BHP Petroleum

BHP PETROLEUM PTY. LTD.
A.C.N. 006 918 832

LONGTOM-1 & LONGTOM-1/ST1

VIC/P1

WELL COMPLETION REPORT

BASIC DATA

PREPARED BY: C. Ellis

71578.WCR

DATE: January, 1996

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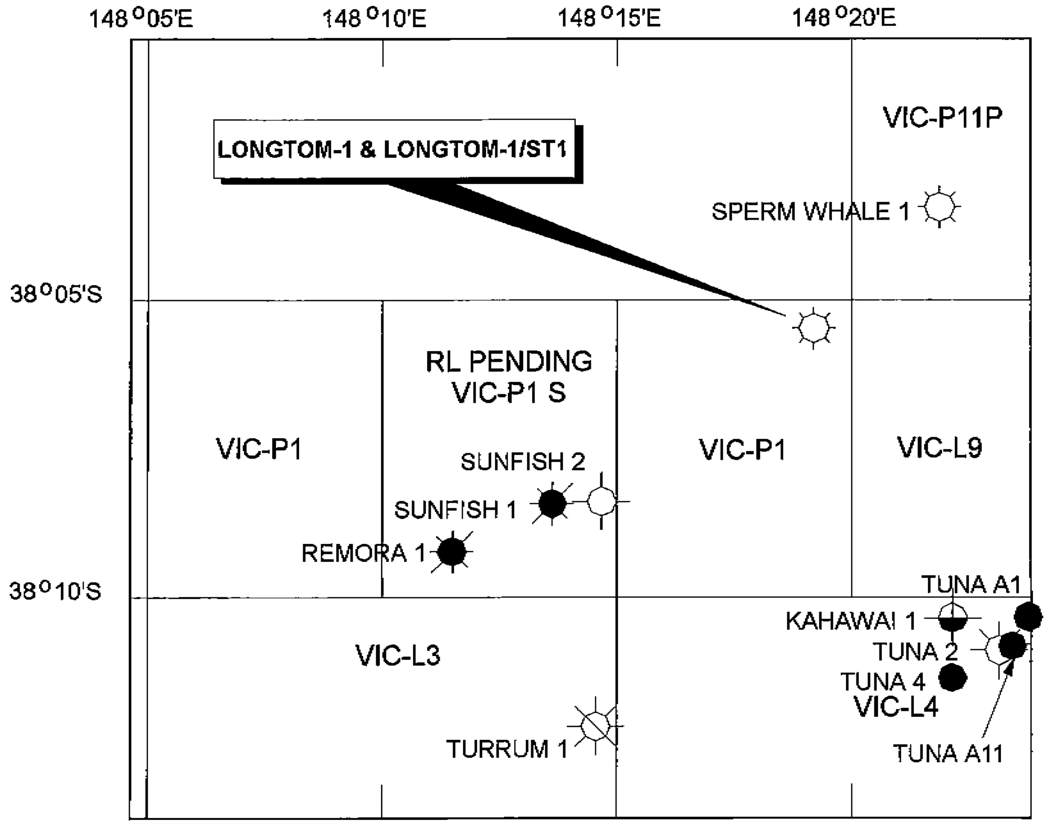
ATTACHMENT : SEISMIC PROCESSING & SONIC CALIBRATION REPORT (PE 906538)

FIGURES

FIGURES

LONGTOM-1 & LONGTOM-1/ST1
Location Map

BHP

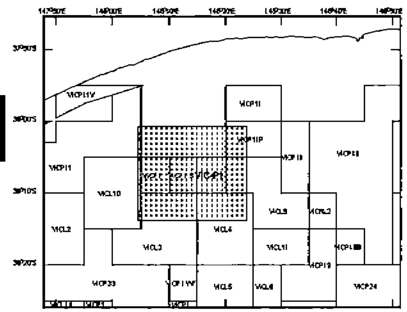


Permit No. : VIC/P1

Rig : OCEAN BOUNTY

Latitude : 38° 06' 00.03" S

Longitude : 148° 18' 54.28" E



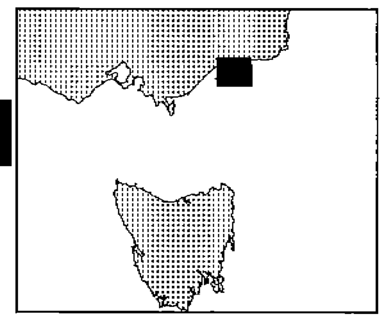


Figure 1

SECTION 1

1 WELL SUMMARY SHEET

Well:	Longtom-1	Longtom-1/ST1
Permit:	VIC/P1, Gippsland	
Well Path:	Vertical	Deviated
Planned Location:	Lat: 38°05'59.89"S Long: 148°18'54.11"E	
Actual Location:	Lat: 38°06'00.03"S Long: 148°18'54.28"E East: 615 306.2m North: 5 782 257.5m AGD 84, C.M. 147°E	
Seismic Reference:	G91A-2004 SP: 2582	
Elevation:	RT to MSL: 25.0 m	
Water Depth:	56.2 m MSL to Seabed	
Total Depth Driller:	2242 mRT	2445mRT
(TVD)Driller:	2242 mTVDRT	2270mTVDRT
Rig on Location:	0230 hrs, 12-May-1995	
Spud Date:	0630 hrs, 12-May-1995	
Reached TD:	2000 hrs, 24-May-1995	2045 hrs, 05-Jun-1995
Kicked-off Sidetrack:	1330 hrs, 28-May-1995	
Rig Released:	0645 hrs, 14-June-1995	
Total Rig Days:	33 Days, 17.25 hours	
Well Status:	GAS WELL, ABANDONED	GAS SHOW, ABANDONED
Operator:	BHP Petroleum	
Rig Name:	Ocean Bounty	
Drilling Contractor:	Diamond Offshore	
Well AFE Costs: (Source: BHPP Finance Dept.)	$ 4.475 million	$ 2.140 million

SECTION 2

FINAL DRILLING REPORT
LONGTOM-1/ST1
PERMIT: VIC/P1

PREPARED BY: V. D'Souza
P. Boudreau

lon1_fdr.doc

DATE: 14 September 1995

BHP PETROLEUM PTY. LTD.
A.C.N. 006 918 832

DISTRIBUTION LIST

Exploration	2 copies (1 copy unbound for distribution to partners and government)
Drilling	1 copy + Original
Exploration Information Centre	1 copy

2 FINAL DRILLING REPORT

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1.0 WELL DATA

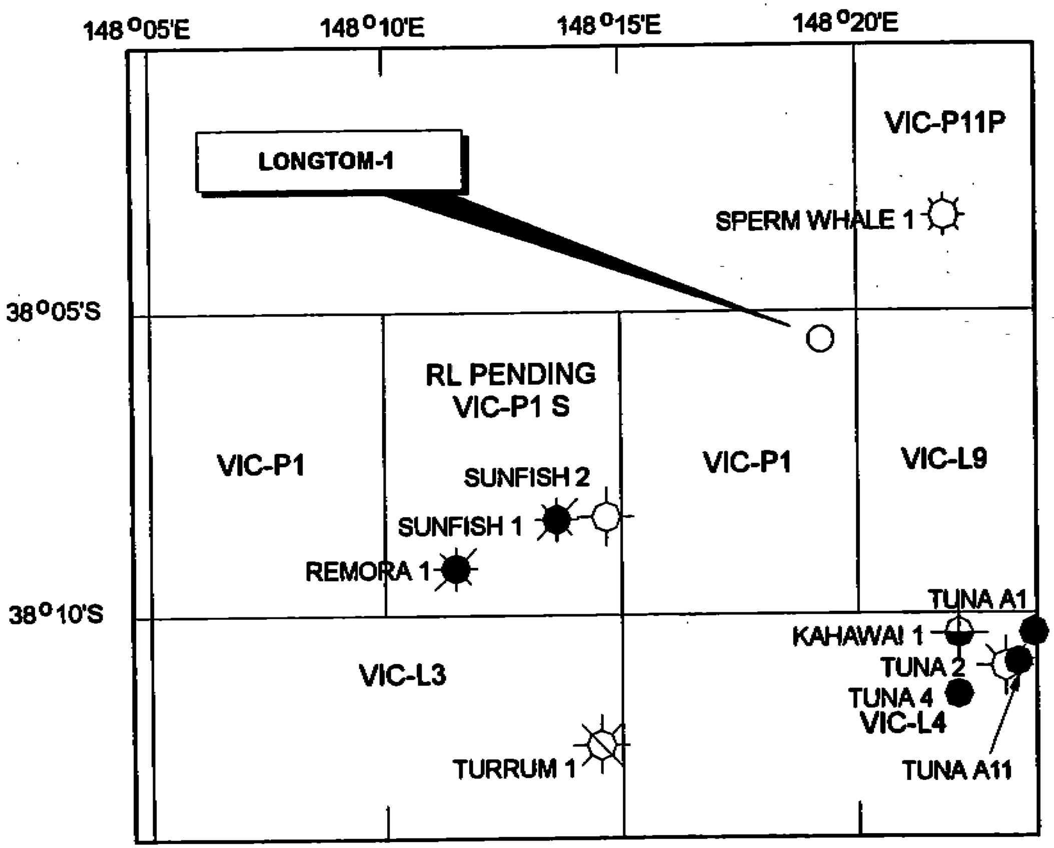
Well	:	LONGTOM-1/ST1
Permit	:	VIC/P1
Designation	:	EXPLORATION
Operator	:	BHP PETROLEUM
Rig	:	OCEAN BOUNTY
Type	:	SEMI-SUBMERSIBLE
Drilling Contractor	:	DIAMOND OFFSHORE
Water Depth	:	56.2m
RT Elevation	:	25m
Total Depth	:	2242mMD (LONGTOM-1) 2445mMD (LONGTOM-1/ST1)
Final Surface Location	:	Lat 38° 06' 0.030" S Long 148° 18' 54.280" E Easting 615 306.2 Northing 5 782 257.5
Location Reference Datum	:	AGD 84, CM 147°E
Commencement Date	:	1330hrs, 11 May 1995
Rig on Location	:	0230hrs, 12 May 1995
Well Spudded	:	1630 hrs, 12 May 1995
TD Date	:	2000hrs, 24 May 1995
Spud to TD	:	12 Days, 3.5hrs
Commenced Sidetrack	:	1200hrs, 27 May 1995
Sidetrack TD date	:	2045hrs, 5 June 1995
Abandoned Sidetrack	:	1600hrs, 11 June 1995
Rig Released	:	0645hrs, 14 June 1995
Total Well Duration	:	33 Days, 17.25 hours
Status	:	ABANDONED

1.1 CONTRACTORS

SERVICE	CONTRACTOR
CASING CUTTING	AUSTOIL
CASING RUNNING	WEATHERFORD
CEMENTING	HALLIBURTON
CORING	BAKER HUGHES
DIRECTIONAL	HALLIBURTON
DRILLING FLUIDS	BAROID
DRILLING TOOLS	AUSTOIL
ELECTRIC LOGGING	SCHLUMBERGER
HELICOPTERS	BRISTOW
JARS	TASMAN
JARS	AUSTOIL
LWD	ANADRILL
MUD LOGGING	HES
MWD	ANDERGAUGE
MWD	HALLIBURTON
RIG POSITIONING	ESSO
ROLLER REAMERS	GEARHART
ROV	SSI
SHOCK SUBS	TASMAN
SHOREBASE FACILIT.	ESSO
SUPPLY VESSEL	AOS
SUPPLY VESSEL	TIDEWATER
WEATHER	BUREAU OF METEOROLOGY
WELLHEAD	DRILQUIP
WELLHEAD EXPLOSIVE	AUSTOIL

FINAL DRILLING REPORT - LONGTOM-1

1.2 LOCATION MAP



Permit No. : VIC-P1

Rig : OCEAN BOUNTY

Latitude : 38° 06' 00.03" S

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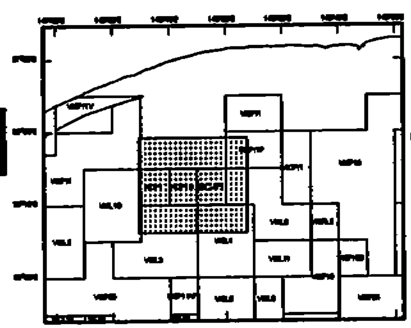
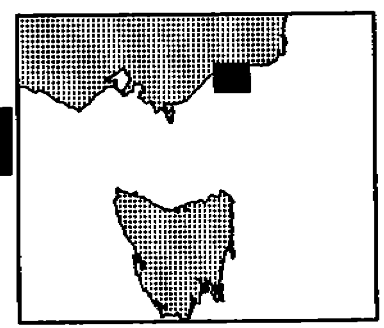
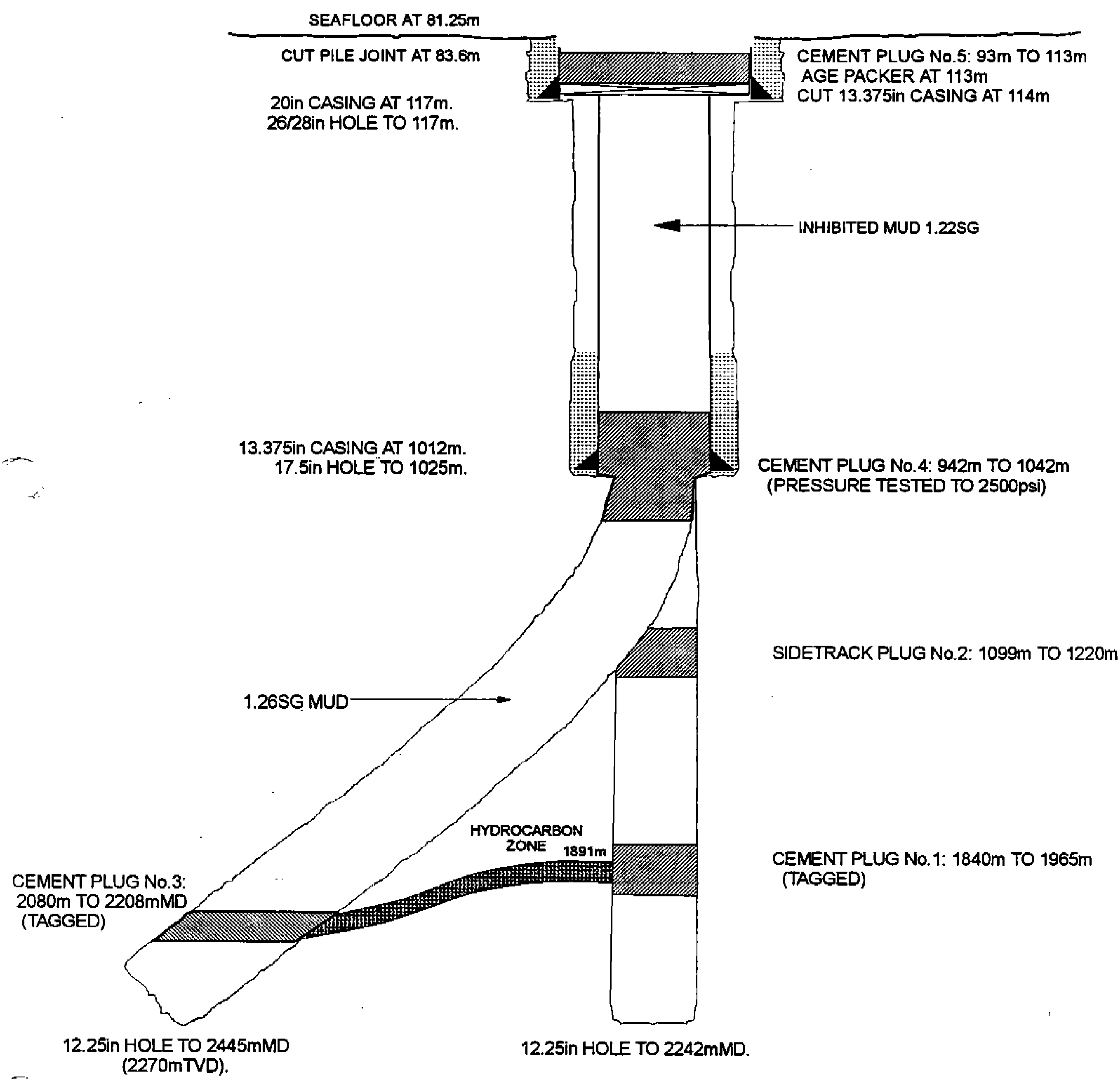




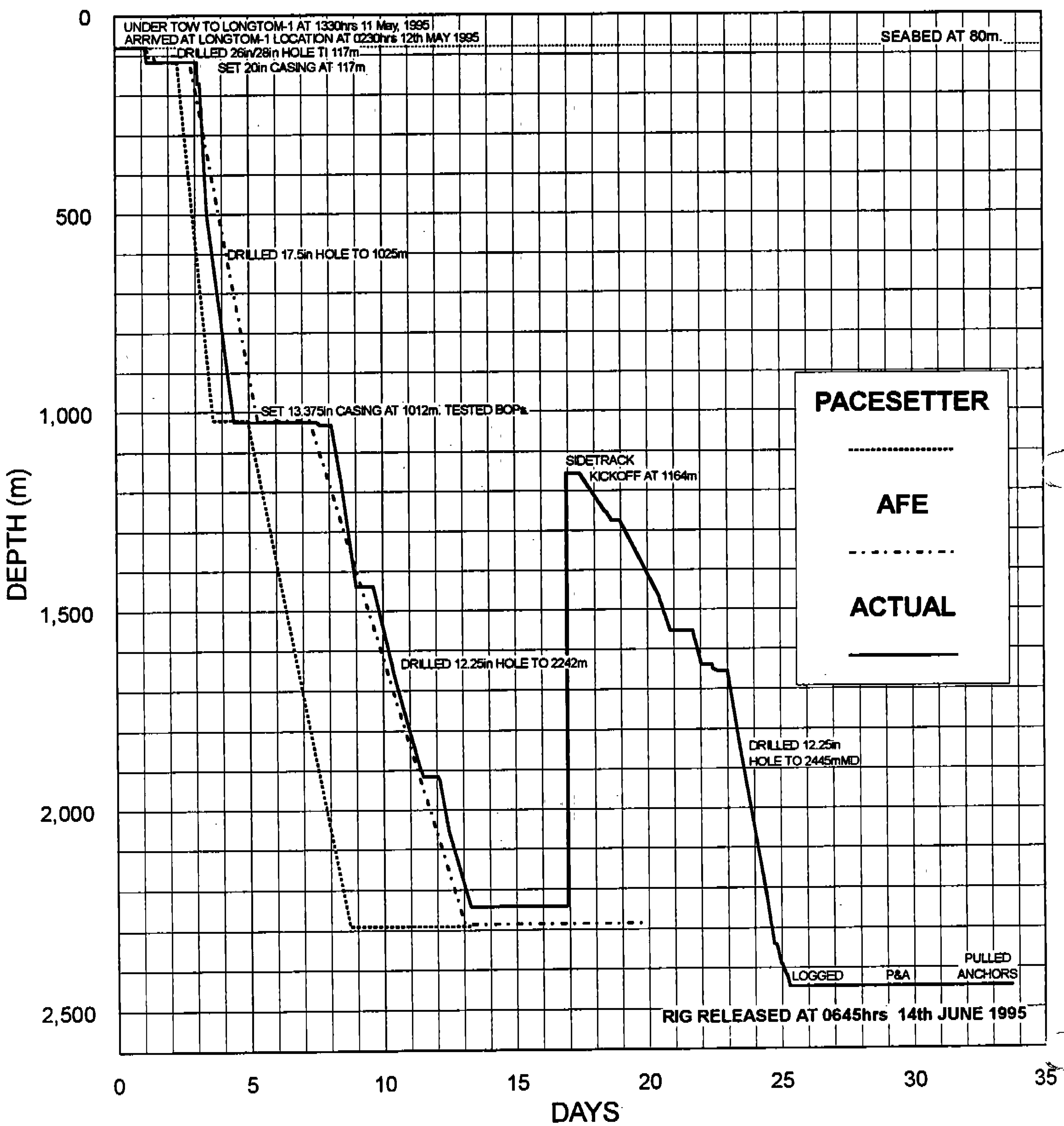
1.3 ABANDONMENT SCHEMATIC

ALL DEPTHS mRT OCEAN BOUNTY



FINAL DRILLING REPORT - LONGTOM-1/ST1

1.4 TIME vs DEPTH



2.0 OPERATIONAL SUMMARY

The semi-submersible MODU "Ocean Bounty" departed Esso Australia's Gudgeon-1 location at 1330 hrs on 11 May 1995. The rig was towed 32 nautical miles to Longtom-1 by the workboats Lady Dawn and Maersk Bonavista at drilling draft at an average 2.46 knots. The rig dropped the no. 7 anchor on approach to location. The remaining seven anchors were run out in 6.5 hours and were tested to 400 kips before being slacked off to the 300 kips working tension.

After making up and skidding back the 20in conductor string, the 26in/28in spud assembly was run to tag the seafloor at 81.25mRT. The 26in bit penetrated a hard seafloor crust about 60cm thick. The 26in/28in hole was then drilled to 116.5m. The hole was wiped to the seafloor and displaced with pre-hydrated gel mud. The 20in conductor string with a 24in OD pile joint/wellhead assembly was run and cemented on bottom with good visible returns. The running tool was then released with the PGB slope indicators at 1/4°.

The BOP stack was run and landed, with a six hour delay to correct the riser space-out. The shear rams and 20in casing were pressure tested to 1000 psi. PGB inclination after landing the stack was 3/4°.

The 17.5in hole was drilled to 1025m in one pass with a MAX-T00 bit. The hole was drilled with a seawater/gel mud system; however, because of increasing clay content in the lower Gippsland Limestone formation, a 250 bbl KCl/PHPA pill was spotted on bottom before coming out to log. Tight hole and swabbing occurred at 928-900m. This was remedied by working the pipe to clear a suspected balled up bottom hole assembly. Another tight spot was encountered at 550m and was reamed clean.

Wireline logs were run to the hold-up depth at 753m. The hole was logged above the obstruction before running back in with the drilling assembly for a wiper trip. The hole was washed and reamed through obstructions at 415m, 770m, and 818m. The hole was also washed and light reamed for the last 40m to bottom.

While circulating the hole clean from TD, mud returns from the hole were badly flocculated by the PHPA polymer. The mud was conditioned and the hole circulated clean before pulling out to run casing.

The 13.375in casing was run and cemented without problems at 1012m. Casing running operations were delayed by 2.75 hrs after a hard-hat was dropped into the string.

A 12.25in DS34HG PDC bit was used to drill out the shoe track. After drilling 3m new hole and testing the formation to leak-off at 1.75sg equivalent mud weight, drilling proceeded very slowly to 1034m. The bit had become balled and was pulled. A lighter set DS40HSF bit was run and used to drill to 1438m, where pyritic stringers stopped its progress. The hole was drilled to TD at 2242m in two more bit runs with an ATM-22GD and the rerun DS34HG. The 12.25in hole was drilled with a KCl/PHPA mud system weighing between 1.04 and 1.16sg. No significant hole problems were encountered, although tight hole (corresponding with pulling the BHA through sands) was experienced on a bit trip from 1915m.

Final logs were run, including an MDT run which measured a formation pressure at 1900m of 3089 psi, just 25 psi below the mud hydrostatic pressure with the 1.15sg (MDT-measured) mud in the hole.

Because a significant gas/hydrocarbon column was suggested by the formation pressures measured within the top of Judith formation sandstone, it was decided to sidetrack the well to explore downdip of the original wellbore.

The original hole was abandoned with a cement plug from 1965m to 1840m (tagged). Before setting the plug, the mud weight was raised to 1.18sg. This was in response to high gas readings which came up well ahead of bottoms up when circulating after logging at 2015m. The gas also contained carbon dioxide.

A sidetrack plug was set from 1220m to 1100m. After testing the BOP stack and tripping in with the sidetrack assembly, the plug was tagged at 1099m and dressed to 1113m. The well was sidetracked from 1113m, with 100% formation in the returns at 1155m.

The well was sidetracked in two runs and angle built up to 23.8° at 1553m using milled tooth bits run on steerable motor assemblies. The well was then rotary drilled to TD in three bit runs. The first run was made with an ATM-22GD bit to 1639m, below the zones which were deemed too hard for PDC bits. A DS34H PDC bit was used to drill from 1639m to TD, although the first run with this bit was aborted at 1655m after the bit balled following the first connection. The well reached TD at 2445mMD with a final inclination of 46°, and a mud weight of 1.20sg.

The only attempt to log the hole conventionally was unsuccessful as the tools could not pass an obstruction at 1780m. A wiper trip was made with a bit, near-bit roller reamer, and string roller reamer two collars above that. This run into the hole was aborted at 2274m when progress became increasingly difficult due to high torque, drag, and pack-off.

A second wiper trip was made after dropping off the top roller reamer. Similar hole problems were encountered, so that the mud weight was raised to 1.26sg in response. A short trip was made back to 2079m, with backreaming necessary to get past apparent ledges/keyseats at sand/claystone boundaries. The trip back to bottom was aborted when great difficulty was experienced getting past a ledge at 2284m.

As hole conditions had deteriorated since the first attempt to run conventional logs, both conventional and drillpipe-conveyed logs were viewed as unlikely to reach bottom. Instead, an LWD tool was run to log below 1688m.

The open hole was then abandoned by setting a cement plug across the top gas sands at 2208m to 2080m (tagged), and a shoe plug from 1042m to 942m (pressure tested to 2500psi, or 3.0sg equivalent mud weight). The 13.375in casing was cut at 114m and recovered before setting a 20in AGE packer at 113m. A top plug was set from 113m to 93m before pulling the BOP stack and cutting the 24in pile joint at 83.6m.

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
11/05/95	1	0.00	13:30	24:00	10.50	RIG RELEASED FROM ESSO AUSTRALIA'S GUDGEON-1 WELL. UNDER TOW TO LONGTOM-1 LOCATION WITH AHTSVs LADY DAWN AND MAERSK BONAVISTA ON ANCHOR CHAINS No. 3 AND 2 RESPECTIVELY. RIG TOWED AT DRILLING DRAFT UNDER PROPULSION. DISTANCE RUN TO MIDNIGHT - 26.5NM. DISTANCE TO GO - 6NM. AVERAGE SPEED - 2.5 KNOTS.
12/05/95	2	0.31	00:00	02:30	2.50	UNDER TOW TO LONGTOM-1. DISTANCE RUN - 32NM. AVERAGE SPEED - 2.9 KNOTS.
			02:30	09:00	6.50	DROPPED ANCHOR NO. 7 ON APPROACH TO LOCATION.

ANCHOR	BOAT	PW PASSED	ON BTM	PW PASSED
7	RIG	-	0230	-
3	L/D	-	0433	0506
2	M/B	-	0456	0538
6	L/D	0520	0600	0635
8	M/B	0558	0627	0703
5	L/D	0646	0730	0758
1	M/B	0703	0740	0815
4	L/D	0811	0850	0910

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
			09:00	10:30	1.50	PICKED UP 26in/28in BOTTOM HOLE ASSEMBLY.
			10:30	12:00	1.50	RIGGED UP TO RUN 20in CASING. MOVED PGB BELOW ROTARY AND PREPARED TO RUN. MADE UP 18.75in WELLHEAD HOUSING RUNNING TOOL INTO WELLHEAD. (ALL ON-TOUR CREWS WITH EXCEPTION OF DRILL CREW CALLED INTO BHPP SAFETY INDUCTION.)
			12:00	13:30	1.50	HELD BHPP SAFETY INDUCTION FOR REMAINING CREWS.
			13:30	15:30	2.00	MADE UP 20in STRING AND LANDED OFF IN PGB IN MOONPOOL. SKIDDED BACK SAME. (PRETENSIONED ALL ANCHORS TO 400kips INITIAL TENSION, 300kips FINAL TENSION. FINAL WELL LOCATION: LATITUDE 38° 06' 00.03" SOUTH LONGITUDE 148° 18' 54.28" EAST WELL 6.2m ON BEARING OF 137° FROM PROPOSED LOCATION. FINAL RIG HEADING - 202°).
			15:30	16:30	1.00	RIH WITH BHA. (JUMPED ROV TO OBSERVE SPUD.) TAGGED SEABED AT 81.25m TIDE-CORRECTED. WATER DEPTH - 56.2m.
			16:30	18:00	1.50	DRILLED 26in/28in HOLE FROM 81.25m TO 116.5m. SWEPT HOLE WITH 50bbl HI-VIS PILL EVERY HALF SINGLE.
			18:00	18:15	0.25	SPOTTED 100bbl PRE-HYDRATED GEL. (ANDERDRIFT SURVEY READING 2°).
			18:15	18:45	0.50	DROPPED AND RETRIEVED TOTCO SURVEY - 1deg.
			18:45	19:15	0.50	WIPED HOLE TO BELOW MUDLINE. BIT TOOK 12-16kips WEIGHT AT 112m. WASHED AND REAMED TO BOTTOM.
			19:15	19:30	0.25	SPOTTED 100bbls PRE-HYDRATED GEL.
			19:30	20:30	1.00	POH TO RUN 20in CASING. ("SURVEYED" WITH ANDERDRIFT AFTER PULLING UP ABOVE MUDLINE. TOOL MEASURED 1deg.)
			20:30	21:30	1.00	MADE UP DRILLPIPE DOUBLE CEMENTING STINGER AND 18.75in WELLHEAD RUNNING TOOL INTO WELLHEAD. TWO BULLSEYES ON PGB READING 0deg.
			21:30	22:00	0.50	STARTED DOWN WITH CASING. NO. 1 GUIDE WIRE SHEARED OUT, DROPPING BOTTOM SHEAR-OUT STROP ASSEMBLY. REPLACED SAME.

