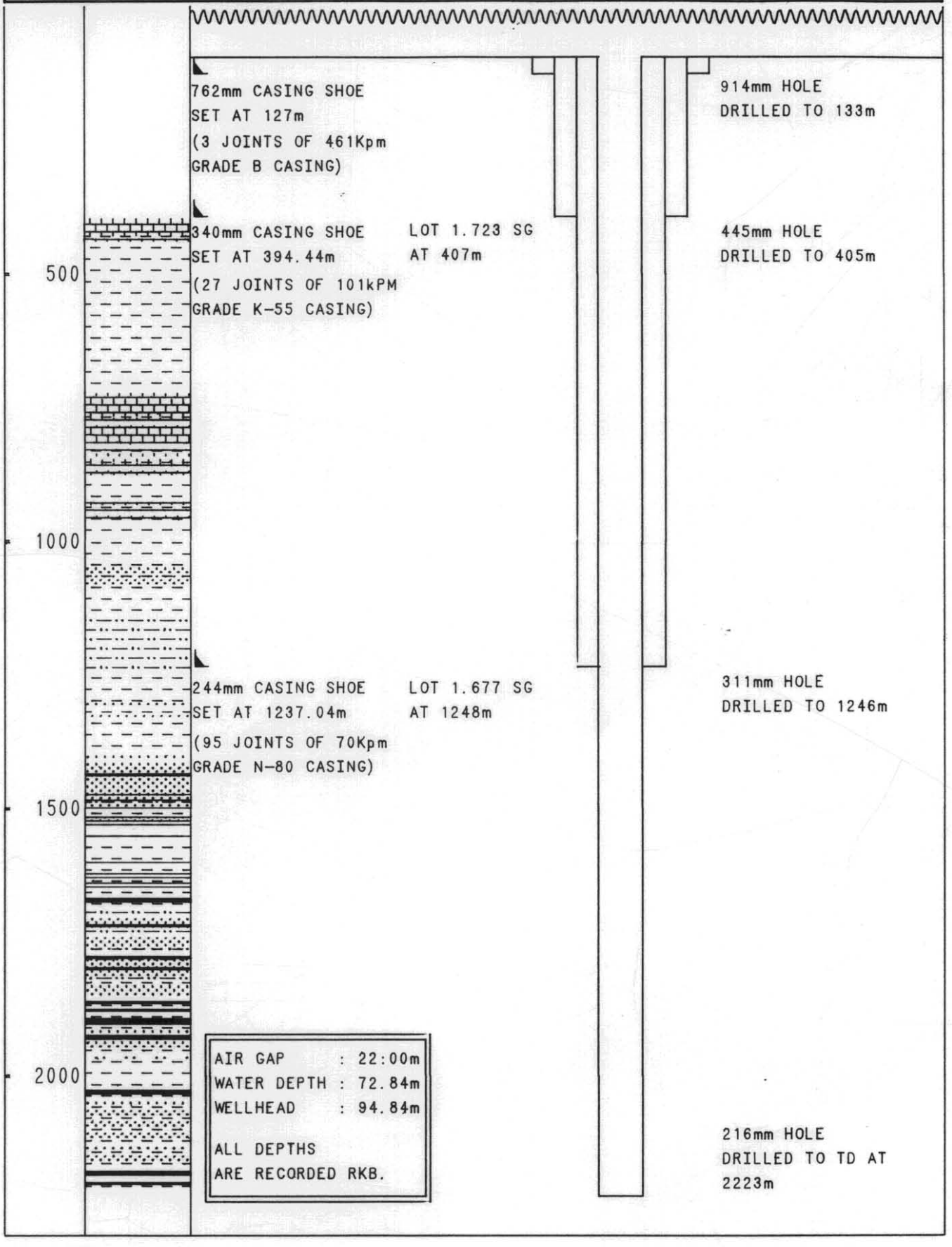
WELL PROFILE

299016

HALLIBURTON GEODATA

WELL PROFILE DIAGRAM

SAGASCO RESOURCES Ltd
KING 1



5 cm

DRILLING PARAMETER PLOTS

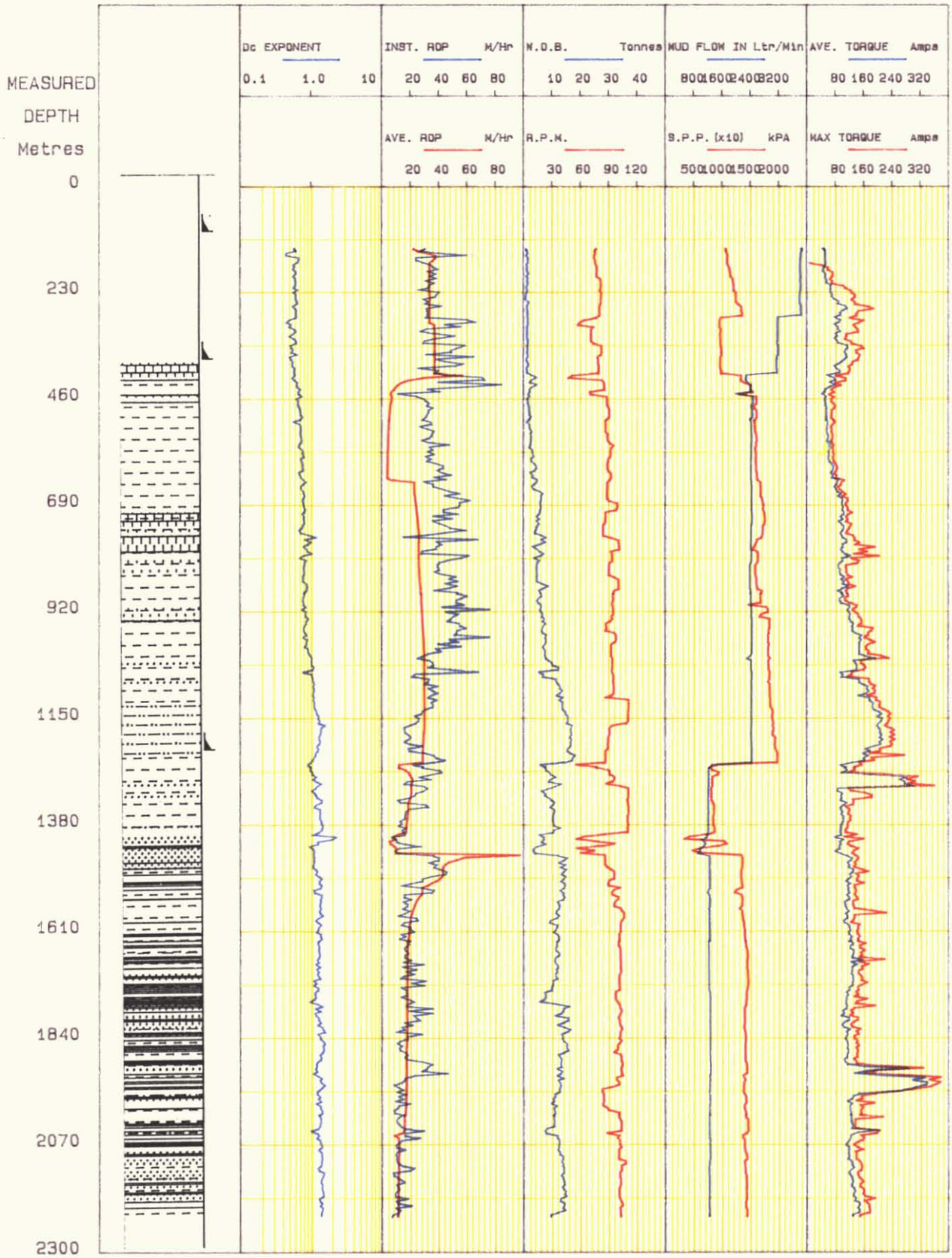
The plots included in this report generally use a 5 metre data average. These plots along with others in this report provide a comparison for most of the major parameters recorded during the drilling of this well. They are provided on a scale small enough to allow representation of several parameters on each plot. The plots are intended as a tool for picking trends. Values for any drilling parameter are best looked up in the data print-outs.

DRILLING DATA PLOT

Well No: KING 1
Operator: SAGASCO RESOURCES

HALLIBURTON GEODATA

29901S



DATA AVERAGED OVER 5M INT

DEPTH SCALE = 1 : 11500

5 cm

299019

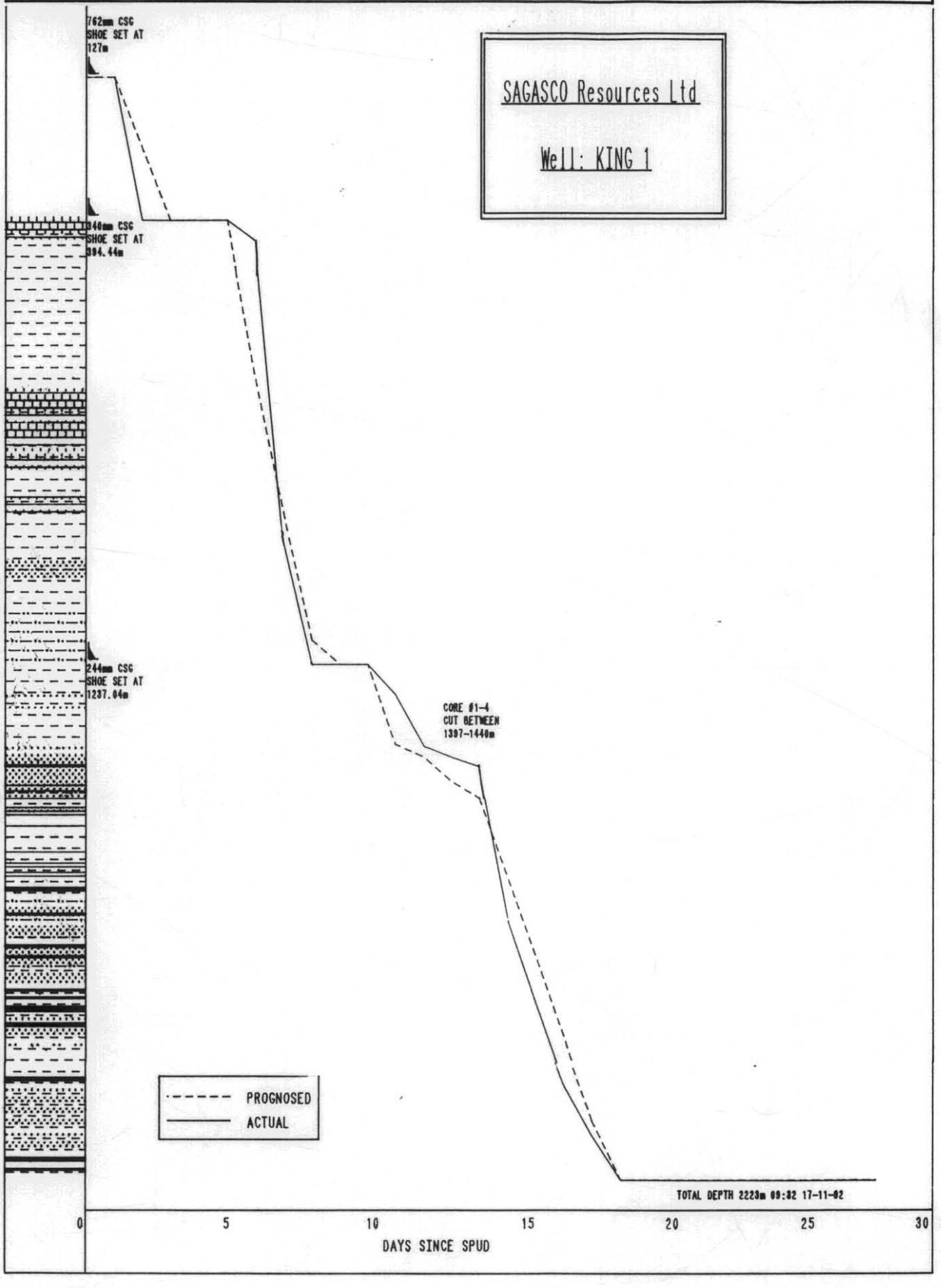
WELL PROGRESS CHART

299020

HALLIBURTON GEODATA

WELL PROGRESS
DAYS / DEPTH
SPUD - 2223m

SAGASCO
RESOURCES Ltd
KING 1



5 cm

299021

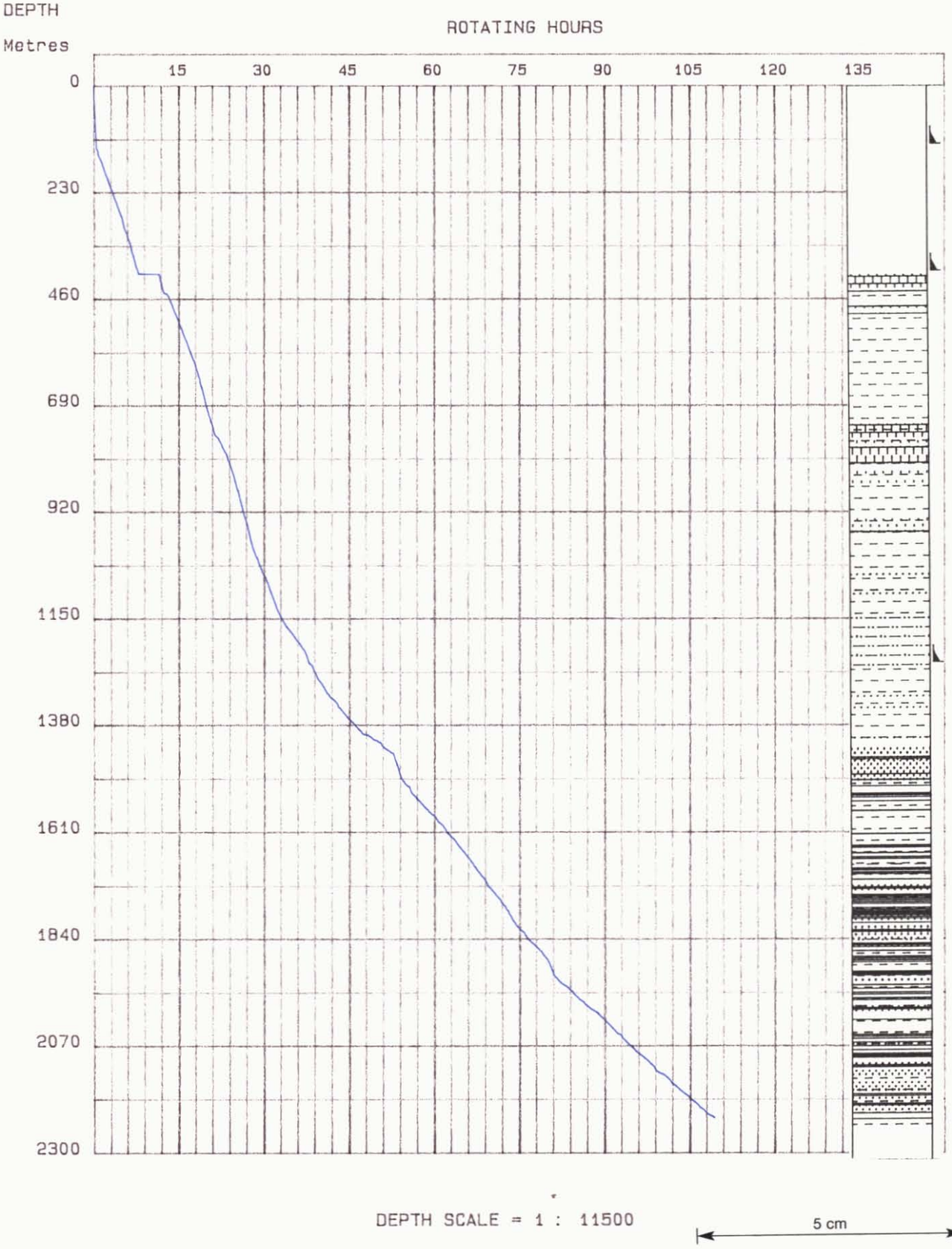
ROTATING HOURS vs DEPTH PLOT

299022

ROTATING HOURS PLOT

HALLIBURTON GEODATA LTD.

Operator: SAGASCO RESOURCES Well number: KING 1



DEPTH SCALE = 1 : 11500

5 cm

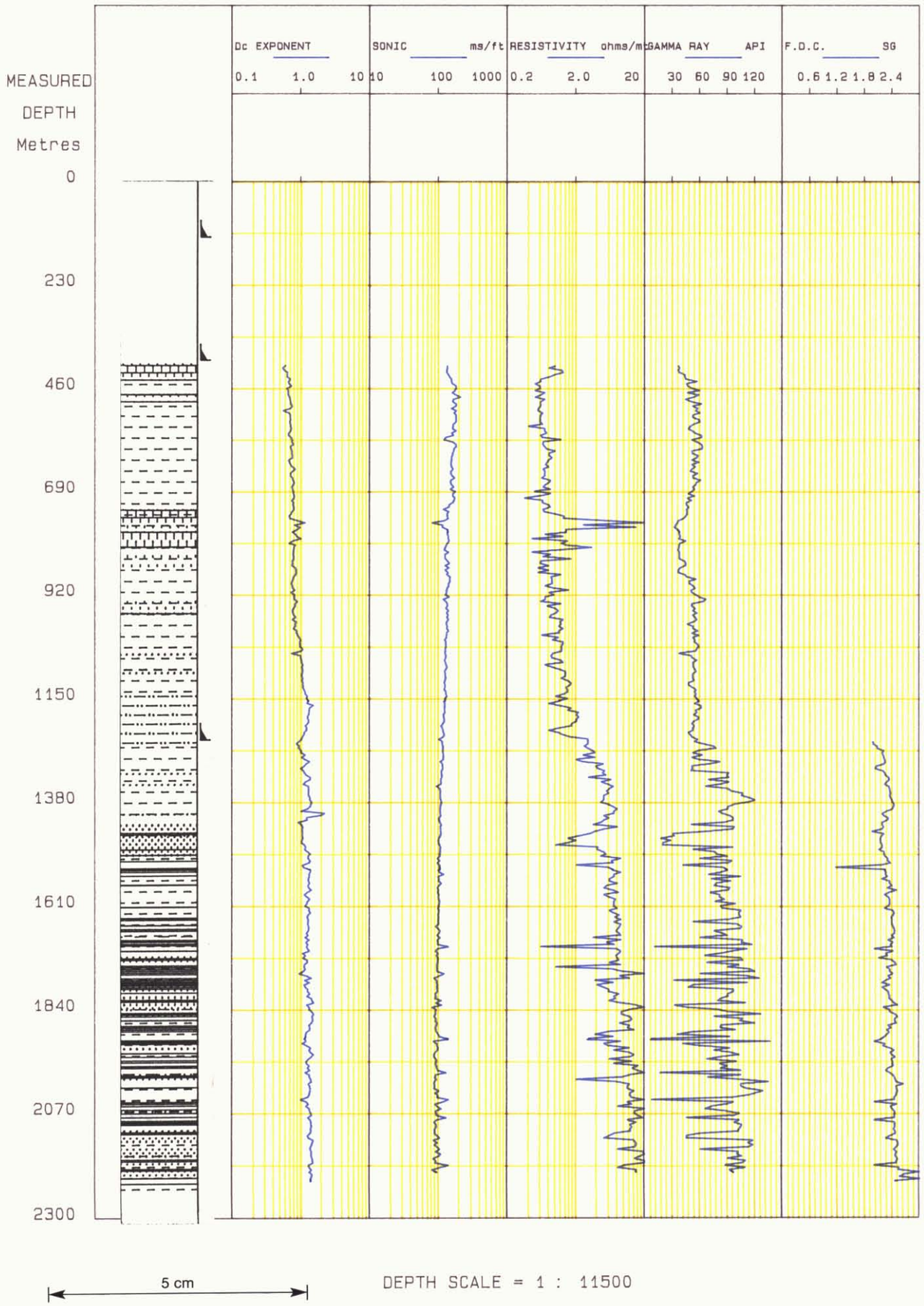
COMBINED Dxc-ELOG PLOT

OVERPRESSURE PLOT

Well No: KING 1
Operator: SAGASCO RESOURCES

HALLIBURTON GEODATA

299624



5 cm

DEPTH SCALE = 1 : 11500

SECTION 2: THE FORMATION EVALUATION LOG

Summary of the Formation Evaluation log
Sampling Routine
Formation Evaluation Log Format
Copy of the Formation Evaluation log

SUMMARY OF THE FORMATION EVALUATION LOG

This discussion is divided into formation based sections. These intervals were chosen primarily on the basis of lithology differences in cuttings and, secondly, on changes in the rate of penetration (ROP), gas values and gas breakdowns. The divisions do not necessarily represent time stratigraphic units, and is primarily based upon the wellsite geologists' cuttings samples descriptions, interpretations and reports, as per SAGASCO Resources requirements.

Gas measurements mentioned in this discussion are expressed either in ppm for the chromatograph analyses, or, API gas units for the total gas readings. 50 gas units = 10000ppm methane equivalent or, 1.0%. Chromatographic analyses are abbreviated as follows - Methane = C1, Ethane = C2, Propane = C3, Iso-Butane = IC4, N-Butane = NC4, and, Pentane = C5

INTRA-TORQUAY: 418-755m

405-430m
LIMESTONE WITH MINOR INTERBEDDED CLAYSTONE

LIMESTONE:Off white, calcarenite-predominantly bioclastic, medium to very coarse grained, slightly argillaceous, common glauconite, abundant shell fragments and forams, friable to occasionally hard, poor interparticle porosity, no show.

CLAYSTONE:Yellow brown to brown, slightly silty, limonite, firm to hard, blocky.

Penetration Rate: Max 120m/hr, Min 19m/hr, Avg 60m/hr.

430-540m
CLAYSTONE WITH OCCASIONAL INTERBEDDED LIMESTONE

CLAYSTONE:Light grey, occasionally brownish or greenish, locally medium grey green, non-slightly calcareous, trace pyrite nodules, trace to common forams and shell fragments, soft to firm, sticky, soluble to dispersive.

LIMESTONE:Yellow brown to brown, slightly silty, limonite, firm to hard, blocky, bioclastic, friable to unconsolidated, fair intragranular porosity, no show.

Penetration Rate: Max 57m/hr, Min 3m/hr, Avg 30m/hr.

Total Gas: Max 11.65u, Min 0.4u, Avg 9u.
Chromatograph: C1 1750ppm.

540-730m

CLAYSTONE:light grey, slightly greenish or brownish in part, non to slightly calcareous in part, trace pyrite, abundant shell fragments and forams, soft to firm, slightly dispersive, sticky.

Penetration Rate: Max 80m/hr, Min 21m/hr, Avg 40m/hr.

Total Gas: Max 40u, Min 10u, Avg 17.5u.
Chromatograph: C1 3400ppm.

EARLY MIOCENE: 755-1050m

730-880m
LIMESTONE WITH INTERBEDDED CLAYSTONE.

LIMESTONE:Off white to cream, microcrystalline to very coarse grained, bioclastic calcarenite, abundant glauconite, argillaceous in part, abundant forams and shell fragments, friable to hard, nil to poor intergranular porosity, no show.

CLAYSTONE:Light grey, slightly greenish or brownish in part, non to slightly calcareous in part, trace pyrite, abundant shell fragments and forams, soft to firm, slightly dispersive, sticky.

Penetration Rate: 102m/hr, Min 6m/hr, Avg 35m/hr.

Total Gas: Max 76.7u, Min 15.3u, Avg 22.5u.
Chromatograph: C1 4400ppm.

880-1013m
PREDOMINANTLY CLAYSTONE WITH OCCASIONALLY INTERBEDDED LIMESTONE.

CLAYSTONE:Light grey to light brown, occasionally greenish, glauconitic, abundant shell fragments and forams, rare pyrite, soft to firm, soluble.

LIMESTONE:Light grey to light brownish grey, microcrystalline, calcarenite, ankeritic, slightly to moderately argillaceous, trace glauconite, hard, no porosity, no show.

Penetration Rate: Max 171m/hr, Min 13m/hr, Avg 60m/hr.

Total Gas: Max 132u, Min 36u, Avg 57.5u.
Chromatograph: C1 11300ppm, C2 22ppm.
Connection Gas: 25u at 1100m.

1013-1050m
CLAYSTONE OVERLAYING A BASAL SANDSTONE

CLAYSTONE:Light grey to light brown, non to slightly calcareous, trace glauconite, shelly in part, trace pyrite, soft, soluble.

SANDSTONE:Colourless, translucent to transparent, fine to coarse, predominantly medium grained, subangular to well rounded, good sphericity, moderately sorted, trace calcareous cement, clean,

trace glauconite, friable to unconsolidated, good porosity, no show.

Penetration Rate: Max 47m/hr, Min 18m/hr, Avg 28m/hr.

Total Gas: Max 62u, Min 33u, Avg 47u.
chromatograph: C1 9560ppm, C2 300ppm.

DEMONS BLUFF FMN: 1050-1265m

1050-1140m
CLAYSTONE GRADING TO ARGILLACEOUS SILTSTONE.

CLAYSTONE:Brown to dark brown, non calcareous, carbonaceous, slightly silty increasing with depth, soft, soluble, grading to SILTSTONE.

Penetration Rate: Max 120m/hr, Min 18m/hr, Avg 33m/hr.

Total Gas: Max 81u, Min 40m/hr, Avg 60u.
Chromatograph: C1 12000ppm, C2 150ppm.
Connection Gas: 58u at 1130m.

1140-1247m
SILTSTONE GRADING TO SILTY CLAYSTONE WITH MINOR SANDSTONE AND DOLOMITE.

SILTSTONE:Dark brown, very argillaceous, common very fine quartz, carbonaceous, bioturbated, common pyrite burrows, non to very calcareous in part, firm, soluble.

SANDSTONE:Colourless to light brown, very fine, well sorted, subangular to round, common silty argillaceous matrix, friable, fair porosity, no show.

DOLOMITE:Dark brown, cryptocrystalline, slightly argillaceous, very hard, blocky to splintery, no porosity, no show.

Penetration Rate: Max 42m/hr, Min 10m/hr, Avg 25m/hr.

Total Gas: Max 50u, Min 37m/hr, Avg 43m/hr.
Chromatograph: C1 7720ppm, C2 565ppm.
Connection Gas: 103u at 1158m, 61.5u at 1186m, 54.5 at 1216m.

EASTERN VIEW COAL MEASURES: 1247-TD(2223m)

1247-1392m
CLAYSTONE WITH MINOR SILTSTONE AND SANDSTONE INTERBEDS

CLAYSTONE:Dark brown becoming lighter with depth, light grey brown, non calcareous, trace pyrite nodules, micromicaceous, occasionally carbonaceous with coaly laminations below 1314m, silty in part, soft, soluble, dispersive, trace clear, coarse, subrounded quartz grains.

SANDSTONE:Clear, translucent, occasionally milky, medium to very coarse, subrounded to round, sub spherical, well sorted, unconsolidated, trace pyritic cement, trace argillaceous coatings on grains, good inferred porosity, no show. Some light grey to light brown very fine grains, dolomitic cement, firm to friable, very poor porosity, no show.

SILTSTONE:Light brown to brown, slightly calcareous, dolomitic, sandy, argillaceous, carbonaceous specks, micromicaceous, firm to hard, blocky.

Penetration Rate: Max 86m/hr, Min 5m/hr, Avg 19m/hr.

Total Gas: Max 10u, Min 3u, Avg 6.5u.
Chromatograph: C1 1250ppm, C2 95ppm.

1392-1530m
INTERBEDDED SANDSTONE, CLAYSTONE AND SILTSTONE WITH MINOR COALS.

SANDSTONE:Colourless, occasionally light brown to off white, very fine to very coarse, mainly fine to medium, moderately sorted, angular to well rounded with increasing grain size, unconsolidated quartz, clean, trace mica, good inferred porosity.
FLUORESCENCE:1454-1464m. 70-100%, uniform to patchy, pale yellow with bright yellow-gold spots, instant bright white streaming cut, moderate light brown film residue, visible light brown oil with moderate petroliferous odour.

CLAYSTONE:Off white to light grey, becoming light brown with depth, micromicaceous, carbonaceous specks, very soft, dispersive.

SILTSTONE:Light grey, trace mica, feldspar and carbon, argillaceous in part, unconsolidated, poor porosity, no show.
FLUORESCENCE:1395-1413m. 100%, patchy, dull to occasionally moderately bright yellow white with occasional gold specks, very slow streaming milky white cut, strong instant milky crush cut, thin to moderate ring residue.

COAL:Very dark brown to black, soft to firm, dull, subblocky, lignitic.

Penetration Rate: Max 63m/hr, Min 5m/hr, Avg 17m/hr.

Total Gas: Max 5u, Min 1u, Avg 3u.
Chrom: C1 315ppm, C2 91ppm, C3 13ppm, C4 8ppm, C5 7ppm.
Trip Gas: 1.75u at 1410m, 1u at 1423.5m, 2.8u at 1434m, 8u at 1440m.

1530-1710m
CLAYSTONE WITH MINOR THIN SANDSTONE, SILTSTONE AND MINOR COALS.

CLAYSTONE:Light brown, occasionally off white, micromicaceous, non calcareous, locally silty, carbonaceous specks, soft, dispersive.

SANDSTONE:Colourless, fine, subangular to angular, rarely coarse and round, clean, loose, unconsolidated quartz, fair porosity, no show.

SILTSTONE:Off white, very argillaceous, micromicaceous, grades to a silty CLAYSTONE.

FLUORESCENCE:1571-1581m, trace moderate bright yellow to yellow brown, trace cut.

COAL:Black, occasionally dark brown, dull, firm to hard, blocky, subconchoidal, lignitic.

Penetration Rate: Max 47m/hr, Min 7m/hr, Avg 15m/hr.

Total Gas: Max 60u, Min 6u, Avg 8u.
Chrom: C1 1030ppm, C2 81ppm, C3 48ppm, C4 41ppm, C5 31ppm.

1710-1806m

SANDSTONE AND CLAYSTONE INTERBEDS WITH OCCASIONAL SILTSTONE AND MINOR COALS.

SANDSTONE:Colourless, translucent, predominantly very fine to fine, locally dominantly medium to very coarse, well sorted, subangular to subrounded, weak siliceous cement, trace clay matrix, trace mica, trace feldspar, friable to predominantly loose quartz, good to fair inferred porosity, ,no show.
FLUORESCENCE:Occasional 10%, moderate bright yellow, patchy, moderate milky white crush cut, trace ring residue.

CLAYSTONE:Light brown, occasionally off white, micromicaceous, carbonaceous specks and microlaminations, soft, plastic, dispersive, locally silty or sandy.

SILTSTONE:Off white, argillaceous matrix, non calcareous, soft occasionally hard, dolomitic stringers, grading to silty SANDSTONE in part.

COAL:Black, brown to black, dull, firm, blocky, occasionally argillaceous.

Penetration Rate: Max 50m/hr, Min 3.9m/hr, Avg 16m/hr.

Total Gas: Max 41u, Min 7u, Avg 10u.
Chrom: C1 1025ppm, C2 145ppm, C3 109ppm, C4 61ppm, C5 30ppm.
Trip Gas: 150u at 1734m.

1806-1892m

INTERBEDDED CLAYSTONE, SILTSTONE AND SANDSTONE WITH MINOR COAL.

CLAYSTONE:Light grey brown to light brown, non calcareous, carbonaceous microlamintions, silty, soft to firm.

SILTSTONE:Off white, locally light grey brown, argillaceous, common very fine quartz, trace mica, soft to firm.

SANDSTONE:Light brown to off white, colourless, very fine to fine, angular to subrounded, subspherical to spherical, well sorted, weak siliceous cement, common white and brown argillaceous matrix, coaly microlaminations, trace mica, friable, trace to nil porosity, no show.

COAL:Black, subvitreous to dull, firm to hard, blocky.

Penetration Rate: Max 36m/hr, Min 7.3m/hr, Avg 16m/hr.

Total Gas: 23u, Min 7u, Avg 9u.
Chrom: C1 650ppm, C2 100ppm, C3 90ppm, C4 60ppm, C5 25ppm.
Trip Gas: 90u at 1869m.

1892-2113m

CLAYSTONE WITH THICK SANDSTONE AND COAL BEDS WITH MINOR SILTSTONE.

CLAYSTONE:Light to medium brown, light grey brown, micromica, coaly and silty laminations, detrital carbon specks, trace pyrite and dolomitic concentrations, soft to firm, subfissile.

SANDSTONE:Colourless, white, very fine to fine sometimes coarse, well sorted, spherical, weak siliceous cement, strongly calcareous in part, occasionally unconsolidated quartz, argillaceous matrix, friable to loose, poor porosity.
FLUORESCENCE:2001-2006m, 2023-2025m, 2049-2054m, trace to 50%, dull yellow patchy, weak to moderate milky crush cut, thin colourless ring residue.

COAL:Black, dull, hard, brittle, hackly fracture, argillaceous, platy, blocky.

SILTSTONE:Off white, light grey, brown, argillaceous, micromicaceous, siliceous cement, sandy in part, soft to dispersive.
FLUORESCENCE:2085-2088m, 50%, moderately bright to dull, yellow white, patchy, weak crush cut, trace ring residue.

Penetration Rate: Max 38m/hr, Min 7m/hr, Avg 16.6m/hr.

Total Gas: Max 156u, Min 10u, Avg 20M/hr.
Chrom: C1 3000ppm, C2 500ppm, C3 159ppm, C4 100ppm, C5 19ppm.
Trip Gas: 74u at 2041m.

2113-2223m

THICKLY INTERBEDDED SANDSTONE(1) AND CLAYSTONE WITH THIN INTERBEDS OF SANDSTONE(2) AND COAL.

CLAYSTONE:Dark grey to grey brown, non calcareous, micromicaceous, carbonaceous and coaly, dolomitic concentrations in part, very soft and dispersive, occasionally firm, subfissile.

SANDSTONE(1):Colourless, off white, fine to very coarse, conglomerates predominantly fine, moderately sorted, angular to subangular, poor to moderate sphericity, trace siliceous cement, trace clay coating on grains, loose unconsolidated quartz, good inferred quartz, no show.

SANDSTONE(2):White to off white, light brown, very fine grained, subrounded, spherical, well sorted, weak to moderate siliceous cement, trace clay matrix, friable to hard, nil to poor porosity, no show.

COAL:Black, dull, subvitreous, hard, brittle, subconchoidal, angular fracture.

Penetration Rate: Max 40m/hr, Min 4m/hr, Avg 10.5M/hr.

Total Gas: Max 163u, Min 18u, Avg 23u.
Chrom: C1 4000ppm, C2 385ppm, C3 150ppm, C4 32ppm, C5 6ppm.
Trip Gas: 115u at 2223m.

SAMPLING ROUTINE

From 405m to 2223m the sampling routine consisted of :

10m intervals from 405m to 1200m, 3m int thereafter to 2223m.
1 set samplex trays

3 sets of 100gm washed, air dried cuttings (Air dried-plastic bags), distribution: 1 SAGASCO, 2 BMR, 3 DMR.

INTERVAL	BOX No.	INTERVAL	BOX No.
400-1284m	1	1551-1800m	3
1284-1551m	2	1800-2223m	4

One set of Bulk 500gm washed cuttings Samples (Air dried cloth-bags) 405m to 1200m at 10m int and 1200 to 2223m at 3m int, distribution: SAGASCO.

BOX INTERVAL	BOX No.
400-900m	1
900-1281m	2
1281-1395m	3
1410-1554m	4
1554-1794m	5
1794-2001m	6
2001-2223m	7

Composite samples over 30m from 405 to 2223m, 1 set of 500gm bulk unwashed cuttings, distribution: SAGASCO.

BOX INTERVAL	BOX No.
400-1690m	1
1690-2220m plus FISSION TRACK	2

Fission track samples taken at regular intervals and where directed by wellsite geologist: 1000gm each collected from 1411-1441m, 1785-1803m and 2115-2145m

1 set of 1 litre bottles of flowline-mud sample every 300m and including 50g mud filtrate bottles to SAGASGO.

One box samplex trays, 400-2223m, to GAS @ FUEL EXPLORATION NL.

1 small box of chips from cores 1 and 2 to SAGASCO.

3 SFT gas cylinders collected at atmospheric pressure to SAGASCO.

ADDRESSES:

SAGASCO Resources Ltd.,
c/- Amdel Core Services Pty Ltd.,
31 Flemington St.,
FREWVILLE SA 5063
Attn: Mr Robert East.

Bureau of Mineral Resources
Core and Cuttings Laboratory
80 Collie St.,
FYSHWICK ACT 2609
Attn: Officer-in-charge

Department of Mineral Resources
Gordons Hill Rd.,
ROSNY PARK, TASMANIA.
Attn: Mr Peter Baillie

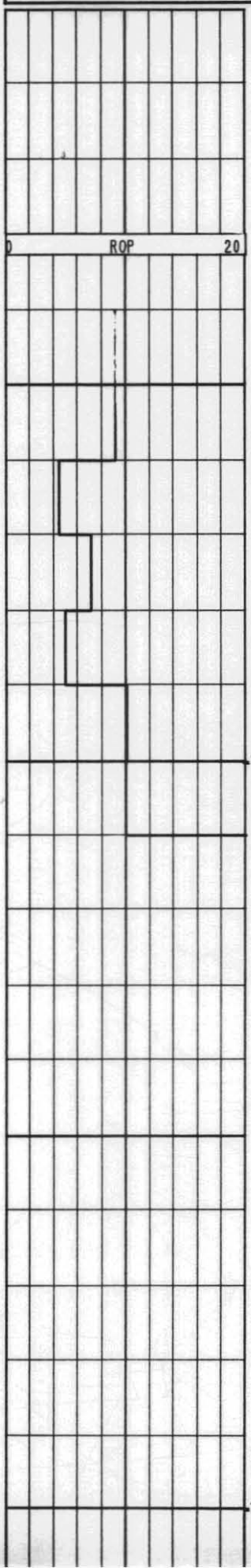
Gas and Fuel Exploration NL
11th Floor
151 Flinders St.,
MELBOURNE VIC 3000
Attn: Mr Andrew Hodgson.

299035

HALLIBURTON GEODATA

CORE #1
1397-1402m
70% RECOVERY

SAGASCO RESOURCES Ltd
KING 1



1397m SANDSTONE WITH SILTSTONE, LAMINATED AND BIOTUBATED.

SANDSTONE: Light brown, silt to very fine grained Quartz, well sorted, sub angular, trace siliceous cement, trace to common Clay, common Mica, common altered Feldspar grains and lithic grains, friable, poor to fair porosity, 70-80% dull patchy yellow white fluorescence, instant streaming milky white cut, thin colourless ring residue.

SILTSTONE: Light brown to light grey brown, non calcareous, micromicaceous, sandy, carbonaceous specks, friable.

SILTSTONE: Dark grey to dark brownish grey, argillaceous, micromicaceous, non calcareous, common disseminated sub angular to round coarse to conglomerate quartz grains, firm, laminated with thin sandy laminations, NO SHOW.

SANDSTONE: Light brown to off white, very fine, very well sorted, sub rounded to round, sub spherical, weak siliceous cement, trace Feldspar and black lithic grains, friable, good porosity, 100% dull to dim pale yellow to straw, uniform fluorescence, instant to slow streaming to blooming milky white cut, thin to moderate pale brown residue film.

SANDSTONE: A/A, moderate petroliferous odour, show A/A but predominantly straw yellow fluorescence and very dull to dull.

SILTSTONE: Light brown, argillaceous, carbonaceous specks, non calcareous, micromicaceous, friable, sticky, 20% moderately bright streaky fluorescence, slow milky blooming cut, thin colourless residue.

5 cm

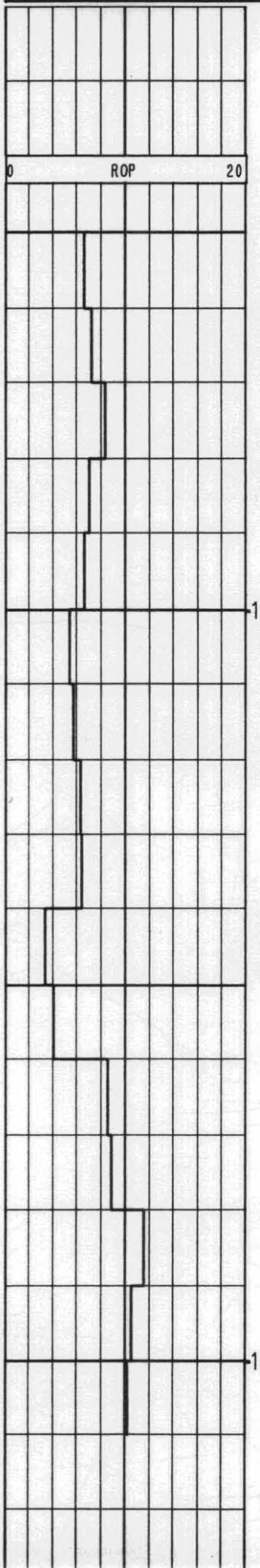
SCALE 1:40

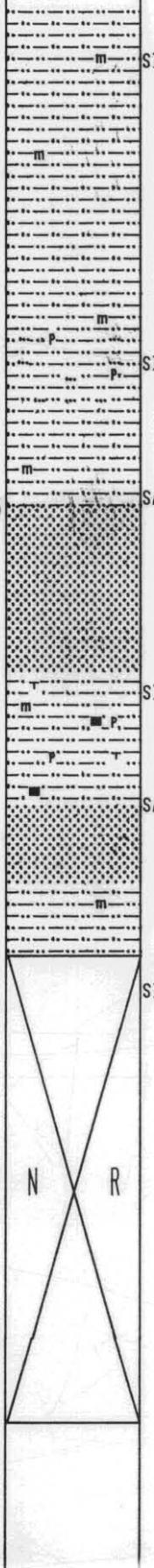
299036

HALLIBURTON GEODATA

CORE #2
1402-1410.5m
67% RECOVERY

SAGASCO RESOURCES Ltd
KING 1





SILTSTONE: Grey to brown grey, very argillaceous, micromicaceous, non calcareous, firm to sub fissile, NO SHOW.

SILTSTONE: Grey to brown grey, very argillaceous, micromicaceous, non calcareous, firm to sub fissile with very fine sandy microlaminations, trace pyrite, NO SHOW.

SANDSTONE: Very light grey, off white, brownish in part, very fine to silt grained, well sorted, sub rounded to round, moderate to good sphericity, trace cement, trace interstitial clay, trace feldspar & lithic grains, friable, good porosity, 80% patchy dull yellow fluorescence, instant to slow blooming milky white cut, thin colourless residue film, weak petroleum odour.

SILTSTONE: Grey to brownish grey, argillaceous, micromicaceous, trace Pyrite nodules, scattered very coarse quartz grains, trace carbonaceous specks, laminated, NO SHOW.

SANDSTONE: Off white, very fine grained, sub rounced to round, good sphericity, well sorted, trace to nil cement, trace interstitial clay, generally clean, friable, good porosity, strong petroliferous odour, 100% very dull uniform yellow fluorescence, instant to slow blooming moderate bright milky cut fluorescence, thin colourless film residue.

SILTSTONE: Grey to brown grey, non calcareous, micromiccceous, firm, laminated, NO SHOW.

5 cm

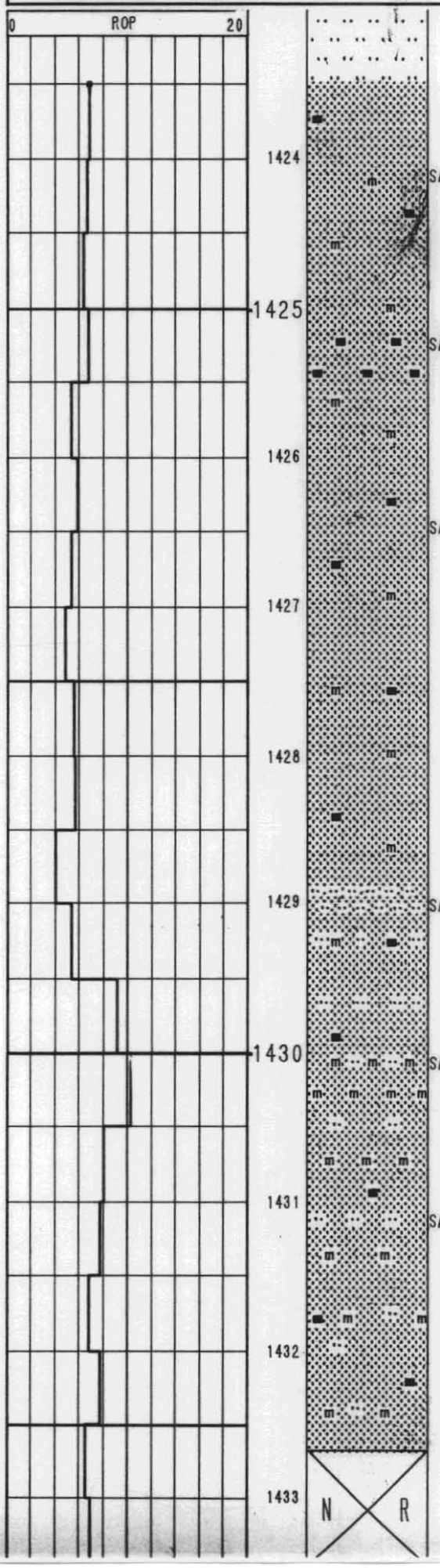
SCALE 1:40

299037

HALLIBURTON GEODATA

CORE #3
1423.5-1434m
89% RECOVERY

SAGASCO RESOURCES Ltd
KING 1



SANDSTONE: With dark brown laminations, light grey to off white, very fine, very well sorted, sub rounded to round, good sphericity, unconsolidated, very friable, trace of interstitial white clay, common Mica, trace black carbonaceous grains, quartzose, very poor visible porosity, NO SHOW.

SANDSTONE: A/A with dark carbonaceous rich microlaminations and trace altered Feldspars, thinly bedded, trace interstitial clay, poor porosity, NO SHOW.

SANDSTONE: Massive off white, very fine grained, sub rounded, well sorted, trace siliceous cement, common altered Feldspars, common scattered black carbonaceous grains, friable to firm, poor to fair porosity, NO SHOW.

SANDSTONE: A/A with thin parellel bedding, very fine to silt sized grains, grading to sandy Siltstone, NO SHOW.

SANDSTONE: Off whit to light grey, A/A, very fine to silt, abundant Mica, traces of bioturbation and abundant carbon rich wispy laminations, no porosity, NO SHOW.

SANDSTONE: Off white to light grey, very fine grained, well sorted, sub rounded, sub spherical, trace siliceous cement, moderate interstitial clay, common Mica, common carbon rich wispy microlaminations, trace altered Feldspars, trace bioturbated, no porosity, NO SHOW.

5 cm

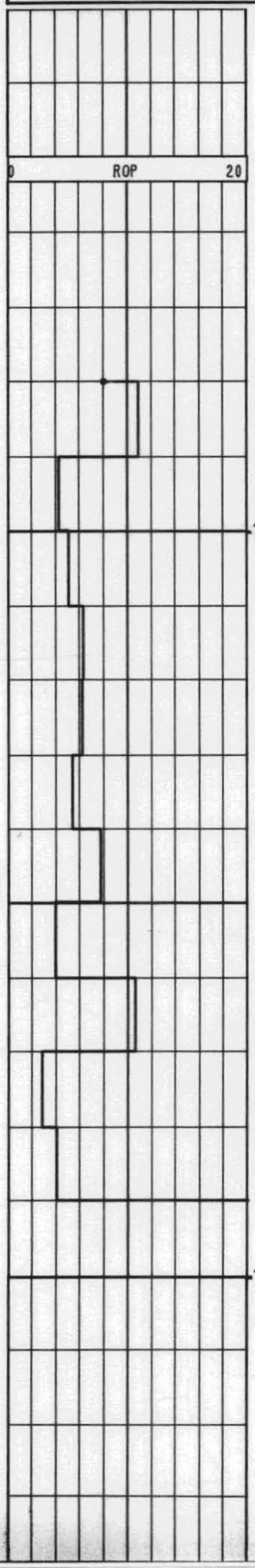
SCALE 1:40

299038

HALLIBURTON GEODATA

CORE #4
1434-1440m
83% RECOVERY

SAGASCO RESOURCES Ltd
KING 1



1434

SILTSTONE: Light brownish grey, abundant argillaceous matrix, carbonaceous specks, micromicaceous, unconsolidated, friable, no porosity, NO SHOW.

SILTY SANDSTONE WITH INTER LAMINATIONS OF ARGILLACEOUS SILTSTONE.

1435

SILTY SANDSTONE: Light grey, very fine grained grading to silt, well sorted, sub angular, good sphericity, unconsolidated, abundant brown clay matrix in argillaceous silt laminations, Mica, carbonaceous specks, trace porosity, NO SHOW.

1436

SILTSTONE: Light grey, trace Mica, trace Feldspar and carbonaceous specks, slightly argillaceous in part, unconsolidated, poor porosity, NO SHOW.

SILTSTONE: Light grey, trace Mica, trace Feldspar and carbonaceous specks, slightly argillaceous in part, unconsolidated, poor porosity, very finely laminated with dark brown carbonaceous rich cross laminations, with depth becoming abundant with carbonaceous specks, poor porsity, NO SHOW.

1437

SILTSTONE WITH COAL LAMINATIONS AND CARBONIZED PLANT FOSSILS.

1438

SILTSTONE: A/A with abundant Clay, Mica and carbonaceous specks, no porosity NO SHOW.

COAL : Black, dull, firm, brittle, blocky, even fracture.

COAL : Very dark brown to black, soft to firm, dull, sub blocky, Lignitic to sub Bituminous.

1439

N R

1440

5 cm

SCALE 1:40

FORMATION EVALUATION LOG FORMAT

The **Formation Evaluation Log** for **King-1** was plotted using a Samsung SD820 386sx PC microcomputer connected to a Zeta Plotter.

The **Formation Evaluation Log** was drawn using a scale of 1: 500 from surface to TD (2223m), all depths being measured below the rotary table. It is divided into 10 columns which, from left to right, display the following information:

1) Rate of penetration (ROP), Bit Data, Drilling Parameters (WOB, RPM, LPM, PP), and Midnight Depths.

2) Depth labelled every 50 Metres, Casing Information, Deviation Surveys, and Sidewall Core Information.

3) Wellsite geologist's percentage cuttings lithology of each sample taken from the shakers.

4) Graphical representation of any oil shows observed in the mud or cuttings.

5) Total hydrocarbon gas content (this ranges from 0 units to 100 units), and percentage breakdown of the components (C1 to C5). The Cuttings gas content of the samples as determined using the cuttings gas detector is also contained in this column, and ranges from 0 to 100 units.

6) Chromatograph analysis of the gas in the returning mud stream (C1-C5), trip and connection gas concentrations. The scale is logarithmic and ranges from 1 ppm to 100K ppm.

7) Percentage calcite and dolomite content of the samples.

8) Graphical representation of any fluorescence cut observed in the cuttings.

9) Interpreted lithology column.

10) Detailed lithological descriptions, mud properties, details of wireline log runs, and any other relevant information.

COPY OF THE FORMATION EVALUATION LOG

See Rear Enclosure 1

SECTION 3: OVERPRESSURE EVALUATION

Pore Pressure Regime and LOT/PIT Results
DcExp Raw Data Plot
Shifted DcExp Plot with Eaton Overlay
ΔT Sonic Plot with Eaton Overlay
Pressure Gradient Analysis Plot
Resistivity, Gamma-Ray and Density Plots
Migrated Flowline Temperature Plot
Pressure Data Printout
Format of the Pressure Evaluation Log
Copy of the Pressure Evaluation Log

PORE PRESSURE REGIME and FORMATION TESTS RESULTS

King-1, pore pressures were continuously evaluated from 405m to TD (2223m). Parameters measured and calculated included corrected drilling exponent (**DcExp**), shale density, flowline temperatures, delta T, flowline mud conductivity, and total gas values. Observations of hole conditions, for example drag and overpull, torque, trip and connection gases and cuttings condition ie pressure cavings and rock flour were also used.

In addition, fracture gradients were continuously calculated using the Daines' method. For these calculations, Formation Integrity Test results were taken as true Leak Off, even if the formation was not pressured to the point of fracture, in order to provide a sufficient safety margin during the drilling of the well.

The overburden gradient used for these calculations and for the formulation of Eaton Overlays was calculated from the wireline sonic data.

Formation integrity tests performed during the drilling of **King-1** and RFT results were used for the re-calculation of fracture gradients while drilling this well and for re-evaluation after TD.

DEPTH	TYPE OF TEST	RESULT
407M	LEAK OFF TEST	14.55 PPG EMW 1.74 SG EMW
1248M	PRESSURE INTEGRITY TEST	14.24 PPG EMW 1.71 SG EMW

Selected RFT results

DEPTH m	RESULT ppg	DEPTH	RESULT
1410	8.72	1785	8.67
1459	8.71	1915	8.65
1486	8.7	2122	8.51
1713	8.68	2053	8.52

LITHOLOGY SUMMARY

King 1 drilled through three basic geological units the Torquay, Demons Bluff Formation and the Eastern View Coal Measures. Both the Torquay and Demons Bluff Formation are marine formations unlike the Eastern View Coal Measures. Within the top marine unit, the Torquay, the first lithology intersected was from the Intra-Torquay. This consisted of calcarenite Limestone with minor interbedded Claystone at its top. With depth the Claystone component increased until at 540m the formation became 100% Claystone. From the early Miocene at 775m to the top of the Demons Bluff Formation, the Torquay consisted of Limestone and Claystone in varying proportions. The base of the Torquay is marked by a moderately sorted medium sandstone. The Demons Bluff Formation, 1050-1247m, consisted of Claystone grading to very argillaceous Siltstone, minor, very fine Sandstone, and some Dolomite was also present. The Upper Eastern View Coal Measures (1247m) were marked by a change to a non-calcareous claystone and a medium to very coarse sandstone. The Eastern View Coal Measures can be summarised as an interbedded sequence of very fine to coarse Sandstone, argillaceous Siltstone, non-calcareous, carbonaceous and often micromicaceous Claystone, and dull black to brown Coal.

CORRECTED DRILLING EXPONENT

From the shifted Dxc plot, the Dxc appears to roughly follow a normal compaction trend in the Torquay and Demons Bluff Formation. However, since these sections were mainly Limestone and soft claystone, the Dxc is of limited used for any quantitative analysis. From 1100-1220m connection gases of 25-106 units ABG suggested a pore pressure increase from 1.032sg to 1.054-1.066 sg EMW. The Dxc, however, does not show a cut back over this region but rather displays a erratic trend due to the introduction of Siltstone in the formation.

Within the Eastern View Coal Measures, a new Dxc NCT was established, reflecting the change in depositional environment. From 1247m down to the first core point (1397m), the Dxc shows a normal trend, allowing for variations caused by sand and silt sections. The Dxc trend in the hole section after the cored interval (1397-1440m) down to 1505m can be disregarded due to the predominantly sandstone lithology. Below 1505m three cutbacks are present in the Dxc: 1715-1760m which cutback was caused by the presence of coal and siltstone, 1870-1920m caused by the presence of coal and siltstone and 2035-2040m, this cutback was caused by 3-4m thick coal horizon, an increase in the background gas at this depth also resulted from the coal.

In conclusion the Dxc indicates that the pore pressure within **King-1** is normal. Connection gasses from 1100-1220m may indicate a slight overpressured zone, however the Dxc could neither confirm nor reject its presence, due to its erratic nature through this section, caused by drilling through siltstone.

GAS

During the drilling of the 445mm (17 1/2") hole, the background gas steadily increased with depth up to 60-80 units at around 1092m. Below this depth the Background gas dropped down to the 35-55 units range. Occasional gas peaks occurred up to 303 units at 1059m, however, there was no significant step in the background gas which might indicate overpressure. Connection gas peaks were recorded 25 to 106u ABG (above background gas level) from 1100 to 1220m. As the mud weight was 1.102-1.114 sg the pore pressure was estimated to be 1.051-1.066 sg EMW through this interval.

During the drilling of the 216mm (8 1/2") hole (1246m-2223m TD), background gas generally slowly increased with depth from 7-11 units at 1280m to 12-20 from 1950m to TD. Coal gas peaks were present throughout this section and ranged from as low as 7 units up to 211 units at 2050m. One zone of interest was present, from 2010-2034m, background gas increased through a claystone section from 4-10 units at 2010m to 78 units at 2034m. Immediately below this section was a coal bed giving a gas peak of 211 units. The Dxc through this section shows a subtle cut back, however it is within the Dxc's standard deviation and hence is not considered significant. There are two explanations to account for this increase in background gas through this clay section (2010-2034m), either the clay is slightly overpressured, which is unlikely since the trip gas from 2041m was only 74 units, also the background gas dropped down quickly below this section and the Dxc does not confirm overpressure, or, coal gas from the underlying coal has infiltrated the clay through small sandstone stringers that were present.

In conclusion, the presence of connection gas between 1100 and 1220m suggests that the pore pressure within this region is 1.051-1.066sg EMW. Low background gas and the lack of connection gas in the rest of the hole suggests a normal pore-pressure regime.

BULK DENSITY and SHALE DENSITY

Bulk and shale density measurements were performed rarely while drilling King-1 as the shale/claystone was dispersive in water and generally hydroturgic throughout the well. Since the formation was unsuitable to establish a trend little information can be gained from this analysis.

TEMPERATURE

King 1 was drilled in 74m of water. Trend analysis was difficult to asses due to frequent mud mixing and erratic temperature probe output. The trends seen did not appear to show any abnormal deviations from normal when these factors were taken into consideration. The geothermal gradient for the well was suggested to be 3.1°C/100m, which is within the normal range. A predicted Bottom Hole Temperature is about 70°C.

WIRELINE DATA

Wireline sonic data was obtained over the entire hole section. Formation density was obtained over 216mm (8 1/2") hole.
The sonic plot, like the Dxc plot, shows two different compaction trends, corresponding to the two different environments of deposition the Torquay/Demons Bluff Formation (marine) and the Eastern View Coal Measures (fresh water). When plotted with an Eaton Overlay, the sonic data did not suggest abnormal pore pressures. Formation density similarly shows no overpressure.

OTHER DATA

RFT data from 1403-1468m measured formation pore pressure at 1.04-1.045 SG (8.7-8.72ppg) from 1713-2053m formation pressures ranged from 1.021-1.04 SG (8.52-8.68ppg).
No pressure cavings or any other indications of over-pressure were observed while drilling **King 1.**

SUMMARY and CONCLUSION

Data from the Dxc, sonic, FDCs, RFTs and the gas, suggest that **King-1** has a normal pore pressure regime, with the exception of the region 1100m- 1220m where the pore-pressure reaches 1.051-1.066 sg EMW.

RAW DcExp PLOT

Raw, untreated data as recorded whilst drilling the well, with no attempt made to allow for bit 'shifting' effects.

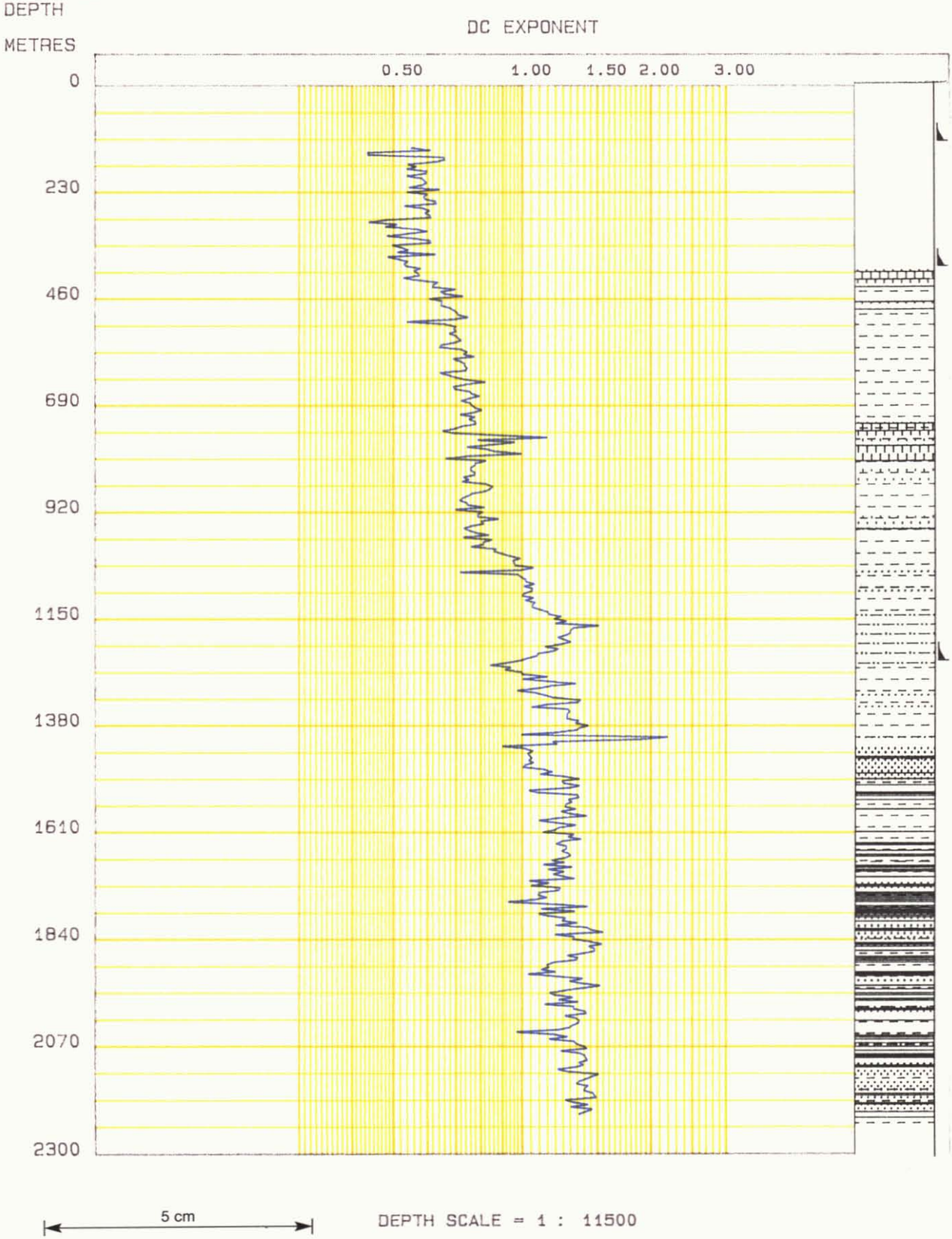
299647

DC EXPONENT PLOT

Operator: SAGASCO RESOURCE

Well number: KING 1

HALLIBURTON GEODATA



5 cm

DEPTH SCALE = 1 : 11500

SHIFTED DcExp WITH EATON OVERLAY

This Plot consists of data points which have been analyzed and re-positioned to allow for suspect bit "shifting" effects, different hole size effects, marked changes in hydraulics, and occasional unconformities. This is made in respect to the normal compaction trend, which remains constant for the entire well. This shifting allows for quantitative interpretation For this report, the Dxc values have been incremented by the appropriate amounts to enable the construction of a continuous plot against both the normal compaction trend and the Eaton overlay. The Eaton overlay is derived from the overburden gradient obtained from wireline data.

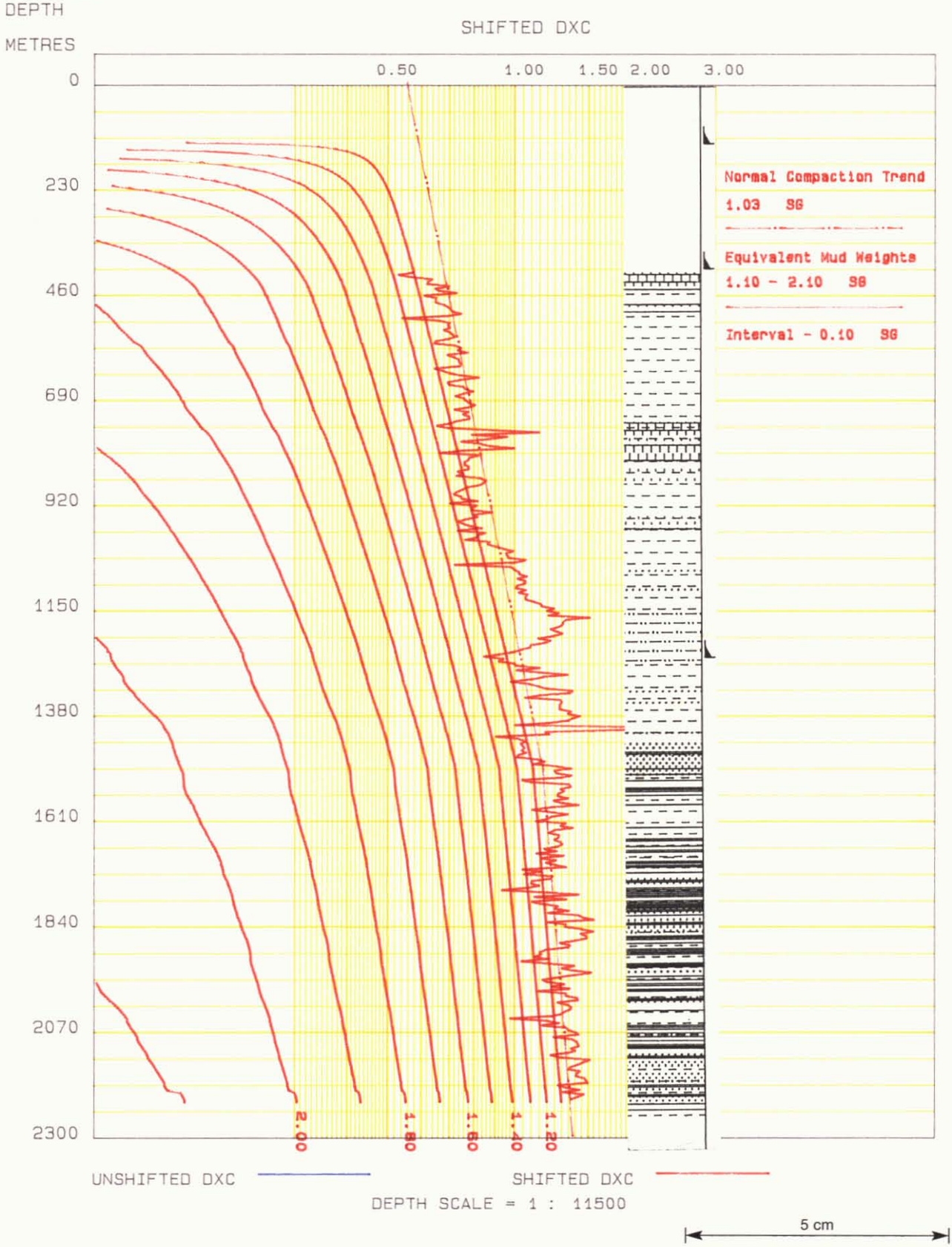
299649

SHIFTED DXC PLOT

HALLIBURTON GEODATA

Operator: SAGASCO RESOURCE

Well number: KING 1



299050

ΔT SONIC PLOT WITH EATON OVERLAY

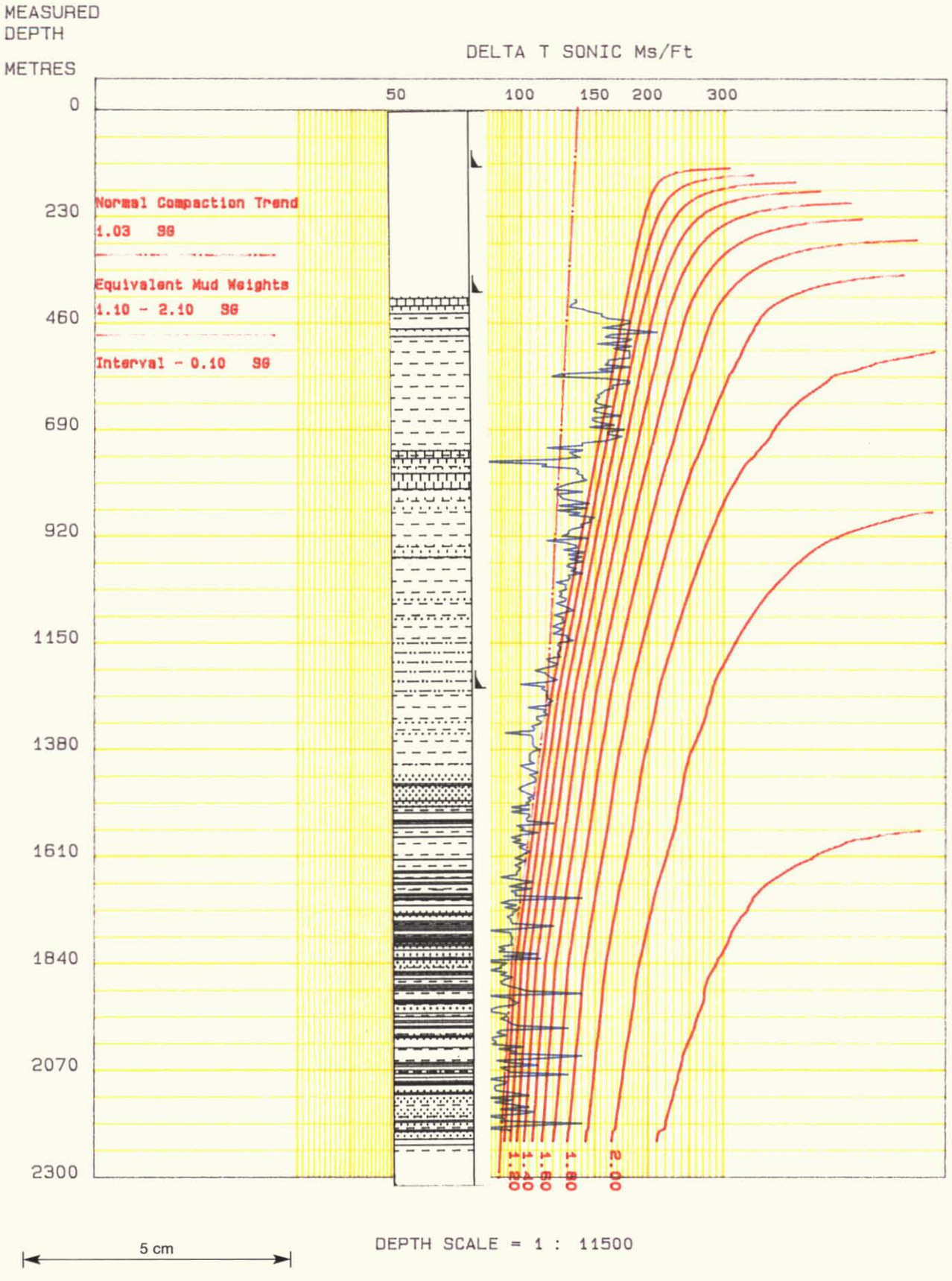
299051

DELTA T SONIC PLOT

Operator: SAGASCO RESOURCE

Well number: KING 1

HALLIBURTON GEODATA



PRESSURE GRADIENT ANALYSIS PLOT

This plot displays the pressure gradients for the well. The formation pressure gradient plotted is the estimate whilst drilling. The overburden gradient is calculated from bulk densities or from wireline log information. The fracture gradient is then calculated by using this same overburden gradient and a shaliness index (Poisson's ratio).

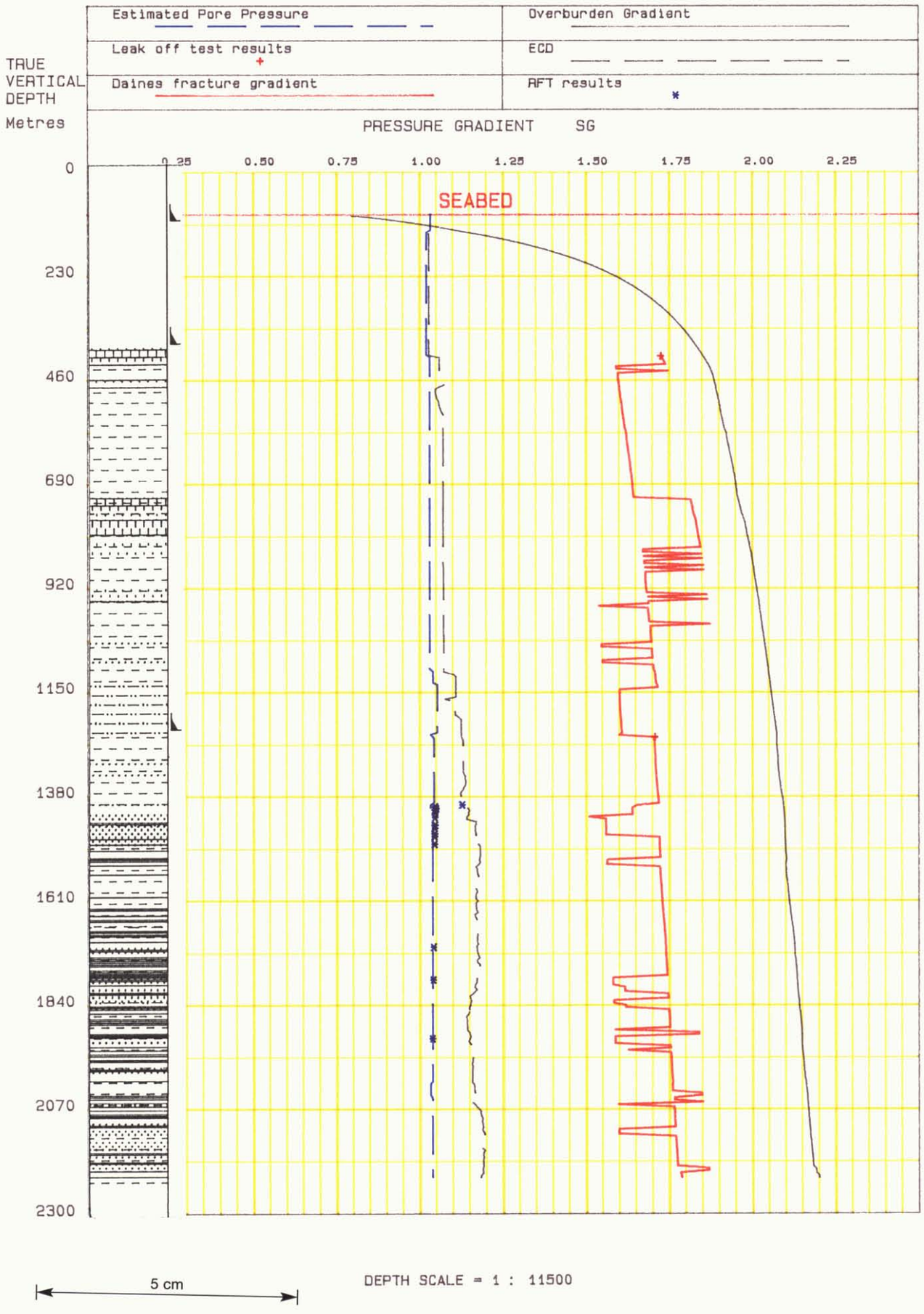
299053

PRESSURE GRADIENT vs DEPTH PLOT

Operator: SAGASCO RESOURCE

Well number: KING 1

HALLIBURTON GEODATA



RESISTIVITY, GAMMA-RAY, and DENSITY PLOTS

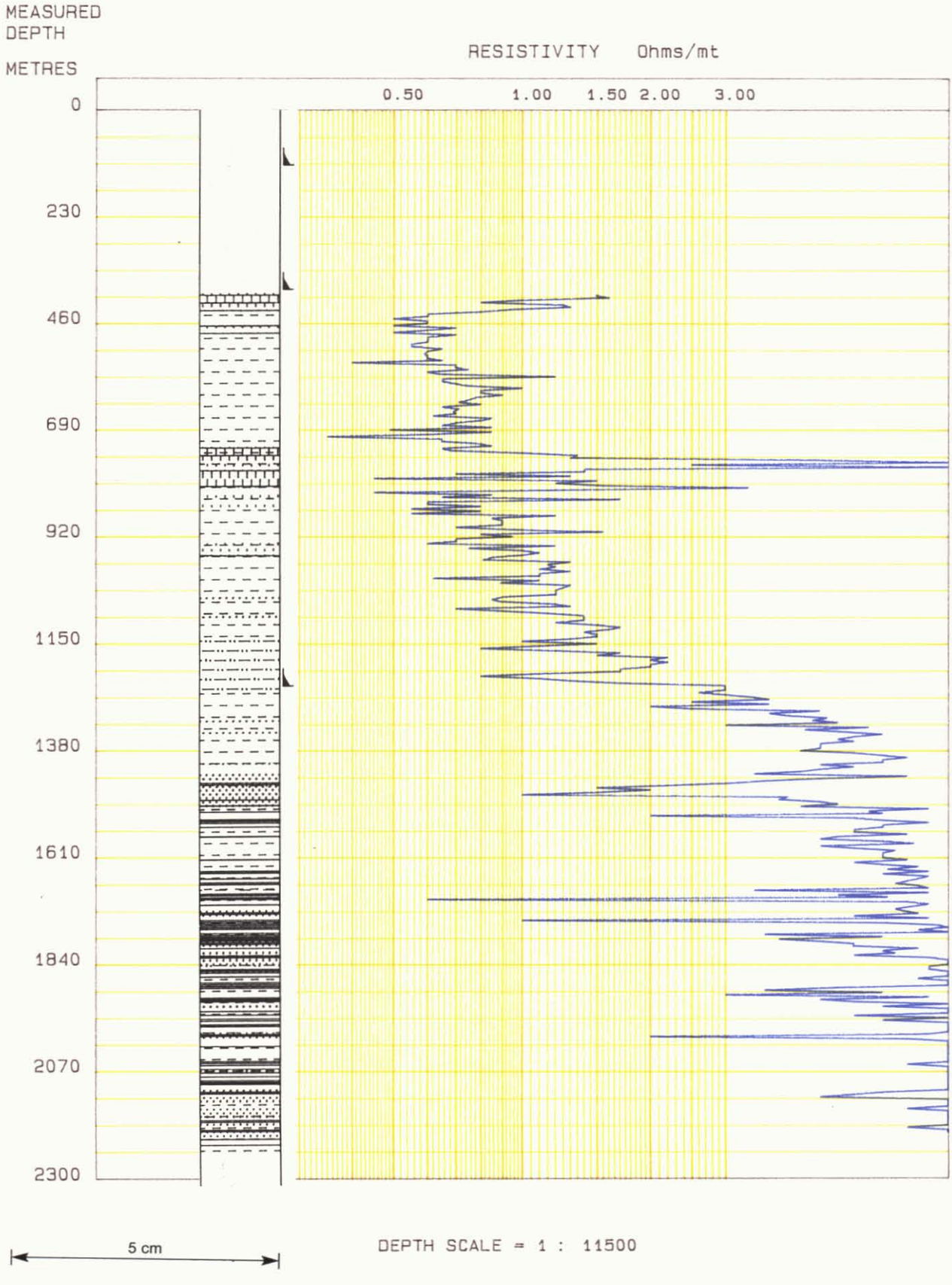
299055

RESISTIVITY PLOT

HALLIBURTON GEODATA

Operator: SAGASCO RESOURCE

Well number: KING 1



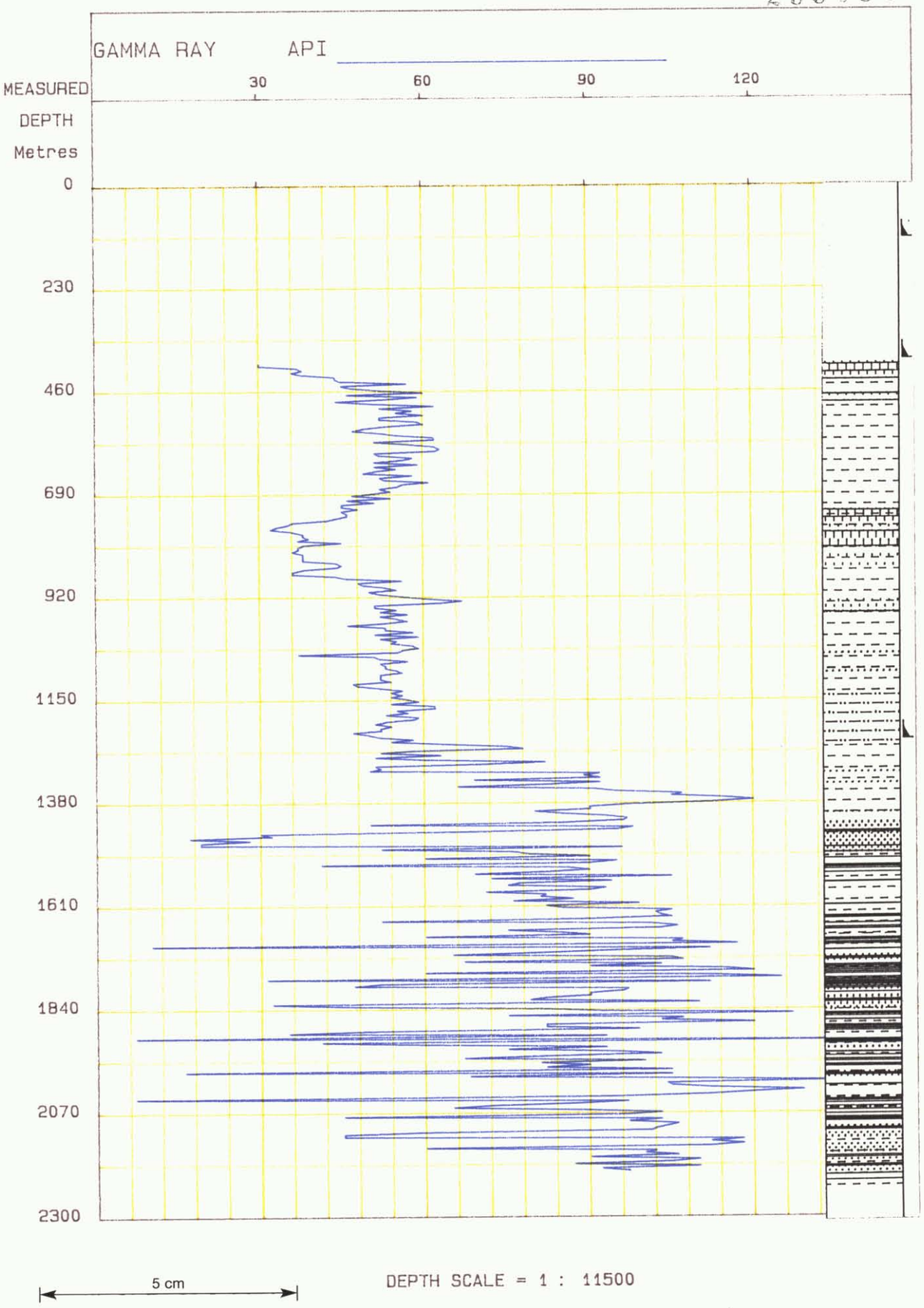
DEPTH SCALE = 1 : 11500

GAMMA RAY PLOT

Well No: KING 1
Operator: SAGASCO RESOURCES

HALLIBURTON GEODATA

299056

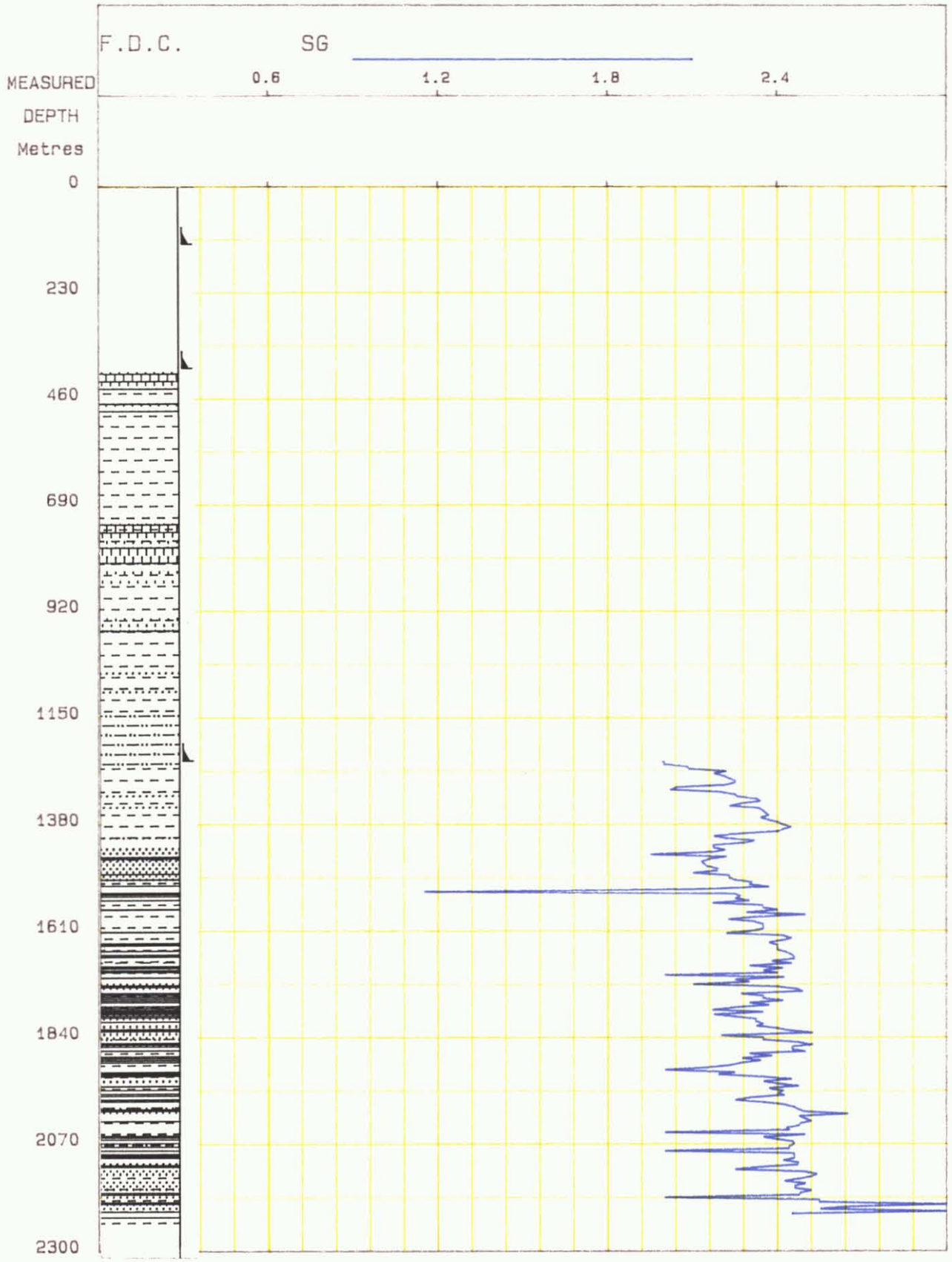


FORMATION DENSITY PLOT

Well No: KING 1
Operator: SAGASCO RESOURCES

HALLIBURTON GEODATA

299057



5 cm

DEPTH SCALE = 1 : 11500

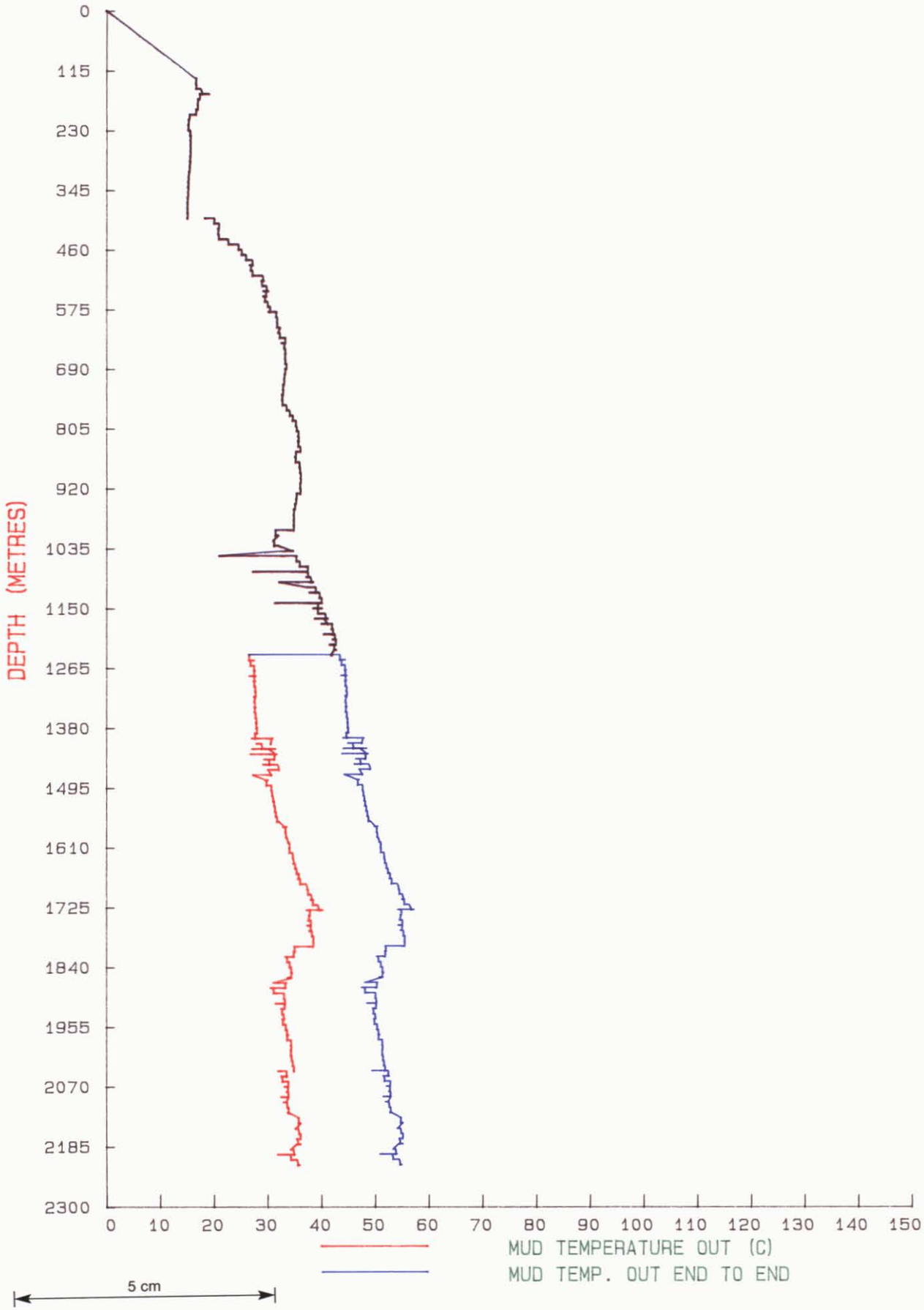
MIGRATED FLOWLINE TEMPERATURE PLOT

299059

HALLIBURTON GEODATA LTD.

FLOWLINE TEMPERATURE PLOT.

Operator: SAGASCO RESOURCES Well No: KING 1



PRESSURE DATA PRINTOUT

299061

DEPTH METRE	CORR. DRILLING EXPONENT	SONIC TRANSIT TIME	RESIST	GAMMA RAY API	FORM. DENSITY S.G.	OVERBURD GRADIENT SG	POISSONS RATIO	DAINES FRA GRAD SG	ECD SG	HORIZ GRAV STR SG	HORIZ TECT STR SG	EFFECT VERT STR SG	RECORD NUMBER
410	0.58	135	1.00	37	#####	1.86	0.280	1.73	1.06	0.32	0.38	0.82	82
415	0.53	135	0.80	38	#####	1.86	0.280	1.73	1.06	0.32	0.38	0.83	83
420	0.57	131	1.25	36	#####	1.86	0.280	1.73	1.06	0.32	0.38	0.83	84
425	0.64	130	1.30	38	#####	1.87	0.280	1.74	1.06	0.33	0.38	0.84	85
430	0.62	140	0.95	44	#####	1.87	0.170	1.59	1.06	0.17	0.38	0.84	86
435	0.62	145	0.80	44	#####	1.88	0.170	1.59	1.06	0.17	0.38	0.84	87
440	0.70	155	0.60	45	#####	1.88	0.280	1.75	1.06	0.33	0.39	0.85	88
445	0.65	155	0.60	57	#####	1.88	0.170	1.59	1.06	0.17	0.39	0.85	89
450	0.66	160	0.50	45	#####	1.88	0.170	1.59	1.06	0.17	0.39	0.85	90
455	0.73	180	0.60	47	#####	1.88	0.170	1.59	1.07	0.17	0.39	0.85	91
460	0.61	180	0.60	52	#####	1.89	0.170	1.60	1.07	0.17	0.39	0.85	92
465	0.65	170	0.50	60	#####	1.89	0.170	1.60	1.07	0.18	0.39	0.86	93
470	0.65	155	0.70	46	#####	1.89	0.170	1.60	1.07	0.18	0.39	0.86	94
475	0.65	180	0.60	59	#####	1.89	0.170	1.60	1.06	0.18	0.39	0.86	95
480	0.68	209	0.50	53	#####	1.89	0.170	1.60	1.05	0.18	0.39	0.86	96
485	0.69	162	0.70	44	#####	1.89	0.170	1.60	1.05	0.18	0.39	0.86	97
490	0.71	157	0.60	51	#####	1.90	0.170	1.60	1.05	0.18	0.39	0.86	98
495	0.71	182	0.60	62	#####	1.90	0.170	1.60	1.05	0.18	0.39	0.86	99
500	0.75	175	0.60	52	#####	1.90	0.170	1.60	1.05	0.18	0.39	0.87	100
505	0.69	151	0.55	58	#####	1.90	0.170	1.61	1.06	0.18	0.40	0.87	101
510	0.54	182	0.55	55	#####	1.90	0.170	1.61	1.06	0.18	0.40	0.87	102
515	0.66	165	0.65	60	#####	1.90	0.170	1.61	1.06	0.18	0.40	0.87	103
520	0.70	180	0.60	52	#####	1.90	0.170	1.61	1.06	0.18	0.40	0.87	104
525	0.69	180	0.59	52	#####	1.90	0.170	1.61	1.06	0.18	0.40	0.87	105
530	0.70	180	0.60	59	#####	1.91	0.170	1.61	1.07	0.18	0.40	0.87	106
535	0.68	180	0.60	60	#####	1.91	0.170	1.61	1.07	0.18	0.40	0.87	107
540	0.70	160	0.65	53	#####	1.91	0.170	1.61	1.07	0.18	0.40	0.88	108
545	0.71	160	0.40	49	#####	1.91	0.170	1.61	1.07	0.18	0.40	0.88	109
550	0.72	157	0.70	47	#####	1.91	0.170	1.61	1.08	0.18	0.40	0.88	110
555	0.69	180	0.70	52	#####	1.91	0.170	1.61	1.07	0.18	0.40	0.88	111
560	0.65	152	0.75	55	#####	1.91	0.170	1.61	1.07	0.18	0.40	0.88	112
565	0.64	165	0.60	62	#####	1.92	0.170	1.62	1.07	0.18	0.40	0.88	113
570	0.73	124	0.65	62	#####	1.92	0.170	1.62	1.07	0.18	0.40	0.89	114
575	0.75	118	1.20	51	#####	1.92	0.170	1.62	1.07	0.18	0.41	0.89	115
580	0.73	160	0.65	57	#####	1.92	0.170	1.62	1.07	0.18	0.41	0.89	116
585	0.78	180	0.65	62	#####	1.92	0.170	1.62	1.07	0.18	0.41	0.89	117
590	0.69	180	0.70	63	#####	1.92	0.170	1.62	1.07	0.18	0.41	0.89	118
595	0.72	163	0.75	62	#####	1.93	0.170	1.62	1.07	0.18	0.41	0.89	119
600	0.74	165	1.00	51	#####	1.93	0.170	1.62	1.07	0.18	0.41	0.90	120
605	0.74	157	0.80	52	#####	1.93	0.170	1.62	1.07	0.18	0.41	0.90	121
610	0.75	155	0.80	58	#####	1.93	0.170	1.63	1.07	0.18	0,41	0.90	122
615	0.74	151	0.90	56	#####	1.93	0.170	1.63	1.07	0.18	0.41	0.90	123
620	0.64	153	0.78	51	#####	1.93	0.170	1.63	1.07	0.18	0.41	0.90	124
625	0.67	150	0.75	59	#####	1.93	0.170	1.63	1.07	0.18	0.41	0.90	125
630	0.70	149	0.71	51	#####	1.94	0.170	1.63	1.07	0.19	0.41	0.90	126
635	0.75	153	0.80	55	#####	1.94	0.170	1.63	1.07	0.19	0.41	0.91	127
640	0.82	163	0.65	51	#####	1.94	0.170	1.63	1.07	0.19	0.41	0.91	128
645	0.74	148	0.71	49	#####	1.94	0.170	1.63	1.07	0.19	0.41	0.91	129
650	0.69	148	0.69	58	#####	1.94	0.170	1.63	1.07	0.19	0.41	0.91	130
655	0.70	157	0.70	52	#####	1.94	0.170	1.63	1.07	0.19	0.42	0.91	131

299062

DEPTH METRE	CORR. DRILLING EXPONENT	SONIC TRANSIT TIME	RESIST	GAMMA RAY API	FORM. DENSITY S.G.	OVERBURD GRADIENT SG	POISSONS RATIO	DAINES FRA GRAD SG	ECD SG	HORIZ GRAV STR SG	HORIZ TECT STR SG	EFFECT VERT STR SG	RECORD NUMBER
660	0.75	172	0.62	53	*****	1.94	0.170	1.63	1.07	0.19	0.42	0.91	132
665	0.77	147	0.85	61	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.91	133
670	0.80	147	0.80	56	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.91	134
675	0.75	154	0.70	55	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.92	135
680	0.72	166	0.65	52	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.92	136
685	0.76	145	0.85	54	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.92	137
690	0.77	175	0.49	51	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.92	138
695	0.78	160	0.85	47	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.92	139
700	0.81	160	0.60	54	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.92	140
705	0.77	173	0.35	46	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.92	141
710	0.72	165	0.65	51	*****	1.95	0.170	1.64	1.07	0.19	0.42	0.92	142
715	0.78	158	0.65	45	*****	1.96	0.170	1.64	1.07	0.19	0.42	0.92	143
720	0.75	139	0.80	45	*****	1.96	0.170	1.64	1.07	0.19	0.42	0.92	144
725	0.78	139	0.85	48	*****	1.96	0.280	1.81	1.07	0.36	0.42	0.93	145
730	0.78	115	0.65	45	*****	1.96	0.280	1.82	1.07	0.36	0.42	0.93	146
735	0.73	140	0.69	46	*****	1.96	0.280	1.82	1.07	0.36	0.42	0.93	147
740	0.70	130	1.00	46	*****	1.96	0.280	1.82	1.07	0.36	0.42	0.93	148
745	0.65	133	1.35	44	*****	1.97	0.280	1.82	1.07	0.36	0.43	0.93	149
750	0.70	138	1.30	42	*****	1.97	0.280	1.82	1.07	0.36	0.43	0.93	150
755	0.89	120	5.00	36	*****	1.97	0.280	1.82	1.07	0.36	0.43	0.94	151
760	1.15	80	20.00	35	*****	1.97	0.280	1.83	1.07	0.37	0.43	0.94	152
765	0.79	115	2.50	33	*****	1.97	0.280	1.83	1.07	0.37	0.43	0.94	153
770	0.96	112	15.00	32	*****	1.98	0.280	1.83	1.07	0.37	0.43	0.94	154
775	0.86	135	1.40	36	*****	1.98	0.280	1.83	1.07	0.37	0.43	0.95	155
780	0.74	137	1.40	38	*****	1.98	0.280	1.83	1.07	0.37	0.43	0.95	156
785	0.83	135	0.70	38	*****	1.98	0.280	1.83	1.07	0.37	0.43	0.95	157
790	0.87	140	1.30	39	*****	1.98	0.280	1.83	1.07	0.37	0.43	0.95	158
795	1.00	140	0.45	37	*****	1.98	0.280	1.84	1.07	0.37	0.43	0.95	159
800	0.75	143	1.50	45	*****	1.98	0.280	1.84	1.07	0.37	0.43	0.95	160
805	0.66	133	1.20	38	*****	1.99	0.280	1.84	1.07	0.37	0.43	0.95	161
810	0.83	127	1.50	37	*****	1.99	0.280	1.84	1.07	0.37	0.44	0.96	162
815	0.78	122	3.40	37	*****	1.99	0.280	1.84	1.07	0.37	0.44	0.96	163
820	0.77	120	1.20	36	*****	1.99	0.280	1.84	1.07	0.37	0.44	0.96	164
825	0.76	140	0.45	38	*****	1.99	0.280	1.84	1.07	0.37	0.44	0.96	165
830	0.76	122	0.85	38	*****	1.99	0.280	1.84	1.07	0.37	0.44	0.96	166
835	0.78	124	0.65	38	*****	1.99	0.170	1.67	1.07	0.20	0.44	0.96	167
840	0.78	126	1.70	38	*****	2.00	0.170	1.67	1.07	0.20	0.44	0.96	168
845	0.73	136	0.60	44	*****	2.00	0.280	1.85	1.07	0.38	0.44	0.97	169
850	0.75	145	0.60	45	*****	2.00	0.170	1.67	1.07	0.20	0.44	0.97	170
855	0.73	123	0.80	44	*****	2.00	0.280	1.85	1.07	0.38	0.44	0.97	171
860	0.83	143	0.55	38	*****	2.00	0.170	1.67	1.07	0.20	0.44	0.97	172
865	0.86	122	0.80	36	*****	2.00	0.170	1.67	1.07	0.20	0.44	0.97	173
870	0.84	138	0.55	36	*****	2.00	0.280	1.85	1.07	0.38	0.44	0.97	174
875	0.82	130	1.20	44	*****	2.00	0.170	1.67	1.07	0.20	0.44	0.97	175
880	0.77	149	0.85	46	*****	2.01	0.280	1.85	1.07	0.38	0.44	0.97	176
885	0.75	145	0.90	56	*****	2.01	0.170	1.68	1.07	0.20	0.44	0.97	177
890	0.73	146	0.90	48	*****	2.01	0.170	1.68	1.07	0.20	0.44	0.97	178
895	0.72	138	0.90	49	*****	2.01	0.170	1.68	1.07	0.20	0.44	0.98	179
900	0.75	140	0.70	53	*****	2.01	0.170	1.68	1.07	0.20	0.45	0.98	180
905	0.75	132	0.95	55	*****	2.01	0.170	1.68	1.07	0.20	0.45	0.98	181

299063

DEPTH METRE	CORR. DRILLING EXPONENT	SONIC TRANSIT TIME	RESIST	GAMMA RAY API	FORM. DENSITY S.G.	OVERBURD GRADIENT SG	POISSONS RATIO	DAINES FRA GRAD SG	ECD SG	HORIZ GRAV STR SG	HORIZ TECT STR SG	EFFECT VERT STR SG	RECORD NUMBER
910	0.82	129	1.55	50	#####	2.01	0.170	1.68	1.07	0.20	0.45	0.98	182
915	0.70	129	0.80	52	#####	2.01	0.170	1.68	1.07	0.20	0.45	0.98	183
920	0.81	125	0.95	56	#####	2.01	0.170	1.68	1.07	0.20	0.45	0.98	184
925	0.79	144	0.70	60	#####	2.01	0.170	1.68	1.07	0.20	0.45	0.98	185
930	0.79	115	0.70	67	#####	2.02	0.170	1.68	1.07	0.20	0.45	0.98	186
935	0.88	128	0.60	63	#####	2.02	0.280	1.86	1.07	0.38	0.45	0.98	187
940	0.80	135	1.20	51	#####	2.02	0.170	1.68	1.07	0.20	0.45	0.99	188
945	0.82	136	0.75	51	#####	2.02	0.280	1.87	1.07	0.38	0.45	0.99	189
950	0.76	126	1.00	55	#####	2.02	0.170	1.68	1.07	0.20	0.45	0.99	190
955	0.73	141	1.10	52	#####	2.02	0.170	1.69	1.07	0.20	0.45	0.99	191
960	0.76	129	1.00	57	#####	2.02	0.050	1.54	1.07	0.05	0.45	0.99	192
965	0.79	139	0.85	52	#####	2.02	0.170	1.69	1.07	0.20	0.45	0.99	193
970	0.84	130	0.81	55	#####	2.02	0.170	1.69	1.07	0.20	0.45	0.99	194
975	0.73	140	1.30	57	#####	2.02	0.170	1.69	1.07	0.20	0.45	0.99	195
980	0.85	130	1.15	53	#####	2.03	0.170	1.69	1.07	0.20	0.45	0.99	196
985	0.81	128	1.20	46	#####	2.03	0.170	1.69	1.07	0.20	0.45	0.99	197
990	0.81	135	1.10	53	#####	2.03	0.170	1.69	1.07	0.20	0.45	1.00	198
995	0.76	131	1.30	53	#####	2.03	0.170	1.69	1.07	0.20	0.45	1.00	199
1000	0.87	140	1.10	58	#####	2.03	0.280	1.87	1.07	0.39	0.45	1.00	200
1005	0.86	129	1.10	51	#####	2.03	0.170	1.69	1.07	0.20	0.45	1.00	201
1010	0.90	131	0.62	59	#####	2.03	0.170	1.69	1.07	0.20	0.46	1.00	202
1015	0.94	129	1.10	52	#####	2.03	0.170	1.69	1.07	0.20	0.46	1.00	203
1020	0.99	121	0.89	55	#####	2.03	0.170	1.69	1.07	0.20	0.46	1.00	204
1025	0.95	128	1.30	54	#####	2.03	0.170	1.69	1.07	0.21	0.46	1.00	205
1030	0.96	127	1.25	58	#####	2.03	0.170	1.69	1.07	0.21	0.46	1.00	206
1035	0.97	128	1.20	59	#####	2.04	0.170	1.70	1.07	0.21	0.46	1.00	207
1040	1.07	123	1.20	56	#####	2.04	0.170	1.70	1.07	0.21	0.46	1.00	208
1045	0.99	125	1.20	55	#####	2.04	0.050	1.54	1.07	0.05	0.46	1.01	209
1050	0.72	123	0.90	37	#####	2.04	0.050	1.54	1.07	0.05	0.46	1.01	210
1055	0.99	128	0.85	51	#####	2.04	0.170	1.70	1.07	0.21	0.46	1.01	211
1060	1.00	127	0.90	52	#####	2.04	0.170	1.70	1.07	0.21	0.46	1.01	212
1065	1.02	121	1.20	57	#####	2.04	0.170	1.70	1.07	0.21	0.46	1.01	213
1070	1.03	126	1.30	52	#####	2.04	0.170	1.70	1.07	0.21	0.46	1.01	214
1075	1.07	130	0.70	53	#####	2.04	0.170	1.70	1.07	0.21	0.46	1.01	215
1080	1.01	133	0.90	53	#####	2.04	0.050	1.55	1.07	0.05	0.46	1.01	216
1085	1.06	126	1.15	55	#####	2.04	0.050	1.55	1.07	0.05	0.46	1.01	217
1090	1.06	120	1.40	56	#####	2.05	0.170	1.70	1.07	0.21	0.46	1.01	218
1095	1.01	126	1.40	52	#####	2.05	0.170	1.70	1.07	0.21	0.46	1.01	219
1100	1.00	125	1.40	52	#####	2.05	0.170	1.70	1.07	0.21	0.46	1.02	220
1105	1.07	127	1.20	52	#####	2.05	0.170	1.71	1.07	0.21	0.46	1.01	221
1110	1.02	122	1.50	54	#####	2.05	0.170	1.71	1.10	0.21	0.46	1.01	222
1115	1.08	119	1.70	47	#####	2.05	0.170	1.71	1.11	0.21	0.46	1.01	223
1120	1.06	125	1.60	48	#####	2.05	0.170	1.71	1.11	0.21	0.46	1.01	224
1125	1.06	123	1.40	52	#####	2.05	0.170	1.71	1.11	0.21	0.46	1.01	225
1130	1.11	119	1.50	56	#####	2.05	0.170	1.71	1.11	0.21	0.46	1.01	226
1135	1.15	129	1.50	54	#####	2.05	0.170	1.72	1.11	0.20	0.46	1.00	227
1140	1.16	128	1.30	56	#####	2.05	0.170	1.72	1.11	0.20	0.46	1.00	228
1145	1.24	133	1.00	54	#####	2.06	0.080	1.60	1.11	0.09	0.46	1.00	229
1150	1.19	123	1.50	57	#####	2.06	0.080	1.60	1.11	0.09	0.46	1.00	230
1155	1.27	122	1.10	59	#####	2.06	0.080	1.60	1.11	0.09	0.46	1.00	231

299064

DEPTH METRE	CORR. DRILLING EXPONENT	SONIC TRANSIT TIME	RESIST	GAMMA RAY API	FORM. DENSITY S.G.	OVERBURD GRADIENT SG	POISSONS RATIO	DAINES FRA GRAD SG	ECD SG	HORIZ GRAV STR SG	HORIZ TECT STR SG	EFFECT VERT STR SG	RECORD NUMBER
1160	1.20	124	0.80	54	*****	2.06	0.080	1.60	1.11	0.09	0.46	1.00	232
1165	1.52	124	1.20	62	*****	2.06	0.080	1.60	1.08	0.09	0.46	1.00	233
1170	1.32	122	1.70	62	*****	2.06	0.080	1.60	1.11	0.09	0.46	1.00	234
1175	1.30	122	1.50	55	*****	2.06	0.080	1.60	1.11	0.09	0.46	1.01	235
1180	1.30	124	2.20	57	*****	2.06	0.080	1.60	1.11	0.09	0.46	1.01	236
1185	1.27	115	2.00	53	*****	2.06	0.080	1.60	1.11	0.09	0.46	1.01	237
1190	1.21	117	2.20	59	*****	2.06	0.080	1.60	1.11	0.09	0.46	1.01	238
1195	1.26	122	2.00	58	*****	2.06	0.080	1.60	1.11	0.09	0.46	1.01	239
1200	1.30	120	2.00	53	*****	2.06	0.080	1.60	1.11	0.09	0.46	1.01	240
1205	1.23	113	1.70	51	*****	2.07	0.080	1.60	1.12	0.09	0.46	1.01	241
1210	1.13	108	1.70	54	*****	2.07	0.080	1.60	1.13	0.09	0.46	1.01	242
1215	1.22	114	1.10	52	*****	2.07	0.080	1.60	1.13	0.09	0.46	1.01	243
1220	1.18	116	0.80	52	*****	2.07	0.080	1.61	1.13	0.09	0.46	1.01	244
1225	1.09	118	1.10	47	*****	2.07	0.080	1.61	1.13	0.09	0.46	1.01	245
1230	1.08	122	1.30	50	*****	2.07	0.080	1.61	1.13	0.09	0.46	1.02	246
1235	1.03	115	1.70	52	*****	2.07	0.080	1.61	1.13	0.09	0.46	1.02	247
1240	0.99	100	3.00	58	*****	2.07	0.080	1.61	1.13	0.09	0.46	1.02	248
1245	0.92	114	3.00	54	2.00	2.07	0.080	1.60	1.13	0.09	0.47	1.04	249
1250	0.84	112	3.00	64	2.00	2.07	0.170	1.70	1.13	0.21	0.45	1.03	250
1255	0.94	116	2.60	75	2.08	2.07	0.170	1.71	1.13	0.21	0.45	1.03	251
1260	0.91	115	3.00	78	2.09	2.07	0.170	1.71	1.13	0.21	0.45	1.03	252
1265	1.00	115	3.50	58	2.22	2.07	0.170	1.71	1.13	0.21	0.45	1.03	253
1270	1.01	116	3.80	52	2.17	2.07	0.170	1.71	1.13	0.21	0.45	1.03	254
1275	1.15	119	2.50	63	2.21	2.07	0.170	1.71	1.13	0.21	0.45	1.03	255
1280	1.01	116	3.80	51	2.23	2.07	0.170	1.71	1.13	0.21	0.45	1.03	256
1285	1.15	117	2.00	60	2.25	2.07	0.170	1.71	1.13	0.21	0.45	1.03	257
1290	1.34	104	2.50	82	2.25	2.08	0.170	1.71	1.13	0.21	0.45	1.03	258
1295	1.16	115	5.00	70	2.21	2.08	0.170	1.71	1.13	0.21	0.45	1.03	259
1300	1.09	113	3.80	51	2.04	2.08	0.170	1.71	1.13	0.21	0.45	1.03	260
1305	0.98	116	4.20	52	2.02	2.08	0.170	1.71	1.13	0.21	0.45	1.03	261
1310	1.08	109	5.20	50	2.20	2.08	0.170	1.71	1.13	0.21	0.45	1.03	262
1315	1.14	109	4.80	92	2.25	2.08	0.170	1.71	1.13	0.21	0.45	1.03	263
1320	1.19	112	5.50	89	2.26	2.08	0.170	1.71	1.13	0.21	0.45	1.03	264
1325	1.38	111	3.00	92	2.33	2.08	0.170	1.71	1.13	0.21	0.45	1.03	265
1330	1.35	106	6.50	69	2.34	2.08	0.170	1.71	1.13	0.21	0.45	1.04	266
1335	1.14	108	4.60	92	2.27	2.08	0.170	1.71	1.14	0.21	0.45	1.04	267
1340	1.06	107	5.80	82	2.23	2.08	0.170	1.71	1.14	0.21	0.45	1.04	268
1345	1.29	92	7.00	66	2.34	2.08	0.170	1.71	1.14	0.21	0.45	1.04	269
1350	1.30	106	6.00	91	2.35	2.08	0.170	1.71	1.14	0.21	0.46	1.04	270
1355	1.28	107	5.50	95	2.36	2.08	0.170	1.71	1.14	0.21	0.46	1.04	271
1360	1.28	107	6.00	107	2.37	2.08	0.170	1.71	1.13	0.21	0.46	1.04	272
1365	1.28	107	5.00	105	2.34	2.09	0.170	1.71	1.13	0.21	0.46	1.04	273
1370	1.36	107	5.00	115	2.37	2.09	0.170	1.72	1.12	0.21	0.46	1.04	274
1375	1.34	108	5.00	120	2.40	2.09	0.170	1.72	1.12	0.21	0.46	1.04	275
1380	1.43	111	4.50	112	2.42	2.09	0.170	1.72	1.13	0.21	0.46	1.04	276
1385	1.37	107	6.00	97	2.45	2.09	0.170	1.72	1.12	0.21	0.46	1.05	277
1390	1.34	105	7.00	90	2.42	2.09	0.170	1.72	1.12	0.21	0.46	1.05	278
1395	1.21	105	8.00	90	2.40	2.09	0.170	1.72	1.13	0.21	0.46	1.05	279
1400	1.00	105	7.00	80	2.27	2.09	0.125	1.65	1.13	0.15	0.47	1.06	280
1405	2.20	105	7.00	85	2.17	2.09	0.070	1.64	1.15	0.08	0.47	1.06	281

299065

DEPTH METRE	CORR. DRILLING EXPONENT	SONIC TRANSIT TIME	RESIST	GAMMA RAY API	FORM. DENSITY S.G.	OVERBURD GRADIENT SG	POISSONS RATIO	DAINES FRA GRAD SG	ECD SG	HORIZ GRAV STR SG	HORIZ TECT STR SG	EFFECT VERT STR SG	RECORD NUMBER
1410	1.90	108	5.00	93	2.22	2.09	0.070	1.64	1.15	0.08	0.47	1.06	282
1415	1.18	100	6.00	97	2.32	2.09	0.115	1.64	1.15	0.14	0.47	1.06	283
1420	1.21	103	5.00	96	2.28	2.10	0.115	1.64	1.15	0.14	0.47	1.06	284
1425	0.90	106	4.50	85	2.17	2.10	0.050	1.51	1.14	0.06	0.51	1.16	285
1430	1.02	110	3.50	50	2.17	2.10	0.050	1.56	1.14	0.06	0.46	1.06	286
1435	1.06	105	8.00	98	2.21	2.10	0.050	1.56	1.17	0.06	0.46	1.06	287
1440	1.03	108	5.00	95	2.17	2.10	0.050	1.56	1.17	0.06	0.46	1.06	288
1445	1.05	109	3.70	69	1.95	2.10	0.050	1.56	1.17	0.06	0.46	1.06	289
1450	1.06	108	3.10	30	2.22	2.10	0.050	1.56	1.17	0.06	0.46	1.06	290
1455	1.04	104	2.20	32	2.16	2.10	0.050	1.56	1.17	0.06	0.46	1.06	291
1460	1.07	101	1.50	17	2.13	2.10	0.050	1.56	1.17	0.06	0.46	1.06	292
1465	1.02	99	2.00	28	2.14	2.10	0.050	1.56	1.17	0.06	0.46	1.06	293
1470	1.01	101	1.50	19	2.15	2.10	0.170	1.72	1.17	0.22	0.46	1.06	294
1475	1.13	104	1.00	19	2.19	2.10	0.170	1.72	1.17	0.22	0.46	1.06	295
1480	1.18	108	4.20	96	2.18	2.10	0.170	1.72	1.18	0.22	0.46	1.06	296
1485	1.11	104	4.00	52	2.10	2.10	0.170	1.72	1.18	0.22	0.46	1.06	297
1490	1.26	106	5.00	76	2.23	2.10	0.170	1.72	1.18	0.22	0.46	1.06	298
1495	1.37	103	5.50	79	2.23	2.10	0.170	1.72	1.18	0.22	0.46	1.06	299
1500	1.24	105	4.50	90	2.25	2.10	0.170	1.72	1.18	0.22	0.46	1.06	300
1505	1.26	95	9.00	60	2.31	2.10	0.170	1.72	1.18	0.22	0.46	1.06	301
1510	1.37	105	6.50	95	2.30	2.10	0.170	1.72	1.18	0.22	0.47	1.06	302
1515	1.28	95	7.00	90	2.37	2.10	0.170	1.72	1.18	0.22	0.47	1.06	303
1520	1.04	105	2.00	41	2.14	2.10	0.050	1.56	1.18	0.06	0.47	1.06	304
1525	1.10	105	6.00	86	1.15	2.10	0.050	1.56	1.18	0.06	0.46	1.06	305
1530	1.35	103	7.00	90	2.25	2.10	0.050	1.56	1.18	0.06	0.46	1.06	306
1535	1.36	104	9.00	82	2.27	2.10	0.170	1.72	1.17	0.22	0.46	1.06	307
1540	1.28	120	7.00	69	2.25	2.10	0.170	1.72	1.17	0.22	0.46	1.06	308
1545	1.31	98	7.00	105	2.30	2.10	0.170	1.72	1.17	0.22	0.47	1.06	309
1550	1.27	102	6.00	72	2.17	2.10	0.170	1.72	1.17	0.22	0.47	1.06	310
1555	1.26	100	6.00	94	2.35	2.10	0.170	1.72	1.18	0.22	0.47	1.06	311
1560	1.34	110	8.00	77	2.35	2.10	0.170	1.72	1.17	0.22	0.47	1.06	312
1565	1.24	100	5.50	75	2.40	2.10	0.170	1.72	1.17	0.22	0.47	1.06	313
1570	1.30	95	5.00	93	2.29	2.10	0.170	1.72	1.17	0.22	0.47	1.06	314
1575	1.42	100	7.00	90	2.50	2.11	0.170	1.73	1.17	0.22	0.47	1.07	315
1580	1.22	96	8.30	71	2.32	2.11	0.170	1.73	1.17	0.22	0.47	1.07	316
1585	1.10	103	5.00	82	2.22	2.11	0.170	1.73	1.17	0.22	0.47	1.07	317
1590	1.21	99	6.00	81	2.32	2.11	0.170	1.73	1.17	0.22	0.47	1.07	318
1595	1.34	102	7.50	87	2.35	2.11	0.170	1.73	1.17	0.22	0.47	1.07	319
1600	1.22	105	7.00	76	2.35	2.11	0.170	1.73	1.17	0.22	0.47	1.07	320
1605	1.19	102	7.00	99	2.35	2.11	0.170	1.73	1.17	0.22	0.47	1.07	321
1610	1.12	100	7.00	82	2.30	2.11	0.170	1.73	1.18	0.22	0.47	1.07	322
1615	1.33	97	8.00	85	2.22	2.11	0.170	1.73	1.17	0.22	0.47	1.07	323
1620	1.28	103	6.00	105	2.42	2.11	0.170	1.73	1.17	0.22	0.47	1.07	324
1625	1.38	100	7.00	102	2.45	2.11	0.170	1.73	1.17	0.22	0.47	1.07	325
1630	1.24	97	8.50	103	2.42	2.11	0.170	1.73	1.17	0.22	0.47	1.07	326
1635	1.20	100	7.20	105	2.37	2.11	0.170	1.73	1.18	0.22	0.47	1.07	327
1640	1.27	99	9.00	90	2.40	2.11	0.170	1.73	1.16	0.22	0.47	1.07	328
1645	1.27	98	7.00	52	2.40	2.12	0.170	1.73	1.17	0.22	0.47	1.08	329
1650	1.24	98	9.00	101	2.40	2.12	0.170	1.73	1.17	0.22	0.47	1.08	330
1655	1.28	90	8.50	106	2.43	2.12	0.170	1.73	1.17	0.22	0.47	1.08	331

299066

DEPTH METRE	CORR. DRILLING EXPONENT	SONIC TRANSIT TIME	RESIST	GAMMA RAY API	FORM. DENSITY S.G.	OVERBURD GRADIENT SG	POISSONS RATIO	DAINES FRA GRAD SG	ECD SG	HORIZ GRAV STR SG	HORIZ TECT STR SG	EFFECT VERT STR SG	RECORD NUMBER
1660	1.30	98	8.00	103	2.45	2.12	0.170	1.73	1.17	0.22	0.47	1.08	332
1665	1.26	107	7.50	75	2.46	2.12	0.170	1.73	1.17	0.22	0.47	1.08	333
1670	1.17	100	8.50	85	2.46	2.12	0.170	1.74	1.18	0.22	0.47	1.08	334
1675	1.26	94	9.00	90	2.38	2.12	0.170	1.74	1.18	0.22	0.47	1.08	335
1680	1.12	106	3.50	60	2.45	2.12	0.170	1.74	1.17	0.22	0.47	1.08	336
1685	1.31	95	9.00	107	2.30	2.12	0.170	1.74	1.17	0.22	0.47	1.08	337
1690	1.15	98	5.50	105	2.42	2.12	0.170	1.74	1.17	0.22	0.48	1.08	338
1695	1.26	97	7.20	117	2.35	2.12	0.170	1.74	1.17	0.22	0.48	1.08	339
1700	1.18	140	0.60	10	2.40	2.13	0.170	1.74	1.17	0.22	0.48	1.09	340
1705	1.25	94	8.00	112	2.00	2.12	0.170	1.74	1.18	0.22	0.48	1.08	341
1710	1.33	90	9.00	95	2.42	2.13	0.170	1.74	1.17	0.22	0.48	1.09	342
1715	1.04	98	8.20	81	2.25	2.13	0.170	1.74	1.17	0.22	0.48	1.09	343
1720	1.16	92	7.50	65	2.30	2.13	0.170	1.74	1.17	0.22	0.48	1.09	344
1725	1.05	99	8.00	105	2.10	2.13	0.170	1.74	1.17	0.22	0.48	1.09	345
1730	1.23	96	8.50	107	2.40	2.13	0.170	1.74	1.18	0.22	0.48	1.09	346
1735	1.22	96	6.00	67	2.47	2.13	0.170	1.74	1.18	0.22	0.48	1.09	347
1740	1.10	93	9.00	103	2.49	2.13	0.170	1.74	1.17	0.22	0.48	1.09	348
1745	1.09	95	1.00	90	2.27	2.13	0.170	1.74	1.17	0.22	0.48	1.09	349
1750	1.14	95	7.00	115	2.35	2.13	0.170	1.74	1.18	0.22	0.48	1.09	350
1755	1.07	96	9.50	120	2.35	2.13	0.170	1.74	1.18	0.22	0.48	1.09	351
1760	0.93	120	20.00	60	2.42	2.13	0.170	1.74	1.18	0.22	0.48	1.09	352
1765	1.20	103	8.50	112	2.30	2.13	0.170	1.74	1.17	0.22	0.48	1.09	353
1770	1.43	85	12.00	125	2.37	2.13	0.170	1.74	1.17	0.22	0.48	1.09	354
1775	1.11	95	3.70	31	2.25	2.13	0.170	1.74	1.17	0.22	0.48	1.09	355
1780	1.33	95	7.00	112	2.17	2.13	0.050	1.58	1.17	0.06	0.48	1.09	356
1785	1.10	96	4.00	52	2.35	2.13	0.050	1.58	1.17	0.06	0.48	1.09	357
1790	1.16	95	5.00	47	2.17	2.13	0.050	1.58	1.17	0.06	0.48	1.09	358
1795	1.27	95	6.00	97	2.25	2.13	0.050	1.58	1.17	0.06	0.48	1.09	359
1800	1.24	96	6.00	96	2.33	2.14	0.080	1.62	1.16	0.10	0.48	1.10	360
1805	1.35	89	8.50	90	2.33	2.14	0.080	1.62	1.17	0.10	0.48	1.10	361
1810	1.20	92	7.00	90	2.35	2.14	0.080	1.62	1.16	0.10	0.48	1.10	362
1815	1.42	89	7.50	82	2.33	2.14	0.170	1.75	1.16	0.22	0.48	1.10	363
1820	1.46	110	6.00	79	2.40	2.14	0.170	1.75	1.15	0.22	0.48	1.10	364
1825	1.55	91	9.00	110	2.45	2.14	0.170	1.75	1.15	0.22	0.48	1.10	365
1830	1.20	112	15.00	32	2.53	2.14	0.050	1.58	1.16	0.06	0.48	1.10	366
1835	1.33	80	20.00	47	2.20	2.14	0.050	1.58	1.15	0.06	0.48	1.10	367
1840	1.31	93	12.00	81	2.35	2.14	0.080	1.62	1.15	0.10	0.48	1.10	368
1845	1.44	90	9.00	92	2.35	2.14	0.080	1.62	1.15	0.10	0.48	1.10	369
1850	1.54	90	9.00	127	2.47	2.14	0.170	1.75	1.15	0.23	0.48	1.10	370
1855	1.43	85	12.00	75	2.53	2.14	0.170	1.75	1.15	0.23	0.48	1.10	371
1860	1.48	93	13.00	107	2.45	2.14	0.170	1.75	1.14	0.23	0.48	1.10	372
1865	1.48	90	12.00	103	2.45	2.14	0.170	1.75	1.14	0.23	0.48	1.10	373
1870	1.39	96	8.50	120	2.50	2.15	0.170	1.75	1.14	0.23	0.48	1.11	374
1875	1.28	92	12.00	82	2.30	2.15	0.170	1.75	1.14	0.23	0.48	1.11	375
1880	1.35	90	11.00	82	2.38	2.15	0.170	1.75	1.14	0.23	0.49	1.11	376
1885	1.34	91	14.00	99	2.28	2.15	0.170	1.75	1.14	0.23	0.49	1.11	377
1890	1.18	95	5.50	50	2.34	2.15	0.170	1.75	1.14	0.23	0.49	1.11	378
1895	1.14	100	3.70	35	2.27	2.15	0.050	1.58	1.14	0.06	0.49	1.11	379
1900	1.16	105	7.00	93	2.22	2.15	0.220	1.84	1.15	0.31	0.49	1.11	380
1905	1.11	140	3.00	7	2.15	2.15	0.220	1.84	1.15	0.31	0.49	1.11	381

299067

DEPTH METRE	CORR. DRILLING EXPONENT	SONIC TRANSIT TIME	RESIST	GAMMA RAY API	FORM. DENSITY S.G.	OVERBURD GRADIENT SG	POISSONS RATIO	DAINES FRA GRAD SG	ECD SG	HORIZ GRAV STR SG	HORIZ TECT STR SG	EFFECT VERT STR SG	RECORD NUMBER
1910	1.20	84	9.00	137	2.00	2.15	0.050	1.58	1.15	0.06	0.49	1.11	382
1915	1.03	95	5.00	41	2.25	2.15	0.050	1.58	1.15	0.06	0.49	1.11	383
1920	1.21	96	6.00	60	2.19	2.15	0.050	1.58	1.15	0.06	0.49	1.11	384
1925	1.39	99	12.00	93	2.35	2.15	0.050	1.58	1.15	0.06	0.49	1.11	385
1930	1.29	96	7.00	75	2.45	2.15	0.170	1.75	1.16	0.23	0.49	1.11	386
1935	1.38	88	12.00	95	2.35	2.15	0.170	1.75	1.16	0.23	0.49	1.11	387
1940	1.53	85	14.00	103	2.40	2.15	0.080	1.62	1.16	0.10	0.49	1.11	388
1945	1.39	86	12.00	82	2.47	2.15	0.170	1.75	1.16	0.23	0.49	1.11	389
1950	1.27	93	6.00	67	2.37	2.15	0.170	1.76	1.16	0.23	0.49	1.11	390
1955	1.16	93	13.00	100	2.42	2.15	0.170	1.76	1.16	0.23	0.49	1.11	391
1960	1.19	90	7.00	81	2.40	2.15	0.170	1.76	1.16	0.23	0.49	1.11	392
1965	1.32	94	16.00	90	2.42	2.15	0.170	1.76	1.16	0.23	0.49	1.11	393
1970	1.22	95	13.00	82	2.30	2.15	0.170	1.76	1.16	0.23	0.49	1.11	394
1975	1.36	99	16.00	105	2.25	2.15	0.170	1.76	1.16	0.23	0.49	1.11	395
1980	1.13	130	100.00	16	2.35	2.15	0.170	1.76	1.16	0.23	0.49	1.11	396
1985	1.33	90	12.00	105	2.42	2.16	0.170	1.76	1.16	0.23	0.49	1.12	397
1990	1.32	88	9.00	68	2.46	2.16	0.170	1.76	1.16	0.23	0.49	1.12	398
1995	1.41	93	2.00	105	2.47	2.16	0.170	1.76	1.16	0.23	0.49	1.12	399
2000	1.42	86	8.00	135	2.50	2.16	0.170	1.76	1.16	0.23	0.49	1.12	400
2005	1.26	86	12.00	104	2.65	2.16	0.170	1.76	1.16	0.23	0.49	1.12	401
2010	1.34	88	11.00	105	2.47	2.16	0.170	1.76	1.16	0.23	0.49	1.12	402
2015	1.37	86	11.00	112	2.50	2.16	0.170	1.76	1.16	0.23	0.49	1.13	403
2020	1.36	102	14.00	129	2.52	2.16	0.170	1.76	1.17	0.23	0.50	1.13	404
2025	1.31	89	12.00	120	2.48	2.16	0.170	1.76	1.17	0.23	0.50	1.13	405
2030	1.29	98	12.00	112	2.47	2.16	0.170	1.76	1.16	0.23	0.50	1.13	406
2035	1.22	95	13.00	95	2.43	2.16	0.220	1.85	1.17	0.32	0.50	1.13	407
2040	0.97	140	100.00	7	2.44	2.16	0.220	1.85	1.17	0.32	0.50	1.13	408
2045	1.20	115	11.00	97	2.00	2.16	0.170	1.76	1.15	0.23	0.49	1.13	409
2050	1.28	88	13.00	88	2.50	2.16	0.170	1.76	1.16	0.23	0.49	1.12	410
2055	1.16	96	8.00	72	2.35	2.17	0.220	1.85	1.16	0.32	0.49	1.13	411
2060	1.33	110	100.00	65	2.40	2.17	0.050	1.59	1.17	0.06	0.49	1.13	412
2065	1.35	90	14.00	89	2.46	2.17	0.170	1.76	1.17	0.23	0.49	1.13	413
2070	1.40	93	14.00	103	2.46	2.17	0.170	1.77	1.18	0.23	0.49	1.13	414
2075	1.42	95	16.00	97	2.44	2.17	0.170	1.77	1.18	0.23	0.49	1.13	415
2080	1.23	130	19.00	45	2.44	2.17	0.170	1.77	1.18	0.23	0.49	1.13	416
2085	1.37	93	11.00	103	2.00	2.17	0.170	1.77	1.19	0.23	0.49	1.13	417
2090	1.41	85	15.00	97	2.46	2.17	0.170	1.77	1.19	0.23	0.50	1.13	418
2095	1.42	93	12.00	106	2.46	2.17	0.170	1.77	1.19	0.23	0.50	1.13	419
2100	1.43	92	13.00	104	2.46	2.17	0.170	1.77	1.19	0.23	0.50	1.13	420
2105	1.36	87	12.00	102	2.42	2.17	0.170	1.77	1.19	0.23	0.50	1.13	421
2110	1.40	87	12.00	101	2.47	2.17	0.170	1.77	1.19	0.23	0.50	1.13	422
2115	1.34	88	7.00	60	2.47	2.17	0.050	1.60	1.19	0.06	0.50	1.13	423
2120	1.21	97	6.00	45	2.34	2.17	0.050	1.60	1.19	0.06	0.50	1.13	424
2125	1.29	105	5.00	45	2.25	2.17	0.050	1.60	1.20	0.06	0.50	1.13	425
2130	1.51	84	14.00	118	2.50	2.17	0.170	1.77	1.19	0.23	0.50	1.13	426
2135	1.46	96	15.00	112	2.54	2.17	0.170	1.77	1.19	0.23	0.50	1.13	427
2140	1.42	87	15.00	118	2.52	2.18	0.170	1.77	1.19	0.23	0.50	1.14	428
2145	1.36	97	14.00	112	2.47	2.18	0.170	1.77	1.19	0.23	0.50	1.14	429
2150	1.34	105	8.00	60	2.42	2.18	0.170	1.77	1.19	0.23	0.50	1.14	430
2155	1.43	90	19.00	102	2.50	2.18	0.170	1.77	1.19	0.23	0.50	1.14	431

299068

DEPTH METRE	CORR. DRILLING EXPONENT	SONIC TRANSIT TIME	RESIST	GAMMA RAY API	FORM. DENSITY S.G.	OVERBURD GRADIENT SG	POISSONS RATIO	DAINES FRA GRAD SG	ECD SG	HORIZ GRAV STR SG	HORIZ TECT STR SG	EFFECT VERT STR SG	RECORD NUMBER
2160	1.40	108	20.00	100	2.46	2.18	0.170	1.77	1.20	0.23	0.50	1.14	432
2165	1.40	100	17.00	106	2.46	2.18	0.170	1.77	1.19	0.23	0.50	1.14	433
2170	1.47	83	14.00	90	2.52	2.18	0.170	1.77	1.19	0.23	0.50	1.14	434
2175	1.48	92	20.00	110	2.48	2.18	0.170	1.77	1.19	0.23	0.50	1.14	435
2180	1.50	90	20.00	105	2.47	2.18	0.170	1.77	1.19	0.23	0.50	1.14	436
2185	1.26	140	10.00	87	2.00	2.18	0.170	1.77	1.19	0.23	0.50	1.14	437
2190	1.33	105	8.00	110	2.55	2.18	0.170	1.77	1.19	0.23	0.50	1.14	438
2195	1.43	80	15.00	92	2.55	2.18	0.170	1.77	1.19	0.23	0.50	1.14	439
2200	1.30	95	15.00	97	5.52	2.19	0.220	1.87	1.19	0.32	0.50	1.15	440
2205	1.46	-999	-999.25	-999	2.65	2.19	0.220	1.87	1.19	0.32	0.50	1.15	441
2210	1.41	-999	-999.25	-999	2.55	2.19	0.170	1.78	1.19	0.24	0.50	1.15	442
2215	1.36	-999	-999.25	-999	5.50	2.20	0.170	1.79	1.18	0.24	0.51	1.16	443
2220	1.38	-999	-999.25	-999	2.45	2.20	0.170	1.79	1.18	0.24	0.51	1.16	444

FORMAT OF THE PRESSURE EVALUATION LOG

The **Halliburton SDL Pressure Evaluation Log** for **King 1** was plotted using a Samsung SD820 PC microcomputer connected to a Zeta Plotter.

The **Pressure Evaluation Log** was plotted using a scale of 1:2500 from 0m to 2223m (TD), all depths being measured below the rotary table.

It is divided into eight columns which , from left to right, display the following information:

1) Dxc Exponent, Bit Data, Drilling Parameters (WOB, RPM, LPM, PP), and Midnight depths.

2)Interpreted cuttings lithology of each sample.

3) Measured Depth, and True Vertical Depth (in case of deviated holes), casing and formation integrity test information.

4) Shale/Bulk density of shale/clay cuttings.

5) Plots of Flowline Temperature, Delta T. Comments on additions of mud, drillwater, baryte, and KCl to the Active Pit are also made here.

6) Total hydrocarbon gas content in the returning mud stream, trip and connection gas concentrations. The scale is logarithmic and ranges from 2 to 200 units.

7) Pressure gradient, Equivalent Circulating Density (ECD), Daines' Fracture gradient, and Overburden gradient.

8) Lithological descriptions, and mud data (mud weight, plastic viscosity, and yield point).

COPY OF THE PRESSURE EVALUATION LOG

See Rear Enclosure 2

299071

SECTION 4: DRILLING DATA

Drilling Data Listings, and Hydraulics
Mud Data Record
Bit Data Record

DRILLING DATA LISTINGS and end of bit run HYDRAULICS

Representative hydraulics printouts for each of the Bit runs have been provided, the POWERS LAW being used.

Each hydraulics listing shows the hydraulic performance of that particular Bit run in relation to the drilling mud, bottom hole assembly, hole configuration and the total flow area of the bit.

The printouts list the inputs and mud properties relevant to the drilling hydraulics calculations.