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
12/05/95	2	0.31	22:00	23:30	1.50	RAN CASING ON LANDING STRING. OBSERVED WITH ROV. LANDED CASING AT SHOE DEPTH OF 116.5m. TOP OF WELLHEAD AT 79.1m.
			23:30	24:00	0.50	RIGGED UP CEMENTING LINE. CIRCULATED 100bbl SEAWATER. NOTE: TESTED BOP STACK TO 500/3500/7500psi. KEYSEAT OBSERVED ON TOP OF LMRP RISER CONNECTION (STBD/STBD-AFT) APPROXIMATELY 1/16 TO 1/8in DEEP.
13/05/95	3	1.31	00:00	00:30	0.50	ATTEMPTED TO PRESSURE TEST CEMENTING LINE - NO TEST; CEMENT HOSE LEAKING. REPLACED SAME WITH CHIKSAN.
			00:30	00:45	0.25	PRESSURE TESTED CEMENTING LINE TO 2500psi.
			00:45	01:30	0.75	CEMENTED CASING WITH 655SX (133bbl) OF CLASS "G" CEMENT MIXED WITH 2% BWOC CaCl2 IN SEAWATER. AVERAGE SLURRY DENSITY - 1.91sg. DISPLACED WITH 19bbl SEAWATER. CHECKED FLOATS - OK. GOOD RETURNS OBSERVED THROUGHOUT AT SEAFLOOR WITH ROV.
			01:30	02:45	1.25	RELEASED RUNNING TOOL. PGB BULLSEYES READ 1/4deg FWD BEFORE AND AFTER RELEASING. POH WITH RUNNING TOOL. STRAPPED RUNNING STRING. RT TO WELLHEAD - 79.1m TIDE-CORRECTED.
			02:45	04:00	1.25	RIGGED UP TO RUN BOP AND RISER. MADE UP RISER DOUBLE AND RACKED BACK.
			04:00	07:30	3.50	HELD JSA. SKIDDED BOP STACK BELOW ROTARY. MATED LMRP. FUNCTION TESTED BOP ON BOTH PODS.
			07:30	09:15	1.75	RAN BOP ON DOUBLE RISER PLUS PUP JOINT. PRESSURE TESTED CHOKE AND KILL LINES TO 500/3000psi.
			09:15	11:30	2.25	MADE UP SLIP JOINT AND HANDLING JOINT. MADE UP CHOKE AND KILL JUMPERS AND PRESSURE TESTED SAME TO 500/3000psi.
			11:30	14:30	3.00	INSTALLED MRT TENSIONERS. RIGGED UP HOSE BUNDLE CARRIERS.
			14:30	20:30	6.00	ATTEMPTED TO LAND BOP STACK-2.5m SHORT. LAID OUT SLIP JOINT. CHANGE OUT RISER PUPS. PICKED UP SLIP JOINT, MADE UP MRT LINES.
			20:30	21:00	0.50	LANDED AND LATCHED BOP STACK. CONFIRMED WITH 50kip OVERPULL TEST.
			21:00	21:45	0.75	CONNECTED HOSE BUNDLES. PRESSURE TESTED 20in CSG / SHEAR RAMS TO 500/1000psi.
			21:45	23:30	1.75	STROKED OUT SLIP JOINT INNER BARREL. LAID OUT RISER HANDLING JOINT. INSTALLED AND NIPPLED UP DIVERTER. LAID OUT DIVERTER RUNNING TOOL.
			23:30	24:00	0.50	RIGGED DOWN RISER RUNNING EQUIPMENT. NOTE: BULLSEYE READINGS AFTER LANDING BOP- PGB - 3/4deg FWD BOP - 3/4deg PORT-FWD RISER - 3/4deg PORT-FWD
14/05/95	4	2.31	00:00	00:30	0.50	CONTINUED RIGGING DOWN BOP RISER RUNNING EQUIPMENT.
			00:30	02:00	1.50	RIGGED UP SURFACE LINES. PRESSURE TESTED UPPER AND LOWER IBOPs, KELLY HOSE TO 500/5000psi. RIGGED DOWN LINES AND RIGGED UP TO TEST CHOKE AND KILL MANIFOLD.
			02:00	03:00	1.00	BROKE OUT AND SERVICED 26in BIT AND 28in HOLE OPENER.

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
14/05/95	4	2.31	03:00	10:00	7.00	PICKED UP 90 STANDS OF 5in S-135 DRILLPIPE, INCLUDING 33 JOINTS WITH RE-CUT CONNECTIONS REQUIRING MAKE/BREAK/MAKE-UP.
			10:00	12:00	2.00	MADE UP 13.375in CASING HANGER/SEAL ASSEMBLY ONTO RUNNING TOOL. RACKED IN DERRICK BELOW DOUBLE HWDP + SINGLE S-135. MADE UP CEMENT HEAD ONTO SINGLE HWDP AND LAID OUT SAME.
			12:00	13:00	1.00	PICKED UP 9 JOINTS HWDP AND RACKED BACK SAME.
			13:00	14:30	1.50	MADE UP 17.5in MAX-T00 BIT AND BHA NO. 2. RAN IN HOLE AND TAGGED TOP OF CEMENT AT 110m.
			14:30	14:45	0.25	FUNCTIONED AND FLOWED THROUGH DIVERTER SYSTEM.
			14:45	15:30	0.75	DRILLED OUT CEMENT AND FLOAT SHOE FROM 110m TO 116.5m.
			15:30	16:15	0.75	DRILLED 17.5in HOLE FROM 116.5m TO 171m.
			16:15	16:30	0.25	CIRCULATED BOTTOMS UP, WORKED PIPE.
			16:30	17:00	0.50	TRIPPED OUT TO 8in DRILL COLLARS.
			17:00	18:00	1.00	PICKED UP DRILLING JARS, 3 X 8in DRILL COLLARS, AND ACCELERATORS. RIH.
			18:00	24:00	6.00	DRILLED 17.5in HOLE FROM 171m TO 497m. REAMED EACH CONNECTION. AVERAGE ROP - 54m/hr. NO DISCERNABLE DOWNHOLE LOSSES. NOTE: PRESSURE TESTED MUD MANIFOLD AND DRILLPIPE SAFETY VALVES TO 500/5000 PSI. PRESSURE TESTED CHOKE AND KILL MANIFOLD TO 500/3000 PSI.
15/05/95	5	3.31	00:00	24:00	24.00	DRILLED 17.5in HOLE FROM 497m TO 1019m. REAMED EACH CONNECTION. DRILLED WITH TWO PUMPS ONLY FROM 743m ONWARDS DUE TO WASH OUT IN PUMP NO. 2 FLUID END MODULE.
16/05/95	6	4.31	00:00	00:30	0.50	DRILLED 17.5in HOLE FROM 1019m TO 1025m.
			00:30	03:30	3.00	SWEPT HOLE WITH 100bbl HI-VIS PILL. LARGE AMOUNT OF CUTTINGS/CAVINGS OVER SHAKERS. SWEPT SECOND 100bbl HI-VIS PILL TO CLEAN HOLE.
			03:30	03:45	0.25	SPOTTED 250bbls, 1.06sg KCL/PHPA PILL ON BOTTOM. PUMPED SLUG.
			03:45	05:15	1.50	POOH TO LOG. HOLE NOT TAKING FLUID. 50kips OVERPULL AT 928-900m. WORKED PIPE TO CLEAR SUSPECTED BALLED BHA. HOLE BEGAN TO TAKE PROPER FLUID. CONTINUED OUT OF HOLE. WORKED PAST TIGHT SPOT AT 550m, 100kips MAX OVERPULL. BIT TAKING WEIGHT GOING DOWN AT 526m.
			05:15	06:00	0.75	WASHED AND REAMED 550-470m. HOLE FREE.
			06:00	08:00	2.00	CONTINUED OUT OF HOLE WITH MINIMAL DRAG.
			08:00	08:45	0.75	WASHED WELLHEAD WITH 2 X RISER VOLUMES.
			08:45	09:30	0.75	CONTINUED OUT OF HOLE. BIT/ROLLER REAMERS PACKED ABOVE WITH STICKY CLAY.
			09:30	10:00	0.50	RIGGED UP SCHLUMBERGER.
			10:00	14:45	4.75	RUN LOG NO.1 - DLL/SLT/CAL/GPIT/GR/AMS. UNABLE TO PASS OBSTRUCTION AT 753m. LOGGED UP FROM 753m.
			14:45	15:15	0.50	RIGGED DOWN SCHLUMBERGER.
			15:15	17:45	2.50	MADE UP BIT AND BHA. RIH FOR WIPER TRIP. BIT TOOK WEIGHT AT 415m. WASHED AND REAMED PAST OBSTRUCTION. CONTINUED INTO HOLE TO

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
16/05/95	6	4.31				OBSTRUCTION AT 770m.
			17:45	19:30	1.75	MADE UP TOP DRIVE. WASHED AND REAMED PAST OBSTRUCTIONS AT 770m AND 818m. HOLE GOOD AFTER ONE PASS. TAGGED APPARENT SOFT FILL AT 985m. WASHED AND REAMED TO BOTTOM WITH LOW ROTARY AND PUMP RATE, NO TORQUE.
			19:30	22:00	2.50	CIRCULATED AND CONDITIONED MUD. LARGE AMOUNT OF CUTTINGS/CAVINGS UP OVER THE SHAKERS SHORTLY AFTER COMMENCING CIRCULATION. SEAWATER/GEL MUD RETURNS BADLY FLOCCULATED BY PHPA. LOSING MUD OVER SHAKERS. REDUCED FLOWRATE TO MAINTAIN CIRCULATING VOLUME.
			22:00	24:00	2.00	CIRCULATED AND CONDITIONED MUD. ADDING SEAWATER TO ACTIVE TO MAINTAIN VOLUME. FITTED 52 MESH SHAKER SCREENS. CIRCULATED HOLE CLEAN WITH 1170 GPM. MUD WEIGHT-1.12sg. NO LOSSES OVER SHAKERS.
17/05/95	7	5.31	00:00	00:30	0.50	CONTINUED TO CIRCULATE AND CONDITION MUD. SHAKERS CLEAN.
			00:30	03:00	2.50	PUMPED SLUG. POH. NO DRAG.
			03:00	03:30	0.50	WASHED WELLHEAD.
			03:30	04:15	0.75	CONTINUED OUT OF HOLE.
			04:15	05:30	1.25	MADE UP NOMINAL BORE PROTECTOR R/R TOOL AND JET SUB/EXTENSION. RIH. JETTED WELLHEAD AREA. LATCHED INTO NBP. ESTABLISHED INDEX MEASUREMENT.
			05:30	06:30	1.00	RELEASED NBP. JETTED LANDING SHOULDER. POH. LAID DOWN NBP AND RUNNING TOOL. NBP GOOD.
			06:30	07:00	0.50	RIGGED UP TO RUN 13.375in CASING. HELD JSA.
			07:00	07:30	0.50	PICKED UP SHOE TRACK. INSTALLED PIP TAG IN SHOE JOINT CONNECTION. INSTALLED ONE 16.5in OD SOLID CENTRALISER ABOVE SHOE JOINT. CHECKED FLOATS.
			07:30	08:00	0.50	RAN TOTAL 9 JOINTS OF CASING TO 20in SHOE.
			08:00	08:30	0.50	SWITCHED OVER TO 500 TON GEAR.
			08:30	09:00	0.50	CONTINUED RUNNING CASING TO 155m. STABBER LOST HARDHAT INTO LAST JOINT RUN.
			09:00	11:45	2.75	ATTEMPTED TO FISH HARDHAT WITH AIR HOISTS - N.G. CHANGED OVER TO 150 TON ELEVATORS AND PULLED BACK AND RACKED 2 STANDS OF CASING. FISHED HARDHAT WITH RIG-FABRICATED OVERSHOT. RERAN CASING TO 155m.
			11:45	16:00	4.25	RAN TOTAL 78 JOINTS OF 13.375in, K-55, 68ppf, BTC CASING. HOLE GOOD.
			16:00	17:30	1.50	MADE UP CASING HANGER/RUNNING TOOL ASS'Y AND RIH ON LANDING STRING. LAND CASING HANGER IN WELLHEAD. 13.375in SHOE AT 1011.6m. PIP TAG AT 999.2m.
			17:30	18:30	1.00	RIGGED UP CEMENTING LINES AND CIRCULATED 600 BBLS MUD.
			18:30	20:30	2.00	PUMPED 50bbl DRILL WATER SPACER. DROPPED BOTTOM PLUG RELEASING BALL. DID NOT OBSERVE PLUG RELEASE AFTER PUMPING FURTHER 6bbls WATER. MIXED AND PUMPED 830sx OF CLASS "G" CEMENT MIXED WITH DRILL WATER PLUS 0.4gal/bbl MIX WATER HR-6L. AVERAGE SLURRY DENSITY - 1.91sg. LAUNCHED TOP PLUG RELEASING DART AND SHEARED TOP PLUG WITH 3bbls AND 2200psi.

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
17/05/95	7	5.31				PUMPED 17.5bbl DRILL WATER POST FLUSH.
			20:30	21:15	0.75	SWITCHED OVER TO RIG PUMPS AND DISPLACED CEMENT WITH 3645 STROKES. BUMPED PLUG WITH 2500psi FOR 10min. CHECKED FLOATS-OK. FULL RETURNS THROUGHOUT CEMENT JOB.
			21:15	21:30	0.25	SET AND ENERGIZED SEAL ASSEMBLY WITH 3500psi AGAINST THE LOWER PIPE RAMS.
			21:30	24:00	2.50	PRESSURE TESTED PIPE RAMS, ANNULARS AND VALVES TO 500/3000psi.
18/05/95	8	6.31	00:00	01:00	1.00	CONTINUED TESTING BOPs. TESTED ON BLUE POD, FUNCTIONED ON YELLOW.
			01:00	04:00	3.00	SHEARED OUT CHSART WITH 55kips OVERPULL. ATTEMPTED TO POH, UNABLE TO PASS UPPER ANNULAR WITH UP TO 100kips OVERPULL. FUNCTIONED ANNULAR WITH CORRECT VOLUMES. WORK CHSART PAST ANNULAR.
			04:00	04:30	0.50	POH. LAID DOWN CHSART, CEMENT HEAD, 500t BAILS.
			04:30	05:00	0.50	RAN AND SET 13.375in WEAR BUSHING.
			05:00	06:30	1.50	RIGGED UP AND PRESSURE TESTED IBOPs AND KELLY HOSE TO 500/3000psi.
			06:30	10:15	3.75	LAID OUT 17.5in ROLLER REAMER, BIT SUB, UNDERGAUGE 12.25in ROLLER REAMER, JAR ACCELERATOR. MADE UP 12.25in BHA AND RIH. (PRESSURE TESTED 13.375in CASING AGAINST SHEAR RAMS TO 500/2500psi. TESTED STANDPIPE MANIFOLD TO 500/5000psi.)
			10:15	13:30	3.25	PICKED UP S-135 DRILLPIPE.
			13:30	15:30	2.00	SLIPPED AND CUT DRILL LINE.
			15:30	20:15	4.75	CONTINUED PICKING UP DRILLPIPE.
			20:15	24:00	3.75	BROKE CIRCULATION. TAGGED TOC AT 984m. DRILLED OUT CEMENT AND FLOAT COLLAR TO 1003m.
19/05/95	9	7.31	00:00	00:30	0.50	DRILLED OUT SHOE TRACK AND CLEANED OUT RATHOLE WHILE DISPLACING HOLE TO KCL/PHPA MUD.
			00:30	00:45	0.25	DRILLED 12.25in HOLE FROM 1025m TO 1028m.
			00:45	01:00	0.25	CIRCULATED BOTTOMS UP.
			01:00	02:00	1.00	PULLED BACK INTO SHOE AND PERFORMED LEAK OFF TEST. FORMATION LEAKED OFF AT 1.75SG EQUIVALENT MUD WEIGHT.
			02:00	02:30	0.50	RECORD SLOW CIRCULATING RATES FOR 3 MUD PUMPS PLUS CHOKE LINE FRICTION PRESSURE.
			02:30	06:00	3.50	DRILLED FROM 1028m TO 1033m. ROP LOW DUE TO BIT BALLING. VARIED PARAMETERS AND PUMPED CLEAR SEAWATER, CAUSTIC PILL, AND NUT PLUG IN ATTEMPT TO CLEAR BIT.
			06:00	07:00	1.00	PULLED BACK INTO SHOE AND ATTEMPTED TO CLEAR BALLED UP BIT AND BHA.
			07:00	08:00	1.00	ATTEMPTED TO DRILL AHEAD. DRILLED TO 1034m.
			08:00	11:00	3.00	POH.
			11:00	14:00	3.00	RE-ARRANGED BHA AND MADE UP NEW BIT. RIH.
			14:00	15:30	1.50	WASHED AND REAMED FROM SHOE. BIT TOOK WEIGHT AT 1027m. REAMED TO BOTTOM.
			15:30	24:00	8.50	DRILLED FROM 1034m TO 1168m.
20/05/95	10	8.31	00:00	13:15	13.25	DRILLED 12.25in HOLE FROM 1168m TO 1438m. FLOW CHECKED DRILLING BREAKS AT 1171m, 1245m, AND 1272m. ENCOUNTERED HARD PYRITE LAYERS AT 1434m AND 1438m.

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
20/05/95	10	8.31	13:15	14:00	0.75	HAD 8bbl PIT GAIN INTO ACTIVE PITS. FLOW CHECKED SAME; GAINED 1bbl IN 15min. SHUT IN ON UPPER ANNULAR - ZERO PRESSURE.
			14:00	15:30	1.50	CIRCULATED BOTTOMS UP WITH LAST 1000 STROKES THROUGH CHOKE AS PRECAUTIONARY MEASURE. FLOW CHECKED - NEGATIVE.
			15:30	17:00	1.50	ATTEMPTED TO DRILL AHEAD - NO PROGRESS.
			17:00	17:15	0.25	DROPPED TOTCO SURVEY WHILE FLOW CHECKING INTO TRIP TANK.
			17:15	21:45	4.50	PUMPED SLUG. POH. INTERMITTENT DRAG UP TO 40kips TO 1300m. LAID DOWN BIT AND BIT SUB.
			21:45	22:15	0.50	MADE UP NEW ATM-22GD BIT, NEAR BIT ROLLER REAMER, AND SHOCK SUB.
			22:15	23:45	1.50	SERVICE BROKE AND ATTEMPTED TO REDRESS ANDERDRIFT TOOL - NG. UNABLE TO EXTRACT FLUID WASHED PULSE RING SLEEVE FROM TOP SUB. LAID OUT ANDERDRIFT TOOL.
			23:45	24:00	0.25	RAN IN HOLE.
21/05/95	11	9.31	00:00	00:45	0.75	PICKED UP 5 X 8in DRILL COLLARS.
			00:45	01:00	0.25	RAN 8in COLLARS OUT OF DERRICK.
			01:00	02:30	1.50	RAN IN HOLE TO SHOE.
			02:30	03:00	0.50	SERVICED TOP DRIVE.
			03:00	03:30	0.50	CARRIED OUT REPAIR/RE-ALIGNMENT OF TDS IBOP ACTUATOR.
			03:30	04:00	0.50	RAN IN HOLE TO 1392m.
			04:00	04:45	0.75	PRECAUTIONARY REAMED 1392m TO 1438m.
			04:45	24:00	19.25	DRILLED 12.25in HOLE FROM 1438m TO 1668m, FLOW CHECKING DRILLING BREAKS.
22/05/95	12	10.31	00:00	23:15	23.25	DRILLED 12.25in HOLE FROM 1668m TO 1900m. FLOW CHECKED DRILLING BREAKS AT 1675m, 1825m, 1889m. CONNECTION GAS APPARENT FROM 1789m ONWARDS. DEPTH,m CONN. GAS 1789 0.34% 1818 0.38 1847 0.18 1862 0.15 1876 0.15
			23:15	23:45	0.50	CIRCULATED GAS UNITS DOWN FROM PEAK (9.1% FROM 1891m) TO PREVIOUS BACKGROUND (+/- 0.3%) PRIOR TO DRILLING AHEAD.
			23:45	24:00	0.25	DRILLED FROM 1900m TO 1903m.
23/05/95	13	11.31	00:00	01:15	1.25	DRILLED 12.25in HOLE FROM 1903m TO 1915m.
			01:15	02:15	1.00	CIRCULATED BOTTOMS UP.
			02:15	02:45	0.50	FLOW CHECKED AND DROPPED TOTCO SURVEY.
			02:45	05:00	2.25	STARTED OUT OF HOLE. WASHED AND REAMED PAST TIGHT SPOTS (80kips MAX OVERPULL) AT 1842m, 1696m, 1640m, 1592m, AND 1562-1517m.
			05:00	08:00	3.00	POH.
			08:00	09:30	1.50	CONTINUED OUT OF HOLE WITH BHA. RECOVERED SURVEY - 6°. LAID OUT BIT, NBRR, SHOCK SUB.
			09:30	11:45	2.25	MADE UP PDC BIT, NBRR, AND PONY DRILL COLLAR. RIH WITH BOTTOM HOLE ASSEMBLY.
			11:45	13:00	1.25	RAN IN HOLE TO SHOE. BROKE CIRCULATION.
			13:00	13:30	0.50	SERVICED TOP DRIVE SYSTEM.
			13:30	14:30	1.00	RAN IN HOLE. BIT TOOK WEIGHT AT 1898m.
			14:30	14:45	0.25	WASHED AND REAMED TO BOTTOM.
			14:45	15:30	0.75	DRILLED FROM 1915m TO 1921m. BROKE BIT IN

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
23/05/95	13	11.31				WITH LOW WEIGHT AND ROTARY.
			15:30	16:00	0.50	CIRCULATED AT REDUCED RATE WHILE CHANGING SHAKER SCREENS DUE TO MUD LOSSES OVER SHAKERS AT HIGHER FLOWRATE.
			16:00	24:00	8.00	DRILLED FROM 1921m TO 2052m. FLOW CHECKED DRILLING BREAK AT 2038m.
24/05/95	14	12.31	00:00	20:00	20.00	DRILLED 12.25in HOLE FROM 2052m TO 2242m. PENETRATION DROPPED TO <1m/hr.
			20:00	20:30	0.50	CIRCULATED HOLE CLEAN.
			20:30	21:00	0.50	FLOW CHECKED AND DROPPED TOTCO SURVEY.
			21:00	24:00	3.00	POH FOR FINAL LOGS. 40 TO 60kips OVERPULL AT 1395m TO 1357m. WIPED CLEAN.
25/05/95	15	13.31	00:00	00:30	0.50	CONTINUED OUT OF HOLE.
			00:30	01:45	1.25	POH WITH BHA. RECOVERED SURVEY - 7.5deg. BROKE OUT BIT.
			01:45	02:00	0.25	CONDUCTED JSA PRIOR TO RIGGING UP WIRELINE.
			02:00	02:30	0.50	RIGGED UP SCHLUMBERGER.
			02:30	03:00	0.50	MADE UP SUITE 2, LOG NO. 1 - AS\MSFL\DLL\GR\SP\AMS.
			03:00	03:45	0.75	RAN IN HOLE AND CHECKED DEPTH AT SHOE.
			03:45	05:45	2.00	COMPENSATOR SLING JUMPED SHEAVE AND JAMMED IN SAME. POH TO SURFACE PRIOR TO FREEING JAMMED SLING. RAN BACK TO SHOE.
			05:45	10:15	4.50	RAN LOG NO. 1 FROM 2240m TO 700m. MAX BHT - 85degC. TOOL ON BOTTOM AT 0700hrs.
			10:15	11:30	1.25	LAID OUT LOG NO. 1 TOOL STRING.
			11:30	12:15	0.75	MADE UP LOG NO. 2 - LDL/CNL/FMS/GR/AMS.
			12:15	17:00	4.75	RAN LOG NO. 2 FROM 2240m TO 700m. MAX BHT - 91.5degC. TOOL ON BOTTOM AT 1400hrs.
			17:00	18:30	1.50	LAID OUT LOG NO. 2 TOOL STRING.
			18:30	20:30	2.00	MADE UP LOG NO. 3 - MDT.
			20:30	22:00	1.50	RAN IN WITH LOG NO. 3 AND CORRELATE DEPTH.
			22:00	24:00	2.00	TROUBLESHOT INTERRUPTIONS IN MAXIS UNIT POWER SUPPLY.
26/05/95	16	14.31	00:00	10:00	10.00	RAN MDT TOOL. RECORDED 9 PRETESTS. SAMPLED AT 1900m.
			10:00	11:15	1.25	LAID OUT MDT TOOL. PICKED UP CSI SEISMIC TOOL.
			11:15	16:00	4.75	RAN CHECKSHOT SURVEY. SHOT 37 LEVELS.
			16:00	17:00	1.00	LAID OUT CSI TOOL. MADE UP CST GUN.
			17:00	19:30	2.50	RAN CST.
			19:30	19:45	0.25	LAID OUT CST GUN. RECOVERED 59/60 BULLETS.
			19:45	20:15	0.50	RIGGED DOWN SCHLUMBERGER.
			20:15	23:45	3.50	MADE UP CEMENTING SUB ON 5in DRILLPIPE AND RAN IN HOLE TO 2015m.
			23:45	24:00	0.25	CIRCULATED.
27/05/95	17	15.31	00:00	02:30	2.50	CIRCULATED WITH INCREASING GAS UNITS, 17.2% GAS AT 4400 STROKES (BOTTOMS UP - 8900). FLOW CHECKED INTO TRIP TANK - GAINED 4bbl IN 10min. SHUT IN ON UPPER ANNULAR, NO PRESSURE. CIRCULATED BOTTOMS UP ACROSS CHOKE AS PRECAUTION. MAX GAS UNITS 15.2%. MAX 9% CO2.
			02:30	04:00	1.50	CIRCULATED ACROSS CHOKE WITH 100psi BACK PRESSURE WHILE RAISING MUD WEIGHT TO 1.18SG.
			04:00	05:15	1.25	OPENED ANNULAR AND FLOW CHECKED. CIRCULATED GAS UNITS DOWN TO 0.2%.
			05:15	05:45	0.50	SPOTTED 50bbl HI-VIS PILL.
			05:45	06:15	0.50	PULLED BACK TO 1965m. RIGGED UP CEMENTING

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
27/05/95	17	15.31				LINE AND PRESSURE TESTED TO 3000psi.
			06:15	07:15	1.00	SET BALANCED PLUG No.1 FROM 1965m TO 1830m WITH 335sx CLASS "G" CEMENT AND 0.3gal/bbl SCR-100L. AVERAGE DENSITY 1.9SG.
			07:15	07:45	0.50	PULLED BACK TO 1790m.
			07:45	08:30	0.75	CIRCULATED BOTTOMS UP.
			08:30	11:30	3.00	PULLED BACK INTO SHOE. PRESSURE TESTED CHOKE MANIFOLD TO 500/3000psi. RAN IN HOLE AND TAGGED PLUG WITH 10kips AT 1840m.
			11:30	12:00	0.50	PULLED BACK TO 1310m.
			12:00	13:15	1.25	SPOTTED 50bbl HI-VIS PILL.
			13:15	13:30	0.25	PULLED BACK TO 1220m.
			13:30	13:45	0.25	RIGGED UP AND PRESSURE TESTED CEMENTING LINE TO 3000psi.
			13:45	14:30	0.75	SET SIDETRACK PLUG FROM 1220m TO 1100m WITH 300sx OF CLASS "G" CEMENT MIXED WITH 0.2gal/bbl HR-6L. AVERAGE DENSITY - 1.92sg.
			14:30	15:15	0.75	PULLED BACK TO 1050m.
			15:15	16:00	0.75	RIGGED UP AND REVERSED OUT.
			16:00	17:15	1.25	POH TO 285m.
			17:15	18:00	0.75	MADE UP AND RAN BOP TEST TOOL.
			18:00	22:30	4.50	PRESSURE TESTED BOP STACK RAMS AND ANNULARS TO 500/3000psi.
			22:30	24:00	1.50	PRESSURE TESTED DRILLPIPE SAFETY VALVES TO 500/3000psi AND STANDPIPE MANIFOLD TO 500/5000psi.
28/05/95	18	16.31	00:00	01:00	1.00	PULLED TEST PLUG AND 10 STANDS DRILLPIPE.
			01:00	02:30	1.50	PRESSURE TESTED UPPER AND LOWER IBOPs, KELLY HOSE TO 500/3000/5000 psi.
			02:30	04:30	2.00	LAID DOWN 9.5in DRILL COLLARS/BHA.
			04:30	08:00	3.50	MADE UP SIDETRACK MOTOR, MWD ASSEMBLY.
			08:00	10:00	2.00	FUNCTION TESTED MWD TOOL. NO PULSE. CHANGE OUT PULSER.
			10:00	11:30	1.50	FUNCTIONED MWD. PICKED UP 9 JOINTS HWDP PLUS 6.5in DRILLING JARS. RIH ON BHA.
			11:30	12:45	1.25	RIH TO SHOE.
			12:45	13:15	0.50	BROKE CIRCULATION. WASHED DOWN AND TAGGED TOC AT 1099m. TRIP GAS - 12.7% WITH 19% CO2.
			13:15	13:30	0.25	WASHED AND ROTATED DOWN TO 1113m, BIT TAKING STEADY WEIGHT.
			13:30	24:00	10.50	KICKED OFF PLUG TO SIDETRACK WELL. APPROXIMATELY 40% FORMATION IN CUTTINGS FROM 1151m; 100% FORMATION AT 1155m.
29/05/95	19	17.31	00:00	23:15	23.25	SLID AND ROTARY DRILLED FROM 1155m TO 1252m.