299073

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 2

DATE 31-OCT-92

WELL NUMBER	KING-1	OPERATING COMPANY	SAGASCO
DEPTH TO SHOE	127.000	CASING SIZE	1041.000
BIT SIZE	445.000	BIT NUMBER & TYPE	BR2 NB2 SMITH DSJ
RIG COST/HR	0.000	INITIAL COST	0.000
TRIP TIME	2.000	PUMP CAP LITS.STK	22.000
BIT COST	0.000	JET SIZES	18 18 18 0
START DRILLING	133.000		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.03	27	3	1	0/ 1	0.0	0.00	0.00	0.00	0.00

299074

DEPTH METRE	TIME HR:MN	ROP MIN/	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
134.0	11:29	2.8	2.8	0	74	46	146	10395	38	80	1.0	1.0	9.9	16.7	2.9	0.64	0.53	1.0	0	134
135.0	11:31	1.2	2.7	0	77	49	145	10537	42	85	1.0	1.0	10.0	16.9	2.9	0.66	0.44	2.0	0	135
136.0	11:33	2.4	2.6	0	76	51	145	10499	43	87	1.0	1.0	10.0	16.9	3.1	0.70	0.55	3.0	0	136
137.0	11:35	1.7	2.5	0	77	45	145	10513	46	90	1.0	1.0	10.0	16.9	3.2	0.73	0.46	4.0	0	137
138.0	11:39	4.1	2.4	0	77	51	145	10503	48	92	1.0	1.0	9.9	16.7	3.6	0.80	0.62	5.0	0	138
139.0	11:56	2.3	2.3	0	63	51	144	10540	48	91	1.0	1.0	9.8	16.7	3.7	0.84	0.52	6.0	0	139
140.0	11:56	0.8	2.2	0	74	51	142	10615	48	87	1.0	1.0	9.6	16.7	3.7	0.85	0.35	7.0	0	140
141.0	11:57	0.8	2.0	0	75	46	142	10648	48	87	1.0	1.0	9.6	16.7	3.8	0.87	0.34	8.0	0	141
142.0	11:58	1.0	1.9	0	75	48	142	10667	48	86	1.0	1.0	9.6	16.7	3.9	0.88	0.37	9.0	0	142
143.0	11:59	0.7	1.8	0	75	47	143	10785	48	87	1.0	1.0	9.5	16.6	4.0	0.89	0.32	10.0	0	143
144.0	11:59	0.5	1.7	0	74	50	143	10808	48	86	1.0	1.0	9.5	16.7	4.0	0.90	0.34	11.0	0	144
145.0	12:00	0.3	1.6	0	74	52	143	10847	48	87	1.0	1.0	9.5	16.7	4.0	0.91	0.23	12.0	0	145
146.0	12:01	0.9	1.6	0	74	45	143	10866	48	86	1.0	1.0	9.5	16.7	4.0	0.92	0.35	13.0	0	146
147.0	12:01	0.8	1.6	0	74	50	143	10883	48	86	1.0	1.0	9.5	16.8	4.1	0.94	0.34	14.0	0	147
148.0	12:01	0.9	1.6	0	73	48	143	10907	47	86	1.0	1.0	9.5	16.7	4.1	0.94	0.36	15.0	0	148
149.0	12:02	0.5	1.6	0	73	51	144	10907	47	86	1.0	1.0	9.5	16.7	4.2	0.95	0.35	16.0	0	149
150.0	12:04	1.9	1.6	2	69	48	143	10861	47	86	1.0	1.0	9.5	16.8	4.3	0.98	0.65	17.0	0	150
151.0	12:08	4.6	1.6	1	73	45	142	10693	47	86	1.0	1.0	9.5	16.8	4.6	1.05	0.78	18.0	0	151
152.0	12:10	1.8	1.6	1	73	50	142	10689	47	86	1.0	1.0	9.5	17.0	4.8	1.09	0.59	19.0	0	152
153.0	12:12	2.0	1.6	1	73	47	142	10702	48	86	1.0	1.0	9.5	17.3	4.9	1.12	0.63	20.0	0	153
154.0	12:14	2.1	1.6	1	74	52	142	10700	48	86	1.0	1.0	9.5	17.3	5.1	1.15	0.64	21.0	0	154
155.0	12:17	2.3	1.6	1	75	51	142	10694	48	86	1.0	1.0	9.5	17.3	5.2	1.19	0.63	22.0	0	155
156.0	12:19	2.4	1.6	1	75	47	142	10668	48	86	1.0	1.0	9.5	17.4	5.5	1.23	0.66	23.0	0	156
157.0	12:22	2.5	1.7	1	75	52	142	10668	48	86	1.0	1.0	9.5	17.3	5.6	1.27	0.67	24.0	0	157
158.0	12:25	2.9	1.7	1	75	51	142	10673	48	86	1.0	1.0	9.5	17.4	5.8	1.32	0.71	25.0	0	158
159.0	12:28	2.9	1.8	1	75	47	142	10680	47	86	1.0	1.0	9.5	17.6	6.1	1.37	0.68	26.0	0	159
160.0	12:29	1.8	1.8	1	75	48	142	10681	47	86	1.0	1.0	9.5	17.9	6.2	1.40	0.62	27.0	0	160
161.0	12:32	2.5	1.8	1	75	50	142	10676	47	86	1.0	1.0	9.5	17.9	6.4	1.44	0.68	28.0	0	161
162.0	12:34	1.7	1.8	1	75	49	142	10670	47	86	1.0	1.0	9.5	18.2	6.5	1.47	0.62	29.0	0	162
163.0	12:36	2.4	1.8	1	75	50	142	10677	47	86	1.0	1.0	9.5	17.9	6.7	1.51	0.66	30.0	0	163
164.0	12:38	1.9	1.8	1	75	50	142	10676	47	86	1.0	1.0	9.5	19.2	6.8	1.54	0.62	31.0	0	164
165.0	12:40	2.1	1.8	1	75	52	142	10685	48	86	1.0	1.0	9.4	19.0	7.0	1.58	0.64	32.0	0	165
166.0	12:44	4.1	1.8	1	75	50	142	10649	48	86	1.0	1.0	9.4	19.0	7.3	1.65	0.74	33.0	0	166
167.0	12:45	1.3	1.8	1	75	51	142	10628	48	86	1.0	1.0	9.5	18.8	7.4	1.67	0.56	34.0	0	167
168.0	15:04	1.3	1.8	0	76	47	142	11120	69	126	1.0	1.0	8.3	17.3	7.4	1.68	0.41	35.0	0	168
169.0	15:05	0.3	1.8	0	76	48	142	11140	68	126	1.0	1.0	8.3	17.3	7.4	1.69	0.22	36.0	0	169
170.0	15:06	1.8	1.8	1	76	49	142	11160	67	125	1.0	1.0	8.3	17.3	7.5	1.72	0.59	37.0	0	170
171.0	15:08	1.2	1.8	1	76	45	142	11135	68	126	1.0	1.0	8.4	17.2	7.6	1.74	0.52	38.0	0	171
172.0	15:09	1.9	1.8	0	76	44	142	11150	70	128	1.0	1.0	8.5	17.2	7.7	1.77	0.56	39.0	0	172
173.0	15:11	1.7	1.8	0	76	50	142	11169	70	127	1.0	1.0	8.6	17.2	7.9	1.80	0.56	40.0	0	173
174.0	15:13	1.9	1.8	1	76	41	142	11177	70	128	1.0	1.0	8.6	17.2	8.1	1.83	0.59	41.0	0	174
175.0	15:15	1.7	1.8	0	76	44	142	11177	72	129	1.0	1.0	8.6	17.1	8.1	1.86	0.55	42.0	0	175
176.0	15:17	2.0	1.8	1	76	43	142	11230	72	130	1.0	1.0	8.6	17.2	8.3	1.89	0.61	43.0	0	176
177.0	15:18	1.4	1.8	0	76	42	142	11224	73	130	1.0	1.0	8.6	17.2	8.4	1.91	0.54	44.0	0	177
178.0	15:19	1.3	1.8	1	76	47	142	11222	73	130	1.0	1.0	8.6	16.9	8.5	1.93	0.56	45.0	0	178
179.0	15:21	1.5	1.8	1	76	42	142	11230	73	130	1.0	1.0	8.6	17.0	8.7	1.96	0.58	46.0	0	179
180.0	15:22	1.4	1.8	1	77	33	142	11240	72	130	1.0	1.0	8.7	16.9	8.7	1.98	0.55	47.0	0	180
181.0	15:24	1.9	1.8	1	77	33	142	11246	72	129	1.0	1.0	8.7	16.9	8.9	2.02	0.62	48.0	0	181
182.0	15:26	1.6	1.8	1	77	32	142	11239	72	130	1.0	1.0	8.7	16.9	9.1	2.04	0.57	49.0	0	182
183.0	15:28	1.8	1.8	1	76	40	143	11350	73	130	1.0	1.0	8.7	16.9	9.1	2.07	0.60	50.0	0	183

DEPTH METRE	TIME HR:MN	ROP MIN/	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
183.0	15:28	1.8	1.8	1	76	40	143	11350	73	130	1.0	1.0	8.7	16.9	9.1	2.07	0.60	50.0	0	183
184.0	15:30	2.6	1.8	1	76	47	143	11372	72	130	1.0	1.0	8.7	16.9	9.4	2.12	0.67	51.0	0	184
185.0	15:32	1.5	1.8	1	76	50	143	11368	72	130	1.0	1.0	8.8	16.9	9.5	2.14	0.58	52.0	0	185
186.0	15:33	1.5	1.8	1	76	42	143	11353	72	130	1.0	1.0	8.8	16.9	9.6	2.17	0.60	53.0	0	186
187.0	15:35	1.6	1.8	1	76	49	143	11354	72	129	1.0	1.0	8.9	16.9	9.7	2.19	0.60	54.0	0	187
188.0	15:37	1.6	1.8	1	75	56	143	11370	72	130	1.0	1.0	8.9	16.9	9.8	2.22	0.62	55.0	0	188
189.0	15:38	1.6	1.8	1	75	57	143	11385	72	130	1.0	1.0	8.9	16.9	10.0	2.25	0.60	56.0	0	189
190.0	15:40	1.5	1.8	1	76	46	143	11386	72	130	1.0	1.0	9.0	16.9	10.1	2.27	0.60	57.0	0	190
191.0	15:42	1.8	1.8	1	76	38	143	11396	73	130	1.0	1.0	9.0	17.0	10.2	2.30	0.62	58.0	0	191
192.0	15:43	1.4	1.8	1	76	46	143	11402	73	130	1.0	1.0	9.1	17.0	10.3	2.33	0.59	59.0	0	192
193.0	15:45	1.8	1.8	1	76	50	143	11395	73	130	1.0	1.0	9.1	16.9	10.5	2.36	0.63	60.0	0	193
194.0	15:47	1.9	1.8	1	76	53	143	11437	72	129	1.0	1.0	9.2	16.9	10.6	2.39	0.65	61.0	0	194
195.0	15:49	2.3	1.8	2	75	55	143	11428	72	129	1.0	1.0	9.2	16.9	10.8	2.43	0.69	62.0	0	195
196.0	15:51	2.2	1.8	1	75	53	143	11430	73	130	1.0	1.0	9.3	16.9	10.9	2.46	0.68	63.0	0	196
197.0	16:05	1.6	1.8	0	81	49	143	11829	74	124	1.0	1.0	9.4	16.8	11.1	2.52	0.50	64.0	0	197
198.0	16:07	1.7	1.8	1	81	48	143	11858	73	124	1.0	1.0	9.4	16.9	11.3	2.55	0.62	65.0	0	198
199.0	16:08	1.4	1.8	1	81	43	143	11852	73	124	1.0	1.0	9.4	16.7	11.4	2.57	0.58	66.0	0	199
200.0	16:09	1.0	1.8	1	81	49	143	11853	73	124	1.0	1.0	9.4	16.7	11.5	2.59	0.55	67.0	0	200
201.0	16:11	1.9	1.8	1	80	66	142	11751	73	124	1.0	1.0	9.3	16.6	11.6	2.62	0.64	68.0	0	201
202.0	16:13	2.0	1.8	0	80	55	142	11703	73	123	1.0	1.0	9.3	16.5	11.8	2.66	0.46	69.0	0	202
203.0	16:15	1.9	1.8	0	81	50	142	11687	73	124	1.0	1.0	9.3	16.5	12.0	2.69	0.45	70.0	0	203
204.0	16:17	2.3	1.8	0	81	50	142	11795	73	123	1.0	1.0	9.2	16.1	12.1	2.72	0.62	71.0	0	204
205.0	16:19	1.9	1.8	0	81	46	143	11888	73	124	1.0	1.0	9.2	15.8	12.3	2.76	0.58	72.0	0	205
206.0	16:21	1.8	1.8	0	80	58	143	11874	73	124	1.0	1.0	9.2	15.6	12.5	2.79	0.56	73.0	0	206
207.0	16:23	2.2	1.8	1	81	53	143	11893	73	123	1.0	1.0	9.2	15.4	12.6	2.82	0.62	74.0	0	207
208.0	16:25	1.5	1.8	0	81	58	143	11908	73	124	1.0	1.0	9.2	15.4	12.7	2.85	0.56	75.0	0	208
209.0	16:26	1.3	1.8	1	81	43	143	11940	73	124	1.0	1.0	9.2	15.4	12.8	2.87	0.56	76.0	0	209
210.0	16:28	1.4	1.8	0	82	42	143	11950	73	123	1.0	1.0	9.2	15.4	13.0	2.89	0.54	77.0	0	210
211.0	16:29	1.6	1.8	1	81	68	143	11958	73	124	1.0	1.0	9.2	15.3	13.0	2.92	0.58	78.0	0	211
212.0	16:31	1.5	1.8	1	80	67	143	11970	73	124	1.0	1.0	9.2	15.3	13.2	2.94	0.57	79.0	0	212
213.0	16:33	1.9	1.8	1	81	54	143	11948	73	124	1.0	1.0	9.2	15.3	13.4	2.98	0.63	80.0	0	213
214.0	16:34	1.8	1.8	1	80	68	143	11952	73	123	1.0	1.0	9.3	15.2	13.4	3.01	0.63	81.0	0	214
215.0	16:36	1.9	1.8	1	81	65	143	11968	73	124	1.0	1.0	9.3	15.2	13.6	3.04	0.63	82.0	0	215
216.0	16:38	1.7	1.8	1	81	61	143	11970	73	123	1.0	1.0	9.3	15.2	13.8	3.07	0.61	83.0	0	216
217.0	16:40	2.3	1.8	1	81	61	143	11993	69	120	1.0	1.0	9.3	15.2	13.9	3.10	0.66	84.0	0	217
218.0	16:42	1.3	1.8	1	81	61	143	11985	68	119	1.0	1.0	9.3	15.2	14.0	3.13	0.57	85.0	0	218
219.0	16:44	2.6	1.8	1	80	60	143	11964	69	120	1.0	1.0	9.4	15.3	14.2	3.16	0.64	86.0	0	219
220.0	16:45	1.5	1.8	1	80	69	143	11943	69	120	1.0	1.0	9.5	15.2	14.4	3.18	0.61	87.0	0	220
221.0	16:48	2.7	1.8	1	80	73	143	11913	67	122	1.0	1.0	9.5	15.3	14.5	3.23	0.70	88.0	0	221
222.0	16:50	1.8	1.8	1	80	69	142	11814	67	126	1.0	1.0	9.5	15.3	14.7	3.26	0.64	89.0	0	222
223.0	16:54	2.9	1.8	1	81	59	143	11969	68	127	1.0	1.0	9.5	15.2	14.9	3.31	0.68	90.0	0	223
224.0	16:56	2.0	1.8	1	81	58	143	11978	68	127	1.0	1.0	9.5	15.2	15.1	3.34	0.63	91.0	0	224
225.0	17:17	2.6	1.8	1	74	59	143	11907	68	127	1.0	1.0	9.4	15.2	15.3	3.38	0.69	92.0	0	225
226.0	17:19	1.5	1.8	0	81	61	141	12223	90	140	1.0	1.0	9.4	15.2	15.4	3.41	0.42	93.0	0	226
227.0	17:20	1.2	1.8	0	81	58	142	12369	89	139	1.0	1.0	9.4	15.2	15.5	3.43	0.40	94.0	0	227
228.0	17:21	1.1	1.8	0	81	66	142	12374	89	139	1.0	1.0	9.4	15.2	15.6	3.45	0.39	95.0	0	228
229.0	17:22	1.4	1.8	0	81	72	142	12402	89	139	1.0	1.0	9.4	15.2	15.7	3.47	0.42	96.0	0	229
230.0	17:25	2.1	1.8	0	81	55	142	12400	89	139	1.0	1.0	9.4	15.2	15.9	3.50	0.47	97.0	0	230
231.0	17:26	1.3	1.8	0	81	73	142	12366	91	142	1.0	1.0	9.4	15.3	16.0	3.53	0.41	98.0	0	231
232.0	17:28	2.0	1.8	0	81	74	142	12342	91	144	1.0	1.0	9.4	15.4	16.1	3.56	0.46	99.0	0	232

DEPTH METRE	TIME HR:MN	ROP MIN/	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
232.0	17:28	2.0	1.8	0	81	74	142	12342	91	144	1.0	1.0	9.4	15.4	16.1	3.56	0.46	99.0	0	232
233.0	17:30	1.8	1.8	0	81	73	142	12339	93	147	1.0	1.0	9.4	15.5	16.2	3.59	0.55	100.0	0	233
234.0	17:31	1.1	1.8	0	81	58	142	12353	95	151	1.0	1.0	9.4	15.6	16.4	3.61	0.46	101.0	0	234
235.0	17:33	1.8	1.8	0	81	65	141	12314	97	153	1.0	1.0	9.4	15.6	16.5	3.64	0.53	102.0	0	235
236.0	17:34	1.5	1.8	0	81	62	142	12355	98	155	1.0	1.0	9.4	15.7	16.6	3.66	0.50	103.0	0	236
237.0	17:36	1.6	1.8	0	80	69	142	12354	100	158	1.0	1.0	9.4	15.7	16.7	3.69	0.53	104.0	0	237
238.0	17:37	1.3	1.8	0	80	76	142	12373	101	161	1.0	1.0	9.4	15.7	16.9	3.71	0.52	105.0	0	238
239.0	17:39	1.7	1.8	1	80	57	142	12369	102	167	1.0	1.0	9.4	15.7	17.0	3.74	0.57	106.0	0	239
240.0	17:40	1.7	1.8	0	80	70	142	12369	102	174	1.0	1.0	9.4	15.7	17.1	3.77	0.57	107.0	0	240
241.0	17:43	2.0	1.8	0	80	12	142	12393	100	178	1.0	1.0	9.4	15.7	17.3	3.80	0.60	108.0	0	241
242.0	17:45	2.0	1.8	0	80	79	142	12384	100	178	1.0	1.0	9.4	15.7	17.5	3.84	0.56	109.0	0	242
243.0	17:46	1.9	1.8	0	80	97	142	12419	100	178	1.0	1.0	9.4	15.7	17.6	3.87	0.58	110.0	0	243
244.0	17:48	1.8	1.8	1	80	94	142	12392	100	178	1.0	1.0	9.4	15.7	17.8	3.90	0.59	111.0	0	244
245.0	17:51	2.7	1.8	0	80	84	142	12388	101	178	1.0	1.0	9.4	15.7	17.9	3.94	0.63	112.0	0	245
246.0	17:53	2.1	1.8	0	81	74	142	12378	101	178	1.0	1.0	9.4	15.7	18.1	3.98	0.47	113.0	0	246
247.0	17:55	1.5	1.8	0	80	86	142	12391	101	179	1.0	1.0	9.4	15.7	18.3	4.00	0.52	114.0	0	247
248.0	17:57	2.0	1.8	0	80	100	142	12393	100	178	1.0	1.0	9.4	15.7	18.4	4.04	0.56	115.0	0	248
249.0	17:58	1.5	1.8	0	80	87	142	12381	100	178	1.0	1.0	9.4	15.7	18.5	4.06	0.53	116.0	0	249
250.0	18:00	2.1	1.8	0	80	86	141	12374	100	178	1.0	1.0	9.4	15.7	18.7	4.10	0.57	117.0	0	250
251.0	18:02	2.1	1.8	0	80	98	142	12426	100	178	1.0	1.0	9.4	15.7	18.8	4.13	0.60	118.0	0	251
252.0	18:05	2.9	1.8	0	81	80	142	12408	100	178	1.0	1.0	9.4	15.7	19.1	4.18	0.50	119.0	0	252
253.0	18:07	1.9	1.8	0	80	93	142	12417	101	178	1.0	1.0	9.4	15.7	19.2	4.21	0.58	120.0	0	253
254.0	18:19	2.6	1.8	0	79	62	143	13193	103	173	1.0	1.0	9.5	15.7	19.4	4.26	0.49	121.0	0	254
255.0	18:19	0.6	1.8	0	79	80	143	13210	103	172	1.0	1.0	9.5	15.7	19.5	4.27	0.32	122.0	0	255
256.0	18:21	1.3	1.8	0	78	111	143	13272	103	173	1.0	1.0	9.4	15.7	19.6	4.29	0.40	123.0	0	256
257.0	18:22	1.0	1.8	0	79	112	144	13277	102	171	1.0	1.0	9.4	15.6	19.6	4.30	0.37	124.0	0	257
258.0	18:23	1.5	1.8	0	79	91	143	13239	101	171	1.0	1.0	9.4	15.6	19.8	4.33	0.43	125.0	0	258
259.0	18:25	1.5	1.8	0	79	87	143	13252	102	172	1.0	1.0	9.4	15.6	19.9	4.36	0.42	126.0	0	259
260.0	18:27	1.9	1.8	0	78	120	144	13338	102	171	1.0	1.0	9.4	15.6	20.0	4.39	0.45	127.0	0	260
261.0	18:29	1.9	1.8	0	78	129	144	13369	101	170	1.0	1.0	9.4	15.7	20.2	4.42	0.45	128.0	0	261
262.0	18:30	1.8	1.8	0	79	107	144	13347	101	171	1.0	1.0	9.4	15.7	20.4	4.45	0.45	129.0	0	262
263.0	18:32	1.9	1.8	0	79	106	143	13344	101	171	1.0	1.0	9.4	15.7	20.4	4.48	0.58	130.0	0	263
264.0	18:34	1.9	1.8	1	79	101	143	13359	101	171	1.0	1.0	9.4	15.7	20.6	4.51	0.63	131.0	0	264
265.0	18:36	2.1	1.8	1	79	109	144	13369	102	172	1.0	1.0	9.4	15.6	20.8	4.55	0.66	132.0	0	265
266.0	18:39	2.4	1.8	1	77	107	140	12781	102	171	1.0	1.0	9.4	15.6	21.0	4.59	0.66	133.0	0	266
267.0	18:41	1.9	1.8	1	79	102	143	13320	102	171	1.0	1.0	9.4	15.7	21.2	4.62	0.64	134.0	0	267
268.0	18:42	1.6	1.8	1	79	95	144	13413	102	172	1.0	1.0	9.4	15.6	21.2	4.65	0.63	135.0	0	268
269.0	18:44	1.9	1.8	2	79	91	144	13458	102	172	1.0	1.0	9.4	15.6	21.4	4.68	0.67	136.0	0	269
270.0	18:46	1.6	1.8	2	79	91	144	13505	102	171	1.0	1.0	9.4	15.6	21.6	4.71	0.65	137.0	0	270
271.0	18:48	2.1	1.8	2	79	94	144	13506	102	171	1.0	1.0	9.4	15.7	21.7	4.74	0.68	138.0	0	271
272.0	18:50	1.5	1.8	1	79	103	144	13504	100	170	1.0	1.0	9.4	15.7	21.8	4.77	0.62	139.0	0	272
273.0	18:51	1.7	1.8	1	79	82	144	13496	101	170	1.0	1.0	9.4	15.7	22.0	4.80	0.64	140.0	0	273
274.0	18:53	2.1	1.8	1	79	77	144	13448	101	171	1.0	1.0	9.4	15.6	22.1	4.83	0.66	141.0	0	274
275.0	18:55	1.7	1.8	2	79	88	144	13440	102	171	1.0	1.0	9.4	15.7	22.3	4.86	0.64	142.0	0	275
276.0	18:57	2.1	1.8	1	79	99	144	13454	101	171	1.0	1.0	9.4	15.7	22.4	4.90	0.66	143.0	0	276
277.0	18:59	1.5	1.8	1	79	92	144	13419	101	171	1.0	1.0	9.4	15.7	22.5	4.92	0.62	144.0	0	277
278.0	19:01	1.9	1.8	1	79	90	143	13400	101	170	1.0	1.0	9.4	15.7	22.7	4.95	0.64	145.0	0	278
279.0	19:02	1.5	1.8	1	79	88	143	13390	100	169	1.0	1.0	9.4	15.7	22.8	4.98	0.61	146.0	0	279
280.0	19:04	2.2	1.8	1	79	83	143	13411	101	170	1.0	1.0	9.4	15.6	23.0	5.02	0.68	147.0	0	280
281.0	19:25	1.6	1.8	2	61	61	141	13698	103	168	1.0	1.0	9.4	15.6	23.1	5.04	0.62	148.0	0	281

299077

DEPTH METRE	TIME HR:MN	ROP MIN/	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
281.0	19:25	1.6	1.8	2	61	61	141	13698	103	168	1.0	1.0	9.4	15.6	23.1	5.04	0.62	148.0	0	281
282.0	19:28	2.9	1.8	0	60	20	108	7647	107	170	1.0	1.0	9.3	15.6	23.2	5.09	0.39	149.0	0	282
283.0	19:31	3.0	1.8	0	57	51	106	7660	104	167	1.0	1.0	9.3	15.5	23.3	5.14	0.47	150.0	0	283
284.0	19:34	1.3	1.8	0	99	119	118	9421	103	166	1.0	1.0	9.3	15.6	23.4	5.16	0.43	151.0	0	284
285.0	19:35	1.1	1.8	0	99	116	118	9426	103	166	1.0	1.0	9.3	15.6	23.5	5.18	0.41	152.0	0	285
286.0	19:36	1.3	1.8	0	98	112	118	9421	103	166	1.0	1.0	9.3	15.6	23.7	5.20	0.43	153.0	0	286
287.0	19:45	1.3	1.8	1	43	66	118	9346	103	167	1.0	1.0	9.3	15.6	23.7	5.23	0.44	154.0	0	287
288.0	19:46	0.7	1.8	0	57	89	118	9315	103	167	1.0	1.0	9.3	15.5	23.8	5.24	0.37	155.0	0	288
289.0	19:47	1.0	1.8	0	57	99	118	9335	103	166	1.0	1.0	9.3	15.5	23.9	5.25	0.41	156.0	0	289
290.0	19:47	0.7	1.8	0	58	88	118	9337	102	165	1.0	1.0	9.3	15.5	23.9	5.27	0.37	157.0	0	290
291.0	19:48	0.7	1.8	0	58	85	118	9324	101	165	1.0	1.0	9.3	15.5	23.9	5.28	0.39	158.0	0	291
292.0	19:49	1.0	1.8	0	58	94	118	9335	102	165	1.0	1.0	9.4	15.5	24.0	5.30	0.43	159.0	0	292
293.0	19:50	0.7	1.8	0	58	82	118	9322	102	165	1.0	1.0	9.4	15.5	24.0	5.31	0.37	160.0	0	293
294.0	19:51	1.1	1.8	0	58	82	118	9322	102	166	1.0	1.0	9.4	15.5	24.1	5.33	0.43	161.0	0	294
295.0	19:52	0.9	1.8	0	58	85	118	9338	102	166	1.0	1.0	9.4	15.6	24.2	5.34	0.41	162.0	0	295
296.0	19:53	1.0	1.7	0	58	81	118	9338	103	166	1.0	1.0	9.4	15.6	24.2	5.36	0.42	163.0	0	296
297.0	19:54	1.1	1.7	0	57	86	118	9342	103	167	1.0	1.0	9.4	15.6	24.3	5.38	0.43	164.0	0	297
298.0	19:55	1.0	1.7	0	58	76	118	9351	103	166	1.0	1.0	9.4	15.6	24.3	5.39	0.43	165.0	0	298
299.0	19:57	1.7	1.7	0	58	69	118	9363	102	165	1.0	1.0	9.4	15.6	24.4	5.42	0.49	166.0	0	299
300.0	20:08	1.9	1.7	1	47	50	118	9399	102	166	1.0	1.0	9.4	15.5	24.5	5.45	0.53	167.0	0	300
301.0	20:09	1.0	1.7	0	73	84	118	9446	102	166	1.0	1.0	9.3	15.5	24.6	5.47	0.44	168.0	0	301
302.0	20:10	1.1	1.7	0	73	88	118	9444	103	166	1.0	1.0	9.3	15.5	24.7	5.49	0.47	169.0	0	302
303.0	20:11	1.0	1.7	0	73	87	118	9463	103	166	1.0	1.0	9.3	15.5	24.8	5.51	0.46	170.0	0	303
304.0	20:12	1.2	1.7	0	73	80	118	9480	102	166	1.0	1.0	9.3	15.5	24.8	5.53	0.48	171.0	0	304
305.0	20:13	1.0	1.7	0	72	80	118	9495	102	165	1.0	1.0	9.4	15.5	24.9	5.54	0.47	172.0	0	305
306.0	20:14	1.2	1.7	0	73	87	117	9496	102	166	1.0	1.0	9.4	15.4	25.0	5.56	0.50	173.0	0	306
307.0	20:16	1.3	1.7	0	72	97	118	9511	102	166	1.0	1.0	9.4	15.4	25.1	5.59	0.52	174.0	0	307
308.0	20:18	2.1	1.7	0	72	88	118	9507	102	166	1.0	1.0	9.4	15.4	25.3	5.62	0.59	175.0	0	308
309.0	20:20	2.6	1.7	0	72	82	118	9698	103	165	1.0	1.0	9.4	15.4	25.4	5.66	0.60	176.0	0	309
310.0	20:57	2.6	1.7	1	58	68	118	10017	104	157	1.0	1.0	9.4	15.4	25.6	5.71	0.60	177.0	0	310
311.0	20:58	0.8	1.7	0	68	125	118	9566	102	147	1.0	1.0	9.3	15.4	25.6	5.72	0.33	178.0	0	311
312.0	20:59	1.0	1.7	0	70	78	118	9551	102	147	1.0	1.0	9.3	15.4	25.7	5.74	0.36	179.0	0	312
313.0	21:01	2.1	1.7	0	69	95	118	9558	101	146	1.0	1.0	9.3	15.4	25.9	5.77	0.45	180.0	0	313
314.0	21:05	3.7	1.7	0	70	77	118	9525	101	146	1.0	1.0	9.3	15.4	26.1	5.83	0.52	181.0	0	314
315.0	21:08	3.7	1.7	0	70	80	118	9493	102	147	1.0	1.0	9.4	15.4	26.4	5.90	0.52	182.0	0	315
316.0	21:11	3.2	1.7	0	70	74	118	9469	102	147	1.0	1.0	9.4	15.4	26.6	5.95	0.50	183.0	0	316
317.0	21:13	1.3	1.7	0	70	73	118	9466	102	147	1.0	1.0	9.4	15.4	26.7	5.97	0.39	184.0	0	317
318.0	21:14	1.1	1.7	0	70	78	118	9457	102	147	1.0	1.0	9.4	15.4	26.8	5.99	0.46	185.0	0	318
319.0	21:15	1.2	1.7	1	70	74	118	9467	102	147	1.0	1.0	9.4	15.3	26.9	6.01	0.51	186.0	0	319
320.0	21:16	1.0	1.7	0	70	82	118	9465	102	147	1.0	1.0	9.4	15.3	26.9	6.03	0.47	187.0	0	320
321.0	21:17	1.0	1.7	0	70	79	118	9468	101	146	1.0	1.0	9.4	15.2	27.0	6.05	0.47	188.0	0	321
322.0	21:18	0.9	1.7	0	70	81	118	9471	101	146	1.0	1.0	9.4	15.2	27.1	6.06	0.44	189.0	0	322
323.0	21:19	1.3	1.7	0	69	93	118	9486	101	147	1.0	1.0	9.4	15.2	27.1	6.08	0.50	190.0	0	323
324.0	21:21	1.3	1.7	0	70	77	118	9495	101	146	1.0	1.0	9.4	15.2	27.3	6.10	0.50	191.0	0	324
325.0	21:22	1.4	1.7	0	70	80	118	9518	101	146	1.0	1.0	9.4	15.2	27.4	6.13	0.50	192.0	0	325
326.0	21:23	1.3	1.7	1	70	82	118	9530	101	147	1.0	1.0	9.4	15.2	27.4	6.15	0.52	193.0	0	326
327.0	21:24	1.0	1.7	0	70	80	118	9540	102	146	1.0	1.0	9.4	15.2	27.5	6.17	0.47	194.0	0	327
328.0	21:26	2.0	1.7	1	71	61	118	9561	101	146	1.0	1.0	9.4	15.2	27.6	6.20	0.59	195.0	0	328
329.0	21:28	1.7	1.7	0	70	73	118	9597	101	146	1.0	1.0	9.4	15.2	27.8	6.23	0.53	196.0	0	329
330.0	21:30	1.8	1.7	0	70	70	118	9632	101	146	1.0	1.0	9.4	15.2	27.9	6.26	0.55	197.0	0	330

299078

DEPTH METRE	TIME HR:MN	ROP MIN/	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
330.0	21:30	1.8	1.7	0	70	70	118	9632	101	146	1.0	1.0	9.4	15.2	27.9	6.26	0.55	197.0	0	330
331.0	21:32	1.9	1.7	1	70	86	118	9656	101	146	1.0	1.0	9.4	15.2	28.1	6.29	0.58	198.0	0	331
332.0	21:33	1.4	1.7	1	69	99	118	9680	101	146	1.0	1.0	9.4	15.2	28.1	6.32	0.55	199.0	0	332
333.0	21:36	2.2	1.7	0	70	71	118	9667	102	147	1.0	1.0	9.4	15.2	28.3	6.35	0.60	200.0	0	333
334.0	21:38	2.1	1.7	0	70	74	118	9649	102	147	1.0	1.0	9.4	15.2	28.4	6.39	0.57	201.0	0	334
335.0	21:40	2.4	1.7	1	70	78	118	9609	102	147	1.0	1.0	9.4	15.2	28.6	6.43	0.62	202.0	0	335
336.0	21:43	2.8	1.7	1	70	81	118	9571	102	147	1.0	1.0	9.4	15.2	28.8	6.47	0.65	203.0	0	336
337.0	21:46	3.2	1.7	1	70	80	118	9821	104	145	1.0	1.0	9.4	15.2	29.0	6.53	0.66	204.0	0	337
338.0	22:00	1.6	1.7	1	64	63	116	9470	103	140	1.0	1.0	9.4	15.2	29.1	6.55	0.57	205.0	0	338
339.0	22:01	1.3	1.7	1	81	100	116	9127	101	138	1.0	1.0	9.3	15.2	29.2	6.57	0.58	206.0	0	339
340.0	22:03	1.7	1.7	1	81	106	118	9496	102	139	1.0	1.0	9.4	15.2	29.3	6.60	1.13	207.0	0	340
341.0	22:04	0.8	1.7	1	81	113	118	9520	102	139	1.0	1.0	9.4	15.2	29.4	6.62	1.24	208.0	0	341
342.0	22:05	1.1	1.7	1	81	122	119	9639	102	139	1.0	1.0	9.4	15.2	29.5	6.64	1.17	209.0	0	342
343.0	22:06	1.0	1.7	1	82	102	119	9678	101	138	1.0	1.0	9.4	15.2	29.6	6.65	1.17	210.0	0	343
344.0	22:07	1.2	1.7	1	81	109	119	9665	101	138	1.0	1.0	9.4	15.1	29.7	6.67	1.16	211.0	0	344
345.0	22:08	1.0	1.7	1	81	101	119	9672	102	139	1.0	1.0	9.4	15.1	29.7	6.69	1.17	212.0	0	345
346.0	22:09	1.0	1.7	1	81	121	119	9698	102	139	1.0	1.0	9.4	15.2	29.8	6.71	1.23	213.0	0	346
347.0	22:11	1.3	1.7	1	81	107	119	9719	102	139	1.0	1.0	9.4	15.2	30.0	6.73	1.20	214.0	0	347
348.0	22:12	1.0	1.7	1	81	107	119	9732	102	138	1.0	1.0	9.4	15.2	30.1	6.74	1.22	215.0	0	348
349.0	22:13	1.1	1.7	1	81	108	119	9738	102	138	1.0	1.0	9.4	15.2	30.2	6.76	1.20	216.0	0	349
350.0	22:14	1.1	1.7	1	81	119	119	9751	102	138	1.0	1.0	9.4	15.2	30.2	6.78	1.24	217.0	0	350
351.0	22:15	1.1	1.7	2	81	116	119	9742	102	139	1.0	1.0	9.4	15.2	30.3	6.80	1.25	218.0	0	351
352.0	22:16	1.2	1.7	1	81	102	119	9730	102	139	1.0	1.0	9.4	15.2	30.4	6.82	1.21	219.0	0	352
353.0	22:17	1.1	1.7	1	82	103	119	9731	102	139	1.0	1.0	9.4	15.2	30.5	6.84	1.21	220.0	0	353
354.0	22:19	1.5	1.7	2	82	102	119	9724	102	139	1.0	1.0	9.4	15.2	30.7	6.86	1.19	221.0	0	354
355.0	22:20	1.3	1.7	1	82	102	119	9713	102	139	1.0	1.0	9.4	15.2	30.7	6.88	1.19	222.0	0	355
356.0	22:21	1.1	1.7	1	82	93	119	9710	102	139	1.0	1.0	9.4	15.2	30.8	6.90	1.22	223.0	0	356
357.0	22:22	1.1	1.7	1	82	100	119	9707	102	139	1.0	1.0	9.4	15.2	30.9	6.92	1.17	224.0	0	357
358.0	22:24	1.4	1.7	1	82	100	119	9722	103	139	1.0	1.0	9.4	15.2	31.0	6.94	1.17	225.0	0	358
359.0	22:25	1.5	1.7	1	82	99	119	9729	102	139	1.0	1.0	9.4	15.2	31.1	6.97	1.18	226.0	0	359
360.0	22:26	1.1	1.7	2	81	117	119	9751	102	139	1.0	1.0	9.4	15.1	31.2	6.99	1.26	227.0	0	360
361.0	22:28	1.8	1.7	2	81	113	119	9755	103	139	1.0	1.0	9.4	15.1	31.4	7.02	1.18	228.0	0	361
362.0	22:29	1.5	1.7	0	81	112	119	9750	102	139	1.0	1.0	9.4	15.1	31.5	7.04	0.81	229.0	0	362
363.0	22:31	1.6	1.7	0	81	112	119	9756	102	139	1.0	1.0	9.4	15.1	31.6	7.07	0.80	230.0	0	363
364.0	22:33	1.7	1.7	0	82	109	119	9753	103	139	0.6	1.0	9.4	15.1	31.7	7.10	0.80	231.0	0	364
365.0	22:47	3.2	1.7	0	74	88	118	9973	104	136	1.0	1.0	9.4	15.1	32.0	7.15	0.50	232.0	0	365
366.0	22:48	0.9	1.7	0	73	103	117	9495	102	132	1.0	1.0	9.3	15.1	32.0	7.16	0.35	233.0	0	366
367.0	22:49	1.0	1.7	0	77	111	117	9495	102	132	1.0	1.0	9.3	15.1	32.1	7.18	0.37	234.0	0	367
368.0	22:50	1.0	1.7	0	77	110	117	9468	102	133	1.0	1.0	9.3	15.1	32.2	7.20	0.46	235.0	0	368
369.0	22:51	0.7	1.7	0	77	120	117	9471	102	132	1.0	1.0	9.3	15.1	32.3	7.21	0.34	236.0	0	369
370.0	22:52	1.0	1.7	0	77	106	117	9471	102	133	1.0	1.0	9.3	15.1	32.4	7.23	0.37	237.0	0	370
371.0	22:53	1.0	1.7	0	78	101	117	9471	102	135	1.0	1.0	9.4	15.1	32.4	7.24	0.38	238.0	0	371
372.0	22:54	1.0	1.7	0	77	119	117	9471	102	139	1.0	1.0	9.4	15.2	32.5	7.26	0.37	239.0	0	372
373.0	22:55	1.2	1.7	0	78	102	117	9465	103	144	1.0	1.0	9.4	15.1	32.6	7.28	0.48	240.0	0	373
374.0	22:58	3.2	1.7	0	78	93	117	9453	102	152	1.0	1.0	9.4	15.1	32.8	7.33	0.51	241.0	0	374
375.0	23:00	1.6	1.7	1	78	97	117	9461	102	162	1.0	1.0	9.4	15.2	33.0	7.36	0.59	242.0	0	375
376.0	23:01	0.9	1.7	0	78	101	117	9466	103	168	1.0	1.0	9.4	15.2	33.1	7.38	0.46	243.0	0	376
377.0	23:02	1.0	1.7	0	77	103	117	9465	103	172	1.0	1.0	9.4	15.0	33.1	7.39	0.47	244.0	0	377
378.0	23:03	1.9	1.7	0	78	94	117	9454	103	178	1.0	1.0	9.4	15.0	33.2	7.42	0.45	245.0	0	378
379.0	23:05	1.9	1.7	0	78	89	117	9447	102	182	1.0	1.0	9.4	15.0	33.4	7.46	0.45	246.0	0	379

DEPTH METRE	TIME HR:MN	ROP MIN/	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
379.0	23:05	1.9	1.7	0	78	89	117	9447	102	182	1.0	1.0	9.4	15.0	33.4	7.46	0.45	246.0	0	379
380.0	23:07	1.1	1.7	0	78	84	117	9435	101	182	1.0	1.0	9.4	15.0	33.5	7.47	0.47	247.0	0	380
381.0	23:08	1.2	1.7	0	78	95	117	9436	101	182	1.0	1.0	9.4	15.0	33.6	7.49	0.40	248.0	0	381
382.0	23:09	1.0	1.7	0	78	81	117	9445	101	181	1.0	1.0	9.4	15.0	33.6	7.51	0.38	249.0	0	382
383.0	23:10	1.0	1.7	0	78	87	117	9455	101	181	1.0	1.0	9.4	15.0	33.7	7.53	0.45	250.0	0	383
384.0	23:11	1.0	1.7	0	78	89	117	9440	101	182	1.0	1.0	9.4	15.0	33.8	7.54	0.37	251.0	0	384
385.0	23:12	1.0	1.7	0	78	75	117	9436	101	181	1.0	1.0	9.4	15.0	33.9	7.56	0.48	252.0	0	385
386.0	23:13	1.0	1.7	0	79	69	117	9442	101	181	1.0	1.0	9.4	15.0	34.0	7.58	0.44	253.0	0	386
387.0	23:14	1.1	1.7	0	78	87	117	9449	102	182	1.0	1.0	9.4	15.0	34.0	7.60	0.47	254.0	0	387
388.0	23:15	1.1	1.7	0	78	75	117	9444	102	182	1.0	1.0	9.4	15.0	34.1	7.61	0.49	255.0	0	388
389.0	23:16	1.4	1.7	0	78	81	117	9452	102	181	1.0	1.0	9.4	15.0	34.3	7.64	0.54	256.0	0	389
390.0	23:18	1.3	1.7	0	79	51	117	9446	101	181	1.0	1.0	9.4	15.0	34.4	7.66	0.48	257.0	0	390
391.0	23:19	1.4	1.7	1	78	89	117	9468	101	181	1.0	1.0	9.4	15.0	34.4	7.68	0.54	258.0	0	391
392.0	23:20	0.9	1.7	1	78	85	117	9468	101	182	1.0	1.0	9.4	15.0	34.5	7.70	0.51	259.0	0	392
393.0	23:36	6.0	1.7	0	77	64	116	9544	102	178	1.0	1.0	9.4	15.0	35.0	7.80	0.58	260.0	0	393
394.0	23:38	2.1	1.7	0	79	81	118	9733	103	174	1.0	1.0	9.4	15.0	35.1	7.83	0.60	261.0	0	394
395.0	23:40	1.7	1.7	0	79	79	118	9729	102	174	1.0	1.0	9.4	15.0	35.3	7.86	0.56	262.0	0	395
396.0	23:42	1.7	1.7	1	79	82	118	9721	103	174	1.0	1.0	9.4	15.0	35.4	7.89	0.59	263.0	0	396
397.0	23:43	1.7	1.7	2	78	100	118	9707	102	173	1.0	1.0	9.4	15.0	35.5	7.92	0.66	264.0	0	397
398.0	23:44	0.7	1.7	2	78	102	118	9703	101	173	1.0	1.0	9.4	15.0	35.6	7.93	0.52	265.0	0	398
399.0	23:45	1.4	1.7	1	78	87	118	9685	101	173	1.0	1.0	9.4	15.0	35.7	7.95	0.56	266.0	0	399
400.0	23:48	2.1	1.7	0	79	79	118	9685	102	173	1.0	1.0	9.4	15.0	35.8	7.99	0.56	267.0	0	400
401.0	23:49	1.4	1.7	1	79	84	118	9692	103	174	1.0	1.0	9.4	15.1	36.0	8.01	0.55	268.0	0	401
402.0	23:51	1.7	1.7	1	78	92	118	9703	103	174	1.0	1.0	9.4	15.1	36.1	8.04	0.62	269.0	0	402
403.0	23:52	1.1	1.7	1	78	93	118	9713	103	174	1.0	1.0	9.4	15.0	36.2	8.06	0.56	270.0	0	403
404.0	23:53	1.0	1.7	1	79	87	118	9735	103	175	1.0	1.0	9.4	15.0	36.3	8.07	0.54	271.0	0	404
405.0	23:56	3.0	1.7	1	79	82	118	9734	103	174	1.0	1.0	9.4	15.0	36.5	8.12	0.73	272.0	0	405

BR2 NB2 SMITH DSJ JETS 3X18 MADE 272m.

AVE ROP 1.7m/hr, KREVS 36.5, POOH TO RUN 340mm CSG.

299080.

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 3

DATE 04-NOV-92

WELL NUMBER	KING 1	OPERATING COMPANY	SAGASCO
DEPTH TO SHOE	394.440	CASING SIZE	340.000
BIT SIZE	311.000	BIT NUMBER & TYPE	NB3 SMITH FDS
RIG COST/HR	2000.000	INITIAL COST	4000.000
TRIP TIME	2.000	PUMP CAP LITS.STK	18.988
BIT COST	0.000	JET SIZES	14 14 14 0
START DRILLING	405.000		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.04	33	4	7	5/ 7	8.6	0.00	0.50	1.50	0.00

299081

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
406.0	20:40	59.9	2.6	2	49	51	119	13230	81	124	1.0	1.0	13.4	18.4	0.4	3.57	0.50	1.0	0	406
407.0	20:41	63.1	2.6	4	49	61	119	13191	80	128	1.0	1.0	13.3	20.1	0.5	3.59	0.54	2.0	0	407
408.0	22:33	24.0	2.6	2	51	47	118	13219	82	134	1.0	1.0	13.7	20.1	0.6	3.63	0.65	3.0	0	408
409.0	22:35	29.9	2.6	2	51	48	119	13317	81	139	1.0	1.0	13.8	20.1	0.7	3.66	0.63	4.0	0	409
410.0	22:36	50.7	2.6	3	50	55	119	13287	80	145	1.0	1.0	14.0	20.1	0.7	3.68	0.56	5.0	0	410
411.0	22:37	56.2	2.6	4	50	65	119	13276	82	145	1.0	1.0	14.0	20.1	0.8	3.70	0.59	6.0	0	411
412.0	22:48	41.4	2.6	4	25	30	120	13712	86	145	1.0	1.0	13.9	21.0	0.8	3.72	0.52	7.0	0	412
413.0	22:49	105.9	2.6	3	51	72	117	13004	90	156	1.0	1.0	14.1	21.1	0.9	3.73	0.45	8.0	0	413
414.0	22:50	76.6	2.6	4	51	86	117	13011	89	155	1.0	1.0	14.1	21.0	0.9	3.75	0.53	9.0	0	414
415.0	22:50	72.0	2.6	4	50	108	117	13055	88	155	1.0	1.0	14.1	21.0	0.9	3.76	0.55	10.0	0	415
416.0	22:51	72.0	5.0	3	74	82	117	13086	88	155	1.0	1.0	14.2	21.0	1.0	3.78	0.58	11.0	0	416
417.0	22:52	80.0	5.0	2	83	90	118	13155	88	155	1.0	1.0	14.2	21.0	1.1	3.79	0.56	12.0	0	417
418.0	22:53	59.0	5.0	2	83	76	117	13119	87	153	1.0	1.0	14.2	21.0	1.1	3.80	0.62	13.0	0	418
419.0	22:54	83.7	5.0	2	83	70	117	13122	87	151	1.0	1.0	14.2	21.0	1.1	3.82	0.54	14.0	0	419
420.0	22:55	67.9	5.0	1	84	66	117	13120	87	149	1.0	1.0	14.2	20.9	1.2	3.83	0.55	15.0	0	420
421.0	22:56	53.7	5.0	1	84	57	117	13121	87	146	1.0	1.0	14.3	20.9	1.3	3.85	0.57	16.0	0	421
422.0	22:57	37.5	5.0	0	84	60	117	13111	87	141	1.0	1.0	14.4	20.9	1.5	3.88	0.50	17.0	0	422
423.0	22:59	34.3	5.0	1	84	59	120	13622	87	138	1.0	1.0	14.6	20.8	1.7	3.91	0.66	18.0	0	423
424.0	23:01	30.0	5.0	2	85	60	122	14324	87	138	1.0	1.0	14.7	20.9	1.8	3.94	0.72	19.0	0	424
425.0	23:03	38.7	5.0	3	84	66	125	14948	86	137	1.0	1.0	14.9	20.9	1.9	3.96	0.73	20.0	0	425
426.0	23:03	69.2	7.3	4	84	76	125	14959	86	136	1.0	1.0	15.0	20.8	2.0	3.98	0.64	21.0	0	426
427.0	23:05	50.7	7.3	5	84	87	125	14965	86	135	1.0	1.0	15.3	20.8	2.1	4.00	0.75	22.0	0	427
428.0	23:05	116.1	7.3	4	84	82	125	14961	86	136	1.0	1.0	15.4	20.8	2.2	4.01	0.55	23.0	0	428
429.0	23:06	120.0	7.3	3	84	67	125	14960	86	135	1.0	1.0	15.5	20.9	2.2	4.02	0.52	24.0	0	429
430.0	23:07	66.7	7.3	3	85	66	125	14973	85	135	1.0	1.0	15.6	20.8	2.3	4.03	0.64	25.0	0	430
431.0	23:07	72.0	7.3	3	84	68	125	14961	85	135	1.0	1.0	15.8	20.9	2.3	4.04	0.62	26.0	0	431
432.0	23:08	66.7	7.3	3	85	62	125	14971	85	134	1.0	1.0	15.8	21.0	2.4	4.06	0.62	27.0	0	432
433.0	23:09	57.1	7.3	2	85	58	125	14959	85	134	1.0	1.0	15.9	21.0	2.5	4.08	0.62	28.0	0	433
434.0	23:10	55.4	7.3	2	85	57	125	14934	85	134	1.0	1.0	16.0	20.8	2.6	4.10	0.61	29.0	0	434
435.0	23:12	52.9	7.3	2	85	58	125	14874	84	134	1.0	1.1	16.1	20.9	2.7	4.11	0.63	30.0	0	435
436.0	23:13	45.6	9.1	2	85	53	125	14875	84	134	1.0	1.1	16.3	20.9	2.8	4.14	0.64	31.0	0	436
437.0	23:15	34.0	9.1	2	85	53	124	14830	85	135	1.0	1.1	16.2	20.9	2.9	4.17	0.72	32.0	0	437
438.0	23:17	26.3	9.1	1	85	45	124	14797	86	136	1.0	1.1	16.3	20.9	3.1	4.20	0.71	33.0	0	438
439.0	23:20	18.6	9.1	1	85	45	124	14763	86	138	1.0	1.1	16.7	20.9	3.4	4.26	0.75	34.0	0	439
440.0	23:22	32.4	9.1	1	85	48	124	14737	85	144	1.0	1.1	17.0	21.0	3.6	4.29	0.68	35.0	0	440
441.0	23:23	58.1	9.1	2	85	54	124	14684	85	147	1.0	1.1	17.2	21.1	3.6	4.31	0.61	36.0	0	441
442.0	23:25	36.0	9.1	2	85	51	124	14992	87	148	1.0	1.1	17.4	21.5	3.8	4.33	0.72	37.0	0	442
443.0	23:36	35.0	9.1	2	85	51	125	15411	89	143	1.1	1.1	18.3	21.8	3.9	4.34	0.68	38.0	0	443
444.0	23:37	56.2	9.1	2	86	65	128	15804	90	132	1.1	1.1	19.4	21.9	4.0	4.38	0.61	39.0	0	444
445.0	23:38	52.9	9.1	2	86	59	128	15899	88	133	1.1	1.1	19.5	22.0	4.2	4.40	0.61	40.0	0	445
446.0	23:42	13.5	9.5	3	87	56	129	15982	88	141	1.1	1.1	19.7	22.1	4.5	4.47	0.93	41.0	0	446
447.0	23:51	13.5	9.5	2	86	57	128	15920	88	142	1.1	1.1	19.7	22.7	4.5	4.48	0.93	42.0	0	447
448.0	00:07	3.9	9.5	1	87	44	129	15930	85	145	1.1	1.1	21.2	22.2	6.7	4.88	1.05	43.0	0	448
449.0	00:09	23.2	9.5	1	87	48	129	15939	85	142	1.1	1.1	22.1	22.7	6.9	4.93	0.69	44.0	0	449
450.0	00:15	11.0	9.5	0	87	44	129	15958	85	139	1.1	1.1	22.5	22.9	7.3	5.02	0.66	45.0	0	450
451.0	00:20	11.3	9.5	1	87	48	129	15934	84	138	1.1	1.1	22.9	23.0	7.9	5.11	0.79	46.0	0	451
452.0	00:24	17.2	9.5	2	87	54	129	15935	84	140	1.1	1.1	23.3	23.2	8.1	5.17	0.85	47.0	0	452
453.0	00:27	19.3	9.5	3	86	60	129	15958	84	145	1.1	1.1	23.8	23.3	8.4	5.22	0.86	48.0	0	453
454.0	00:28	43.4	9.5	1	87	50	128	15955	84	145	1.1	1.1	24.1	23.3	8.5	5.24	0.62	49.0	0	454
455.0	00:30	28.1	10.5	0	87	43	129	15967	84	145	1.1	1.1	24.3	23.4	8.7	5.28	0.53	50.0	0	455

299082

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
455.0	00:30	28.1	10.5	0	87	43	129	15967	84	145	1.1	1.1	24.3	23.4	8.7	5.28	0.53	50.0	0	455
456.0	00:33	21.4	10.5	0	87	43	128	15941	83	145	1.1	1.1	24.2	23.6	8.9	5.32	0.57	51.0	0	456
457.0	00:35	37.9	10.5	1	87	50	129	15964	83	145	1.1	1.1	24.6	24.6	9.1	5.35	0.64	52.0	0	457
458.0	00:36	37.9	10.5	1	87	48	129	15941	83	145	1.1	1.1	24.7	24.7	9.2	5.38	0.62	53.0	0	458
459.0	00:39	27.3	10.5	1	88	43	128	15952	83	145	1.1	1.1	24.8	24.7	9.4	5.41	0.65	54.0	0	459
460.0	00:41	21.9	10.5	0	87	46	129	15965	83	145	1.1	1.1	25.1	24.7	9.7	5.46	0.56	55.0	0	460
461.0	00:44	27.5	10.5	1	87	47	129	15965	83	145	1.1	1.1	25.3	24.8	9.8	5.50	0.68	56.0	0	461
462.0	00:46	31.3	10.5	1	87	49	129	15964	82	144	1.1	1.1	25.3	24.9	10.0	5.53	0.65	57.0	0	462
463.0	00:47	30.8	10.5	1	87	46	129	15940	82	144	1.1	1.1	25.6	24.9	10.2	5.56	0.65	58.0	0	463
464.0	00:50	29.3	10.5	1	87	49	129	15976	82	144	1.1	1.1	24.7	25.0	10.4	5.60	0.67	59.0	0	464
465.0	00:51	34.6	11.7	1	87	49	129	15977	82	144	1.1	1.1	24.3	25.1	10.5	5.62	0.62	60.0	0	465
466.0	00:53	33.3	11.7	1	87	51	129	15987	82	144	1.1	1.0	24.4	25.1	10.6	5.65	0.63	61.0	0	466
467.0	00:55	34.3	11.7	1	87	51	129	16018	82	144	1.1	1.0	24.5	25.1	10.8	5.68	0.66	62.0	0	467
468.0	00:56	35.7	11.7	1	87	51	129	15984	81	144	1.1	1.0	24.5	25.2	11.0	5.71	0.64	63.0	0	468
469.0	00:59	28.3	11.7	1	87	49	129	16029	81	144	1.1	1.0	24.6	25.3	11.2	5.75	0.65	64.0	1	469
470.0	01:00	33.3	11.7	1	87	49	129	15996	81	144	1.1	1.0	24.8	25.2	11.3	5.78	0.66	65.0	1	470
471.0	01:02	35.6	11.7	1	87	54	129	16016	81	144	1.1	1.0	25.0	25.3	11.4	5.80	0.66	66.0	1	471
472.0	01:04	28.3	11.7	2	87	53	128	15700	81	143	1.1	1.0	24.8	25.3	11.6	5.83	0.69	67.0	1	472
473.0	01:19	20.6	11.7	3	87	42	126	15476	84	136	1.1	1.0	25.3	25.6	11.8	5.88	0.86	68.0	1	473
474.0	01:21	33.0	11.7	0	89	48	123	14856	87	124	1.1	1.0	26.0	25.8	12.0	5.91	0.53	69.0	1	474
475.0	01:22	37.9	12.7	0	89	51	123	14852	86	125	1.1	1.0	26.2	25.8	12.2	5.94	0.51	70.0	1	475
476.0	01:24	41.4	12.7	1	89	52	124	14890	86	126	1.1	1.0	26.2	25.9	12.2	5.96	0.61	71.0	2	476
477.0	01:25	36.4	12.7	1	89	53	125	15078	86	127	1.1	1.0	26.4	25.9	12.4	5.99	0.67	72.0	1	477
478.0	01:27	34.3	12.7	2	89	53	128	15971	88	128	1.1	1.0	26.2	26.1	12.6	6.02	0.71	73.0	1	478
479.0	01:29	28.1	12.7	1	90	53	128	15996	89	125	1.1	1.0	25.9	26.1	12.8	6.05	0.72	74.0	1	479
480.0	01:31	37.5	12.7	1	89	55	128	15994	90	126	1.1	1.0	26.5	26.1	12.9	6.08	0.68	75.0	2	480
481.0	01:33	29.8	12.7	1	90	51	128	16028	90	126	1.1	1.0	26.7	26.2	13.1	6.11	0.70	76.0	2	481
482.0	01:35	29.0	12.7	1	90	50	128	16020	91	127	1.1	1.0	26.8	26.3	13.3	6.15	0.70	77.0	2	482
483.0	01:37	32.7	12.7	1	90	49	128	16010	91	127	1.1	1.0	26.8	26.5	13.4	6.18	0.69	78.0	3	483
484.0	01:38	34.9	12.7	1	90	50	128	15976	92	128	1.1	1.0	27.0	26.5	13.5	6.21	0.68	79.0	3	484
485.0	01:40	36.0	13.7	2	89	53	128	16026	92	129	1.1	1.0	27.2	26.5	13.7	6.23	0.71	80.0	3	485
486.0	01:41	50.0	13.7	1	90	51	128	16058	93	129	1.1	1.0	27.1	26.6	13.8	6.25	0.62	81.0	3	486
487.0	01:43	34.3	13.7	2	89	51	128	16031	93	130	1.1	1.0	27.1	27.3	14.0	6.28	0.71	82.0	3	487
488.0	01:46	20.8	13.7	1	90	47	128	16008	94	131	1.1	1.0	27.2	27.3	14.3	6.33	0.75	83.0	3	488
489.0	01:48	30.0	13.7	1	90	49	128	16051	95	131	1.1	1.0	27.3	27.3	14.5	6.36	0.69	84.0	3	489
490.0	01:50	26.7	13.7	2	89	53	128	16028	95	132	1.1	1.0	27.3	27.3	14.6	6.40	0.76	85.0	3	490
491.0	01:52	34.3	13.7	2	89	50	128	15987	96	133	1.1	1.0	27.7	27.3	14.8	6.43	0.70	86.0	3	491
492.0	01:54	27.1	13.7	1	89	50	128	16022	96	133	1.1	1.0	27.8	27.3	15.0	6.47	0.74	87.0	3	492
493.0	01:56	31.3	13.7	1	89	51	128	15997	97	133	1.1	1.0	27.8	27.3	15.2	6.50	0.70	88.0	3	493
494.0	01:58	31.3	13.7	1	89	50	128	15994	97	134	1.1	1.0	28.1	27.3	15.4	6.53	0.71	89.0	3	494
495.0	02:00	31.3	14.3	1	89	50	128	16006	97	134	1.1	1.0	27.9	26.7	15.5	6.56	0.71	90.0	4	495
496.0	02:02	31.9	14.3	2	89	51	128	16018	98	134	1.1	1.0	27.8	26.8	15.6	6.60	0.74	91.0	4	496
497.0	02:03	34.6	14.3	1	90	47	128	16016	98	134	1.1	1.0	28.1	26.9	15.8	6.62	0.70	92.0	4	497
498.0	02:06	21.0	14.3	2	89	49	128	16006	97	134	1.1	1.0	28.5	26.9	16.1	6.67	0.80	93.0	3	498
499.0	02:08	36.4	14.3	2	89	51	128	16005	98	135	1.1	1.0	28.6	26.9	16.2	6.70	0.72	94.0	4	499
500.0	02:10	27.5	14.3	2	88	52	127	15835	98	134	1.1	1.0	28.5	26.9	16.4	6.74	0.79	95.0	4	500
501.0	02:14	14.6	14.3	2	89	43	127	15966	98	131	1.1	1.0	28.9	26.9	16.8	6.80	0.89	96.0	4	501
502.0	02:27	25.0	14.3	2	84	48	112	14265	98	128	1.1	1.0	29.2	27.0	16.9	6.84	0.77	97.0	5	502
503.0	02:29	29.8	14.3	1	86	59	128	16170	97	127	1.1	1.0	29.0	26.9	17.1	6.88	0.66	98.0	4	503
504.0	02:31	41.4	15.1	1	86	55	126	15722	98	128	1.1	1.0	28.8	26.9	17.3	6.90	0.59	99.0	4	504

299083

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
504.0	02:31	41.4	15.1	1	86	55	126	15722	98	128	1.1	1.0	28.8	26.9	17.3	6.90	0.59	99.0	4	504
505.0	02:32	30.5	15.1	0	86	57	126	15706	98	128	1.1	1.0	29.5	26.9	17.4	6.93	0.51	100.0	4	505
506.0	02:34	30.5	15.1	0	86	56	126	15679	98	128	1.1	1.0	29.6	27.0	17.6	6.96	0.52	101.0	5	506
507.0	02:36	33.0	15.1	0	86	55	126	15657	98	128	1.1	1.0	29.7	27.1	17.7	6.99	0.52	102.0	4	507
508.0	02:38	41.9	15.1	0	86	55	126	15681	98	128	1.1	1.0	29.8	27.1	17.9	7.02	0.48	103.0	3	508
509.0	02:39	33.3	15.1	0	86	54	126	15684	98	128	1.1	1.0	30.2	27.2	18.0	7.05	0.51	104.0	2	509
510.0	02:41	31.0	15.1	1	86	56	126	15701	98	129	1.1	1.0	30.4	27.3	18.2	7.08	0.66	105.0	2	510
511.0	02:43	31.0	15.1	1	86	53	126	15699	98	129	1.1	1.0	30.2	27.6	18.4	7.11	0.67	106.0	6	511
512.0	02:45	35.3	15.1	1	86	51	126	15676	98	129	1.1	1.0	30.4	28.3	18.5	7.14	0.65	107.0	7	512
513.0	02:47	32.4	15.1	1	86	55	126	15711	98	129	1.1	1.0	30.6	28.3	18.7	7.17	0.69	108.0	7	513
514.0	02:48	41.9	15.7	1	86	55	126	15735	98	129	1.1	1.0	30.5	28.4	18.8	7.20	0.62	109.0	7	514
515.0	02:50	31.3	15.7	1	86	54	126	15750	98	128	1.1	1.0	30.5	28.7	19.0	7.23	0.69	110.0	8	515
516.0	02:53	24.0	15.7	1	86	52	126	15715	97	128	1.1	1.0	30.5	28.9	19.1	7.27	0.71	111.0	7	516
517.0	02:55	26.7	15.7	1	86	53	126	15725	97	127	1.1	1.0	30.7	29.0	19.3	7.31	0.70	112.0	7	517
518.0	02:57	26.1	15.7	1	86	50	126	15742	97	127	1.1	1.0	31.2	29.0	19.6	7.35	0.71	113.0	7	518
519.0	03:00	26.3	15.7	1	86	51	126	15721	97	127	1.1	1.0	24.9	29.1	19.8	7.38	0.70	114.0	7	519
520.0	03:02	26.7	15.7	1	86	50	126	15739	97	127	1.1	1.0	24.7	29.2	19.9	7.42	0.70	115.0	7	520
521.0	03:04	29.5	15.7	1	86	53	126	15733	97	128	1.1	1.0	25.0	29.3	20.1	7.45	0.70	116.0	7	521
522.0	03:05	37.9	15.7	1	86	50	126	15767	97	127	1.1	1.0	24.9	29.3	20.3	7.48	0.65	117.0	7	522
523.0	03:08	25.5	15.7	1	86	48	126	15760	97	127	1.1	1.0	25.0	29.4	20.5	7.52	0.71	118.0	5	523
524.0	03:10	28.8	16.4	1	86	48	126	15787	96	126	1.1	1.0	25.0	29.4	20.7	7.56	0.69	119.0	6	524
525.0	03:12	34.9	16.4	2	86	54	126	15804	96	127	1.1	1.0	25.2	29.3	20.8	7.58	0.70	120.0	7	525
526.0	03:13	31.0	16.4	2	86	51	126	15801	96	127	1.1	1.0	25.0	29.2	20.9	7.62	0.71	121.0	8	526
527.0	03:15	38.3	16.4	2	86	52	126	15810	96	127	1.1	1.0	25.0	29.1	21.1	7.64	0.69	122.0	8	527
528.0	03:17	34.3	16.4	2	86	53	126	15766	96	126	1.1	1.0	25.0	28.9	21.3	7.67	0.72	123.0	7	528
529.0	03:18	42.9	16.4	2	85	52	125	15585	96	127	1.1	1.0	25.3	28.9	21.4	7.69	0.69	124.0	8	529
530.0	03:35	34.3	16.4	2	84	51	126	15866	98	127	1.1	1.0	26.0	29.0	21.5	7.72	0.71	125.0	6	530
531.0	03:36	45.6	16.4	1	88	55	126	15976	98	126	1.1	1.0	26.2	29.1	21.6	7.75	0.62	126.0	5	531
532.0	03:38	32.4	16.4	1	88	52	126	15982	98	124	1.1	1.0	26.1	29.1	21.8	7.78	0.65	127.0	7	532
533.0	03:40	29.5	16.4	1	88	51	126	15980	98	123	1.1	1.0	25.8	29.3	21.9	7.81	0.71	128.0	7	533
534.0	03:42	27.9	17.0	1	88	55	126	15985	98	122	1.1	1.0	25.8	29.5	22.1	7.85	0.72	129.0	7	534
535.0	03:44	37.1	17.0	2	88	56	126	16014	98	123	1.1	1.0	26.1	29.6	22.3	7.87	0.69	130.0	7	535
536.0	03:45	46.8	17.0	2	88	59	127	16016	97	122	1.1	1.0	26.3	29.8	22.4	7.89	0.66	131.0	7	536
537.0	03:46	40.0	17.0	2	88	61	126	16012	97	122	1.1	1.0	26.7	29.9	22.6	7.92	0.69	132.0	7	537
538.0	03:48	31.0	17.0	2	88	58	126	15994	97	122	1.1	1.0	26.5	29.9	22.7	7.95	0.71	133.0	5	538
539.0	03:51	23.4	17.0	1	88	52	126	16003	97	122	1.1	1.0	26.7	29.9	22.9	7.99	0.74	134.0	6	539
540.0	03:53	29.3	17.0	2	88	54	127	16049	97	123	1.1	1.0	26.8	29.9	23.1	8.03	0.71	135.0	7	540
541.0	03:55	29.8	17.0	2	88	54	127	16031	96	122	1.1	1.0	27.1	30.0	23.3	8.06	0.71	136.0	8	541
542.0	03:57	39.6	17.0	2	88	57	127	16052	96	121	1.1	1.0	27.0	30.2	23.4	8.09	0.68	137.0	9	542
543.0	03:58	37.9	17.0	2	88	58	127	16057	96	121	1.1	1.0	26.8	30.1	23.6	8.11	0.69	138.0	9	543
544.0	04:00	28.6	17.5	2	88	54	126	16075	96	121	1.1	1.0	26.7	29.8	23.8	8.15	0.73	139.0	9	544
545.0	04:03	25.7	17.5	2	88	52	126	16062	96	121	1.1	1.0	26.8	29.4	23.9	8.19	0.73	140.0	8	545
546.0	04:05	28.3	17.5	2	88	51	127	16081	96	121	1.1	1.0	26.9	29.1	24.1	8.22	0.72	141.0	6	546
547.0	04:07	26.3	17.5	1	89	49	127	16074	96	122	1.1	1.0	27.0	29.2	24.3	8.26	0.71	142.0	6	547
548.0	04:09	27.5	17.5	2	88	50	126	16057	96	123	1.1	1.0	27.6	29.5	24.5	8.30	0.73	143.0	7	548
549.0	04:11	29.3	17.5	2	88	53	126	16049	97	123	1.1	1.0	27.5	29.7	24.7	8.33	0.73	144.0	9	549
550.0	04:51	25.0	17.5	1	89	48	126	16164	98	120	1.1	1.0	27.6	29.7	24.9	8.37	0.73	145.0	9	550
551.0	04:54	21.4	17.5	1	91	56	125	15793	89	107	1.1	1.0	27.3	29.7	25.2	8.42	0.73	146.0	9	551
552.0	04:56	45.6	17.5	2	91	59	125	15849	88	99	1.1	1.0	27.0	29.7	25.3	8.44	0.64	147.0	9	552
553.0	04:57	31.6	18.0	1	91	58	125	15807	87	92	1.1	1.0	26.7	29.9	25.5	8.47	0.70	148.0	10	553