FROM	TO	MODE	ROP
1155	1175.9	SLIDE	3.3
1175.9	1185.3	ROTATE	28.2
1185.3	1192	SLIDE	2.1
1192	1195	ROTATE	4.3
1195	1205.8	SLIDE	2.8
1205.8	1214.8	ROTATE	15.4
1214.8	1221	SLIDE	5.3
1221	1223.2	ROTATE	5.3
1223.2	1229.1	SLIDE	2.4
1229.1	1240.8	ROTATE	20.1
1240.8	1248.8	SLIDE	3.0
1248.8	1252	ROTATE	11.9

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
29/05/95	19	17.31				
			23:15	24:00	0.75	TDS SAVER SUB BACKED OUT ON CONNECTION. ROTATED PIPE IN SLIPS WHILE RETORQUING SAVER SUB.
30/05/95	20	18.31	00:00	05:30	5.50	SLID AND ROTARY DRILLED FROM 1252m TO 1275m. PROGRESS SLOW DUE TO DIFFICULTY IN SLIDING.

FROM	TO	MODE	ROP
1252	1255.4	SLIDE	1.6
1255.4	1262.4	ROTATE	28.0
1262.4	1264.9	SLIDE	5.0
1264.9	1275.3	SLIDE	4.0

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
			05:30	07:30	2.00	PUMPED SLUG. PULLED OUT OF HOLE TO HWDP.
			07:30	08:30	1.00	PULLED BHA. LAID OUT BIT, MWD PULSER.
			08:30	09:30	1.00	LAID OUT STRING STABILISER AND PONY COLLAR. PICKED UP HIGH-FLOW NON-MAGNETIC DRILL COLLAR. INSTALLED PROBE, NEW BATTERIES.
			09:30	10:30	1.00	FUNCTION TESTED MWD. PICKED UP 6 JOINTS HWDP.
			10:30	11:00	0.50	RAN IN HOLE ON HWDP.
			11:00	11:45	0.75	RAN IN HOLE ON DRILLPIPE TO SHOE.
			11:45	12:15	0.50	BROKE CIRCULATION. SERVICED TOP DRIVE SYSTEM.
			12:15	12:45	0.50	CONTINUED INTO HOLE.
			12:45	24:00	11.25	SLID AND ROTARY DRILLED FROM 1275m TO 1336m. SURVEYED ON CONNECTIONS.

FROM	TO	MODE	ROP
1275.3	1279	SLIDE	5.6
1279	1283.4	ROTATE	17.6
1283.4	1312.4	SLIDE	5.8
1312.4	1322	SLIDE	3.4
1322	1332.9	ROTATE	14.5
1332.9	1336	SLIDE	4.6

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
31/05/95	21	19.31	00:00	24:00	24.00	SLID AND ROTARY DRILLED 12.25in HOLE FROM 1336m TO 1467m. SURVEYED AND REAMED EACH CONNECTION.

FROM	TO	MODE	ROP
1336.0	1340.6	SLIDE	3.3
1340.6	1351.8	ROTATE	12.9
1351.8	1367.6	SLIDE	6.0
1367.6	1368.6	ROTATE	5.5
1368.6	1377.0	SLIDE	6.4
1377	1379	ROTATE	10.0
1379	1387	SLIDE	4.2
1387	1389	ROTATE	8.0
1389	1394	SLIDE	2.9
1394	1397	ROTATE	9.0
1397	1399	ROTATE	3.4
1399	1416.2	SLIDE	5.2
1416.2	1425.6	ROTATE	10.3
1425.6	1444.4	SLIDE	4.6
1444.4	1454	ROTATE	28.8
1454	1457	SLIDE	2.1
1457	1461	ROTATE	7.7
1461	1463.2	SLIDE	3.4
1463.2	1465.7	ROTATE	25.0

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
31/05/95	21	19.31				1465.7 1467 SLIDE 3.4
1/06/95	22	20.31	00:00	00:30	0.50	ROTARY DRILLED 12.25in HOLE FROM 1467m TO 1479m. SHAKER SCREENS BLINDED BY SAND.
			00:30	01:00	0.50	TOOK SCRs, CIRCULATED AT SLOW RATE WHILE CHANGING SHAKER SCREENS.
			01:00	10:00	9.00	DRILLED FROM 1479m TO 1553m. STRING TORQUED UP. FROM TO MODE ROP 1479 1513 ROTARY 9.0 1513 1542 ROTARY 8.6 1542 1543 SLIDE 1.5 1543 1553 ROTARY 8.2
			10:00	11:00	1.00	TOOK SURVEY AND CIRCULATED BOTTOMS UP.
			11:00	11:30	0.50	STARTED OUT OF HOLE FOR BIT/BHA CHANGE.
			11:30	11:45	0.25	TIGHT HOLE AT 1482m. MAX 70kips OVERPULL. WORKED AND REAMED BACK TO 1458m.
			11:45	13:00	1.25	LOWER IBOP BACKED OUT OF TDS. RETORQUED LOWER IBOP. ATTEMPTED TO BREAK CONNECTION, SAVER SUB BACKED OUT. MADE UP SAME.
			13:00	16:45	3.75	CONTINUED OUT OF HOLE. TIGHT SPOT AT 1398m, WORKED PAST WITH 60kips MAX OVERPULL.
			16:45	17:45	1.00	LAID OUT BIT AND MUD MOTOR.
			17:45	19:45	2.00	MADE UP NEW BIT AND BHA.
			19:45	20:00	0.25	FUNCTIONED MWD-OK.
			20:00	21:30	1.50	RAN IN HOLE TO SHOE. BROKE CIRCULATION.
			21:30	22:00	0.50	SERVICED TOP DRIVE SYSTEM.
			22:00	24:00	2.00	REPLACED TDS SAVER SUB. RETORQUED IBOPs AND SAVER SUB AFTER RE-SEQUENCING MAKE UP/BREAK OUT FUNCTIONS ON TDS PIPE HANDLER.
2/06/95	23	21.31	00:00	01:00	1.00	RAN IN HOLE TO 1278m. BIT HELD UP.
			01:00	06:15	5.25	WASHED AND REAMED FROM 1278m TO 1553m WITH INTERMITTENT HIGH TORQUE.
			06:15	14:00	7.75	DRILLED 12.25in HOLE FROM 1553m TO 1639m.
			14:00	15:00	1.00	TOOK SURVEY. CIRCULATED BOTTOMS UP.
			15:00	18:30	3.50	PULLED OUT OF HOLE. MAX DRAG 50kips.
			18:30	20:00	1.50	MADE UP NEW BIT/BHA. RIH TO WELLHEAD.
			20:00	20:15	0.25	FUNCTION TESTED MWD.
			20:15	21:45	1.50	RAN IN HOLE TO SHOE.
			21:45	22:15	0.50	SERVICED TDS.
			22:15	23:15	1.00	RAN IN HOLE TO 1604m. MINIMAL DRAG.
			23:15	23:30	0.25	PRECAUTIONARY REAMED FROM 1604m TO 1639m.
			23:30	24:00	0.50	BROKE IN BIT AND DRILLED FROM 1639m TO 1648m.
3/06/95	24	22.31	00:00	00:30	0.50	DRILLED 12.25in HOLE FROM 1648m TO 1652m.
			00:30	04:45	4.25	DRILLED FROM 1652m TO 1655m. ATTEMPTED TO CLEAR SUSPECTED BALLED UP BIT WITH HIGH ROTATION, PUMPING NUT PLUG. NO SUCCESS.
			04:45	09:00	4.25	SURVEYED WITH MWD. POH. HOLE GOOD.
			09:00	09:45	0.75	BIT BALLED. CLEANED BIT. REARRANGED BHA.
			09:45	11:45	2.00	RIH TO SHOE.
			11:45	12:15	0.50	BROKE CIRCULATION. SERVICED TDS. FUNCTIONED BOP STACK.
			12:15	13:30	1.25	CONTINUED RIH.
			13:30	13:45	0.25	WASHED AND REAMED FROM 1622m TO 1655m.
			13:45	24:00	10.25	DRILLED FROM 1655m TO 1835m.
4/06/95	25	23.31	00:00	24:00	24.00	DRILLED 12.25in HOLE FROM 1835mMD TO 2217mMD (1796mTVD TO 2110mTVD). SURVEYED AND REAMED

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
4/06/95	25	23.31				EACH CONNECTION.
5/06/95	26	24.31	00:00	06:45	6.75	DRILLED 12.25in HOLE FROM 2217mMD TO 2341mMD (PROVISIONAL TD).
			06:45	09:00	2.25	CIRCULATED BOTTOMS UP. CONTINUED TO CIRCULATE AND CONDITION MUD FOR FINAL LOGS.
			09:00	13:00	4.00	RECEIVED ORDERS TO DRILL AHEAD. DRILLED FROM 2341mMD TO 2390mMD.
			13:00	14:00	1.00	PICKED UP DRILLPIPE TO REACH REVISED TOTAL DEPTH.
			14:00	17:15	3.25	DRILLED FROM 2390mMD TO 2417mMD.
			17:15	18:15	1.00	TROUBLESHOT TDS PIPE-HANDLER MALFUNCTION.
			18:15	20:45	2.50	DRILLED FROM 2417mMD TO TD AT 2445mMD (2274mTVD).
			20:45	22:15	1.50	CIRCULATED BOTTOMS UP AND UNTIL HOLE CLEAN.
			22:15	23:30	1.25	STARTED OUT OF HOLE. 20-50kips OVERPULL OVER NORMAL DRAG FROM 2270m TO 2192m.
			23:30	24:00	0.50	RAN INTO TIGHT SPOT AT 2155m - 80kips MAX OVERPULL. MADE UP TDS, REAMED 2164-2135m. ABLE TO COME UP WITHOUT OVERPULL WHILE ROTATING, HOWEVER OVERPULL PERSISTED IN ABSENCE OF ROTATION. CONTINUED WORKING PIPE.
6/06/95	27	25.31	00:00	01:00	1.00	CONTINUED WORKING PIPE FROM 2164m TO 2135m. REAMED AND BACKREAMED SEVERAL PASSES. PULLED PAST WITH 80kips MAX OVERPULL.
			01:00	02:00	1.00	CONTINUED OUT OF HOLE TO TIGHT SPOT AT 1755m. INTERMITTENT DRAG UP TO 50kips OVERPULL.
			02:00	02:30	0.50	WASHED AND REAMED TIGHT SPOT FROM 1755m TO 1736m. PULLED FREELY WITH ROTATION. PULLED WITH 100kips MAX OVERPULL WITHOUT ROTATION.
			02:30	04:15	1.75	CONTINUED OUT OF HOLE TO SHOE. INTERMITTENT DRAG UP TO 50kips.
			04:15	05:00	0.75	LAID OUT MALFUNCTIONING TOP DRIVE PIPE-HANDLER.
			05:00	07:00	2.00	POOH. NO CORRECTION FOR SLM.
			07:00	08:00	1.00	PULLED MWD PROBE AND PULSER. BROKE OUT BIT.
			08:00	08:30	0.50	RIGGED UP SCHLUMBERGER.
			08:30	09:00	0.50	MADE UP TOOL STRING - DLL\MSFL\SDT\ GR\CAL\SP\AMS.
			09:00	13:00	4.00	RAN LOG. UNABLE TO PASS 1780m. LOGGED UP FROM 1780m TO SHOE.
			13:00	13:45	0.75	LAID OUT TOOL STRING.
			13:45	14:15	0.50	RIGGED DOWN SCHLUMBERGER.
			14:15	15:00	0.75	LAID DOWN LOWER DRILLING BHA.
			15:00	16:45	1.75	INSTALLED REPAIRED TDS PIPE HANDLER AND FUNCTION TESTED SAME.
			16:45	18:15	1.50	MADE UP WIPER TRIP BHA AND RIH.
			18:15	18:30	0.25	PERFORMED OPERATIONAL CHECK OF TDS PIPE HANDLER.
			18:30	21:00	2.50	RAN IN HOLE ON DRILLPIPE. BROKE CIRCULATION AT SHOE.
			21:00	24:00	3.00	PRECAUTIONARY REAMED FROM 1711m TO 1765m. AFTER SEVERAL PASSES, STILL UNABLE TO PULL THROUGH 1750m WITHOUT RESISTANCE. CONTINUED INTO HOLE, REAMING PAST OBSTRUCTIONS/TIGHT HOLE AT 1775m-1795m AND 1948m-1968m.
7/06/95	28	26.31	00:00	05:15	5.25	WASHED AND REAMED, WORKED PIPE THROUGH INTERMITTENT TIGHT HOLE AND LEDGING FROM 1968m TO 2274m. PROGRESS BECAME INCREASINGLY

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
7/06/95	28	26.31				DIFFICULT. TOP DRIVE STALLING AND HOLE PACKING OFF.
			05:15	07:00	1.75	BACKREAMED FROM 2274m TO 2100m. HOLE PACKED OFF. PIPE TEMPORARILY STUCK.
			07:00	08:00	1.00	WORKED PIPE FREE, ESTABLISHED CIRCULATION.
			08:00	08:30	0.50	REAMED DOWN TO 2130m.
			08:30	11:00	2.50	BACKREAMED FROM 2130m TO 1910m, WHERE PIPE PULLED FREELY.
			11:00	13:15	2.25	PUMPED SLUG. POOH TO SHOE.
			13:15	13:45	0.50	LAID OUT TDS PIPE HANDLER FOR REPAIR.
			13:45	15:15	1.50	CONTINUED OUT OF HOLE.
			15:15	18:30	3.25	LAID OUT NEAR BIT AND STRING ROLLER REAMERS. NEAR BIT REAMER 1/8in UNDERGAUGE WITH PLAY IN BEARINGS. PICKED UP NEW NEAR BIT ROLLER REAMER AND RAN IN HOLE TO SHOE.
			18:30	20:00	1.50	RE-INSTALLED TDS PIPE HANDLER. REPAIR WELD AT LIFT PISTON HEAD TO PISTON ROD FAILED WHILE FUNCTION TESTING. LAID OUT PIPE HANDLER FOR REPAIR.
			20:00	21:30	1.50	SLIPPED AND CUT DRILL LINE.
			21:30	24:00	2.50	LAID DOWN EXCESS 8in DRILL COLLARS FROM DERRICK.
8/06/95	29	27.31	00:00	00:15	0.25	CONTINUED LAYING DOWN EXCESS 8in DRILL COLLARS FROM DERRICK.
			00:15	02:00	1.75	REINSTALLED AND FUNCTION TESTED TDS PIPE-HANDLER.
			02:00	03:30	1.50	RAN IN HOLE TO 1900m. BIT TOOK 40kips WEIGHT.
			03:30	21:45	18.25	WASHED AND REAMED THROUGH INTERMITTENT TIGHT HOLE AND LEDGES FROM 1900m TO 2445m.
			21:45	23:30	1.75	SWEPT HOLE WITH 50bbl HI-VIS PILL. MARGINAL INCREASE IN RETURNS OVER SHAKERS.
			23:30	24:00	0.50	STARTED OUT OF HOLE FOR SHORT TRIP - BACKREAMED PAST TIGHT SPOTS AT 2432m AND 2414m.
9/06/95	30	28.31	00:00	01:15	1.25	POOH FOR SHORT TRIP, BACKREAMING PAST TIGHT SPOTS AT 2406m, 2395m, 2387m, 2299m AND 2200m.
			01:15	02:00	0.75	CONTINUED OUT OF HOLE TO 2079m. PIPE PULLING OK. RIH TO 2192m. BIT HELD UP.
			02:00	03:30	1.50	REAMED PAST LEDGES AT 2192m AND 2230m. RIH. ENCOUNTERED LEDGE AT 2284m. ATTEMPTED TO REAM PAST, VERY SLOW PROGRESS.
			03:30	05:30	2.00	STARTED OUT OF HOLE TO CHANGE BHA, PICK UP LWD TOOL. PUMPED OUT OF HOLE TO 1960m, BACKREAMING AS REQUIRED.
			05:30	09:45	4.25	PUMPED SLUG, POOH.
			09:45	12:30	2.75	PICKED UP LWD COLLAR, UNDERGAUGED STRING STABILIZER. RIH TO SHOE.
			12:30	13:00	0.50	BROKE CIRCULATION. SERVICED TDS.
			13:00	14:00	1.00	CONTINUED INTO HOLE TO 1688m.
			14:00	22:00	8.00	LOGGED WITH CDR (DUAL RESISTIVITY/GAMMA RAY) TOOL WHILE WASHING WITH LIGHT ROTATION AT 60m/hr MAXIMUM FROM 1688m TO 2000m.
			22:00	22:45	0.75	TDS SAVER SUB BACKED OUT ON CONNECTION. RE-INSTALLED AND TORQUED UP SAME.
			22:45	23:45	1.00	LOGGED WHILE REAMING TO 2020m.
			23:45	24:00	0.25	TOOK SCRs.
10/06/95	31	29.31	00:00	14:00	14.00	CONTINUED LOGGING WITH CDR (DUAL RESISTIVITY/

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
10/06/95	31	29.31				GAMMA RAY) TOOL WHILE WASHING AND ROTATING FROM 2020m TO 2445m. MAXIMUM LOGGING SPEED - 60m/hr.
			14:00	15:45	1.75	SWEPT HOLE WITH 75bbl HI-VIS PILL. CIRCULATED HOLE CLEAN.
			15:45	20:00	4.25	BACKREAMED OUT OF HOLE TO 1875m.
			20:00	24:00	4.00	POOH. INTERMITTENT TIGHT HOLE UP TO 1750m, WITH BACKREAMING REQUIRED AT 1795m AND 1750m. PUMPED SLUG AND PULLED FREELY ABOVE 1595m.
11/06/95	32	30.31	00:00	00:30	0.50	LAID OUT BIT, NEAR BIT ROLLER REAMER, AND LWD COLLAR.
			00:30	02:15	1.75	MADE UP AND RACKED BACK CASING CUT-AND-PULL ASSEMBLIES.
			02:15	06:30	4.25	RAN IN HOLE WITH CEMENTING SUB TO 2270m. WASHED AND ROTATED PAST OBSTRUCTIONS AT 1960m AND 2121m. PRECAUTIONARY WASHED AND ROTATED FROM 2169m TO 2270m.
			06:30	07:45	1.25	CIRCULATED BOTTOMS UP.
			07:45	08:15	0.50	SPOTTED 50bbl HI-VIS PILL.
			08:15	08:30	0.25	PULLED BACK TO 2208m.
			08:30	10:00	1.50	RIGGED UP CEMENTING LINES. PRESSURE TESTED TO 3000psi. SET CEMENT PLUG NO. 1 FROM 2208m TO 2087m WITH 425sx OF CLASS "G" CEMENT MIXED WITH 0.3gal/bbl SCR-100L. SLURRY DENSITY - 1.90sg. VOLUME INCLUDED 50% EXCESS OVER GAUGE HOLE.
			10:00	10:30	0.50	PULLED BACK TO 2000m.
			10:30	11:30	1.00	CIRCULATED BOTTOMS UP.
			11:30	12:00	0.50	PULLED BACK TO 1788m.
			12:00	14:00	2.00	RAN IN AND LAID OUT 20 JOINTS HWDP PLUS DRILLING JARS.
			14:00	14:45	0.75	RAN IN HOLE AND TAGGED PLUG AT 2080m.
			14:45	16:00	1.25	PULLED BACK TO 1125m.
			16:00	16:30	0.50	SPOTTED 50bbl HI-VIS PILL.
			16:30	17:30	1.00	PULLED BACK TO 1042m. CIRCULATED TO BALANCE MUD COLUMN.
			17:30	18:30	1.00	SET PLUG NO. 2 FROM 1042m TO 942m USING 295sx OF CLASS "G" CEMENT MIXED WITH 0.1gal/bbl HR-6L. SLURRY DENSITY - 1.90sg.
			18:30	18:45	0.25	PULLED BACK TO 900m.
			18:45	19:45	1.00	CIRCULATED WITH 200bbls MUD AND DISPLACED CASING WITH 400bbls INHIBITED MUD. FLUSHED BOP STACK.
			19:45	22:45	3.00	PULLED OUT SIDEWAYS FROM 900m.
			22:45	23:45	1.00	RAN IN HOLE TO 900m.
			23:45	24:00	0.25	CONTINUED LAYING DOWN DRILLPIPE.
12/06/95	33	31.31	00:00	01:00	1.00	
			01:00	01:30	0.50	RAN IN HOLE 9 STANDS TO 860m.
			01:30	02:00	0.50	PRESSURE TESTED 13.375in CASING AND SHOE PLUG TO 2500psi.
			02:00	05:00	3.00	PUMPED SLUG. POOH SIDEWAYS TO 142m.
			05:00	06:00	1.00	MADE UP WEAR BUSHING RETRIEVING TOOL. RAN AND PULLED WEAR BUSHING. LAID OUT SAME. WEAR BUSHING KEYSEATED 5in X 0.75in DEEP AT 13.375in ID ON TOP; KEYSEATED TO WITHIN 1/32in W.T. ON BOTTOM.
			06:00	06:30	0.50	LAID DOWN 15 JOINTS DRILLPIPE.
			06:30	08:45	2.25	MADE UP AND RAN IN HOLE WITH CUT-AND-PULL

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
12/06/95	33	31.31				ASSEMBLY.
			08:45	09:15	0.50	CUT 13.375in CASING AT 114m. PULL FREE WITH 220kips OVERPULL.
			09:15	10:45	1.50	POOH AND RELEASED SPEAR. RECOVERED ONLY PUP JOINT BELOW HANGER.
			10:45	12:15	1.50	RAN BACK IN WITH SPEAR. ATTEMPTED TO SPEAR CASING-N.G. POOH TO CHANGE SPEAR ASSEMBLY.
			12:15	15:00	2.75	PICKED UP GUIDE BELOW AND CENTRALIZER ABOVE SPEAR. RAN IN AND SPEARED CASING. PULLED SAME. 13.25in OD EXTENDED BUMPER RING JAMMED INTO CASING COUPLING. CUT COUPLING TO RELEASE BUMPER RING.
			15:00	15:45	0.75	LAID DOWN 2 JOINTS CASING PLUS STUB.
			15:45	18:00	2.25	MADE UP 20in AGE PACKER AND RAN IN HOLE. ATTEMPTED TO SET BY PUMPING DOWN CEMENTING LINE WITH MUD PUMP. MANIFOLD WAS INCORRECTLY LINED UP SO THAT THERE WAS NO PRESSURE READING AT THE DRILLER'S CONSOLE. OVER-PRESSURED AND BURST PACKER. POOH WITH SAME.
			18:00	19:00	1.00	MADE UP AND RAN IN HOLE WITH BACK-UP PACKER. SET SAME WITH 1000psi PUMP PRESSURE. HELD FOR 10mins. VERIFIED PACKER SET WITH 5kips OVERPULL TEST. BACKED OUT OF RUNNING THREADS.
			19:00	20:00	1.00	PRESSURE TESTED CEMENTING LINE TO 1000psi. SET PLUG NO. 3 FROM 113m TO 93m USING 115sx OF CLASS "G" CEMENT MIXED WITH SEAWATER. SLURRY DENSITY - 1.91sg.
			20:00	21:45	1.75	PULLED UP TO 90m AND REVERSED OUT 50bbls. DISPLACED HOLE CONVENTIONALLY WITH SEAWATER. FLUSHED THROUGH CHOKE AND KILL LINES/BOP STACK/DIVERTER.
			21:45	22:30	0.75	LAID DOWN REMAINING DRILLPIPE.
			22:30	24:00	1.50	BROKE OUT 13.375in CUT-AND-PULL ASSEMBLY. MADE UP 24in CUT-AND-PULL ASSEMBLY.
13/06/95	34	32.31	00:00	01:30	1.50	CONTINUED MAKING UP 24in CUT-AND-PULL ASSEMBLY.
			01:30	02:00	0.50	RIGGED UP TO PULL BOP STACK.
			02:00	06:45	4.75	PULLED DIVERTER. PICKED UP HANDLING JOINT. COLLAPSED SLIP JOINT. PREPARED TO UNLATCH BOP STACK. (SLOW PROGRESS AS WORKING-OVER-WATER TASKS DELAYED UNTIL WIND/WAVES ABATED.)
			06:45	08:00	1.25	UNLATCHED BOP. RIGGED DOWN CHOKE AND KILL LINE JUMPER HOSES AND MRT LINES.
			08:00	10:45	2.75	PULLED BOP STACK ON RISER. LANDED ON SPIDER BEAMS.
			10:45	15:00	4.25	SPLIT LMRP AND BOP STACK AND SET BACK SAME. NO APPRECIABLE WEAR TO BOP STACK OR LMRP OBSERVED.
			15:00	16:00	1.00	LAID DOWN RISER DOUBLE. RIGGED DOWN RISER HANDLING EQUIPMENT.
			16:00	17:15	1.25	RIH WITH 24in CASING CUT-AND-PULL ASSEMBLY.
			17:15	18:45	1.50	CUT 24in PILE JOINT AT 83.6m.
			18:45	20:30	1.75	JUMPED ROV TO OBSERVE ENGAGEMENT OF SPEAR. (POOR VISIBILITY WITH RIG TV.) ENGAGED SPEAR AND PULLED WELLHEAD ABOVE SEAFLOOR WITHOUT OVERPULL. RETRIEVED ROV AND RIG TV. PULLED WELLHEAD/PGB AND LANDED ON BEAMS.
			20:30	21:30	1.00	LAID OUT PILE JOINT. SKIDDED BACK PGB.

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
13/06/95	34	32.31	21:30	24:00	2.50	PULLED ANCHORS. 2130 PASSED NO.5 PENNANT TO LADY DAWN. 2155 PASSED NO.1 PENNANT TO BONAVISTA. 2212 HEAVING IN ON NO.5. 2238 HEAVING IN ON NO.1. 2330 NO.5 ON BOLSTER. 2337 NO.5 PENNANT BACK TO RIG. 2346 PASSED NO.4 PENNANT TO LADY DAWN. MIDNIGHT WEATHER - WINDS 10kts, 340deg SEAS 0.9m, 340deg, 4sec SWELL 2.5m, 090deg, 10sec
14/06/95	35	33.31	00:00	06:45	6.75	CONTINUED PULLING ANCHORS. 0010 NO.1 PENNANT BACK TO RIG. 0014 NO.8 PENNANT TO BONAVISTA. 0023 HEAVING IN ON NO.4. 0055 HEAVING IN ON NO.8. 0150 NO.4 BOLSTERED. 0153 NO.4 PENNANT BACK TO RIG. 0200 PASSED NO.6 PENNANT TO LADY DAWN. 0230 HEAVING IN ON NO.6. 0239 NO.8 BOLSTERED. 0250 NO.8 PENNANT BACK TO RIG. 0315 PASSED NO.2 PENNANT TO BONAVISTA. 0340 NO.6 PENNANT BACK TO RIG. 0350 PASSED NO.3 PENNANT TO LADY DAWN. 0420 HEAVING IN ON NO.3. 0430 NO.2 OFF BOTTOM. 0528 HEAVING IN ON NO.7 WITH RIG. 0530 NO.3 (LADY VERA) IN TOWING POSITION. 0532 NO.2 (BONAVISTA) IN TOWING POSITION. 0645 NO.7 BOLSTERED. RIG OFF CONTRACT.

3.0 MUD SUMMARY BY HOLE SECTION

BHP

LONGTOM-1

Hole Size (in)	Interval (mRT)	Type	Density (S.G.)		Viscosity (sec/l)		PV (cp)		YP (lbs/100ft^2)		Gels				KCl (%)	Fluid Loss (cc)
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.0	Max.0	Min.10	Max.10		
28	81-117	SEAWATER + HI-VIS		1.04	41	100	5	20	19	82	7	23	9	39		
17.5	117-1025	SEAWATER + PHG	1.06	1.17	32	42	2	15	9	29	4	24	5	26		8.6
12.25	1025-2212	KCl PHPA POLYMER	1.04	1.26	39	66	7	17	14	23	3	7	5	19	5.3-8.5	4.4-6.8

LONGTOM-1/ST1

Hole Size (in)	Interval (mRT)	Type	Density (S.G.)		Viscosity (sec/l)		PV (cp)		YP (lbs/100ft^2)		Gels				KCl (%)	Fluid Loss (cc)
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.0	Max.0	Min.10	Max.10		
12.25	1155-2445	KCl PHPA POLYMER	1.18	1.28	40	70	11	23	12	25	2	6	8	20	4.2-7.2	5.2-8.8

3.1 MUD PROPERTIES RECORD

ORIG DRILLING

Date	Mud Type	Hole size (in)	Depth (mRT)	Temp. (°C)	Density (S.G.)	Viscosity (sec/l)	PV (cp)	YP (lb/100 ft^2)	6 RPM	Gels 0	Gels 10	API WL (ml/30min)	MBT (lb/bbl)	pH	%Solid	%H2O	HGS	LGS	%Sand	Ca+ (mg/L)	Cl- (mg/L)	K+ (mg/L)	% KCl
12/05/95	SPUD MUD	26.00	85		1.04	100	20	82	26	23	39			11.4									
13/05/95	SEAWATER GEL		117		1.04	41	5	19	11	7	9		12.0	10.2	3.9	96		3.90		720	11		
14/05/95	SEAWATER GEL	17.50	255	26	1.06	40	11	21	16	11	16		12.0	9.7	4.9	93.8		4.90	0.80	800	15		
	SEAWATER GEL		460	37	1.15	42	15	27	19	17	23		10.0	9.5	11.9	87		11.90	1.00	760	14		
15/05/95	SEAWATER GEL		667	37	1.10	37	6	29	21	20	22		15.0	9.5	10.9	88		10.90	0.30	760	14		
	SEAWATER GEL		697	43	1.11	39	6	28	25	21	24		16.0	9.5	10.8	88			0.30	760	15		
	SEAWATER GEL		953	48	1.11	37	6	23	17	18	22		19.0	9.7	11.1	87.8		11.10	0.10	920	16		
	SEAWATER GEL		985	48	1.17	40	8	27	23	21	26		22.0	9.3	12.5	86.4		12.50	0.40	840	15		
16/05/95	SEAWATER GEL		1025	37	1.12	34	5	14	10	9	16		10.0	9.0	6.5	92		6.50	0.20	1040	18		
	SEAWATER GEL		1025	41	1.17	40	10	28	24	24	30		26.0	9.0	11.9			11.90	0.20	800	14		
	SEAWATER GEL		1025	36	1.14	36	6	18	12	11	18		27.0	9.2	10.8	88		10.80	0.20	1020	15		
17/05/95	SEAWATER GEL		1025		1.10	32	2	9	4	5	12		15.0	9.0	6.2	92.4		6.20	0.20	840	17		
	KCl PHPA POLY.		1025		1.07	55	11	14	4	4	5	8.6	5.0	9.0	0.9	95.2				160	45		8.5
18/05/95	KCl PHPA POLY.	12.25	1025		1.06	66	15	19	6	6	7	6.9	6.0	9.5	2.2	94.8		2.20		160	35		6.7
19/05/95	KCl PHPA POLY.		1034	27	1.04	42	14	15	6	5	7	6.8	5.0	9.5	2.2	95		2.20		120	32		5.3
	KCl PHPA POLY.		1133	36	1.06	39	7	16	6	6	8	5.6	6.0	9.3	2.5	94		2.50		200	41		7.2
	KCl PHPA POLY.		1146	40	1.06	51	11	15	6	4	6	5.5	8.0	8.9	3.5	93.2		3.50		200	39		6.9
20/05/95	KCl PHPA POLY.		1304	52	1.08	39	12	14	5	4	5	6.1	6.0	8.3	2.8	93		2.80		280	50		6.3
	KCl PHPA POLY.		1379	54	1.10	40	14	16	5	4	7	6.2	6.0	9.0	4.6	92		4.60	0.30	240	41		5.8
	KCl PHPA POLY.		1438	55	1.09	41	16	14	5	4	6	6	7.0	9.7	4.2	92.4		4.20		220	40		5.3
21/05/95	KCl PHPA POLY.		1466	40	1.10	39	12	15	5	4	7	6	6.0	9.5	3.6	92		3.60	0.30	440	53		6.5
	KCl PHPA POLY.		1496	40	1.11	39	12	14	4	4	7	6.2	6.0	8.8	5.5	91		5.50	0.40	300	42		6.0
	KCl PHPA POLY.		1628	51	1.12	44	13	18	6	7	9	5.4	9.0	8.9	8.0	88.2		8.00	0.20	280	48		6.8
	KCl PHPA POLY.		1641	51	1.12	42	13	16	6	5	8	5.8	10.0	8.8	8.5	87.6		8.50	0.30	280	49		6.5
22/05/95	KCl PHPA POLY.		1744	54	1.13	42	15	18	7	5	8	5.2	5.0	9.5	7.6	88.4			0.20	240	50		7.3
	KCl PHPA POLY.		1752	54	1.13	41	14	17	5	5	7	5.5	5.0	8.8	8.5	87.8			0.40	240	46		6.0
	KCl PHPA POLY.		1878	56	1.13	40	12	18	6	5	8	5.2	7.0	9.0	6.9	89.2				300	49		5.4
	KCl PHPA POLY.		1891	56	1.14	41	13	19	7	6	10	5.8	7.0	8.8	8.4	88			0.20	320	46		5.3
23/05/95	KCl PHPA POLY.		1915		1.15	42	14	19	5	5	10	5.8	7.0	8.5	8.8	87.2		11.00	0.20	220	51		6.5
	KCl PHPA POLY.		1919	51	1.16	45	15	20	7	5	12	5.9	8.0	8.7	9.3	87.2		11.60	0.40	230	52		6.7
	KCl PHPA POLY.		1988	55	1.14	45	14	19	6	5	11	5	8.0	9.0	7.8	88.8		9.30		180	42		6.5
	KCl PHPA POLY.		2021	57	1.14	44	16	19	7	5	12	5.3	8.0	9.0	8.2	88.6		9.70	0.20	160	40		5.8

3.1 MUD PROPERTIES RECORD

ORIG DRILLING

Date	Mud Type	Hole size (in)	Depth (mRT)	Temp. (°C)	Density (S.G.)	Viscosity (sec/l)	PV (cp)	YP (lb/100 ft^2)	6 RPM	Gels 0	Gels 10	API WL (ml/30min)	MBT (lb/bbl)	pH	%Solid	%H2O	HGS	LGS	%Sand	Ca+ (mg/L)	Cl- (mg/L)	K+ (mg/L)	% KCl
24/05/95	KCl PHPA POLY.	12.25	2162	60	1.16	40	14	20	5	5	12	5.4	8.0	9.0	7.3	88.4		7.80	0.10	220	53		6.0
	KCl PHPA POLY.		2169	61	1.16	40	16	20	6	5	13	6	8.0	8.5	8.2	88		9.20	0.20	180	48		5.5
	KCl PHPA POLY.		2242	65	1.14	43	14	19	6	5	11	5.1	6.0	9.4	6.7	89.2		7.50		220	50		7.0
	KCl PHPA POLY.		2242	65	1.15	46	16	22	7	5	12	5.1	7.0	9.7	7.1	88.8		8.00	0.10	240	51		6.7
25/05/95	KCl PHPA POLY.		2242		1.16	46	15	18	5	4	13	4.4	8.0	10.0	7.0	88.5				200	56		7.5
26/05/95	KCl PHPA POLY.		2015		1.16	47	15	17	5	3	15	4.6	8.0	9.5	7.2	88.5		7.20		160	54		7.2
27/05/95	KCl PHPA POLY.		1100		1.18	44	13	18	5	3	8	5.9	7.0	7.8	6.8	89		6.00	0.60	800	53		6.7
	KCl PHPA POLY.		1790		1.18	46	14	20	6	4	17	5.2	8.0	8.0	7.4	89		6.50	0.40	360	45		7.2
11/06/95	KCl PHPA POLY.		2445		1.26	47	17	23	7	6	19	6.4	12.0	9.3	12.7	84.2	1.60	11.10		320	41		4.9

3.1 MUD PROPERTIES RECORD

GEOLOGICAL S/T

Date	Mud Type	Hole size (in)	Depth (mRT)	Temp. (°C)	Density (S.G.)	Viscosity (sec/l)	PV (cp)	YP (lb/100 ft^2)	6 RPM	Gels 0	Gels 10	API WL (ml/30min)	MBT (lb/bbl)	pH	%Solid	%H2O	HGS	LGS	%Sand	Ca+ (mg/L)	Cl- (mg/L)	K+ (mg/L)	% KCl
27/05/95	KCl PHPA POLY.	12.25	1100		1.18	44	13	18	5	3	8	5.9	7.0	7.8	6.8	89		6.00	0.60	800	53		6.7
	KCl PHPA POLY.		1790		1.18	46	14	20	6	4	17	5.2	8.0	8.0	7.4	89		6.50	0.40	360	45		7.2
28/05/95	KCl PHPA POLY.		1109		1.17	44	15	14	4	3	13	5.9	7.0	7.1	7.2	88.8		6.70	0.30	760	50		6.5
	KCl PHPA POLY.		1151	42	1.18	42	11	13	5	3	12	6	6.0	10.9	7.6	88.5		7.10	0.40	800	49		6.3
	KCl PHPA POLY.		1153	42	1.18	46	12	12	5	3	13	7.9	6.0	10.8	7.7	88.5		7.20	0.50	800	48		5.7
29/05/95	KCl PHPA POLY.		1190	49	1.18	39	11	14	4	3	19	7.8	8.0	8.8	7.3	89		6.80		720	46		5.5
	KCl PHPA POLY.		1193	49	1.18	41	12	13	4	3	16	7.6	8.0	8.8	7.5	88.9		5.40	0.10	700	45		5.4
	KCl PHPA POLY.		1242	51	1.18	40	12	16	6	3	12	6.6	8.0	10.5	7.5	88.5		7.50	0.40	640	50		6.0
	KCl PHPA POLY.		1246	52	1.18	41	12	15	6	3	13	6.9	8.0	10.4	7.4	88.5		7.40	0.40	660	51		5.9
30/05/95	KCl PHPA POLY.		1275		1.18	44	13	14	4	4	14	6.2	9.0	10.5	7.2	88.9		6.70	0.40	440	48		6.0
	KCl PHPA POLY.		1318	50	1.18	41	13	15	5	3	10	6.2	8.0	10.0	7.1	89		6.20	0.40	360	48		6.2
	KCl PHPA POLY.		1321	50	1.18	42	14	16	6	3	10	6.6	8.0	10.0	7.2	89		6.30	0.50	400	47		6.2
31/05/95	KCl PHPA POLY.		1384	52	1.18	43	14	17	5	4	15	6.8	8.0	9.0	7.6	88.7		7.10	0.40	320	46		5.0
	KCl PHPA POLY.		1388	54	1.18	41	14	19	6	5	17	7	8.0	9.0	8.0	88.7		7.50	0.70	240	43		5.0
	KCl PHPA POLY.		1455	56	1.18	40	13	16	5	3	10	6.8	8.0	9.2	8.2	88.5		6.80	0.50	280	52		6.3
	KCl PHPA POLY.		1460	56	1.19	41	13	17	5	3	10	7.1	9.0	9.1	8.2	87.8		7.70	0.40	280	50		6.4
1/06/95	KCl PHPA POLY.		1543	53	1.18	43	14	16	5	4	12	6.4	8.0	9.6	7.8	88	0.50	7.30	0.60	160	53		6.5
	KCl PHPA POLY.		1547	53	1.19	42	14	16	5	4	12	6.6	8.0	9.3	8.3	88	0.50	7.80	0.80	140	46		6.3
	KCl PHPA POLY.		1553		1.18	39	12	16	5	3	10	6	8.0	9.4	7.5	88.5	0.50	7.00	0.50	200	50		6.2
2/06/95	KCl PHPA POLY.		1560	51	1.18	42	12	15	5	4	12	6.2	8.0	8.8	7.6	88.5		7.10	0.80	160	49		6.0
	KCl PHPA POLY.		1569	52	1.18	42	13	17	5	4	13	6.6	8.0	8.5	8.5	88		8.50	1.20	200	44		5.9
	KCl PHPA POLY.		1639		1.18	40	12	17	5	3	10	6.7	8.0	9.1	8.0	88		6.30	0.80	240	50		6.3
3/06/95	KCl PHPA POLY.		1655		1.19	40	13	18	5	4	13	5.8	8.0	9.4	8.2	88		7.70	0.80	120	47		6.0
	KCl PHPA POLY.		1786	57	1.19	41	14	17	6	3	10	6.9	9.0	9.3	8.1	88		7.60	0.50	200	49		6.3
	KCl PHPA POLY.		1798	57	1.19	42	14	18	6	3	11	7.3	9.0	9.2	8.2	88		7.70	0.70	180	48		6.2
4/06/95	KCl PHPA POLY.		1959	56	1.20	42	13	22	6	5	20	7.4	10.0	9.4	9.0	87.5		7.90	0.60	120	44		5.0
	KCl PHPA POLY.		1968	63	1.20	44	16	20	7	6	24	7.5	10.0	9.2	9.4	87		8.80	1.40	160	46		5.3
	KCl PHPA POLY.		2173	67	1.20	50	19	20	8	4	12	6.8	10.0	9.2	9.0	87		8.40	0.70	180	51		6.5
	KCl PHPA POLY.		2193	68	1.20	47	18	24	10	4	17	7.2	10.0	9.0	9.5	86.5		8.90	1.20	180	52		6.4
5/06/95	KCl PHPA POLY.		2321	63	1.21	42	16	19	6	6	27	7.3	13.0	8.6	10.2	86		10.20	0.80	180	49		5.8
	KCl PHPA POLY.		2445	67	1.19	70	20	15	6	3	10	7.8	10.0	9.2	9.6	87		9.60	0.50	140	43		5.6
	KCl PHPA POLY.		2445	70	1.19	43	14	19	8	4	12	8.6	10.0	9.0	9.6	87		9.60	0.50	140	43		5.7

3.1 MUD PROPERTIES RECORD

GEOLOGICAL S/T

Date	Mud Type	Hole size (in)	Depth (mRT)	Temp. (°C)	Density (S.G.)	Viscosity (sec/l)	PV (cp)	YP (lb/100 ft²)	6 RPM	Gels 0	Gels 10	API WL (ml/30min)	MBT (lb/bbl)	pH	%Solid	%H2O	HGS	LGS	%Sand	Ca+ (mg/L)	Cl- (mg/L)	K+ (mg/L)	% KCl
6/06/95	KCl PHPA POLY.	12.25	2445		1.20	43	13	14	6	3	9	9.2	10.0	8.6	10.1	86.5		10.10	0.55	400	43		5.5
	KCl PHPA POLY.		2445		1.19	41	12	14	5	3	10	8.8	10.0	8.7	9.6	87		9.60	0.50	320	43		5.8
7/06/95	KCl PHPA POLY.		2445	59	1.21	42	14	16	7	3	11	8	10.0	9.3	10.6	86		10.60	1.00	200	43		5.0
	KCl PHPA POLY.		2445		1.21	40	13	14	6	3	10	8.8	10.0	9.7	10.7	86		10.70	1.00	120	42		4.9
8/06/95	KCl PHPA POLY.		2445	55	1.22	43	15	16	5	2	9	6.6	11.0	8.5	11.2	85.5		11.20	1.20	300	43		4.8
	KCl PHPA POLY.		2445	61	1.25	44	14	16	6	3	9	6.4	11.0	8.9	12.1	84.8		10.60	0.30	340	40		4.6
	KCl PHPA POLY.		2445	63	1.26	63	23	20	9	9	20	6.4	12.0	8.9	13.1	83.6		12.30	0.40	380	41		4.8
9/06/95	KCl PHPA POLY.		2445		1.28	56	15	17	6	6	12	6.6	12.0	8.7	13.1	84		10.60		340	38		4.2
	KCl PHPA POLY.		2445	57	1.26	45	17	17	7	5	12	5.7	12.0	9.2	10.2	85.8		7.00		360	51		5.8
	KCl PHPA POLY.		2445	57	1.27	47	18	20	6	4	12	6	13.0	9.0	12.1	84.4	2.30	9.80	0.20	240	45		5.5
10/06/95	KCl PHPA POLY.		2445	62	1.27	49	17	25	7	5	18	6	13.0	9.2	13.6	83.4		12.70	0.30	400	40		5.0
	KCl PHPA POLY.		2445	61	1.25	44	16	18	6	5	15	5.5	13.0	9.6	11.7	84.8		10.20		380	45		5.2
	KCl PHPA POLY.		2445		1.26	46	16	22	6	5	19	5.8	13.0	9.0	12.1	84.6	1.50	10.60		340	43		5.3
11/06/95	KCl PHPA POLY.		2445		1.26	47	17	23	7	6	19	6.4	12.0	9.3	12.7	84.2	1.60	11.10		320	41		4.9

3.2 MATERIALS CONSUMPTION TOTAL

PRODUCT	SIZE	QUANTITY
BARACIDE	25.00 KG	11
BARACOR 129	25.00 KG	64
BARITE, BULK	100.00 LB	1626
BENTONITE (Blk)	100.00 LB	1012
CAL CHLORIDE	25.00 KG	43
CAUSTIC SODA sx	25.00 KG	202
CITRIC ACID	25.00 KG	2
DEXTRID LT	50.00 LB	497
EZ MUD DP	50.00 LB	214
LIME	20.00 KG	100
MICA M	25.00 KG	5
PAC-L	25.00 KG	183
POT CHLOR.	1.00 MT	106
POT CHLOR. TECH	25.00 KG	720
Q-B11	25.00 KG	50
SODA ASH	25.00 KG	45
SODA BICARB.	25.00 KG	8
WALLNUT-F	25.00 KG	30
XCD POLYMER	25.00 KG	156

3.2 MATERIALS CONSUMPTION

26in/28in HOLE SECTION

PRODUCT	SIZE	QUANTITY
BENTONITE (Blk)	100.00LB	431
CAL CHLORIDE	25.00KG	43
CAUSTIC SODA sx	25.00KG	17
DEXTRID LT	50.00LB	15
EZ MUD DP	50.00LB	7
LIME	20.00KG	25
PAC-L	25.00KG	5
Q-B11	25.00KG	3
XCD POLYMER	25.00KG	2

3.2 MATERIALS CONSUMPTION

17.5in HOLE SECTION

PRODUCT	SIZE	QUANTITY
BARACIDE	25.00KG	1
BARACOR 129	25.00KG	8
BARITE, BULK	100.00LB	43
BENTONITE (Blk)	100.00LB	270
CAUSTIC SODA sx	25.00KG	37
DEXTRID LT	50.00LB	75
EZ MUD DP	50.00LB	42
LIME	20.00KG	52
PAC-L	25.00KG	25
POT CHLOR.	1.00MT	8
POT CHLOR. TECH	25.00KG	360
Q-B11	25.00KG	23
SODA ASH	25.00KG	1
XCD POLYMER	25.00KG	17

3.2 MATERIALS CONSUMPTION

12.25in HOLE SECTION (GEOLOGICAL S/T)

PRODUCT	SIZE	QUANTITY
BARACIDE	25.00KG	5
BARACOR 129	25.00KG	32
BARITE, BULK	100.00LB	805
BENTONITE (Blk)	100.00LB	90
CAUSTIC SODA sx	25.00KG	86
CITRIC ACID	25.00KG	2
DEXTRID LT	50.00LB	273
EZ MUD DP	50.00LB	80
LIME	20.00KG	18
MICA M	25.00KG	5
PAC-L	25.00KG	98
POT CHLOR.	1.00MT	46
POT CHLOR. TECH	25.00KG	360
Q-B11	25.00KG	14
SODA ASH	25.00KG	27
SODA BICARB.	25.00KG	8
WALLNUT-F	25.00KG	19
XCD POLYMER	25.00KG	71

3.2 MATERIALS CONSUMPTION

12.25in HOLE SECTION

PRODUCT	SIZE	QUANTITY
BARACIDE	25.00KG	5
BARACOR 129	25.00KG	24
BARITE, BULK	100.00LB	778
BENTONITE (Blk)	100.00LB	221
CAUSTIC SODA sx	25.00KG	62
DEXTRID LT	50.00LB	134
EZ MUD DP	50.00LB	85
LIME	20.00KG	5
PAC-L	25.00KG	55
POT CHLOR.	1.00MT	52
Q-B11	25.00KG	10
SODA ASH	25.00KG	17
WALLNUT-F	25.00KG	11
XCD POLYMER	25.00KG	66

4.0 BIT SUMMARY

Bit No	Run No	New/ Used	Size Make	Bit Type Serial No.	Jets TFA	Depth In / Out	Total Metres	Total Hours	ROP (m/hr)	WOB (kips)	RPM (min/max)	Pump gpm / psi	IADC Bit Grading Comments
1	1	U	26 SMITH	S3SJ 622044	- - - - - -	81 117	36.0	1.50	24.00	0.0 / 5.0	60 / 60	397.2 / 1000	1.1.WT.AI...NO.TD
2	2	N	17.5 HUGHES	MAX-T00 W86BC	28 28 22 - - - 1.57	117 1,025	908.5	62.50	14.54	0.0 /40.0	60 / 175	1250 / 2875	0.0.NO.A.E.I.NO.TD
2RR1	3	U	17.5 HUGHES	MAX-T00 W86BC	28 28 22 - - - 1.57	1,025 1,025				/	/	1170 / 3050	0.0.NO.A.E.I.NO.TD WIPER TRIP ONLY
3	4	N	12.25 HYCALOG	DS34HG 15820	13 13 13 13 13 13 0.91	1,025 1,034	9.0	4.75	1.89	5.0 /30.0	40 / 150	970 / 2250	0.0.NO.A.X.I.BT.BU
4	5	N	12.25 HYCALOG	DS40HSF 14744	14 14 14 14 14 - 0.75	1,034 1,438	404.0	21.75	18.57	4.0 /25.0	/ 180	990 / 2250	3.2.WT.A.X.I.BT.PR BODY RUNG OUT/ERODED
5	6	N	12.25 HUGHES	ATM-22GD X45BG	16 16 16 - - - 0.59	1,438 1,915	477.0	44.00	10.84	30.0 /40.0	110 / 110	793 / 3250	1.1.WT.A.N.I.ER.PR PULLED TO RUN PDC BIT.
3RR1	7	U	12.25 HYCALOG	DS34HG 15820	12 12 12 12 12 12 0.77	1,915 2,242	327.0	28.75	11.37	6.0 /25.0	110 / 180	892 / 3150	2.2.WT.A.X.I.CT.PR BODY ERODED.
6	8	N	12.25 HUGHES	ATM-G3 C66CA	20 20 20 - - - 0.92	1,113 1,275	162.0	39.75	4.08	10.0 /44.0	107 / 178	800 / 2550	0.1.RG.G.N.1.NO.BHA
7	9	N	12.25 REED	MHP13G JE2406	20 20 20 - - - 0.92	1,275 1,553	278.0	44.75	6.21	20.0 /55.0	138 / 230	941 / 3150	4.7.RG.G.F.6.FC.TQ
8	10	N	12.25 HUGHES	ATM-22GD V52BR	18 18 18 - - - 0.75	1,553 1,639	86.0	7.75	11.10	20.0 /35.0	110 / 120	743 / 2900	0.0.NO.A.E.I.NO.BHA
9	11	N	12.25 HYCALOG	DS34H 13407	15 15 15 15 15 - 0.86	1,639 1,655	16.0	4.95	3.23	4.0 /30.0	60 / 120	792 / 3000	0.0.NO.A.X.I.BU.PR
9RR1	12	U	12.25 HYCALOG	DS34H 13507	16 16 15 15 15 - 0.91	1,655 2,445	790.0	34.25	23.07	4.0 /12.0	140 / 190	843 / 3250	0.0.NO.AX.1.1.ER.TD
8RR1	13	U	12.25 HUGHES	ATM-22GD V52BR	18 18 18 - - - 0.75	2,445 2,445				0.0 /10.0	/ 180	891 / 3000	0.0.NO.A.E.I.ER.TQ
8RR2	14	U	12.25 HUGHES	ATM-22GD V52BR	24 24 24 - - - 1.33	2,445 2,445				0.0 /40.0	50 / 180	792 / 3000	0.0.NO.AE..I.ER.BHA
8RR3	15	U	12.25 HUGHES	ATM-22GD V52BR	24 24 24 - - - 1.33	2,445 2,445				/50.0	40 / 115	843 / 2900	0.0.NO.A.N.I.ER.TD

4.1 BHA SUMMARY

BHA Name: 1. 28in BHA **Depth In:** 81 m. **Depth Out:** 117 m.

Purpose DRILL 28in HOLE

Joints	BHA Item	O.D.	Length
1	BIT	26.000	0.57
1	HOLE OPENER	28.000	1.60
1	BIT SUB	9.380	1.10
1	ANDERDRIFT	9.500	2.30
1	DRILL COLLAR	9.500	9.33
1	ROLLER REAMER	12.250	2.27
1	DRILL COLLAR	9.500	9.15
1	ROLLER REAMER	17.500	2.31
1	CROSS OVER	9.625	0.93
5	DRILL COLLAR	8.000	44.06
1	CROSS OVER	7.813	0.92
6	HWDP	5.000	48.33
		Total BHA Length :	**122.87**

BHA Name: 2. 17.5in BHA **Depth In:** 116.5 m. **Depth Out:** 1025 m.

Purpose DRILL 17.5in HOLE

Joints	BHA Item	O.D.	Length
1	BIT	17.500	0.43
1	BIT SUB	9.380	1.10
1	ANDERDRIFT	9.500	2.30
1	DRILL COLLAR	9.500	9.33
1	ROLLER REAMER	12.250	2.27
1	DRILL COLLAR	9.500	9.15
1	ROLLER REAMER	17.500	2.31
1	CROSS OVER	9.625	0.93
7	DRILL COLLAR	8.000	62.20
1	DRILLING JAR	8.000	9.68
3	DRILL COLLAR	8.000	26.92
1	JAR ACCELERATOR	8.000	6.22
1	CROSS OVER	7.813	0.92
1	HWDP	5.000	9.22
1	DIDS	6.375	0.69
11	HWDP	5.000	101.46
		Total BHA Length :	**245.13**

BHA Name: 3. WIPER TRIP-17.5in **Depth In:** 1025 m. **Depth Out:** 1025 m.

Purpose WIPE 17.5in HOLE

Joints	BHA Item	O.D.	Length
1	BIT	17.500	0.43
1	BIT SUB	9.380	1.10
1	ANDERDRIFT	9.500	2.30
1	DRILL COLLAR	9.500	9.33
1	ROLLER REAMER	12.250	2.27
1	DRILL COLLAR	9.500	9.15
1	ROLLER REAMER	17.500	2.31
1	CROSS OVER	9.625	0.93
7	DRILL COLLAR	8.000	62.20
1	DRILLING JAR	8.000	9.68
3	DRILL COLLAR	8.000	26.92
1	JAR ACCELERATOR	8.000	6.22
1	CROSS OVER	7.813	0.92

4.1 BHA SUMMARY

1	HWDP	5.000	9.22
1	DIDS	6.375	0.69
11	HWDP	5.000	101.46
		Total BHA Length :	**245.13**

BHA Name: 4.DRILL 12.25in HOLE **Depth In:** 1025 m. **Depth Out:** 1034 m.