299084

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
553.0	04:57	31.6	18.0	1	91	58	125	15807	87	92	1.1	1.0	26.7	29.9	25.5	8.47	0.70	148.0	10	553
554.0	04:59	38.7	18.0	2	91	56	125	15833	87	87	1.1	1.0	26.5	29.5	25.6	8.50	0.67	149.0	10	554
555.0	05:01	27.9	18.0	1	91	54	125	15819	87	87	1.1	1.0	26.5	29.2	25.8	8.53	0.72	150.0	10	555
556.0	05:03	36.0	18.0	2	91	58	125	15848	87	87	1.1	1.0	26.2	29.1	25.9	8.56	0.70	151.0	10	556
557.0	05:15	28.1	18.0	2	92	55	126	15986	91	91	1.1	1.0	27.8	29.4	26.1	8.60	0.73	152.0	10	557
558.0	05:17	51.4	18.0	2	96	59	126	16013	91	92	1.1	1.0	28.4	29.6	26.3	8.62	0.63	153.0	9	558
559.0	05:18	46.8	18.0	1	96	57	126	16030	91	92	1.1	1.0	28.3	29.5	26.4	8.64	0.62	154.0	11	559
560.0	05:19	72.0	18.0	2	96	60	126	16055	90	92	1.1	1.0	28.3	29.5	26.5	8.65	0.57	155.0	11	560
561.0	05:53	36.0	18.0	1	94	54	125	15801	85	87	1.1	1.0	28.3	29.6	26.6	8.68	0.64	156.0	10	561
562.0	05:55	25.5	18.0	0	91	52	124	15597	81	81	1.1	1.0	28.1	29.7	26.8	8.72	0.55	157.0	8	562
563.0	05:57	30.0	18.5	1	91	55	124	15587	81	81	1.1	1.0	27.5	29.7	27.0	8.75	0.68	158.0	8	563
564.0	05:58	43.4	18.5	1	91	53	125	15642	81	81	1.1	1.0	27.2	29.8	27.1	8.78	0.64	159.0	9	564
565.0	06:00	27.3	18.5	1	91	50	125	15745	81	81	1.1	1.0	26.8	29.8	27.4	8.81	0.70	160.0	10	565
566.0	06:03	28.4	18.5	2	91	54	125	15732	81	81	1.1	1.0	26.1	29.9	27.6	8.85	0.73	161.0	9	566
567.0	06:04	33.6	18.5	2	90	59	125	15771	81	81	1.1	1.0	25.6	29.9	27.7	8.88	0.73	162.0	9	567
568.0	06:06	41.4	18.5	3	90	63	125	15783	82	81	1.1	1.0	25.3	30.0	27.8	8.90	0.72	163.0	10	568
569.0	06:07	37.1	18.5	3	90	61	125	15831	82	82	1.1	1.0	25.1	30.1	27.9	8.93	0.73	164.0	10	569
570.0	06:09	34.9	18.5	2	91	56	125	15830	82	82	1.1	1.0	25.2	30.1	28.1	8.96	0.73	165.0	10	570
571.0	06:11	26.1	18.5	2	91	52	125	15827	81	82	1.1	1.0	25.3	30.1	28.3	9.00	0.75	166.0	10	571
572.0	06:14	24.3	18.5	2	91	53	125	15865	81	82	1.1	1.0	27.1	30.2	28.6	9.04	0.77	167.0	9	572
573.0	06:16	34.0	18.9	2	91	56	125	15882	81	81	1.1	1.0	28.6	30.3	28.8	9.07	0.73	168.0	9	573
574.0	06:17	33.3	18.9	3	90	61	125	15888	81	81	1.1	1.0	28.5	30.3	28.9	9.10	0.77	169.0	10	574
575.0	06:19	40.9	18.9	3	90	59	125	15887	81	81	1.1	1.0	28.7	30.3	29.0	9.12	0.71	170.0	10	575
576.0	06:21	32.7	18.9	2	90	60	125	15894	81	81	1.1	1.0	28.6	30.3	29.2	9.15	0.74	171.0	11	576
577.0	06:22	43.4	18.9	3	90	60	125	15888	81	81	1.1	1.0	28.5	30.3	29.3	9.17	0.70	172.0	11	577
578.0	06:24	35.3	18.9	3	91	59	125	15931	81	81	1.1	1.0	28.6	30.6	29.5	9.20	0.74	173.0	11	578
579.0	06:26	31.6	18.9	3	91	58	125	15921	80	81	1.1	1.0	28.6	30.5	29.6	9.23	0.76	174.0	12	579
580.0	06:27	37.5	18.9	2	91	53	125	15930	81	83	1.1	1.0	28.6	30.5	29.8	9.26	0.70	175.0	13	580
581.0	06:30	23.1	18.9	2	91	52	125	15907	80	80	1.1	1.0	28.8	30.3	30.1	9.30	0.80	176.0	13	581
582.0	06:32	29.5	18.9	2	91	52	125	15889	80	80	1.1	1.0	29.1	30.3	30.2	9.34	0.76	177.0	13	582
583.0	06:34	28.8	19.3	3	90	55	125	15813	80	80	1.1	1.0	29.3	30.1	30.4	9.37	0.80	178.0	13	583
584.0	06:36	35.6	19.3	3	90	53	125	15789	80	80	1.1	1.0	29.3	30.1	30.5	9.40	0.75	179.0	13	584
585.0	07:23	33.0	19.3	3	89	61	125	15904	80	81	1.1	1.0	29.7	30.6	30.7	9.43	0.77	180.0	15	585
586.0	07:24	46.1	19.3	2	87	64	124	15782	80	81	1.1	1.0	29.8	31.4	30.8	9.45	0.67	181.0	12	586
587.0	07:26	41.9	19.3	2	88	58	124	15804	79	82	1.1	1.0	29.5	31.5	31.0	9.48	0.66	182.0	13	587
588.0	07:28	30.0	19.3	1	88	55	124	15792	78	81	1.1	1.0	28.6	31.6	31.1	9.51	0.70	183.0	11	588
589.0	07:30	24.5	19.3	1	88	55	124	15792	77	77	1.1	1.0	27.9	31.7	31.3	9.55	0.73	184.0	10	589
590.0	07:32	27.7	19.3	1	88	51	125	15802	76	76	1.1	1.0	27.6	31.7	31.5	9.59	0.70	185.0	9	590
591.0	07:35	22.1	19.3	1	88	50	125	15807	75	76	1.1	1.0	27.1	31.9	31.8	9.63	0.71	186.0	10	591
592.0	07:37	27.5	19.3	1	88	52	125	15832	74	75	1.1	1.0	27.0	31.9	31.9	9.67	0.69	187.0	10	592
593.0	07:39	25.9	19.8	2	88	57	125	15809	75	76	1.1	1.0	27.1	31.9	32.1	9.71	0.73	188.0	10	593
594.0	07:41	33.6	19.8	3	87	67	125	15840	75	76	1.1	1.0	26.9	31.9	32.3	9.74	0.75	189.0	12	594
595.0	07:43	43.9	19.8	3	87	70	125	15850	75	76	1.1	1.0	26.8	31.9	32.4	9.76	0.71	190.0	12	595
596.0	07:44	36.4	19.8	3	87	68	125	15850	76	76	1.1	1.0	26.8	31.9	32.6	9.79	0.75	191.0	11	596
597.0	07:46	40.0	19.8	3	87	67	125	15858	76	76	1.1	1.0	26.9	31.9	32.7	9.81	0.71	192.0	12	597
598.0	07:47	41.4	19.8	3	87	65	125	15887	76	76	1.1	1.0	26.9	31.9	32.8	9.84	0.72	193.0	12	598
599.0	07:49	34.9	19.8	3	87	66	125	15913	76	77	1.1	1.0	26.9	31.9	33.0	9.86	0.75	194.0	12	599
600.0	07:51	34.3	19.8	3	87	66	125	15908	76	78	1.1	1.0	26.9	31.9	33.1	9.89	0.76	195.0	11	600
601.0	07:52	36.4	19.8	3	87	65	125	15942	76	76	1.1	1.0	26.9	31.9	33.3	9.92	0.75	196.0	12	601
602.0	07:54	40.4	20.3	4	87	69	125	15968	76	77	1.1	1.0	26.8	31.9	33.4	9.95	0.75	197.0	12	602

299085

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
602.0	07:54	40.4	20.3	4	87	69	125	15968	76	77	1.1	1.0	26.8	31.9	33.4	9.95	0.75	197.0	12	602
603.0	07:55	44.4	20.3	4	87	70	125	15951	76	79	1.1	1.0	26.7	31.9	33.5	9.97	0.73	198.0	12	603
604.0	07:56	42.9	20.3	4	87	73	125	15961	76	78	1.1	1.0	26.6	31.9	33.6	9.99	0.74	199.0	12	604
605.0	07:58	48.0	20.3	4	87	72	125	15975	76	76	1.1	1.0	26.6	31.8	33.7	10.01	0.72	200.0	12	605
606.0	07:59	45.6	20.3	4	87	73	125	16028	76	76	1.1	1.0	26.5	31.8	33.9	10.03	0.74	201.0	12	606
607.0	08:00	48.6	20.3	4	87	74	125	15973	76	76	1.1	1.0	26.4	31.9	34.0	10.06	0.72	202.0	12	607
608.0	08:02	48.8	20.3	4	87	70	125	15973	76	77	1.1	1.0	26.3	31.9	34.1	10.08	0.71	203.0	12	608
609.0	08:03	41.9	20.3	3	87	68	125	15948	75	76	1.1	1.0	26.2	31.9	34.2	10.10	0.73	204.0	14	609
610.0	08:05	28.6	20.3	4	87	64	125	15951	75	76	1.1	1.0	26.2	31.9	34.3	10.14	0.82	205.0	14	610
611.0	08:07	41.4	20.3	3	87	63	125	15980	77	78	1.1	1.0	26.2	31.9	34.5	10.16	0.71	206.0	14	611
612.0	08:09	24.8	20.7	3	87	63	125	15961	78	80	1.1	1.0	26.1	31.9	34.7	10.20	0.83	207.0	14	612
613.0	08:11	37.9	20.7	4	86	74	124	15843	78	79	1.1	1.0	26.0	32.0	34.9	10.23	0.78	208.0	14	613
614.0	08:27	29.3	20.7	2	91	62	125	15941	79	83	1.1	1.0	30.0	32.2	35.0	10.26	0.74	209.0	10	614
615.0	08:28	58.1	20.7	2	91	69	125	16136	79	86	1.1	1.0	30.3	32.3	35.1	10.28	0.62	210.0	12	615
616.0	08:30	49.3	20.7	2	91	71	125	16163	79	88	1.1	1.0	30.2	32.3	35.3	10.30	0.65	211.0	14	616
617.0	08:31	53.7	20.7	2	91	65	125	16180	79	89	1.1	1.0	30.0	32.4	35.4	10.32	0.62	212.0	15	617
618.0	08:32	45.0	20.7	1	92	60	125	16136	79	89	1.1	1.0	29.9	32.4	35.5	10.34	0.63	213.0	16	618
619.0	08:34	32.1	20.7	1	92	57	125	16005	79	89	1.1	1.0	29.6	32.4	35.7	10.37	0.66	214.0	14	619
620.0	08:36	29.0	20.7	1	92	58	125	16025	79	89	1.1	1.0	29.3	32.0	35.8	10.40	0.67	215.0	13	620
621.0	08:37	43.9	20.7	2	92	67	125	16072	79	90	1.1	1.0	29.2	32.1	35.9	10.43	0.67	216.0	16	621
622.0	08:39	38.3	21.2	2	91	72	125	16095	79	90	1.1	1.0	29.3	32.1	36.1	10.45	0.72	217.0	13	622
623.0	08:40	52.9	21.2	3	91	73	125	16104	79	89	1.1	1.0	29.2	32.1	36.2	10.47	0.67	218.0	11	623
624.0	08:41	52.9	21.2	2	91	72	125	16131	79	89	1.1	1.0	29.1	32.2	36.3	10.49	0.66	219.0	9	624
625.0	08:42	53.7	21.2	2	91	69	125	16142	79	89	1.1	1.0	28.9	32.3	36.4	10.51	0.65	220.0	7	625
626.0	08:44	38.7	21.2	2	91	69	125	16140	79	89	1.1	1.0	28.8	32.3	36.5	10.54	0.70	221.0	7	626
627.0	08:46	36.4	21.2	2	92	67	125	16107	79	89	1.1	1.0	28.7	32.3	36.7	10.56	0.72	222.0	9	627
628.0	08:47	37.1	21.2	1	92	59	125	16119	78	89	1.1	1.0	28.7	32.3	36.9	10.59	0.67	223.0	10	628
629.0	08:49	27.5	21.2	1	92	61	125	16129	78	89	1.1	1.0	28.7	32.3	37.1	10.63	0.72	224.0	15	629
630.0	08:51	41.4	21.2	2	92	66	125	16109	78	89	1.1	1.0	28.6	32.3	37.2	10.65	0.70	225.0	15	630
631.0	08:52	43.9	21.2	3	91	73	125	16098	78	90	1.1	1.0	28.6	32.4	37.4	10.67	0.72	226.0	16	631
632.0	08:53	47.3	21.8	4	91	81	125	16103	78	89	1.1	1.0	28.8	32.4	37.4	10.69	0.73	227.0	14	632
633.0	08:55	50.0	24.8	4	90	96	125	16146	78	90	1.1	1.0	28.8	32.4	37.5	10.71	0.74	228.0	14	633
634.0	08:56	55.4	27.8	6	90	102	125	16187	78	89	1.1	1.0	28.7	32.3	37.6	10.72	0.76	229.0	14	634
635.0	08:57	28.1	30.8	3	87	77	126	16666	77	89	1.1	1.0	29.9	33.2	37.7	10.73	0.79	230.0	29	635
636.0	08:59	28.7	33.8	4	87	70	126	16718	77	88	1.1	1.0	29.9	33.3	37.8	10.75	0.82	231.0	41	636
637.0	09:02	29.2	36.8	4	87	77	126	16755	78	89	1.1	1.0	30.0	33.3	37.9	10.76	0.84	232.0	28	637
638.0	09:04	27.8	39.8	3	87	84	126	16645	78	89	1.1	1.0	30.1	33.3	38.0	10.78	0.78	233.0	24	638
639.0	09:06	29.2	42.8	4	87	85	126	16758	78	93	1.1	1.0	30.1	33.3	38.1	10.80	0.84	234.0	28	639
640.0	09:08	29.3	45.8	4	87	82	126	16765	78	93	1.1	1.0	30.0	33.3	38.2	10.82	0.84	235.0	15	640
641.0	09:11	29.2	48.8	4	87	80	126	16760	78	92	1.1	1.0	29.9	33.3	38.3	10.83	0.84	236.0	15	641
642.0	09:13	28.1	22.2	3	87	81	126	16668	79	89	1.1	1.0	30.0	33.3	38.4	10.85	0.79	237.0	17	642
643.0	09:15	28.6	22.2	3	87	85	126	16710	79	91	1.1	1.0	30.0	33.3	38.5	10.87	0.81	238.0	21	643
644.0	09:17	54.5	22.2	1	88	67	127	16783	80	87	1.1	1.0	30.1	32.5	38.5	10.89	0.55	239.0	13	644
645.0	09:18	36.7	22.2	2	87	76	127	16759	79	88	1.1	1.0	30.1	32.7	38.6	10.92	0.71	240.0	14	645
646.0	09:20	36.7	22.2	2	87	78	126	16738	79	89	1.1	1.0	30.1	32.8	38.8	10.95	0.71	241.0	17	646
647.0	09:22	38.3	22.2	1	87	67	127	16754	78	88	1.1	1.0	30.0	32.9	38.9	10.97	0.65	242.0	16	647
648.0	09:24	23.5	22.2	1	87	65	127	16733	78	88	1.1	1.0	29.9	33.0	39.2	11.02	0.70	243.0	15	648
649.0	09:26	37.5	22.2	2	87	70	127	16760	77	89	1.1	1.0	30.0	33.1	39.2	11.04	0.69	244.0	18	649
650.0	09:27	41.4	22.2	3	87	78	127	16741	77	89	1.1	1.0	30.0	33.2	39.4	11.07	0.70	245.0	24	650
651.0	09:29	46.2	22.2	3	86	84	126	16771	77	89	1.1	1.0	30.0	33.2	39.5	11.09	0.70	246.0	25	651

299086

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
651.0	09:29	46.2	22.2	3	86	84	126	16771	77	89	1.1	1.0	30.0	33.2	39.5	11.09	0.70	246.0	25	651
652.0	09:30	46.8	22.2	3	87	82	126	16795	77	87	1.1	1.0	30.0	33.3	39.6	11.11	0.69	247.0	26	652
653.0	09:31	38.3	22.3	3	87	77	126	16802	77	89	1.1	1.0	29.9	33.2	39.8	11.14	0.72	248.0	29	653
654.0	09:33	35.3	22.3	2	87	70	126	16749	77	88	1.1	1.0	29.9	33.3	39.9	11.16	0.69	249.0	41	654
655.0	09:35	39.6	22.3	2	87	77	126	16786	78	89	1.1	1.0	30.0	33.3	40.0	11.19	0.71	250.0	28	655
656.0	09:36	39.6	22.4	4	87	84	126	16727	78	89	1.1	1.0	30.1	33.3	40.2	11.22	0.78	251.0	24	656
657.0	09:37	59.0	22.4	5	87	85	126	16645	78	93	1.1	1.0	30.1	33.3	40.3	11.23	0.72	252.0	28	657
658.0	09:39	45.0	22.5	5	87	82	126	16636	78	93	1.1	1.0	30.0	33.3	40.4	11.25	0.76	253.0	15	658
659.0	09:40	43.9	22.5	4	87	80	126	16646	78	92	1.1	1.0	29.9	33.3	40.5	11.28	0.76	254.0	16	659
660.0	09:41	45.6	22.6	5	87	81	126	16663	79	89	1.1	1.0	30.0	33.3	40.7	11.30	0.76	255.0	19	660
661.0	09:43	43.4	22.6	5	87	85	126	16685	79	91	1.1	1.0	30.0	33.3	40.7	11.32	0.80	256.0	21	661
662.0	09:44	49.3	22.7	6	87	92	126	16675	79	90	1.1	1.0	29.9	33.4	40.8	11.34	0.78	257.0	25	662
663.0	09:45	50.7	22.7	6	86	97	126	16723	79	90	1.1	1.0	29.9	33.4	40.9	11.36	0.78	258.0	28	663
664.0	09:46	64.3	22.8	6	87	95	126	16761	79	90	1.1	1.0	29.9	33.4	41.0	11.38	0.73	259.0	28	664
665.0	09:47	63.2	22.8	6	87	94	126	16797	79	90	1.1	1.0	30.0	33.4	41.1	11.39	0.74	260.0	28	665
666.0	09:49	36.4	22.9	5	87	76	125	16636	79	91	1.1	1.0	30.1	33.3	41.3	11.42	0.83	261.0	28	666
667.0	09:50	45.0	22.9	4	87	76	126	16618	79	90	1.1	1.0	30.1	33.3	41.4	11.44	0.75	262.0	30	667
668.0	09:52	30.5	22.9	5	87	79	126	16673	80	91	1.1	1.0	30.0	33.3	41.6	11.48	0.85	263.0	33	668
669.0	09:53	65.5	23.0	5	87	86	126	16804	80	91	1.1	1.0	30.0	33.3	41.6	11.49	0.70	264.0	31	669
670.0	09:54	39.6	23.0	7	86	95	126	16765	79	90	1.1	1.0	29.9	33.3	41.7	11.52	0.85	265.0	30	670
671.0	10:09	52.2	23.1	6	88	90	126	16822	80	90	1.1	1.0	29.7	33.3	41.9	11.54	0.79	266.0	31	671
672.0	10:10	62.1	23.1	6	86	102	125	16826	83	88	1.1	1.1	29.3	33.3	41.9	11.55	0.72	267.0	26	672
673.0	10:11	59.0	23.2	5	87	95	126	17004	82	91	1.1	1.1	29.2	33.3	42.0	11.57	0.73	268.0	27	673
674.0	10:13	47.4	23.2	5	87	98	126	17256	82	91	1.1	1.1	29.1	33.3	42.1	11.59	0.76	269.0	26	674
675.0	10:14	42.4	23.2	5	87	96	126	17249	81	93	1.1	1.1	29.0	33.3	42.3	11.61	0.78	270.0	25	675
676.0	10:15	52.9	23.3	4	87	84	126	17101	80	92	1.1	1.1	29.0	33.3	42.4	11.63	0.71	271.0	25	676
677.0	10:17	45.6	23.3	4	87	92	126	17078	80	92	1.1	1.1	28.9	33.3	42.5	11.65	0.75	272.0	26	677
678.0	10:18	60.0	23.4	6	87	102	126	17090	80	91	1.1	1.1	28.8	33.4	42.5	11.67	0.73	273.0	26	678
679.0	10:18	69.2	23.4	6	90	105	126	17083	80	91	1.1	1.1	28.7	33.3	42.6	11.69	0.72	274.0	27	679
680.0	10:19	80.0	23.5	6	98	102	126	17152	80	91	1.1	1.1	28.7	33.3	42.6	11.70	0.69	275.0	28	680
681.0	10:20	52.2	23.6	5	98	98	126	17178	80	94	1.1	1.1	28.6	33.3	42.7	11.72	0.78	276.0	28	681
682.0	10:21	58.1	23.6	5	98	93	126	17190	80	92	1.1	1.1	28.5	33.4	42.9	11.73	0.75	277.0	28	682
683.0	10:23	46.8	23.6	4	98	88	126	17157	80	92	1.1	1.1	28.4	33.5	43.1	11.76	0.77	278.0	28	683
684.0	10:24	57.1	23.7	5	98	93	126	17146	80	92	1.1	1.1	28.3	33.5	43.1	11.77	0.74	279.0	28	684
685.0	10:25	55.4	23.7	5	98	92	126	17206	80	91	1.1	1.1	28.2	33.5	43.2	11.79	0.75	280.0	28	685
686.0	10:26	57.1	23.8	5	98	96	126	17218	80	91	1.1	1.1	28.1	33.5	43.3	11.81	0.74	281.0	28	686
687.0	10:27	45.0	23.8	5	98	98	126	17374	80	92	1.1	1.1	28.0	33.5	43.4	11.83	0.81	282.0	27	687
688.0	10:28	57.1	23.9	5	98	100	126	17332	80	93	1.1	1.1	27.9	33.5	43.5	11.85	0.76	283.0	28	688
689.0	10:29	54.5	23.9	5	98	95	126	17266	80	93	1.1	1.1	27.9	33.5	43.6	11.87	0.77	284.0	28	689
690.0	10:30	58.1	24.0	5	98	92	126	17275	80	94	1.1	1.1	27.8	33.5	43.7	11.88	0.75	285.0	25	690
691.0	10:32	38.7	24.0	5	98	100	126	17194	80	91	1.1	1.1	27.7	33.5	43.9	11.91	0.84	286.0	6	691
692.0	10:33	67.9	24.1	5	98	99	126	17130	80	91	1.1	1.1	27.6	33.4	44.0	11.92	0.72	287.0	7	692
693.0	10:34	53.7	24.1	6	98	101	126	17120	80	91	1.1	1.1	27.5	33.4	44.1	11.94	0.78	288.0	7	693
694.0	10:35	57.1	24.2	6	98	105	126	17138	80	91	1.1	1.1	27.5	33.4	44.2	11.96	0.77	289.0	8	694
695.0	10:36	47.4	24.2	5	98	87	126	17094	80	92	1.1	1.1	27.4	33.4	44.3	11.98	0.78	290.0	26	695
696.0	10:38	33.3	24.2	4	98	87	126	17068	80	91	1.1	1.1	27.3	33.3	44.5	12.01	0.83	291.0	31	696
697.0	10:39	42.4	24.3	5	98	93	126	17093	80	91	1.1	1.1	27.2	33.3	44.7	12.04	0.81	292.0	31	697
698.0	10:41	42.9	24.3	6	98	104	126	17142	80	92	1.1	1.1	27.1	33.3	44.8	12.06	0.84	293.0	33	698
699.0	10:42	65.5	24.4	7	98	110	126	17122	80	92	1.1	1.1	27.1	33.3	44.8	12.07	0.76	294.0	36	699
700.0	11:37	28.8	24.4	3	90	78	126	17106	80	106	1.1	1.1	29.5	33.2	45.1	12.11	0.79	295.0	33	700

299087

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
700.0	11:37	28.8	24.4	3	90	78	126	17106	80	106	1.1	1.1	29.5	33.2	45.1	12.11	0.79	295.0	33	700
701.0	11:39	32.7	24.4	3	85	92	126	17191	81	118	1.1	1.1	30.4	33.2	45.2	12.14	0.77	296.0	16	701
702.0	11:40	37.1	24.4	5	85	109	127	17456	81	124	1.1	1.1	30.2	33.2	45.4	12.17	0.82	297.0	15	702
703.0	11:42	45.6	24.5	5	85	97	127	17440	81	129	1.1	1.1	30.0	33.1	45.5	12.19	0.76	298.0	16	703
704.0	11:43	54.5	24.5	6	85	111	127	17553	81	131	1.1	1.1	29.9	33.1	45.6	12.21	0.76	299.0	18	704
705.0	11:44	44.4	24.5	4	85	96	127	17514	81	134	1.1	1.1	29.8	33.1	45.7	12.23	0.75	300.0	20	705
706.0	11:46	42.9	24.6	4	85	96	127	17514	81	136	1.1	1.1	29.6	33.1	45.9	12.25	0.76	301.0	20	706
707.0	11:47	49.3	24.6	4	85	93	127	17467	81	139	1.1	1.1	29.5	33.1	45.9	12.27	0.71	302.0	20	707
708.0	11:48	51.4	24.7	4	85	98	127	17408	81	141	1.1	1.1	29.4	33.1	46.0	12.29	0.71	303.0	21	708
709.0	11:49	64.3	24.7	5	85	107	127	17500	80	142	1.1	1.1	29.3	33.1	46.1	12.31	0.69	304.0	22	709
710.0	11:50	58.1	24.7	5	85	105	127	17533	80	142	1.1	1.1	29.2	33.1	46.2	12.32	0.72	305.0	22	710
711.0	11:51	50.7	24.8	5	85	102	127	17522	80	142	1.1	1.1	29.1	33.1	46.3	12.34	0.75	306.0	22	711
712.0	11:53	28.3	24.8	3	86	80	127	17470	80	142	1.1	1.1	28.9	33.1	46.5	12.38	0.79	307.0	22	712
713.0	11:54	47.4	24.8	4	85	91	127	17513	80	142	1.1	1.1	28.8	33.1	46.6	12.40	0.72	308.0	23	713
714.0	11:57	23.4	24.8	2	86	74	127	17469	80	142	1.1	1.1	28.6	33.1	46.8	12.44	0.78	309.0	25	714
715.0	11:59	26.7	24.8	4	85	93	127	17490	80	142	1.1	1.1	28.5	33.1	47.0	12.48	0.85	310.0	26	715
716.0	12:01	41.9	24.9	4	85	97	127	17523	80	142	1.1	1.1	28.3	33.2	47.1	12.51	0.76	311.0	23	716
717.0	12:03	28.1	24.9	5	85	95	127	17500	81	141	1.1	1.1	28.1	33.1	47.3	12.54	0.88	312.0	25	717
718.0	12:04	65.5	24.9	5	85	101	127	17496	81	142	1.1	1.1	28.0	33.1	47.4	12.56	0.69	313.0	27	718
719.0	12:05	55.4	25.0	5	85	98	127	17544	81	142	1.1	1.1	27.9	33.1	47.4	12.57	0.73	314.0	28	719
720.0	12:06	54.5	25.0	5	85	96	127	17499	81	142	1.1	1.1	27.9	33.1	47.5	12.59	0.72	315.0	29	720
721.0	12:07	52.2	25.1	4	85	89	127	17531	81	142	1.1	1.1	27.8	33.1	47.6	12.61	0.70	316.0	29	721
722.0	12:10	21.8	25.0	6	85	94	127	17519	81	142	1.1	1.1	27.6	33.1	47.9	12.66	0.96	317.0	29	722
723.0	12:12	26.1	25.0	2	86	75	127	17466	82	142	1.1	1.1	27.5	33.0	48.0	12.70	0.78	318.0	29	723
724.0	12:14	38.3	25.1	2	86	73	127	17459	82	143	1.1	1.1	27.4	33.0	48.2	12.72	0.69	319.0	30	724
725.0	12:15	35.6	25.1	3	86	86	127	17463	82	143	1.1	1.1	27.3	33.0	48.4	12.75	0.76	320.0	30	725
726.0	12:17	51.4	25.1	5	85	97	127	17477	82	143	1.1	1.1	27.2	33.0	48.5	12.77	0.74	321.0	30	726
727.0	12:18	55.4	25.2	6	85	109	127	17505	82	143	1.1	1.1	27.1	33.0	48.6	12.79	0.77	322.0	30	727
728.0	12:20	30.8	25.2	4	86	80	127	17442	82	143	1.1	1.1	27.1	32.9	48.7	12.82	0.83	323.0	14	728
729.0	13:11	27.7	25.2	3	81	75	126	17190	82	142	1.1	1.1	26.7	32.9	48.9	12.86	0.78	324.0	8	729
730.0	13:13	33.0	25.2	4	82	103	125	17013	80	134	1.1	1.1	26.3	32.9	49.1	12.89	0.80	325.0	14	730
731.0	13:14	49.3	25.3	4	82	96	125	16992	79	129	1.1	1.1	26.2	32.9	49.1	12.91	0.73	326.0	15	731
732.0	13:15	45.0	25.3	4	82	101	125	17025	79	128	1.1	1.1	26.2	32.9	49.2	12.93	0.72	327.0	15	732
733.0	13:16	42.4	25.3	4	82	101	125	17020	78	128	1.1	1.1	26.1	32.9	49.4	12.95	0.74	328.0	10	733
734.0	13:18	40.4	25.4	4	82	99	125	17040	78	128	1.1	1.1	26.1	32.9	49.5	12.98	0.75	329.0	12	734
735.0	13:19	45.0	25.4	3	82	101	125	17064	78	130	1.1	1.1	26.0	32.9	49.6	13.00	0.70	330.0	11	735
736.0	13:21	46.8	25.4	3	83	98	125	17074	78	133	1.1	1.1	26.0	32.9	49.7	13.02	0.70	331.0	13	736
737.0	13:22	45.0	25.5	3	83	101	125	17046	77	136	1.1	1.1	25.9	32.9	49.8	13.04	0.70	332.0	16	737
738.0	13:24	37.9	25.5	4	83	101	125	17037	77	141	1.1	1.1	25.9	32.9	49.9	13.07	0.76	333.0	9	738
739.0	13:25	56.3	25.5	4	82	103	125	17029	77	144	1.1	1.1	25.8	32.9	50.0	13.09	0.68	334.0	14	739
740.0	13:26	51.4	25.6	3	82	97	125	17043	77	145	1.1	1.1	25.8	32.9	50.2	13.11	0.68	335.0	11	740
741.0	13:27	50.0	25.6	3	83	96	125	17050	77	145	1.1	1.1	25.7	32.9	50.2	13.13	0.69	336.0	14	741
742.0	13:28	69.2	25.6	4	82	99	125	17032	77	145	1.1	1.1	25.7	32.8	50.3	13.14	0.63	337.0	11	742
743.0	13:29	72.0	25.7	3	82	95	125	16996	78	146	1.1	1.1	25.6	32.9	50.3	13.15	0.61	338.0	9	743
744.0	13:30	48.0	25.7	3	83	96	125	16995	77	145	1.1	1.1	25.6	32.8	50.5	13.18	0.68	339.0	13	744
745.0	13:31	54.5	25.8	3	83	88	125	17016	77	146	1.1	1.1	25.6	32.8	50.6	13.19	0.65	340.0	11	745
746.0	13:34	20.6	25.8	2	83	82	125	16957	77	145	1.1	1.1	25.5	32.8	50.8	13.24	0.82	341.0	15	746
747.0	13:35	48.6	25.8	2	83	82	125	16954	78	146	1.1	1.1	25.4	32.7	50.9	13.26	0.64	342.0	14	747
748.0	13:36	45.6	25.8	3	83	90	125	16972	77	146	1.1	1.1	25.4	32.7	51.0	13.29	0.68	343.0	11	748
749.0	13:38	44.4	25.9	3	83	95	125	16986	77	145	1.1	1.1	25.4	32.7	51.1	13.31	0.70	344.0	15	749

299088

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
749.0	13:38	44.4	25.9	3	83	95	125	16986	77	145	1.1	1.1	25.4	32.7	51.1	13.31	0.70	344.0	15	749
750.0	13:39	65.5	25.9	3	83	95	125	17016	77	145	1.1	1.1	25.3	32.8	51.2	13.32	0.64	345.0	14	750
751.0	13:40	61.0	25.9	4	82	98	125	16983	77	145	1.1	1.1	25.3	32.8	51.2	13.34	0.66	346.0	26	751
752.0	13:41	49.3	26.0	4	83	100	125	17008	77	145	1.1	1.1	25.3	32.8	51.3	13.36	0.72	347.0	25	752
753.0	13:44	20.5	26.0	6	83	97	125	16981	77	146	1.1	1.1	25.2	32.9	51.6	13.41	0.96	348.0	21	753
754.0	13:50	10.2	25.8	6	83	88	124	16894	78	146	1.1	1.1	25.1	32.8	52.1	13.51	1.13	349.0	6	754
755.0	13:53	20.3	25.8	6	83	86	124	16845	78	146	1.1	1.1	24.9	32.8	52.3	13.56	0.99	350.0	17	755
756.0	13:57	14.4	25.8	7	93	92	125	16872	78	147	1.1	1.1	24.8	32.8	52.7	13.63	1.11	351.0	14	756
757.0	14:04	8.0	25.6	7	106	95	125	16944	78	114	1.1	1.1	24.6	32.7	53.5	13.75	1.27	352.0	12	757
758.0	14:25	14.1	25.5	6	73	84	125	17155	81	127	1.1	1.1	24.2	32.7	53.9	13.82	1.03	353.0	15	758
759.0	14:37	6.1	25.3	7	87	95	125	16594	83	141	1.1	1.1	23.8	32.8	54.7	13.99	1.32	354.0	11	759
760.0	14:39	27.7	25.3	8	99	120	125	16097	86	151	1.1	1.1	23.5	32.9	54.9	14.02	1.01	355.0	25	760
761.0	14:40	102.9	25.4	5	100	115	124	16029	87	147	1.1	1.1	23.4	32.9	55.0	14.03	0.62	356.0	41	761
762.0	14:40	85.7	25.4	4	99	110	124	16015	87	145	1.1	1.1	23.4	32.9	55.1	14.04	0.62	357.0	39	762
763.0	14:47	9.4	25.3	7	100	102	124	15937	89	142	1.1	1.1	23.2	33.0	55.7	14.15	1.24	358.0	24	763
764.0	14:48	57.1	25.3	6	100	117	124	15925	90	142	1.1	1.1	23.2	33.1	55.8	14.17	0.79	359.0	31	764
765.0	14:49	83.7	25.4	5	100	98	124	15899	90	143	1.1	1.1	23.1	33.1	55.9	14.18	0.66	360.0	28	765
766.0	14:53	14.5	25.3	7	99	109	124	15889	90	143	1.1	1.1	23.1	33.2	56.3	14.25	1.13	361.0	23	766
767.0	14:55	33.3	25.4	7	99	118	124	15917	91	143	1.1	1.1	23.1	33.3	56.4	14.28	0.95	362.0	29	767
768.0	14:56	50.7	25.4	6	100	103	124	15885	91	143	1.1	1.1	23.1	33.4	56.6	14.30	0.82	363.0	30	768
769.0	15:01	12.0	25.3	9	100	108	124	15817	92	144	1.1	1.1	23.1	33.5	57.0	14.38	1.24	364.0	21	769
770.0	15:02	75.0	25.4	5	100	98	124	15843	92	145	1.1	1.1	23.1	33.7	57.1	14.39	0.68	365.0	25	770
771.0	15:06	14.7	25.3	7	100	102	124	15782	92	145	1.1	1.1	23.1	33.7	57.5	14.46	1.13	366.0	20	771
772.0	15:06	81.8	25.4	4	100	93	124	15716	92	145	1.1	1.1	23.1	33.7	57.6	14.48	0.64	367.0	32	772
773.0	15:11	12.0	25.3	4	100	83	124	15613	93	146	1.1	1.1	23.1	33.8	58.1	14.56	1.04	368.0	19	773
774.0	15:13	50.7	25.3	6	99	113	124	15584	94	147	1.1	1.1	23.0	33.9	58.2	14.58	0.82	369.0	27	774
775.0	15:14	48.6	25.3	2	100	81	124	15517	94	147	1.1	1.1	23.0	33.9	58.3	14.60	0.69	370.0	34	775
776.0	15:15	40.0	25.4	1	100	96	124	15545	95	148	1.1	1.1	23.0	34.1	58.5	14.62	0.66	371.0	36	776
777.0	15:16	51.4	25.4	2	101	105	125	15508	95	148	1.1	1.1	23.0	34.1	58.6	14.64	0.68	372.0	37	777
778.0	15:19	28.3	25.4	3	101	104	124	15470	96	149	1.1	1.1	22.9	34.1	58.8	14.68	0.83	373.0	28	778
779.0	15:20	53.7	25.4	2	100	100	124	15432	96	149	1.1	1.1	22.9	34.1	58.9	14.70	0.63	374.0	8	779
780.0	15:24	13.3	25.4	2	100	85	124	15310	97	150	1.1	1.1	22.8	34.2	59.3	14.77	0.92	375.0	13	780
781.0	15:25	61.0	25.4	4	100	101	124	15278	98	151	1.1	1.1	22.7	34.3	59.4	14.79	0.72	376.0	22	781
782.0	15:27	34.3	25.4	2	100	72	124	15204	99	151	1.1	1.1	22.7	34.3	59.7	14.82	0.76	377.0	20	782
783.0	15:31	15.3	25.4	6	100	100	124	15113	99	152	1.1	1.1	22.6	34.3	60.1	14.88	1.10	378.0	16	783
784.0	15:32	61.0	25.4	4	100	107	124	15103	100	153	1.1	1.1	22.5	34.4	60.2	14.90	0.70	379.0	19	784
785.0	15:36	14.9	25.4	2	101	68	124	15055	100	153	1.1	1.1	22.4	34.5	60.6	14.97	0.89	380.0	16	785
786.0	15:51	25.4	25.4	1	84	61	125	15496	102	155	1.1	1.1	22.2	34.6	60.8	15.01	0.70	381.0	13	786
787.0	15:54	22.5	25.4	6	93	103	127	16311	104	158	1.1	1.1	21.9	34.7	61.0	15.05	0.97	382.0	21	787
788.0	15:56	36.4	25.4	7	92	115	127	16346	102	155	1.1	1.1	21.9	34.7	61.1	15.08	0.89	383.0	21	788
789.0	15:57	36.4	25.4	3	93	93	127	16395	102	154	1.1	1.1	21.8	34.7	61.3	15.11	0.77	384.0	21	789
790.0	16:00	19.4	25.4	6	93	108	127	16395	102	154	1.1	1.1	21.8	34.7	61.6	15.16	1.03	385.0	16	790
791.0	16:05	13.7	25.3	7	93	101	127	16357	102	155	1.1	1.1	21.7	34.9	62.0	15.23	1.12	386.0	15	791
792.0	16:09	13.8	25.3	7	93	102	126	16287	102	162	1.1	1.1	21.7	35.0	62.4	15.30	1.13	387.0	14	792
793.0	16:11	24.5	25.3	8	92	125	126	16286	102	168	1.1	1.1	21.6	35.1	62.6	15.34	1.04	388.0	14	793
794.0	16:12	69.2	25.3	5	93	108	126	16303	103	170	1.1	1.1	21.6	35.2	62.7	15.36	0.70	389.0	25	794
795.0	16:18	10.9	25.2	3	94	76	126	16195	103	171	1.1	1.1	21.6	35.3	63.2	15.45	1.00	390.0	14	795
796.0	16:20	34.3	25.3	7	92	118	126	16234	103	164	1.1	1.1	21.5	35.3	63.4	15.48	0.90	391.0	19	796
797.0	16:20	90.0	25.3	5	92	121	126	16281	104	160	1.1	1.1	21.5	35.3	63.4	15.49	0.64	392.0	33	797
798.0	16:21	90.0	25.4	5	92	137	126	16283	104	157	1.1	1.1	21.5	35.3	63.5	15.50	0.63	393.0	36	798

299089

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
798.0	16:21	90.0	25.4	5	92	137	126	16283	104	157	1.1	1.1	21.5	35.3	63.5	15.50	0.63	393.0	36	798
799.0	16:22	66.7	25.4	4	93	113	126	16299	104	155	1.1	1.1	21.5	35.3	63.6	15.52	0.67	394.0	35	799
800.0	16:24	24.8	25.4	5	93	107	126	16255	104	156	1.1	1.1	21.5	35.3	63.8	15.56	0.94	395.0	30	800
801.0	16:25	83.7	25.4	4	92	104	126	16226	104	156	1.1	1.1	21.5	35.5	63.9	15.57	0.64	396.0	33	801
802.0	16:26	49.3	25.5	2	93	82	126	16239	104	156	1.1	1.1	21.5	35.5	64.0	15.59	0.64	397.0	29	802
803.0	16:28	30.8	25.5	2	93	87	126	16167	104	156	1.1	1.1	21.4	35.5	64.2	15.62	0.73	398.0	23	803
804.0	16:29	56.3	25.5	2	93	92	126	16251	104	156	1.1	1.1	21.4	35.5	64.3	15.64	0.64	399.0	30	804
805.0	16:30	53.7	25.5	3	93	103	126	16197	104	157	1.1	1.1	21.4	35.5	64.4	15.66	0.68	400.0	34	805
806.0	16:34	16.1	25.5	7	93	103	126	16272	104	158	1.1	1.1	21.4	35.5	64.7	15.72	1.08	401.0	25	806
807.0	16:35	73.5	25.6	7	92	133	126	16296	104	159	1.1	1.1	21.4	35.5	64.8	15.73	0.73	402.0	41	807
808.0	16:36	72.0	25.6	3	93	103	126	16291	104	161	1.1	1.1	21.3	35.5	64.9	15.75	0.64	403.0	43	808
809.0	16:37	56.3	25.6	3	94	85	126	16279	104	162	1.1	1.1	21.4	35.5	65.0	15.77	0.67	404.0	37	809
810.0	16:42	11.9	25.6	4	94	66	126	16174	104	167	1.1	1.1	21.3	35.5	65.4	15.85	1.01	405.0	23	810
811.0	16:44	35.0	25.6	4	93	81	126	16182	105	167	1.1	1.1	21.3	35.6	65.6	15.88	0.81	406.0	26	811
812.0	16:45	32.7	25.6	3	94	86	126	16208	105	163	1.1	1.1	21.3	35.6	65.8	15.91	0.76	407.0	28	812
813.0	16:48	22.5	25.6	4	93	81	125	16087	105	158	1.1	1.1	21.3	35.6	66.0	15.95	0.91	408.0	29	813
814.0	16:57	43.9	25.6	4	78	83	124	15934	106	160	1.1	1.1	21.3	35.7	66.1	15.98	0.74	409.0	26	814
815.0	16:58	65.5	25.6	4	88	109	122	15649	109	161	1.1	1.1	21.3	35.7	66.2	15.99	0.67	410.0	34	815
816.0	17:00	50.0	25.7	3	88	91	122	15651	108	160	1.1	1.1	21.3	35.7	66.3	16.01	0.68	411.0	33	816
817.0	17:01	49.3	25.7	3	89	82	122	15635	108	160	1.1	1.1	21.3	35.7	66.4	16.03	0.71	412.0	28	817
818.0	17:04	19.4	25.7	3	89	73	122	15624	108	159	1.1	1.1	21.3	35.7	66.7	16.08	0.88	413.0	23	818
819.0	17:06	33.6	25.7	4	89	81	123	15635	107	160	1.1	1.1	21.3	35.9	66.9	16.11	0.80	414.0	17	819
820.0	17:07	38.7	25.7	4	89	85	122	15657	107	163	1.1	1.1	21.3	35.8	67.0	16.14	0.80	415.0	7	820
821.0	17:09	37.5	25.7	3	89	82	122	15647	107	165	1.1	1.1	21.3	35.8	67.1	16.17	0.73	416.0	11	821
822.0	17:10	45.0	25.8	4	89	83	122	15649	108	167	1.1	1.1	21.3	35.7	67.2	16.19	0.75	417.0	26	822
823.0	17:12	39.1	25.8	3	89	85	122	15675	107	167	1.1	1.1	21.3	35.7	67.4	16.21	0.75	418.0	29	823
824.0	17:13	37.1	25.8	4	89	86	122	15650	107	168	1.1	1.1	21.3	35.7	67.5	16.24	0.79	419.0	30	824
825.0	17:15	35.0	25.8	3	89	92	123	15689	108	169	1.1	1.1	21.3	35.7	67.7	16.27	0.77	420.0	31	825
826.0	17:17	35.6	25.8	3	88	96	122	15686	108	171	1.1	1.1	21.2	35.7	67.9	16.30	0.74	421.0	30	826
827.0	17:18	52.2	25.9	4	89	87	122	15602	109	172	1.1	1.1	21.2	35.8	67.9	16.32	0.71	422.0	30	827
828.0	17:19	41.4	25.9	3	89	90	122	15690	109	171	1.1	1.1	21.2	35.8	68.0	16.34	0.73	423.0	26	828
829.0	17:21	34.0	25.9	4	89	85	122	15683	109	169	1.1	1.1	21.2	35.9	68.2	16.37	0.82	424.0	29	829
830.0	17:23	36.4	25.9	4	89	89	122	15672	109	169	1.1	1.1	21.2	35.9	68.3	16.40	0.79	425.0	40	830
831.0	17:25	31.0	25.9	3	89	82	122	15678	108	171	1.1	1.1	21.2	35.9	68.5	16.43	0.79	426.0	39	831
832.0	17:26	33.0	25.9	4	89	88	122	15686	108	173	1.1	1.1	21.2	36.0	68.7	16.46	0.83	427.0	34	832
833.0	17:28	38.7	26.0	4	89	81	122	15727	108	175	1.1	1.1	21.2	35.7	68.9	16.48	0.79	428.0	21	833
834.0	17:30	40.0	26.0	3	89	94	123	15755	108	177	1.1	1.1	21.2	35.7	68.9	16.51	0.74	429.0	25	834
835.0	17:31	38.3	26.0	3	89	88	123	15740	109	178	1.1	1.1	21.2	35.7	69.1	16.54	0.75	430.0	26	835
836.0	17:33	37.9	26.0	4	89	89	123	15772	110	179	1.1	1.1	21.2	35.7	69.2	16.56	0.78	431.0	25	836
837.0	17:34	41.9	26.0	4	89	87	122	15779	110	179	1.1	1.1	21.1	35.7	69.4	16.59	0.75	432.0	25	837
838.0	17:38	16.9	26.0	4	89	92	123	15757	109	178	1.1	1.1	21.1	35.7	69.7	16.65	0.95	433.0	26	838
839.0	17:39	60.0	26.0	4	88	99	123	15787	108	178	1.1	1.1	21.1	35.7	69.8	16.66	0.69	434.0	26	839
840.0	17:40	52.2	26.1	4	89	86	122	15792	108	179	1.1	1.1	21.1	35.7	69.8	16.68	0.73	435.0	25	840
841.0	17:42	30.8	26.1	4	89	79	123	15779	108	179	1.1	1.1	21.1	35.8	70.0	16.71	0.82	436.0	29	841
842.0	17:56	33.3	26.1	4	87	73	123	15876	110	178	1.1	1.1	21.1	36.1	70.2	16.74	0.81	437.0	26	842
843.0	17:56	76.6	26.1	3	99	139	123	15986	113	171	1.1	1.1	21.0	36.1	70.3	16.76	0.63	438.0	37	843
844.0	17:58	52.9	26.2	3	99	114	123	15965	114	169	1.1	1.1	21.0	36.1	70.4	16.78	0.71	439.0	36	844
845.0	17:59	64.3	26.2	4	99	104	123	16016	113	165	1.1	1.1	21.0	36.1	70.4	16.79	0.68	440.0	35	845
846.0	18:00	47.4	26.2	3	99	99	123	16008	112	165	1.1	1.1	21.0	36.1	70.6	16.81	0.74	441.0	33	846
847.0	18:01	47.4	26.3	3	99	92	123	16013	112	166	1.1	1.1	21.0	36.1	70.7	16.83	0.73	442.0	31	847

299000

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
847.0	18:01	47.4	26.3	3	99	92	123	16013	112	166	1.1	1.1	21.0	36.1	70.7	16.83	0.73	442.0	31	847
848.0	18:02	43.9	26.3	4	99	89	123	15941	112	168	1.1	1.1	21.0	36.1	70.8	16.86	0.76	443.0	32	848
849.0	18:04	40.4	26.3	4	100	88	123	15968	110	168	1.1	1.1	21.0	36.1	71.0	16.88	0.80	444.0	36	849
850.0	18:05	52.9	26.3	4	100	86	123	16012	110	170	1.1	1.1	21.0	36.2	71.1	16.90	0.73	445.0	37	850
851.0	18:06	42.9	26.4	3	100	87	123	15983	110	172	1.1	1.1	21.0	36.3	71.2	16.92	0.76	446.0	37	851
852.0	18:08	46.8	26.4	4	99	96	123	15923	110	174	1.1	1.1	21.0	36.0	71.3	16.94	0.75	447.0	37	852
853.0	18:09	52.2	26.4	4	99	101	123	15997	110	174	1.1	1.1	21.0	35.7	71.4	16.96	0.73	448.0	30	853
854.0	18:10	65.5	26.4	3	99	109	123	15999	110	176	1.1	1.1	21.0	35.7	71.5	16.98	0.66	449.0	20	854
855.0	18:11	58.1	26.5	4	99	113	123	16007	110	177	1.1	1.1	21.0	35.7	71.6	17.00	0.72	450.0	23	855
856.0	18:12	51.4	26.5	4	99	99	123	16020	110	179	1.1	1.1	21.0	35.6	71.7	17.02	0.73	451.0	21	856
857.0	18:13	48.6	26.5	6	100	92	123	16000	110	181	1.1	1.1	21.0	35.5	71.9	17.04	0.81	452.0	26	857
858.0	18:15	35.3	26.5	6	99	95	123	16009	110	182	1.1	1.1	21.0	35.4	72.0	17.06	0.88	453.0	29	858
859.0	18:16	40.9	26.6	6	99	92	123	16000	111	182	1.1	1.1	21.0	35.3	72.2	17.09	0.86	454.0	31	859
860.0	18:18	42.9	26.6	6	99	97	123	15982	111	183	1.1	1.1	21.0	35.2	72.3	17.11	0.86	455.0	33	860
861.0	18:19	50.7	26.6	8	99	115	123	16016	111	183	1.1	1.1	21.0	35.1	72.4	17.13	0.86	456.0	35	861
862.0	18:20	58.1	26.6	8	99	118	123	16030	111	183	1.1	1.1	21.0	35.1	72.6	17.15	0.84	457.0	36	862
863.0	18:21	58.1	26.7	7	99	109	123	16028	111	183	1.1	1.1	20.9	35.1	72.7	17.17	0.81	458.0	35	863
864.0	18:23	33.0	26.7	8	100	107	124	16187	111	183	1.1	1.1	20.9	35.1	72.9	17.20	0.97	459.0	36	864
865.0	18:24	62.1	26.7	8	100	113	124	16232	112	183	1.1	1.1	20.9	35.2	73.0	17.21	0.81	460.0	39	865
866.0	18:25	66.7	26.8	7	100	101	124	16199	112	183	1.1	1.1	20.9	35.3	73.1	17.23	0.77	461.0	40	866
867.0	18:26	41.9	26.8	6	100	97	124	16218	112	184	1.1	1.1	20.9	35.3	73.2	17.25	0.86	462.0	40	867
868.0	18:28	42.4	26.8	6	100	95	124	16230	112	184	1.1	1.1	20.9	35.3	73.4	17.28	0.85	463.0	42	868
869.0	18:29	43.9	26.8	6	100	90	123	16239	112	184	1.1	1.1	20.9	35.3	73.5	17.30	0.84	464.0	46	869
870.0	18:31	34.6	26.8	6	100	92	123	16092	113	184	1.1	1.1	20.9	35.3	73.7	17.33	0.90	465.0	56	870
871.0	19:26	41.9	26.9	6	92	89	125	17104	109	168	1.1	1.1	28.4	35.5	73.7	17.35	0.85	466.0	54	871
872.0	19:28	28.6	26.9	4	94	85	125	17238	107	162	1.1	1.1	31.0	35.7	73.9	17.39	0.86	467.0	35	872
873.0	19:31	18.7	26.8	3	95	68	125	16986	107	162	1.1	1.1	31.0	35.8	74.2	17.44	0.89	468.0	35	873
874.0	19:33	38.7	26.9	4	94	81	125	16831	107	162	1.1	1.1	31.0	35.9	74.4	17.47	0.78	469.0	38	874
875.0	19:34	50.7	26.9	4	94	85	125	16788	107	162	1.1	1.1	31.0	35.9	74.5	17.48	0.74	470.0	35	875
876.0	19:36	40.4	26.9	5	94	92	125	16802	107	162	1.1	1.1	31.0	36.0	74.7	17.51	0.81	471.0	35	876
877.0	19:37	46.2	26.9	5	94	101	125	16790	107	163	1.1	1.1	31.0	36.1	74.8	17.53	0.80	472.0	26	877
878.0	19:38	52.9	27.0	6	94	102	125	16721	107	165	1.1	1.1	31.0	36.0	74.9	17.55	0.78	473.0	13	878
879.0	19:39	76.6	27.0	5	94	91	125	16746	107	165	1.1	1.1	31.0	36.0	75.0	17.56	0.67	474.0	14	879
880.0	19:40	47.4	27.0	5	94	93	125	16699	107	166	1.1	1.1	31.0	36.0	75.1	17.58	0.78	475.0	25	880
881.0	19:41	45.0	27.0	6	94	101	125	16754	108	167	1.1	1.1	31.0	36.0	75.2	17.61	0.81	476.0	40	881
882.0	19:43	48.6	27.1	6	93	106	125	16746	108	168	1.1	1.1	31.0	36.0	75.4	17.63	0.81	477.0	46	882
883.0	19:43	75.0	27.1	6	94	105	125	16699	108	167	1.1	1.1	31.0	36.1	75.4	17.64	0.70	478.0	48	883
884.0	19:44	65.5	27.1	5	94	95	125	16715	108	163	1.1	1.1	31.0	36.1	75.5	17.66	0.71	479.0	48	884
885.0	19:45	62.1	27.2	5	94	93	125	16717	108	162	1.1	1.1	31.0	36.1	75.6	17.67	0.71	480.0	46	885
886.0	19:46	53.7	27.2	4	94	87	125	16716	108	162	1.1	1.1	31.0	36.1	75.7	17.69	0.73	481.0	41	886
887.0	19:48	51.4	27.2	4	94	82	125	16680	108	162	1.1	1.1	31.0	36.1	75.8	17.71	0.73	482.0	39	887
888.0	19:49	34.6	27.2	5	94	92	125	16692	108	162	1.1	1.1	30.9	36.1	75.9	17.74	0.86	483.0	45	888
889.0	19:50	67.9	27.3	5	94	93	125	16726	108	163	1.1	1.1	30.9	36.1	76.0	17.75	0.69	484.0	50	889
890.0	19:51	70.6	27.3	3	94	80	125	16731	108	162	1.1	1.1	30.9	36.1	76.1	17.77	0.62	485.0	48	890
891.0	19:52	53.7	27.3	3	94	80	125	16772	108	162	1.1	1.1	30.9	36.1	76.2	17.79	0.67	486.0	44	891
892.0	19:53	55.4	27.4	3	94	86	125	16725	108	162	1.1	1.1	30.8	36.1	76.3	17.80	0.69	487.0	40	892
893.0	19:55	39.6	27.4	4	94	92	125	16777	108	162	1.1	1.1	30.8	36.2	76.4	17.83	0.78	488.0	40	893
894.0	19:56	50.0	27.4	5	93	96	125	16724	108	162	1.1	1.1	30.8	36.2	76.6	17.85	0.75	489.0	43	894
895.0	19:57	57.1	27.4	4	94	91	125	16756	108	163	1.1	1.1	30.8	36.3	76.7	17.87	0.69	490.0	42	895
896.0	19:58	43.4	27.4	4	94	88	125	16684	108	163	1.1	1.1	30.8	36.3	76.8	17.89	0.75	491.0	42	896

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
896.0	19:58	43.4	27.4	4	94	88	125	16684	108	163	1.1	1.1	30.8	36.3	76.8	17.89	0.75	491.0	42	896
897.0	20:00	50.0	27.5	3	94	84	125	16755	108	162	1.1	1.1	30.8	36.3	76.9	17.91	0.71	492.0	39	897
898.0	20:01	35.0	27.5	4	93	89	124	16580	108	162	1.1	1.1	30.8	36.3	77.1	17.94	0.80	493.0	33	898
899.0	20:10	33.0	27.5	5	85	82	124	16609	109	164	1.1	1.1	30.8	36.3	77.3	17.97	0.83	494.0	36	899
900.0	20:11	94.7	27.5	5	93	116	126	17058	111	166	1.1	1.1	30.7	36.3	77.3	17.98	0.64	495.0	40	900
901.0	20:12	75.0	27.6	5	93	113	125	17062	110	164	1.1	1.1	30.7	36.3	77.4	17.99	0.68	496.0	39	901
902.0	20:13	50.7	27.6	5	93	122	125	15931	110	163	1.1	1.1	30.7	36.3	77.4	18.01	0.78	497.0	41	902
903.0	20:14	43.4	27.6	7	92	126	124	13241	110	162	1.1	1.1	30.7	36.2	77.6	18.04	0.84	498.0	40	903
904.0	20:15	80.0	27.6	6	91	124	124	11883	109	161	1.1	1.1	30.7	36.2	77.6	18.05	0.68	499.0	32	904
905.0	20:17	37.5	27.7	3	93	94	124	14490	107	160	1.1	1.1	30.7	36.3	77.8	18.07	0.75	500.0	22	905
906.0	20:19	26.9	27.7	2	94	87	125	16679	104	156	1.1	1.1	30.7	36.2	78.0	18.11	0.77	501.0	16	906
907.0	20:20	43.9	27.7	5	94	117	126	17950	101	150	1.1	1.1	30.7	36.2	78.1	18.13	0.79	502.0	21	907
908.0	20:21	50.7	27.7	6	94	131	126	18043	97	145	1.1	1.1	30.7	36.3	78.3	18.15	0.79	503.0	22	908
909.0	20:22	57.1	27.7	6	94	132	126	18005	94	142	1.1	1.1	30.7	36.3	78.4	18.17	0.77	504.0	6	909
910.0	20:25	27.7	27.7	7	94	116	126	17904	91	139	1.1	1.1	30.7	36.2	78.6	18.21	0.96	505.0	7	910
911.0	20:25	171.4	27.8	5	94	105	126	17966	86	134	1.1	1.1	30.7	36.1	78.6	18.21	0.49	506.0	19	911
912.0	20:26	57.1	27.8	4	94	108	126	18006	81	129	1.1	1.1	30.7	36.1	78.7	18.23	0.72	507.0	27	912
913.0	20:27	50.0	27.8	5	94	111	126	18031	74	124	1.1	1.1	30.7	36.1	78.8	18.25	0.77	508.0	36	913
914.0	20:29	42.4	27.9	5	94	110	126	18039	69	122	1.1	1.1	30.7	36.1	78.9	18.28	0.79	509.0	37	914
915.0	20:30	56.2	27.9	5	94	107	126	18104	67	120	1.1	1.1	30.7	36.0	79.0	18.29	0.73	510.0	38	915
916.0	20:31	53.7	27.9	4	94	101	126	18115	64	118	1.1	1.1	30.7	36.0	79.2	18.31	0.73	511.0	37	916
917.0	20:32	40.9	27.9	5	94	107	126	18091	62	119	1.1	1.1	30.7	36.0	79.3	18.34	0.80	512.0	36	917
918.0	20:34	34.3	27.9	5	94	115	126	17954	63	123	1.1	1.1	30.7	36.1	79.5	18.37	0.87	513.0	35	918
919.0	20:35	42.9	28.0	6	94	127	126	17940	63	127	1.1	1.1	30.7	36.1	79.6	18.39	0.83	514.0	35	919
920.0	20:37	45.6	28.0	6	94	126	126	17949	63	130	1.1	1.1	30.7	36.1	79.7	18.41	0.83	515.0	38	920
921.0	20:38	38.7	28.0	7	93	127	126	17539	63	133	1.1	1.1	30.8	36.1	79.9	18.44	0.88	516.0	41	921
922.0	20:39	56.2	28.0	6	93	126	125	16602	63	135	1.1	1.1	30.8	36.1	80.0	18.45	0.78	517.0	48	922
923.0	20:40	76.6	28.0	5	94	111	126	17734	62	134	1.1	1.1	30.8	36.1	80.0	18.47	0.68	518.0	51	923
924.0	20:42	34.3	28.1	6	93	117	125	16538	62	134	1.1	1.1	30.8	36.1	80.1	18.50	0.87	519.0	50	924
925.0	20:43	61.0	28.1	5	93	110	125	15579	62	134	1.1	1.1	30.8	36.1	80.2	18.51	0.72	520.0	53	925
926.0	20:45	33.0	28.1	5	93	110	125	15316	62	130	1.1	1.1	30.7	36.2	80.4	18.54	0.86	521.0	52	926
927.0	20:46	45.0	28.1	5	93	111	125	14846	62	128	1.1	1.1	30.7	36.3	80.5	18.57	0.80	522.0	41	927
928.0	21:03	28.1	28.1	4	84	83	125	15300	66	131	1.1	1.1	30.8	36.2	80.7	18.60	0.84	523.0	42	928
929.0	21:04	72.0	28.1	5	94	123	127	18368	75	138	1.1	1.1	30.8	36.2	80.8	18.61	0.70	524.0	50	929
930.0	21:05	67.9	28.2	6	94	140	127	18372	75	137	1.1	1.1	30.8	36.1	80.9	18.63	0.74	525.0	42	930
931.0	21:05	120.0	28.2	6	94	128	127	18486	75	135	1.1	1.1	30.8	36.1	80.9	18.64	0.61	526.0	39	931
932.0	21:10	13.7	28.2	9	94	110	127	18287	76	136	1.1	1.1	30.8	36.0	81.3	18.71	1.18	527.0	37	932
933.0	21:11	36.0	28.2	7	94	117	127	18255	77	138	1.1	1.1	30.9	35.8	81.5	18.74	0.90	528.0	4	933
934.0	21:13	27.5	28.2	6	89	109	127	18225	79	140	1.1	1.1	30.9	35.7	81.7	18.77	0.92	529.0	45	934
935.0	21:15	41.4	28.2	5	94	114	127	18245	80	141	1.1	1.1	31.0	35.7	81.9	18.80	0.81	530.0	65	935
936.0	21:16	43.9	28.2	6	98	123	127	18294	80	140	1.1	1.1	31.0	35.6	82.0	18.82	0.83	531.0	55	936
937.0	21:18	37.5	28.2	5	90	113	127	18199	81	139	1.1	1.1	31.0	35.5	82.2	18.85	0.84	532.0	46	937
938.0	21:19	47.4	28.2	5	90	114	127	18221	81	138	1.1	1.1	31.0	35.5	82.2	18.87	0.77	533.0	40	938
939.0	21:21	43.4	28.3	6	88	117	127	18225	81	138	1.1	1.1	31.0	35.4	82.3	18.89	0.81	534.0	43	939
940.0	21:22	51.4	28.3	6	86	133	127	18249	81	139	1.1	1.1	31.0	35.4	82.4	18.91	0.77	535.0	47	940
941.0	21:22	97.3	28.3	7	85	134	127	18207	81	139	1.1	1.1	31.0	35.4	82.5	18.92	0.64	536.0	55	941
942.0	21:23	56.2	28.4	7	85	132	127	18200	81	140	1.1	1.1	31.0	35.4	82.6	18.94	0.78	537.0	67	942
943.0	21:24	61.0	28.4	6	85	123	127	18165	82	141	1.1	1.1	31.0	35.4	82.7	18.96	0.73	538.0	81	943
944.0	21:26	35.0	28.4	7	85	134	127	18160	83	142	1.1	1.1	31.0	35.4	82.9	18.98	0.89	539.0	91	944
945.0	21:29	19.4	28.4	8	85	112	126	18104	86	143	1.1	1.1	31.0	35.4	83.1	19.04	1.05	540.0	104	945