Purpose DRILL 12.25in HOLE.

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.29
1	CROSSOVER BIT SUB	9.380	1.17
1	ANDERDRIFT	9.500	2.30
1	DRILL COLLAR	9.500	9.33
1	ROLLER REAMER	12.250	2.31
1	DRILL COLLAR	9.500	9.15
1	ROLLER REAMER	12.250	2.32
1	CROSS OVER	9.625	0.93
7	DRILL COLLAR	8.000	62.20
1	DRILLING JAR	8.000	9.68
3	DRILL COLLAR	8.000	26.92
1	CROSS OVER	7.813	0.92
1	HWDP	5.000	9.22
1	DIDS	6.375	0.69
14	HWDP	5.000	128.89
		Total BHA Length :	**266.32**

BHA Name: 5.DRILL 12.25in HOLE **Depth In:** 1034 m. **Depth Out:** 1438 m.

Purpose DRILL 12.25in HOLE

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.29
1	CROSSOVER BIT SUB	9.310	1.17
1	ROLLER REAMER	12.250	2.32
1	ANDERDRIFT	9.500	2.30
1	DRILL COLLAR	9.500	9.33
1	ROLLER REAMER	12.250	2.31
1	DRILL COLLAR	9.500	9.15
1	CROSS OVER	9.500	0.93
7	DRILL COLLAR	8.000	62.20
1	DRILLING JAR	8.000	9.68
3	DRILL COLLAR	8.000	26.92
1	CROSS OVER	7.813	0.92
1	HWDP	5.000	9.22
1	DIDS	6.375	0.69
14	HWDP	5.000	128.89
		Total BHA Length :	**266.32**

BHA Name: 6.DRILL 12.25in HOLE **Depth In:** 1438 m. **Depth Out:** 1915 m.

Purpose DRILL 12.25in HOLE

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.30
1	NEAR BIT ROLLER REAMER	12.250	2.40
1	SHOCK SUB	9.000	4.24
1	ROLLER REAMER	12.250	2.32
1	DRILL COLLAR	9.500	9.33

4.1 BHA SUMMARY

1	ROLLER REAMER	12.250	2.31
1	DRILL COLLAR	9.500	9.15
1	CROSS OVER	9.500	0.93
12	DRILL COLLAR	8.000	107.52
1	DRILLING JAR	8.000	9.68
3	DRILL COLLAR	8.000	26.92
1	CROSS OVER	7.813	0.92
1	HWDP	5.000	9.22
1	DIDS	6.375	0.69
14	HWDP	5.000	128.89
		Total BHA Length :	**314.82**

BHA Name: 7.DRILL 12.25in HOLE **Depth In:** 1915 m. **Depth Out:** 2242 m.

Purpose DRILL 12.25in HOLE

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.29
1	NEAR BIT ROLLER REAMER	12.250	2.40
1	PONY COLLAR	9.500	3.68
1	ROLLER REAMER	12.250	2.32
1	DRILL COLLAR	9.500	9.33
1	ROLLER REAMER	12.250	2.31
1	DRILL COLLAR	9.500	9.15
1	CROSS OVER	9.500	0.93
6	DRILL COLLAR	8.000	52.89
1	DRILLING JAR	8.000	9.68
3	DRILL COLLAR	8.000	26.92
1	CROSS OVER	7.813	0.92
1	HWDP	5.000	9.22
1	DIDS	6.375	0.69
14	HWDP	5.000	128.89
		Total BHA Length :	**259.62**

BHA Name: 8.SIDETRACK ASSEMBLY **Depth In:** 1122 m. **Depth Out:** 1275 m.

Purpose SIDETRACK

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.30
1	P.D.MOTOR W/BENT HOUSING	9.625	8.13
1	CROSS OVER	9.313	0.69
1	PONY COLLAR	8.000	2.35
1	STRING STABILIZER	12.125	1.67
1	MWD TOOL	8.250	6.48
1	NON MAG. DRILL COLLAR	7.750	8.32
1	CROSS OVER	7.750	0.92
1	HWDP	5.000	9.22
1	DIDS	6.500	0.69
17	HWDP	5.000	166.52
1	DRILLING JAR	6.500	9.92
6	HWDP	5.000	54.38
		Total BHA Length :	**269.59**

BHA Name: 9.STEERABLE ASSEMBLY **Depth In:** 1275 m. **Depth Out:** 1553 m.

Purpose BUILD ANGLE

Joints	BHA Item	O.D.	Length

4.1 BHA SUMMARY

1	BIT	12.250	0.34
1	P.D.MOTOR W/BENT HOUSING	9.625	8.13
1	CROSS OVER	9.313	0.69
1	MWD TOOL	8.250	6.48
1	NON MAG. DRILL COLLAR	7.750	9.18
1	NON MAG. DRILL COLLAR	7.750	8.32
1	CROSS OVER	7.750	0.92
1	HWDP	5.000	9.22
1	DIDS	6.500	0.69
23	HWDP	5.000	212.41
1	DRILLING JAR	6.500	9.92
6	HWDP	5.000	54.38
		Total BHA Length :	**320.68**

BHA Name: 10.HOLD/BUILD ASSY. **Depth In:** 1553 m. **Depth Out:** 1639 m.

Purpose HOLD/BUILD ANGLE

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.30
1	NEAR BIT ROLLER REAMER	12.250	2.29
1	PONY COLLAR	8.000	2.34
1	PONY COLLAR	7.750	1.56
1	STRING STABILIZER	12.125	1.68
1	MWD TOOL	8.250	6.48
1	STRING STABILIZER	12.125	1.78
1	NON MAG. DRILL COLLAR	7.750	9.18
1	NON MAG. DRILL COLLAR	7.750	8.32
1	CROSS OVER	7.750	0.92
1	HWDP	5.000	9.22
1	DIDS	6.500	0.69
23	HWDP	5.000	212.41
1	DRILLING JAR	6.500	9.92
6	HWDP	5.000	54.38
		Total BHA Length :	**321.47**

BHA Name: 11.HOLD/BUILD ASSY. **Depth In:** 1639 m. **Depth Out:** 1655 m.

Purpose HOLD/BUILD ANGLE

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.30
1	NEAR BIT ROLLER REAMER	12.250	2.29
1	MWD TOOL	8.250	6.48
1	NON MAG. DRILL COLLAR	7.750	9.18
1	NON MAG. DRILL COLLAR	7.750	8.32
1	STRING STABILIZER	12.125	1.78
1	CROSS OVER	7.750	0.92
1	HWDP	5.000	9.22
1	DIDS	6.500	0.69
20	HWDP	5.000	184.69
1	DRILLING JAR	6.500	9.92
6	HWDP	5.000	54.38
		Total BHA Length :	**288.17**

4.1 BHA SUMMARY

BHA Name: 12.HOLD/BUILD ASSY. **Depth In:** 1655 m. **Depth Out:** 2445 m.

Purpose HOLD/BUILD ANGLE

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.30
1	NEAR BIT ROLLER REAMER	12.250	2.29
1	MWD TOOL	8.250	6.48
1	NON MAG. DRILL COLLAR	7.750	9.18
1	STRING STABILIZER	12.125	1.78
1	NON MAG. DRILL COLLAR	7.750	8.32
1	CROSS OVER	7.750	0.92
1	HWDP	5.000	9.22
1	DIDS	6.500	0.69
20	HWDP	5.000	184.69
1	DRILLING JAR	6.500	9.92
6	HWDP	5.000	54.38
		Total BHA Length :	**288.17**

BHA Name: 13.WIPER TRIP ASSY. **Depth In:** 2445 m. **Depth Out:** 0 m.

Purpose WIPER TRIP

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.30
1	NEAR BIT ROLLER REAMER	12.250	2.29
2	DRILL COLLAR	8.000	18.14
1	STRING ROLLER REAMER	12.250	2.32
1	DRILL COLLAR	8.000	8.57
1	CROSS OVER	7.750	0.92
1	HWDP	5.000	9.22
1	DIDS	6.500	0.69
20	HWDP	5.000	184.69
1	DRILLING JAR	6.500	9.92
6	HWDP	5.000	54.38
		Total BHA Length :	**291.44**

BHA Name: 14.WIPER TRIP ASSY. **Depth In:** 2445 m. **Depth Out:** 0 m.

Purpose WIPER TRIP

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.30
1	NEAR BIT ROLLER REAMER	12.250	2.32
3	DRILL COLLAR	8.000	26.71
1	CROSS OVER	7.750	0.92
1	HWDP	5.000	9.22
1	DIDS	6.500	0.69
20	HWDP	5.000	184.69
1	DRILLING JAR	6.500	9.92
6	HWDP	5.000	54.38
		Total BHA Length :	**289.15**

BHA Name: 15.LWD ASSEMBLY **Depth In:** 2445 m. **Depth Out:** 2445 m.

Purpose LOG HOLE W/ LWD

Joints	BHA Item	O.D.	Length
1	BIT	12.250	0.30

4.1 BHA SUMMARY

1	NEAR BIT ROLLER REAMER	12.250	2.32
1	CROSS OVER	8.000	0.32
1	CDR-GR LWD TOOL	8.125	6.19
1	CROSS OVER	7.750	0.34
2	DRILL COLLAR	8.000	18.14
1	STRING STABILIZER	12.063	1.78
1	DRILL COLLAR	8.000	8.57
1	CROSS OVER	7.750	0.92
1	HWDP	5.000	9.22
1	DIDS	6.500	0.69
20	HWDP	5.000	184.69
1	DRILLING JAR	6.500	9.92
6	HWDP	5.000	54.38
		Total BHA Length :	**297.78**

4.2 DEVIATION SURVEYS - ORIG DRILLING

Depth	Angle	Azimuth	Method	Missrun
	0.00	0.0	Other	
81.5	0.00	0.0	Other	
116.5	1.00	0.0	Totco Punch	
117.0	1.50	0.0	Inclination	
146.0	1.50	0.0	Inclination	
245.0	0.50	0.0	Inclination	
382.0	1.00	0.0	Inclination	
500.0	1.50	0.0	Inclination	
584.0	1.50	0.0	Inclination	
639.0	1.00	0.0	Totco Punch	
812.0	1.00	0.0	Totco Punch	
923.0	1.50	0.0	Totco Punch	
952.0	2.00	0.0	Totco Punch	
1009.0	2.00	0.0	Totco Punch	
1025.0	2.50	0.0	Totco Punch	
1025.0	2.50	0.0	Totco Punch	
1438.0	3.00	0.0	Totco Punch	
1915.0	6.00	0.0	Magnetic single shot	
2242.0	7.50	0.0	Totco Punch	
2242.0	7.50	0.0	Totco Punch	

4.2 DEVIATION SURVEYS - GEOLOGICAL S/T

Depth	Angle	Azimuth	Method	Missrun
1032.6	2.70	5.0	Dip Meter	
1143.9	1.70	344.3	MWD	
1172.0	1.70	198.9	MWD	
1200.2	3.10	189.1	MWD	
1229.5	3.80	190.5	MWD	
1250.3	4.90	190.1	MWD	
1262.4	5.30	190.5	MWD	
1293.2	7.30	190.8	MWD	
1302.0	8.90	192.8	MWD	
1313.4	10.40	192.2	MWD	
1331.9	11.50	193.3	MWD	
1348.8	12.20	191.0	MWD	
1378.0	15.10	192.2	MWD	
1406.6	17.40	194.7	MWD	
1434.2	20.20	197.3	MWD	
1463.6	22.40	198.2	MWD	
1492.7	23.10	198.4	MWD	
1521.0	23.10	198.4	MWD	
1533.2	23.60	198.0	MWD	
1549.0	23.80	198.4	MWD	
1577.4	23.30	198.8	MWD	
1605.9	22.60	199.2	MWD	
1633.6	21.80	200.3	MWD	
1662.2	22.50	199.7	MWD	
1690.9	23.50	199.4	MWD	
1719.5	24.70	198.9	MWD	
1747.8	25.80	198.8	MWD	
1776.9	26.80	198.2	MWD	
1805.0	27.90	197.4	MWD	
1833.4	28.60	197.1	MWD	
1862.4	28.90	196.4	MWD	
1891.0	29.60	196.2	MWD	
1891.0	29.60	196.2	MWD	
1919.2	30.70	196.1	MWD	
1948.1	31.70	196.1	MWD	
1976.2	32.60	195.9	MWD	
2004.7	33.80	195.5	MWD	
2033.4	34.50	195.0	MWD	
2061.9	35.50	195.2	MWD	
2090.1	36.80	195.6	MWD	
2118.4	37.70	195.0	MWD	
2146.1	38.30	195.9	MWD	
2174.1	39.40	195.6	MWD	
2203.2	39.90	195.9	MWD	
2231.5	41.00	195.8	MWD	
2259.7	41.90	196.0	MWD	

4.2 DEVIATION SURVEYS - GEOLOGICAL S/T

Depth	Angle	Azimuth	Method	Missrun
2288.9	42.80	196.5	MWD	
2316.6	44.00	196.4	MWD	
2326.2	44.50	195.9	MWD	
2345.4	44.30	196.3	MWD	
2373.2	45.20	197.3	MWD	
2402.3	45.70	197.5	MWD	
2429.2	45.80	197.4	MWD	

5.0 CASING REPORT - 20in CONDUCTOR

Hole Size	28 in	**Total Depth**	117 m	**CASING FLANGE / WELLHEAD**	
Weight in Slips	180000 lb	**Casing Shoe at**	116.53 m	**Manufacturer**	DRILQUIP
R.T. to Wellhead	79.1 m	**Top of Casing**	79.1 m	**Model**	SS-10-C
		Liner Overlap	m	**Size**	18.75 in
				Rating	10000 psi

PIPE INFORMATION

Description	Manufacturer	Size	Weight	Grade	Cnd	Threads	Joints	Length	Interval
HOUSING JOINT		24	413	X-56		HD-90	1	14.13	93.23 - 79.10
INTERMEDIATE JOINT		20	94	X-56		HD-90	1	11.84	105.07 - 93.23
SHOE JOINT		20	94	X-56		HD-90	1	11.46	116.53 - 105.07

ACCESSORIES INFORMATION

Item	Manufacturer	Number	Spacing	Interval	How Fixed
FLOAT SHOE	DAVIS LYNCH	1	0	116 - 116.5	WELDED

HOLE / RUNNING CONDITIONS

Mud Type	PREHYDRATED GEL	**Avg. Make Up Torque**	ft lb	**Avg. Drag**	lb
Density	1.04 SG	**RPM**		**Max. Drag**	lb
Viscosity	100	**Avg. Torque Rot.**	ft lb	**Volume Lost**	bbl
PV / YP	28 / 82	**Max. Torque Rot.**	ft lb		

Remarks : WELLHEAD W/ CONCENTRIC 24in PILE JOINT X 20in EXTENSION.
CIW COLLET CONNECTOR AX PROFILE.
CONDUCTOR/PGB MADE UP AND HUNG OFF PRIOR TO DRILLING
28in HOLE.

5.0 CASING REPORT - 13.375in INTERMEDIATE CASING

Hole Size	17.5 in	**Total Depth**	1025 m	**CASING FLANGE / WELLHEAD**	
Weight in Slips	180000 lb	**Casing Shoe at**	1011.61 m	**Manufacturer**	DRILQUIP
R.T. to Wellhead	79.1 m	**Top of Casing**	80.43 m	**Model**	SS-10-C
		Liner Overlap	m	**Size**	18.75 in
				Rating	10000 psi

PIPE INFORMATION

Description	Manufacturer	Size	Weight	Grade	Cnd	Threads	Joints	Length	Interval
HANGER PLUS PUP		13.375	68	K-55		BTC	1	3.28	83.71 - 80.43
CASING		13.375	68	K-55		BTC	75	891.43	975.14 - 83.71
FLOAT COLLAR JOINT		13.375	68	K-55		BTC	1	12.23	987.37 - 975.14
THREADLOK JOINT		13.375	68	K-55		BTC	1	11.86	999.23 - 987.37
FLOAT SHOE JOINT		13.375	68	K-55		BTC	1	12.38	1011.61 - 999.23

ACCESSORIES INFORMATION

Item	Manufacturer	Number	Spacing	Interval	How Fixed
CENTRALIZER	RAY OIL TOOLS	1		988 - 987	FLOATING

HOLE / RUNNING CONDITIONS

Mud Type	SEAWATER GEL	**Avg. Make Up Torque**	ft lb	**Avg. Drag**	lb
Density	1.12 SG	**RPM**		**Max. Drag**	lb
Viscosity	32	**Avg. Torque Rot.**	ft lb	**Volume Lost**	0 bbl
PV / YP	2 / 9	**Max. Torque Rot.**	ft lb		

Remarks :

5.1 CEMENTING REPORT - 20in CONDUCTOR

Date	: 13/05/95	**Report No.**	: 1	**Job Type**	: PRIMARY
Cementer	: HALLIBURTON			**Total Stages**	: 01
Supervisor	: DAVID WINN			**Cemented Interval**	: 81.25 - 116.5m.

STAGE NUMBER : 001 of 001

Mixing Method	: RECIRCUL.	**Displacement Fluid**	: SEAWATER	**Top Plug**	: No
Density Measured By	: DENSOMETER	**Fluid Density**	: 1.03 SG	**Bottom Plug**	: No
Start Mix Cement	: 00:45 hrs	**Fluid Volume**	: 19 bbl	**Bump Plug**	: No
Start Slurry Disp.	: 00:50 hrs	**Displac't Avg. Rate**	: 4 bpm		
Start Fluid Disp.	: 01:30 hrs	**Displac't Max. Rate**	: 4.5 bpm	**Returns**	: YES
End Pumping	: 01:35 hrs			**Total Mud Lost**	: 0 bbl
End Pumping Date	: 13/05/95				

CEMENTING MUD SYSTEM

Type	: PREHYDRATED GE	**Gels (10 sec)**	: 23		
Density	: 1.04 SG	**Gels (10 min)**	: 39	**Circ. Prior to Cementing**	: 0.50 hrs
Viscosity	: 100 s/qt			**Mud Circ. Rate**	: 900 gpm
PV / YP	: 28 / 82			**Mud Circ. Press**	: 250 psi

CEMENT LOGS / CASING TESTING

CBL Run	: No	**Top of Cement**	: 81.25 m.	**Casing Pressure Test**	: 1000 psi
CET Run	: No				
Bond Quality	:	**Top of Cement Determined by**	: ROV OBSERVATION	**Pressure Held For**	: 10 min
Hours Prior to Log	:				
BHT Run	: No			**Shoetrack Cement**	: Yes

Remarks : TWO JOINT DRILLPIPE STINGER USED. GOOD RETURNS OBSERVED WITH ROV AT SEABED.

5.1 CEMENTING REPORT - 20in CONDUCTOR

Stage Number	001 OF 001
Slurry Number	001 OF 001
Slurry Type	LEAD SLURRY
Slurry Class	G
Slurry Description	ACCELERATED
Amount (sacks)	655
Volume (bbl)	133
Yield (ft^3/sx)	1.15
Excess (%)	200
From / To (m)	81.25 / 116.5
Density	1.91
Thickening Time (hrs)	2.27
Temp. (°C)	20
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	SEAWATER
Comp. Strength (psi)	1913
Time (hrs)	40
Temp (°C)	20
Comp. Strength 2. (psi)	
Time (hrs)	
Temp (°C)	
BHST (°C)	18
BHCT (°C)	18

Additives: 2 % bwoc CACL2 ACCELERATOR

5.1 CEMENTING REPORT - 13.375in CASING

Date	17/05/95	**Report No.**	7	**Job Type**	PRIMARY
Cementer	HALLIBURTON			**Total Stages**	01
Supervisor	DAVE WINN			**Cemented Interval**	712 - 1012m.

STAGE NUMBER : **001 of 001**

Mixing Method	RECIRCUL.	**Displacement Fluid**	MUD	**Top Plug**	Yes
Density Measured By	DENSOMETER	**Fluid Density**	1.12 SG	**Bottom Plug**	Yes
Start Mix Cement	19:20 hrs	**Fluid Volume**	447.5 bbl	**Bump Plug**	Yes
Start Slurry Disp.	19:25 hrs	**Displac't Avg. Rate**	12 bpm		
Start Fluid Disp.	20:22 hrs	**Displac't Max. Rate**	16 bpm	**Returns**	100%
End Pumping	20:58 hrs			**Total Mud Lost**	0 bbl
End Pumping Date	17/05/95				

CEMENTING MUD SYSTEM

Type	SEAWATER GEL	**Gels (10 sec)**	12		
Density	1.12 SG	**Gels (10 min)**	13	**Circ. Prior to Cementing**	0.80 hrs
Viscosity	32 s/qt			**Mud Circ. Rate**	600 gpm
PV / YP	2 / 9			**Mud Circ. Press**	1700 psi

CEMENT LOGS / CASING TESTING

CBL Run	No	**Top of Cement**	712.00 m.	**Casing Pressure Test**	2500 psi
CET Run	No				
Bond Quality		**Top of Cement Determined by**	CALCULATION	**Pressure Held For**	10 min
Hours Prior to Log					
BHT Run	No			**Shoetrack Cement**	Yes

Remarks :

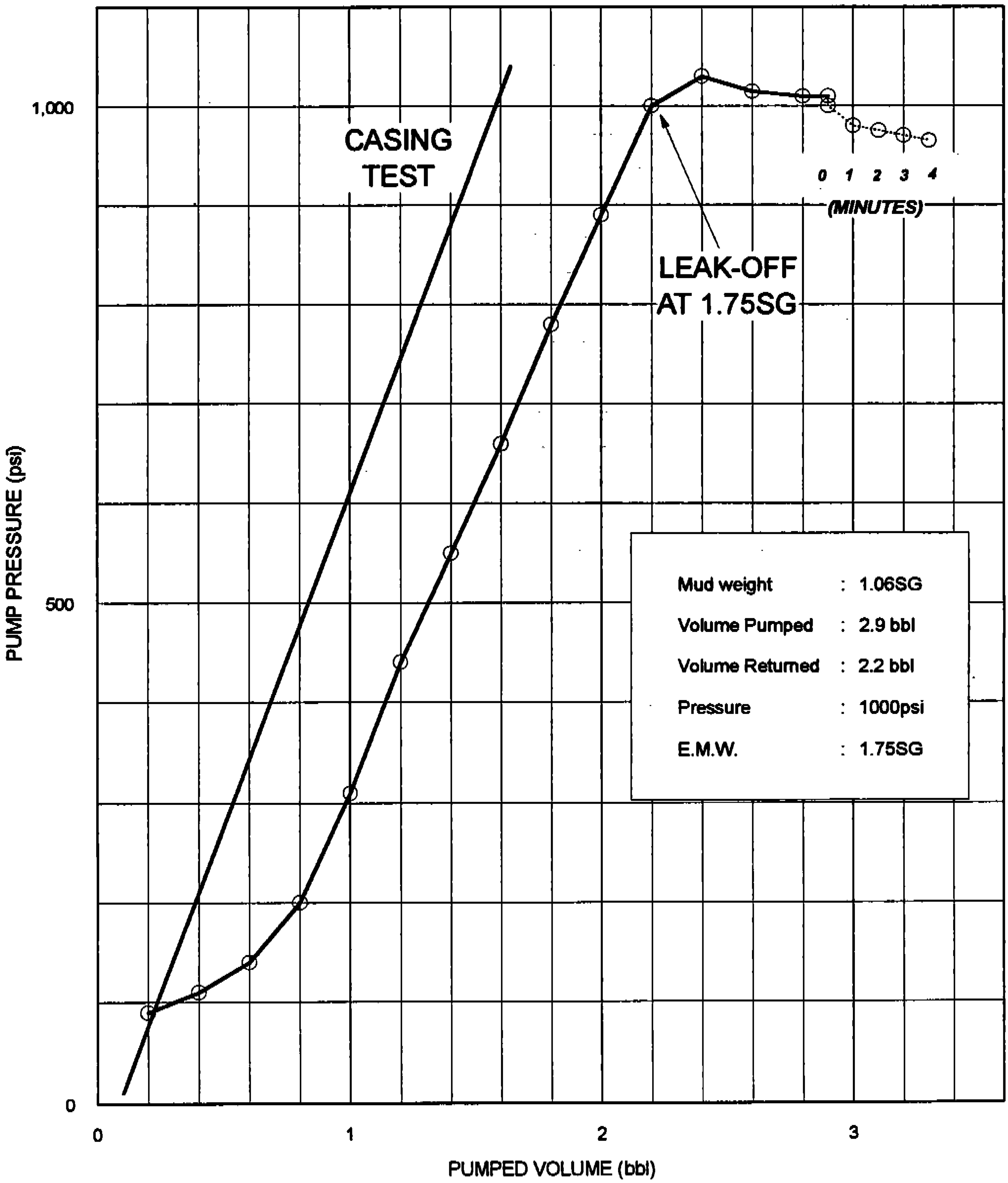
5.1 CEMENTING REPORT - 13.375in CASING

Stage Number	001 OF 001
Slurry Number	001 OF 001
Slurry Type	LEAD SLURRY
Slurry Class	G
Slurry Description	RETARDED SLURRY
Amount (sacks)	830
Volume (bbl)	171
Yield (ft^3/sx)	1.15
Excess (%)	30
From / To (m)	712 / 1012
Density	1.9
Thickening Time (hrs)	3
Temp. (°C)	50
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	DRILLWATER
Comp. Strength (psi)	
Time (hrs)	
Temp (°C)	
Comp. Strength 2. (psi)	
Time (hrs)	
Temp (°C)	
BHST (°C)	
BHCT (°C)	50

Additives: 40 gal of 4 g/10bl HR6-L RETARDER

5.2 LEAK OFF TEST DIAGRAM - 13.375in CASING

MEASURED DEPTH :	1028m
CASING DIAMETER :	13.375in, 68 lb/ft
SHOE DEPTH :	1012m



Mud weight	: 1.06SG
Volume Pumped	: 2.9 bbl
Volume Returned	: 2.2 bbl
Pressure	: 1000psi
E.M.W.	: 1.75SG

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.1

Date	: 27/05/95	**Report No.**	: 17	**Plug Type**	: ABANDONMENT
Cementer	: HALLIBURTON			**Total Stages**	: 01
Supervisor	: A.HATFIELD			**Cemented Interval**	: 1830 - 1965 m.

STAGE NUMBER : 001 of 001

Mixing Method	: RECIRCUL.				
Density		**Displacement Flui**	: MUD	**Top Plug**	: No
Measured By	: DENSOMETER	**Fluid Density**	: 1.18 SG	**Bottom Plug**	: No
Start Mix Cement	: 06:20 hrs	**Fluid Volume**	: 103 bbl	**Bump Plug**	: No
Start Slurry Disp.	: 06:38 hrs	**Displac't Avg. Rate**	: 10.5 bpm		
Start Fluid Disp.	: 06:58 hrs	**Displac't Max. Rate**	: 10.5 bpm	**Returns**	: TOTAL
End Pumping	: 07:12 hrs			**Total Mud Lost**	: 0 bbl
End Pumping Date	: 27/05/95				

CEMENTING MUD SYSTEM

Type	: KCl PHPA POLY.	**Gels (10 sec)**	: 4	**Circ. Prior to Cementing**	: 7.00 hrs
Density	: 1.18 S.G.	**Gels (10 min)**	: 17		
Viscosity	: 46 s/qt			**Mud Circ. Rate**	: 800 gpm
PV / YP	: 14 / 20			**Mud Circ. Press**	: 1800 psi

CEMENT LOGS / CASING TESTING

CBL Run	: No	**Top of Cement**	: 1840.0 m.	**Casing Pressure Test**	: psi
CET Run	: No				
Bond Quality	:	**Top of Cement Determined by**	: TAGGED W/ 10 KIPS	**Pressure Held For**	: min
Hours Prior to Log	:				
BHT Run	: No			**Shoetrack Cement**	: N/A

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.1

Stage Number	001
Slurry Number	001
Slurry Type	LEAD SLURRY
Slurry Class	G
Slurry Description	RETARDED SLURRY
Amount (sacks)	335
Volume (bbl)	69
Yield (ft^3/sx)	1.15
Excess (%)	0
From / To (m)	1830 / 1965
Density	1.9
Thickening Time (hrs)	2.1
Temp. (°C)	90
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	DRILLWATER
Comp. Strength (psi)	500
Time (hrs)	3.2
Temp (°C)	90
Comp. Strength 2 (psi)	2902
Time (hrs)	17.3
Temp (°C)	90
BHST (°C)	90
BHCT (°C)	72

Additives: 12 gal of 2 g/10bl SCR-100L

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.2

Date	: 27/05/95	**Report No.**	: 17	**Plug Type**	: ABANDONMENT
Cementer	: HALLIBURTON			**Total Stages**	: 01
Supervisor	: A.HATFIELD			**Cemented Interval**	: 1100 - 1220 m.

STAGE NUMBER : 001 of 001

Mixing Method	: RECIRCUL.	**Displacement Flui**	: MUD	**Top Plug**	: No
Density Measured By	: DENSOMETER	**Fluid Density**	: 1.18 SG	**Bottom Plug**	: No
Start Mix Cement	: 14:08 hrs	**Fluid Volume**	: 61 bbl	**Bump Plug**	: No
Start Slurry Disp.	: 14:15 hrs	**Displac't Avg. Rate**	: 7.5 bpm		
Start Fluid Disp.	: 14:25 hrs	**Displac't Max. Rate**	: 7.75 bpm	**Returns**	: TOTAL
End Pumping	: 14:39 hrs			**Total Mud Lost**	: 0 bbl
End Pumping Date	: 27/05/95				

CEMENTING MUD SYSTEM

Type	: KCl PHPA POLY.	**Gels (10 sec)**	: 4	**Circ. Prior to Cementing**	: 0.50 hrs
Density	: 1.18 S.G.	**Gels (10 min)**	: 17		
Viscosity	: 46 s/qt			**Mud Circ. Rate**	: 800 gpm
PV / YP	: 14 / 20			**Mud Circ. Press**	: 1800 psi

CEMENT LOGS / CASING TESTING

CBL Run	: No	**Top of Cement**	: 1099.0 m.	**Casing Pressure Test**	: psi
CET Run	: No				
Bond Quality	:	**Top of Cement Determined by**	: TAGGED	**Pressure Held For**	: min
Hours Prior to Log	:				
BHT Run	: No			**Shoetrack Cement**	: N/A

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.2

Stage Number	001
Slurry Number	001
Slurry Type	LEAD SLURRY
Slurry Class	G
Slurry Description	RETARDED SLURRY
Amount (sacks)	300
Volume (bbl)	59.8
Yield (ft^3/sx)	1.12
Excess (%)	0
From / To (m)	1100 / 1220
Density	1.92
Thickening Time (hrs)	2
Temp. (°C)	51
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	4.75
Water Source	DRILLWATER
Comp. Strength (psi)	500
Time (hrs)	3.5
Temp (°C)	65
Comp. Strength 2 (psi)	2915
Time (hrs)	17.6
Temp (°C)	65
BHST (°C)	65
BHCT (°C)	51

Additives: 6.8 gal of 2 g/10bl HR6-L

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.3

Date	: 11/06/95	**Report No.**	: 31	**Plug Type**	: ABANDONMENT
Cementer	: HALLIBURTON			**Total Stages**	: 01
Supervisor	: A.Hatfield			**Cemented Interval**	: 2087 - 2208 m.

STAGE NUMBER : **001 of 001**

Mixing Method	: Recirc.				
Density Measured By	: Densometer	**Displacement Flui**	: MUD	**Top Plug**	: No
		Fluid Density	: 1.27 SG	**Bottom Plug**	: No
Start Mix Cement	: 09:05 hrs	**Fluid Volume**	: 116 bbl	**Bump Plug**	: No
Start Slurry Disp.	: 09:09 hrs	**Displac't Avg. Rate**	: 8 bpm		
Start Fluid Disp.	: 09:38 hrs	**Displac't Max. Rate**	: 8.5 bpm	**Returns**	: Full
End Pumping	: 09:53 hrs			**Total Mud Lost**	: 0 bbl
End Pumping Date	: 11/06/95				

CEMENTING MUD SYSTEM

Type	: KCl PHPA POLY.	**Gels (10 sec)**	: 5	**Circ. Prior to Cementing**	: 2.00 hrs
Density	: 1.27 S.G.	**Gels (10 min)**	: 19		
Viscosity	: 49 s/qt			**Mud Circ. Rate**	: 850 gpm
PV / YP	: 17 / 25			**Mud Circ. Press**	: 2400 psi

CEMENT LOGS / CASING TESTING

CBL Run	: No	**Top of Cement**	: 2080.0 m.	**Casing Pressure Test**	: psi
CET Run	: No				
Bond Quality	:	**Top of Cement Determined by**	: Tagged	**Pressure Held For**	: min
Hours Prior to Log	:				
BHT Run	: No			**Shoetrack Cement**	: N/A

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.3

Stage Number	001
Slurry Number	001
Slurry Type	LEAD SLURRY
Slurry Class	G
Slurry Description	RETARDED SLURRY
Amount (sacks)	425
Volume (bbl)	87
Yield (ft^3/sx)	1.15
Excess (%)	
From / To (m)	2087 / 2208
Density	1.9
Thickening Time (hrs)	2.1
Temp. (°C)	100
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	Drillwater
Comp. Strength (psi)	
Time (hrs)	
Temp (°C)	
Comp. Strength 2 (psi)	
Time (hrs)	
Temp (°C)	
BHST (°C)	100
BHCT (°C)	65

Additives: 15 gal of 3 g/10bl SCR-100L

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.4

Date	: 11/06/95	**Report No.**	: 31	**Plug Type**	: ABANDONMENT
Cementer	: HALLIBURTON			**Total Stages**	: 01
Supervisor	: A.Hatfield			**Cemented Interval**	: 942 - 1042 m.

STAGE NUMBER : 001 of 001

Mixing Method	: Recirc.				
Density Measured By	: Densometer	**Displacement Flui**	: MUD	**Top Plug**	: No
		Fluid Density	: 1.27 SG	**Bottom Plug**	: No
Start Mix Cement	: 17:48 hrs	**Fluid Volume**	: 52 bbl	**Bump Plug**	: No
Start Slurry Disp.	: 18:04 hrs	**Displac't Avg. Rate**	: 7.2 bpm		
Start Fluid Disp.	: 18:17 hrs	**Displac't Max. Rate**	: 7.5 bpm	**Returns**	: Full
End Pumping	: 18:25 hrs			**Total Mud Lost**	: 0 bbl
End Pumping Date	: 11/06/95				

CEMENTING MUD SYSTEM

Type	: KCl PHPA POLY.	**Gels (10 sec)**	: 5		
Density	: 1.27 S.G.	**Gels (10 min)**	: 19	**Circ. Prior to Cementing**	: 0.80 hrs
Viscosity	: 49 s/qt			**Mud Circ. Rate**	: 850 gpm
PV / YP	: 17 / 25			**Mud Circ. Press**	: 1300 psi

CEMENT LOGS / CASING TESTING

CBL Run	: No	**Top of Cement**	: 942.00 m.	**Casing Pressure Test**	: psi
CET Run	: No				
Bond Quality	:	**Top of Cement Determined by**	: CALCULATION	**Pressure Held For**	: min
Hours Prior to Log	:				
BHT Run	: No			**Shoetrack Cement**	: N/A

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.4

Stage Number	001
Slurry Number	001
Slurry Type	LEAD SLURRY
Slurry Class	G
Slurry Description	RETARDED SLURRY
Amount (sacks)	295
Volume (bbl)	60.5
Yield (ft^3/sx)	1.15
Excess (%)	
From / To (m)	942 / 1042
Density	1.9
Thickening Time (hrs)	1.58
Temp. (°C)	65
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	Drillwater
Comp. Strength (psi)	
Time (hrs)	
Temp (°C)	
Comp. Strength 2 (psi)	
Time (hrs)	
Temp (°C)	
BHST (°C)	65
BHCT (°C)	51

Additives: 3.5 gal of 1 g/10bl HR6-L

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.5

Date	: 12/06/95	**Report No.**	: 32	**Plug Type**	: ABANDONMENT
Cementer	: HALLIBURTON			**Total Stages**	: 01
Supervisor	: A.Hatfield			**Cemented Interval**	: 113 - 93 m.

STAGE NUMBER : 001 of 001

Mixing Method	: BATCH	**Displacement Flui**	: SEAWATER	**Top Plug**	: No
Density Measured By	: Densometer	**Fluid Density**	: 1.03 SG	**Bottom Plug**	: No
Start Mix Cement	: 19:37 hrs	**Fluid Volume**	: 4.5 bbl	**Bump Plug**	: No
Start Slurry Disp.	: 19:47 hrs	**Displac't Avg. Rate**	: 3.5 bpm		
Start Fluid Disp.	: 19:52 hrs	**Displac't Max. Rate**	: 3.5 bpm	**Returns**	: FULL
End Pumping	: 19:54 hrs			**Total Mud Lost**	: 0 bbl
End Pumping Date	: 12/06/95				

CEMENTING MUD SYSTEM

Type	: KCl PHPA POLY.	**Gels (10 sec)**	:	**Circ. Prior to Cementing**	: hrs
Density	: 1.25 S.G.	**Gels (10 min)**	:		
Viscosity	: s/qt			**Mud Circ. Rate**	: gpm
PV / YP	: /			**Mud Circ. Press**	: psi

CEMENT LOGS / CASING TESTING

CBL Run	: No	**Top of Cement**	: 93.00 m.	**Casing Pressure Test**	: psi
CET Run	: No				
Bond Quality	:	**Top of Cement Determined by**	: CALCULATION	**Pressure Held For**	: min
Hours Prior to Log	:				
BHT Run	: No			**Shoetrack Cement**	: N/A

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.5

Stage Number	001
Slurry Number	001
Slurry Type	LEAD SLURRY
Slurry Class	G
Slurry Description	G NEAT
Amount (sacks)	115
Volume (bbl)	23
Yield (ft^3/sx)	1.15
Excess (%)	0
From / To (m)	113 / 93
Density	1.91
Thickening Time (hrs)	
Temp. (°C)	
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	SEAWATER
Comp. Strength (psi)	
Time (hrs)	
Temp (°C)	
Comp. Strength 2 (psi)	
Time (hrs)	
Temp (°C)	
BHST (°C)	
BHCT (°C)	

Additives

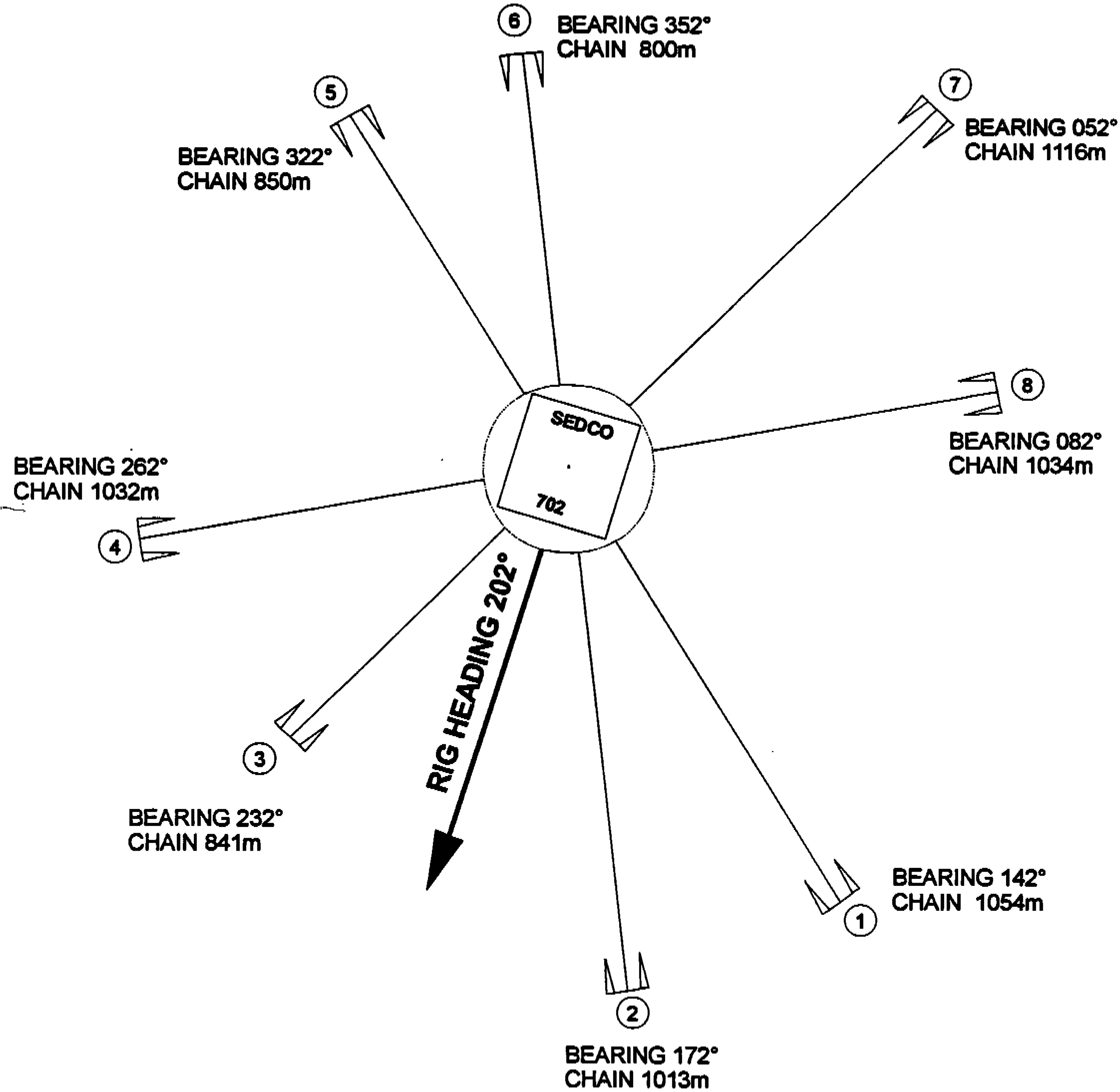
7.0 WEATHER DATA

Date	Day	Wind Vel (Knots)	Wind Dir	Temp High (degC)	Visibility (nm)	Weather State	Swell Height (m)	Swell Per (sec)	Swell Dir	Wave Height (m)	Wave Per (sec)	Wave Dir	Heave (m)	Pitch (deg)	Roll (deg)	Bar Pressure (HPa)
11/05/95	1	14	360	15	15		0.9		220	0.6	4	360		0.3	0.3	1020
12/05/95	2	18	360	15	15	FINE	2.2	8	220	1.2	4	360	0.1	0.3	0.3	1020
13/05/95	3	25	315	18	15		1.9	10	315	1.2	10	315	0.1	0.3	0.3	1007
14/05/95	4	34	220	15	15	WIND AND RAIN	3	10	220	2.3	8	270	0.3	0.8	0.8	1019
15/05/95	5	40	220	13	15		3.6	10	220	2.3	8	220	0.6	0.8	0.8	1028
16/05/95	6	20	220	14	15		2.3	9	220	1.2	4	200	1	0.5	0.5	1031
17/05/95	7	10	220	13	15	FINE	2	7	220	0.6	3	220	0.5	0.2	0.3	1030
18/05/95	8	10	135	17	15	FINE	0.9	6	220	0.3	3	135	0.3	0.2	0.3	1026
19/05/95	9	12	220	16	15	FINE	1.9	8	220	0.3	3	270	0.8	0.6	1	1020
20/05/95	10	18	220	13	15	FINE	2.3	10	220	0.6	4	220	0.6	0.6	0.6	1027
21/05/95	11	12	220	14	15	FINE	1.3	8	220	0.3	3	220	0.3	0.4	0.4	1030
22/05/95	12	12	220	16	15	FINE	1.9	8	220	0.6	2	220	0.5	0.5	0.5	1032
23/05/95	13	10	20	14	15	FINE	1.5	8	220	0.6	1	20	0.5	0.3	0.4	1032
24/05/95	14	24	33	13	15	WINDY/COOL	1.2	8	220	1.2	3	33	0.3	0.3	0.4	1029
25/05/95	15	35	310	15	15	COOL/FINE	1.2	8	220	1.2	3	350	0.3	0.3	0.4	1010
26/05/95	16	55	270	14	15	HIGH WIND/SEAS	3.6	14	220	4.5	12	270	1.5	2	2	1000
27/05/95	17	40	270	11	15	EASING	3.6	12	220	4.5	6	270	1	2	2	1020
27/05/95	17	40	270	11	15	EASING	3.6	12	220	4.5	6	270	1	2	2	1020
28/05/95	18	25	225	12	15		2.3	12	225	1.9	5	225	0.5	0.6	0.6	1020
29/05/95	19	20	270	14	15	FINE	1.9	10	225	1.2	3	270	0.3	0.4	0.3	1027
30/05/95	20	8	340	14	15	FINE	1	8	225	0.1			0.5	0.2	0.2	1026
31/05/95	21	10	270	13	15	FINE	1	8	225	0.6	10	270	0.2	0.2	0.2	1028
1/06/95	22	14	90	13	15	FINE	0.6	8	225	1	3	45	0.3	0.2	0.2	1032
2/06/95	23	18	110	13	15	FINE	1.2	12	225	1.2	3	110	0.5	0.3	0.5	1032
3/06/95	24	16	90	14	15	FINE	1.2	10	225	0.9	3	90	0.5	0.3	0.3	1035
4/06/95	25	16	135	16	15	FINE	1.2	8	225	0.9	3	135	0.1	0.3	0.3	1034
5/06/95	26	16	45	13	15	FINE	0.9	8	225	0.9	3	45	0.3	0.5	0.5	1034
6/06/95	27	20	360	12	15	PATCHY RAIN	0.9	10	135	0.9	4	360	0.3	0.5	0.5	1028
7/06/95	28	22	320	17	15	FRESHENING	1.2	10	135	0.9	4	340	0.3	0.5	0.5	1020
8/06/95	29	23	340	15	15		1.2	14	225	0.9	4	340	0.3	0.5	0.5	1020
9/06/95	30	20	340	16	15	FINE	0.9	12	225	0.9	4	340	0.3	0.5	0.5	1016
10/06/95	31	24	225	16	15		1.5	14	225	1.5	5	225	0.3	0.5	0.5	1016

7.0 WEATHER DATA

Date	Day	Wind Vel (Knots)	Wind Dir	Temp High (degC)	Visibility (nm)	Weather State	Swell Height (m)	Swell Per (sec)	Swell Dir	Wave Height (m)	Wave Per (sec)	Wave Dir	Heave (m)	Pitch (deg)	Roll (deg)	Bar Pressure (HPa)
11/06/95	32	45	290	16	15	HIGH WIND/SEAS	4.8	14	225	4.2	14	290	1	1.5	2	
11/06/95	32	45	290	16	15	HIGH WIND/SEAS	4.8	14	225	4.2	14	290	1	1.5	2	
12/06/95	33	40	270	10	15	WIND/HEAVY SEAS	3.7	14	225	4.3	14	270	1	2	2	1015
13/06/95	34	32	270	11	15		3	14	225	3	14	270	1.2	2	2	1020
14/06/95	35	8	305	10	15	EASING	1.9	9	270	0.9	2	305		0.5	0.5	1019

7.1 MOORING DIAGRAM



8.0 APPROVALS

Compiled By:	Technical Assistant	16/9/95 Date
Reviewed By:	Senior Drilling Engineer	15/9/95 Date
	pp Drilling Superintendent	18/9/95. Date
Approved By:	Drilling Engineering Supervisor	18/9/95 Date

SECTION 3

3

3.4 Palynology

No. of Samples	Sample Type	Collection Interval (mRT)
28	Longtom-1 sidewall cores	1048 - 2213
3	Longtom-1 ditch cuttings	1925 - 2172
2	Longtom-1/ST1 ditch cuttings	2316 - 2445

Palynological analysis was performed by Alan D. Partridge of Biostrata Pty. Ltd. for Longtom-1 & Longtom-1/ST1.

Palynological Basic Data & Range Charts have been incorporated into the Palynological Analysis Report which can be found in Appendix 3 of the Longtom-1 & Longtom-1/ST1 Well Completion Report Interpretive Volume.

3.5 Micropalaeontology

No micropalaeontological analysis was performed for Longtom-1 & Longtom-1/ST1.

3.6 Geochemistry

No geochemical analysis was carried out for Longtom-1 & Longtom-1/ST1.

3 SAMPLES, SIDEWALL CORES, CONVENTIONAL CORES

3.1 Cuttings

COLLECTION INTERVAL(mRT)	TREATMENT
Longtom-1: 120 - 2242(TD) Longtom-1/ST1: 1135 - 2445(TD)	- 1 set each unwashed - 3 sets each washed & dried - 1 composite each

Longtom-1 Cuttings Lithological Descriptions - Appendix 1.
Longtom-1/ST1 Cuttings Lithological Descriptions - Appendix 2.

3.2 Sidewall Cores/Mechanical Sidewall Cores

Longtom-1:

Suite	Run	Bullets	Depth From (mRT)	Depth To (mRT)	No. Attempted	No. Lost	No. Rec.
2	5	60	2213	1048	60	1	59

No sidewall cores were cut for Longtom-1/ST1.

No mechanical sidewall cores were cut for Longtom-1 and Longtom-1/ST1.

Longtom-1 Sidewall Core Descriptions - Appendix 3.

3.3 Conventional Cores

No conventional cores were cut for Longtom-1 and Longtom-1/ST1.

SECTION 4

4

4 LOGGING AND SURVEYS

4.1 Mudlogging/Measurement While Drilling

Mudlogging was provided by Halliburton Australia Pty. Ltd. Measurement While Drilling was not run.

Interval
Mudlogging: Longtom-1: 160 - 2242 mRT (T.D)
Longtom-1/ST1: 1146 - 2445mRT (T.D.)
Measurement While Drilling: n/a

End of Well Report (Mudlogging) - Appendix 4.

4.2 Wireline Logs

Logging was completed by Schlumberger.

Longtom-1:

Suite No.	Run No.	Log Type	Interval (mRT)	Date
1	1	DLL-SLS-CAL-GR-AMS	753 - 80	16-05-95
2	1	AS-MSFL-GR-DLL-AMS	2237 - 700	25-05-95
2	2	LDL-CNL-GR-AMS	2230 - 1011.6	25-05-95
2	2	FMS-GR-AMS	2239 - 1011.6	25-05-95
2	3	MDT-GR-AMS	1930 - 1797	26-05-95
2	4	CSI	2225 - 100	26-05-95
2	5	CST-GR	2213 - 1048	26-05-95

Longtom-1/ST1:

Suite No.	Run No.	Log Type	Interval (mRT)	Date
3	1	AS-MSFL-GR-DLL-AMS	1779 - 1011.6	06-06-95

4.3 Processed Logs

Longtom-1:

Suite No.	Run No.	Log Type	Interval (mRT)	Date
2	1	MSD	2239 - 1011.6	25-05-95

There were no processed logs for Longtom-1/ST1.

4.4 Velocity Survey

No VSP survey was run for Longtom-1 & Longtom-1/ST1..

4.5 Site Survey

No analogue site survey was conducted for Longtom-1 & Longtom-1/ST1..

4.6 Rig Location Survey

Survey was conducted by Racal Survey Australia Limited.

Rig Positioning Report - Appendix 5.

4.7 Directional Services

Directional services for Longtom-1/ST1 were provided by Halliburton.

Directional Services Report - Appendix 6.

SECTION 5

5

5 FORMATION TESTING

5.1 RFT/MDT

Longtom-1:

Run	Tool	No. Pretests	Interval (mRT)	Comments
1	MDT	20	1930 - 1797	- 9 successful - 5 tight - 4 not stabilised - 2 lost seal

No RFT/MDTs were run for Longtom-1/ST1.

Longtom-1 MDT data summary sheets - Appendix 7.

5.2 DST

No drillstem tests were run for Longtom-1 & Longtom-1/ST1.

SECTION 6

6 APPENDICES

APPENDICES

APPENDIX 1

6.1 APPENDIX 1 Longtom-1 Cuttings Lithological Descriptions

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s): S.Horan/K.Haak

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
					Longtom-1 spudded 16:30 12/05/95 . 20" CSG Shoe set @ 116.5m
120					LOST OVER SHAKERS
130					LOST OVER SHAKERS
140					LOST OVER SHAKERS
150					LOST OVER SHAKERS
160					LOST OVER SHAKERS
170	100			99	CALCARENITE: light grey to trace off white, loose, fine to common medium grained, subangular to angular, moderately sorted, abundant fossil fragments including bryzoans, forams, shell fragments, trace glauconite.
180	100				Calcarenite: as above, common to abundant calcilutite matrix
190					LOST OVER THE SHAKERS
200					LOST OVER SHAKERS
210					LOST OVER SHAKERS
220	100	tr	tr		CALCARENITE: light grey to trace off white, loose to commonly hard, fine to medium grained, subangular, moderately sorted, calcite cemented in part, common fossil fragments, common to abundant argillaceous/calcilutite matrix, trace glauconite.
230	100	tr	tr	100	CALCARENITE: as above
240	100	tr	tr		CALCARENITE: as above
250	100	tr	tr		CALCARENITE: as above
260	100	tr	tr	97	CALCARENITE: as above, trace pyritized fossil fragments.
270	100	tr	tr		CALCARENITE: as above
280	100	tr	tr		CALCARENITE: light grey, light olive grey, greenish grey, friable to trace hard, fine to medium grained, subrounded to occasionally angular, moderately sorted, common grey argillaceous/calcilutite matrix, trace glauconite, common fossil fragments, poor visual porosity, no shows.
290	100	tr	tr	98	CALCARENITE: as above.
300	100	tr	tr	100	CALCARENITE: generally as above but common to locally abundant argillaceous/calcilutite matrix.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	**CUTTINGS DESCRIPTION SHEET** BHP Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s): S.Horan/K.Haak Page: 2 of 8
310	100	tr	tr		CALCARENITE: light grey to medium light grey, light olive grey, friable to trace hard, fine to medium grained, subrounded to subangular, moderately sorted, minor moderate calcareous cement, common to locally abundant pale to light grey argillaceous/calcilutite matrix, trace glauconite, common fossil fragments, no shows.
320	100		tr	100	CALCARENITE : as above.
330	100		tr		CALCARENITE: as above.
340	100		tr		CALCARENITE: as above.
350	100			100	CALCARENITE: medium light to medium grey, light grey, friable to trace moderately hard, medium to fine grained, moderately sorted, subangular to subrounded, minor weak to moderate calcareous cement, minor to locally abundant light grey calcilutite/argillaceous matrix, common fossil fragments, no shows.
360	100				CALCARENITE: as above.
370	100			100	CALCARENITE: as above.
380	100				CALCARENITE: as above.
390	100				CALCARENITE: medium light to medium grey, light grey, loose to moderately hard, fine to medium grained, moderately sorted, subangular, minor calcareous cement, minor to locally abundant argillaceous /calcilutite matrix, abundant fossil fragments.
400	100		tr	93	CALCARENITE: generally as above, becoming greenish grey, abundant fossils and fossil fragments, trace to rare glauconite nodules.
410	100				CALCARENITE: light to medium grey, greenish grey, friable to firm, moderately hard in places, fine grained, subangular, moderately sorted, trace weak to moderate calcareous cement, common to locally abundant calcilutite matrix, grades locally to calcisiltite, rare nodular and disseminated glauconite, abundant fossil fragments, poor visual porosity, no shows.
420	100				CALCARENITE: as above.
430	100				CALCARENITE: as above, trace pyrite nodules and pyritised fossils.
440	80 20				CALCARENITE: as above. CALCISILTITE: medium to medium light grey, trace greenish grey, firm to soft, very fine to fine grains in light to medium grey calcilutite /argillaceous matrix, grades locally to calcarenite, trace glauconite nodules.
450	80 20			58	CALCARENITE: as above. CALCISILTITE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s): S.Horan/K.Haak Page: 3 of 8
460	40 60				CALCARENITE: as above. CALCISILTITE: light olive grey, greenish grey, minor medium grey, firm to occasionally moderately hard, soft and sticky in places, blocky, very fine to fine grains in calcilutite/argillaceous matrix, locally very argillaceous, grades to calcilutite/argillaceous calcilutite, rare glauconite, common fossil fragments.
470	50 50				CALCARENITE: as above. CALCISILTITE: as above. clay washing out of samples.
480	70 30				CALCARENITE: as above. CALCISILTITE: as above. clay washing out of samples
490	60 40				CALCARENITE: as above. CALCISILTITE: as above, grades to calcilutite.
500	60 20 20			74	CALCARENITE: as above. CALCISILTITE: as above. CALCILUTITE: light olive grey, medium light to medium grey, soft and sticky to moderately firm in places, locally silty grading to calcisiltite, trace very fine carbonate grains, trace disseminated glauconite.
510	10 10 80				CALCARENITE: as above. CALCISILTITE: as above. CALCILUTITE: light olive grey, medium light to medium grey, soft and sticky to moderately firm in places, locally silty grading to calcisiltite, trace very fine carbonate grains, trace disseminated glauconite, minor fossil fragments.
520	tr tr 100				CALCARENITE: as above. CALCISILTITE: as above. CALCILUTITE: light olive grey, medium light to medium grey, soft and sticky to moderately firm in places, trace very fine carbonate grains, trace disseminated glauconite, minor fossil fragments.
530	tr tr 100				CALCARENITE: as above. CALCISILTITE: as above. CALCILUTITE: as above.
540	tr tr 100				CALCARENITE: as above. CALCISILTITE: as above. CALCILUTITE: as above.
550	100 tr tr			74	CALCILUTITE: medium to light grey, soft, sticky to dispersive, amorphous, rare to minor very fine grains, silty in places, common to abundant fossil fragments, trace disseminated pyrite and glauconite. CALCISILTITE:as above