299092

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
945.0	21:29	19.4	28.4	8	85	112	126	18104	86	143	1.1	1.1	31.0	35.4	83.1	19.04	1.05	540.0	104	945
946.0	21:31	40.9	28.4	6	85	112	127	18085	88	144	1.1	1.1	31.0	35.3	83.2	19.06	0.81	541.0	100	946
947.0	21:32	44.4	28.4	5	87	115	127	18143	89	143	1.1	1.1	31.0	35.3	83.3	19.08	0.79	542.0	104	947
948.0	21:33	61.0	28.4	6	87	118	127	18279	89	140	1.1	1.1	31.0	35.3	83.4	19.10	0.73	543.0	90	948
949.0	21:34	72.0	28.5	6	87	126	127	18274	90	136	1.1	1.1	31.0	35.3	83.5	19.11	0.70	544.0	75	949
950.0	21:35	52.2	28.5	7	86	136	127	18247	90	133	1.1	1.1	31.0	35.3	83.6	19.13	0.79	545.0	66	950
951.0	21:36	63.2	28.5	6	87	123	127	18287	90	132	1.1	1.1	31.0	35.3	83.6	19.15	0.72	546.0	56	951
952.0	21:37	69.2	28.5	6	87	130	127	18243	90	132	1.1	1.1	31.0	35.3	83.7	19.16	0.72	547.0	51	952
953.0	21:38	62.1	28.6	6	87	169	127	18285	90	132	1.1	1.1	31.0	35.3	83.8	19.18	0.74	548.0	48	953
954.0	21:39	46.2	28.6	4	87	101	126	18103	90	132	1.1	1.1	31.0	35.3	83.9	19.20	0.75	549.0	49	954
955.0	21:40	50.7	28.6	5	86	105	125	17924	91	133	1.1	1.1	31.0	35.3	84.1	19.22	0.74	550.0	54	955
956.0	21:41	65.5	28.6	5	86	115	125	17943	91	133	1.1	1.1	31.0	35.3	84.1	19.24	0.68	551.0	59	956
957.0	21:57	24.7	28.6	5	65	91	126	18119	99	138	1.1	1.1	31.0	35.2	84.3	19.28	0.85	552.0	46	957
958.0	21:59	40.4	28.7	4	91	116	126	18121	104	142	1.1	1.1	31.0	35.1	84.4	19.30	0.78	553.0	33	958
959.0	21:59	67.9	28.7	6	90	141	126	18135	104	143	1.1	1.1	31.0	35.1	84.5	19.32	0.71	554.0	55	959
960.0	22:00	61.0	28.7	7	90	146	126	18034	105	143	1.1	1.1	31.0	35.1	84.6	19.33	0.76	555.0	54	960
961.0	22:01	59.0	28.7	8	90	163	126	18191	104	142	1.1	1.1	31.0	35.1	84.7	19.35	0.80	556.0	55	961
962.0	22:03	43.9	28.8	8	92	145	126	18195	104	142	1.1	1.1	31.0	35.1	84.9	19.37	0.88	557.0	57	962
963.0	22:04	58.1	28.8	6	97	135	126	18158	105	142	1.1	1.1	31.0	35.0	85.0	19.39	0.77	558.0	67	963
964.0	22:05	62.1	28.8	4	98	107	126	18159	105	142	1.1	1.1	30.9	35.0	85.0	19.41	0.69	559.0	90	964
965.0	22:07	34.3	28.8	3	97	114	126	18064	105	140	1.1	1.1	30.9	34.9	85.2	19.43	0.80	560.0	54	965
966.0	22:08	50.0	28.8	6	97	140	126	18131	104	136	1.1	1.1	30.9	34.9	85.2	19.45	0.81	561.0	54	966
967.0	22:09	46.8	28.9	8	97	158	126	18106	104	136	1.1	1.1	30.9	34.9	85.4	19.48	0.87	562.0	54	967
968.0	22:10	50.0	28.9	8	97	160	126	17643	105	137	1.1	1.1	30.9	34.9	85.5	19.50	0.86	563.0	54	968
969.0	22:11	58.1	28.9	6	97	145	126	17619	105	138	1.1	1.1	30.9	34.9	85.6	19.51	0.78	564.0	54	969
970.0	22:13	43.9	28.9	7	97	153	126	18106	105	138	1.1	1.1	30.9	34.9	85.7	19.54	0.87	565.0	54	970
971.0	22:14	64.3	28.9	8	97	161	126	18090	106	138	1.1	1.1	30.9	34.9	85.8	19.55	0.80	566.0	48	971
972.0	22:14	109.1	29.0	8	97	152	126	18105	107	138	1.1	1.1	30.9	34.9	85.9	19.56	0.67	567.0	48	972
973.0	22:15	75.0	29.0	7	97	149	126	18098	106	138	1.1	1.1	30.9	34.9	85.9	19.57	0.74	568.0	48	973
974.0	22:16	75.0	29.0	5	97	126	126	18064	107	139	1.1	1.1	30.8	34.9	86.0	19.59	0.69	569.0	48	974
975.0	22:17	52.2	29.1	5	97	124	126	18025	107	139	1.1	1.1	30.8	34.9	86.1	19.61	0.75	570.0	48	975
976.0	22:18	51.4	29.1	5	97	129	126	18012	107	139	1.1	1.1	30.8	34.9	86.3	19.63	0.78	571.0	48	976
977.0	22:19	45.6	29.1	6	97	140	126	18030	107	139	1.1	1.1	30.8	34.9	86.4	19.65	0.83	572.0	48	977
978.0	22:21	42.4	29.1	7	97	150	126	17933	108	140	1.1	1.1	30.8	34.9	86.5	19.67	0.88	573.0	48	978
979.0	22:22	46.2	29.1	8	97	158	126	17899	108	141	1.1	1.1	30.8	34.9	86.7	19.69	0.88	574.0	48	979
980.0	22:23	44.4	29.2	8	97	167	126	17983	108	141	1.1	1.1	30.8	34.9	86.8	19.72	0.89	575.0	44	980
981.0	22:24	62.1	29.2	8	97	158	126	17931	108	141	1.1	1.1	30.8	34.9	86.9	19.73	0.82	576.0	40	981
982.0	22:25	59.0	29.2	7	97	146	126	17964	108	141	1.1	1.1	30.8	34.9	87.0	19.75	0.80	577.0	38	982
983.0	22:26	61.0	29.2	7	97	158	126	17994	109	141	1.1	1.1	30.8	34.9	87.1	19.77	0.80	578.0	37	983
984.0	22:28	45.0	29.3	6	97	128	125	17798	109	141	1.1	1.1	30.8	34.9	87.2	19.79	0.82	579.0	36	984
985.0	22:36	40.4	29.3	6	89	117	126	17922	108	139	1.1	1.1	30.8	34.9	87.4	19.81	0.82	580.0	43	985
986.0	22:38	44.4	29.3	6	91	146	127	18433	103	132	1.1	1.1	30.8	34.9	87.5	19.83	0.83	581.0	60	986
987.0	22:40	35.3	29.3	8	91	155	126	18364	102	131	1.1	1.1	30.7	34.9	87.6	19.86	0.93	582.0	67	987
988.0	22:41	39.1	29.3	7	91	150	126	18295	103	132	1.1	1.1	30.7	34.9	87.7	19.89	0.88	583.0	67	988
989.0	22:43	32.4	29.3	6	91	133	126	18099	103	133	1.1	1.1	30.7	34.8	87.9	19.92	0.87	584.0	53	989
990.0	22:44	39.6	29.3	5	91	136	126	18011	104	133	1.1	1.1	30.7	34.8	88.1	19.94	0.81	585.0	44	990
991.0	22:46	49.3	29.4	5	91	138	126	17955	104	133	1.1	1.1	30.7	34.9	88.2	19.96	0.77	586.0	41	991
992.0	22:47	60.0	29.4	5	91	135	126	17918	104	133	1.1	1.1	30.7	35.0	88.3	19.98	0.73	587.0	166	992
993.0	22:48	51.4	29.4	6	91	138	126	17947	104	133	1.1	1.1	30.7	34.9	88.4	20.00	0.77	588.0	169	993
994.0	22:49	63.2	29.4	6	91	146	126	17998	105	133	1.1	1.1	30.7	34.9	88.5	20.02	0.74	589.0	148	994

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
994.0	22:49	63.2	29.4	6	91	146	126	17998	105	133	1.1	1.1	30.7	34.9	88.5	20.02	0.74	589.0	148	994
995.0	22:50	50.7	29.4	6	91	159	126	18010	105	135	1.1	1.1	30.7	34.9	88.6	20.04	0.79	590.0	119	995
996.0	22:51	42.9	29.5	7	91	160	126	18044	106	138	1.1	1.1	30.7	34.9	88.6	20.06	0.86	591.0	87	996
997.0	22:53	32.7	29.5	7	91	140	126	17864	106	142	1.1	1.1	30.7	34.9	88.8	20.09	0.91	592.0	68	997
998.0	22:55	34.3	29.5	5	91	121	126	17878	107	146	1.1	1.1	30.7	34.9	89.0	20.12	0.84	593.0	65	998
999.0	22:57	30.8	29.5	6	91	140	126	17956	107	150	1.1	1.1	30.7	34.9	89.2	20.15	0.91	594.0	75	999
1000.0	22:58	42.9	29.5	6	91	148	126	17980	107	153	1.1	1.1	30.7	34.9	89.3	20.18	0.84	595.0	82	1000
1001.0	23:00	48.6	29.5	9	91	169	126	18055	107	156	1.1	1.1	30.7	34.9	89.4	20.20	0.87	596.0	72	1001
1002.0	23:02	30.3	29.5	8	91	150	126	18053	106	158	1.1	1.1	30.7	34.9	89.6	20.23	0.97	597.0	54	1002
1003.0	23:03	36.0	29.5	5	91	119	126	17894	106	162	1.1	1.1	30.7	34.5	89.8	20.26	0.82	598.0	54	1003
1004.0	23:04	57.1	29.5	5	91	127	126	17892	106	164	1.1	1.1	30.7	34.2	89.9	20.27	0.73	599.0	53	1004
1005.0	23:06	33.6	29.6	7	91	155	126	17906	106	164	1.1	1.1	30.7	34.1	90.0	20.30	0.92	600.0	49	1005
1006.0	23:08	30.3	29.6	7	91	150	126	17936	106	163	1.1	1.1	30.7	34.1	90.2	20.34	0.94	601.0	48	1006
1007.0	23:10	33.6	29.6	6	91	139	126	17907	106	163	1.1	1.1	30.7	34.1	90.4	20.37	0.88	602.0	47	1007
1008.0	23:12	28.1	29.6	6	91	144	126	17919	106	162	1.1	1.1	30.7	34.0	90.6	20.40	0.93	603.0	47	1008
1009.0	23:14	33.6	29.6	7	91	137	126	18022	106	161	1.1	1.1	30.7	31.5	90.7	20.43	0.90	604.0	47	1009
1010.0	23:15	34.6	29.6	6	91	137	126	18020	106	160	1.1	1.1	30.7	31.5	90.9	20.46	0.87	605.0	47	1010
1011.0	23:18	28.1	29.6	6	91	136	126	18009	107	160	1.1	1.1	30.7	31.5	91.1	20.50	0.91	606.0	47	1011
1012.0	23:19	36.4	29.6	5	91	132	126	18026	107	160	1.1	1.1	30.8	31.5	91.2	20.52	0.84	607.0	47	1012
1013.0	23:21	31.6	29.6	6	91	130	126	18038	107	159	1.1	1.1	30.8	31.5	91.4	20.56	0.90	608.0	47	1013
1014.0	00:26	27.7	29.6	9	87	157	124	18118	106	157	1.1	1.1	30.9	31.5	91.6	20.59	1.01	609.0	47	1014
1015.0	00:29	17.6	29.5	7	94	243	113	18020	102	147	1.1	1.1	31.5	31.5	91.9	20.65	1.06	610.0	47	1015
1016.0	00:32	26.5	29.5	8	94	238	115	18353	99	144	1.1	1.1	31.5	31.5	92.1	20.69	1.00	611.0	47	1016
1017.0	00:34	22.4	29.5	9	94	234	115	18870	94	139	1.1	1.1	31.5	31.5	92.4	20.73	1.08	612.0	47	1017
1018.0	00:37	20.5	29.5	7	95	227	115	18771	86	132	1.1	1.1	31.5	31.5	92.6	20.78	1.05	613.0	47	1018
1019.0	03:44	23.8	29.5	5	88	126	121	18088	85	121	1.1	1.1	29.5	32.2	92.9	20.82	0.90	614.0	66	1019
1020.0	03:46	26.3	29.5	6	93	119	125	17827	88	124	1.1	1.1	28.3	31.1	93.1	20.86	0.94	615.0	59	1020
1021.0	03:48	28.6	29.5	8	93	129	125	18007	88	132	1.1	1.1	28.3	31.1	93.3	20.89	0.97	616.0	55	1021
1022.0	03:50	41.9	29.5	9	93	133	125	17931	89	136	1.1	1.1	28.3	31.1	93.4	20.92	0.91	617.0	51	1022
1023.0	03:51	34.3	29.5	7	93	117	125	17912	89	141	1.1	1.1	28.2	31.1	93.5	20.95	0.92	618.0	38	1023
1024.0	03:54	26.1	29.5	7	93	116	125	17955	89	148	1.1	1.1	28.2	31.2	93.7	20.99	0.98	619.0	34	1024
1025.0	03:56	33.3	29.5	9	93	135	125	18078	89	150	1.1	1.1	28.2	31.3	93.9	21.02	0.97	620.0	31	1025
1026.0	03:57	32.1	29.5	9	93	134	125	18095	89	149	1.1	1.1	28.2	31.3	94.1	21.05	0.99	621.0	31	1026
1027.0	03:59	39.1	29.5	8	93	125	125	18077	89	150	1.1	1.1	28.2	31.3	94.3	21.07	0.91	622.0	32	1027
1028.0	04:01	29.5	29.5	8	93	123	125	18057	88	150	1.1	1.1	28.2	31.3	94.5	21.11	0.98	623.0	32	1028
1029.0	04:03	38.3	29.5	9	93	138	125	18115	88	150	1.1	1.1	28.2	31.3	94.6	21.13	0.95	624.0	30	1029
1030.0	04:04	35.0	29.5	10	93	141	125	18156	88	150	1.1	1.1	28.2	31.3	94.8	21.16	0.98	625.0	30	1030
1031.0	04:06	46.8	29.6	10	93	138	125	18158	88	150	1.1	1.1	28.2	31.3	94.9	21.18	0.91	626.0	33	1031
1032.0	04:07	34.6	29.6	9	93	134	125	18131	88	150	1.1	1.1	28.2	31.3	95.1	21.21	0.96	627.0	35	1032
1033.0	04:09	31.9	29.6	9	93	138	125	18148	87	150	1.1	1.1	28.2	31.3	95.2	21.24	0.99	628.0	40	1033
1034.0	04:11	32.7	29.6	9	93	136	125	18182	87	150	1.1	1.1	28.2	31.3	95.3	21.27	0.98	629.0	43	1034
1035.0	04:13	32.4	29.6	10	93	136	125	18142	87	151	1.1	1.1	28.2	31.4	95.5	21.30	1.01	630.0	42	1035
1036.0	04:16	17.8	29.5	11	93	123	125	18088	87	152	1.1	1.1	28.2	31.4	95.9	21.36	1.19	631.0	63	1036
1037.0	04:18	36.7	29.5	12	93	147	125	18106	86	154	1.1	1.1	28.2	31.5	96.0	21.39	1.03	632.0	61	1037
1038.0	04:19	42.4	29.6	10	93	125	125	18108	86	154	1.1	1.1	28.2	31.4	96.2	21.41	0.95	633.0	49	1038
1039.0	04:21	36.0	29.6	12	93	140	125	18062	86	154	1.1	1.1	28.2	32.0	96.3	21.44	1.02	634.0	42	1039
1040.0	04:24	22.9	29.6	12	93	143	125	18025	86	155	1.1	1.1	28.2	34.6	96.6	21.48	1.14	635.0	44	1040
1041.0	04:25	33.6	29.6	12	93	141	124	18016	86	156	1.1	1.1	28.2	34.7	96.7	21.51	1.05	636.0	44	1041
1042.0	04:28	27.1	29.6	12	93	139	124	17993	86	157	1.1	1.1	28.3	34.9	96.9	21.55	1.10	637.0	47	1042
1043.0	04:30	26.9	29.6	13	92	143	124	17898	86	157	1.1	1.1	28.3	34.8	97.1	21.59	1.12	638.0	50	1043

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1043.0	04:30	26.9	29.6	13	92	143	124	17898	86	157	1.1	1.1	28.3	34.8	97.1	21.59	1.12	638.0	50	1043
1044.0	05:23	26.9	29.6	10	91	128	126	18214	85	152	1.1	1.1	28.6	0.0	97.3	21.62	1.05	639.0	55	1044
1045.0	05:24	120.0	29.6	8	90	122	127	18578	84	147	1.1	0.0	28.9	0.0	97.3	21.63	0.64	640.0	60	1045
1046.0	05:24	120.0	29.6	7	91	106	127	18554	84	146	1.1	1.1	28.9	0.0	97.4	21.64	0.61	641.0	65	1046
1047.0	05:25	120.0	29.7	4	92	83	127	18507	84	144	1.1	1.1	28.9	0.0	97.4	21.65	0.55	642.0	70	1047
1048.0	05:26	48.0	29.7	2	92	72	127	18433	84	144	1.1	1.1	28.9	0.0	97.5	21.67	0.63	643.0	75	1048
1049.0	05:33	19.3	29.6	3	94	72	126	18208	85	145	1.1	1.1	28.9	0.0	97.8	21.72	0.86	644.0	80	1049
1050.0	05:35	28.8	29.6	6	94	107	126	18143	84	145	1.1	1.1	28.9	0.0	98.0	21.76	0.93	645.0	80	1050
1051.0	05:37	27.3	29.6	7	94	105	126	18179	84	145	1.1	1.1	28.9	0.0	98.2	21.79	0.97	646.0	78	1051
1052.0	05:41	18.3	29.6	6	94	96	126	18181	84	144	1.1	1.1	29.0	0.0	98.6	21.85	1.02	647.0	76	1052
1053.0	05:43	24.0	29.6	7	94	104	126	18225	83	145	1.1	1.1	29.0	0.0	98.8	21.89	0.99	648.0	74	1053
1054.0	05:46	25.4	29.6	6	94	97	126	18185	83	145	1.1	1.1	29.0	0.0	99.0	21.93	0.95	649.0	72	1054
1055.0	05:49	15.8	29.6	5	94	84	126	18175	83	146	1.1	1.1	29.0	0.0	99.4	21.99	1.01	650.0	70	1055
1056.0	05:52	19.9	29.5	6	94	94	126	18183	84	147	1.1	1.1	29.0	21.0	99.7	22.04	0.99	651.0	68	1056
1057.0	05:56	19.1	29.5	5	94	86	126	18189	84	144	1.1	1.1	29.0	32.6	99.9	22.09	0.98	652.0	66	1057
1058.0	05:59	18.5	29.5	5	94	83	126	18151	84	144	1.1	1.1	29.0	35.5	100.2	22.15	0.97	653.0	17	1058
1059.0	06:02	18.9	29.5	6	94	94	126	18185	84	145	1.1	1.1	29.0	35.3	100.5	22.20	1.01	654.0	303	1059
1060.0	06:05	22.2	29.4	7	94	98	126	18224	84	145	1.1	1.1	29.1	35.5	100.8	22.25	1.00	655.0	214	1060
1061.0	06:07	26.9	29.4	7	94	106	126	18209	85	145	1.1	1.1	29.1	35.7	101.0	22.28	0.98	656.0	114	1061
1062.0	06:09	31.0	29.4	12	94	153	126	18341	84	145	1.1	1.1	29.1	35.8	101.2	22.32	1.06	657.0	81	1062
1063.0	06:10	45.6	29.5	11	94	150	126	18300	84	145	1.1	1.1	29.1	35.9	101.3	22.34	0.95	658.0	74	1063
1064.0	06:12	31.6	29.5	11	94	155	126	18309	84	145	1.1	1.1	29.1	35.9	101.5	22.37	1.05	659.0	62	1064
1065.0	06:14	27.5	29.5	11	93	154	125	17960	85	145	1.1	1.1	29.2	35.9	101.7	22.41	1.07	660.0	53	1065
1066.0	06:16	36.0	29.5	11	93	155	125	17955	85	145	1.1	1.1	29.2	35.9	101.9	22.43	1.01	661.0	49	1066
1067.0	06:17	37.1	29.5	10	93	140	125	17972	85	145	1.1	1.1	29.2	36.0	102.0	22.46	0.98	662.0	50	1067
1068.0	06:20	24.0	29.5	10	93	133	125	17914	85	145	1.1	1.1	29.2	36.1	102.2	22.50	1.08	663.0	43	1068
1069.0	06:22	34.0	29.5	10	93	137	125	17899	85	145	1.1	1.1	29.2	36.1	102.4	22.53	1.00	664.0	40	1069
1070.0	06:24	27.3	29.5	10	93	143	125	17872	85	145	1.1	1.1	29.2	36.1	102.6	22.57	1.06	665.0	38	1070
1071.0	06:26	27.7	29.5	11	93	139	125	17756	85	145	1.1	1.1	29.3	36.1	102.8	22.60	1.07	666.0	38	1071
1072.0	06:43	24.8	29.5	9	94	125	126	18148	87	147	1.1	1.1	29.4	36.4	103.1	22.65	1.06	667.0	62	1072
1073.0	06:45	30.3	29.5	12	94	171	127	18724	87	148	1.1	1.1	29.6	37.1	103.3	22.68	1.08	668.0	58	1073
1074.0	06:47	28.1	29.5	12	94	163	126	18481	87	148	1.1	1.1	29.6	37.1	103.5	22.71	1.09	669.0	66	1074
1075.0	06:49	31.3	29.5	12	94	160	126	18450	87	148	1.1	1.1	29.7	37.2	103.6	22.75	1.06	670.0	74	1075
1076.0	06:51	39.1	29.5	11	94	155	126	18294	88	148	1.1	1.1	29.7	37.3	103.7	22.77	0.99	671.0	70	1076
1077.0	06:52	39.6	29.5	11	94	160	126	18353	88	148	1.1	1.1	29.7	37.4	103.9	22.80	0.99	672.0	71	1077
1078.0	06:54	38.3	29.5	12	94	169	126	18360	88	148	1.1	1.1	29.7	37.5	104.0	22.82	1.01	673.0	71	1078
1079.0	06:55	36.4	29.5	12	94	177	126	18386	88	148	1.1	1.1	29.8	37.6	104.2	22.85	1.03	674.0	66	1079
1080.0	06:57	38.7	29.5	13	94	175	126	18283	88	148	1.1	1.1	29.8	37.5	104.3	22.88	1.03	675.0	64	1080
1081.0	06:59	30.8	29.5	13	94	170	126	18334	88	149	1.1	1.1	29.8	27.2	104.5	22.91	1.09	676.0	64	1081
1082.0	07:01	29.3	29.5	11	95	156	126	18422	89	149	1.1	1.1	29.8	36.2	104.7	22.94	1.05	677.0	59	1082
1083.0	07:03	35.3	29.5	11	94	155	126	18310	89	149	1.1	1.1	29.9	36.6	104.9	22.97	1.02	678.0	56	1083
1084.0	07:04	33.6	29.5	12	94	164	126	18322	89	150	1.1	1.1	29.9	36.9	105.1	23.00	1:05	679.0	55	1084
1085.0	07:07	29.0	29.5	13	94	167	126	18327	89	150	1.1	1.1	29.9	37.2	105.3	23.04	1.10	680.0	62	1085
1086.0	07:08	35.3	29.5	13	94	177	126	18226	90	150	1.1	1.1	29.9	37.3	105.4	23.06	1.06	681.0	60	1086
1087.0	07:10	38.7	29.5	13	94	175	126	18269	90	150	1.1	1.1	29.9	37.4	105.6	23.09	1.03	682.0	62	1087
1088.0	07:12	30.8	29.5	12	94	164	126	18254	90	150	1.1	1.1	30.0	37.5	105.8	23.12	1.08	683.0	66	1088
1089.0	07:14	31.9	29.5	13	94	168	126	18341	91	150	1.1	1.1	30.0	37.6	105.9	23.15	1.08	684.0	70	1089
1090.0	07:15	36.7	29.6	13	94	169	126	18258	91	151	1.1	1.1	30.0	37.6	106.0	23.18	1.04	685.0	70	1090
1091.0	07:17	32.1	29.6	13	94	183	126	18300	91	151	1.1	1.1	30.1	37.7	106.2	23.21	1.09	686.0	73	1091
1092.0	07:18	51.4	29.6	12	94	165	126	18370	91	151	1.1	1.1	30.1	37.7	106.3	23.23	0.94	687.0	78	1092

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1092.0	07:18	51.4	29.6	12	94	165	126	18370	91	151	1.1	1.1	30.1	37.7	106.3	23.23	0.94	687.0	78	1092
1093.0	07:20	29.8	29.6	12	94	165	126	18437	91	151	1.1	1.1	30.2	37.8	106.5	23.26	1.08	688.0	74	1093
1094.0	07:22	34.3	29.6	11	94	153	126	18358	91	151	1.1	1.1	30.2	37.9	106.7	23.29	1.01	689.0	68	1094
1095.0	07:23	45.0	29.6	11	94	148	126	18303	91	151	1.1	1.1	30.2	37.6	106.8	23.32	0.95	690.0	65	1095
1096.0	07:25	31.9	29.6	10	94	133	125	18298	91	151	1.1	1.1	30.2	37.1	107.0	23.35	1.01	691.0	64	1096
1097.0	07:27	29.5	29.6	9	95	123	126	18303	91	151	1.1	1.1	30.3	37.5	107.2	23.38	1.01	692.0	72	1097
1098.0	07:29	40.0	29.6	10	94	142	126	18350	91	152	1.1	1.1	30.3	38.1	107.4	23.41	0.97	693.0	86	1098
1099.0	07:31	30.3	29.6	12	94	159	126	18346	91	151	1.1	1.1	30.3	38.1	107.6	23.44	1.07	694.0	79	1099
1100.0	07:48	36.7	29.6	11	80	136	125	18170	91	152	1.1	1.1	30.5	38.2	107.7	23.47	0.96	695.0	49	1100
1101.0	07:50	26.7	29.6	13	81	172	125	18415	92	153	1.1	1.1	30.8	38.4	107.9	23.50	1.09	696.0	43	1101
1102.0	07:52	39.6	29.6	13	81	180	125	18356	92	153	1.1	1.1	30.9	38.4	108.0	23.53	0.99	697.0	47	1102
1103.0	07:54	25.2	29.6	14	81	177	125	18293	92	153	1.1	1.1	30.9	38.5	108.1	23.57	1.12	698.0	50	1103
1104.0	07:56	26.5	29.6	13	81	169	125	18335	92	152	1.1	1.1	31.0	38.7	108.4	23.61	1.10	699.0	48	1104
1105.0	07:58	38.3	29.6	12	101	165	125	18451	92	152	1.1	1.1	31.0	38.7	108.5	23.63	1.03	700.0	48	1105
1106.0	07:59	41.9	29.6	11	110	165	125	18564	92	152	1.1	1.1	31.0	38.7	108.7	23.66	1.02	701.0	49	1106
1107.0	08:01	43.4	29.6	12	110	171	125	18475	92	152	1.1	1.1	31.1	38.6	108.8	23.68	0.99	702.0	47	1107
1108.0	08:03	32.1	29.6	11	110	166	125	18380	91	152	1.1	1.1	31.1	35.7	109.0	23.71	1.05	703.0	47	1108
1109.0	08:04	36.0	29.7	11	110	171	125	18346	91	152	1.1	1.1	31.1	32.2	109.1	23.74	1.02	704.0	48	1109
1110.0	08:06	36.7	29.7	12	110	181	125	18373	91	152	1.1	1.1	31.2	37.3	109.4	23.77	1.03	705.0	46	1110
1111.0	08:08	32.1	29.7	12	110	184	125	18422	90	151	1.1	1.1	31.2	37.7	109.6	23.80	1.08	706.0	20	1111
1112.0	08:10	34.0	29.7	13	110	187	125	18439	88	148	1.1	1.1	31.3	38.2	109.8	23.83	1.07	707.0	46	1112
1113.0	08:11	35.3	29.7	13	110	185	125	18404	89	150	1.1	1.1	31.3	38.5	109.9	23.85	1.06	708.0	48	1113
1114.0	08:13	37.5	29.7	13	110	173	125	18369	90	150	1.1	1.1	31.3	38.6	110.2	23.88	1.06	709.0	47	1114
1115.0	08:15	28.6	29.7	13	110	182	125	18395	90	151	1.1	1.1	31.4	38.7	110.4	23.92	1.12	710.0	47	1115
1116.0	08:17	37.1	29.7	12	110	176	125	18404	90	151	1.1	1.1	31.4	38.9	110.5	23.94	1.03	711.0	48	1116
1117.0	08:19	30.5	29.7	13	110	182	125	18400	91	151	1.1	1.1	31.4	38.9	110.7	23.98	1.10	712.0	49	1117
1118.0	08:20	37.5	29.7	13	110	183	125	18373	91	151	1.1	1.1	31.5	39.1	110.9	24.00	1.04	713.0	50	1118
1119.0	08:22	33.3	29.7	13	110	187	125	18386	91	151	1.1	1.1	31.5	39.1	111.2	24.03	1.07	714.0	49	1119
1120.0	08:24	36.7	29.7	13	110	185	125	18370	91	151	1.1	1.1	31.5	39.0	111.3	24.06	1.05	715.0	47	1120
1121.0	08:25	38.7	29.7	13	110	188	125	18452	91	151	1.1	1.1	31.6	39.0	111.5	24.09	1.04	716.0	47	1121
1122.0	08:27	36.4	29.7	12	110	175	125	18511	91	151	1.1	1.1	31.6	39.1	111.6	24.11	1.05	717.0	49	1122
1123.0	08:28	38.3	29.7	12	110	177	125	18480	91	151	1.1	1.1	31.6	38.5	111.8	24.14	1.03	718.0	50	1123
1124.0	08:31	25.0	29.7	12	110	177	125	18474	91	152	1.1	1.1	31.7	37.8	112.1	24.18	1.14	719.0	53	1124
1125.0	08:32	36.7	29.7	13	110	184	125	18507	91	151	1.1	1.1	31.8	39.1	112.3	24.21	1.05	720.0	66	1125
1126.0	08:34	34.0	29.7	13	110	187	125	18497	91	152	1.1	1.1	31.8	39.5	112.5	24.24	1.08	721.0	96	1126
1127.0	08:36	30.3	29.7	12	109	176	124	18324	91	152	1.1	1.1	31.8	39.6	112.7	24.27	1.09	722.0	104	1127
1128.0	08:53	25.5	29.7	12	109	172	125	18681	91	151	1.1	1.1	32.0	39.6	112.9	24.31	1.13	723.0	62	1128
1129.0	08:55	27.7	29.7	12	109	182	127	19302	91	151	1.1	1.1	32.2	39.7	113.2	24.34	1.11	724.0	56	1129
1130.0	08:57	31.6	29.7	14	109	204	125	18869	90	151	1.1	1.1	32.2	39.7	113.4	24.38	1.12	725.0	54	1130
1131.0	08:59	37.1	29.8	14	109	197	125	18809	90	150	1.1	1.1	32.3	39.7	113.6	24.40	1.07	726.0	50	1131
1132.0	09:01	24.2	29.7	13	109	184	125	18881	90	150	1.1	1.1	32.3	39.8	113.8	24.44	1.16	727.0	48	1132
1133.0	09:03	28.1	29.7	14	109	204	125	18862	91	151	1.1	1.1	32.3	40.0	114.0	24.48	1.14	728.0	47	1133
1134.0	09:06	23.5	29.7	14	109	213	125	18873	91	151	1.1	1.1	32.4	40.0	114.4	24.52	1.21	729.0	51	1134
1135.0	09:08	23.5	29.7	14	109	193	125	18820	91	151	1.1	1.1	32.4	39.8	114.6	24.57	1.19	730.0	48	1135
1136.0	09:10	29.3	29.7	14	109	200	125	18640	91	151	1.1	1.1	32.4	39.8	114.8	24.60	1.13	731.0	45	1136
1137.0	09:13	22.5	29.7	13	109	198	125	18811	91	151	1.1	1.1	32.5	40.1	115.1	24.64	1.19	732.0	44	1137
1138.0	09:15	25.7	29.7	14	109	204	125	18778	91	151	1.1	1.1	32.6	40.2	115.4	24.68	1.16	733.0	45	1138
1139.0	09:18	27.3	29.7	14	109	213	125	18648	91	151	1.1	1.1	32.6	40.2	115.6	24.72	1.16	734.0	45	1139
1140.0	09:20	28.6	29.7	15	109	217	125	18602	91	151	1.1	1.1	32.6	40.1	115.8	24.75	1.16	735.0	44	1140
1141.0	09:22	25.0	29.7	15	109	210	125	18595	91	151	1.1	1.1	32.7	40.3	116.1	24.79	1.19	736.0	39	1141

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1141.0	09:22	25.0	29.7	15	109	210	125	18595	91	151	1.1	1.1	32.7	40.3	116.1	24.79	1.19	736.0	39	1141
1142.0	09:24	26.7	29.7	15	109	201	125	18628	91	151	1.1	1.1	32.7	40.3	116.4	24.83	1.18	737.0	39	1142
1143.0	09:30	11.4	29.6	15	109	152	125	18495	90	151	1.1	1.1	32.7	39.1	116.9	24.92	1.41	738.0	39	1143
1144.0	09:32	21.4	29.6	14	109	194	125	18580	90	150	1.1	1.1	32.8	31.3	117.3	24.97	1.23	739.0	38	1144
1145.0	09:35	25.4	29.6	15	109	204	125	18673	90	150	1.1	1.1	32.9	36.7	117.5	25.01	1.19	740.0	39	1145
1146.0	09:37	23.7	29.6	15	109	207	125	18648	90	150	1.1	1.1	32.9	37.4	117.8	25.05	1.21	741.0	42	1146
1147.0	09:40	24.2	29.6	15	109	214	125	18547	90	151	1.1	1.1	32.9	38.0	118.0	25.09	1.21	742.0	52	1147
1148.0	09:42	27.1	29.6	15	109	208	125	18766	91	151	1.1	1.1	33.0	39.2	118.3	25.13	1.17	743.0	52	1148
1149.0	09:44	24.8	29.6	14	109	204	125	18790	91	151	1.1	1.1	33.0	39.5	118.6	25.17	1.19	744.0	52	1149
1150.0	09:47	26.7	29.6	15	109	212	125	18796	91	151	1.1	1.1	33.0	39.3	118.8	25.20	1.18	745.0	51	1150
1151.0	09:49	29.0	29.6	15	109	207	125	18862	91	151	1.1	1.1	33.0	39.8	119.0	25.24	1.15	746.0	49	1151
1152.0	09:51	26.7	29.6	14	109	202	125	18811	91	152	1.1	1.1	33.1	39.9	119.3	25.28	1.17	747.0	47	1152
1153.0	09:53	23.7	29.5	15	109	206	125	18847	92	152	1.1	1.1	33.1	40.1	119.5	25.32	1.21	748.0	45	1153
1154.0	09:56	25.5	29.5	15	109	207	125	18873	91	151	1.1	1.1	33.2	40.2	119.8	25.36	1.20	749.0	45	1154
1155.0	09:59	18.5	29.5	15	109	197	125	18828	92	152	1.1	1.1	33.2	40.1	120.2	25.41	1.27	750.0	44	1155
1156.0	10:01	25.9	29.5	14	109	188	125	18712	92	152	1.1	1.1	33.2	40.2	120.4	25.45	1.17	751.0	39	1156
1157.0	11:07	17.1	29.5	12	106	178	125	18765	92	152	1.1	1.1	33.6	39.2	120.7	25.51	1.22	752.0	52	1157
1158.0	11:09	24.3	29.5	14	107	204	125	19037	92	152	1.1	1.1	34.0	38.5	121.0	25.55	1.18	753.0	51	1158
1159.0	11:12	24.0	29.5	14	107	211	126	19040	92	152	1.1	1.1	34.0	39.5	121.3	25.59	1.20	754.0	51	1159
1160.0	11:15	22.1	29.4	15	107	199	126	19168	93	152	1.1	1.1	34.1	39.3	121.6	25.64	1.24	755.0	51	1160
1161.0	11:19	13.3	29.4	17	104	169	125	18934	93	152	1.1	1.1	34.1	39.8	122.0	25.71	1.40	756.0	47	1161
1162.0	11:27	13.0	29.3	16	89	194	125	18572	95	154	1.1	1.1	34.1	40.1	122.6	25.80	3.49	757.0	97	1162
1163.0	11:27	20.0	29.4	16	89	189	125	18585	94	154	1.1	1.1	34.1	40.2	122.6	25.80	0.30	758.0	97	1163
1164.0	11:30	22.6	29.4	16	89	203	125	18695	94	154	1.1	1.1	34.1	40.6	122.7	25.84	1.20	759.0	70	1164
1165.0	11:33	23.4	29.4	16	89	205	125	18752	94	154	1.1	1.1	34.1	40.7	123.0	25.88	1.20	760.0	42	1165
1166.0	11:37	13.1	29.3	15	89	189	125	18725	94	153	1.1	1.1	34.1	40.7	123.4	25.96	1.32	761.0	41	1166
1167.0	11:41	14.9	29.3	16	89	197	125	18863	94	154	1.1	1.1	34.1	40.3	123.7	26.03	1.31	762.0	43	1167
1168.0	11:46	13.3	29.2	14	89	180	124	18784	94	154	1.1	1.1	34.1	40.7	124.2	26.10	1.31	763.0	61	1168
1169.0	11:50	15.0	29.2	16	89	218	124	19226	95	154	1.1	1.1	34.2	40.8	124.5	26.17	1.32	764.0	59	1169
1170.0	11:54	13.7	29.2	16	89	208	125	19221	95	155	1.1	1.1	34.2	40.9	124.9	26.24	1.33	765.0	52	1170
1171.0	11:58	13.5	29.1	15	89	197	124	19053	96	155	1.1	1.1	34.2	40.9	125.3	26.32	1.32	766.0	47	1171
1172.0	12:02	18.7	29.1	15	89	203	124	18953	96	155	1.1	1.1	34.2	41.1	125.6	26.37	1.24	767.0	48	1172
1173.0	12:05	15.7	29.1	16	89	210	124	18538	96	156	1.1	1.1	34.2	41.3	125.9	26.43	1.30	768.0	46	1173
1174.0	12:10	14.3	29.0	16	89	201	124	18891	95	155	1.1	1.1	34.3	41.2	126.3	26.50	1.31	769.0	42	1174
1175.0	12:14	14.0	29.0	16	89	203	124	18749	95	155	1.1	1.1	34.3	41.2	126.6	26.57	1.33	770.0	40	1175
1176.0	12:18	15.8	28.9	15	89	199	124	18667	93	154	1.1	1.1	34.3	41.3	127.0	26.64	1.28	771.0	39	1176
1177.0	12:21	17.1	28.9	15	89	199	124	18722	91	152	1.1	1.1	34.3	41.2	127.4	26.70	1.26	772.0	39	1177
1178.0	12:25	15.4	28.9	16	89	205	124	18669	91	152	1.1	1.1	34.3	38.8	127.6	26.76	1.30	773.0	39	1178
1179.0	12:29	14.5	28.8	15	89	201	124	18599	91	154	1.1	1.1	34.3	40.5	128.0	26.83	1.31	774.0	39	1179
1180.0	12:34	13.6	28.8	16	89	194	124	18663	91	157	1.1	1.1	34.3	41.3	128.5	26.90	1.33	775.0	39	1180
1181.0	12:38	15.3	28.8	15	89	196	124	18659	92	160	1.1	1.1	34.4	41.4	128.8	26.97	1.29	776.0	40	1181
1182.0	12:42	13.9	28.7	15	89	201	124	18618	92	162	1.1	1.1	34.4	41.3	129.2	27.04	1.32	777.0	38	1182
1183.0	12:46	15.4	28.7	16	89	213	124	18642	93	163	1.1	1.1	34.5	41.3	129.5	27.11	1.31	778.0	41	1183
1184.0	12:49	21.8	28.7	16	89	214	124	18723	93	163	1.1	1.1	34.5	41.2	129.7	27.15	1.22	779.0	45	1184
1185.0	12:51	21.7	28.7	16	89	208	124	18790	94	164	1.1	1.1	34.6	40.1	130.0	27.20	1.22	780.0	49	1185
1186.0	13:08	24.0	28.7	14	89	184	125	18954	96	163	1.1	1.1	34.7	41.8	130.2	27.24	1.14	781.0	80	1186
1187.0	13:11	18.1	28.6	15	87	198	125	19395	98	162	1.1	1.1	34.9	42.2	130.5	27.30	1.23	782.0	71	1187
1188.0	13:14	18.7	28.6	15	87	195	125	19466	97	164	1.1	1.1	34.9	42.0	130.8	27.35	1.22	783.0	63	1188
1189.0	13:18	18.7	28.6	15	87	200	125	19430	97	166	1.1	1.1	35.0	41.9	131.1	27.40	1.22	784.0	55	1189
1190.0	13:21	17.5	28.6	16	87	217	125	19257	97	166	1.1	1.1	35.0	41.9	131.3	27.46	1.27	785.0	49	1190

299097

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1190.0	13:21	17.5	28.6	16	87	217	125	19257	97	166	1.1	1.1	35.0	41.9	131.3	27.46	1.27	785.0	49	1190
1191.0	13:24	17.5	28.6	16	87	224	125	19263	97	166	1.1	1.1	35.1	42.0	131.7	27.52	1.27	786.0	48	1191
1192.0	13:28	15.0	28.5	16	87	210	125	19211	97	167	1.1	1.1	35.1	42.1	132.0	27.58	1.31	787.0	51	1192
1193.0	13:32	17.7	28.5	16	87	204	125	19146	97	167	1.1	1.1	35.1	41.9	132.3	27.64	1.26	788.0	47	1193
1194.0	13:36	16.4	28.5	15	87	198	125	19190	97	167	1.1	1.1	35.2	42.1	132.6	27.70	1.26	789.0	43	1194
1195.0	13:38	22.0	28.5	16	87	214	126	19264	98	168	1.1	1.1	35.2	42.1	132.8	27.75	1.20	790.0	43	1195
1196.0	13:43	13.2	28.4	15	87	198	126	19229	98	168	1.1	1.1	35.2	42.1	133.2	27.82	1.32	791.0	44	1196
1197.0	13:47	14.8	28.4	15	87	201	126	19240	97	168	1.1	1.1	35.2	42.0	133.6	27.89	1.29	792.0	42	1197
1198.0	13:51	15.7	28.4	15	88	190	126	19289	95	165	1.1	1.1	35.2	42.2	133.9	27.95	1.27	793.0	40	1198
1199.0	13:55	15.3	28.3	16	87	208	126	19275	96	165	1.1	1.1	35.3	42.3	134.3	28.02	1.31	794.0	39	1199
1200.0	13:59	13.0	28.3	15	87	195	126	19212	96	165	1.1	1.1	35.3	42.2	134.6	28.09	1.33	795.0	40	1200
1201.0	14:03	14.1	28.3	15	87	189	125	19095	96	165	1.1	1.1	35.3	42.4	135.0	28.17	1.30	796.0	41	1201
1202.0	14:07	19.3	28.2	16	87	213	126	19127	97	165	1.1	1.1	35.3	42.3	135.3	28.22	1.25	797.0	42	1202
1203.0	14:11	14.6	28.2	15	87	199	125	19163	97	165	1.1	1.1	35.3	42.5	135.6	28.29	1.28	798.0	49	1203
1204.0	14:13	21.8	28.2	15	87	199	125	19012	98	165	1.1	1.1	35.3	40.4	135.9	28.33	1.16	799.0	48	1204
1205.0	14:16	22.8	28.2	17	87	217	126	19124	98	165	1.1	1.1	35.3	40.8	136.2	28.38	1.18	800.0	36	1205
1206.0	14:17	42.4	28.2	16	87	209	126	19252	98	166	1.1	1.1	35.3	41.2	136.2	28.40	1.00	801.0	34	1206
1207.0	14:19	32.7	28.2	15	87	197	125	19159	98	166	1.1	1.1	35.3	41.7	136.4	28.43	1.05	802.0	34	1207
1208.0	14:26	9.6	28.1	17	88	144	126	19178	99	166	1.1	1.1	35.3	42.4	137.0	28.53	1.43	803.0	36	1208
1209.0	14:28	30.3	28.1	16	88	186	126	19411	99	166	1.1	1.1	35.3	42.5	137.1	28.57	1.09	804.0	35	1209
1210.0	14:30	24.3	28.1	14	88	166	126	19428	100	166	1.1	1.1	35.3	42.6	137.3	28.61	1.11	805.0	33	1210
1211.0	14:32	25.0	28.1	13	88	153	126	19342	100	167	1.1	1.1	35.3	42.7	137.5	28.65	1.08	806.0	30	1211
1212.0	14:35	21.4	28.1	15	88	181	126	19329	100	167	1.1	1.1	35.3	42.7	137.8	28.70	1.16	807.0	31	1212
1213.0	14:41	11.1	28.1	17	88	153	126	19273	100	167	1.1	1.1	35.3	42.0	138.2	28.78	1.39	808.0	39	1213
1214.0	14:45	13.9	28.0	16	88	172	126	19347	100	168	1.1	1.1	35.3	42.6	138.7	28.86	1.30	809.0	75	1214
1215.0	15:04	15.4	28.0	12	87	134	126	19193	100	167	1.1	1.1	35.3	42.9	139.0	28.92	1.17	810.0	49	1215
1216.0	15:08	17.5	28.0	12	85	173	126	19428	95	158	1.1	1.1	35.3	42.9	139.3	28.98	1.13	811.0	37	1216
1217.0	15:12	14.9	28.0	13	85	176	126	19457	93	159	1.1	1.1	35.3	42.8	139.6	29.05	1.20	812.0	37	1217
1218.0	15:16	15.5	27.9	13	85	177	126	19482	92	159	1.1	1.1	35.3	42.7	139.9	29.11	1.20	813.0	42	1218
1219.0	15:19	19.7	27.9	15	85	172	126	19562	92	157	1.1	1.1	35.3	42.7	140.2	29.16	1.19	814.0	47	1219
1220.0	15:21	24.3	27.9	18	85	169	126	19662	91	157	1.1	1.1	35.3	42.7	140.4	29.20	1.18	815.0	47	1220
1221.0	15:23	30.0	27.9	16	85	160	126	19585	91	157	1.1	1.1	35.3	42.8	140.5	29.24	1.10	816.0	45	1221
1222.0	15:25	32.4	27.9	15	85	142	126	19682	90	155	1.1	1.1	35.3	42.7	140.7	29.27	1.05	817.0	40	1222
1223.0	15:27	27.7	27.9	16	85	152	126	19744	90	153	1.1	1.1	35.3	41.6	140.9	29.30	1.10	818.0	41	1223
1224.0	15:29	29.5	27.9	16	85	157	126	19849	90	151	1.1	1.1	35.3	41.9	141.1	29.34	1.08	819.0	45	1224
1225.0	15:32	24.2	27.9	15	85	146	126	19516	90	150	1.1	1.1	35.3	41.9	141.2	29.38	1.12	820.0	42	1225
1226.0	15:34	27.7	27.9	16	85	157	126	19583	90	150	1.1	1.1	35.3	42.0	141.5	29.41	1.10	821.0	42	1226
1227.0	15:36	38.3	27.9	17	85	181	126	19661	90	151	1.1	1.1	35.3	42.2	141.6	29.44	1.03	822.0	46	1227
1228.0	15:39	17.1	27.9	19	85	159	126	19570	90	151	1.1	1.1	35.3	42.3	141.8	29.50	1.30	823.0	51	1228
1229.0	15:41	39.1	27.9	18	85	183	126	19689	90	151	1.1	1.1	35.3	42.5	142.0	29.52	1.05	824.0	52	1229
1230.0	15:42	55.4	27.9	17	85	163	126	19689	91	152	1.1	1.1	35.2	42.5	142.1	29.54	0.93	825.0	51	1230
1231.0	15:43	37.1	27.9	18	85	175	126	19694	91	151	1.1	1.1	35.3	42.5	142.3	29.57	1.06	826.0	48	1231
1232.0	15:45	48.0	27.9	17	85	171	126	19710	91	151	1.1	1.1	35.3	42.6	142.4	29.59	0.98	827.0	48	1232
1233.0	15:46	40.0	28.0	15	85	148	126	19608	92	153	1.1	1.1	35.2	42.7	142.5	29.62	0.99	828.0	50	1233
1234.0	15:48	36.7	28.0	15	85	136	126	19556	92	154	1.1	1.1	35.2	42.7	142.6	29.64	1.01	829.0	53	1234
1235.0	15:50	25.4	28.0	15	85	139	126	19573	92	154	1.1	1.1	35.2	42.8	142.8	29.68	1.12	830.0	54	1235
1236.0	15:52	32.7	28.0	14	85	141	126	19549	92	155	1.1	1.1	35.2	42.9	143.0	29.71	1.03	831.0	52	1236
1237.0	15:53	52.9	28.0	16	85	157	126	19536	93	156	1.1	1.1	35.2	42.9	143.1	29.73	0.93	832.0	54	1237
1238.0	15:55	38.3	28.0	17	85	160	126	19607	93	157	1.1	1.1	35.2	42.9	143.2	29.76	1.03	833.0	60	1238
1239.0	15:56	47.4	28.0	18	85	173	126	19633	93	157	1.1	1.1	35.2	42.3	143.3	29.78	1.00	834.0	67	1239

299098

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1239.0	15:56	47.4	28.0	18	85	173	126	19633	93	157	1.1	1.1	35.2	42.3	143.3	29.78	1.00	834.0	67	1239
1240.0	15:57	48.0	28.0	16	85	162	126	19640	93	158	1.1	1.1	35.2	41.8	143.4	29.80	0.97	835.0	63	1240
1241.0	15:59	35.3	28.0	16	85	145	126	19588	94	159	1.1	1.1	35.2	41.8	143.6	29.83	1.03	836.0	45	1241
1242.0	16:01	25.9	28.0	15	85	141	126	19502	94	161	1.1	1.1	35.2	41.9	143.8	29.87	1.12	837.0	35	1242
1243.0	16:03	39.6	28.0	14	85	122	126	19484	94	161	1.1	1.1	35.2	41.9	143.9	29.89	0.97	838.0	39	1243
1244.0	16:15	42.4	28.0	11	82	91	126	19407	95	162	1.1	1.1	35.2	42.0	144.0	29.92	0.89	839.0	25	1244
1245.0	16:17	36.4	28.1	11	84	106	127	19747	101	166	1.1	1.1	35.1	42.1	144.2	29.94	0.92	840.0	23	1245
1246.0	16:19	31.6	28.1	11	84	110	127	19779	100	166	1.1	1.1	35.1	42.1	144.3	29.97	0.97	841.0	18	1246

BR3 NB3 SMITH FDS, JETS 3X14 MADE 841m IN 29.97 Hrs.

AVE ROP 28.1 m/hr, 143.3 KREVS, POOH TO RUN 244mm CSG.

HALLIBURTON GEODATA LTD

299099

DRILLING HYDRAULICS PROGRAM

BR3 NB3 SMITH FDS 3X14 DRILLED DEPTH 1246. mt TRUE DEPTH 1246. mt

MUD PROPERTIES

Mud weight	1.11 SG	Actual standpipe pressure	19700 kpa
PV/YP	10./ 25.	Pump rate	127 spm
Theta 300/600	35./ 45.	Flow rate	2411.5 lit/mn
N	0.36	Hydrostatic head	13555.0 kpa
K	3.65	Pore pressure	13017.7 kpa
R Laminar	2973.57	Estimated overbalance	537.3 kpa
R Turbulent	3773.57	M.A.A.S.P	2369.7 kpa
E.C.D.	1.13 SG	Equivalent B.H.P	15924.79 kpa
E.C.D. SHOE	1.12 SG		

BIT HYDRAULICS

Total flow area (Nozzles)	0.451 sq.ins
Nozzle velocity	145.5 m /sec
Hydraulic Impact	660.7 kg.wt.
Bit hydraulic power	471.1 KW
Total hydraulic horsepower	672.6 KW
Theor .% HHP at bit	70.0
Actual % HHP at bit	59.5

PRESSURE LOSSES

Total annular pressure loss	278.5 kpa
Drill string pressure loss	4436.3 kpa
Surface equipment press. loss	299.6 kpa
Bit pressure loss	11721.3 kpa
Total system pressure loss	16735.7 kpa

LAG TIME

Annular volume	87. mc
Lag time of mud in mins.	36.0 mins
Lag time of mud in strokes	4566. strks
Lag time of cuttings	40.4 mins

VELOCITIES

Max. annular velocity	69.3 m /min
Min. annular velocity	12.7 m /min
Ave. annular velocity	34.7 m /min
Ave. cuttings slip velocity	3.8 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,SUB,MONEL,203MM DC	229.00	69.3	167.3	104.8	892.4	6.1	Laminar
OPEN HOLE	311.00						
HWDP	127.00	38.1	139.9	24.0	448.6	4.5	Laminar
OPEN HOLE	311.00						
DRILL PIPE	127.00	38.1	139.9	95.3	448.6	4.5	Laminar
OPEN HOLE	311.00						
DRILL PIPE	127.00	37.2	139.4	50.3	434.5	4.5	Laminar
CASING	314.00						
DRILL PIPE	127.00	12.7	119.1	4.1	96.5	1.1	Laminar
MARINE RISER	508.00						

299100

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 4

DATE 09-11-92

WELL NUMBER	KING 1	OPERATING COMPANY	SAGASCO
DEPTH TO SHOE	1237.070	CASING SIZE	340.000
BIT SIZE	216.000	BIT NUMBER & TYPE	NB4 SMITH FDGH
RIG COST/HR	2000.000	INITIAL COST	20000.000
TRIP TIME	10.000	PUMP CAP BBLS.STK	18.988
BIT COST	0.000	JET SIZES	12 12 12 0
START DRILLING	1246.000		

MUD DATA LISTING

WEIGHT PPG	VISCOSITY SEC/Q	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.10	33	4	7	5/ 7	8.6	0.00	0.50	1.50	0.00

299101

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1247.0	16:14	34.5	4.9	1	45	92	47	6088	82	146	1.1	1.1	22.7	26.5	0.5	0.20	0.53	1.0	0	1247
1248.0	16:19	13.5	7.2	4	45	79	47	5770	77	145	1.1	1.1	22.8	26.5	0.7	0.28	0.86	2.0	1	1248
1249.0	16:26	8.6	7.6	4	45	75	47	5896	75	143	1.1	1.1	22.8	26.5	1.1	0.39	0.98	3.0	1	1249
1250.0	21:01	15.1	8.7	4	50	84	56	7108	68	92	1.1	1.1	22.9	26.5	1.2	0.46	0.87	4.0	0	1250
1251.0	21:05	13.9	9.4	5	52	87	62	7743	73	75	1.1	1.1	22.9	26.5	1.5	0.53	0.95	5.0	0	1251
1252.0	21:08	22.8	10.4	8	61	111	66	7732	73	76	1.1	1.1	23.0	26.5	1.6	0.58	0.97	6.0	0	1252
1253.0	21:09	33.0	11.6	6	89	106	62	7789	73	76	1.1	1.1	23.1	26.5	1.8	0.61	0.93	7.0	0	1253
1254.0	21:11	36.0	12.6	7	89	111	62	7802	73	76	1.1	1.1	23.1	26.5	2.0	0.63	0.93	8.0	0	1254
1255.0	21:13	34.6	13.6	7	89	111	62	7796	73	76	1.1	1.1	23.2	26.5	2.0	0.66	0.94	9.0	0	1255
1256.0	21:15	34.0	14.5	7	89	112	62	7815	73	76	1.1	1.1	23.2	26.5	2.2	0.69	0.95	10.0	0	1256
1257.0	21:17	30.0	15.2	8	89	116	62	7804	73	75	1.1	1.1	23.3	27.6	2.4	0.73	1.00	11.0	0	1257
1258.0	21:18	37.1	16.0	8	89	117	62	7801	73	75	1.1	1.1	23.3	27.4	2.6	0.75	0.94	12.0	0	1258
1259.0	21:20	40.4	16.7	7	89	110	62	8060	73	75	1.1	1.1	23.4	26.7	2.7	0.78	0.90	13.0	1	1259
1260.0	21:21	58.1	17.6	6	90	102	62	9677	73	76	1.1	1.1	23.5	26.8	2.8	0.79	0.77	14.0	1	1260
1261.0	21:22	52.9	18.4	5	90	94	62	9657	73	76	1.1	1.1	23.5	26.9	2.9	0.81	0.77	15.0	1	1261
1262.0	21:23	48.0	19.2	7	90	86	62	9642	73	75	1.1	1.1	23.6	27.0	3.0	0.83	0.85	16.0	1	1262
1263.0	21:33	6.2	17.1	11	90	81	62	9384	73	76	1.1	1.1	23.6	27.2	3.9	0.99	1.52	17.0	1	1263
1264.0	21:34	52.9	17.8	10	90	103	62	9136	73	76	1.1	1.1	23.7	27.2	4.0	1.01	0.93	18.0	1	1264
1265.0	21:35	47.4	18.4	9	90	91	62	9141	73	76	1.1	1.1	23.8	27.2	4.1	1.03	0.93	19.0	6	1265
1266.0	21:37	26.9	18.7	6	91	70	62	9147	73	76	1.1	1.1	23.8	27.3	4.2	1.07	0.98	20.0	7	1266
1267.0	21:41	17.7	18.6	6	91	66	62	8964	74	77	1.1	1.1	23.9	27.3	4.6	1.13	1.04	21.0	5	1267
1268.0	22:06	36.0	19.0	11	79	188	62	10805	74	77	1.1	1.1	23.9	27.5	4.7	1.16	1.02	22.0	3	1268
1269.0	22:08	46.8	19.5	12	95	274	62	8666	75	78	1.1	1.1	24.1	27.6	4.8	1.18	1.01	23.0	8	1269
1270.0	22:09	40.0	20.0	9	95	263	62	8185	75	78	1.1	1.1	24.1	27.5	5.0	1.20	0.99	24.0	11	1270
1271.0	22:12	20.8	20.0	8	95	263	62	8123	75	78	1.1	1.1	24.2	27.5	5.2	1.25	1.10	25.0	11	1271
1272.0	22:14	24.3	20.1	9	95	272	62	8109	75	78	1.1	1.1	24.2	27.5	5.5	1.29	1.10	26.0	8	1272
1273.0	22:17	27.5	20.3	11	95	281	62	8141	76	78	1.1	1.1	24.3	27.6	5.7	1.33	1.13	27.0	8	1273
1274.0	22:20	20.7	20.4	13	95	291	62	8171	76	79	1.1	1.1	24.4	27.6	6.0	1.38	1.28	28.0	7	1274
1275.0	22:21	33.0	20.6	13	95	279	62	8199	76	79	1.1	1.1	24.5	27.7	6.2	1.41	1.13	29.0	7	1275
1276.0	22:23	42.9	21.0	11	95	266	62	8245	76	79	1.1	1.1	24.5	27.5	6.3	1.43	1.01	30.0	7	1276
1277.0	22:24	40.0	21.3	9	95	257	62	8158	76	79	1.1	1.1	24.6	27.5	6.5	1.45	0.97	31.0	7	1277
1278.0	22:27	23.1	21.4	7	95	251	62	8114	76	80	1.1	1.1	24.6	27.5	6.7	1.50	1.04	32.0	7	1278
1279.0	22:30	20.3	21.3	7	95	259	62	8126	76	80	1.1	1.1	24.7	27.5	6.9	1.55	1.09	33.0	7	1279
1280.0	22:31	42.4	21.7	8	95	254	62	8135	76	79	1.1	1.1	24.7	27.5	7.0	1.57	0.93	34.0	7	1280
1281.0	22:35	14.8	21.4	5	95	251	62	8116	77	79	1.1	1.1	24.8	27.7	7.4	1.64	1.08	35.0	6	1281
1282.0	22:38	19.4	21.3	6	95	257	62	8129	77	80	1.1	1.1	24.9	27.7	7.7	1.69	1.05	36.0	5	1282
1283.0	22:41	19.3	21.2	7	95	269	62	8177	77	79	1.1	1.1	25.0	27.8	8.0	1.74	1.08	37.0	5	1283
1284.0	22:47	10.1	20.6	10	93	287	62	8167	77	80	1.1	1.1	25.0	27.8	8.6	1.84	1.35	38.0	4	1284
1285.0	22:50	21.2	20.7	11	86	302	62	8191	78	80	1.1	1.1	25.1	27.9	8.9	1.89	1.19	39.0	3	1285
1286.0	22:54	14.7	20.5	11	86	300	62	8215	78	80	1.1	1.1	25.1	26.7	9.2	1.96	1.28	40.0	2	1286
1287.0	22:59	11.8	20.1	10	86	294	62	8181	78	80	1.1	1.1	25.2	27.6	9.6	2.04	1.31	41.0	7	1287
1288.0	23:14	12.0	19.9	14	86	260	62	8052	80	82	1.1	1.1	25.2	27.4	10.0	2.15	1.44	42.0	2	1288
1289.0	23:14	12.9	19.9	14	86	260	62	8052	80	82	1.1	1.1	25.2	27.4	10.1	2.16	1.41	43.0	2	1289
1290.0	23:14	20.0	20.4	13	86	247	62	8057	79	81	1.1	1.1	25.2	27.7	10.2	2.16	1.26	44.0	2	1290
1291.0	23:21	7.9	19.7	15	87	219	62	8001	80	82	1.1	1.1	25.3	27.7	10.9	2.29	1.58	45.0	1	1291
1292.0	23:23	45.6	19.9	12	107	326	62	8297	80	82	1.1	1.1	25.3	27.8	11.0	2.31	1.05	46.0	2	1292
1293.0	23:25	25.9	20.0	10	107	348	62	8323	80	82	1.1	1.1	25.3	27.8	11.2	2.35	1.15	47.0	4	1293
1294.0	23:28	18.1	20.0	8	107	331	62	8157	80	82	1.1	1.1	25.3	27.7	11.6	2.40	1.19	48.0	5	1294
1295.0	23:40	47.4	20.2	6	95	272	62	8176	80	83	1.1	1.1	25.3	27.7	11.8	2.42	0.84	49.0	5	1295
1296.0	23:42	40.0	20.4	8	109	74	61	7719	84	86	1.1	1.1	25.4	27.7	11.9	2.45	0.97	50.0	4	1296

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1296.0	23:42	40.0	20.4	8	109	74	61	7719	84	86	1.1	1.1	25.4	27.7	11.9	2.45	0.97	50.0	4	1296
1297.0	23:51	6.4	19.6	11	110	84	61	7896	82	84	1.1	1.1	25.4	27.4	12.9	2.60	1.59	51.0	2	1297
1298.0	23:53	49.3	19.8	8	110	95	62	7940	82	84	1.1	1.1	25.5	27.4	13.0	2.62	0.94	52.0	2	1298
1299.0	23:54	39.1	20.0	7	110	84	62	7955	82	84	1.1	1.1	25.5	27.5	13.2	2.65	0.95	53.0	2	1299
1300.0	23:57	22.6	20.0	5	110	72	61	7950	82	84	1.1	1.1	25.5	27.5	13.4	2.69	1.01	54.0	3	1300
1301.0	00:00	18.8	20.0	5	110	79	62	7934	82	84	1.1	1.1	25.6	27.7	13.8	2.75	1.03	55.0	2	1301
1302.0	00:01	43.9	20.2	5	110	90	62	7930	83	84	1.1	1.1	25.6	27.7	13.9	2.77	0.87	56.0	2	1302
1303.0	00:05	17.2	20.2	5	110	72	62	7950	83	85	1.1	1.1	25.7	27.8	14.3	2.83	1.05	57.0	1	1303
1304.0	00:07	26.7	20.2	5	110	82	61	7970	83	84	1.1	1.1	25.7	27.7	14.6	2.87	0.99	58.0	1	1304
1305.0	00:09	34.3	20.4	6	110	85	62	7993	83	85	1.1	1.1	25.7	27.7	14.8	2.89	0.95	59.0	2	1305
1306.0	00:13	15.6	20.3	7	110	80	62	8013	83	85	1.1	1.1	25.8	27.7	15.1	2.96	1.16	60.0	5	1306
1307.0	00:16	17.9	20.2	7	110	88	61	8017	83	85	1.1	1.1	25.8	27.7	15.6	3.01	1.13	61.0	4	1307
1308.0	00:18	34.0	20.4	7	109	93	62	8023	83	85	1.1	1.1	25.8	27.7	15.7	3.04	0.98	62.0	5	1308
1309.0	00:22	14.9	20.3	7	109	92	62	8018	82	84	1.1	1.1	25.9	27.8	16.1	3.11	1.17	63.0	4	1309
1310.0	00:24	34.0	20.4	6	111	127	62	8046	83	85	1.1	1.1	25.9	27.8	16.3	3.14	0.96	64.0	3	1310
1311.0	00:29	11.4	20.1	6	111	105	62	8012	83	85	1.1	1.1	25.9	27.8	16.9	3.23	1.19	65.0	1	1311
1312.0	00:32	17.2	20.1	6	110	86	61	8013	83	85	1.1	1.1	26.0	27.7	17.3	3.29	1.13	66.0	1	1312
1313.0	00:43	5.5	19.3	7	110	73	61	7962	83	85	1.1	1.1	26.0	27.7	18.5	3.47	1.45	67.0	2	1313
1314.0	00:45	45.6	19.5	7	110	105	62	8052	82	85	1.1	1.1	26.1	27.7	18.6	3.49	0.91	68.0	2	1314
1315.0	00:47	29.5	19.6	7	110	84	62	8036	82	85	1.1	1.1	26.1	27.7	18.8	3.53	1.02	69.0	2	1315
1316.0	00:50	18.8	19.6	7	109	94	62	8026	82	84	1.1	1.1	26.2	27.7	19.2	3.58	1.13	70.0	3	1316
1317.0	00:52	32.7	19.7	7	110	101	62	8071	82	84	1.1	1.1	26.2	27.9	19.4	3.61	1.01	71.0	3	1317
1318.0	00:56	14.9	19.6	9	110	88	62	8050	82	84	1.1	1.1	26.2	27.8	19.8	3.68	1.26	72.0	3	1318
1319.0	01:00	13.2	19.5	8	110	100	62	8054	81	84	1.1	1.1	26.3	27.8	20.3	3.75	1.28	73.0	3	1319
1320.0	01:05	13.2	19.3	8	110	88	61	8060	81	83	1.1	1.1	26.3	27.7	20.8	3.83	1.28	74.0	3	1320
1321.0	01:10	12.2	19.2	8	110	89	62	8058	81	83	1.1	1.1	26.4	27.8	21.2	3.91	1.29	75.0	3	1321
1322.0	01:17	8.7	18.9	8	110	84	62	8062	80	83	1.1	1.1	26.4	27.8	22.0	4.02	1.37	76.0	2	1322
1323.0	01:24	8.0	18.6	9	107	87	61	7781	80	82	1.1	1.1	26.5	27.5	22.8	4.15	1.42	77.0	2	1323
1324.0	01:30	10.2	18.4	10	107	98	61	7773	80	82	1.1	1.1	26.5	27.5	23.4	4.25	1.40	78.0	2	1324
1325.0	01:49	9.9	18.2	10	108	90	61	7829	81	83	1.1	1.1	26.5	27.6	24.1	4.35	1.39	79.0	2	1325
1326.0	01:56	9.7	18.0	10	109	102	62	7994	82	85	1.1	1.1	26.5	27.6	24.8	4.45	1.41	80.0	2	1326
1327.0	02:01	11.7	17.9	10	109	104	62	8339	82	85	1.1	1.1	26.5	27.7	25.3	4.54	1.36	81.0	2	1327
1328.0	02:05	12.9	17.8	10	109	111	62	8375	82	85	1.1	1.1	26.6	27.7	25.8	4.61	1.35	82.0	2	1328
1329.0	02:10	13.6	17.7	10	110	115	62	8415	82	85	1.1	1.1	26.6	27.8	26.3	4.69	1.33	83.0	2	1329
1330.0	02:14	15.3	17.7	10	110	103	62	8419	83	85	1.1	1.1	26.6	27.5	26.7	4.75	1.30	84.0	2	1330
1331.0	02:19	12.2	17.6	10	110	102	61	8347	83	86	1.1	1.1	26.6	27.5	27.2	4.84	1.34	85.0	2	1331
1332.0	02:23	13.1	17.5	9	110	98	62	8463	83	86	1.1	1.1	26.6	27.6	27.8	4.91	1.31	86.0	2	1332
1333.0	02:25	36.7	17.6	9	110	101	62	8496	83	86	1.1	1.1	26.6	27.5	27.9	4.94	1.04	87.0	3	1333
1334.0	02:27	30.5	17.7	9	110	100	62	8529	83	86	1.1	1.1	26.6	27.6	28.1	4.97	1.09	88.0	2	1334
1335.0	02:28	57.1	17.8	9	110	99	62	8564	83	86	1.1	1.1	26.6	27.6	28.3	4.99	0.91	89.0	2	1335
1336.0	02:29	56.2	18.0	10	110	99	62	8565	84	86	1.1	1.1	26.6	27.6	28.4	5.01	0.94	90.0	2	1336
1337.0	02:31	26.9	18.0	9	110	96	62	8577	84	86	1.1	1.1	26.6	27.6	28.6	5.04	1.11	91.0	2	1337
1338.0	02:33	34.3	18.1	8	110	89	62	8566	84	86	1.1	1.1	26.6	27.6	28.8	5.07	1.02	92.0	2	1338
1339.0	02:35	27.3	18.2	7	110	85	62	8557	84	86	1.1	1.1	26.6	27.5	29.0	5.11	1.06	93.0	2	1339
1340.0	02:39	16.7	18.2	7	110	78	62	8560	84	86	1.1	1.1	26.6	27.6	29.5	5.17	1.15	94.0	2	1340
1341.0	02:41	24.8	18.2	8	110	93	62	8571	84	86	1.1	1.1	26.6	27.7	29.7	5.21	1.11	95.0	2	1341
1342.0	02:51	6.2	17.9	11	110	84	62	8529	84	86	1.1	1.1	26.6	27.7	30.8	5.37	1.56	96.0	2	1342
1343.0	02:57	9.7	17.7	11	110	88	62	8485	84	86	1.1	1.2	26.6	27.9	31.5	5.47	1.44	97.0	1	1343
1344.0	02:59	33.0	17.8	10	109	100	62	8516	84	87	1.1	1.1	26.6	27.9	31.6	5.50	1.08	98.0	2	1344
1345.0	03:02	17.3	17.8	10	110	94	62	8522	84	87	1.1	1.1	26.6	27.8	32.1	5.56	1.24	99.0	3	1345

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1345.0	03:02	17.3	17.8	10	110	94	62	8522	84	87	1.1	1.1	26.6	27.8	32.1	5.56	1.24	99.0	3	1345
1346.0	03:06	14.6	17.8	10	110	100	62	8518	84	87	1.1	1.1	26.6	27.7	32.5	5.63	1.30	100.0	0	1346
1347.0	03:11	14.0	17.7	10	110	99	62	8521	84	87	1.1	1.1	26.7	27.7	32.9	5.70	1.33	101.0	0	1347
1348.0	03:16	11.0	17.6	10	110	99	62	8558	84	86	1.1	1.1	26.7	27.5	33.5	5.79	1.39	102.0	1	1348
1349.0	03:20	14.9	17.6	10	110	94	62	8533	84	86	1.1	1.1	26.7	27.7	34.0	5.86	1.30	103.0	3	1349
1350.0	03:23	23.5	17.6	9	110	91	62	8552	84	86	1.1	1.1	26.8	27.6	34.3	5.90	1.16	104.0	3	1350
1351.0	03:26	18.4	17.6	9	110	88	62	8572	84	86	1.1	1.1	26.8	27.5	34.6	5.96	1.21	105.0	3	1351
1352.0	03:31	12.0	17.6	9	110	89	62	8575	84	86	1.1	1.1	26.8	27.6	35.2	6.04	1.32	106.0	3	1352
1353.0	03:35	14.1	17.5	10	110	94	62	8587	84	86	1.1	1.1	26.9	27.6	35.6	6.11	1.32	107.0	3	1353
1354.0	03:39	14.5	17.5	10	109	95	61	8514	84	86	1.1	1.1	27.0	27.5	36.1	6.18	1.34	108.0	3	1354
1355.0	03:58	18.2	17.5	9	109	95	61	8356	84	86	1.1	1.1	27.2	27.6	36.5	6.23	1.21	109.0	3	1355
1356.0	04:02	14.4	17.5	9	108	101	61	8305	83	86	1.1	1.1	27.3	27.7	36.9	6.30	1.29	110.0	2	1356
1357.0	04:06	13.1	17.4	9	109	100	61	8333	83	85	1.1	1.1	27.3	27.8	37.4	6.38	1.31	111.0	2	1357
1358.0	04:10	16.1	17.4	9	108	102	61	8340	82	85	1.1	1.1	27.3	27.8	37.8	6.44	1.26	112.0	2	1358
1359.0	04:14	15.4	17.4	9	109	94	61	8322	82	84	1.1	1.1	27.4	27.8	38.3	6.51	1.28	113.0	2	1359
1360.0	04:18	16.4	17.4	9	109	100	61	8338	81	84	1.1	1.1	27.4	27.7	38.6	6.57	1.25	114.0	2	1360
1361.0	04:23	12.1	17.3	9	109	98	61	8367	75	78	1.1	1.1	27.4	27.7	39.1	6.65	1.33	115.0	2	1361
1362.0	04:26	17.3	17.3	9	109	100	61	8350	74	77	1.1	1.1	27.4	27.8	39.5	6.71	1.22	116.0	2	1362
1363.0	04:29	19.5	17.3	9	109	97	61	8339	74	77	1.1	1.1	27.3	27.9	39.8	6.76	1.21	117.0	2	1363
1364.0	04:34	13.4	17.3	9	109	95	61	8322	74	77	1.1	1.1	27.3	27.9	40.4	6.83	1.32	118.0	2	1364
1365.0	04:38	14.2	17.2	9	109	98	61	8326	74	77	1.1	1.1	27.2	27.9	40.8	6.90	1.29	119.0	2	1365
1366.0	04:42	13.2	17.2	9	109	100	61	8305	74	77	1.1	1.1	27.2	27.9	41.2	6.98	1.31	120.0	2	1366
1367.0	04:50	7.6	17.0	9	109	97	61	8335	74	77	1.1	1.1	27.2	27.9	42.1	7.11	1.46	121.0	2	1367
1368.0	04:55	13.4	17.0	10	109	97	61	8306	74	77	1.1	1.1	27.1	27.9	42.6	7.19	1.32	122.0	2	1368
1369.0	04:59	12.7	16.9	9	109	99	61	8326	74	77	1.1	1.1	27.2	27.9	43.1	7.26	1.34	123.0	2	1369
1370.0	05:04	12.2	16.9	10	109	101	61	8348	74	77	1.1	1.1	27.2	28.0	43.6	7.35	1.37	124.0	2	1370
1371.0	05:09	13.7	16.8	10	109	97	61	8359	74	77	1.1	1.1	27.2	28.0	44.1	7.42	1.33	125.0	2	1371
1372.0	05:13	13.2	16.8	10	109	96	61	8352	75	78	1.1	1.1	27.3	28.0	44.6	7.50	1.33	126.0	2	1372
1373.0	05:19	11.3	16.7	9	110	86	61	8339	75	78	1.1	1.1	27.3	27.9	45.1	7.58	1.37	127.0	2	1373
1374.0	05:24	11.4	16.7	10	110	93	61	8346	76	79	1.1	1.1	27.3	27.9	45.7	7.67	1.38	128.0	2	1374
1375.0	05:32	17.4	16.7	10	110	94	61	8353	77	80	1.1	1.1	27.4	28.0	46.0	7.73	1.27	129.0	2	1375
1376.0	05:39	8.6	16.6	10	110	89	61	8360	77	80	1.1	1.1	27.5	27.9	46.8	7.84	1.46	130.0	2	1376
1377.0	05:43	15.4	16.6	10	110	93	61	8369	77	80	1.1	1.1	27.5	27.9	47.3	7.91	1.31	131.0	2	1377
1378.0	05:52	3.7	16.5	10	110	93	61	8389	77	79	1.1	1.1	27.5	28.0	47.7	7.98	1.69	132.0	2	1378
1379.0	05:58	11.8	16.5	10	110	89	61	8360	78	81	1.1	1.1	27.6	28.0	48.3	8.06	1.37	133.0	2	1379
1380.0	06:14	12.6	16.5	10	110	87	61	8351	78	82	1.1	1.1	27.6	27.9	48.8	8.14	1.34	134.0	3	1380
1381.0	06:16	24.3	16.5	14	106	86	62	8547	81	86	1.1	1.1	27.7	28.0	49.0	8.18	1.29	135.0	2	1381
1382.0	06:20	15.9	16.5	14	107	90	62	8634	79	82	1.1	1.1	27.7	28.0	49.4	8.25	1.44	136.0	2	1382
1383.0	06:24	14.0	16.5	13	110	96	62	8640	79	83	1.1	1.1	27.7	28.1	49.8	8.32	1.44	137.0	2	1383
1384.0	06:28	14.6	16.5	10	109	92	62	8666	79	83	1.1	1.1	27.8	28.1	50.3	8.39	1.31	138.0	2	1384
1385.0	06:33	12.2	16.4	10	109	91	62	8644	80	84	1.1	1.1	27.8	28.1	50.8	8.47	1.36	139.0	2	1385
1386.0	06:37	14.3	16.4	9	109	89	62	8556	80	83	1.1	1.1	27.8	28.2	51.3	8.54	1.31	140.0	2	1386
1387.0	06:42	13.8	16.4	10	109	89	62	8575	80	83	1.1	1.1	27.8	28.1	51.8	8.61	1.32	141.0	2	1387
1388.0	06:46	13.1	16.3	10	109	90	62	8595	80	83	1.1	1.1	27.7	28.2	52.3	8.69	1.33	142.0	0	1388
1389.0	06:53	9.0	16.3	10	110	88	62	8578	80	83	1.1	1.1	27.7	27.9	53.0	8.80	1.44	143.0	3	1389
1390.0	06:57	15.7	16.2	10	109	90	62	8586	80	83	1.1	1.1	27.6	28.0	53.4	8.86	1.28	144.0	3	1390
1391.0	07:02	11.5	16.2	10	110	88	62	8596	79	83	1.1	1.1	27.6	28.0	53.9	8.95	1.37	145.0	2	1391
1392.0	07:07	11.9	16.2	9	109	89	62	8590	80	83	1.1	1.1	27.5	28.0	54.5	9.03	1.34	146.0	2	1392
1393.0	07:12	12.9	16.1	9	110	88	62	8598	80	83	1.1	1.1	27.5	28.1	55.1	9.11	1.32	147.0	2	1393
1394.0	07:15	17.3	16.1	9	109	92	62	8617	80	84	1.1	1.1	27.5	28.1	55.4	9.17	1.25	148.0	2	1394

299104

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1394.0	07:15	17.3	16.1	9	109	92	62	8617	80	84	1.1	1.1	27.5	28.1	55.4	9.17	1.25	148.0	2	1394
1395.0	07:18	19.7	16.2	9	109	90	62	8613	81	84	1.1	1.1	27.5	28.1	55.7	9.22	1.21	149.0	2	1395
1396.0	07:21	22.8	16.2	9	109	91	62	8640	80	84	1.1	1.1	27.5	28.2	56.1	9.26	1.17	150.0	3	1396
1397.0	07:23	33.3	16.2	9	109	94	62	8655	80	84	1.1	1.1	27.5	28.1	56.2	9.29	1.07	151.0	4	1397

BR4 NB4 SMITH FDGH, JETS 3X12 MADE 151m

AVE ROP 16.2 m/hr, 56.2 KREVS, POOH TO CORE.

299105

HALLIBURTON GEODATA LTD

DRILLING HYDRAULICS PROGRAM

BR4 NB4 SMITH FDGH DRILLED DEPTH 1397. mt TRUE DEPTH 1397. mt

MUD PROPERTIES

Mud weight	1.11 SG
PV/YP	16./ 26.
Theta 300/600	42./ 58.
N	0.47
K	2.31
R Laminar	2832.41
R Turbulent	3632.41
E.C.D.	1.16 SG
E.C.D. SHOE	1.15 SG

Actual standpipe pressure	8655 kpa
Pump rate	62 spm
Flow rate	1177.3 lit/mn
Hydrostatic head	15197.8 kpa
Pore pressure	14129.8 kpa
Estimated overbalance	1067.9 kpa
M.A.A.S.P	7432.2 kpa
Equivalent B.H.P	22629.92 kpa

BIT HYDRAULICS

Total flow area (Nozzles)	0.331 sq.ins
Nozzle velocity	96.7 m /sec
Hydraulic Impact	214.3 kg.wt.
Bit hydraulic power	101.5 KW
Total hydraulic horsepower	151.5 KW
Theor .% HHP at bit	67.0
Actual % HHP at bit	59.8

PRESSURE LOSSES

Total annular pressure loss	720.7 kpa
Drill string pressure loss	1748.6 kpa
Surface equipment press. loss	78.9 kpa
Bit pressure loss	5175.4 kpa
Total system pressure loss	7723.6 kpa

LAG TIME

Annular volume	51. mc
Lag time of mud in mins.	43.4 mins
Lag time of mud in strokes	2690. strks
Lag time of cuttings	50.2 mins

VELOCITIES

Max. annular velocity	73.5 m /min
Min. annular velocity	6.2 m /min
Ave. annular velocity	32.2 m /min
Ave. cuttings slip velocity	4.2 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,SUB,MONEL,203MM DC	162.05	73.5	203.3	206.7	762.3	6.5	Laminar
OPEN HOLE	216.00						
BIT,SUB,MONEL,203MM DC	162.05	61.5	194.0	53.5	623.4	6.1	Laminar
CASING	225.00						
HWDP	127.00	43.5	169.6	58.4	449.3	5.3	Laminar
CASING	225.00						
DRILL PIPE	127.00	43.5	169.6	399.8	449.3	5.3	Laminar
CASING	225.00						
DRILL PIPE	127.00	6.2	112.4	2.2	42.5	1.0	Laminar
MARINE RISER	508.00						

299106

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 5

DATE 10-NOV-92

WELL NUMBER	KING-1	OPERATING COMPANY	SAGASCO RESOURCES
DEPTH TO SHOE	1237.070	CASING SIZE	244.000
BIT SIZE	216.000	BIT NUMBER & TYPE	BR5 DBS CD93
RIG COST/HR	0.000	INITIAL COST	0.000
TRIP TIME	12.000	PUMP CAP LITS.STK	18.988
BIT COST	0.000	TOTAL FLOW AREA	1.000
START DRILLING	1397.000		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.12	52	17	28	5/ 8	10.2	7.60	1.00	4.00	0.00

299107

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1398.0	21:01	6.6	6.6	1	60	79	49	6073	87	83	1.1	1.1	20.3	28.1	0.6	0.15	0.81	1.0	0	1398
1399.0	21:09	8.4	7.4	2	72	98	50	6980	85	82	1.1	1.1	20.5	27.5	1.1	0.27	0.90	2.0	0	1399
1400.0	21:19	5.9	6.8	3	73	99	50	6740	85	81	1.1	1.1	20.9	27.7	1.8	0.44	1.05	3.0	0	1400
1401.0	22:11	1.4	3.5	4	75	59	50	5647	85	81	1.1	1.1	22.6	28.0	5.0	1.14	1.42	4.0	0	1401
1402.0	22:12	1.4	4.4	4	73	54	50	5642	85	81	1.1	1.1	22.0	28.0	5.0	1.14	1.42	5.0	0	1402

BR5 NB5 DBS CD93, CORED 5m IN 1.14 Hrs.

AVE ROP 4.4 m/hr, 5.0 KREVS, POOH DUE TO BARREL JAMMING.

HALLIBURTON GEODATA LTD

DRILLING HYDRAULICS PROGRAM

299108

BR5 NB5 DBS CD93 DRILLED DEPTH 1402. mt TRUE DEPTH 1402. mt

MUD PROPERTIES

Mud weight	1.12 SG	Actual standpipe pressure	5642 kpa
PV/YP	13./ 24.	Pump rate	50 spm
Theta 300/600	37./ 50.	Flow rate	949.5 lit/mn
N	0.43	Hydrostatic head	15389.6 kpa
K	2.47	Pore pressure	14180.4 kpa
R Laminar	2875.21	Estimated overbalance	1209.2 kpa
R Turbulent	3675.21	M.A.A.S.P	7310.9 kpa
E.C.D.	1.17 SG	Equivalent B.H.P	22700.47 kpa
E.C.D. SHOE	1.13 SG		

BIT HYDRAULICS

		PRESSURE LOSSES	
Total flow area (Nozzles)	1.000 sq.ins	Total annular pressure loss	625.3 kpa
Nozzle velocity	25.8 m /sec	Drill string pressure loss	886.2 kpa
Hydraulic Impact	46.6 kg.wt.	Surface equipment press. loss	53.4 kpa
Bit hydraulic power	5.9 KW	Bit pressure loss	372.9 kpa
Total hydraulic horsepower	30.7 KW	Total system pressure loss	1937.8 kpa
Theor .% HHP at bit	19.2		
Actual % HHP at bit	6.6		

LAG TIME

		VELOCITIES	
Annular volume	51. mc	Max. annular velocity	80.4 m /min
Lag time of mud in mins.	53.9 mins	Min. annular velocity	5.0 m /min
Lag time of mud in strokes	2696. strks	Ave. annular velocity	26.0 m /min
Lag time of cuttings	56.3 mins	Ave. cuttings slip velocity	1.1 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,CORE BARREL	177.80	80.4	205.8	41.0	842.8	3.6	Laminar
OPEN HOLE	216.00						
162MM D/C	162.00	59.2	187.0	153.3	607.4	3.2	Laminar
OPEN HOLE	216.00						
162MM D/C	162.00	49.6	179.2	33.0	491.7	3.0	Laminar
CASING	225.00						
DRILL PIPE	127.00	35.0	158.5	395.9	345.9	1.4	Laminar
CASING	225.00						
DRILL PIPE	127.00	5.0	108.8	2.1	29.5	0.2	Laminar
MARINE RISER	508.00						

299109

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 6

DATE 11-NOV-92

WELL NUMBER	KING 1	OPERATING COMPANY	SAGASCO RESOURCES
DEPTH TO SHOE	1237.070	CASING SIZE	244.000
BIT SIZE	216.000	BIT NUMBER & TYPE	BR6 RR5 DBS CD93
RIG COST/HR	0.000	INITIAL COST	0.000
TRIP TIME	6.500	PUMP CAP LITS.STK	18.988
BIT COST	0.000	TOTAL FLOW AREA	0.860
START DRILLING	1402.000		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.12	58	13	24	4/ 5	8.9	5.20	1.00	5.50	0.25

299110

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1403.0	05:34	9.0	9.7	9	54	82	52	2914	86	86	1.1	1.1	31.7	27.1	0.3	0.11	2.73	1.0	0	1403
1404.0	05:43	7.1	8.2	8	54	78	52	2887	86	86	4.1	1.1	31.4	29.6	0.8	0.26	2.81	2.0	0	1404
1405.0	05:49	9.1	8.0	8	54	92	52	3042	83	83	7.1	1.1	30.8	30.3	1.2	0.37	2.63	3.0	0	1405
1406.0	05:55	10.4	8.6	7	54	92	52	3326	83	83	10.1	1.1	30.3	30.9	1.5	0.46	2.55	4.0	0	1406
1407.0	06:01	9.4	8.7	6	54	84	52	3278	83	83	13.1	1.1	30.0	31.0	1.8	0.57	2.43	5.0	0	1407
1408.0	06:06	14.9	9.3	6	54	103	52	3274	84	83	16.1	1.1	29.8	30.9	2.1	0.64	2.23	6.0	0	1408
1409.0	06:12	6.8	9.3	6	54	102	52	3336	84	84	19.1	1.1	29.8	30.8	2.4	0.75	1.13	7.0	0	1409
1410.0	06:17	5.7	9.6	6	53	111	52	2580	85	85	22.1	1.1	30.4	30.6	2.7	0.83	1.18	8.0	0	1410

BR6 RR5 CD93, CORED 8.5m IN 0.83 Hrs.

AVE ROP 9.1 m/hr, 4.1 KREVS.

HALLIBURTON GEODATA LTD

299111

DRILLING HYDRAULICS PROGRAM

BR6 RR5 DBS CD93 COREHEAD DRILLED DEPTH 1411. mt TRUE DEPTH 1411. mt

MUD PROPERTIES

Mud weight	1.12 SG	Actual standpipe pressure	2580 kpa
PV/YP	13./ 24.	Pump rate	52 spm
Theta 300/600	37./ 50.	Flow rate	987.5 lit/mn
N	0.43	Hydrostatic head	15482.9 kpa
K	2.47	Pore pressure	14266.4 kpa
R Laminar	2875.21	Estimated overbalance	1216.5 kpa
R Turbulent	3675.21	M.A.A.S.P	6753.2 kpa
E.C.D.	1.17 SG	Equivalent B.H.P	22236.06 kpa
E.C.D. SHOE	1.13 SG		

BIT HYDRAULICS

Total flow area (Nozzles)	0.860 sq.ins
Nozzle velocity	31.2 m /sec
Hydraulic Impact	58.6 kg.wt.
Bit hydraulic power	9.0 KW
Total hydraulic horsepower	36.2 KW
Theor .% HHP at bit	24.8
Actual % HHP at bit	21.1

PRESSURE LOSSES

Total annular pressure loss	641.5 kpa
Drill string pressure loss	954.1 kpa
Surface equipment press. loss	57.4 kpa
Bit pressure loss	545.4 kpa
Total system pressure loss	2198.4 kpa

LAG TIME

Annular volume	51. mc
Lag time of mud in mins.	52.0 mins
Lag time of mud in strokes	2706. strks
Lag time of cuttings	55.4 mins

VELOCITIES

Max. annular velocity	83.6 m /min
Min. annular velocity	5.2 m /min
Ave. annular velocity	27.1 m /min
Ave. cuttings slip velocity	1.5 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,CORE BARREL	177.80	83.6	205.8	41.7	896.2	3.7	Laminar
OPEN HOLE	216.00						
162MM D/C	162.00	61.6	187.0	165.1	645.8	3.2	Laminar
OPEN HOLE	216.00						
162MM D/C	162.00	51.6	179.2	26.7	522.8	3.0	Laminar
CASING	225.00						
DRILL PIPE	127.00	36.4	158.5	405.8	367.8	2.6	Laminar
CASING	225.00						
DRILL PIPE	127.00	5.2	108.8	2.1	31.4	0.2	Laminar
MARINE RISER	508.00						

299112

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 7

DATE 11-NOV-92

WELL NUMBER	KING 1	OPERATING COMPANY	SAGASCO RESOURCES
DEPTH TO SHOE	1237.070	CASING SIZE	244.000
BIT SIZE	216.000	BIT NUMBER & TYPE	BR7 NB6 SMITH F1
RIG COST/HR	0.000	INITIAL COST	0.000
TRIP TIME	6.500	PUMP CAP LITS.STK	18.988
BIT COST	0.000	JET SIZES	11 11 10 0
START DRILLING	1410.500		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.12	58	13	24	4/ 5	8.9	5.20	1.00	5.50	0.25

299113

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1411.0	15:32	4.2	4.2	3	61	76	53	9254	84	87	1.1	1.1	29.3	28.8	0.4	0.12	1.15	0.5	0	1411
1412.0	16:04	3.2	3.5	4	77	77	57	10636	83	88	1.1	1.1	28.0	28.0	1.8	0.43	1.27	1.5	1	1412
1413.0	16:19	4.0	3.7	7	79	86	57	10639	83	87	1.1	1.1	28.0	27.9	3.0	0.68	1.40	2.5	2	1413
1414.0	16:22	18.1	4.7	6	78	98	57	10719	84	87	1.1	1.1	28.7	28.0	3.3	0.74	1.01	3.5	3	1414
1415.0	16:26	15.7	5.6	7	78	97	57	10673	83	87	1.1	1.1	29.0	28.2	3.6	0.80	1.07	4.5	2	1415
1416.0	16:47	4.2	5.3	7	78	83	57	10591	84	87	1.1	1.1	30.4	28.5	4.7	1.04	1.37	5.5	2	1416
1417.0	17:00	4.7	5.2	8	99	88	57	10722	84	87	1.1	1.1	32.1	28.7	5.9	1.25	1.49	6.5	3	1417
1418.0	17:05	12.4	5.6	7	99	90	57	10751	85	88	1.1	1.1	33.3	28.9	6.4	1.34	1.21	7.5	2	1418
1419.0	17:08	16.6	6.1	6	99	89	57	10781	85	89	1.1	1.1	33.8	28.9	6.8	1.40	1.09	8.5	2	1419
1420.0	17:10	39.6	6.7	6	99	102	57	10819	85	88	1.1	1.1	34.1	29.0	6.9	1.42	0.89	9.5	2	1420
1421.0	17:11	40.0	7.3	6	99	93	57	10843	85	89	1.1	1.1	34.3	29.2	7.1	1.45	0.87	10.5	2	1421
1422.0	17:19	31.6	7.8	4	98	83	57	10747	87	90	1.1	1.1	34.6	29.5	7.2	1.48	0.86	11.5	2	1422
1423.0	17:20	43.9	8.3	6	98	103	57	10812	87	90	1.1	1.1	34.8	31.0	7.4	1.50	0.87	12.5	0	1423

BR7 NB6 SMITH F1 MADE 13m IN 1.5 Hrs.

AVE ROP 8.3 m/hr, 7.5 KREVS, POOH TO CORE.

299114

HALLIBURTON GEODATA LTD

DRILLING HYDRAULICS PROGRAM

BR7 NB6 SMITH F1 DRILLED DEPTH 1424. mt TRUE DEPTH 1424. mt

MUD PROPERTIES

Mud weight	1.14 SG	Actual standpipe pressure	10812 kpa
PV/YP	19./ 27.	Pump rate	57 spm
Theta 300/600	46./ 65.	Flow rate	1082.4 lit/mn
N	0.50	Hydrostatic head	15876.7 kpa
K	2.05	Pore pressure	14397.8 kpa
R Laminar	2787.03	Estimated overbalance	1478.8 kpa
R Turbulent	3587.03	M.A.A.S.P	6535.0 kpa
E.C.D.	1.19 SG	Equivalent B.H.P	22411.65 kpa
E.C.D. SHOE	1.18 SG		

BIT HYDRAULICS

		PRESSURE LOSSES	
Total flow area (Nozzles)	0.262 sq.ins	Total annular pressure loss	739.6 kpa
Nozzle velocity	112.3 m /sec	Drill string pressure loss	1636.8 kpa
Hydraulic Impact	234.6 kg.wt.	Surface equipment press. loss	69.2 kpa
Bit hydraulic power	129.1 KW	Bit pressure loss	7157.0 kpa
Total hydraulic horsepower	173.2 KW	Total system pressure loss	9602.6 kpa
Theor .% HHP at bit	74.5		
Actual % HHP at bit	66.2		

LAG TIME

		VELOCITIES	
Annular volume	52. mc	Max. annular velocity	67.5 m /min
Lag time of mud in mins.	47.8 mins	Min. annular velocity	5.7 m /min
Lag time of mud in strokes	2723. strks	Ave. annular velocity	29.8 m /min
Lag time of cuttings	55.9 mins	Ave. cuttings slip velocity	4.1 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,STAB,MON OPEN HOLE	162.00 216.00	67.5	211.5	14.2	646.1	6.2	Laminar
162MM D/C OPEN HOLE	162.00 216.00	67.5	211.5	231.6	646.1	6.2	Laminar
162MM D/C CASING	162.00 225.00	56.5	200.9	30.5	534.3	5.8	Laminar
HWDP CASING	127.00 225.00	40.0	173.5	57.5	395.5	5.1	Laminar
DRILL PIPE CASING	127.00 225.00	40.0	173.5	403.8	395.5	5.1	Laminar
DRILL PIPE MARINE RISER	127.00 508.00	5.7	110.5	2.0	41.8	1.0	Laminar

299115

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 8

DATE 12-NOV-92

WELL NUMBER	KING 1	OPERATING COMPANY	SAGASCO RESOURCES
DEPTH TO SHOE	1237.070	CASING SIZE	244.000
BIT SIZE	216.000	BIT NUMBER & TYPE	BR8 RR5 DBS CD93
RIG COST/HR	0.000	INITIAL COST	0.000
TRIP TIME	7.000	PUMP CAP LITS.STK	18.988
BIT COST	0.000	TOTAL FLOW AREA	0.860
START DRILLING	1423.500		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.14	54	13	27	5/ 6	8.9	5.30	1.00	7.00	0.05

299116

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1424.0	05:49	8.6	8.6	1	55	75	49	6703	85	88	1.1	1.1	22.6	31.6	0.2	0.06	0.79	0.5	2	1924
1424.5	05:53	8.9	8.8	1	55	74	49	6648	85	88	1.1	1.1	22.6	23.5	0.4	0.11	0.79	1.0	0	1925
1425.0	05:56	9.3	8.9	1	55	73	49	6429	85	88	1.1	1.1	22.5	26.1	0.5	0.17	0.79	1.5	1	1926
1425.5	05:59	8.8	8.9	1	55	75	49	6429	85	88	1.1	1.1	22.3	28.3	0.7	0.22	0.78	2.0	1	1927
1426.0	06:02	11.0	9.3	2	55	80	49	6432	85	88	1.1	1.1	22.2	29.0	0.9	0.27	0.81	2.5	1	1928
1426.5	06:05	10.1	9.4	2	54	82	49	6442	85	88	1.1	1.1	22.0	29.8	1.0	0.32	0.84	3.0	2	1929
1427.0	06:08	11.2	9.6	2	54	92	49	6350	85	88	1.1	1.1	21.8	30.7	1.2	0.36	0.83	3.5	2	1930
1427.5	06:10	12.4	9.9	3	55	94	49	6299	85	88	1.1	1.1	21.7	31.0	1.3	0.40	0.83	4.0	2	1931
1428.0	06:13	10.7	10.0	2	54	92	49	6249	85	88	1.1	1.1	21.5	30.9	1.5	0.45	0.85	4.5	2	1932
1428.5	06:16	10.6	10.0	3	54	89	49	6229	85	89	1.1	1.1	21.3	31.0	1.6	0.50	0.87	5.0	2	1933
1429.0	06:18	14.6	10.3	3	54	101	49	6218	86	89	1.1	1.1	21.1	31.2	1.7	0.53	0.81	5.5	2	1934
1429.5	06:20	11.0	10.4	3	54	90	49	5234	86	89	1.1	1.1	20.9	31.5	1.9	0.58	0.89	6.0	2	1935
1430.0	06:25	6.5	9.9	3	54	76	49	4187	85	88	1.1	1.1	20.6	31.9	2.1	0.65	1.01	6.5	2	1936
1430.5	06:30	5.8	9.5	2	66	68	49	4222	85	88	1.1	1.1	20.4	32.0	2.5	0.74	1.00	7.0	2	1937
1431.0	06:34	7.5	9.3	2	82	68	49	4256	85	89	1.1	1.1	20.4	31.8	2.8	0.81	0.99	7.5	3	1938
1431.5	06:38	7.8	9.2	3	82	71	49	4237	85	89	1.1	1.1	20.5	31.5	3.1	0.87	1.02	8.0	3	1939
1432.0	06:41	8.8	9.2	3	82	72	49	4237	86	89	1.1	1.1	20.6	31.3	3.4	0.93	1.00	8.5	3	1940
1432.5	06:45	7.8	9.1	3	83	75	49	4490	85	89	1.1	1.1	20.8	31.0	3.7	0.99	1.03	9.0	3	1941
1433.0	06:48	9.2	9.1	3	83	79	49	4131	85	89	1.1	1.1	21.0	30.7	4.0	1.05	0.99	9.5	3	1942
1433.5	06:52	8.7	9.1	2	83	82	49	4125	85	88	1.1	1.1	21.2	30.5	4.2	1.10	0.94	10.0	2	1943
1434.0	06:56	7.4	9.0	2	83	75	49	4260	85	88	1.1	1.1	21.5	30.2	4.6	1.17	0.98	10.5	2	1944

BR8 RR5 DBS CD93 CORED FROM 1423.5M TO 1434.0M

CORE #3 TOOK 1.4 ROT.HRS, FOR 10.5 M, AV ROP 7.6m/hr, 5.7 KREVS.

HALLIBURTON GEODATA LTD

299117

DRILLING HYDRAULICS PROGRAM

DATE 12-NOV-92

BR8 RR5 DBS CD93 DRILLED DEPTH 1434. mt TRUE DEPTH 1434. mt

MUD PROPERTIES

Mud weight	1.14 SG	Actual standpipe pressure	5189 kpa
PV/YP	19./ 27.	Pump rate	50 spm
Theta 300/600	46./ 65.	Flow rate	949.5 lit/mn
N	0.50	Hydrostatic head	16021.9 kpa
K	2.05	Pore pressure	14504.0 kpa
R Laminar	2787.03	Estimated overbalance	1517.9 kpa
R Turbulent	3587.03	M.A.A.S.P	6510.7 kpa
E.C.D.	1.18 SG	Equivalent B.H.P	22532.62 kpa
E.C.D. SHOE	1.18 SG		

BIT HYDRAULICS

Total flow area (Nozzles)	0.860 sq.ins	Total annular pressure loss	575.6 kpa
Nozzle velocity	30.0 m /sec	Drill string pressure loss	1214.5 kpa
Hydraulic Impact	55.2 kg.wt.	Surface equipment press. loss	54.3 kpa
Bit hydraulic power	8.1 KW	Bit pressure loss	513.2 kpa
Total hydraulic horsepower	37.3 KW	Total system pressure loss	2357.6 kpa
Theor .% HHP at bit	21.8		
Actual % HHP at bit	9.9		

LAG TIME

Annular volume	53. mc	Max. annular velocity	80.4 m /min
Lag time of mud in mins.	56.1 mins	Min. annular velocity	5.0 m /min
Lag time of mud in strokes	2804. strks	Ave. annular velocity	25.6 m /min
Lag time of cuttings	58.3 mins	Ave. cuttings slip velocity	0.9 m /min

VELOCITIES

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,CORE BARREL OPEN HOLE	177.80 216.00	80.4	236.9	49.7	707.5	3.2	Laminar
165MM DC OPEN HOLE	71.44 216.00	29.1	152.3	34.9	298.7	0.9	Laminar
165MM DC CASING	71.44 220.50	27.8	150.8	1.8	283.0	0.9	Laminar
HWDP CASING	127.00 220.50	37.2	176.0	59.6	347.8	1.3	Laminar
DRILL PIPE CASING	127.00 220.50	37.2	176.0	427.7	347.8	1.3	Laminar
DRILL PIPE MARINE RISER	127.00 508.00	5.0	110.4	1.8	34.4	0.2	Laminar

299118

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 9

DATE 12-NOV-92

WELL NUMBER	KING 1	OPERATING COMPANY	SAGASCO RESOURCES
DEPTH TO SHOE	1237.070	CASING SIZE	244.000
BIT SIZE	216.000	BIT NUMBER & TYPE	BR9 RR5 DBS CD93
RIG COST/HR	0.000	INITIAL COST	0.000
TRIP TIME	7.000	PUMP CAP LITS.STK	18.988
BIT COST	0.000	TOTAL FLOW AREA	0.860
START DRILLING	1434.000		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.14	54	13	27	5/ 6	8.9	5.30	1.00	7.00	0.05

299119

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1435.0	16:09	9.7	6.7	2	47	75	50	6145	79	83	1.1	1.1	21.0	26.8	0.3	0.13	0.80	1.0	1	1435
1436.0	16:15	10.7	8.9	3	51	91	50	6957	80	83	1.1	1.1	20.6	28.7	0.6	0.22	0.87	2.0	1	1436
1437.0	16:21	10.4	9.3	3	51	89	50	7076	79	83	1.1	1.1	20.3	29.7	0.9	0.32	0.89	3.0	0	1437
1438.0	16:27	11.6	9.4	3	56	82	50	6856	77	81	1.1	1.1	20.2	31.0	1.2	0.42	0.91	4.0	1	1438
1439.0	16:33	13.5	9.2	3	68	91	51	4848	77	81	1.1	1.1	20.3	31.4	1.7	0.53	0.96	5.0	1	1439
1440.0	16:37	8.0	8.5	3	68	96	51	4482	77	81	1.1	1.1	20.4	31.4	3.1	0.80	0.87	6.0	2	1440

BR9 RRCB1 DBS CD93 CUT CORE #4 FROM 1434 TO 1440 PACKED OFF.

CORED 6m IN 0.8 ROT HRS, AV ROP 7.2m/hr, 3.1 KREVS.

299120

HALLIBURTON GEODATA LTD

DRILLING HYDRAULICS PROGRAM

BR9 RRCB1 DBS CD93 DRILLED DEPTH 1440. mt TRUE DEPTH 1440. mt

MUD PROPERTIES

Mud weight	1.14 SG	Actual standpipe pressure	4480 kpa
PV/YP	19./ 27.	Pump rate	51 spm
Theta 300/600	46./ 65.	Flow rate	968.5 lit/mn
N	0.50	Hydrostatic head	16088.9 kpa
K	2.05	Pore pressure	14564.7 kpa
R Laminar	2787.03	Estimated overbalance	1524.2 kpa
R Turbulent	3587.03	M.A.A.S.P	6510.7 kpa
E.C.D.	1.18 SG	Equivalent B.H.P	22599.65 kpa
E.C.D. SHOE	1.18 SG		

BIT HYDRAULICS

		PRESSURE LOSSES	
Total flow area (Nozzles)	0.860 sq.ins	Total annular pressure loss	583.9 kpa
Nozzle velocity	30.6 m /sec	Drill string pressure loss	1260.8 kpa
Hydraulic Impact	57.4 kg.wt.	Surface equipment press. loss	56.4 kpa
Bit hydraulic power	8.6 KW	Bit pressure loss	534.0 kpa
Total hydraulic horsepower	39.3 KW	Total system pressure loss	2435.1 kpa
Theor .% HHP at bit	21.9		
Actual % HHP at bit	11.9		

LAG TIME

		VELOCITIES	
Annular volume	53. mc	Max. annular velocity	82.0 m /min
Lag time of mud in mins.	55.1 mins	Min. annular velocity	5.1 m /min
Lag time of mud in strokes	2812. strks	Ave. annular velocity	26.1 m /min
Lag time of cuttings	57.4 mins	Ave. cuttings slip velocity	1.0 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,CORE BARREL OPEN HOLE	177.80 216.00	82.0	236.9	50.2	728.8	3.4	Laminar
165MM DC OPEN HOLE	71.44 216.00	29.7	152.3	36.5	307.8	1.0	Laminar
165MM DC CASING	71.44 220.50	28.3	150.8	0.7	291.6	0.9	Laminar
HWDP CASING	127.00 220.50	38.0	176.0	60.2	358.3	1.4	Laminar
DRILL PIPE CASING	127.00 220.50	38.0	176.0	434.5	358.3	1.4	Laminar
DRILL PIPE MARINE RISER	127.00 508.00	5.1	110.4	1.8	35.4	0.2	Laminar

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1490.0	02:33	25.9	41.1	15	95	123	64	13312	73	77	1.1	1.1	26.7	29.8	7.1	1.36	1.23	50.0	3	1490
1491.0	02:34	43.4	41.1	14	94	126	64	13319	73	77	1.1	1.1	26.8	29.9	7.3	1.39	1.05	51.0	2	1491
1492.0	02:36	34.6	41.0	13	95	113	64	13309	73	77	1.1	1.1	26.9	29.9	7.4	1.42	1.08	52.0	2	1492
1493.0	02:38	28.1	40.7	12	95	108	64	13290	73	76	1.1	1.1	27.1	29.9	7.6	1.45	1.12	53.0	48	1493
1494.0	02:42	14.7	39.5	13	95	106	64	13257	73	76	1.1	1.1	27.2	29.9	8.0	1.52	1.31	54.0	3	1494
1495.0	02:46	14.9	38.5	14	95	109	64	13244	75	78	1.1	1.1	27.4	30.8	8.4	1.59	1.35	55.0	1	1495
1496.0	02:48	31.9	38.3	14	95	119	64	13248	75	78	1.1	1.1	27.6	30.7	8.6	1.62	1.14	56.0	1	1496
1497.0	03:06	28.8	38.1	11	81	83	64	13221	75	80	1.1	1.1	27.8	30.7	8.8	1.65	1.03	57.0	0	1497
1498.0	03:08	36.0	38.1	10	92	103	64	13434	75	83	1.1	1.1	28.2	30.7	8.9	1.68	0.99	58.0	0	1498
1499.0	03:10	24.8	37.8	12	88	110	64	13429	75	78	1.1	1.1	28.2	30.7	9.1	1.72	1.12	59.0	0	1499
1500.0	03:14	17.8	37.2	13	88	108	64	13434	74	77	1.1	1.1	28.3	30.7	9.4	1.78	1.24	60.0	4	1500
1501.0	03:22	7.4	35.1	13	88	103	64	13431	73	76	1.1	1.1	28.4	30.7	10.1	1.91	1.50	61.0	4	1501
1502.0	03:26	14.2	34.3	14	88	110	64	13435	73	76	1.2	1.1	28.6	30.8	10.5	1.98	1.33	62.0	1	1502
1503.0	03:29	18.9	33.9	14	88	123	64	13449	72	75	1.2	1.1	28.6	30.8	10.7	2.03	1.23	63.0	3	1503
1504.0	03:31	35.6	34.0	13	88	124	64	13454	72	76	1.1	1.1	28.7	30.8	10.9	2.06	1.05	64.0	3	1504
1505.0	03:34	23.2	33.7	14	87	128	64	13438	72	75	1.1	1.1	28.7	30.8	11.1	2.10	1.19	65.0	2	1505
1506.0	03:37	15.5	33.2	15	88	113	64	13421	72	75	1.1	1.1	28.8	30.8	11.5	2.17	1.33	66.0	6	1506
1507.0	03:41	16.0	32.7	13	88	108	64	13415	72	75	1.2	1.1	28.8	30.9	11.8	2.23	1.28	67.0	4	1507
1508.0	03:46	11.7	31.9	12	88	102	64	13415	72	75	1.2	1.1	28.9	30.9	12.3	2.32	1.34	68.0	2	1508
1509.0	03:52	11.0	31.1	14	88	112	64	13470	72	75	1.2	1.1	29.0	30.9	12.7	2.41	1.40	69.0	0	1509
1510.0	03:58	9.3	30.2	15	88	112	64	13481	72	75	1.2	1.1	29.1	30.9	13.2	2.52	1.48	70.0	1	1510
1511.0	04:08	6.3	28.8	14	88	106	64	13444	72	75	1.2	1.1	29.3	30.9	14.1	2.68	1.57	71.0	0	1511
1512.0	04:20	5.1	27.2	14	95	106	64	13441	72	75	1.1	1.1	29.6	31.0	15.2	2.87	1.64	72.0	0	1512
1513.0	04:22	23.8	27.1	13	107	115	64	13524	72	75	1.1	1.1	29.8	31.0	15.5	2.91	1.23	73.0	1	1513
1514.0	04:23	50.7	27.3	12	107	119	64	13557	72	75	1.1	1.1	29.8	31.0	15.6	2.93	0.99	74.0	1	1514
1515.0	04:24	52.9	27.4	13	107	121	64	13578	71	75	1.1	1.1	29.9	31.0	15.7	2.95	0.99	75.0	1	1515
1516.0	04:26	40.4	27.5	13	104	114	64	13595	71	75	1.1	1.1	29.9	31.0	16.0	2.98	1.05	76.0	1	1516
1517.0	04:34	27.5	27.5	9	92	86	62	12596	72	75	1.1	1.1	30.1	31.1	16.1	3.01	1.01	77.0	1	1517
1518.0	04:36	38.3	27.6	11	89	113	60	11882	72	75	1.1	1.1	30.1	31.1	16.3	3.04	0.99	78.0	1	1518
1519.0	04:37	42.4	27.7	13	92	121	60	11929	72	75	1.1	1.1	30.2	31.1	16.3	3.06	1.02	79.0	1	1519
1520.0	04:39	31.9	27.8	14	92	126	60	11964	72	75	1.1	1.1	30.2	31.1	16.5	3.10	1.12	80.0	2	1520
1521.0	04:41	32.4	27.8	13	92	124	60	11988	72	75	1.1	1.1	30.3	31.1	16.7	3.13	1.09	81.0	4	1521
1522.0	04:43	22.8	27.8	14	92	117	60	11976	72	75	1.1	1.1	30.3	31.1	17.0	3.17	1.21	82.0	5	1522
1523.0	04:46	23.5	27.7	13	92	110	60	11992	72	76	1.2	1.1	30.3	31.2	17.2	3.21	1.17	83.0	5	1523
1524.0	04:48	28.8	27.7	13	92	112	60	12010	73	76	1.1	1.1	30.3	31.2	17.4	3.25	1.12	84.0	3	1524
1525.0	04:49	63.2	27.9	13	92	116	60	12049	73	76	1.1	1.1	30.3	31.2	17.5	3.26	0.89	85.0	3	1525
1526.0	05:08	29.0	27.9	12	90	97	60	12182	73	76	1.1	1.1	30.2	31.2	17.7	3.30	1.08	86.0	0	1526
1527.0	05:13	13.0	27.6	12	82	105	64	13716	75	80	1.1	1.1	30.0	31.2	18.0	3.37	1.29	87.0	1	1527
1528.0	05:19	9.9	27.0	13	94	110	64	13511	75	79	1.1	1.1	29.9	31.3	18.6	3.48	1.45	88.0	2	1528
1529.0	05:24	10.7	26.6	14	99	114	64	13491	76	80	1.1	1.1	29.9	31.3	19.2	3.57	1.46	89.0	1	1529
1530.0	05:30	9.9	26.2	14	99	111	64	13430	77	80	1.1	1.1	29.9	31.3	19.8	3.67	1.48	90.0	4	1530
1531.0	05:35	12.8	25.9	14	99	114	64	13435	78	81	1.1	1.1	29.9	31.3	20.2	3.75	1.41	91.0	4	1531
1532.0	05:38	19.3	25.8	13	99	118	64	13479	78	81	1.1	1.1	30.0	31.3	20.5	3.80	1.28	92.0	3	1532
1533.0	05:43	12.7	25.5	14	99	115	64	13447	78	81	1.1	1.1	30.2	31.4	21.0	3.88	1.40	93.0	3	1533
1534.0	05:48	11.5	25.2	14	99	113	64	13438	78	81	1.1	1.1	30.3	31.4	21.5	3.97	1.44	94.0	2	1534
1535.0	05:51	18.8	25.1	13	99	116	64	13469	78	81	1.1	1.1	30.5	31.4	21.8	4.02	1.29	95.0	3	1535
1536.0	05:55	14.9	25.0	13	99	117	64	13484	78	81	1.1	1.1	30.6	31.4	22.2	4.09	1.34	96.0	3	1536
1537.0	06:04	7.0	24.4	14	99	115	64	13509	77	81	1.1	1.1	30.8	31.4	23.1	4.23	1.59	97.0	4	1537
1538.0	06:06	30.8	24.4	14	99	121	64	13554	77	81	1.1	1.1	31.0	31.4	23.2	4.26	1:15	98.0	0	1538
1539.0	06:09	20.9	24.4	12	99	108	64	13553	77	81	1.1	1.1	31.1	31.5	23.5	4.31	1.20	99.0	7	1539

299122

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 10

DATE 13-NOV-92

WELL NUMBER	KING 1	OPERATING COMPANY	SAGASCO RESOURCES
DEPTH TO SHOE	1237.070	CASING SIZE	244.000
BIT SIZE	216.000	BIT NUMBER & TYPE	BR10 RR6 SMITH F1
RIG COST/HR	4277.000	INITIAL COST	33077.500
TRIP TIME	7.500	PUMP CAP LITS.STK	18.988
BIT COST	1000.000	JET SIZES	11 11 10 0
START DRILLING	1440.000		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.14	56	14	18	3/ 8	9.1	5.60	1.00	5.00	0.25

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1441.0	00:54	19.9	139.2	8	85	99	64	13344	77	80	1.1	1.1	21.5	31.4	0.2	0.05	1.07	1.0	1	1441
1442.0	00:56	36.7	103.2	13	85	122	64	13415	76	79	1.1	1.1	21.4	31.1	0.4	0.08	1.04	2.0	0	1442
1443.0	00:57	45.6	90.5	12	85	108	64	13415	76	79	1.1	1.1	21.4	31.0	0.4	0.10	0.96	3.0	1	1443
1444.0	00:59	46.8	82.8	11	85	103	64	13419	75	79	1.1	1.1	21.3	30.9	0.5	0.12	0.93	4.0	9	1444
1445.0	01:01	27.1	69.7	12	85	110	64	13403	75	78	1.1	1.1	21.3	29.5	0.8	0.16	1.11	5.0	5	1445
1446.0	01:03	24.8	60.6	13	85	111	64	13432	75	78	1.1	1.1	21.2	29.5	1.0	0.20	1.17	6.0	4	1446
1447.0	01:05	33.3	57.0	15	85	125	64	13493	75	78	1.1	1.1	21.1	29.8	1.1	0.23	1.11	7.0	5	1447
1448.0	01:06	45.6	56.0	15	85	128	64	13540	76	78	1.1	1.1	21.0	30.1	1.2	0.25	1.02	8.0	4	1448
1449.0	01:08	49.3	55.5	14	85	123	64	13542	76	79	1.1	1.1	21.0	30.3	1.3	0.27	0.99	9.0	5	1449
1450.0	01:09	45.0	54.7	15	85	127	64	13564	76	79	1.1	1.1	20.9	30.5	1.5	0.29	1.03	10.0	9	1450
1451.0	01:10	47.4	54.2	14	85	120	64	13547	76	79	1.1	1.1	20.9	30.8	1.6	0.31	0.99	11.0	3	1451
1452.0	01:12	41.9	53.3	14	85	129	64	13542	76	79	1.1	1.1	20.9	30.7	1.7	0.34	1.03	12.0	3	1452
1453.0	01:13	42.4	52.6	15	85	129	64	13543	77	80	1.1	1.1	20.9	30.3	1.8	0.36	1.05	13.0	3	1453
1454.0	01:15	34.3	51.2	13	85	112	64	13551	77	80	1.1	1.1	20.9	29.7	1.9	0.39	1.06	14.0	3	1454
1455.0	01:17	30.0	49.6	11	85	101	64	13562	78	81	1.1	1.1	20.9	29.2	2.1	0.42	1.04	15.0	6	1455
1456.0	01:19	31.6	48.3	10	85	99	64	13388	78	81	1.1	1.1	20.9	29.1	2.3	0.46	1.02	16.0	0	1456
1457.0	01:20	34.0	47.4	11	85	104	64	13379	78	81	1.1	1.1	20.9	29.8	2.4	0.48	1.01	17.0	1	1457
1458.0	01:23	28.3	46.2	11	85	104	64	13416	78	81	1.1	1.1	21.1	31.2	2.6	0.52	1.06	18.0	1	1458
1459.0	01:24	34.0	45.5	12	85	116	64	13396	78	81	1.1	1.1	21.3	32.0	2.8	0.55	1.04	19.0	2	1459
1460.0	01:26	31.9	44.8	13	85	123	64	13418	78	81	1.1	1.1	21.5	32.2	2.9	0.58	1.10	20.0	3	1460
1461.0	01:28	40.4	44.6	14	85	122	64	13443	78	81	1.1	1.1	21.7	32.2	3.0	0.61	1.05	21.0	0	1461
1462.0	01:29	38.7	44.3	15	85	124	64	13474	78	81	1.1	1.1	21.8	32.0	3.2	0.63	1.08	22.0	1	1462
1463.0	01:31	40.9	44.2	15	85	118	64	13479	77	80	1.1	1.1	21.9	31.8	3.3	0.66	1.06	23.0	3	1463
1464.0	01:32	38.7	44.0	13	85	108	64	13479	77	80	1.1	1.1	22.0	31.6	3.5	0.68	1.04	24.0	2	1464
1465.0	01:34	32.1	43.5	12	85	111	64	13493	77	80	1.1	1.1	22.1	31.4	3.5	0.71	1.06	25.0	2	1465
1466.0	01:36	28.8	42.8	11	85	104	64	13478	77	80	1.1	1.1	22.2	31.2	3.7	0.75	1.07	26.0	1	1466
1467.0	01:38	40.0	42.7	11	85	108	64	13479	77	80	1.1	1.1	22.3	31.1	3.9	0.77	0.98	27.0	1	1467
1468.0	01:40	31.9	42.3	12	85	107	64	13465	77	80	1.1	1.1	22.4	30.9	4.1	0.80	1.05	28.0	10	1468
1469.0	02:01	35.6	42.1	11	90	112	65	13405	78	81	1.1	1.1	24.1	30.1	4.2	0.83	1.03	29.0	2	1469
1470.0	02:02	41.9	42.1	14	90	132	65	13392	78	81	1.1	1.1	24.2	30.8	4.4	0.86	1.05	30.0	2	1470
1471.0	02:04	42.9	42.1	15	90	126	65	13350	77	80	1.1	1.1	24.3	30.8	4.4	0.88	1.06	31.0	1	1471
1472.0	02:05	37.9	42.0	13	90	123	65	13337	76	79	1.1	1.1	24.4	30.7	4.5	0.91	1.06	32.0	1	1472
1473.0	02:07	43.4	42.0	14	90	125	65	13319	75	78	1.1	1.1	24.5	30.6	4.7	0.93	1.03	33.0	1	1473
1474.0	02:08	42.9	42.0	14	90	129	65	13283	75	78	1.1	1.1	24.7	30.5	4.8	0.95	1.05	34.0	1	1474
1475.0	02:10	34.3	41.8	15	94	133	64	13148	74	77	1.1	1.1	24.8	30.6	5.0	0.98	1.14	35.0	2	1475
1476.0	02:11	50.7	42.0	15	95	138	64	13188	74	77	1.1	1.1	24.9	30.5	5.1	1.00	1.02	36.0	1	1476
1477.0	02:12	48.0	42.1	15	94	132	64	13175	74	77	1.1	1.1	25.0	30.5	5.2	1.02	1.05	37.0	0	1477
1478.0	02:14	46.8	42.2	13	95	126	64	13185	74	77	1.1	1.1	25.1	27.7	5.4	1.04	1.00	38.0	0	1478
1479.0	02:15	40.9	42.2	12	95	119	64	13184	74	77	1.1	1.1	25.3	27.2	5.5	1.07	1.01	39.0	0	1479
1480.0	02:17	39.1	42.1	11	95	107	64	13189	74	77	1.1	1.1	25.4	29.8	5.7	1.09	1.00	40.0	0	1480
1481.0	02:18	45.0	42.1	11	95	108	64	13189	74	77	1.1	1.1	25.5	30.2	5.8	1.12	0.97	41.0	0	1481
1482.0	02:19	42.4	42.1	12	95	115	64	13194	74	77	1.1	1.1	25.7	30.1	5.9	1.14	1.01	42.0	0	1482
1483.0	02:21	42.9	42.2	13	95	119	64	13200	74	77	1.1	1.1	25.8	29.9	6.1	1.16	1.02	43.0	0	1483
1484.0	02:22	41.9	42.2	13	95	118	64	13237	74	77	1.1	1.1	25.9	29.8	6.2	1.19	1.03	44.0	2	1484
1485.0	02:23	47.4	42.2	13	95	117	64	13256	74	77	1.1	1.1	26.1	29.7	6.2	1.21	1.00	45.0	2	1485
1486.0	02:25	41.4	42.2	13	95	117	64	13266	74	77	1.1	1.1	26.2	29.6	6.4	1.23	1.04	46.0	4	1486
1487.0	02:26	41.9	42.2	13	95	121	64	13310	74	77	1.1	1.1	26.3	29.7	6.5	1.26	1.04	47.0	5	1487
1488.0	02:28	28.3	41.8	14	95	120	64	13310	74	77	1.1	1.1	26.4	29.7	6.7	1.29	1.17	48.0	3	1488
1489.0	02:31	29.3	41.5	15	95	127	64	13312	74	77	1.1	1.1	26.6	29.8	6.9	1.32	1.18	49.0	2	1489
1490.0	02:33	25.9	41.1	15	95	123	64	13312	73	77	1.1	1.1	26.7	29.8	7.1	1.36	1.23	50.0	3	1490

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1539.0	06:09	20.9	24.4	12	99	108	64	13553	77	81	1.1	1.1	31.1	31.5	23.5	4.31	1.20	99.0	7	1539
1540.0	06:11	26.3	24.4	12	99	111	64	13579	78	82	1.1	1.1	31.1	31.5	23.8	4.35	1.14	100.0	0	1540
1541.0	07:59	10.3	24.1	9	103	93	64	13464	85	88	1.1	1.1	31.3	31.5	24.3	4.44	1.31	101.0	0	1541
1542.0	08:07	6.9	23.5	11	94	95	64	13376	90	93	1.1	1.1	31.4	31.5	25.2	4.59	1.45	102.0	0	1542
1543.0	08:11	15.5	23.4	12	94	108	64	13384	91	94	1.1	1.1	31.4	31.5	25.5	4.65	1.27	103.0	0	1543
1544.0	08:13	29.3	23.5	11	94	112	64	13431	91	94	1.1	1.1	31.4	31.6	25.7	4.69	1.09	104.0	0	1544
1545.0	08:22	7.3	23.0	11	94	93	64	13354	92	95	1.1	1.1	31.4	31.6	26.5	4.82	1.44	105.0	0	1545
1546.0	08:27	12.2	22.8	12	94	102	64	13328	91	94	1.1	1.1	31.4	31.6	27.0	4.91	1.35	106.0	0	1546
1547.0	08:28	33.6	22.9	11	94	109	64	13383	91	94	1.1	1.1	31.4	31.6	27.1	4.94	1.03	107.0	0	1547
1548.0	08:32	18.2	22.8	12	94	103	64	13392	91	97	1.1	1.1	31.4	31.6	27.5	4.99	1.23	108.0	0	1548
1549.0	08:37	11.1	22.6	11	94	100	64	13352	91	106	1.1	1.1	31.4	31.7	27.9	5.08	1.34	109.0	0	1549
1550.0	08:43	11.0	22.4	12	94	107	64	13356	92	112	1.1	1.1	31.3	31.7	28.4	5.17	1.38	110.0	0	1550
1551.0	08:48	11.5	22.2	12	94	101	64	13358	91	112	1.1	1.1	31.3	31.7	28.9	5.26	1.35	111.0	1	1551
1552.0	08:52	15.1	22.2	12	94	107	64	13377	91	111	1.1	1.1	31.4	31.7	29.3	5.33	1.27	112.0	2	1552
1553.0	08:56	15.8	22.1	12	94	108	64	13401	91	112	1.1	1.1	31.4	31.7	29.7	5.39	1.25	113.0	3	1553
1554.0	08:58	30.5	22.1	11	94	107	64	13443	91	112	1.1	1.1	31.4	31.8	29.9	5.42	1.08	114.0	3	1554
1555.0	09:03	11.8	22.0	12	94	100	64	13401	91	112	1.1	1.1	31.5	31.8	30.3	5.51	1.36	115.0	3	1555
1556.0	09:31	9.6	21.7	11	99	99	61	12560	93	107	1.1	1.1	31.9	31.8	31.0	5.61	1.39	116.0	1	1556
1557.0	09:38	9.5	21.5	11	102	109	61	12401	79	114	1.1	1.1	32.1	31.8	31.6	5.72	1.41	117.0	2	1557
1558.0	09:40	21.6	21.5	11	102	117	62	12644	94	115	1.1	1.1	32.2	31.8	31.9	5.76	1.19	118.0	3	1558
1559.0	09:44	14.8	21.4	11	102	111	64	13431	94	115	1.1	1.1	32.2	31.8	32.3	5.83	1.30	119.0	3	1559
1560.0	09:50	11.0	21.3	12	102	109	64	13433	94	115	1.1	1.1	32.4	31.9	32.8	5.92	1.40	120.0	3	1560
1561.0	09:56	9.4	21.1	12	102	110	64	13486	94	115	1.1	1.1	32.6	31.9	33.4	6.03	1.43	121.0	2	1561
1562.0	10:04	7.3	20.8	11	102	104	64	13495	95	115	1.1	1.1	32.8	31.9	34.3	6.16	1.48	122.0	2	1562
1563.0	10:07	21.6	20.8	11	102	121	64	13530	95	115	1.1	1.1	32.9	31.9	34.6	6.21	1.18	123.0	2	1563
1564.0	10:09	34.6	20.8	10	103	142	64	13619	95	115	1.1	1.1	32.9	31.9	34.8	6.24	1.02	124.0	3	1564
1565.0	10:17	22.0	20.8	7	105	101	63	13277	96	108	1.1	1.1	33.0	32.0	35.0	6.28	1.06	125.0	3	1565
1566.0	10:21	12.8	20.8	11	105	101	63	13391	96	103	1.1	1.1	33.1	32.0	35.6	6.36	1.31	126.0	2	1566
1567.0	10:33	5.0	20.3	12	106	98	63	13425	96	115	1.1	1.1	33.2	32.0	36.8	6.56	1.62	127.0	3	1567
1568.0	10:36	25.2	20.3	9	106	114	63	13517	95	116	1.1	1.1	33.3	32.1	37.1	6.60	1.11	128.0	2	1568
1569.0	10:39	17.7	20.3	8	105	93	63	13459	95	116	1.1	1.1	33.3	32.1	37.4	6.66	1.15	129.0	2	1569
1570.0	10:43	13.7	20.2	11	105	108	63	13487	95	116	1.1	1.1	33.3	33.2	37.8	6.73	1.31	130.0	3	1570
1571.0	10:51	8.5	20.0	11	105	107	63	13487	95	116	1.1	1.1	33.4	33.7	38.6	6.85	1.45	131.0	2	1571
1572.0	10:57	10.0	19.9	12	105	112	64	13515	95	116	1.1	1.1	33.4	33.5	39.2	6.95	1.42	132.0	0	1572
1573.0	11:04	7.7	19.6	11	105	106	63	13514	96	116	1.1	1.1	33.5	33.5	40.0	7.08	1.47	133.0	2	1573
1574.0	11:11	8.6	19.5	12	105	112	63	13526	96	116	1.1	1.1	33.6	33.3	40.7	7.19	1.46	134.0	1	1574
1575.0	11:15	16.2	19.4	12	105	113	63	13539	96	116	1.1	1.1	31.9	32.9	41.1	7.26	1.30	135.0	1	1575
1576.0	11:19	15.1	19.4	12	105	113	64	13568	96	116	1.1	1.1	29.6	33.2	41.6	7.32	1.31	136.0	3	1576
1577.0	11:25	9.3	19.2	11	105	103	63	13557	96	116	1.1	1.1	29.6	33.3	42.2	7.43	1.42	143.0	2	1577
1578.0	11:31	10.0	19.1	11	105	107	63	13576	96	117	1.1	1.1	29.7	33.4	42.8	7.53	1.40	144.0	2	1578
1579.0	11:33	47.4	19.2	10	105	112	63	13659	96	117	1.1	1.1	29.8	33.3	42.9	7.55	0.95	145.0	3	1579
1580.0	11:34	35.6	19.3	9	105	108	63	13674	96	117	1.1	1.1	29.8	33.4	43.2	7.58	1.00	146.0	4	1580
1581.0	11:45	27.3	19.3	7	98	95	64	13598	97	117	1.1	1.1	29.8	33.4	43.4	7.62	0.98	147.0	4	1581
1582.0	11:48	22.8	19.3	8	103	90	63	13596	98	118	1.1	1.1	29.9	33.4	43.6	7.66	1.08	148.0	3	1582
1583.0	11:55	8.6	19.2	11	103	97	63	13458	97	118	1.1	1.1	29.9	33.4	44.4	7.78	1.44	149.0	2	1583
1584.0	12:09	36.7	19.2	8	105	101	64	13630	97	117	1.1	1.1	29.9	33.4	44.5	7.80	0.97	150.0	2	1584
1585.0	12:11	27.7	19.3	8	105	106	64	13773	94	113	1.1	1.1	30.0	33.4	44.7	7.84	1.02	151.0	3	1585
1586.0	12:13	28.3	19.3	7	101	104	64	13792	93	111	1.1	1.1	30.0	33.4	44.9	7.87	0.98	152.0	3	1586
1587.0	12:19	11.5	19.2	6	101	92	64	13742	92	111	1.1	1.1	30.1	33.4	45.5	7.96	1.16	153.0	3	1587
1588.0	12:22	18.2	19.2	7	101	96	64	13773	92	112	1.1	1.1	30.1	33.5	45.9	8.02	1.07	154.0	2	1588

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1588.0	12:22	18.2	19.2	7	101	96	64	13773	92	112	1.1	1.1	30.1	33.5	45.9	8.02	1.07	154.0	2	1588
1589.0	12:30	7.2	19.0	10	101	107	64	13750	93	113	1.1	1.1	30.0	33.5	46.7	8.15	1.43	155.0	2	1589
1590.0	12:38	7.9	18.8	10	101	107	64	13767	94	113	1.1	1.1	30.0	33.5	47.4	8.28	1.41	156.0	2	1590
1591.0	12:46	7.4	18.7	11	101	113	64	13762	94	114	1.1	1.1	30.0	33.5	48.2	8.42	1.47	157.0	2	1591
1592.0	12:49	22.0	18.7	10	101	119	64	13741	94	114	1.1	1.1	30.1	33.5	48.5	8.46	1.16	158.0	3	1592
1593.0	12:54	10.6	18.6	11	101	119	64	13738	94	114	1.1	1.1	30.2	33.5	49.1	8.56	1.38	159.0	4	1593
1594.0	13:00	11.2	18.5	11	101	114	64	13741	94	114	1.1	1.1	30.2	33.5	49.7	8.65	1.35	160.0	3	1594
1595.0	13:05	11.9	18.4	11	101	113	64	13739	94	114	1.1	1.1	30.3	33.5	50.1	8.73	1.34	161.0	3	1595
1596.0	13:10	12.3	18.4	11	101	117	64	13778	94	114	1.1	1.1	30.4	33.5	50.6	8.81	1.33	162.0	3	1596
1597.0	13:13	15.7	18.4	11	101	117	64	13799	93	113	1.1	1.1	30.4	33.5	51.0	8.88	1.28	163.0	3	1597
1598.0	13:16	24.5	18.4	10	101	116	64	13825	93	113	1.1	1.1	30.5	33.7	51.2	8.92	1.12	164.0	4	1598
1599.0	13:18	29.8	18.4	10	101	118	64	13855	93	113	1.1	1.1	30.5	33.6	51.4	8.95	1.08	165.0	4	1599
1600.0	13:22	13.5	18.4	11	101	113	64	13857	93	113	1.1	1.1	30.6	34.0	52.0	9.02	1.30	166.0	0	1600
1601.0	13:26	17.1	18.4	11	101	115	64	13868	92	113	1.1	1.1	30.6	34.1	52.3	9.08	1.24	167.0	8	1601
1602.0	13:29	20.3	18.4	10	101	127	64	13949	92	113	1.1	1.1	30.7	34.2	52.6	9.13	1.18	168.0	11	1602
1603.0	13:33	14.0	18.4	11	101	120	64	13893	92	113	1.1	1.1	30.8	34.2	53.0	9.20	1.29	169.0	9	1603
1604.0	13:36	18.7	18.4	10	101	115	64	13898	92	113	1.1	1.1	30.9	34.2	53.3	9.26	1.20	170.0	7	1604
1605.0	13:39	25.9	18.4	9	101	117	64	13942	92	113	1.1	1.1	30.9	34.2	53.6	9.30	1.06	171.0	7	1605
1606.0	13:41	25.2	18.4	9	101	113	64	13973	92	113	1.1	1.1	31.0	34.2	53.8	9.33	1.06	172.0	7	1606
1607.0	13:43	29.0	18.5	10	101	116	64	13968	92	113	1.1	1.1	31.0	34.2	54.0	9.37	1.06	173.0	6	1607
1608.0	13:46	21.1	18.5	10	101	117	64	13957	92	113	1.1	1.1	31.0	34.2	54.3	9.42	1.16	174.0	7	1608
1609.0	13:49	18.9	18.5	9	101	113	64	13991	92	112	1.1	1.1	31.1	34.2	54.6	9.47	1.15	175.0	6	1609
1610.0	13:53	17.3	18.5	9	101	109	64	13958	92	112	1.1	1.1	31.1	34.2	54.9	9.53	1.17	176.0	6	1610
1611.0	13:56	16.5	18.5	10	101	110	64	13943	92	112	1.1	1.1	31.2	34.2	55.3	9.59	1.22	177.0	7	1611
1612.0	14:18	12.1	18.4	10	97	107	64	13875	92	112	1.1	1.1	31.4	34.2	55.8	9.67	1.29	178.0	7	1612
1613.0	14:22	14.6	18.4	11	100	119	64	13877	92	112	1.1	1.1	31.5	34.2	56.2	9.74	1.29	179.0	6	1613
1614.0	14:28	10.2	18.3	11	100	117	64	13867	93	113	1.1	1.1	31.5	34.2	56.8	9.84	1.39	180.0	5	1614
1615.0	14:34	9.5	18.2	12	100	122	64	13875	93	113	1.1	1.1	31.6	34.2	57.4	9.94	1.43	181.0	5	1615
1616.0	14:39	13.9	18.2	12	100	125	64	13869	93	113	1.1	1.1	31.6	34.2	57.8	10.01	1.33	182.0	6	1616
1617.0	14:42	18.5	18.2	11	100	122	64	13932	93	113	1.1	1.1	31.6	34.2	58.2	10.07	1.22	183.0	8	1617
1618.0	14:46	13.8	18.1	11	100	122	64	13936	93	113	1.1	1.1	31.6	34.2	58.6	10.14	1.31	184.0	8	1618
1619.0	14:51	12.4	18.1	11	100	119	64	13900	93	112	1.1	1.1	31.6	34.2	59.1	10.22	1.34	185.0	8	1619
1620.0	14:54	20.2	18.1	12	100	124	64	13970	92	112	1.1	1.1	31.6	34.2	59.3	10.27	1.21	186.0	8	1620
1621.0	15:00	10.4	18.0	11	100	118	64	13957	92	112	1.1	1.1	31.6	34.2	59.9	10.37	1.39	187.0	8	1621
1622.0	15:06	9.5	18.0	12	100	117	64	13946	92	111	1.1	1.1	31.6	34.2	60.6	10.47	1.42	188.0	7	1622
1623.0	15:13	8.4	17.8	12	100	114	64	13943	93	113	1.1	1.1	31.7	34.3	61.3	10.59	1.45	189.0	6	1623
1624.0	15:19	11.1	17.8	12	100	121	64	13971	93	112	1.1	1.1	31.8	34.3	61.8	10.68	1.39	190.0	9	1624
1625.0	15:22	17.5	17.8	11	100	118	64	13973	92	112	1.1	1.1	31.8	34.3	62.2	10.74	1.24	191.0	19	1625
1626.0	15:26	13.8	17.8	11	100	123	64	13984	93	112	1.1	1.1	31.8	34.4	62.6	10.81	1.31	192.0	16	1626
1627.0	15:31	13.5	17.7	11	100	118	64	14039	92	112	1.1	1.1	31.9	34.4	63.0	10.89	1.30	193.0	12	1627
1628.0	15:35	14.5	17.7	11	100	115	64	14023	93	112	1.1	1.1	31.9	34.4	63.4	10.95	1.27	194.0	9	1628
1629.0	15:39	13.8	17.7	11	100	116	64	14062	93	112	1.1	1.1	32.0	34.8	63.8	11.03	1.30	195.0	4	1629
1630.0	15:41	37.9	17.7	11	100	126	64	14099	92	112	1.1	1.1	32.0	34.8	64.0	11.05	1.02	196.0	21	1630
1631.0	15:44	23.1	17.8	10	99	151	64	14147	92	111	1.1	1.1	32.0	34.8	64.3	11.10	1.13	197.0	29	1631
1632.0	15:46	21.4	17.8	11	100	125	64	14109	93	112	1.1	1.1	32.1	34.8	64.6	11.14	1.16	198.0	24	1632
1633.0	15:50	18.7	17.8	10	100	122	64	14139	93	112	1.1	1.1	32.1	34.8	64.9	11.20	1.19	199.0	16	1633
1634.0	15:53	18.5	17.8	11	100	128	64	14145	93	112	1.1	1.1	32.1	34.8	65.2	11.25	1.23	200.0	13	1634
1635.0	15:57	13.2	17.7	11	100	120	64	14117	92	111	1.1	1.1	32.2	34.9	65.6	11.33	1.31	201.0	10	1635
1636.0	16:01	16.1	17.7	11	100	122	64	14143	91	111	1.1	1.1	32.2	34.9	66.0	11.39	1:24	202.0	10	1636
1637.0	16:05	14.1	17.7	11	100	118	64	14166	92	112	1.1	1.1	32.2	34.9	66.4	11.46	1.28	203.0	13	1637