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s): S.Horan/K.Haak Page: 4 of 8
560	10 10 80				CALCARENITE: as above. CALCISILTITE: as above CALCILUTITE: as above
570	100				CALCILUTITE: as above.
580	100				CALCILUTITE: as above.
590	tr tr 100				CALCARENITE: as above CALCSILTITE:as above CALCILUTITE: medium to light grey, soft, sticky to dispersive, amorphous, minor to common very fine to f ine grains, grading to calcisiltite/argillaceous calcarenite, common to abundant fossil fragments, trace disseminated pyrite and glauconite.
600	tr tr 100			58	CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above.
610	tr tr 100				CALCARENITE: light to medium grey, loose to friable, very fine to occasionally medium grained, subround to subangular, moderately sorted, trace moderate calcareous cement, nil to locally abundant grey calcilutite matrix, minor to common fossil fragments, trace pyrite nodules. matrix dispersives and washes out. CALCISILTITE: as above CALCILUTITE: as above, minor to common very fine to fine grains in calcareous/slightly argillaceous matrix, grades to silty marl.
620	tr tr 100	tr			CALCARENITE: as above. CALCISILTITE: grading from calcilutite with common very fine to fine grains. CALCILUTITE: as above.
630	20 tr 80	tr			CALCARENITE: as above. CALCISILTITE: as above. CALCILUTITE: as above.
640	30 tr 70	tr			CALCARENITE: as above. CALCISILTITE: as above. CALCILUTITE: medium to medium light grey, soft, dispersive, minor to common very fine to fine grains , slightly to moderately argillaceous, minor fossil fragments.
650	20 tr 80	tr		67	CALCARENITE: as above. CALCISILTITE: as above. CALCILUTITE: as above, minor dark grey to olive grey cryptocrystalline limestone.
660	20 tr 80				CALCARENITE: as above CALCISILTE: as above CALCILUTITE: as above

CUTTINGS DESCRIPTION SHEET

BHP

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s): S.Horan/K.Haak

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
670	20 tr 80				CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
680	20 tr 80				CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
690	60 tr 40		tr		CALCARENITE: light grey to medium grey, commonly transparent, loose to moderately hard aggregates, fine to predominantly medium grained, subangular, moderately sorted, common to abundant calcite cement, abundant fossil fragments including forams, bryzoans, trace glauconite, trace pyrite. CALCISILTITE: as above CALCILUTITE: as above, becoming argillaceous.
700	80 tr 20			50	CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
710	80 tr 20	tr	tr		CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
720	80 tr 20		tr		CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
730	60 tr 40	tr	tr		CALCARENITE: as above CALCISITITE: as above CALCILUTITE: as above
740	60 tr 40				CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
750	70 tr 30			76	CALCARENITE: as above, common forams occasionally medium to coarse grained. CALCISILTE: as above CALCILUTITE: as above
760	50 tr 50				CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
770	30 tr 70				CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: light grey to occasionally light grey brown, soft to predominantly dispersive, common to abundant argillaceous material, trace fine to medium calcarenite grains, common fossil fragments.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s): S.Horan/K.Haak

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
780	30 tr 70	tr	tr		CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
790	40 tr 60	tr	tr		CALCARENITE: as above, common to abundant fossil fragments CALCISILTITE: as above CALCILUTITE: as above, grading to calcisiltite in places.
800	50 tr 50	tr	tr	48	CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
810	40 10 50	tr	c		CALCARENITE as above CALCISILTITE: as above CALCILUTITE: as above
820	30 20 50	tr	c		CALCARENITE: as above, abundant forams CALCISILTITE: as above CALCILUTITE: as above
[illegible]0	30 50 20	tr	c		CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
840	20 60 20	tr	tr		CALCARENITE: as above CALCISILTITE: light grey to occasionally off white, soft to moderately hard, commonly calcite cemented in part, common fine to rarely medium sand grains, argillaceous, trace fossil fragments. CALCILUTITE: as above
850	30 60 10	tr	tr	52	CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
860	30 60 10	tr	r		CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
870	40 50 10	tr	r	54	CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
880	30 60 10	tr	c		CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
890	20 70 10	tr	r	64	CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s): S.Horan/K.Haak

Depth .RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
900	30 60 10	tr	r	59	CALCARENITE: light grey to translucent, loose to commonly moderately hard, fine to medium grained, subangular to commonly subrounded, moderately to well sorted, common calcite cement, common to abundant fossil fragments including forams, bryzoans and fragments, trace to rare pyrite, trace glauconite CALCISILTITE: as above CALCILUTITE: as above
910	20 70 10				CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
920	20 70 10			55	CALCARENITE: as above CALCISILTITE: medium grey to occasionally light grey, soft to moderately hard, minor calcite cemented in part,common fine to rarely medium sand grains, argillaceous, trace fossil fragments. CALCILUTITE: medium grey to occasionally light grey brown, soft to predominantly dispersive, common to abundant argillaceous material, trace fine-medium calcarenite grains, common fossil fragments.
930	10 80 10				CALCARENITE: as above CALCISILTITE: as above, trace nodular and disseminated pyrite. CALCILUTITE: as above
940	10 70 20				CALCARENITE: as above CALCISILTITE: as above CALCILUTITE: as above
950	tr 90 10				CALCARENITE: as above CALCISILTITE: medium to medium dark grey, occasionally light grey, firm to moderately hard, soft in part, slightly dispersive grades to calcilutite, minor to common calcite cemented, minor very fine to fine sand grains, argillaceous, trace to minor fossil fragments, trace pyritised fossils. CALCILUTITE: as above
960	tr 90 10			52	CALCARENITE: as above CALCISILTITE: as above, common to abundant fossils/fossil fragments making up approx 30-40% of sample, trace to rare pyrite nodules. CALCILUTITE: as above
970	100 tr				CALCISILTITE: as above, 60-70% fossils/fossil fragments. CALCILUTITE: as above

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s): S.Horan/K.Haak Page: 8 of 8
980	90 10				CALCISILTITE: medium to medium dark grey, occasionally light grey, firm to soft, occasionally moderately hard, slightly dispersive grades to calcilutite, minor to common calcite cemented, minor very fine to fine sand grains, argillaceous, common to abundant loose fossils/fossil fragments, trace pyritised fossils. CALCILUTITE: medium grey to occasionally light grey brown, soft to predominantly dispersive, common to abundant argillaceous material, trace fine-medium calcarenite grains, common fossil fragments.
990	90 10				CALCISILTITE: as above,abundant fossils/fossil fragments, trace to rare pyrite nodules and pyritised fossils. CALCILUTITE: as above
1000	100 tr			61	CALCISILTITE: as above, trace glauconite nodules, rare to minor pyritised fossils and nodular pyrite, 60-70% fossils/fossil fragments. CALCILUTITE: as above
1010	70 30				CALCISILTITE: as above, trace to minor nodular and disseminated glauconite, rare to minor pyritised fossils and nodular pyrite, abundant fossils/fossil fragments. CALCILUTITE: medium to medium dark grey, occasionally light grey, soft to predominantly dispersive, common to abundant argillaceous material, trace very fine to fine calcarenite grains, abundant fossil fragments, washes out of sample.
1020	70 30				CALCISILTITE: as above, abundant fossils/fossil fragments. CALCILUTITE: as above
1025	80 20			59	CALCISILTITE: as above, CALCILUTITE: as above

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 1 of 25
1028	100				CALCISILTITE: medium dark to ocasionally light grey, firm to soft, argillaceous, grades to silty marl, trace glauconite, rare fossil fragments.
1032	100				CALCISILTITE: as above.
1034	100				CALCISILTITE: as above
					POOH BIT #3 DUE TO BALLING OF THE BIT
1038	80 20				CALCISILTITE: as above. CALCARENITE:translucent to light grey, loose, fine to trace medium grained, subangular, moderately to well sorted, common to abundant fossil fragments. Abundant calcareous rock flower, light grey to off white.
1044	90 10				CALCISILTITE: as above , grades to silty marl with argillaceous material CALCARENITE: as above. Abundant calcareous rock flower
1050	80 20				CALCISILTITE: as above CALCARENITE: as above Abundant calcareous rock flower as above.
1056	90	tr	tr		CALCISILTITE: light to predominatly medium grey, firm to soft, abundant argillaceous material grading to silty marl, trace glauconite, trace pyrite, trace fossil fragments. CALCARENITE: as above Abundant calcareous rock flower
1062	90 10	tr	tr		CALCISITITE: as above CALCARENITE: as above Abundant calcareous rock flower
1068	90 10	tr	tr		CALCISILTITE: as above CALCARENITE: as above Abundant calcareous rock flower
1074	90 10	tr-r	tr		CALCISILTITE: as above CALCARENITE: as above Abundant calcareous rock flower Calc/Dol 56/3
1080	100	tr	tr		CALCISILTITE: as above Abundant calcareous rock flower
1086	90 10	tr	tr		CALCISILTITE: as above CALCARENITE: as above Abundant calcareous rock flower Calc/Dol 70/4

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak
1092	100 tr	tr	tr		CALCISILTITE: light to predominatly medium grey, firm to soft, abundant argillaceous material grading to silty marl, trace glauconite, trace pyrite, trace fossil fragments. CALCARENITE:translucent to light grey, loose, fine to trace medium grained, subangular, moderately to well sorted, common to abundant fossil fragments. Calc/Dol 69/4.
1098	100	tr	tr		CALCISILTITE: as above
1104	100	tr	tr		CALCISILTITE: as above, trace medium greenish grey with abundant disseminated pyrite.
1110	100	tr	tr		CALCISILTITE: medium dark to medium light grey, soft to firm, rarely moderately hard, abundant argillaceous material grading to marl/silty marl, trace to locally abundant nodular and disseminated glauconite, trace pyrite, trace fossil fragments. Calc/Dol 61/3
1116	70 30	tr	tr		CALCISILTITE: as above CALARENITE: transluscent to light grey, loose, fine to medium grained, subrounded to subangular, moderately to well sorted, common to abundant fossil fragments.
1122	80 20	tr	tr		CALCISILTITE: medium light to occasionally dark grey, soft to predominantly firm, occasionally moderately hard, abundant argillaceous material, trace glauconite and pyrite. CALCARENITE: as above Calc/Dol 68/5
1128	90 10	tr	tr		CALCISILTITE: as above, generally medium grey, firm to soft. CALCARENITE: as above Abundant calcareous rock flour
1134	90 10	tr	tr		CALCISILTITE: as above, generally medium grey, firm to soft. CALCARENITE: as above Abundant calcareous rock flour
1140	80 20	tr	tr		CALCISILTITE: as above, generally medium grey, firm to soft. CALCARENITE: as above Abundant calcareous rock flour Calc/Dol 61/4
1146	90 10	tr	tr		CALCISILTITE: as above. CALCARENITE: as above.
1152	100	tr	tr		CALCISILTITE: medium light to medium dark grey, soft to firm, argillaceous grades to silty marl/marl, trace to rare disseminated and nodular glauconite, trace fossil fragments.
1158	100	tr			CALCISILTITE: as above. Calc/Dol 70/3
1164	100	tr			CALCISILTITE: as above.
1170	100	tr			CALCISILTITE: as above. Abundant calcareous rock flour.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s):S.Horan/K.Haak

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1176	80 20	tr	tr		CALCISILTITE: as above, generally medium grey, firm to soft. CALCARENITE: as above Abundant calcareous rock flour Calc/Dol 56/3
1182	100	tr	tr		CALCISILTITE: medium light to medium dark grey, soft to firm, argillaceous grades to silty marl/marl, trace to rare disseminated and nodular glauconite, trace disseminated pyrite,trace to rare fossil fragments.
1188	100	tr	tr		CALCISILTITE: as above.
1194	100	tr	tr		CALCISILTITE: as above. Calc/Dol 67/6
1200	100	tr	tr		CALCISILTITE: as above.
1206	100	tr	tr		CALCISILTITE: light medium to medium grey, soft to firm, becoming less argillaceous, grading locally to argillaceous calcilutite, trace disseminated glauconite and pyrite, trace fossil fragments. abundant calcareous rockflour/floculated clay.
1212	100	tr	tr		CALCISILTITE: as above.
18 1218	100	tr	tr		CALCISILTITE: as above. Calc/Dol 83/3
1224	100	tr	tr		CALCISILTITE: as above, tr crystalline limestone, light to medium grey moderately hard, slightly argillaceous, tr disseminated pyrite. Abundant calcareous rock flour/floculated carbonate clay.
1230	80 20	tr			CALCISILTITE: light grey to medium light grey, predominantly soft to firm, grades locally to calcilutite with rare to minor fine to medium sand grains in calcilutite matrix , trace glauconite, trace fossil fragments. CALCILUTITE: light grey to occasionally very light grey, soft, dispersive, trace to rare fine to medium calcite grains, trace glauconite.
1236	90 10	tr			CALCISILTITE: medium light grey to medium dark grey, soft to predominantly firm, occasionally moderately hard, slightly argillaceous, grades locally to argillaceous calcilutite, trace glauconite and disseminated pyrite, rare to minor fossil fragments. CALCILUTITE: as above. Calc/Dol 75/4
1242	80 20				CALCISILTITE: as above. CALCILUTITE: as above.
1248	80 20				CALCISILTITE: as above. CALCILUTITE: as above.
1254	30 70				CALCISILTITE: as above. SANDSTONE: transluscent, mottled yellow orange, green, moderately hard to hard, commonly loose, fine to medium grained, minor coarse to granule sized loose grains, subangular to subrounded, poorly sorted, moderate to strong sideritic cement, trace to locally abundant dark yellow orange to olive brown argillaceous matrix, trace to locally common nodular and disseminated glauconite, poor visual porosity, no fluorescence.

Depth (m RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	**CUTTINGS DESCRIPTION SHEET** Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 4 of 25
1260	100				SANDSTONE: transluscent, red brown, mottled, loose to friable, trace moderately hard, predominantly fine to medium grained, minor coarse to granule sized loose clear to Fe stained quartz grains, subangular to subrounded, poorly sorted, trace sideritic cement, minor to common light brown argillaceous matrix, trace glauconite, minor pyrite nodules, poor visual to fair inferred porosity, no fluorescence.
1266	20				SANDSTONE: clear to transluscent, loose, trace friable to moderately hard, very fine to granule sized , subround to subangular, poorly sorted, trace sideritic cement and argillaceous matrix, trace glauconite, poor inferred porosity, no fluorescence.
	30				COAL: dark red brown, black, firm to moderately hard, brittle, blocky to subblocky, argillaceous grading to carbonaceous claystone, earthy to trace vitreous lustre.
	50				CLAYSTONE: yellow brown to dark yellow brown, soft to occasionally firm, blocky to sublocky, minor amorphous, trace to minor carbonaceous microlaminations, minor pyrite nodules.
1278	100	tr	tr		SANDSTONE: clear to transluscent, loose to trace moderately hard, very fine to granule, predominantly fine to medium, subround to occasionally angular, poor ly sorted, trace sideritic cement, trace pyritic cement, fair to good inferred porosity, no fluorescence.
1290	100		tr		SANDSTONE: transluscent to opaque, loose, predominantly coarse to granule, minor very fine to medium, subangular to angular, moderately to poorly sorted, trace pyrite nodules, good inferred porosity, no fluorescence.
1296	80		tr		SANDSTONE: transluscent to opaque, loose,fine to very coarse, predominantly coarse to very coarse, subangular to angular, poorly sorted, trace pyrite nodules, good inferred porosity, no fluorescence.
	20				SILTSTONE: dark brown, firm, trace brittle, blocky to subblocky, trace to common carbonaceous material, grades to argillaceous coal .
	tr				COAL: as above.
1302	90		tr	tr	SANDSTONE: as above, trace pyrite cement, trace silica cement,good inferreed porosity, no fluorescence.
	10				SILTSTONE: as above
	tr				COAL : as above.
1308	60		tr	tr	SANDSTONE: as above, fine to very coarse, predominatly coarse to very coarse, commonly fine to medium, no fluorescence.
	40				SILTSTONE: off white to light grey, occasionally light browny/grey, soft to firm, blocky to subblocky, abundant argillaceous material, grades to carbonaceous siltstone in places, trace pyrite, trace fine grained sand.
1314	60		tr-r	tr	SANDSTONE: as above
	40				SILTSTONE: as above

CUTTINGS DESCRIPTION SHEET

BHP

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s):S.Horan/K.Haak

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1320	50 50		r	tr	SANDSTONE: as above, rare pyrite cement and nodules SILTSTONE: as above
1326	40 60		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above
1332	50 50		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: off white to light browny grey, soft to occasionally firm, dispersive to subblocky, abundant argillaceous material, grades to carbonaceous siltstone in places, trace pyrite, trace fine grained sand grains
1338	50 50		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above
1344	40 60		tr	tr	SANDSTONE: as above, no fluorescence SILTSONE: as above
1350	30 70		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above
1356	40 50 10		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above COAL: black to browny black, grades to very carbonaceous siltstone, firm to soft, blocky
1362	60 40		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above
1368	60 40		tr	tr	SANDSTONE: translucent to opaque, loose, coarse to granule size, commonly fine to medium grained, subangular to angular, moderately sorted, trace pyrite cement, trace silica cement, good inferred porosity, no fluorescene. SILTSTONE: as above
1374	70 30		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above
1380	50 50		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: light brown to browny grey, occasionally off white, soft to commonly dispersive, blocky,argillaceous, grade to carbonaceous siltstone in part, trace fine grained sand grains, trace pyrite, trace micromicaeous.
1386	50 50		tr	tr	SANDSTONE: as above, no fluorescence. SILTSTONE: as above.
1392	50 50		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: off white, trace to minor light browny grey, soft to dispersive, blocky in places, argillaceous, trace fine grained sand grains.
1398	40 60		tr	tr	SANDSTONE: as above, no fluorescence. SILTSTONE: as above.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1404	30 70		tr	tr	SANDSTONE: as above, no fluorescence. SILTSTONE: as above.
1410	50 50		tr	tr	SANDSTONE: as above, no fluorescence. SILTSTONE: as above.
1416	20 80		tr	tr	SANDSTONE: as above, no fluorescence. SILTSTONE: as above
1422	20 80		tr	tr	SANDSTONE: as above, no fluorescence. SILTSTONE: as above
1428	30 70		tr	tr	SANDSTONE: as above, trace pyrite cement and individual nodules. SILTSTONE: medium grey/brown, common off white, firm to minor soft, subblocky to blocky, argillaceous, grade to carbonaceous siltstone in places, trace pyrite,trace fine grained sand grains. NOTE CHANGE IN SILTSTONE COLOUR FROM THAT SEEN AT 1392
1434	20 70 10			tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above 10% nodular pyrite.
1438	 30 65 5				SPOT SAMPLE SANDSTONE: as above, trace brown stains on quartz grains??, no fluoro SILTSTONE: as above 5% nodular pyrite.
					POOH BIT#4 DUE TO LOW ROP.
1440	30 70				SANDSTONE: as above, no fluorescence SILTSTONE: as above
1446	100				SANDSTONE: transluscent to opaque, milky, loose, trace hard, medium to granule, predominantly coarse to granule, angular to subrounded, moderate to poorly sorted, trace siliceous cement, trace to minor quartz overgrowths, trace pyritic cement and nodular pyrite, poor visual porosity, fair inferred porosity.
1452	100				SANDSTONE: generally as above but coarser, with abundant granule sized quartz grains.
1458	100				SANDSTONE: translucent to opaque, milky, loose, trace friable to hard, medium to granule, predominantly coarse to very coarse, poor to moderately sorted, trace siliceous cement, trace quartz overgrowths and argillaceous matrix, fair inferred porosity, no fluorescence.
1464	90 10		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: off white to light browny/grey, soft to predominatly dispersive, abundant argillaceous material,trace fine sand grains, trace carbonaceous material.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 7 of 25
1470	70 30		tr		SANDSTONE: as above, no fluorescence SILTSTONE: as above.
1476	40 60		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above.
1479	 40 60				SPOT SAMPLE, BAGGING EACH 6 M, SAMPLING WERE POSSIBLE EACH 3 M. SANDSTONE: as above, no fluorescence. SILTSTONE: as above, 5-10% browny black carbonaceous siltstone.
1482	40 60		tr		SANDSTONE: translucent to opaque, trace black, trace reddy brown, loose, trace moderately hard, fine to granule size, predominantly coarse to very coarse, subangular to angular, moderately to well sorted, trace to rare siliceous cement, trace pyrite, moderate to good inferred porosity, no fluorescence. SILTSTONE: as above.
1485	 30 60 10				SPOT SAMPLE SANDSTONE: as above, no fluorescence. SILTSTONE:as above. COAL:black, hard, blocky to trace subblocky,conquoidal fracture
1488	30 60 10		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above. COAL: as above.
1494	30 70 tr		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above. COAL: as above.
1497	 20 80		tr		SPOT SAMPLE. SANDSTONE: as above no fluorescence. SILTSTONE: light grey brown to commonly off white, dispersive to commonly soft, commonly subblocky, abundant argillaceous material, trace fine sand grains, grades to very carbonaceous siltstone in places, trace pyrite.
1500	30 70		tr		SANDSTONE: as above, no fluorescence SILTSTONE: as above.
1503	20 80		tr		SANDSTONE: as above, no fluorescence SILTSTONE: as above, grade to carbonaceous siltstone/coal in places.
06	20 80		tr		SANDSTONE: as above, trace to common pyrite cement, no fluorescence. SILTSTONE: as above
1509	20 80		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above, predominantly off white.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1512	10 90		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above, no fluorescence.
1518	50 50 Tr				SANDSTONE: translucent to opaque, trace smoky,loose, fine to very coarse, predominatly coarse to very coarse, subangular to angular, moderately sorted, common silica cement, trace to rare pyrite cement,good inferred porosity, no fluorescence. SILTSTONE: as above. VOLCANICS: green, loose, hard, crystaline.
1524	60 10 30		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: light to medium grey, hard, subblocky. VOLCANICS: light brown to buff, green, loose to aggregates, firm to hard, weathered feldspars, crystalline, abundant pale white to buff clay matrix, quartz crystals, pyrite.
1527	70 10 20		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above. VOLCANICS: as above
30	80 10 10		r		SANDSTONE: as above, no fluorescence. SILTSTONE: light to medium grey, occasionally dark grey/black, firm to trace hard, subblocky, arenaceous in part. VOLCANICS: as above.
1533	30 40 30		r		SANDSTONE: as above, no fluoresccence SILTSTONE: as above, abundant off white. VOLCANICS: as above, minor reddy brown.
1536	60 30 10		r		SANDSTONE: as above, no fluorescence. SILTSTONE: as above. VOLCANICS: as above.
1539	70 20 10				SANDSTONE: opaque to translucent, trace smoky to black, loose, medium to granule sized, predominatly coarse to very coarse, subangular to angular, moderately to well sorted, trace silica cement, trace pyrite cement, good inferred porosity, no fluorescence. SILTSTONE: predominatly off white, as above VOLCANICS: as above.
1542	90 10 tr		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above VOLCANICS: as above.
1548	90 10 tr		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above. VOLCANICS: as above
1554	100 tr		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 9 of 25
1560	100 tr		tr		SANDSTONE: as above, no fluorescence. SILTSTONE: as above.
1563	90 10		tr		SANDSTONE: as above, no fluorescence SILTSTONE: see below
1566	40 60				SANDSTONE: as above, commonly fine to medium grained aggrgates, quartz and silica cemented, trace dolomitic cementhard to moderately hard. SILTSTONE: light brown to light browny/grey, dispersive to firm, abundant argillaceous material, trace micromicaeous, trace carbonaceous material.
1569	30 70		tr		SANDSTONE: as above, no fluorecence SILTSTONE: as above.
1572	10 90		tr		SANDSTONE: as above, no fluorescence SILTSTONE: as above
1575	10 90		tr		SANDSTONE: as above, no fluorescence SILTSTONE: as above
78	10 90		r		SANDSTONE: as above, no fluorescence. SILTSTONE: as above.
1581	tr 100		tr		SANDSTONE: as above, no fluorescence SILTSTONE: as above
1584	tr 100		tr		SANDSTONE: as above, no fluorescence SILTSTONE: as above
1587	tr 100		tr	tr	SANDSTONE: as above, trace light grey to of white fine to medium aggregates, moderataley hard, common silica cement, trace calcite cement, trace lithics, nil visual porosity,no fluorescence SILTSTONE:light browny grey, commonly off white, soft to dispersive, abundant argillaceous material, trace carbonaceous material, trace micromicaeous, becoming arenaceous in part..
1590	tr 100		r	tr	SANDSTONE: a/a SILTSTONE: a/a
1593	tr 100		tr	tr	SANDSTONE: as above, trace fine to medium grained aggregates as above, no fluorescence. SILTSTONE: as above.
1596	tr 100		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above
1599	tr 100		tr	tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s):S.Horan/K.Haak

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1602	tr 90 10		tr	tr	SANDSTONE: as above SILTSTONE: light grey brown, soft to dispersive, occasionally firm, commonly subblocky, abundant argillaceous material, trace arenaceous material, trace carbonaceous material, CLAYSTONE: medium grey, commonly light grey, firm to trace dispersive, trace fine sand grains, grades to siltstone in places, trace carbonaceous material.
1605	tr 30 70		tr	tr	SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above
1608	tr 50 50				SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above
1611	tr 30 70				SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above
14	tr 10 90				SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above
1617	tr 100				SILTSTONE: as above. CLAYSTONE: as above.
1620	100 tr		tr		CLAYSTONE: medium to dark grey, trace light grey, firm to soft, trace dispersive, blocky to subblocky, trace very fine sand grains, slightly silty, trace grade to siltstone, trace very fine carbonaceous flakes/speck, trace very fine mica flakes and disseminated and nodular pyrite. SILTSTONE: as above.
1623	100		tr	tr	CLAYSTONE: as above. tr loose coarse quartz grains.
1626	30 70		tr	tr	CLAYSTONE: as above. SANDSTONE: transluscent to opaque, milky, loose to trace hard, medium to occasionally granule sized, predominantly coarse to very coarse, angular to subrounded, moderately sorted, trace quartz overgrowths and silica cement on grain boundaries, fair inferred porosity, no fluorescence. Common floculated clay and polymer in samples.
1629	20 80		tr	tr	CLAYSTONE: as above. SANDSTONE: generally as above but predominantly coarse, generally smaller grain size than above sample.
1632	20 80		tr	tr	CLAYSTONE: as above. SANDSTONE: as above.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1635	30 70		tr		CLAYSTONE: as above. SANDSTONE: as above. Common floculated clay and polymer in samples.
1638	40 60		tr		CLAYSTONE: medium to dark grey, occasionally light medium grey, firm to moderately hard, trace dispersive, subblocky to trace subfissile, occasionally silty, trace to locally minor very fine carbonaceous flakes, trace disseminated pyrite. SANDSTONE: as above, no fluorescence. trace nodular pyrite in sample.
1641	40 60		tr	tr	CLAYSTONE: as above. SANDSTONE: as above.
1644	50 50				CLAYSTONE: as above. SANDSTONE: clear to transluscent, opaque, trace dark grey, loose, fine to very coarse, predominantly medium to coarse, angular to subrounded, moderately sorted, trace siliceous cement, fair inferred porosity, no shows.
1647	80 20		tr	tr	CLAYSTONE: medium to dark grey, minor light grey and grey brown, soft and dispersive to firm, trace moderately hard, blocky to subblocky, amorphous, trace silty, trace to locally common carbonaceous specks and microlaminations, trace nodular pyrite. SANDSTONE: as above.
1650	70 30		tr	tr	CLAYSTONE: as above. SANDSTONE: as above. Common floculated clay and polymer in samples.
1653	90 10		tr	tr	CLAYSTONE: as above. SANDSTONE: as above.
1656	50 50		tr	tr	CLAYSTONE: as above. SANDSTONE: clear to transluscent, milky, loose, fine to trace coarse, predominantly fine to medium, subangular to subrounded, moderately to well sorted, trace siliceous cement, fair inferred porosity, no fluorescence.
1659	80 20				CLAYSTONE: as above. SANDSTONE: clear to transluscent, loose, medium to very coarse, angular to subrounded, moderately sorted, fair inferred porosity, no fluorescence.
1662	90 10				CLAYSTONE: medium to occasionally dark grey, minor light and grey brown, soft and dipersive to trace firm, amorphous to occasionally blocky, trace silty, trace to rare very fine carbonaceous specks and flakes. SANDSTONE: as above.
1665	90 10				CLAYSTONE: as above. SANDSTONE: as above.
1668	100 tr				CLAYSTONE: as above. SANDSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	**CUTTINGS DESCRIPTION SHEET** Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 12 of 25
1671	100				CLAYSTONE: as above.
1674	100				CLAYSTONE : generally as above becoming slightly firmer.
1677	100 tr				CLAYSTONE: as above. SANDSTONE: white to off white, friable to moderately hard, ine to medium grained, subangular to subrounded, moderately well sorted, common white argillaceous matrix, trace very argillaceous, trace siliceous cement, poor visual porosity, no fluorescence.
1680	100 tr				CLAYSTONE: medium to dark grey, trace light medium grey, soft to firm, minor dispersive, blocky to subblocky, trace silty, trace to rare very fine carbonaceous flakes. SANDSTONE: as above.
1683	100 tr				CLAYSTONE: as above. SANDSTONE: as above.
1686	100				CLAYSTONE: as above.
1689	100				CLAYSTONE: medium to dark grey, moderately firm to moderately hard, minor soft and dispersive, blocky to subfissile, trace to nil carbonaceous specks, trace disseminated pyrite.
1692	100 tr				CLAYSTONE: as above. SANDSTONE: as above.
1695	100				CLAYSTONE: as above.
1698	100				CLAYSTONE: medium to dark grey, firm to moderately hard, minor soft, blocky to subfissile, trace slightly silty, trace very fine carbonaceous specks, trace disseminated pyrite.
1701	100			tr	CLAYSTONE: as above, trace coal fragments.
1704	100 tr			tr	CLAYSTONE: as above. COAL: dark brown, black, brittle to moderately hard, blocky to subblocky, argillaceous in part, earthy to subvitreous lustre.
1707	100			tr	CLAYSTONE: medium grey, brown grey, trace dark grey, soft to trace firm, dispersive, blocky, trace very fine carbonaceous specks.
1710	100			tr	CLAYSTONE: as above.
1713	100			tr	CLAYSTONE: light medium to occasionally dark grey, soft and dispersive to occasionally firm, blocky, trace slightly silty, nil to trace carbonaceous specks.
1716	100				CLAYSTONE: as above.
1719	100				CLAYSTONE: as above.
1722	100				CLAYSTONE: as above.