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1637.0	16:05	14.1	17.7	11	100	118	64	14166	92	112	1.1	1.1	32.2	34.9	66.4	11.46	1.28	203.0	13	1637
1638.0	16:08	22.0	17.7	10	100	118	64	14241	93	112	1.1	1.1	32.3	34.9	66.7	11.51	1.14	204.0	13	1638
1639.0	16:12	16.8	17.7	10	100	115	64	14215	93	112	1.1	1.1	32.3	34.9	67.0	11.56	1.23	205.0	12	1639
1640.0	16:15	16.4	17.7	12	99	124	63	14052	93	112	1.1	1.1	32.4	35.0	67.4	11.63	1.27	206.0	12	1640
1641.0	16:41	14.8	17.7	10	100	115	64	14187	93	112	1.1	1.1	32.5	35.0	67.8	11.69	1.24	207.0	8	1641
1642.0	16:47	9.6	17.6	10	102	117	64	14274	93	112	1.1	1.1	32.6	35.1	68.4	11.80	1.37	208.0	9	1642
1643.0	16:49	24.7	17.7	11	101	122	64	14272	93	112	1.1	1.1	32.6	35.1	68.7	11.84	1.15	209.0	19	1643
1644.0	16:53	16.5	17.6	9	101	119	64	14233	93	112	1.1	1.1	32.6	35.1	69.0	11.90	1.20	210.0	19	1644
1645.0	16:59	10.3	17.6	11	102	116	64	14178	92	112	1.1	1.1	32.6	35.1	69.7	12.00	1.39	211.0	13	1645
1646.0	17:02	18.4	17.6	10	101	130	64	14301	93	112	1.1	1.1	32.6	35.1	70.0	12.05	1.20	212.0	11	1646
1647.0	17:05	18.2	17.6	10	101	129	64	14349	93	112	1.1	1.1	32.7	35.1	70.3	12.11	1.20	213.0	10	1647
1648.0	17:09	14.4	17.6	11	101	134	64	14386	93	112	1.1	1.1	32.7	35.1	70.7	12.17	1.29	214.0	10	1648
1649.0	17:14	14.6	17.6	11	102	129	64	14381	93	112	1.1	1.1	32.7	35.2	71.1	12.24	1.28	215.0	10	1649
1650.0	17:17	18.2	17.6	11	101	132	64	14441	93	112	1.1	1.1	32.8	35.2	71.4	12.30	1.23	216.0	10	1650
1651.0	17:22	12.2	17.5	12	102	129	64	14458	93	112	1.1	1.1	32.8	35.3	71.9	12.38	1.35	217.0	10	1651
1652.0	17:28	10.3	17.5	12	102	128	64	14433	93	112	1.1	1.1	32.8	35.3	72.6	12.48	1.43	218.0	9	1652
1653.0	17:33	10.7	17.4	12	101	125	64	14352	93	112	1.1	1.1	32.9	35.3	73.1	12.57	1.41	219.0	10	1653
1654.0	17:36	23.4	17.4	12	102	125	64	14399	93	112	1.1	1.1	32.9	35.3	73.4	12.61	1.18	220.0	23	1654
1655.0	17:37	36.4	17.5	12	101	135	64	14492	93	112	1.1	1.1	32.9	35.3	73.5	12.64	1.05	221.0	29	1655
1656.0	17:43	10.4	17.4	13	101	130	64	14417	93	112	1.1	1.1	32.9	35.4	74.1	12.74	1.43	222.0	21	1656
1657.0	17:46	22.0	17.4	12	101	128	64	14438	93	112	1.1	1.1	33.0	35.4	74.4	12.78	1.20	223.0	14	1657
1658.0	17:49	17.2	17.4	12	102	127	64	14458	93	112	1.1	1.1	33.1	35.4	74.7	12.84	1.27	224.0	12	1658
1659.0	17:54	13.7	17.4	11	102	120	64	14411	93	112	1.1	1.1	33.1	35.4	75.1	12.91	1.31	225.0	10	1659
1660.0	17:58	14.3	17.4	12	102	121	64	14470	92	112	1.1	1.1	33.2	35.6	75.7	12.98	1.31	226.0	9	1660
1661.0	18:03	13.1	17.4	11	102	121	64	14464	93	112	1.1	1.1	33.2	35.7	76.1	13.06	1.33	227.0	3	1661
1662.0	18:07	14.1	17.4	10	102	122	64	14420	94	112	1.1	1.1	33.3	35.7	76.5	13.13	1.27	228.0	9	1662
1663.0	18:09	25.9	17.4	9	101	126	64	14437	94	112	1.1	1.2	33.4	35.7	76.7	13.17	1.08	229.0	9	1663
1664.0	18:13	14.1	17.4	10	102	122	64	14463	93	112	1.1	1.2	33.4	35.7	77.2	13.24	1.26	230.0	9	1664
1665.0	18:19	10.8	17.3	11	102	121	64	14468	93	112	1.1	1.2	33.5	35.8	77.7	13.33	1.36	231.0	9	1665
1666.0	18:24	12.7	17.3	10	102	121	64	14423	93	112	1.1	1.2	33.5	35.8	78.2	13.41	1.29	232.0	10	1666
1667.0	18:26	26.5	17.3	10	101	157	64	14469	92	112	1.1	1.2	33.6	35.8	78.4	13.45	1.09	233.0	11	1667
1668.0	18:30	15.7	17.3	10	101	170	63	14097	93	112	1.1	1.2	33.6	35.9	78.9	13.51	1.21	234.0	11	1668
1669.0	18:33	19.8	17.3	10	101	178	63	14128	93	112	1.1	1.2	33.6	35.9	79.2	13.56	1.17	235.0	12	1669
1670.0	18:35	26.9	17.4	11	101	149	63	14146	93	112	1.1	1.2	33.7	35.9	79.4	13.60	1.11	236.0	12	1670
1671.0	18:54	15.3	17.3	9	101	107	63	13975	92	111	1.1	1.2	33.6	35.7	79.8	13.67	1.20	237.0	7	1671
1672.0	18:58	13.7	17.3	9	102	115	64	14256	91	105	1.1	1.2	33.5	35.7	80.2	13.74	1.22	238.0	22	1672
1673.0	19:03	14.0	17.3	10	102	122	64	14283	90	109	1.1	1.2	33.5	35.7	80.6	13.81	1.26	239.0	10	1673
1674.0	19:07	15.2	17.3	11	102	129	64	14340	91	111	1.1	1.1	33.5	35.7	81.1	13.88	1.28	240.0	10	1674
1675.0	19:11	12.6	17.3	12	102	130	64	14334	92	111	1.1	1.1	33.5	35.8	81.5	13.96	1.35	241.0	11	1675
1676.0	19:16	12.8	17.2	12	102	126	64	14285	93	110	1.1	1.2	33.6	36.1	82.0	14.03	1.34	242.0	10	1676
1677.0	19:18	27.1	17.3	11	102	144	64	14278	93	106	1.1	1.1	33.7	36.2	82.2	14.07	1.12	243.0	28	1677
1678.0	19:20	28.3	17.3	11	102	149	64	14309	93	98	1.1	1.1	33.7	36.2	82.4	14.11	1.12	244.0	25	1678
1679.0	19:22	32.7	17.3	10	102	135	64	14338	93	96	1.1	1.1	33.7	36.2	82.6	14.14	1.05	245.0	21	1679
1680.0	19:24	45.0	17.4	11	102	138	64	14346	92	96	1.1	1.1	33.7	36.2	82.7	14.16	0.99	246.0	18	1680
1681.0	19:36	14.5	17.4	10	101	117	64	14214	93	102	1.1	1.1	33.8	36.3	83.1	14.23	1.23	247.0	14	1681
1682.0	19:40	15.5	17.4	10	101	121	64	14251	93	112	1.1	1.1	33.8	36.4	83.5	14.29	1.25	248.0	12	1682
1683.0	19:44	13.8	17.3	12	101	130	64	14369	93	112	1.1	1.1	33.9	36.4	83.9	14.36	1.34	249.0	12	1683
1684.0	19:49	14.0	17.3	13	101	127	64	14359	93	111	1.1	1.1	33.9	36.4	84.4	14.44	1.34	250.0	12	1684
1685.0	19:54	11.5	17.3	13	101	123	64	14305	90	109	1.1	1.1	33.9	36.5	85.0	14.52	1.40	251.0	18	1685
1686.0	19:56	32.7	17.3	11	101	132	64	14266	88	107	1.1	1.1	33.9	36.5	85.1	14.55	1.08	252.0	31	1686

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1686.0	19:56	32.7	17.3	11	101	132	64	14266	88	107	1.1	1.1	33.9	36.5	85.1	14.55	1.08	252.0	31	1686
1687.0	19:58	26.1	17.3	11	101	142	64	14279	88	106	1.1	1.1	33.9	36.5	85.4	14.59	1.13	253.0	28	1687
1688.0	20:00	30.0	17.4	11	102	122	64	14272	86	104	1.1	1.1	33.9	36.5	85.5	14.63	1.08	254.0	22	1688
1689.0	20:10	11.6	17.3	9	102	104	64	14266	83	100	1.1	1.2	34.0	37.2	86.1	14.71	1.29	255.0	7	1689
1690.0	20:13	20.5	17.3	11	102	124	64	14366	82	100	1.1	1.2	34.0	37.6	86.4	14.76	1.20	256.0	10	1690
1691.0	20:16	19.7	17.4	11	102	126	64	14398	82	100	1.1	1.2	34.0	37.5	86.7	14.81	1.20	257.0	12	1691
1692.0	20:19	16.6	17.3	11	102	123	64	14454	82	100	1.1	1.1	34.0	37.5	87.0	14.87	1.25	258.0	11	1692
1693.0	20:23	16.3	17.3	11	102	124	64	14511	82	100	1.1	1.1	34.0	37.5	87.4	14.93	1.26	259.0	11	1693
1694.0	20:27	16.0	17.3	11	102	123	64	14516	82	100	1.1	1.1	34.0	37.5	87.8	15.00	1.26	260.0	10	1694
1695.0	20:31	13.8	17.3	11	102	118	64	14485	82	98	1.1	1.1	34.0	37.5	88.2	15.07	1.31	261.0	9	1695
1696.0	20:35	16.3	17.3	12	102	123	64	14433	82	87	1.1	1.2	34.0	37.5	88.7	15.13	1.28	262.0	10	1696
1697.0	20:43	7.0	17.2	11	102	114	64	14448	82	85	1.1	1.2	34.0	37.5	89.5	15.27	1.49	263.0	12	1697
1698.0	20:46	27.3	17.2	11	102	121	64	14446	82	85	1.1	1.2	34.0	37.5	89.7	15.31	1.13	264.0	39	1698
1699.0	20:47	35.3	17.3	9	102	128	64	14448	82	85	1.1	1.2	34.0	37.5	89.9	15.34	1.01	265.0	55	1699
1700.0	21:12	27.1	17.3	8	93	119	62	14061	82	85	1.1	1.2	34.0	37.7	90.1	15.37	1.01	266.0	33	1700
1701.0	21:16	15.4	17.3	9	99	131	64	14391	82	85	1.1	1.2	34.1	37.7	90.5	15.44	1.20	267.0	16	1701
1702.0	21:21	14.3	17.3	11	100	127	64	14504	81	85	1.1	1.2	34.1	37.9	90.9	15.51	1.27	268.0	13	1702
1703.0	21:25	12.2	17.3	10	100	123	64	14479	81	84	1.1	1.2	34.1	37.9	91.4	15.59	1.29	269.0	11	1703
1704.0	21:29	15.5	17.2	10	100	125	64	14481	81	84	1.1	1.2	34.1	37.9	91.7	15.65	1.23	270.0	10	1704
1705.0	21:33	16.3	17.2	12	100	130	64	14441	81	85	1.1	1.2	34.1	37.9	92.1	15.72	1.28	271.0	9	1705
1706.0	21:37	14.0	17.2	11	100	129	64	14493	82	85	1.1	1.2	34.0	37.9	92.5	15.79	1.30	272.0	10	1706
1707.0	21:42	13.9	17.2	11	100	131	64	14518	82	85	1.1	1.2	34.0	38.0	92.9	15.86	1.31	273.0	9	1707
1708.0	21:46	12.5	17.2	11	100	129	64	14520	82	85	1.1	1.2	34.0	38.1	93.4	15.94	1.33	274.0	8	1708
1709.0	21:52	11.1	17.2	12	100	127	64	14464	82	85	1.1	1.2	34.0	38.2	93.9	16.03	1.37	275.0	8	1709
1710.0	21:57	11.5	17.1	11	100	120	64	14509	83	86	1.1	1.2	34.0	38.3	94.5	16.12	1.34	276.0	9	1710
1711.0	21:58	43.4	17.2	10	100	133	64	14589	83	86	1.1	1.2	34.0	38.4	94.7	16.14	0.96	277.0	10	1711
1712.0	22:00	31.9	17.2	9	100	127	64	14568	83	86	1.1	1.2	34.0	38.4	94.9	16.17	1.02	278.0	11	1712
1713.0	22:03	24.3	17.2	9	100	121	64	14548	83	86	1.1	1.2	34.0	38.6	95.1	16.21	1.07	279.0	11	1713
1714.0	22:05	23.8	17.2	10	100	132	64	14501	83	86	1.1	1.2	34.1	38.1	95.3	16.25	1.12	280.0	1	1714
1715.0	22:07	30.5	17.3	9	99	131	64	14529	83	86	1.1	1.2	34.1	38.0	95.5	16.29	1.02	281.0	3	1715
1716.0	22:10	20.2	17.3	10	100	125	64	14470	83	86	1.1	1.2	34.1	38.4	95.8	16.34	1.17	282.0	9	1716
1717.0	22:15	12.5	17.2	10	100	124	64	14459	83	86	1.1	1.2	34.2	38.6	96.2	16.42	1.30	283.0	8	1717
1718.0	22:18	22.8	17.3	10	100	125	64	14450	83	86	1.1	1.2	34.2	38.4	96.5	16.46	1.13	284.0	9	1718
1719.0	22:20	22.1	17.3	9	100	118	64	14500	83	86	1.1	1.2	34.2	38.4	96.8	16.51	1.09	285.0	10	1719
1720.0	22:23	23.5	17.3	10	100	124	64	14519	83	86	1.1	1.2	34.3	38.6	97.0	16.55	1.11	286.0	15	1720
1721.0	22:24	43.9	17.3	9	99	135	64	14562	82	86	1.1	1.2	34.3	38.6	97.2	16.57	0.94	287.0	23	1721
1722.0	22:26	36.4	17.4	9	100	119	64	14566	83	86	1.1	1.2	34.3	38.8	97.4	16.60	0.98	288.0	26	1722
1723.0	22:29	21.1	17.4	10	100	129	64	14479	83	87	1.1	1.2	34.4	38.9	97.7	16.65	1.13	289.0	23	1723
1724.0	22:31	24.3	17.4	10	99	132	64	14479	83	87	1.1	1.1	34.4	38.8	97.9	16.69	1.09	290.0	18	1724
1725.0	22:34	22.0	17.4	9	100	120	64	14517	83	87	1.1	1.2	34.4	38.8	98.2	16.73	1.11	291.0	14	1725
1726.0	22:38	13.4	17.4	9	100	112	64	14458	84	87	1.1	1.2	34.5	38.9	98.6	16.81	1.21	292.0	11	1726
1727.0	22:42	14.8	17.4	9	100	114	64	14452	84	87	1.1	1.2	34.6	38.9	99.0	16.87	1.19	293.0	9	1727
1728.0	22:47	13.7	17.3	10	99	118	64	14251	84	87	1.1	1.2	34.6	39.1	99.5	16.95	1.27	294.0	9	1728
1729.0	23:08	12.5	17.3	8	102	115	64	14309	83	86	1.1	1.2	34.8	39.5	100.0	17.03	1.20	295.0	8	1729
1730.0	23:14	10.3	17.3	9	102	118	64	14270	82	85	1.1	1.2	34.9	39.8	100.5	17.12	1.29	296.0	7	1730
1731.0	23:19	11.3	17.3	9	102	115	64	14290	82	85	1.1	1.2	35.0	40.0	101.1	17.21	1.26	297.0	8	1731
1732.0	23:24	13.2	17.2	10	102	122	64	14250	82	86	1.2	1.2	35.0	40.2	101.5	17.29	1.25	298.0	11	1732
1733.0	23:26	29.8	17.3	9	102	128	64	14260	83	86	1.2	1.2	35.0	40.3	101.7	17.32	1.02	299.0	11	1733
1734.0	23:28	27.7	17.3	9	102	132	64	14295	83	86	1.2	1.1	35.0	37.3	101.9	17.36	1.06	300.0	41	1734
1735.0	08:46	3.9	17.2	8	96	94	65	14245	73	76	1.1	1.1	27.3	37.4	102.4	17.46	1.49	301.0	27	1735

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1735.0	08:46	3.9	17.2	8	96	94	65	14245	73	76	1.1	1.1	27.3	37.4	102.4	17.46	1.49	301.0	27	1735
1736.0	08:53	8.5	17.2	8	96	102	65	14177	73	77	1.1	1.1	26.9	37.8	103.1	17.58	1.31	302.0	7	1736
1737.0	08:55	25.9	17.2	4	96	101	65	14126	73	76	1.1	1.1	26.7	37.9	103.4	17.62	0.88	303.0	8	1737
1738.0	08:59	16.4	17.2	6	96	107	65	14148	72	75	1.1	1.1	26.6	37.9	103.7	17.68	1.05	304.0	9	1738
1739.0	09:02	19.0	17.2	7	95	113	66	14187	71	74	1.1	1.1	26.5	37.9	104.0	17.73	1.07	305.0	12	1739
1740.0	09:07	12.9	17.2	7	96	113	66	14137	70	74	1.1	1.1	26.5	37.9	104.5	17.81	1.17	306.0	14	1740
1741.0	09:12	10.9	17.2	8	96	112	66	14097	70	74	1.1	1.1	26.5	37.9	105.0	17.90	1.21	307.0	9	1741
1742.0	09:17	11.7	17.1	7	96	107	66	14148	69	73	1.1	1.1	26.6	37.9	105.5	17.99	1.17	308.0	11	1742
1743.0	09:20	21.7	17.1	6	96	115	66	14157	69	72	1.1	1.1	26.6	37.9	105.7	18.03	1.00	309.0	18	1743
1744.0	09:23	22.2	17.1	7	95	119	66	14152	69	72	1.1	1.1	26.6	37.9	106.0	18.08	1.01	310.0	15	1744
1745.0	09:26	21.3	17.2	8	96	115	66	14158	69	72	1.1	1.1	26.8	37.9	106.3	18.12	1.06	311.0	11	1745
1746.0	09:29	18.0	17.2	7	96	114	66	14147	69	72	1.1	1.1	26.9	37.9	106.6	18.18	1.08	312.0	9	1746
1747.0	09:35	10.8	17.1	7	96	107	65	14116	69	72	1.1	1.1	27.2	37.9	107.1	18.27	1.20	313.0	5	1747
1748.0	09:40	10.5	17.1	6	96	104	66	14116	70	73	1.1	1.1	27.6	37.9	107.7	18.37	1.16	314.0	6	1748
1749.0	09:45	12.2	17.1	7	96	107	67	14481	70	74	1.1	1.1	28.1	37.7	108.2	18.45	1.16	315.0	6	1749
1750.0	09:50	12.1	17.1	6	96	104	67	14476	71	74	1.2	1.1	28.6	37.6	108.7	18.53	1.13	316.0	7	1750
1751.0	09:54	15.9	17.0	6	96	109	67	14483	71	74	1.1	1.1	29.0	37.6	109.0	18.59	1.05	317.0	8	1751
1752.0	09:58	16.1	17.0	7	96	102	67	14466	71	75	1.2	1.1	29.4	37.6	109.3	18.66	1.08	318.0	8	1752
1753.0	10:03	11.3	17.0	7	96	104	66	14214	71	75	1.1	1.1	29.8	37.7	109.8	18.75	1.19	319.0	8	1753
1754.0	10:08	12.4	17.0	7	96	107	65	13976	71	75	1.1	1.1	30.2	37.7	110.3	18.83	1.15	320.0	8	1754
1755.0	10:09	36.4	17.0	6	95	114	65	14000	71	75	1.2	1.1	30.4	37.8	110.5	18.85	0.87	321.0	10	1755
1756.0	10:11	34.3	17.1	5	95	109	65	13833	71	75	1.2	1.1	30.5	37.8	110.6	18.88	0.84	322.0	11	1756
1757.0	10:42	18.8	17.1	6	96	102	65	14060	73	76	1.2	1.1	31.1	37.9	110.9	18.94	1.02	323.0	10	1757
1758.0	10:45	21.3	17.1	5	100	108	65	14127	73	76	1.2	1.1	31.3	38.1	111.2	18.98	0.96	324.0	38	1758
1759.0	10:48	20.1	17.1	6	100	115	65	14160	73	77	1.1	1.1	31.3	38.1	111.5	19.03	1.01	325.0	37	1759
1760.0	10:52	17.8	17.1	2	100	94	65	14117	74	77	1.2	1.1	31.3	38.2	111.8	19.09	0.82	326.0	22	1760
1761.0	10:55	16.6	17.1	3	100	96	65	14115	76	79	1.1	1.1	31.1	38.2	112.2	19.15	0.90	327.0	12	1761
1762.0	10:59	14.6	17.1	6	100	109	65	14110	79	82	1.1	1.1	30.7	38.1	112.6	19.22	1.09	328.0	11	1762
1763.0	11:03	15.3	17.1	12	100	108	65	14131	82	85	1.1	1.1	30.3	38.1	112.9	19.28	1.30	329.0	5	1763
1764.0	11:06	22.9	17.1	17	100	117	65	14212	84	87	1.1	1.1	30.1	37.7	113.3	19.33	1.33	330.0	9	1764
1765.0	11:09	17.1	17.1	16	100	106	65	14156	86	89	1.1	1.1	29.9	37.6	113.6	19.38	1.39	331.0	16	1765
1766.0	11:12	20.2	17.1	15	100	117	65	14110	87	90	1.1	1.1	29.8	37.3	113.9	19.43	1.31	332.0	20	1766
1767.0	11:20	7.3	17.0	17	100	108	65	14103	83	86	1.1	1.1	30.0	37.5	114.7	19.57	1.68	333.0	12	1767
1768.0	11:35	8.6	17.0	15	101	101	65	13989	76	79	1.1	1.1	30.5	38.2	115.4	19.69	1.56	334.0	6	1768
1769.0	11:39	14.8	17.0	15	102	108	65	13832	73	76	1.1	1.1	31.0	38.2	115.8	19.75	1.42	335.0	8	1769
1770.0	11:41	32.1	17.0	14	102	117	65	13787	73	77	1.1	1.1	31.1	38.1	116.0	19.79	1.15	336.0	7	1770
1771.0	11:43	37.9	17.0	15	102	116	65	13793	74	77	1.1	1.1	31.2	38.1	116.1	19.81	1.13	337.0	6	1771
1772.0	11:44	37.1	17.0	14	102	111	65	13789	74	77	1.1	1.1	31.3	37.9	116.3	19.84	1.13	338.0	9	1772
1773.0	11:58	31.6	17.1	12	97	97	65	13715	75	78	1.1	1.1	31.5	38.0	116.6	19.87	1.10	339.0	9	1773
1774.0	12:00	36.7	17.1	13	102	108	65	13617	77	80	1.1	1.1	31.8	37.9	116.7	19.90	1.09	340.0	8	1774
1775.0	12:02	33.6	17.1	12	103	100	65	13674	77	80	1.1	1.1	31.8	37.7	116.9	19.93	1.10	341.0	8	1775
1776.0	12:06	12.7	17.1	10	103	83	65	13677	77	80	1.1	1.1	31.8	37.8	117.4	20.01	1.30	342.0	7	1776
1777.0	12:11	12.4	17.1	13	103	95	65	13749	78	81	1.1	1.1	31.9	38.0	117.8	20.09	1.38	343.0	7	1777
1778.0	12:15	17.2	17.1	15	103	106	65	13799	79	82	1.1	1.1	31.9	38.2	118.2	20.15	1.36	344.0	8	1778
1779.0	12:21	9.0	17.0	16	103	99	65	13918	79	82	1.1	1.1	32.0	38.3	118.9	20.26	1.57	345.0	7	1779
1780.0	12:23	39.6	17.1	12	103	100	65	13857	79	83	1.1	1.1	32.0	38.4	119.1	20.28	1.05	346.0	7	1780
1781.0	12:26	21.7	17.1	11	103	90	65	13857	80	83	1.1	1.1	32.0	38.4	119.3	20.33	1.18	347.0	8	1781
1782.0	12:27	35.6	17.1	11	103	95	65	13866	80	83	1.1	1.1	32.0	38.4	119.5	20.36	1.05	348.0	9	1782
1783.0	12:29	50.7	17.1	14	103	109	65	13917	80	83	1.1	1.1	32.0	38.5	119.6	20.38	1.02	349.0	8	1783
1784.0	12:30	37.9	17.2	14	103	109	65	13918	81	84	1.1	1.1	32.0	38.4	119.8	20.40	1.11	350.0	8	1784

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1784.0	12:30	37.9	17.2	14	103	109	65	13918	81	84	1.1	1.1	32.0	38.4	119.8	20.40	1.11	350.0	8	1784
1785.0	12:48	30.8	17.2	13	94	108	65	13814	82	86	1.1	1.1	32.0	38.6	120.0	20.43	1.12	351.0	8	1785
1786.0	12:49	33.0	17.2	12	102	105	65	13797	83	86	1.1	1.1	31.9	38.6	120.1	20.46	1.09	352.0	10	1786
1787.0	12:52	23.1	17.2	8	100	83	65	13798	83	86	1.1	1.1	31.9	38.6	120.4	20.51	1.06	353.0	8	1787
1788.0	12:55	19.5	17.2	6	100	75	65	13784	83	87	1.1	1.1	31.9	38.6	120.7	20.56	1.04	354.0	8	1788
1789.0	13:01	11.2	17.2	10	99	88	65	13809	84	87	1.1	1.1	31.9	38.5	121.2	20.65	1.33	355.0	7	1789
1790.0	13:03	21.8	17.2	15	98	110	65	13856	85	88	1.1	1.1	32.0	38.5	121.5	20.69	1.28	356.0	8	1790
1791.0	13:06	21.3	17.2	16	98	117	65	13870	86	89	1.1	1.1	32.0	38.6	121.8	20.74	1.31	357.0	7	1791
1792.0	13:08	27.3	17.2	15	99	119	65	13874	86	89	1.1	1.1	32.0	38.6	122.0	20.78	1.23	358.0	8	1792
1793.0	13:10	27.3	17.2	15	99	118	65	13872	86	89	1.1	1.1	32.0	38.6	122.2	20.81	1.22	359.0	9	1793
1794.0	13:13	20.0	17.3	14	99	110	65	13864	86	90	1.1	1.1	32.0	38.6	122.5	20.86	1.29	360.0	9	1794
1795.0	13:16	24.7	17.3	15	99	120	65	13885	87	90	1.1	1.1	32.0	38.6	122.7	20.91	1.27	361.0	9	1795
1796.0	13:18	27.1	17.3	16	99	125	65	13917	87	90	1.1	1.1	32.0	38.6	122.9	20.94	1.26	362.0	9	1796
1797.0	13:20	37.5	17.3	15	100	123	65	13921	87	90	1.1	1.1	32.0	38.5	123.1	20.97	1.16	363.0	9	1797
1798.0	13:23	21.3	17.3	14	100	111	65	13893	88	91	1.1	1.1	32.1	38.5	123.5	21.02	1.29	364.0	9	1798
1799.0	13:25	25.0	17.3	14	100	111	65	13884	88	91	1.1	1.1	32.1	38.6	123.7	21.06	1.23	365.0	9	1799
1800.0	13:28	22.4	17.3	15	101	110	65	13890	88	91	1.1	1.1	32.1	38.6	124.0	21.10	1.27	366.0	9	1800
1801.0	13:31	15.7	17.3	14	101	109	65	13858	89	92	1.1	1.1	32.1	38.5	124.3	21.16	1.37	367.0	2	1801
1802.0	13:35	15.6	17.3	14	101	102	65	13845	90	93	1.1	1.1	32.1	38.4	124.7	21.23	1.34	368.0	4	1802
1803.0	13:41	10.7	17.3	13	101	97	65	13830	91	94	1.1	1.1	32.2	38.3	125.3	21.32	1.45	369.0	5	1803
1804.0	13:46	12.9	17.3	13	101	99	65	13797	91	94	1.1	1.1	32.2	38.1	125.7	21.40	1.39	370.0	5	1804
1805.0	13:48	20.9	17.3	11	101	97	65	13795	91	94	1.1	1.1	32.3	35.7	126.0	21.45	1.20	371.0	8	1805
1806.0	13:51	22.2	17.3	10	101	91	65	13782	91	94	1.1	1.1	32.3	35.0	126.3	21.49	1.13	372.0	11	1806
1807.0	13:54	23.2	17.3	11	101	95	65	13766	91	94	1.1	1.1	32.4	35.0	126.5	21.54	1.16	373.0	9	1807
1808.0	13:56	29.0	17.3	11	101	99	65	13792	92	95	1.1	1.1	32.4	35.0	126.7	21.57	1.12	374.0	8	1808
1809.0	13:59	17.7	17.3	13	101	101	65	13789	92	95	1.1	1.1	32.4	35.1	127.0	21.63	1.28	375.0	7	1809
1810.0	14:03	14.2	17.3	11	101	88	65	13767	92	95	1.1	1.1	32.4	35.0	127.6	21.70	1.29	376.0	6	1810
1811.0	14:07	18.9	17.3	11	101	89	65	13780	92	95	1.1	1.1	32.5	35.0	127.9	21.75	1.23	377.0	6	1811
1812.0	14:10	16.7	17.3	12	101	94	65	13735	93	96	1.1	1.1	32.5	35.0	128.2	21.81	1.31	378.0	6	1812
1813.0	14:34	10.1	17.3	14	103	102	64	13215	92	109	1.1	1.1	31.5	35.1	128.9	21.91	1.50	379.0	5	1813
1814.0	14:41	8.5	17.3	14	104	104	65	13883	92	113	1.1	1.1	31.1	35.1	129.5	22.03	1.56	380.0	5	1814
1815.0	14:46	12.2	17.2	16	103	116	65	13781	93	114	1.1	1.1	31.1	35.0	130.0	22.11	1.52	381.0	7	1815
1816.0	14:51	12.1	17.2	16	103	115	65	13774	94	114	1.1	1.1	31.2	34.9	130.5	22.19	1.53	382.0	9	1816
1817.0	14:55	16.2	17.2	15	103	118	65	13808	94	114	1.1	1.1	31.3	34.9	131.0	22.25	1.41	383.0	10	1817
1818.0	14:57	22.2	17.2	16	103	124	65	13871	94	114	1.1	1.1	31.3	34.9	131.2	22.30	1.33	384.0	12	1818
1819.0	15:01	16.4	17.2	17	103	124	65	13880	94	114	1.1	1.1	31.3	34.9	131.6	22.36	1.46	385.0	10	1819
1820.0	15:06	11.3	17.2	16	103	116	65	13895	94	114	1.1	1.1	31.3	34.9	132.1	22.45	1.55	386.0	8	1820
1821.0	15:13	9.3	17.2	16	104	117	65	13934	95	115	1.1	1.1	31.4	34.9	132.8	22.55	1.60	387.0	7	1821
1822.0	15:24	8.7	17.1	14	100	102	66	14002	96	115	1.1	1.1	31.4	34.9	133.5	22.67	1.53	388.0	6	1822
1823.0	15:31	8.2	17.1	14	101	104	66	14022	96	116	1.1	1.1	31.5	34.9	134.2	22.79	1.57	389.0	6	1823
1824.0	15:37	9.7	17.0	15	100	109	66	14024	96	117	1.1	1.1	31.5	34.9	134.8	22.89	1.53	390.0	6	1824
1825.0	15:43	9.9	17.0	15	100	108	66	14020	96	117	1.1	1.1	31.6	34.9	135.4	22.99	1.52	391.0	7	1825
1826.0	15:49	10.8	17.0	15	100	110	66	14021	97	117	1.1	1.1	31.6	34.9	136.0	23.09	1.52	392.0	9	1826
1827.0	15:50	35.3	17.0	12	100	124	66	14041	97	117	1.1	1.1	31.7	33.4	136.1	23.12	1.09	393.0	0	1827
1828.0	15:52	36.0	17.0	10	101	113	66	14038	97	117	1.1	1.1	31.7	33.5	136.3	23.14	1.03	394.0	0	1828
1829.0	15:54	26.9	17.0	11	101	104	66	14043	97	118	1.1	1.1	31.7	33.6	136.5	23.18	1.15	395.0	10	1829
1830.0	15:56	29.0	17.1	14	100	113	66	14071	97	118	1.1	1.1	31.7	33.8	136.7	23.22	1.19	396.0	13	1830
1831.0	15:59	20.6	17.1	14	100	111	66	14083	97	118	1.1	1.1	31.7	33.8	137.0	23.26	1.29	397.0	10	1831
1832.0	16:04	13.0	17.1	15	100	113	66	14054	98	118	1.1	1.1	31.7	34.0	137.5	23.34	1.45	398.0	8	1832
1833.0	16:07	18.8	17.1	13	101	107	66	14078	98	119	1.1	1.1	31.8	34.0	137.9	23.39	1.29	399.0	7	1833

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1833.0	16:07	18.8	17.1	13	101	107	66	14078	98	119	1.1	1.1	31.8	34.0	137.9	23.39	1.29	399.0	7	1833
1834.0	16:10	20.6	17.1	12	101	103	66	14090	99	119	1.1	1.1	31.8	34.0	138.2	23.44	1.23	400.0	7	1834
1835.0	16:14	14.4	17.1	13	101	100	65	14082	99	119	1.1	1.1	31.8	34.1	138.6	23.51	1.37	401.0	7	1835
1836.0	16:19	13.5	17.0	14	101	105	66	14095	99	120	1.1	1.1	31.9	34.1	139.0	23.59	1.41	402.0	7	1836
1837.0	16:22	15.9	17.0	13	101	107	66	14128	99	120	1.1	1.1	31.9	34.1	139.4	23.65	1.36	403.0	7	1837
1838.0	16:26	15.4	17.0	12	101	101	66	14111	99	120	1.1	1.1	32.0	34.2	139.7	23.71	1.33	404.0	8	1838
1839.0	16:29	25.0	17.1	13	101	106	66	14097	100	120	1.1	1.1	32.0	34.2	140.0	23.75	1.22	405.0	8	1839
1840.0	16:48	18.5	17.1	12	94	98	65	13998	100	121	1.1	1.1	32.0	34.2	140.3	23.81	1.25	406.0	9	1840
1841.0	16:54	10.6	17.0	12	103	104	67	14535	100	120	1.1	1.1	32.1	34.2	140.8	23.90	1.43	407.0	16	1841
1842.0	16:59	11.5	17.0	13	103	107	66	14157	101	122	1.1	1.1	32.1	34.3	141.4	23.99	1.43	408.0	9	1842
1843.0	17:03	14.6	17.0	14	102	114	65	13912	101	122	1.1	1.1	32.1	34.3	141.8	24.06	1.41	409.0	8	1843
1844.0	17:08	13.7	17.0	15	102	118	65	13905	101	122	1.1	1.1	32.1	34.3	142.3	24.13	1.46	410.0	7	1844
1845.0	17:13	11.4	17.0	14	103	110	65	13915	101	123	1.1	1.1	32.1	34.4	142.8	24.22	1.48	411.0	7	1845
1846.0	17:18	11.7	17.0	14	103	114	65	13923	102	123	1.1	1.1	32.1	34.4	143.4	24.30	1.49	412.0	6	1846
1847.0	17:24	10.6	16.9	15	103	119	65	13940	103	124	1.1	1.1	32.1	34.4	144.0	24.40	1.55	413.0	7	1847
1848.0	17:29	10.9	16.9	15	100	112	65	13924	103	124	1.1	1.1	32.1	34.4	144.5	24.49	1.50	414.0	7	1848
1849.0	17:36	9.0	16.9	14	98	110	65	13925	104	125	1.1	1.1	32.1	34.4	145.1	24.60	1.55	415.0	7	1849
1850.0	17:44	7.3	16.8	14	98	105	65	13872	104	125	1.1	1.1	32.1	34.5	146.0	24.74	1.61	416.0	7	1850
1851.0	17:50	9.3	16.8	15	98	111	65	13892	105	126	1.1	1.1	32.1	34.6	146.6	24.84	1.55	417.0	7	1851
1852.0	17:54	17.2	16.8	15	98	116	65	13899	105	126	1.1	1.1	32.1	34.6	146.9	24.90	1.37	418.0	8	1852
1853.0	17:59	12.3	16.8	14	98	114	65	13878	104	126	1.1	1.1	32.2	34.6	147.4	24.98	1.45	419.0	10	1853
1854.0	18:04	12.7	16.8	14	98	110	65	13900	104	126	1.1	1.1	32.2	34.6	147.9	25.06	1.44	420.0	9	1854
1855.0	18:07	18.4	16.8	15	98	117	65	13925	104	126	1.1	1.1	32.2	34.6	148.2	25.12	1.35	421.0	10	1855
1856.0	18:12	11.8	16.7	15	98	111	65	13930	104	126	1.1	1.1	32.2	34.6	148.7	25.20	1.47	422.0	10	1856
1857.0	18:17	12.9	16.7	14	98	109	65	13924	105	127	1.1	1.1	32.2	34.6	149.1	25.28	1.45	423.0	9	1857
1858.0	18:22	10.2	16.7	15	98	109	65	13950	105	127	1.1	1.1	32.2	34.6	149.7	25.38	1.52	424.0	9	1858
1859.0	18:27	12.8	16.7	15	98	110	65	13989	105	127	1.1	1.1	32.2	34.6	150.2	25.46	1.47	425.0	9	1859
1860.0	18:33	11.0	16.7	14	98	110	65	13989	105	127	1.1	1.1	32.2	34.3	150.7	25.55	1.50	426.0	6	1860
1861.0	18:37	12.9	16.7	14	98	111	65	13982	106	128	1.1	1.1	32.2	33.8	151.1	25.62	1.46	427.0	5	1861
1862.0	18:42	13.8	16.7	16	98	120	65	13995	107	128	1.1	1.1	32.2	34.0	151.6	25.70	1.47	428.0	10	1862
1863.0	18:47	10.9	16.6	15	98	116	65	13999	107	129	1.1	1.1	32.2	34.0	152.1	25.79	1.54	429.0	10	1863
1864.0	18:52	13.5	16.6	15	98	115	65	14005	107	129	1.1	1.1	32.2	34.2	152.5	25.86	1.46	430.0	9	1864
1865.0	18:56	12.5	16.6	15	98	114	65	13982	107	129	1.1	1.1	32.3	34.2	153.0	25.94	1.48	431.0	8	1865
1866.0	19:02	10.7	16.6	15	98	114	65	13971	107	129	1.1	1.1	32.3	34.3	153.6	26.04	1.54	432.0	9	1866
1867.0	19:07	12.2	16.6	15	98	115	65	13975	107	129	1.1	1.1	32.3	34.4	154.0	26.12	1.49	433.0	10	1867
1868.0	19:11	15.3	16.6	14	98	111	65	13980	107	129	1.1	1.1	32.3	34.5	154.4	26.18	1.40	434.0	19	1868
1869.0	19:12	38.3	16.6	13	97	121	65	13967	107	129	1.1	1.1	32.3	34.6	154.6	26.21	1.11	435.0	28	1869
1870.0	22:52	5.6	16.6	9	78	102	65	13683	104	125	1.1	1.1	30.6	31.2	154.8	26.26	1.43	436.0	17	1870
1871.0	22:54	23.7	16.6	11	100	112	65	13887	103	125	1.1	1.1	30.6	31.6	155.0	26.30	1.17	437.0	11	1871
1872.0	22:59	14.8	16.6	11	102	104	65	13921	103	125	1.1	1.1	30.6	31.8	155.4	26.37	1.31	438.0	13	1872
1873.0	23:03	13.2	16.6	11	102	104	65	13875	102	125	1.1	1.1	30.6	32.0	155.9	26.44	1.37	439.0	12	1873
1874.0	23:05	25.0	16.6	12	102	115	66	13977	104	128	1.1	1.1	30.5	32.0	156.1	26.48	1.19	440.0	13	1874
1875.0	23:10	13.1	16.6	12	102	108	66	14001	105	128	1.1	1.1	30.5	32.0	156.6	26.56	1.37	441.0	7	1875
1876.0	23:15	11.7	16.6	12	103	105	66	13981	106	128	1.1	1.1	30.4	33.5	157.2	26.64	1.40	442.0	8	1876
1877.0	23:20	12.1	16.6	11	103	104	66	13974	106	128	1.1	1.1	30.4	33.5	157.7	26.73	1.38	443.0	12	1877
1878.0	23:23	17.8	16.6	12	103	113	66	13977	106	129	1.1	1.1	30.3	33.3	158.0	26.78	1.30	444.0	12	1878
1879.0	23:26	21.3	16.6	14	102	121	66	13968	106	129	1.1	1.1	30.2	33.2	158.3	26.83	1.30	445.0	15	1879
1880.0	23:31	14.1	16.6	13	103	113	66	13969	106	129	1.1	1.1	30.2	33.3	158.7	26.90	1.39	446.0	16	1880
1881.0	23:36	10.4	16.6	13	103	108	66	13965	106	129	1.1	1.1	30.2	33.4	159.2	27.00	1.49	447.0	13	1881
1882.0	23:41	12.9	16.5	13	103	105	66	13974	106	129	1.1	1.1	30.2	31.5	159.8	27.07	1.43	448.0	4	1882

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1882.0	23:41	12.9	16.5	13	103	105	66	13974	106	129	1.1	1.1	30.2	31.5	159.8	27.07	1.43	448.0	4	1882
1883.0	23:45	15.5	16.5	13	103	96	66	13978	106	129	1.1	1.1	30.2	30.5	160.2	27.14	1.37	449.0	8	1883
1884.0	23:47	28.1	16.6	12	103	99	66	14002	106	129	1.1	1.1	30.2	30.8	160.4	27.17	1.18	450.0	14	1884
1885.0	23:50	23.1	16.6	12	103	95	66	14015	106	129	1.1	1.1	30.2	30.9	160.6	27.22	1.21	451.0	15	1885
1886.0	23:52	30.8	16.6	13	103	110	66	14037	106	129	1.1	1.1	30.2	31.0	160.8	27.25	1.18	452.0	15	1886
1887.0	23:53	36.7	16.6	13	102	112	66	14040	106	129	1.1	1.1	30.2	31.0	161.0	27.28	1.13	453.0	15	1887
1888.0	23:55	34.3	16.6	12	103	102	66	14032	106	129	1.1	1.1	30.2	31.0	161.2	27.31	1.10	454.0	15	1888
1889.0	00:07	17.8	16.6	11	103	92	66	13891	107	129	1.1	1.1	30.3	31.1	161.5	27.36	1.26	455.0	12	1889
1890.0	00:10	22.2	16.6	13	103	109	66	14088	106	129	1.1	1.1	30.3	31.2	161.8	27.41	1.26	456.0	13	1890
1891.0	00:14	17.7	16.6	13	104	109	66	14255	106	129	1.1	1.1	30.4	31.3	162.1	27.46	1.35	457.0	15	1891
1892.0	00:17	19.0	16.6	13	104	108	66	14296	106	129	1.1	1.1	30.4	31.4	162.5	27.52	1.30	458.0	16	1892
1893.0	00:18	46.8	16.7	12	104	112	66	14333	106	129	1.1	1.1	30.4	31.4	162.6	27.54	1.03	459.0	17	1893
1894.0	00:19	47.4	16.7	11	104	111	67	14337	106	129	1.1	1.1	30.4	31.5	162.7	27.56	1.00	460.0	17	1894
1895.0	00:21	45.6	16.7	12	104	117	66	14365	106	129	1.1	1.1	30.4	31.6	162.9	27.58	1.04	461.0	17	1895
1896.0	00:22	38.7	16.7	13	104	117	66	14392	106	129	1.1	1.1	30.4	31.6	163.1	27.61	1.10	462.0	17	1896
1897.0	00:23	47.4	16.8	13	104	115	66	14419	106	129	1.1	1.1	30.4	31.6	163.2	27.63	1.04	463.0	20	1897
1898.0	00:46	24.7	16.8	12	104	101	67	14460	106	129	1.1	1.1	30.5	32.7	163.5	27.67	1.19	464.0	11	1898
1899.0	00:49	24.2	16.8	14	101	238	66	14141	106	129	1.1	1.1	30.6	33.2	163.7	27.71	1.25	465.0	26	1899
1900.0	00:51	25.5	16.8	13	101	233	66	14262	106	129	1.1	1.1	30.6	33.2	164.0	27.75	1.21	466.0	49	1900
1901.0	00:53	40.0	16.8	10	101	251	66	14279	106	129	1.1	1.1	30.6	33.2	164.1	27.77	1.00	467.0	75	1901
1902.0	00:54	35.3	16.8	9	101	296	66	14326	106	128	1.1	1.1	30.6	33.2	164.3	27.80	1.02	468.0	638	1902
1903.0	00:57	26.5	16.8	11	101	302	66	14328	106	128	1.1	1.1	30.6	33.1	164.5	27.84	1.16	469.0	230	1903
1904.0	00:59	31.3	16.9	12	101	294	66	14291	106	128	1.1	1.1	30.6	33.1	164.7	27.87	1.12	470.0	93	1904
1905.0	01:02	20.2	16.9	12	102	283	66	14312	105	128	1.1	1.1	30.6	33.0	165.0	27.92	1.25	471.0	72	1905
1906.0	01:04	21.8	16.9	13	102	223	66	14252	105	128	1.1	1.1	30.6	33.0	165.2	27.97	1.26	472.0	46	1906
1907.0	01:07	27.1	16.9	13	102	184	66	14311	106	129	1.1	1.1	30.6	33.1	165.5	28.00	1.20	473.0	31	1907
1908.0	01:10	19.6	16.9	13	103	164	66	14313	106	129	1.1	1.1	30.6	33.2	165.9	28.06	1.29	474.0	22	1908
1909.0	01:11	35.6	16.9	13	103	124	66	14284	107	129	1.1	1.1	30.6	33.3	166.0	28.08	1.11	475.0	18	1909
1910.0	01:13	32.7	16.9	13	103	126	66	14301	107	129	1.1	1.1	30.6	33.3	166.2	28.11	1.14	476.0	17	1910
1911,0	01:15	42.9	17.0	12	103	122	66	14308	107	129	1.1	1.1	30.6	33.4	166.3	28.14	1.04	477.0	17	1911
1912.0	01:16	50.0	17.0	12	103	133	66	14289	107	129	1.1	1.1	30.6	33.3	166.5	28.16	1.01	478.0	18	1912
1913.0	01:17	46.8	17.0	12	103	130	66	14326	107	129	1.1	1.1	30.6	32.6	166.6	28.18	1.02	479.0	9	1913
1914.0	01:18	43.9	17.0	13	103	138	66	14339	107	129	1.1	1.1	30.6	31.7	166.7	28.20	1.06	480.0	0	1914
1915.0	01:20	46.8	17.0	13	103	128	66	14327	107	129	1.1	1.1	30.6	31.6	166.8	28.22	1.04	481.0	0	1915
1916.0	01:26	28.3	17.1	9	104	103	65	14023	107	129	1.1	1.1	30.6	31.6	167.1	28.26	1.10	482.0	11	1916
1917.0	01:29	22.5	17.1	6	105	134	63	12592	108	129	1.1	1.1	30.6	31.6	167.3	28.30	1.04	483.0	11	1917
1918.0	01:33	13.5	17.1	12	105	182	64	13458	107	129	1.1	1.1	30.6	31.6	167.8	28.38	1.37	484.0	11	1918
1919.0	01:36	22.4	17.1	14	105	292	64	13782	106	128	1.1	1.1	30.6	31.7	168.0	28.42	1.28	485.0	12	1919
1920.0	01:39	23.8	17.1	13	104	336	65	13860	105	128	1.1	1.1	30.6	31.8	168.4	28.46	1.24	486.0	12	1920
1921.0	01:43	13.4	17.1	14	97	335	65	13843	105	128	1.1	1.1	30.6	32.0	168.8	28.54	1.40	487.0	10	1921
1922.0	01:49	11.1	17.0	14	97	331	65	13827	105	127	1.1	1.1	30.6	32.1	169.3	28.63	1.47	488.0	10	1922
1923.0	01:56	8.3	17.0	14	97	317	65	13796	105	127	1.1	1.1	30.7	32.2	170.0	28.75	1.53	489.0	10	1923
1924.0	02:02	10.4	17.0	12	96	336	65	13739	105	126	1.1	1.1	30.7	32.4	170.5	28.84	1.43	490.0	11	1924
1925.0	02:03	34.6	17.0	13	96	342	65	13728	105	126	1.1	1.1	30.7	32.5	170.7	28.87	1.12	491.0	28	1925
1926.0	02:22	13.8	17.0	8	96	319	65	13755	106	122	1.1	1.1	30.7	32.6	171.2	28.95	1.21	486.0	26	1926
1927.0	02:24	22.4	17.0	12	96	290	65	13826	107	114	1.1	1.1	30.7	32.6	171.4	28.99	1.20	487.0	13	1927
1928.0	02:30	10.4	17.0	12	96	249	65	13951	106	109	1.1	1.1	30.6	32.7	171.9	29.09	1.40	488.0	12	1928
1929.0	02:35	13.4	17.0	12	100	264	67	14473	105	116	1.1	1.1	30.6	32.8	172.4	29.16	1.35	489.0	10	1929
1930.0	02:38	15.7	17.0	12	100	344	66	14223	104	125	1.1	1.1	30.6	32.8	172.8	29.22	1.31	490.0	13	1930
1931.0	02:42	16.7	17.0	12	100	336	64	13571	103	126	1.1	1.1	30.6	32.8	173.2	29.28	1.28	491.0	25	1931

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1931.0	02:42	16.7	17.0	12	100	336	64	13571	103	126	1.1	1.1	30.6	32.8	173.2	29.28	1.28	491.0	25	1931
1932.0	02:50	7.2	16.9	12	100	349	64	13612	104	126	1.1	1.1	30.5	32.8	174.0	29.42	1.53	492.0	22	1932
1933.0	02:55	13.5	16.9	12	100	342	64	13614	104	126	1.1	1.1	30.5	32.9	174.4	29.50	1.35	493.0	14	1933
1934.0	02:58	17.6	16.9	12	100	333	64	13671	104	126	1.1	1.1	30.5	32.9	174.7	29.55	1.28	494.0	14	1934
1935.0	03:05	9.4	16.9	12	100	333	64	13660	104	126	1.1	1.1	30.5	32.9	175.4	29.66	1.46	495.0	12	1935
1936.0	03:12	8.4	16.9	13	100	339	64	13659	104	126	1.1	1.1	30.6	33.0	176.1	29.78	1.51	496.0	11	1936
1937.0	03:19	8.6	16.8	13	100	334	64	13651	104	126	1.1	1.1	30.6	33.0	176.7	29.90	1.49	497.0	10	1937
1938.0	03:27	7.0	16.8	12	100	340	64	13659	104	126	1.1	1.1	30.7	33.0	177.7	30.04	1.54	498.0	9	1938
1939.0	03:36	6.9	16.7	12	100	333	64	13649	105	127	1.1	1.1	30.8	33.0	178.5	30.18	1.55	499.0	8	1939
1940.0	03:45	6.9	16.7	13	100	326	64	13604	106	128	1.1	1.1	30.9	33.1	179.4	30.33	1.55	500.0	8	1940
1941.0	03:53	7.3	16.6	12	100	331	64	13608	106	128	1.1	1.1	31.0	33.2	180.2	30.47	1.52	501.0	9	1941
1942.0	03:57	15.3	16.6	12	100	342	64	13622	107	128	1.1	1.1	31.0	33.2	180.6	30.53	1.29	502.0	11	1942
1943.0	04:01	13.5	16.6	12	98	323	64	13651	107	128	1.1	1.1	31.0	33.2	181.0	30.61	1.34	503.0	11	1943
1944.0	04:09	7.5	16.6	12	82	265	64	13534	106	127	1.1	1.1	31.1	33.2	181.7	30.74	1.45	504.0	13	1944
1945.0	04:15	11.0	16.6	12	82	267	64	13576	105	127	1.1	1.1	31.0	33.2	182.1	30.83	1.34	505.0	20	1945
1946.0	04:19	13.5	16.6	11	82	265	64	13604	105	127	1.1	1.1	31.0	33.1	182.5	30.90	1.26	506.0	11	1946
1947.0	04:22	22.6	16.6	12	82	284	64	13623	105	127	1.1	1.1	31.0	32.8	182.7	30.95	1.14	507.0	1	1947
1948.0	04:26	13.4	16.6	12	82	285	64	13671	105	127	1.1	1.1	31.1	32.8	183.0	31.02	1.30	508.0	12	1948
1949.0	04:31	12.5	16.6	12	81	296	64	13675	104	127	1.1	1.1	31.1	32.9	183.5	31.10	1.32	509.0	11	1949
1950.0	04:36	11.7	16.5	12	81	290	64	13627	105	127	1.1	1.1	31.1	33.0	183.9	31.19	1.34	510.0	10	1950
1951.0	04:46	5.9	16.5	13	82	275	64	13624	105	128	1.1	1.1	31.2	33.1	184.7	31.36	1.53	511.0	9	1951
1952.0	04:54	7.6	16.4	13	82	276	64	13652	105	128	1.1	1.1	31.3	33.2	185.4	31.49	1.48	512.0	10	1952
1953.0	04:59	13.4	16.4	12	82	270	64	13651	105	128	1.1	1.1	31.3	33.2	185.7	31.56	1.28	513.0	11	1953
1954.0	05:17	10.0	16.4	12	79	254	64	13568	105	128	1.1	1.1	31.4	33.4	186.2	31.66	1.37	514.0	29	1954
1955.0	05:20	12.0	16.5	11	87	114	63	13375	106	128	1.1	1.1	31.5	32.8	186.2	31.66	0.15	515.0	0	1955
1956.0	05:20	22.5	16.5	10	84	139	64	13383	106	128	1.1	1.1	31.5	33.4	186.4	31.71	1.09	516.0	39	1956
1957.0	05:25	13.0	16.5	11	84	153	64	13551	105	128	1.1	1.1	31.5	33.4	186.7	31.79	1.26	517.0	43	1957
1958.0	05:29	14.0	16.4	10	84	139	65	14086	105	128	1.1	1.1	31.5	33.4	187.2	31.86	1.24	518.0	23	1958
1959.0	05:32	19.9	16.5	10	84	144	65	14103	105	128	1.1	1.1	31.5	33.4	187.4	31.91	1.13	519.0	16	1959
1960.0	05:37	12.8	16.4	10	84	135	65	14120	105	128	1.1	1.1	31.5	33.5	187.8	31.99	1.25	520.0	13	1960
1961.0	05:43	9.6	16.4	10	84	131	65	14111	105	128	1.1	1.1	31.5	33.5	188.3	32.09	1.34	521.0	11	1961
1962.0	05:49	9.2	16.4	11	84	130	65	14137	105	128	1.1	1.1	31.5	33.6	188.9	32.20	1.36	522.0	11	1962
1963.0	05:53	17.0	16.4	10	84	131	65	14154	105	128	1.1	1.1	31.5	33.6	189.1	32.26	1.18	523.0	12	1963
1964.0	05:59	10.6	16.4	10	84	123	65	14148	106	128	1.1	1.1	31.5	33.6	189.6	32.35	1.31	524.0	13	1964
1965.0	06:06	8.3	16.4	11	84	118	65	14159	106	129	1.1	1.1	31.5	33.6	190.2	32.47	1.39	525.0	13	1965
1966.0	06:11	11.0	16.3	10	84	125	65	14159	106	129	1.1	1.1	31.6	33.6	190.7	32.56	1.31	526.0	13	1966
1967.0	06:14	23.7	16.3	9	84	140	65	14166	107	129	1.1	1.1	31.6	33.6	190.9	32.61	1.05	527.0	13	1967
1968.0	06:17	19.6	16.4	9	84	121	65	14167	107	129	1.1	1.1	31.6	33.6	191.2	32.66	1.09	528.0	15	1968
1969.0	06:22	12.3	16.3	10	84	120	65	14188	107	129	1.1	1.1	31.7	33.7	191.5	32.74	1.27	529.0	16	1969
1970.0	06:30	7.2	16.3	10	84	111	65	14173	107	129	1.1	1.1	31.7	33.8	192.3	32.88	1.38	530.0	13	1970
1971.0	06:38	7.2	16.3	11	84	113	65	14215	107	129	1.1	1.1	31.8	33.9	193.0	33.02	1.43	531.0	10	1971
1972.0	06:45	9.0	16.2	10	84	112	65	14222	107	129	1.1	1.1	31.9	33.8	193.5	33.13	1.35	532.0	13	1972
1973.0	06:52	8.8	16.2	9	84	108	65	14214	107	130	1.1	1.1	31.9	33.8	194.1	33.24	1.33	533.0	13	1973
1974.0	07:00	7.8	16.2	10	84	110	65	14190	108	130	1.1	1.1	32.1	33.8	194.8	33.37	1.38	534.0	15	1974
1975.0	07:06	10.1	16.2	9	84	108	65	14208	108	130	1.1	1.1	32.2	33.8	195.2	33.47	1.28	535.0	17	1975
1976.0	07:13	8.3	16.1	10	84	111	65	14221	108	130	1.1	1.1	32.2	33.9	195.9	33.59	1.37	536.0	14	1976
1977.0	07:15	30.5	16.2	9	84	118	65	14242	108	130	1.1	1.1	32.3	33.8	196.0	33.62	0.99	537.0	4	1977
1978.0	07:17	28.1	16.2	8	83	153	65	14219	108	131	1.1	1.1	32.3	33.7	196.2	33.66	1.00	538.0	96	1978
1979.0	07:25	15.9	16.2	7	79	115	64	13853	109	131	1.1	1.1	32.3	33.6	196.5	33.72	1.05	539.0	88	1979
1980.0	07:29	13.1	16.2	10	82	122	64	13727	109	131	1.1	1.1	32.3	33.6	196.9	33.80	1.25	540.0	39	1980

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
1980.0	07:29	13.1	16.2	10	82	122	64	13727	109	131	1.1	1.1	32.3	33.6	196.9	33.80	1.25	540.0	39	980
1981.0	07:33	18.4	16.2	10	82	118	64	13704	109	131	1.1	1.1	32.3	33.6	197.1	33.85	1.15	541.0	22	981
1982.0	07:41	7.0	16.1	12	82	114	64	13700	109	131	1.1	1.1	32.4	33.8	197.8	33.99	1.49	542.0	15	982
1983.0	07:47	10.6	16.1	11	82	122	64	13763	108	130	1.1	1.1	32.4	33.8	198.3	34.09	1.34	543.0	13	983
1984.0	07:52	10.7	16.1	11	82	117	64	13755	107	130	1.1	1.1	32.4	34.0	198.8	34.18	1.31	544.0	13	984
1985.0	07:59	9.6	16.1	10	82	116	64	13781	107	130	1.1	1.1	32.4	34.1	199.3	34.29	1.33	545.0	13	985
1986.0	08:28	7.4	16.0	10	85	110	64	13718	107	130	1.1	1.1	32.4	34.3	199.9	34.42	1.39	546.0	12	986
1987.0	08:33	11.0	16.0	10	88	118	64	13697	108	130	1.1	1.1	32.4	34.4	200.5	34.51	1.31	547.0	20	987
1988.0	08:40	9.2	16.0	10	88	119	64	13744	108	131	1.1	1.1	32.4	34.4	201.0	34.62	1.34	548.0	19	988
1989.0	08:44	15.2	16.0	9	88	128	64	13772	109	131	1.1	1.1	32.4	34.4	201.4	34.69	1.20	549.0	15	989
1990.0	08:52	7.7	16.0	10	88	115	64	13798	109	131	1.1	1.1	32.4	34.4	202.1	34.82	1.39	550.0	14	990
1991.0	08:58	9.8	16.0	10	88	118	64	13843	109	131	1.1	1.1	32.4	34.4	202.6	34.92	1.32	551.0	12	991
1992.0	09:08	5.6	15.9	10	88	119	65	13942	109	131	1.1	1.1	32.4	34.4	203.5	35.10	1.48	552.0	12	992
1993.0	09:17	6.7	15.9	10	88	118	65	14008	108	130	1.1	1.1	32.4	34.4	204.3	35.25	1.43	553.0	12	993
1994.0	09:24	8.7	15.8	10	88	122	65	14017	108	130	1.1	1.1	32.4	34.4	204.9	35.36	1.37	554.0	12	994
1995.0	09:32	7.4	15.8	11	92	123	65	14067	108	130	1.1	1.1	32.4	34.4	205.7	35.50	1.45	555.0	12	995
1996.0	09:40	8.2	15.8	10	100	124	65	14128	108	130	1.1	1.1	32.5	34.4	206.4	35.62	1.42	556.0	11	996
1997.0	09:48	7.1	15.7	11	100	123	65	14082	107	129	1.1	1.1	32.5	34.4	207.2	35.76	1.51	557.0	11	997
1998.0	09:55	8.3	15.7	10	100	122	65	14104	107	129	1.1	1.1	32.6	34.4	207.9	35.88	1.41	558.0	10	998
1999.0	10:02	9.4	15.7	10	100	122	65	14121	108	130	1.1	1.1	32.6	34.4	208.6	35.99	1.38	559.0	14	999
2000.0	10:08	9.6	15.7	10	100	120	65	14138	108	130	1.1	1.1	32.7	34.4	209.2	36.09	1.37	560.0	18	1000
2001.0	10:13	12.9	15.7	10	100	120	65	14162	108	130	1.1	1.1	32.7	34.4	209.6	36.17	1.28	561.0	12	1001
2002.0	10:16	16.4	15.7	10	100	123	65	14185	108	130	1.1	1.1	32.7	34.4	210.0	36.23	1.22	562.0	12	1002
2003.0	10:22	10.8	15.7	10	100	120	65	14160	108	129	1.1	1.1	32.8	34.3	210.5	36.32	1.35	563.0	11	1003
2004.0	10:27	12.3	15.7	10	100	121	65	14157	108	129	1.1	1.1	32.8	34.4	211.1	36.40	1.29	564.0	11	1004
2005.0	10:30	21.3	15.7	10	100	129	65	14188	108	129	1.1	1.1	32.8	34.4	211.4	36.45	1.16	565.0	11	1005
2006.0	10:33	18.6	15.7	11	100	132	65	14225	107	129	1.1	1.1	32.8	34.4	211.7	36.50	1.23	566.0	11	1006
2007.0	10:39	9.8	15.7	10	100	120	65	14213	107	129	1.1	1.1	32.8	34.4	212.3	36.61	1.38	567.0	10	1007
2008.0	10:45	9.3	15.6	10	100	120	65	14191	106	128	1.1	1.1	32.9	34.4	213.0	36.71	1.39	568.0	11	1008
2009.0	10:51	10.0	15.6	10	100	119	64	13986	106	128	1.1	1.1	32.9	34.4	213.5	36.81	1.36	569.0	16	1009
2010.0	10:58	9.7	15.6	10	99	116	64	13948	95	130	1.1	1.1	32.9	34.4	214.2	36.92	1.35	570.0	18	1010
2011.0	11:04	9.7	15.4	11	100	127	65	14431	95	0	1.1	1.1	32.9	34.4	214.0	37.02	1.38	571.0	19	1011
2012.0	11:08	13.0	15.5	11	101	124	65	14506	95	0	1.1	1.1	32.9	34.4	214.5	37.09	1.30	572.0	0	1012
2013.0	11:14	10.6	15.6	12	101	122	65	14560	96	0	1.1	1.1	32.9	34.4	215.0	37.17	1.39	573.0	0	1013
2014.0	11:43	8.1	15.4	10	103	117	65	14401	96	0	1.1	1.1	33.0	34.5	215.4	37.25	1.40	574.0	0	1014
2015.0	11:50	8.3	15.6	9	103	120	65	14564	96	0	1.1	1.1	33.0	34.5	215.9	37.32	1.36	575.0	0	1015
2016.0	11:57	9.2	15.6	10	103	121	65	14574	96	0	1.1	1.1	33.0	34.5	216.4	37.40	1.38	576.0	0	1016
2017.0	13:03	9.4	15.6	11	103	121	65	14567	96	0	1.1	1.1	33.0	34.5	216.9	37.47	1.40	577.0	0	1017
2018.0	12:03	10.7	15.4	9	103	124	65	14434	96	0	1.1	1.1	33.0	34.5	217.4	37.55	1.29	578.0	0	1018
2019.0	12:13	13.0	15.5	11	103	124	65	14495	96	0	1.1	1.1	33.1	34.6	217.8	37.63	1.32	579.0	0	1019
2020.0	12:19	10.2	15.5	11	103	124	65	14464	96	0	1.1	1.1	33.1	34.6	218.3	37.70	1.39	580.0	0	1020
2021.0	12:24	13.1	15.5	11	103	129	65	14529	96	0	1.1	1.1	33.1	34.6	218.8	37.78	1.32	581.0	0	1021
2022.0	12:31	8.9	15.6	9	103	120	65	14598	96	0	1.1	1.1	33.1	34.6	219.3	37.85	1.34	582.0	0	1022
2023.0	12:38	8.7	15.4	10	103	119	65	14421	96	0	1.1	1.1	33.1	34.6	219.8	37.93	1.39	583.0	0	1023
2024.0	12:42	12.5	15.5	9	103	131	65	14545	96	0	1.1	1.1	33.2	34.7	220.2	38.01	1.28	584.0	0	1024
2025.0	12:46	17.0	15.5	10	103	128	65	14478	96	0	1.1	1.1	33.2	34.7	220.7	38.08	1.24	585.0	0	1025
2026.0	12:55	14.8	15.6	11	103	129	65	14565	96	0	1.1	1.1	33.2	34.7	221.2	38.16	1.30	586.0	0	1026
2027.0	12:55	12.3	15.5	9	103	123	65	14483	96	0	1.1	1.1	33.2	34.7	221.7	38.23	1.26	587.0	0	1027
2028.0	12:59	14.5	15.4	11	103	134	65	14414	96	0	1.1	1.1	33.2	34.7	222.2	38.31	1.29	588.0	0	1028
2029.0	13:04	11.9	15.5	10	103	129	65	14531	96	0	1.1	1.1	33.3	34.8	222.6	38.39	1.30	589.0	0	1029

299134

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
2029.0	13:04	11.9	15.5	10	103	129	65	14531	96	0	1.1	1.1	33.3	34.8	222.6	38.39	1.30	589.0	0	1029
2030.0	13:08	14.5	15.5	11	103	130	65	14461	96	0	1.1	1.1	33.3	34.8	223.1	38.46	1.30	590.0	0	1030
2031.0	13:12	14.3	15.6	10	103	123	65	14585	96	0	1.1	1.1	33.3	34.8	223.6	38.54	1.25	591.0	0	1031
2032.0	13:17	11.5	15.6	0	103	118	65	14555	96	0	1.1	1.1	33.3	34.8	224.1	38.61	1.27	592.0	0	1032
2033.0	13:20	15.4	15.5	10	103	125	65	14465	97	0	1.1	1.1	33.3	34.8	224.6	38.69	1.26	593.0	0	1033
2034.0	13:23	18.5	15.6	9	103	123	65	14592	97	0	1.1	1.1	33.4	34.9	225.0	38.77	1.17	594.0	0	1034
2035.0	13:27	17.4	15.6	8	103	121	65	14565	97	0	1.1	1.1	33.4	34.9	225.5	38.84	1.12	595.0	0	1035
2036.0	13:27	22.5	15.5	7	103	128	65	14461	97	0	1.1	1.1	33.4	34.9	226.0	38.92	1.03	596.0	77	1036
2037.0	13:31	35.0	15.5	7	103	211	65	14482	97	0	1.1	1.1	33.4	34.9	226.5	38.99	0.92	597.0	78	1037
2038.0	13:33	30.0	15.5	7	103	233	65	14541	97	0	1.1	1.1	33.4	34.9	227.0	39.07	0.96	598.0	81	1038
2039.0	13:44	22.9	15.5	7	103	194	65	14503	97	0	1.1	1.1	33.5	35.0	227.4	39.15	1.02	599.0	62	1039
2040.0	13:45	37.9	15.5	8	103	236	65	14545	97	0	1.1	1.1	33.5	35.0	227.9	39.22	0.94	600.0	43	1040
2041.0	13:47	32.1	15.5	6	103	236	65	14548	97	0	1.1	1.1	33.5	35.0	228.4	39.30	0.90	601.0	95	1041

BR10 RR6 SMITH F1 DRILLED TO 2041m, POOH BECAUSE OF HOURS AND LOW ROP.

BR10 MADE 601m IN 39.3 ROT/HRS, AV 15.4m/hr, 228.3 KREVS.

299135

HALLIBURTON GEODATA LTD

DRILLING HYDRAULICS PROGRAM

DATE 15-NOV-92

BR10 RR6 SMITH DRILLED DEPTH 2041. mt TRUE DEPTH 2041. mt

MUD PROPERTIES

Mud weight	1.11 SG
PV/YP	18./ 26.
Theta 300/600	44./ 62.
N	0.49
K	2.01
R Laminar	2792.57
R Turbulent	3592.57
E.C.D.	1.17 SG
E.C.D. SHOE	1.12 SG

Actual standpipe pressure	14400 kpa
Pump rate	66 spm
Flow rate	1253.4 lit/mn
Hydrostatic head	22203.7 kpa
Pore pressure	20643.5 kpa
Estimated overbalance	1560.3 kpa
M.A.A.S.P	6881.7 kpa
Equivalent B.H.P	29085.46 kpa

BIT HYDRAULICS

Total flow area (Nozzles)	0.262 sq.ins
Nozzle velocity	130.0 m /sec
Hydraulic Impact	306.8 kg.wt.
Bit hydraulic power	195.5 KW
Total hydraulic horsepower	271.9 KW
Theor .% HHP at bit	71.9
Actual % HHP at bit	65.0

PRESSURE LOSSES

Total annular pressure loss	1152.5 kpa
Drill string pressure loss	2417.4 kpa
Surface equipment press. loss	88.7 kpa
Bit pressure loss	9359.5 kpa
Total system pressure loss	13018.0 kpa

LAG TIME

Annular volume	65. mc
Lag time of mud in mins.	51.6 mins
Lag time of mud in strokes	3407. strks
Lag time of cuttings	54.0 mins

VELOCITIES

Max. annular velocity	78.2 m /min
Min. annular velocity	6.6 m /min
Ave. annular velocity	39.5 m /min
Ave. cuttings slip velocity	1.7 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,STAB,MON,162MM DC OPEN HOLE	162.00 216.00	78.2	208.8	297.1	818.5	2.8	Laminar
HWDP OPEN HOLE	127.00 216.00	52.3	177.2	73.2	571.7	2.4	Laminar
DRILL PIPE OPEN HOLE	127.00 216.00	52.3	177.2	236.4	571.7	2.4	Laminar
DRILL PIPE CASING	127.00 220.50	49.1	174.4	543.8	533.3	2.3	Laminar
DRILL PIPE MARINE RISER	127.00 508.00	6.6	109.9	2.0	52.0	0.2	Laminar

HALLIBURTON GEODATA LTD

ENGINEERING DATA FOR BIT RUN 11

DATE 16-NOV-92

WELL NUMBER	KING 1	OPERATING COMPANY	SAGASCO RESOURCES
DEPTH TO SHOE	1237.070	CASING SIZE	244.000
BIT SIZE	216.000	BIT NUMBER & TYPE	BR11 NB6 SMITH F1
RIG COST/HR	4277.000	INITIAL COST	107078.000
TRIP TIME	24.000	PUMP CAP LITS.STK	18.988
BIT COST	4430.000	JET SIZES	11 11 10 0
START DRILLING	2041.000		

MUD DATA LISTING

WEIGHT SG	VISCOSITY SEC/L	PL VISC C.P.	YIELD PT LB/100FT2	GEL 0/10	pH	FILTRATE ML/30MIN	CAKE 32ND	SOLIDS %	SAND %
1.12	50	18	25	7/ 12	9.0	5.80	1.00	5.00	0.25

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
2042.0	13:56	28.8	28.8	3	82	120	65	14627	88	156	1.1	1.1	21.5	32.4	0.2	0.03	0.80	1.0	56	42
2043.0	14:06	5.9	9.8	8	82	109	64	14162	87	155	1.1	1.1	21.7	31.9	0.9	0.20	1.34	2.0	72	43
2044.0	14:21	4.0	6.6	9	82	109	64	13907	86	154	1.1	1.1	21.8	32.1	2.2	0.46	1.49	3.0	9	44
2045.0	14:29	7.2	6.7	12	85	114	64	13756	84	153	1.1	1.1	22.0	33.6	2.9	0.59	1.45	4.0	111	45
2046.0	14:36	8.4	7.0	12	91	117	64	13262	85	154	1.1	1.1	22.2	33.6	3.5	0.71	1.44	5.0	111	46
2047.0	14:41	12.0	7.5	12	102	121	64	13394	85	152	1.1	1.1	22.3	33.6	4.0	0.80	1.35	6.0	111	47
2048.0	14:45	16.9	8.2	11	102	119	64	13431	84	151	1.1	1.1	22.5	33.6	4.4	0.86	1.23	7.0	111	48
2049.0	14:49	14.8	8.7	10	102	115	64	13435	83	151	1.1	1.1	22.7	33.6	4.8	0.92	1.26	8.0	111	49
2050.0	14:51	27.9	9.4	11	102	125	64	13471	83	150	1.1	1.1	22.8	33.6	5.1	0.96	1.12	9.0	111	50
2051.0	14:53	31.3	10.1	12	102	130	64	13484	83	151	1.1	1.1	23.0	33.6	5.3	0.99	1.11	10.0	111	51
2052.0	14:55	34.3	10.8	12	102	135	64	13481	83	151	1.1	1.1	23.2	33.6	5.5	1.02	1.10	11.0	111	52
2053.0	15:06	30.8	11.4	10	100	117	64	13461	83	149	1.1	1.1	23.4	33.6	5.6	1.05	1.06	12.0	111	53
2054.0	15:07	30.8	12.0	9	90	117	65	13679	84	134	1.1	1.1	23.5	33.6	5.8	1.08	1.01	13.0	108	54
2055.0	15:16	6.8	11.4	13	93	103	65	13807	83	140	1.1	1.1	23.7	33.6	6.6	1.23	1.52	14.0	65	55
2056.0	15:23	9.1	11.2	13	101	114	65	13867	82	150	1.1	1.1	23.9	33.7	7.2	1.34	1.47	15.0	20	56
2057.0	15:27	15.1	11.4	12	101	119	65	13889	83	150	1.1	1.1	24.0	32.6	7.6	1.41	1.30	16.0	12	57
2058.0	15:30	20.6	11.7	11	101	115	66	13888	83	150	1.1	1.1	24.2	32.7	8.0	1.46	1.18	17.0	14	58
2059.0	15:35	11.8	11.7	12	101	118	66	13888	83	150	1.1	1.1	24.4	32.8	8.5	1.54	1.37	18.0	17	59
2060.0	15:39	13.2	11.8	12	101	114	66	13861	83	150	1.1	1.1	24.5	32.8	9.0	1.62	1.33	19.0	46	60
2061.0	15:44	12.2	11.8	12	101	111	66	13893	83	150	1.1	1.1	24.7	33.0	9.4	1.70	1.35	20.0	100	61
2062.0	15:49	12.2	11.8	12	101	110	66	13897	83	146	1.1	1.1	24.9	33.2	9.9	1.78	1.33	21.0	126	62
2063.0	15:54	11.9	11.8	12	101	111	66	13917	83	147	1.1	1.1	25.0	33.3	10.4	1.86	1.35	22.0	217	63
2064.0	15:59	11.6	11.8	12	101	111	66	13903	83	140	1.1	1.1	25.2	33.4	10.9	1.95	1.34	23.0	107	64
2065.0	16:04	12.2	11.8	13	101	114	66	13809	84	134	1.1	1.1	25.4	33.5	11.4	2.03	1.35	24.0	67	65
2066.0	16:11	8.5	11.6	12	101	108	66	13779	84	134	1.1	1.1	25.5	33.7	12.1	2.15	1.45	25.0	20	66
2067.0	16:18	9.7	11.5	12	101	107	66	13825	84	134	1.1	1.1	25.7	33.8	12.8	2.25	1.39	26.0	29	67
2068.0	16:24	9.4	11.4	11	101	105	66	13887	84	134	1.1	1.1	25.9	33.8	13.4	2.36	1.38	27.0	75	68
2069.0	16:30	9.4	11.4	11	101	102	66	13876	84	134	1.1	1.1	26.0	34.0	14.0	2.47	1.39	28.0	37	69
2070.0	16:55	9.4	11.5	12	101	102	66	13800	84	134	1.1	1.1	26.0	33.9	14.3	2.51	1.38	29.0	20	70
2071.0	17:01	10.7	11.5	11	103	115	66	13814	82	132	1.1	1.1	26.6	33.1	14.8	2.61	1.36	30.0	17	71
2072.0	17:06	10.9	11.5	12	103	118	66	13851	81	132	1.1	1.1	26.7	33.2	15.5	2.70	1.37	31.0	16	72
2073.0	17:13	9.8	11.4	12	104	112	66	13814	81	134	1.1	1.1	26.9	33.2	16.1	2.80	1.38	32.0	18	73
2074.0	17:18	10.4	11.4	12	103	116	66	13838	81	133	1.1	1.1	27.0	33.2	16.6	2.90	1.38	33.0	16	74
2075.0	17:25	9.2	11.3	13	99	118	66	13878	81	135	1.1	1.1	27.2	33.3	17.3	3.00	1.42	34.0	19	75
2076.0	17:30	11.8	11.3	12	99	113	66	13900	82	132	1.1	1.1	27.4	33.8	17.8	3.09	1.34	35.0	32	76
2077.0	17:33	21.4	11.5	12	99	116	66	13939	82	132	1.1	1.1	27.6	33.8	18.0	3.14	1.19	36.0	64	77
2078.0	17:37	15.3	11.6	12	99	135	66	13948	82	132	1.1	1.1	27.7	33.8	18.4	3.20	1.27	37.0	83	78
2079.0	17:40	17.5	11.7	11	99	111	66	13953	82	132	1.1	1.1	27.8	33.9	18.8	3.26	1.21	38.0	90	79
2080.0	17:44	15.9	11.7	9	99	103	66	13943	82	132	1.1	1.1	28.0	33.9	19.1	3.32	1.16	39.0	114	80
2081.0	17:50	10.7	11.7	11	99	108	66	13963	82	132	1.1	1.1	28.1	33.6	19.7	3.42	1.33	40.0	20	81
2082.0	17:54	14.4	11.8	12	99	114	66	14008	82	132	1.1	1.1	28.4	33.6	20.2	3.48	1.28	41.0	23	82
2083.0	18:00	10.3	11.7	13	99	117	66	14029	83	132	1.1	1.1	28.7	33.6	20.8	3.58	1.39	42.0	25	83
2084.0	18:06	9.7	11.7	13	99	115	66	14071	83	133	1.1	1.1	28.9	33.7	21.4	3.68	1.41	43.0	22	84
2085.0	18:13	8.5	11.6	12	99	113	66	14101	82	132	1.1	1.1	29.2	33.8	22.1	3.80	1.43	44.0	22	85
2086.0	18:19	9.8	11.5	11	99	111	66	14112	82	132	1.1	1.1	29.5	33.8	22.7	3.90	1.36	45.0	24	86
2087.0	18:25	10.1	11.5	12	99	118	66	14183	82	132	1.1	1.1	29.7	33.8	23.2	4.00	1.38	46.0	75	87
2088.0	18:32	8.8	11.4	13	99	117	66	14238	82	132	1.1	1.1	30.0	34.0	23.9	4.12	1.44	47.0	24	88
2089.0	18:38	9.0	11.4	12	99	114	66	14243	82	132	1.1	1.1	30.2	34.0	24.5	4.23	1.42	48.0	18	89
2090.0	18:46	8.3	11.3	12	99	112	66	14284	82	133	1.1	1.1	30.4	34.0	25.2	4.35	1.43	49.0	17	90
2091.0	18:52	9.2	11.2	13	99	112	66	14308	83	133	1.1	1.1	30.6	34.0	25.9	4.46	1.44	50.0	17	91

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
2091.0	18:52	9.2	11.2	13	99	112	66	14308	83	133	1.1	1.1	30.6	34.0	25.9	4.46	1.44	50.0	17	91
2092.0	18:58	10.8	11.2	13	99	117	66	14320	83	133	1.1	1.1	30.7	33.5	26.4	4.55	1.39	51.0	12	92
2093.0	19:03	10.5	11.2	13	99	117	66	14333	82	133	1.1	1.1	30.9	32.6	27.0	4.64	1.41	52.0	10	93
2094.0	19:09	10.3	11.2	14	99	118	66	14375	82	133	1.1	1.1	31.0	34.0	27.5	4.74	1.43	53.0	32	94
2095.0	19:15	10.6	11.2	13	99	118	66	14416	82	132	1.1	1.1	31.1	34.0	28.1	4.84	1.41	54.0	31	95
2096.0	19:22	8.5	11.1	13	99	110	66	14426	81	132	1.1	1.1	31.1	34.0	28.8	4.95	1.45	55.0	25	96
2097.0	19:28	9.2	11.1	13	99	111	66	14457	81	131	1.1	1.1	31.1	34.0	29.4	5.06	1.45	56.0	18	97
2098.0	19:34	10.3	11.0	14	99	114	66	14449	81	131	1.1	1.1	31.1	34.0	30.0	5.16	1.43	57.0	16	98
2099.0	19:41	9.4	11.0	14	98	112	66	14343	81	132	1.1	1.1	31.2	34.0	30.6	5.27	1.44	58.0	17	99
2100.0	20:02	11.2	11.0	13	101	112	65	14106	81	132	1.1	1.1	31.1	33.5	31.1	5.35	1.37	59.0	20	100
2101.0	20:04	12.3	11.1	10	107	112	64	13720	81	132	1.1	1.1	31.0	33.0	31.3	5.39	1.03	60.0	20	101
2102.0	20:11	8.9	11.1	12	107	121	64	13726	81	131	1.1	1.1	31.0	33.6	32.1	5.50	1.42	61.0	48	102
2103.0	20:17	10.5	11.1	14	107	127	64	13753	81	131	1.1	1.1	31.0	33.6	32.7	5.59	1.46	62.0	24	103
2104.0	20:23	9.9	11.1	14	108	126	64	13805	81	131	1.1	1.1	31.0	33.6	33.4	5.70	1.46	63.0	21	104
2105.0	20:28	11.0	11.1	13	108	123	64	13836	81	131	1.1	1.1	31.0	33.6	33.9	5.79	1.42	64.0	21	105
2106.0	20:32	15.0	11.1	13	108	126	64	13852	80	130	1.1	1.1	30.9	33.6	34.4	5.85	1.31	65.0	23	106
2107.0	20:37	12.5	11.1	13	108	125	64	13877	80	130	1.1	1.1	30.9	33.6	34.9	5.93	1.37	66.0	23	107
2108.0	20:42	13.1	11.1	14	108	130	64	13892	80	130	1.1	1.1	30.9	33.7	35.4	6.01	1.39	67.0	23	108
2109.0	20:48	9.9	11.1	14	108	122	64	13896	80	130	1.1	1.1	30.9	33.7	36.0	6.11	1.45	68.0	21	109
2110.0	20:54	9.0	11.1	14	103	122	64	13880	80	130	1.1	1.1	30.9	33.8	36.7	6.22	1.45	69.0	20	110
2111.0	20:59	11.9	11.1	13	102	124	64	13906	80	130	1.1	1.1	30.9	33.8	37.2	6.30	1.38	70.0	21	111
2112.0	21:04	11.5	11.1	13	102	122	64	13939	80	130	1.1	1.1	30.9	33.8	37.7	6.39	1.38	71.0	21	112
2113.0	21:10	10.3	11.1	14	102	127	64	13956	80	130	1.1	1.1	30.9	33.8	38.3	6.49	1.43	72.0	20	113
2114.0	21:14	17.8	11.2	13	102	128	64	13927	80	130	1.1	1.1	30.9	33.9	38.6	6.54	1.27	73.0	21	114
2115.0	21:16	21.4	11.2	13	102	129	61	13925	80	130	1.1	1.1	30.9	33.9	38.9	6.59	1.21	74.0	23	115
2116.0	21:19	25.7	11.3	14	102	135	58	13961	79	130	1.1	1.1	30.9	34.0	39.2	6.63	1.19	75.0	24	116
2117.0	21:21	25.4	11.4	14	102	135	64	14006	80	130	1.1	1.1	30.9	34.0	39.5	6.67	1.19	76.0	25	117
2118.0	21:25	16.3	11.4	14	102	129	64	14006	80	130	1.1	1.1	31.0	34.0	39.8	6.73	1.31	77.0	25	118
2119.0	21:28	18.5	11.5	13	102	126	64	13994	79	130	1.1	1.1	31.0	34.0	40.2	6.79	1.26	78.0	24	119
2120.0	21:30	28.8	11.6	13	102	126	64	14010	80	130	1.1	1.1	31.0	34.0	40.4	6.82	1.12	79.0	23	120
2121.0	21:32	27.5	11.7	14	102	128	64	14031	79	130	1.1	1.1	31.0	34.1	40.6	6.86	1.16	80.0	23	121
2122.0	21:34	29.0	11.8	13	102	128	64	14045	79	130	1.1	1.1	31.0	34.1	40.8	6.89	1.12	81.0	25	122
2123.0	21:37	23.8	11.8	13	102	121	64	14067	80	130	1.1	1.1	31.0	34.2	41.0	6.93	1.18	82.0	35	123
2124.0	21:43	9.7	11.8	13	102	113	64	14037	80	130	1.1	1.1	31.1	33.7	41.6	7.04	1.42	83.0	19	124
2125.0	21:53	6.1	11.7	14	102	109	64	14003	80	130	1.1	1.1	31.1	33.8	42.7	7.20	1.57	84.0	21	125
2126.0	22:00	8.0	11.6	14	102	116	64	14050	80	131	1.1	1.1	31.2	33.8	43.4	7.32	1.50	85.0	20	126
2127.0	22:10	6.4	11.5	14	101	112	64	13989	80	130	1.1	1.1	31.2	33.8	44.4	7.48	1.57	86.0	22	127
2128.0	22:18	7.3	11.4	14	98	111	64	13938	79	129	1.1	1.1	31.2	33.9	45.2	7.62	1.51	87.0	25	128
2129.0	22:26	7.8	11.4	14	98	115	64	13858	79	129	1.1	1.1	31.4	34.0	45.9	7.74	1.50	88.0	23	129
2130.0	22:58	7.5	11.1	12	100	116	64	14131	77	128	1.1	1.1	31.5	36.0	47.7	8.03	1.48	89.0	12	130
2131.0	23:06	7.3	11.0	12	101	114	64	14131	77	128	1.2	1.1	31.6	36.0	48.5	8.17	1.49	90.0	12	131
2132.0	23:13	8.5	11.0	13	100	119	64	14165	77	128	1.2	1.1	31.6	35.9	49.2	8.28	1.45	91.0	12	132
2133.0	23:20	8.4	10.9	13	100	120	64	14167	78	129	1.2	1.1	31.6	35.8	49.9	8.40	1.46	92.0	12	133
2134.0	23:28	8.1	10.9	12	100	117	64	14180	78	129	1.2	1.2	31.7	35.8	50.7	8.53	1.46	93.0	12	134
2135.0	23:34	9.6	10.9	13	100	123	64	14223	78	128	1.2	1.2	31.8	35.8	51.3	8.63	1.43	94.0	13	135
2136.0	23:39	12.5	10.9	13	100	125	64	14253	77	127	1.2	1.2	31.8	35.8	51.8	8.71	1.38	95.0	15	136
2137.0	23:44	11.0	10.9	13	100	124	64	14272	77	127	1.2	1.2	31.8	35.8	52.3	8.80	1.41	96.0	16	137
2138.0	23:51	9.0	10.9	13	100	122	64	14270	77	127	1.2	1.2	31.9	35.8	52.9	8.91	1.47	97.0	15	138
2139.0	23:57	11.0	10.9	13	100	125	64	14259	77	127	1.1	1.2	31.9	35.8	53.5	9.00	1.40	98.0	16	139
2140.0	00:02	10.8	10.9	13	100	122	64	14219	77	128	1.1	1.2	31.9	35.8	54.1	9.10	1.41	99.0	15	140

DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
2140.0	00:02	10.8	10.9	13	100	122	64	14219	77	128	1.1	1.2	31.9	35.8	54.1	9.10	1.41	99.0	15	140
2141.0	00:08	10.9	10.9	13	101	125	64	14212	77	127	1.1	1.2	32.0	35.8	54.6	9.19	1.41	100.0	15	141
2142.0	00:12	13.5	10.9	13	102	125	64	14185	77	127	1.1	1.2	32.0	35.8	55.1	9.26	1.37	101.0	15	142
2143.0	00:16	14.3	10.9	14	102	125	64	14178	77	127	1.1	1.2	32.0	35.8	55.5	9.33	1.35	102.0	15	143
2144.0	00:21	12.9	10.9	13	102	123	64	14167	77	127	1.1	1.2	32.0	35.9	55.9	9.41	1.37	103.0	17	144
2145.0	00:25	16.5	11.0	14	102	126	64	14188	77	127	1.1	1.2	32.1	35.9	56.4	9.47	1.31	104.0	18	145
2146.0	00:29	13.0	11.0	14	102	125	64	14203	77	127	1.1	1.2	32.1	36.0	56.8	9.55	1.38	105.0	18	146
2147.0	00:32	18.4	11.0	14	101	129	64	14218	77	127	1.2	1.2	32.1	36.0	57.1	9.60	1.29	106.0	17	147
2148.0	00:35	25.7	11.1	13	101	132	64	14252	77	127	1.2	1.2	32.1	36.2	57.4	9.64	1.18	107.0	18	148
2149.0	00:39	12.7	11.1	14	101	125	64	14265	77	127	1.2	1.2	32.2	36.2	57.8	9.72	1.40	108.0	17	149
2150.0	00:45	10.4	11.1	14	101	127	64	14262	77	127	1.2	1.2	32.2	35.2	58.4	9.82	1.46	109.0	4	150
2151.0	00:51	10.1	11.1	14	101	126	64	14250	77	127	1.2	1.2	32.2	35.2	59.0	9.92	1.46	110.0	16	151
2152.0	00:58	8.7	11.1	14	101	121	64	14255	76	126	1.2	1.2	32.2	35.2	59.7	10.03	1.50	111.0	16	152
2153.0	01:03	11.3	11.1	14	102	122	64	14259	76	126	1.2	1.2	32.2	35.1	60.2	10.12	1.42	112.0	16	153
2154.0	01:10	9.2	11.0	14	102	120	64	14242	75	126	1.2	1.2	32.3	35.1	60.9	10.23	1.47	113.0	16	154
2155.0	01:16	10.7	11.0	13	102	121	64	14253	76	126	1.2	1.2	32.3	35.2	61.4	10.32	1.43	114.0	16	155
2156.0	01:21	10.1	11.0	13	102	121	64	14268	76	126	1.2	1.2	32.3	35.2	62.0	10.42	1.43	115.0	17	156
2157.0	01:51	8.8	11.0	13	101	118	64	14103	75	125	1.2	1.2	32.3	35.4	62.8	10.53	1.45	116.0	14	157
2158.0	01:54	18.4	11.1	12	99	123	64	13952	75	125	1.2	1.2	32.2	35.7	63.1	10.59	1.23	117.0	19	158
2159.0	02:02	8.2	11.0	13	99	130	64	14296	75	124	1.2	1.2	32.1	35.8	63.8	10.71	1.48	118.0	21	159
2160.0	02:08	9.8	11.0	13	99	124	64	14188	76	124	1.2	1.2	31.9	35.9	64.4	10.81	1.42	119.0	22	160
2161.0	02:14	9.2	11.0	13	99	128	64	14189	76	124	1.2	1.2	31.8	36.0	65.0	10.92	1.45	120.0	23	161
2162.0	02:17	19.5	11.0	14	99	130	64	14205	77	124	1.2	1.2	31.7	36.1	65.3	10.97	1.26	121.0	48	162
2163.0	02:22	13.9	11.0	14	99	140	64	14236	77	124	1.2	1.2	31.7	36.2	65.8	11.04	1.37	122.0	83	163
2164.0	02:28	10.4	11.0	14	99	133	64	14233	76	123	1.2	1.2	31.6	36.2	66.3	11.14	1.44	123.0	59	164
2165.0	02:34	8.8	11.0	14	99	128	64	14232	77	122	1.1	1.2	31.5	36.3	67.0	11.25	1.48	124.0	32	165
2166.0	02:40	10.0	11.0	14	99	129	64	14264	77	122	1.1	1.2	31.5	36.3	67.6	11.35	1.44	125.0	22	166
2167.0	02:47	9.5	11.0	14	99	132	64	14257	77	122	1.1	1.2	31.4	36.2	68.2	11.46	1.47	126.0	20	167
2168.0	02:52	11.7	11.0	14	99	137	64	14255	78	122	1.1	1.2	31.4	36.2	68.7	11.54	1.41	127.0	19	168
2169.0	02:58	9.8	11.0	15	99	136	64	14249	78	122	1.2	1.2	31.5	36.2	69.3	11.65	1.49	128.0	19	169
2170.0	03:05	9.0	11.0	15	99	137	64	14269	79	121	1.1	1.2	31.5	36.2	69.9	11.76	1.52	129.0	18	170
2171.0	03:12	8.2	10.9	14	99	129	64	14283	79	121	1.1	1.2	31.5	36.2	70.7	11.88	1.52	130.0	18	171
2172.0	03:18	9.3	10.9	14	99	129	64	14306	79	120	1.1	1.2	31.6	36.2	71.3	11.99	1.48	131.0	19	172
2173.0	03:26	8.3	10.9	13	99	126	64	14282	80	120	1.1	1.2	31.6	36.2	72.0	12.11	1.49	132.0	20	173
2174.0	03:32	8.9	10.9	14	99	129	64	14298	81	120	1.1	1.2	31.6	35.7	72.8	12.22	1.47	133.0	8	174
2175.0	03:39	9.5	10.9	14	99	127	64	14272	81	120	1.1	1.2	31.6	35.6	73.4	12.33	1.45	134.0	22	175
2176.0	03:46	8.1	10.8	14	99	126	64	14268	81	119	1.1	1.2	31.6	35.6	74.1	12.45	1.51	135.0	20	176
2177.0	03:53	9.2	10.8	14	99	128	64	14208	82	119	1.1	1.2	31.7	35.4	74.8	12.56	1.49	136.0	21	177
2178.0	03:59	10.0	10.8	15	99	133	64	14129	82	118	1.1	1.2	31.7	35.4	75.3	12.66	1.48	137.0	22	178
2179.0	04:05	9.4	10.8	15	99	130	64	14121	84	119	1.1	1.2	31.8	35.6	76.0	12.77	1.50	138.0	22	179
2180.0	04:11	10.0	10.8	15	99	129	64	14153	85	120	1.1	1.2	31.8	35.8	76.6	12.87	1.49	139.0	23	180
2181.0	04:14	18.8	10.8	13	99	124	64	14138	85	121	1.1	1.2	31.8	36.0	76.9	12.92	1.24	140.0	53	181
2182.0	04:17	25.0	10.9	13	99	147	64	14176	85	121	1.2	1.2	31.8	36.0	77.1	12.96	1:18	141.0	43	182
2183.0	04:19	27.5	10.9	13	99	141	64	14162	85	121	1.1	1.2	31.8	36.2	77.3	12.99	1.14	142.0	89	183
2184.0	04:37	9.9	10.9	11	103	136	65	14507	85	121	1.1	1.2	31.9	36.2	77.9	13.10	1.38	143.0	113	184
2185.0	04:43	10.7	10.9	12	103	133	64	14290	86	121	1.1	1.2	31.9	36.2	78.5	13.19	1.38	144.0	35	185
2186.0	04:49	10.4	10.9	12	102	135	64	14197	86	122	1.1	1.2	32.0	36.2	79.0	13.29	1.40	145.0	10	186
2187.0	04:57	7.2	10.9	11	102	126	64	14196	86	122	1.1	1.2	32.0	36.2	80.0	13.42	1.46	146.0	7	187
2188.0	05:05	7.5	10.8	12	102	128	64	14196	86	122	1.1	1.2	31.9	36.1	80.7	13.56	1.47	147.0	6	188
2189.0	05:24	6.9	10.8	11	102	127	64	14179	86	122	1.1	1.2	31.9	35.4	81.6	13.70	1.47	148.0	7	189

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DEPTH METRE	TIME HR:MN	ROP MT/H	AVE ROP	WOB TON	RPM	TORQ AMPS	SPM	SPP KPA	ACT PIT	TOT PIT	MWI SG	MWO SG	MTI DEG	MTO DEG	KREV BIT	HRS BIT	DCEXP	BIT METRE	TOTAL GAS	REC NOS
2189.0	05:24	6.9	10.8	11	102	127	64	14179	86	122	1.1	1.2	31.9	35.4	81.6	13.70	1.47	148.0	7	189
2190.0	05:28	15.9	10.8	14	103	144	63	13755	86	122	1.1	1.1	31.9	34.4	82.0	13.76	1.33	149.0	18	190
2191.0	05:34	11.0	10.8	14	103	147	64	13963	86	122	1.1	1.1	31.9	34.5	82.5	13.85	1.44	150.0	35	191
2192.0	05:40	10.2	10.8	14	103	145	64	14154	86	122	1.2	1.2	31.9	34.7	83.2	13.95	1.44	151.0	24	192
2193.0	05:45	12.2	10.8	14	103	142	63	13773	87	122	1.2	1.2	31.9	34.8	83.7	14.03	1.39	152.0	19	193
2194.0	05:50	10.3	10.8	14	104	145	64	14025	87	123	1.1	1.2	31.9	34.8	84.2	14.13	1.46	153.0	20	194
2195.0	05:55	11.8	10.8	14	104	145	64	14092	87	122	1.1	1.2	31.8	34.8	84.7	14.22	1.41	154.0	19	195
2196.0	06:00	12.5	10.8	14	104	144	64	14077	87	122	1.1	1.2	31.8	34.8	85.3	14.30	1.40	155.0	20	196
2197.0	06:06	11.3	10.8	15	104	147	64	14083	87	123	1.1	1.2	31.8	34.8	85.8	14.39	1.46	156.0	23	197
2198.0	06:11	12.0	10.9	15	104	150	64	14116	87	123	1.1	1.2	31.8	34.8	86.3	14.47	1.46	157.0	32	198
2199.0	06:13	29.3	10.9	12	104	137	64	14114	87	123	1.1	1.2	31.8	34.9	86.5	14.50	1.13	158.0	77	199
2200.0	06:14	40.4	10.9	13	104	159	64	14153	88	123	1.1	1.2	31.8	35.0	86.6	14.53	1.06	159.0	129	200
2201.0	06:26	14.3	11.0	11	96	143	62	13486	88	124	1.1	1.2	31.8	35.0	87.1	14.60	1.27	160.0	113	201
2202.0	06:34	7.1	10.9	13	102	136	64	14167	89	124	1.1	1.2	31.8	35.1	87.9	14.74	1.51	161.0	33	202
2203.0	06:42	7.9	10.9	13	102	139	65	14375	89	124	1.1	1.2	31.8	35.2	88.8	14.86	1.52	162.0	22	203
2204.0	06:50	7.3	10.9	13	102	135	65	14405	89	125	1.1	1.2	31.8	34.9	89.6	15.00	1.53	163.0	15	204
2205.0	06:57	9.3	10.9	14	102	144	64	14367	89	125	1.1	1.2	31.7	32.0	90.2	15.11	1.49	164.0	10	205
2206.0	07:05	7.1	10.8	16	101	146	64	14360	89	125	1.1	1.1	31.7	32.8	91.0	15.25	1.63	165.0	15	206
2207.0	07:12	9.0	10.8	14	102	136	64	14349	90	125	1.1	1.1	31.7	33.6	91.8	15.36	1.49	166.0	18	207
2208.0	07:15	19.0	10.8	14	102	150	65	14375	90	125	1.1	1.1	31.6	34.0	92.1	15.41	1.28	167.0	26	208
2209.0	07:19	15.6	10.9	14	102	152	65	14426	90	125	1.1	1.1	31.6	34.3	92.5	15.48	1.34	168.0	38	209
2210.0	07:22	16.1	10.9	13	102	152	65	14406	90	125	1.1	1.1	31.6	34.4	92.8	15.54	1.31	169.0	50	210
2211.0	07:26	16.8	10.9	13	102	165	65	14376	90	125	1.1	1.1	31.6	34.6	93.2	15.60	1.28	170.0	69	211
2212.0	07:31	12.6	10.9	14	102	157	65	14369	90	125	1.1	1.1	31.6	34.8	93.6	15.68	1.40	171.0	64	212
2213.0	08:02	9.0	10.9	13	99	142	65	14392	90	126	1.1	1.1	31.6	35.1	94.3	15.79	1.48	172.0	39	213
2214.0	08:07	11.5	10.9	9	102	131	65	14341	93	128	1.1	1.1	31.5	35.4	94.8	15.88	1.26	173.0	32	214
2215.0	08:16	6.9	10.9	9	102	132	64	14303	93	128	1.1	1.1	31.4	35.4	95.8	16.02	1.39	174.0	29	215
2216.0	08:22	10.4	10.9	9	102	129	65	14309	94	129	1.1	1.2	31.4	35.6	96.3	16.12	1.27	175.0	23	216
2217.0	08:31	6.7	10.8	9	102	127	65	14299	94	129	1.1	1.2	31.4	35.6	97.2	16.27	1.39	176.0	21	217
2218.0	08:40	6.7	10.8	9	102	123	65	14313	94	129	1.1	1.2	31.3	35.5	98.1	16.42	1.38	177.0	20	218
2219.0	08:49	6.6	10.7	9	102	128	65	14290	95	130	1.1	1.2	31.3	35.6	99.1	16.57	1.41	178.0	19	219
2220.0	08:59	5.6	10.7	9	102	123	65	14248	95	130	1.1	1.2	31.4	35.7	100.1	16.75	1.43	179.0	19	220
2221.0	09:08	6.7	10.7	9	102	128	65	14248	95	130	1.1	1.2	31.4	35.8	101.0	16.90	1.39	180.0	20	221
2222.0	09:18	6.2	10.6	9	101	125	64	14180	94	130	1.1	1.2	31.5	35.9	102.0	17.06	1.40	181.0	21	222
2223.0	09:27	7.1	10.6	9	102	127	65	14269	94	130	1.1	1.2	31.5	36.0	102.9	17.20	1.39	182.0	20	223

BR11 NB6 SMITH F1 DRILLED TO TOTAL DEPTH 2223 metres @ 09:30, 17-NOV-92

NB6 DRILLED 182m IN 17.3 ROT HRS, AVE ROP 10.6m/hr, 103.6 KREVS.

299141

HALLIBURTON GEODATA LTD

DRILLING HYDRAULICS PROGRAM

BR11 NB6 SMITH F1 DRILLED DEPTH 2223. mt TRUE DEPTH 2223. mt

MUD PROPERTIES

Mud weight	1.14 SG	Actual standpipe pressure	14303 kpa
PV/YP	19./ 27.	Pump rate	65 spm
Theta 300/600	46./ 65.	Flow rate	1234.4 lit/mn
N	0.50	Hydrostatic head	24837.3 kpa
K	2.05	Pore pressure	22658.6 kpa
R Laminar	2787.03	Estimated overbalance	2178.7 kpa
R Turbulent	3587.03	M.A.A.S.P	6518.0 kpa
E.C.D.	1.20 SG	Equivalent B.H.P	31355.29 kpa
E.C.D. SHOE	1.19 SG		

BIT HYDRAULICS

Total flow area (Nozzles)	0.262 sq.ins	Total annular pressure loss	1287.6 kpa
Nozzle velocity	128.0 m /sec	Drill string pressure loss	2536.8 kpa
Hydraulic Impact	305.7 kg.wt.	Surface equipment press. loss	88.5 kpa
Bit hydraulic power	191.8 KW	Bit pressure loss	9323.4 kpa
Total hydraulic horsepower	272.3 KW	Total system pressure loss	13236.3 kpa
Theor .% HHP at bit	70.4		
Actual % HHP at bit	65.2		

LAG TIME

Annular volume	69. mc	Max. annular velocity	77.0 m /min
Lag time of mud in mins.	56.0 mins	Min. annular velocity	6.5 m /min
Lag time of mud in strokes	3637. strks	Ave. annular velocity	39.7 m /min
Lag time of cuttings	62.8 mins	Ave. cuttings slip velocity	4.1 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss kpa	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT,STAB,MON,162MM DC	162.00	77.0	211.2	307.3	788.3	5.6	Laminar
OPEN HOLE	216.00						
HWDP	127.00	51.5	178.9	75.4	552.6	4.9	Laminar
OPEN HOLE	216.00						
DRILL PIPE	127.00	51.5	178.9	342.7	552.6	4.9	Laminar
OPEN HOLE	216.00						
DRILL PIPE	127.00	48.4	176.0	560.1	515.8	4.8	Laminar
CASING	220.50						
DRILL PIPE	127.00	6.5	110.4	2.1	51.0	1.0	Laminar
MARINE RISER	508.00						

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MUD DATA RECORD

299143

HALLIBURTON GEODATA LIMITED

MUD DATA - Page No. 1 of 1

Operator: SAGASCO RESOURCES LIMITED Rig: OCEAN EPOCH Well: KING-1

Mud contractor: INTERNATIONAL DRILLING FLUIDS Mud Type: SEAWATER/GEL/POLYMER

DATE	TIME	DEPTH m RKB	WT SG	FV sec /qt	PV cps	YP lb/100 sq ft	GELS 10"/10' (/30min)	pH	F ml/30m	Ck 1/32"	Chl Kppm	Hardness	Sd %	Sol %	Water %
DRILL WITH SEAWATER AND HI VIS SWEEPS															
30/10/92	17:00	133	1.03	58	-	-	-	-	-	-	-	-	-	-	-
31/10/92	23:30	405	1.06	80	-	-	-	-	-	-	-	-	-	-	-
01/11/92	19:00	405	1.07	80	15	35	25/27	9.5	>30.0	4	9.0K	240	-	-	-
02/11/92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03/11/92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DRILL WITH SEAWATER/GEL/POLYMER															
04/11/92	23:00	442	1.05	32	5	9	8/12	8.5	40.0	3	16.0K	1600	0.75	1.5	98.5
05/11/92	23:00	1002	1.07	47	9	14	10/25	8.4	22.0	2	20.0K	1920	0.25	4.0	96.0
06/11/92	16:30	1246	1.12	46	13	22	20/22	8.8	15.5	2	19.0K	1700	TR	7.5	92.5
07/11/92	17:00	1246	1.12	42	14	18	15/23	8.4	16.8	2	20.0K	1840	TR	8.0	92.0
08/11/92	23:30	1246	1.12	96	25	55	12/20	10.2	10.2	1	2.5K	250	TR	3.0	97.0
09/11/92	18:30	1248	1.12	52	17	28	5/8	10.2	7.6	1	3.0K	250	TR	4.0	96.0
10/11/92	22:00	1400	1.12	58	13	24	4/5	8.9	5.2	1	6.5K	420	0.25	5.5	94.5
11/11/92	18:30	1424	1.14	54	19	27	5/6	8.9	5.2	1	5.5K	380	TR	7.0	93.0
12/11/92	16:30	1440	1.14	56	14	18	3/8	9.1	5.6	1	5.5K	220	0.25	5.0	95.0
13/11/92	23:00	1734	1.13	55	17	38	9/13	9.0	6.8	1	4.0K	160	TR	4.0	96.0
14/11/92	17:00	1844	1.12	50	18	26	7/11	9.5	5.4	1	3.6K	200	TR	4.0	96.0
15/11/92	15:00	2041	1.12	50	18	25	7/12	9.0	5.8	1	4.0K	240	TR	5.0	95.0
16/11/92	23:00	2129	1.14	52	19	27	8/11	9.0	6.4	1	4.0K	200	TR	5.0	95.0
17/11/92	10:00	2223	1.14	51	19	29	8/12	9.0	6.8	1	4.0K	200	TR	4.0	96.0

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BIT DATA RECORD

BIT RECORD SHEET - KING 1

BIT RECORD SHEET 1					OPERATOR : SAGASCO RESOURCES						WELL NAME : KING 1					
BIT RUN	BIT No	MAKE	SERIAL No	TYPE	SIZE	JETS /TFA	DEPTH IN METERS	DEPTH OUT METERS	METERS ON BIT	HOURS ON BIT	KREVS	IADC GRADING	AVERAGE			
													WOB	RPM	LPM	PP
1	NB1	SMITH	KS5832	DSJ	660mm + 914MM HO	3x24	95	133	38	2.0	-	11NO-11-TD	1.0	85	2260	13500
2	NB2	SMITH	KS7976	DSJ	445mm	3x18	133	405	272.0	8.12	36.5	11NO-11-TD	6.0	90	2400	15500
3	NB3	SMITH	NB7624	FDS	311mm	3x14	405	1246	841.0	29.97	143.3	34BTNEIOTD	6.0	95	2336	17000
4	NB4	SMITH	NC2729	FDGH	216mm	3x12	1246	1397	151.0	9.29	56.2	35ERAE1/16SOCP	22.0	110	1177	8400
5	CB1	DBS	7911364	CD93	216mm	0.86	1397	1402	5.0	1.14	5.0	NEW	11.0	91	950	5860
6	RRCB1	DBS	7911364	CD93	216mm	0.86	1402	1410.5	8.5	0.83	4.1	NEW	7.0	54	990	10770
7	NB5	SMITH	NO1447	F1	216mm	2x11 1x10	1410.5	1423.5	13.0	1.5	7.6	NEW	7.5	100	1101	3050
8	RRCB1	DBS	7911364	CD93	216mm	0.86	1423.5	1434	10.5	1.2	4.6	NEW	3.0	70	990	5200
9	RRCB1	DBS	7911364	CD93	216mm	0.86	1434	1440	6.0	0.8	3.1	NEW	3.5	60	1009	7000
10	RRB5	SMITH	NO1447	F1	216mm	2x11 1x10	1440	2041	601.0	39.3	228.6	22BT5N/EIJDHR	12.0	103	1234	14300
11	NB6	SMITH	NC0572	F1	216mm	1x10 2x11	2041	2223	182.0	17.3	182.8	23BTA/EI-TD	13.0	101	1234	13850

SECTION 5: SERVICES AND EQUIPMENT

The Logging Service
The Data Output Service
The Pore Pressure Evaluation Service

THE LOGGING SERVICE

Halliburton SDL was contracted to provide a mudlogging and data acquisition service for **King 1**. The service commenced at 95 metres and continued for the remainder of the well. It was carried out in a purpose built pressurised laboratory located on the rig and connected to an array of external sensors. This unit was manned on a continuous basis by a crew of eight, four logging geologists and four data engineers, with four crew members being on the rig at any time.

The sensors were connected to digital and analogue readouts, as well as to an online computer system The following parameters were monitored and recorded:

Depth/Rate of penetration
Mud Pump Speed
Stand Pipe Pressure
Hook Load/Weight on Bit
Top Drive RPM
Top Drive Torque
Active and Total Pit level
Casing Shut in Pressure

Travelling Block position height above the drill floor

Total Gas in returning mud
Chromatographic analysis
Hydrogen Sulphide
Trip Tank Level
Mud Weight In and Out
Mud Conductivity In and Out
Mud Flow In and Out

Environmental Hydrogen Sulphide at the shale shakers and rotary table

Audio-visual alarms were connected to the active pit, total gas, stand pipe pressure, mud flow out and hydrogen sulphide sensors

GAS DETECTION

Ditch Gas was continuously monitored for hydrocarbons and hydrogen sulphide using a Shimadzu GC-8A flame ionisation detector system with a SP4270 integrator for total Gas (% in air) and chromatographic analysis and a General Monitors type 2170 detector for H_2S Similar detectors were used to monitor environmental H_2S levels at the shale shakers and at the rotary table

THE DATA OUTPUT SERVICE

INTRODUCTION

Halliburton SDL provided the facility for monitoring relevant parameters during drilling and tripping operations, and for running off-line programs

The system on **Ocean Epoch** was based on the Dilog mini-computer linked to twin (shadowing) ESDI disk drives and two 3 1/2" floppy disc drives. System control was from a VT220 emulation console, with a repeating line printer for offline programs. Also linked to the system were a printer giving an on-line read-out of drilling, trip and circulation data, and a VT 220 terminal providing drilling depth, time based data, trip monitor data, and pit level information to the toolpusher's office and the rig floor. Two Samsung SD 820 PC Computers running a Smarterm 240 terminal emulation package were also provided, one in the logging unit and the other in the Co-Representatives office. The Smarterm 240 package allows the user to log on to the Dilog system on a remote PC in VT100 emulation.

A Hewlett Packard 7475A XY plotter was provided for graphics output

In addition to the mini-computer system, a Log Drawing System was used for compiling the Formation Evaluation Log, the Pressure Evaluation Log, and the Gas Ratio Log. The system consists of a Samsung SD 820 desktop computer, NEC VDU, Zeta 8-pen plotter and a slave printer. The system was linked to the Dilog computer for data transfer, and to a Maestro modem to facilitate transmittal of data (Formation Evaluation Log, Pressure Evaluation Log, Gas Ratio Log, Daily Drilling Report, and Daily Geological Report) to **SAGASCO** office in Adelaide.

DESCRIPTION OF ONLINE AND OFFLINE PROGRAMS

THE DRILL MONITOR

The drill monitor program is used during drilling and reaming operations. It is designed to relay drilling information to visual display units on a minute by minute basis and at specific depth intervals during drilling. Both instantaneous and depth based data are recorded on paper. The program also stores the averaged parameters which make up the depth based data on disc for use in data reprint and plotting programs.

The following parameters are measured or calculated by the program, and stored on disc:

Time	**Total Bit Revs**	**Standpipe Pressure**
Depth	**Bit Hours on Bottom**	**Pump Strokes per Minute**
ROP	**Metres Drilled**	**Mud Temperature in**
WOB	**Average ROP,**	**Mud Temperature out**
RPM	**Mud Flow in**	**Time since start of bit run**
Hook load	**Mud Weight in**	**Time in interval**
Min Torque	**Mud Weight out**	**Cost of Interval**
Max Torque	**d Exponent**	**Corrected d Exponent**
Ave Torque	**Total Pit Vol**	**Estimated Pore Pressure**
ECD	**Active Pit Vol**	**Cost of bit run so far**
Date	**Bit Pressure Loss**	**Record Number**

Average cost per drilled Interval

Any combination of these parameters may then be chosen for hard copy, either as a printed listing, plotted against depth.

The visual output of the program allows a choice of three formats to be selected by means of a four channel digital information link to remote terminals. Channel one displays a combination of the major drilling parameters on a minute by minute basis, as well as the averaged readings recorded over the previous five depth intervals separate section of the display gives a section of the parameters displayed on an instantaneous basis.

The second channel displays a broader section of instantaneous data, plus a section devoted to the Hydraulic Performance of the bit and bottom hole assembly. The data displayed here is again updated every few seconds.

The third channel displays a full selection of parameters recorded at the previous depth interval.

TRIP MONITOR

This program is run when tripping in or out of the hole with either the drill string or with casing. The program reads bottom hole assembly dimensions from a data file stored on disc to take into account the string displacement and weight as tripping progresses.

The program measures or calculates the following parameters:

Depth of bit
Maximum pipe speed
Maximum pull
Trip Tank Vol
Total Pit Volume
Calculated Hole Fill
Number of stands to pull/run
String Weight
Maximum Overpull
Active Pit Volume
Actual Hole Fill
Time
Estimated time at bottom/surface/shoe
Effective Mud Weight (from swab/surge calculations)
Travelling Block Height above Rig Floor

The program outputs data as a stand by stand listing on a printer, and as a choice of two displays on the VDUs. One displays the data collected while pulling/running the previous eleven stands. The bottom section of the screen also gives an instantaneous readout of key parameters such as Hook Load, Pit Levels, Trip Tank Level, Bit Depth and Pipe Speed and an estimate of the time when the bit will be on bottom or at surface is also computed from the average time taken to pull or run stands. Swab and surge calculations also give the estimated bottom hole effective mud weight, assuming closed pipe. The second choice gives a graphical representation of the depth of the drill string in the hole, thus giving the viewer a clear picture of the trip progress. This display also gives instantaneous readings of key parameters, such as Bit Depth, Maximum Overpull, Calculated Hole Fill, and Pit Levels.

THE PIT LEVEL MONITOR PROGRAM

This program is run at all times. The program measures the mud volume in the active pit, the trip tank, or the total pit system. Output is to one of four channels on visual output system and is primarily in the form of a bar graph for quick assessment of pit level stability. Pit volume and the rate of any volume change are also displayed. An additional feature of this program is its alarm facility. This highlights pit level changes which exceed certain limits, and can be adjusted to suit any requirements. For example, if mud was being added to the active pit at a certain rate, the alarm threshold could be set to mark any level changes in excess of the rate of addition. While tripping out of the hole the program is switched to monitor the trip tank level, an additional check on hole fill.

OFF-LINE PROGRAMS

Numerous offline programs are available. Most of these fall into four broad categories:
1) Drilling Data programs: These allow data stored on disc to be edited, reprinted, and plotted graphically in a variety of ways; as drilling parameter plots, cost plots, d exponent plots, and mud temperature plots
2) Wireline interpretation/pressure evaluation programs: These allow readings taken from wireline logs to be manually input and stored on a data disc. The data can then be used to calculate and plot a variety of parameters useful for pore pressure evaluation, such as resistivity, sonic or overburden gradients.
3) Directional Survey Programs: Directional survey data is input manually and stored on disc. The data can then be used to produce plan and vertical plots of the wellbore, and to calculate the bit position.
4) Engineering Programs: These include hydraulics programs for drilling, swab and surge programs, plus a number of others, for example casing weight and cementing volume calculations.

ENGINEERING PROGRAMS

Hydraulics Programs: To optimize drilling performance it is essential to consider the Hydraulic Performance of the Drilling Mud in relation to the bit , the Bottom Hole Assembly and the configuration of the hole. The basic Hydraulics Program is designed to asses hydraulic performance while drilling. Actual pump stroke rates, standpipe pressures, and mud properties are input into the program for the depth in question. The program then reads details of the Bottom hole assembly and hole configuration from data files stored on disc. Hydraulics calculations based on the Power Law model were frequently run to calculate the following: Mud Properties: Power Law n Factor; Power Law k Factor; Effective Circulating Density at bit and shoe; Pressure Regimes: Mud Flow Rate; Hydrostatic Pressure; Estimated Static Overbalance; Estimated Dynamic Overbalance; MAASP; Bit Hydraulics: Total Flow area; Nozzle Velocity; Bit Hydraulic Horsepower; Bit Hydraulic Impact; Annular Pressure Losses; Bit Pressure Loss; Drill String Pressure Loss; Lag Times: Lag time of Mud and cuttings; Cuttings Slip Velocity; Hole Volume; and a Sectional Velocities Table.
In addition to the basic hydraulics program, hydraulics optimisation programs could be used to plan out the hydraulics performance in advance, so that the most suitable bit jet sizes and flow rates could be selected. The swab/surge program calculates the pressure fluctuations caused by the motion of the drill string during trips or casing runs. The kinetic pressures caused due to the breaking of mud gel strength are also taken into account. The program then outputs the effective mud weight at the bottom of the hole, at the bit, or at any specific zone of interest, for a variety of pipe or casing running speeds. This enables any running speed restrictions to be made to avoid swabbing formation fluids while pulling out or fracturing the formation while running in.

The Well Kill Program is designed to rapidly produce information needed to control the well should a kick occur. For speed of operation much of the necessary data, including the most recent slow circulation pressures, are stored on disc. The outputs from the program are:

1) Hole volumes and circulation times based on slow circulation measurements
2) Formation Pressure, height and density of influx, kill mud density and surface pressure tolerance
3) table of fluid/fluid and fluid/gas interfaces and theoretical pressures while circulating out the influx graphical output of this can also be quickly provided The program caters for the use of both the "Driller's method", and the "Weight and Wait" methods of Kick Control

THE PORE PRESSURE EVALUATION SERVICE

Plots maintained during drilling include corrected drilling exponent, interpreted lithology, shale density, flowline temperature, differential temperature, total gas and mud weight In addition, any information pertinent to pressure detection such as hole condition during trips, cavings, trip gas and connection gas is also noted on the pressure log This data is presented along with the estimated formation pressure gradient and leak off test results

DRILLING EXPONENT (Dxc)

If a well was drilled through a good thickness of uniform, normally pressured shales, holding the parameters of bit size, weight on bit (WOB), rotary speed (RPM) and mud weight constant, a gradual reduction in the rate of penetration would be expected, due to the increasingly compacted nature of the sediments encountered and to the increasing differential bottom hole pressure (overbalance) If subsequently an overpressured zone was encountered, a reversal of the normal rate of penetration trend would be seen This is a result of: a) the sediments being undercompacted and therefore more drillable; as pore pressure exerts forces which resist the compaction resulting from overburden stresses, and b) a decrease in the pressure difference (overbalance) between the drilling mud and the formation pore fluid, reducing the tendency for drill cuttings to be held down against the formation

In practice it is not feasible to hold the independent variables of WOB, RPM, bit size and mud weight constant through more than a very short section of hole Jordan and Shirley (1966) produced an equation aimed at normalising rate of penetration with respect to the variables of RPM, bit size and WOB The product is named the DC exponent, when "d" has been refined further by correcting it for the ECD of the drilling fluid

$$d = \frac{\log\left(\frac{Penetration\ Rate(Ft/Hr)}{N(rpm)\times 60}\right)}{\log\left(\frac{12\times Weight\ On\ Bit(lbs)}{Bit\ Diam(ins)\times 10^{6}}\right)}$$

The DC exponent (Dxc) is particularly effective in identifying long transition zones Bit wear can also be recognised through the analysis of Dxc trends One disadvantage is that not all the parameters affecting the penetration rate are included in the equation

The Dxc is to a large extent dependent upon lithology, and rarely works well as an overpressure indicator in formations

other than shales or mudstones Poorly consolidated sands or silty mudstones tend to reduce the Dxc value Tight carbonates and marls will tend to increase it .The Dxc can thus be used as correlation tool Normal shale compaction trend lines are usually established in a top hole mudstone section. Any departure from this trend may indicate abnormal pressure Quantitative evaluation of the Dxc is achieved by the use of an **Eaton overlay** series of increasing pressure trend lines are constructed using the following equation:

$$\textit{Formation Pressure} = S - [(S-Pn) \times \frac{DCo}{DCn}^{1.2}]$$

Where S = overburden gradient (psi/ft)
Pn = normal pore pressure (psi/ft)
Dco = observed DC exp
Dcn = normal DC exp

The overburden gradient is usually calculated using LDT values from an adjacent well If a density log has not been run density values may be estimated from BHC sonic transit time using the Agip formula:

$$\textit{Bulk Density}\ (S.G.) = 2.75 - [2.11 \times \frac{\Delta T - 47}{\Delta T + 200}]$$

For wildcat wells the overburden gradient may have to be estimated

Bit changes often cause shifts in the normal trend These must be allowed for when estimating pore pressure from the Dxc

BULK DENSITY

A normal compaction trend can be established by plotting bulk density versus depth departure from this trend to a lower density may indicate undercompacted formation (more porosity) and thus overpressure There are several disadvantages to this method; the sample has to be circulated up before any measurement can be made, this time lag may be critical in some situations; a number of readings have to be taken to allow for sample error; the density of the shale is decreased by prolonged exposure to water based muds; and small amounts of sand, carbonaceous material, and accessory minerals in the shale will affect its density, and this may mask changes related to overpressure This method is therefore most reliable in clean shale sections

FLOWLINE TEMPERATURE

The geothermal gradient may be estimated thus:

$$Geothermal\ Gradient = 100 \times \frac{T2-T1}{D2-D1}$$

Where : T1 and T2 are the flowline temperatures at depths D1 and D2 respectively

Undercompacted formations have an abnormally high water content The thermal conductivity of water is about one third that of most matrix mineralss a result overpressured formations are comparatively poor thermal conductors This leads to abnormally high geothermal gradients existing over overpressured zones

Flowline temperature is the drilling parameter most affected by surface events and least affected by downhole conditions It is far easier to change the flowline temperature by adding water in the pits for example, than by a change in downhole temperature more meaningful measurement may be **Delta T** (difference between temperature in and out) **Delta T** will normally decrease with depth due to longer circulation times at lower rates of penetrationn increase in **Delta T** may indicate entry into a transitional zone **Delta T** is less affected by surface temperature changes and mud system additions than the raw temperature data

GAS LEVELS

The level of hydrocarbon gas in the drilling mud offers clear evidence of overpressuring The following are the most common indicators:

a) **Background Gas:** During drilling gas enters the mud from drill cuttings and from the borehole wall via diffusion an increase in the average level of gas often occurs when drilling into overpressured zones This may be because overpressured sediments, with abnormally high porosity, contain more hydrocarbons per unit rock volume than normally compacted sediments with a similar pore fluid compositions The level of gas will also increase when drilling into source rocks It is also dependent on the rate of penetration, which is affected by changes in drilling parameters as well as by geological factors considerable degree of discrimination is therefore required when interpreting background gas.

b) **Connection Gases:** These indicate that the formation pore pressure is only slightly lower than the hydrostatic pressure of the drilling mud Connection gases can yield a close estimate of the pore pressure The influx of gas results from the decrease in effective mud density when circulation stops at connections However, connection gases may occur as a result of swabbing This is especially true in deviated holes, where swab pressures on the low side are much greater

c) **Trip gas** : This enters the mud via diffusion through the borehole wall during trips. An increase in the quantity of trip gas is sometimes noted in overpressured zones In situations where it is close to balance, large trip gases may be swabbed into the hole indicating that the pore pressure (in equivalent mud weight units) is only fractionally below the mud weight Increases in trip gas may also occur after reservoir units have been drilled.

WIRELINE LOGS

Two logs are of particular use in pressure evaluation:

a) **BHC Sonic**:-For a given lithology sonic transit time (Δt) is dependent on porosity (cf the Wyllie equation) In a normally compacted claystone sequence porosity decreases exponentially with depth Therefore delta t values for claystones should also decrease exponentially, and a lower logarithmic plot of delta t should yield a linear normal compaction trend any increase in this trend for claystone units indicates abnormally high porosity and hence overpressuring.

b) Formation **Resistivity** (ILD or LLD):- Resistivity values for normally compacted claystones show a linear trend when plotted on a logarithmic scale Increases from this trend indicate an overpressured zone, containing claystone with abnormally high water content.

Eaton overlays may be used for quantitative analysis of these plots The sonic log generally yields the more accurate pore pressure estimates These logs can be filtered using the gamma ray log so that only claystone readings are shown on the plots This may not be possible in areas where the non-argillaceous lithologies contain radioactive minerals (eg micas, glauconite)

Wireline logs from adjacent wells may help in anticipating overpressured zones before drilling a well Logs run during a well may be used to revise pore pressure estimates while drilling.

OTHER DATA

Additional data, such as cuttings size and shape, the size and shape of cavings, the amount of torque, overpull, hole fill in trips, pump pressure etc, may provide useful information for pressure estimation. However, great care should be exercised in using some of these parameters in high angle directional holes: overpull, torque, and the amount of cavings are all increased by the drag of the drill string in the hole

ENCLOSURES: 1 FORMATION EVALUATION LOG (MISSING)
2 PRESSURE EVALUATION LOG
3 CHROMATOGRAPH GAS RATIO LOG

OR-0306 ENCLOSURE 2

299158

5 cm

HALLIBURTON GEODATA SDL — PRESSURE EVALUATION LOG

WELL: KING 1

COMPANY	: SAGASCO RES. LTD.	SPUD DATE	: 30/10/92
RIG	: OCEAN EPOCH	TD DATE	: 17/11/92
AREA	: BASS BASIN	TD DRILLER	: 2223 m (2223 m TVD)
STATE	: TASMANIA	TD WIRELINE	: 2224 m (2224 m TVD)
LOCATION	: 39° 35' 24.9"S 145° 31' 08.8"	LOGGED FROM	: 30/10/92 @ 133 m
ELEVATION	: Air Gap 22.30 m (RT-MSL)	LOGGED TO	: 17/11/92 @ 2223 m
	Water Depth 72.50 m (MSL-SB)	STATUS	: PLUG AND ABANDON
DEPTH REF.	: ROTARY TABLE		

WELL CONFIGURATION

BIT SIZE mm	HOLE DEPTH m	CASING SIZE mm	SHOE DEPTH m
914.0	133	762.0	127
445.0	405	339.7	394
311.0	1240	244.0	1237
216.0	2223		

LOGGING ENGINEERS

C. UNSWORTH — P. CARTLEDGE
R. WOODWARDE — M. SMITH
A. FORD — R. BROWN
A. OKAEZMOOTU

LOGGING UNIT No.80

DEPTH SCALE 1:2500

SYMBOLS

NEW BIT RUN
NEW CORE BIT RUN
CASING SHOE
LINER HANGER
Recovered SIDEWALL CORES
Not Recovered
CORED INTERVAL
WIRELINE LOGS RUN
NO SHOW
WEAK SHOW
FAIR SHOW
GOOD SHOW

ABBREVIATIONS

NB	NEW BIT	DG	DIRECTIONAL SURVEY
NCB	NEW CORE BIT	WT	WIPER TRIP
RRB	RE-RUN BIT	POH	PULL OUT OF HOLE
CS	CASING SHOE	RIH	RUN IN TO HOLE
SWC	SIDEWALL CORES	WOW	WAIT ON WEATHER
EL	ELECTRIC LOG	LAT	LOGGED AFTER TRIP
WOB	WEIGHT ON BIT	LCM	LOST CIRCULATION MATERIAL
RPM	REVS PER MINUTE	DC	DEPTH CORRECTION
PP	PUMP PRESSURE	DST	DRILL STEM TEST
SPM	STROKES PER MINUTE	RMS	READINGS
CR	CIRCULATED RETURNS	NL	NO LOSSES
PR	POOR RETURNS	FR	FLOW RATE
NR	NO RETURNS	FC	FLOW CHECK
TG	TRIP GAS	BR	BIT RUN
CG	CONNECTION GAS		
WTG	WIPER TRIP GAS		

MUD DATA

W	WEIGHT	kg/L	
MG	MUD GRADIENT	psi/ft	
V	FUNNEL VISCOSITY	s/qt	
PV	PLASTIC VISCOSITY	cP	
YP	YIELD POINT	lb/ft2	
GEL	GEL STRENGTH	lb/ft2	
pH	ACIDITY		
F	FILTRATE	cm3/30	
CK	CAKE THICKNESS	in/32	
S	SALINITY	mg/L	
SD	SAND CONTENT	%	
O	OIL CONTENT	%	
WL	WATER LOSS	cm3/30	
SOL	SOLIDS CONTENT	%	
pF	FILTRATE ALKALINITY		
CCP	CCP/SOM CONTENT	kg/m3	

LITHOLOGY: CLAY / CLAYSTONE; SANDSTONE; MARL; COLOMITE; CEMENT; SHALE/LAMINITE; CALCAREOUS; MICROFOSSILS; ARGILLACEOUS LIMESTONE; CONGLOMERATE; LIMESTONE; DOLOMITE; ANHYDRITE; VOLCANIC ROCK; SILTY; OOLMATIC; CLASTICS; PLANT REMAINS; SILT; ANHYDRITE; SALT; GYPSIFEROUS SHALE; SANDY; CARBONACEOUS; PYRITIC; CONCRETIONS; SILTSTONE; ANHYDRITE; METAMORPHICS; UNKNOWN; TUFFACEOUS; FOSSILS; MISC

0 3 DXC 3 | LITH | DEPTH MD m 1m = 2500m | 500 SHDEN kg/m3 2500 -20 DELTA WT deg C 20 | 2 TOTAL GAS Units 200 | 500 PORE PRESSURE kg/m3 2500 | WFL RUNS COMMENTS

SHOES | 500 BHDEN kg/m3 2500 | avg = 5 m | 2 CON GAS Units 200 | 500 MUD WEIGHT ECD kg/m3 2500

0 WT OUT deg C 100 | avg = 5 m | 2 TRIP GAS Units 200 | 500 FRAC GRADIENT kg/m3 2500

500 OVERBURDEN GRAD kg/m3 2500

MSL

KING 1 SPUDDED 15:00 HRS 30-10-92

SEABED — 30-10-92

BR1 NB1 SMITH DSJ 660mm (914mm HO) 3X24

BR2 NB2 SMITH DSJ 445mm 3X18 — 31-10-92

DRILL WITH SEAWATER AND HI-VIS SWEEPS

WOB 1 RPM 76 LPM 3124 PP 11177

NR 762mm CSG @ 127m — DS 0.5°

200

WOB 1 RPM 70 LPM 2596 PP 9518

340mm CSG SHOE AT 394.44m

ALL CONNECTION GASES AND SWAB GASES ARE QUOTED ABOVE BACKGROUND GAS

400

BR3 NB3 SMITH FDS 311mm 3X14

UNSUITABLE LITHOLOGY FOR SHALE DENSITY

NO GAS IN MUD RETURNS

LOT 1.723SG EMW @ 407m — 4-11-92

DISPLACE SEAWATER W/ SEAWATER/GEL /POLYMER AT 407m — 5-11-92

MW 1.086 SG

Ls:wh,C'arenite,bioc, glauc,fri-hd

Cst:lt gy, brn,gn,sl silty,sft-fm,stky,disp

WOB 2 RPM 90 LPM 2457 PP 15994

600

WOB 4 RPM 98

UNSUITABLE FORMATION

ADD MUD

ADD MO BBLS SEAWATER/ HOUR

Ls:off wh-crm,bioc c'arenite, fr-hd,nil por.

Cst:lt gy, hsh-sl calc sft-fm,sl disp,stky.

Cst:lt gy-lt brn,sbnt fos,sft-fm, soib.

Ls:lt gy, micxl,c'arenite,hd, nil por.

WOB 3 RPM 103

DS 0.5°

800

WOB 3 RPM 94

WOB 9 RPM 97

UNSUITABLE FORMATION

MW 1.07 SG PV 9, YP 14

1000

WOB 12 RPM 95

DS 0.0°

CG

CG

CG

WOB 16 RPM 83

WOB 12 RPM 85 LPM 2431 PP 19855

Slst:dk brn v.arg,non-v calc,fm, soib,grd to Slty Cist.

1200

BR4 NB5 SMITH FDSH 216mm 3x13

245mm CSG @ 1237m

UNSUITABLE FORMATION

FIT 1.705G EMW @ 1248m — 8-11-92

9-11-92

WOB 12 RPM 111 LPM 1177 PP 8565

Sst:c'less, vc-c bcm vf-f,w srt, sly residue.

BR5CR1 DBS CD93 CORE RUN-4.5m

BR6RRCR1DBS CD93 CORE RUN-2.4.5m

BR7 NB3 STC F1 2x14-13 13m

BR10 HRS STC F1 4X11,1X16

MW 1.12 SG PV 13, YP 24 — 10-11-92

1400

UNSUITABLE FORMATION

11-11-92

Sst:c'less, wh-brn,uncon -sv. cmt,fri-vfri,exc por Coal:brn-blk sft-fm,sb blky,lig-bit Clyst:wh, mmic,vsft, disp.

BR8RRCR1DBS CD93 CORE RUN-2.10.5m

BR9RRCR1DBS CD93 CORE RUN-4.6m

WOB 9 RPM 104 LPM 1234 PP 13597

UNSUITABLE FORMATION

RECALIB WIT

MW 1.14 SG PV 14, YP 18

1600

Coal:blk, occ dk brn, duli,frm-hd,blky,sb-conc,lig.

MW 1.13 SG PV 17, YP 38

WIPER TRIP @ 1734m

ADD MUD

WTG — 13-11-92

Sst:clss, trnsl,pred vf-f,w srt, sb ang-sb rnd,wk sil cmt,tr cly mtx,tr mica tr flds,fr-pred lse qtz,gd-fr por,NFS

WOB 14 RPM 105 LPM 1226 PP 13859

UNSUITABLE FORMATION

RECALIB WIT

1800

ADD MUD

WTG

MW 1.12 SG PV 18, YP 26

14-11-92 PUMP OUT OF HOLE 5 STDS

WIPER TRIP @ 1869m

ADD MUD

UNSUITABLE FORMATION

Cly:lt gy brn-pale brn,occ mic mica & silty lams,sb spcs ip,tr pyr,tr dol conc,sft-frm,sbfis.

WOB 10 RPM 100 LPM 1237 PP 14139

2000

MW 1.12 SG PV 18, YP 25

15-11-92

BR11 NB6 SMITH F1 2X11,1X10

WTG

ADD MUD

Coal:blk, duli,frm-hd,v arg & sbfis ip.

MW 1.14 SG PV 19, YP 27

16-11-92

WOB 14 RPM 102 LPM 1232 PP 14252

ADD MUD

2200

LOG RUNS:
1. HRZ-LSS-MSFL-GR-SP
2. SDL-DSN-CSNG-ML-GR
3. HFDT-GR
4. SED-GR
5. SFT
6. VSP

17-11-92

DRILLERS DEPTH 2223m 09:30 17-NOV-92

C, 3 DXC 3 | LITH | DEPTH MD m 1m = 2500m | 500 SHDEN kg/m3 2500 -20 DELTA WT deg C 20 | 2 TOTAL GAS Units 200 | 500 PORE PRESSURE kg/m3 2500 | WFL RUNS COMMENTS

SHOES | 500 BHDEN kg/m3 2500 | avg = 5 m | 2 CON GAS Units 200 | 500 MUD WEIGHT ECD kg/m3 2500

0 WT OUT deg C 100 | avg = 5 m | 2 TRIP GAS Units 200 | 500 FRAC GRADIENT kg/m3 2500

500 OVERBURDEN GRAD kg/m3 2500