Depth (.RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 13 of 25
1725	100				CLAYSTONE: as above
1728	100		tr	tr	CLAYSTONE: as above, grading to silty claystone in part.
1731	10 90		tr		SANDSTONE: off white to light grey, translucent grains, loose to common aggrgates, fine to medium grained, trace coarse, subangular to subrounded, poorly sorted, common white argillaceous matrix, trace lithics, poor to nil visual porosity, poor inferred porosity, no fluorescence CLAYSTONE: as above.
1734	tr 100			tr	SANDSTONE: as above CLAYSTONE: as above.
1737	100			tr	CLAYSTONE: as above.
1740	100			tr	CLAYSTONE: medium grey to commonly light browny grey, firm to commonly soft, trace dispersive, subblocky, grade to silty claystone and siltstone in places. trace carbonaceous material.
1743	100			tr	CLAYSTONE: as above
46	100			tr	CLAYSTONE: as above
1749	100			tr	CLAYSTONE: as above
1752	tr 100			tr	SANDSTONE: as above CLAYSTONE: as above.
1755	100			tr	CLAYSTONE: as above
1758	100		tr	tr	CLAYSTONE: as above
1761	100			tr	CLAYSTONE: as above.
1764	100				CLAYSTONE: medium grey to commonly light grey, trace off white, firm to commonly soft, trace dispersive, grading to silty claystone and siltstone in places, subblocky to blocky, trace carbonaceous material, trace pyrite.
1776	100		tr	tr	CLAYSTONE: as above
1782	100		tr	tr	CLAYSTONE: as above
1785	100		tr	tr	CLAYSTONE: as above, trace micromicaeous
1788	100		tr	tr	CLAYSTONE: as above, medium to commonly dark grey.
1791	100		tr	tr	CLAYSTONE: as above.
94	10 90		tr	tr	SANDSTONE: off white with translucent grains, loose to friable, very fine to fine, trace medium, subrounded to subangular, moderately sorted, abundant off white argillaceous matrix, common lithics, trace calcite cement,poor visual and inferred porosity, no fluorescene. CLAYSTONE: as above, grade to siltstone in places.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1797	20 80		tr	tr	SANDSTONE: as above , no fluorescence. CLAYSTONE: as above.
1800	10 90		tr	tr	SANDSTONE: as above, no fluorescence CLAYSTONE: as above.
1802	20 80		tr	tr	SANDSTONE: as above, no fluorescence. CLAYSTONE: as above.
1803	20 80		tr	tr	SANDSTONE: as above, buff to light grey in places. CLAYSTONE: as above.
1806	10 90		tr	tr	SANDSTONE: as above CLAYSTONE: as above, becoming very silty in places.
1809	10 90		tr	tr	SANDSTONE: as above CLAYSTONE: as above, grading to siltstone in places.
1812	20 20 60				SANDSTONE: light grey to buff, with translucent, green and reddy brown grains, fine to commonly medium grained, subangular to subrounded, poorly to moderately sorted, abundant pale white to buff argillaceous matrix, common lithics including feldspars, carbonaceous material, trace calcite cement, nil to poor visual porosity, no fluorescence. SILTSTONE: light grey to off white, soft to dispersive, abunbant argillaceous material in places, grades to silty claystone in part, trace carbonaceous material. CLAYSTONE: as above
1815	50 20 30		tr	tr	SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above
1818	60 20 20			tr	SANDSTONE: predominantly loose,as above SILTSTONE: as above, trace carbonaceous material CLAYSTONE: as above
1821	60 30 10			tr	SANDSTONE: loose, trace friable aggregates, no fluorescence SILTSTONE: as above CLAYSTONE: as above
1824	30 60 10			tr	SANDSTONE: as above, no fluorescence SILTSTONE: predominatly light browny/grey, no fluorescence CLAYSTONE: as above
1827	20 80 tr			tr	SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 15 of 25
1833	50 40 10				SANDSTONE: light grey to off white, buff, black with translucent, green and reddy brown, friable to firm, minor loose grains, predominatly fine to commonly medium grained, subangular to subrounded, poorly sorted, abundant pale white argillaceous matrix, trace calcite cement, common lithics including feldspar, common carbonaceous specks, nil to poor visual porosity, no fluorescence. SILTSTONE: as above CLAYSTONE: as above
1839	20 80 tr			tr	SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above
1839	30 70 tr			tr	SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above
1842	60 40 tr			tr	SANDSTONE: as above, no fluorescence SILTSTONE: as above CLAYSTONE: as above
1845	80 20 tr			tr	SANDSTONE: loose, fine to medium grained, as above, no fluorescence SILTSTONE: as above CLAYSTONE: as above
1848	40 60 tr				SANDSTONE: as above SILTSTONE: as above CLAYSTONE as above
1851	60 40 tr				SANDSTONE: as above, no fluorescence SILTSTONE: light to medium grey brown, trace dark grey, soft to commonly firm, grade to fine grained sandstone in places, common argillaceous material, common carbonaceous material. CLAYSTONE; as above.
1854	20 80				SANDSTONE: as above SILTSTONE: as above
1857	30 70				SANDSTONE: clear to transluscent, loose, trace friable, very fine to occasionally medium, subangular to subrounded, moderately to well sorted, trace weak to moderate calcite cement, trace white argillaceous matrix, trace very argillaceous, occasional carbonaceous flakes, fair inferred porosity, no fluorescence. SILTSTONE: medium to occasionally dark grey, grey brown, soft to commonly firm, trace arenaceous, common argillaceous material, minor carbonaceous material.
1860	10 90				SANDSTONE: as above. SILTSTONE: as above, becoming increasingly argillaceous, grades to claystone .

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1863	80 20				SILTSTONE: as above. CLAYSTONE: medium dark to occasionally dark grey, grey brown, soft to minor firm, trace dispersive, slightly sticky, amorphous, trace silty, trace to rare carbonaceous specks.
1866	40 60				SILTSTONE: as above. CLAYSTONE: as above.
1869	20 80				SILTSTONE: as above. CLAYSTONE: as above, becoming slightly more dispersive.
1872	100				CLAYSTONE: medium dark to dark grey, minor grey brown, soft and dispersive, minor firm to moderately hard, minor subblocky to subfissile, amorphous, trace carbonaceous specks.
1875	100				CLAYSTONE: as above, soft to firm, trace moderately hard, less dispersive than previous sample.
1878	100				CLAYSTONE: medium dark to dark grey, firm to minor moderately hard, trace soft, subblocky to subfissile, trace slightly silty, trace micromicaceous, trace carbonaceous specks, occasional pyrite nodules.
1881	100				CLAYSTONE: as above.
1884	100				CLAYSTONE: as above. COAL: trace dark brown, black, subblocky, argillaceous, earthy to subvitreous lustre.
1887	90 10				CLAYSTONE: as above. SANDSTONE: clear to transluscent, white to off white, loose to trace friable, very fine to occasionally medium grained, subangular to subrounded, well sorted, common white argillaceous matrix, minor to common carbonaceous flakes in aggregates, trace lithic fragments, poor visual to fair inferred porosity no fluorescence. Abundant clay washing out of sample.
1889	70 30				CLAYSTONE: as above but with increasing medium grey soft to dispersive, locally silty with very fine sand grains, trace to rare very fine carbonaceous flakes. SANDSTONE: generally as above, locally very argillaceous in aggregates, grades to siltstone,rare to occasionally minor carbonaceous laminations, poor visual to fair inferred porosity, no fluorescence.
1890	70 30				CLAYSTONE: as above. SANDSTONE: as above.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1893	40 60				CLAYSTONE: as above. SANDSTONE: clear to transluscent, white, off white to light grey, loose to minor friable, very fine to occasionally medium, predominantly fine, subangular to subround, well sorted, rare silica cement, common to locally abundant white argillaceous matrix, grades locally to siltstone, trace to rare carbonaceous flakes, poor visual to fair inferred porosity, no fluorescence. Abundant clay matrix washing out of sample.
1896	60 30 10				CLAYSTONE: medium to dark grey, minor grey brown, soft to firm, trace moderately hard, subblocky to subfissile, minor slightly silty, grades locally to siltstone, trace to locally minor very fine carbonaceous specks. SANDSTONE: as above. SILTSTONE: medium to dark grey, firm to trace moderately hard, arenaceous, common very fine quartz grains, grades locally to very fine sandstone, rare to minor very fine carbonaceous specks..
1899	30 60 10				CLAYSTONE: as above. SANDSTONE: generally as above, trace loose medium to very coarse quartz grains, no fluorescence. SILTSTONE: as above.
1902	30 70 tr				CLAYSTONE: medium grey, grey brown, soft and dispersive, minor firm to moderately hard, trace silty, trace carbonaceous specks. SANDSTONE: generally as above, pred loose, minor aggs with white argillaceous matrix and trace siliceous cement. SILTSTONE: as above.
1905	20 80 10				CLAYSTONE: as above. SANDSTONE: clear to transluscent, off white to light grey, loose to friable, fine to occasionally coarse, trace very fine, subangular to subround, well sorted, common white argillaceous matrix, trace weak siliceous cement, trace feldspar, trace carbonaceous flakes, poor visual porosity, fair inferred porosity, no fluorescence. SILTSTONE: as above.
1908	20 80				CLAYSTONE: as above. SANDSTONE: as above.
1911	30 70				CLAYSTONE: as above. SANDSTONE: generally as above, loose, common friable aggregates, predominantly medium to fine grained, subangular to subround, well sorted, minor to locally common white argillaceous matrix, trace weak to moderate siliceous cement, trace feldspars and carbonaceous material, poor visual to fair inferred porosity, no fluorescence. Abundant clay matrix washing out of sample.
1914	40 60 tr				CLAYSTONE: as above. SANDSTONE: as above. SILTSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 18 of 25
					POOH BIT# 5 ATM 22DG AND RUN IN HOLE BIT#3RR HYCALOG DS 34 HG
1917	60 40		tr		CLAYSTONE: as above. SANDSTONE: as above, no fluorescence.
1920	50 10 40		tr		CLAYSTONE: medium grey, firm to modeately hard, subblocky, common carbonaceous material, trace micromicaeous SILTSTONE: light grey to grey/brown, firm to soft, subblocky to dispersive in part,common carbonaceous material, grades to fine grained sandstone in places SANDSTONE: as above, no fluorescence
1926	20 10 70		tr	tr	CLAYSTONE: as above SILTSTONE: as above SANDSTONE: off white to light grey aggragates with translucent to opaque quartz grains, trace green, black and browny red lithic grains, predominantly loose with common aggregates, fine to medium grained, subangular to subrounded, poorly sorted, abundant argillaceous matrix, matrix washing out, common lithics, minor carbonaceous material, poor visual porosity, poor inferred porosity, no fluorescence.
1932	40 20 40		tr	tr	CLAYSTONE: as above SILTSTONE: abundant carbonaceous material, as above SANDSTONE: as above, no fluorescence
1935	30 40 30		tr	tr	CLAYSTONE: as above SILTSTONE: as above SANDSTONE: as above BELIEVE WE ARE WASHING A LOT OF THE CLAY FROM SAMPLES.
1938	20 30 50		tr	tr	CLAYSTONE:as above SILTSTONE: as above SANDSTONE: as above
1941	10 20 70		tr	tr	CLAYSTONE: as above, becoming firm to moderately hard SILTSTONE; as above, becoming firm to moderately hard SANDSTONE: as above, no fluorescence
1944	10 70 20		tr	tr	CLAYSTONE: as above SILTSTONE:light grey to off white, dispersive to commonly firm, arenaceous, trace carbonaceous material. SANDSTONE: as above, no fluorescence
1947	10 70 20		tr	tr	CLAYSTONE: as above SILTSTONE: as above, commonly light grey to grey/brown SANDSTONE: as above, no fluorescence

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s):S.Horan/K.Haak

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1950	10 80 10		tr	tr	CLAYSTONE: as above SILTSTONE: as above SANDSTONE: as above, no fluorescence
1953	tr 70 30		tr	tr	CLAYSTONE: as above SILTSTONE: as above SANDSTONE: light grey to off white with translucent quartz grains and green, brown, browny red and black lithic grains, predominatly loose with common aggregates, predominatly fine to medium grained, subangular to subrounded, poorly sorted, abundant argillaceous matrix, matrix washing out, common lithics, common carbonaceous material, poor inferred porosity, poor visual porosity, no fluorescence.
1956	tr 20 80		tr	tr	CLAYSTONE: as above SILTSTONE: as above SANDSTONE: light grey to light green/grey, commonly off white, as above, no fluorescence
1959	tr 30 70		tr	tr	CLAYSTONE: as above SILTSTONE: as above SANDSTONE: as above, no fluorescence.
1962	10 90				SILTSTONE: medium to occasionally dark grey, grey brown, moderately hard, subblocky to subfissile, commonly arenaceous, rare to minor carbonaceous specks. SANDSTONE: clear to transluscent, light to medium grey, rare grey grey, loose, common friable to moderately hard aggregates, fine to medium grained, subangular to subrounded, moderately to well sorted, trace siliceous cement, common to locally abundant argillaceous matrix, matrix washing out leaving abundant loose feldspar and minor lithic and quartz grains, trace carbonaceous material, poor visual porosity, no fluorescence.
1965	10 90				SILTSTONE: as above. SANDSTONE: as above. abundant clay matrix washing out of samples.
1968	tr 100				SILTSTONE: as above. SANDSTONE: generally as above, but increased percentage of aggregates.
1974	100 tr				SANDSTONE: medium grey, grey green to occasionally dark grey green, friable to trace moderately hard, fine to medium grained, subangular to subrounded, moderately to well sorted, trace weak to moderate siliceous cement, common to localy abundant white/off white argillaceous martix, abundant feldspars, rare to minor lithics, trace carbonaceous material, poor visual porosity, no fluorescence. abundant clay washing out of samples. SILTSTONE: as above.
1980	100 tr				SANDSTONE: as above. SILTSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 20 of 25
1986	70 30				SANDSTONE: generally as above. SILTSTONE: medium to occasionally dark grey, trace grey brown, firm to moderately hard, blocky to subblocky, arenaceous, grades to very fine sandstone, trace micromicaceous, rare to minor carbonaceous specks.
1992	100 tr				SANDSTONE: generally loose to minor friable aggregates, abundant white /light grey argillaceous matrix washing out of samples. SILTSTONE: as above.
1998	100				SANDSTONE: light grey, transluscent, grey green, loose to minor friable, fine to medium grained, subangular to subrounded, moderately to well sorted, trace to minor slightly calcareous cement, common to locally abundant off white argillaceous matrix, abundant matrix washing out of samples, common to abundant feldspars, rare to minor lithics, trace carbonaceous material, poor visual porosity, poor to fair inferred porosity, no fluorescence.
2004	100				SANDSTONE: as above.
2010	70 30				SANDSTONE: as above. SILTSTONE: medium to occasionally dark grey, trace grey brown, firm to moderately hard, blocky to subblocky, arenaceous, grades to very fine sandstone, trace micromicaceous, rare to minor carbonaceous specks.
2016	60 40				SANDSTONE: as above. SILTSTONE: as above.
2022	60 40				SANDSTONE: as above. SILTSTONE: as above.
2028	50 50				SANDSTONE: as above, locally very argillaceous, abundant white/off white matrix washing out of the sandstone. SILTSTONE: as above.
2034	70 30				SANDSTONE: clear to transluscent, light to medium grey, trace grey green, loose to common friable, fine to medium grained, subangular to subrounded, moderately well sorted, trace slightly calcareous cement, common to locally abundant argillaceous matrix, common feldspars, minor lithics, trace carbonaceous material, poor visual porosity, poor to fair inferred porosity, no fluorescence. Abundant clay washing out of samples. SILTSTONE: medium to occasionally dark grey, trace grey brown, firm to moderately hard, blocky to subblocky, arenaceous, grades to very fine sandstone, trace micromicaceous, rare to minor carbonaceous specks.
40	20 80				SANDSTONE: as above. SILTSTONE: as above.
2046	10 90				SANDSTONE: as above. SILTSTONE: medium to dark grey, trace grey brown, firm to moderately hard, blocky to subblocky, arenaceous, minor argillaceous, trace micromicaceous, rare to minor carbonaceous specks.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 21 of 25
2052	30 70				SANDSTONE: as above. SILTSTONE: as above.
2058	80 20				SANDSTONE: light to medium grey, friable to minor loose, fine to medium grained, subangular to subrounded, well sorted, minor to common weak to moderate calcareous cement, common to abundant argillaceous matrix, common feldspars, rare to minor lithics, trace carbonaceous material, poor visual porosity, poor inferred porosity, no fluorescence. SILTSTONE: as above.
2064	80 20				SANDSTONE: as above. SILTSTONE: as above.
2070	80 20				SANDSTONE: as above. SILTSTONE: as above.
2076	20 80				SANDSTONE: as above. SILTSTONE: as above.
2082	40 60				SANDSTONE: as above. SILTSTONE: medium to dark grey, minor grey brown, firm to moderately hard, blocky to subblocky, arenaceous, grades to very fine sandstone, minor argillaceous, trace micromicaceous, rare to minor carbonaceous specks.
2088	80 20				SANDSTONE: medium grey, grey green, loose to occasionally moderately hard, predominantly fine to medium, rare very fine, subangular to subrounded, minor calcareous cement, common to abundant white/of white argillaceous matrix, abundant feldspars, rare carbonaceous material, poor visual porosity, no fluorescence. SILTSTONE: as above.
2094	70 30				SANDSTONE: as above. SILTSTONE: as above.
2100	50 50				SANDSTONE: as above. SILTSTONE: as above.
2106	tr 100				SANDSTONE: as above. SILTSTONE: medium to dark grey, minor grey brown, firm to moderately hard, blocky to subblocky, commonly arenaceous, minor argillaceous, trace micromicaceous, rare to minor carbonaceous specks.
2112	100				SILTSTONE: as above.
18	100				SILTSTONE: as above.
2124	100				SILTSTONE: medium to dark grey, minor grey brown, moderately hard, occasionally firm, subblocky, commonly arenaceous, minor argillaceous, trace carbonaceous specks.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
2130	100				SILTSTONE: as above.
2136	20 80				SANDSTONE: light to medium grey, friable to moderately hard, very fine to occasionally medium grained, moderately to well sorted, subangular to subrounded, common to abundant white to light brown argillaceous matrix, minor grades to arenaceous siltstone, common feldspars and lithics, trace carbonaceous material, poor to very poor visual porosity, no fluorescence. SILTSTONE: as above.
2142	70 30				SANDSTONE: light to medium grey, friable to moderately hard, very fine to medium grained, moderately to well sorted, subangular to subrounded, common to abundant white to light brown argillaceous matrix, minor minor grades to arenaceous siltstone, common feldspars and lithics, trace carbonaceous material, poor visual porosity, no fluorescence. SILTSTONE: as above.
2148	30 70				SANDSTONE: as above. SILTSTONE: as above.
2154	50 50				SANDSTONE: as above, no fluorescence SILTSTONE: as above.
2157	40 60				SANDSTONE: as above, no fluorescence SILTSTONE: as above
2160	60 40				SANDSTONE: light grey to of white, trace greeny/grey, friable to moderately hard,predominatly loose, fine to medium grained, predominatly fine grained, subangular to trace subrounded, poorly sorted, abundant pale white argillaceous matrix, common lithics and feldspar, trace calcite cement, trace carbonaceous material, poor visual porosity, poor inferred porosity. Abundant white argillaceous matrix washing out of sample. SILTSTONE: as above.
2163	60 40				SANDSTONE: as above, no fluorescence SILTSTONE: as above.
2166	50 50				SANDSTONE: as above, no fluorescence SILTSTONE; as above, grade to sandstone in places.
2169	70 30				SANDSTONE: as above, no fluorescence SILTSTONE: as above.
2172	80 20				SANDSTONE: as above, no fluorescence SILTSTONE: as above

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s):S.Horan/K.Haak

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
2175	40 60				SANDSTONE: light gey to off white, trace light grey/green, trace light brown/red, trace reddy/yellow,friable to moderately hard,abundant loose grains, fine to medium grained, predominatly fine grained, abundant pale white argillaceous matrix, abundant lithics and feldspar, trace calcite cement, trace quartz cement, poor visual porosity, poor inferred porosity, no fluorescence SILTSTONE: as above.
2178	50 50				SANDSTONE: as above, no fluorescence SILTSTONE: as above
2181	70 30				SANDSTONE: as above SILTSTONE: as above
2184	50 50				SANDSTONE: as above SILTSTONE: as above
2187	30 70				SANDSTONE: as above SILTSTONE; as above, ARGILLACEOUS MATERIAL INCLUDING SILSTONE WASHING OUT AT SHAKERS.
2190	40 60				SANDSTONE: as above, no fluorescence. SILTSTONE: as above
2193	60 40				SANDSTONE: as above, no fluorescence SILTSTONE: as above
2196	60 40				SANDSTONE: as above, no fluorescence SILTSTONE: as above
2199	60 40				SANDSTONE: common to abundant light grey/green, as above, no fluorescence. SILTSTONE: as above.
2202	50 50				SANDSTONE: light grey to off white, common to abundant light green/grey, trace light reddy/brown and black, predominatly loose, friable to firm, fine to medium grained, subangular to commonly subrounded, poorly sorted, abundant pale white argillaceous matrix, trace calcite cement, abundant lithics including feldspars, trace carbonaceous material, poor visual porosity, poor inferred porosity, no show. SILTSTONE: light grey to light grey/brown, trace medium grey, soft to firm, argillaceous, tracae carbonaceous material.
2205	70 30				SANDSTONE: as above, no fluorescence SILTSTONE: as above.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1**
Permit: **VIC/P1**
Geologist(s):S.Horan/K.Haak

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
2208	50 40 10				SANDSTONE: as above SILTSTONE: as above CLAYSTONE: medium bown to browny/black, firm to soft, grades to siltstone in places, common carbonaceous material, grades to very carbonaceous claystone in part.
2211	30 50 20				SANDSTONE: as above, no fluorescence SILTSTONE: as above CLAYSTONE: as above
2214	20 60 20				SANDSTONE: as above, no fluorescence SILTSTONE: as above CLAYSTONE: as above
2217	20 60 20				SANDSTONE: as above, no fluorescence SILTSTONE: as above CLAYSTONE: as above.
2220	50 40 10				SANDSTONE: as above, no fluorescence SILTSTONE: as above CLAYSTONE: as above
2223	30 50 20				SANDSTONE: as above SILTSTONE: as above CLAYSTONE: as above.
2226	60 30 10				SANDSTONE:, minor light green/grey, as above, no fluorescence SILTSTONE: as above CLAYSTONE: as above
2229	30 70 10				SANDSTONE: as above, no fluorescence SILTSTONE: as above CLAYSTONE: as above
2232	60 40				SANDSTONE: as above, no fluorescence SILTSTONE: as above
2235	70 30				SANDSTONE: off white to light grey, common to abundant light grey/green, loose to commonly firm to friable, very fine to medium grained, subangular to commonly subrounded, poorly sorted, abundant argillaceous matrix, trace calcite cement, abundant lithics, trace to minor carbonaceous material, poor visual porosity, poor inferred porosity, no fluorescence. SILTSTONE: as above.
2238	80 20				SANDSTONE: as above, no fluorescence SILTSTONE: light to medium grey, firm to moderately hard, commonly soft to dispersive, subblocky to subfissile, common caarbonaceous material.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	**CUTTINGS DESCRIPTION SHEET** Well: **LONGTOM-1** Permit: **VIC/P1** Geologist(s):S.Horan/K.Haak Page: 25 of 25
2241	70 30				SANDSTONE: off white to light grey, common to abundant light grey/green, loose to commonly firm to friable, very fine to medium grained, angular to commonly subrounded, poorly sorted, abundant argillaceous matrix, trace calcite cement, abundant lithics, trace to minor carbonaceous material, poor visual porosity, poor inferred porosity, no fluorescence. SILTSTONE: as above.
2242 TD.	60 40				SANDSTONE: as above. SILTSTONE: as above.

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APPENDIX 2

6.2 APPENDIX 2 Longtom-1/ST1 Cuttings Lithological Descriptions

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1135	100				CEMENT
1138	100				CEMENT
1141	100				CEMENT
1154	100 tr				CEMENT CALCISILTITE: medium to medium dark grey, firm to trace moderately hard, argillaceous, grades to argillaceous calcilutite/marl, trace disseminated pyrite, trace disseminated and nodular glauconite.
1147	100 tr				CEMENT CALCISILTITE: as above.
1150	90 10				CEMENT CALCISILTITE: medium to medium dark grey, firm to trace moderately hard, argillaceous, grades to argillaceous calcilutite/marl, trace disseminated pyrite, trace disseminated and nodular glauconite.
1153	40 60				CEMENT CALCISILTITE: as above, grading to argillaceous calcilutite.
1155	80 20				CALCILUTITE: medium to medium dark grey, soft to firm, argillaceous, grades to marl, trace silty, trace disseminated pyrite and glauconite, trace fossils. CALCISILTITE: medium to dark grey, firm to trace moderately hard, argillaceous, grades to argillaceous calcilutite/marl, trace disseminated pyrite, trace disseminated and nodular glauconite.
1158	80 20				CALCILUTITE: as above. CALCISILTITE: as above.
1161	70 30				CALCILUTITE: as above. CALCISILTITE: as above.
1164	70 30				CALCILUTITE: medium to medium dark grey, soft to firm, argillaceous, grades to marl, trace silty, trace disseminated pyrite and glauconite, trace fossils. CALCISILTITE: medium to dark grey, firm to trace moderately hard, argillaceous, grades to argillaceous calcilutite/marl, trace disseminated pyrite, trace disseminated and nodular glauconite.
1170	60 40				CALCILUTITE: as above, rare to minor loose fossil fragments probably washing out of soft calcilutite. CALCISILTITE: as above.
1173	70 30				CALCILUTITE: medium to medium dark grey, soft, slightly sticky, occasionally dispersive, argillaceous, trace very fine calcite grains, trace glauconite nodules, trace fossil fragments. CALCISILTITE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 2 of 34
1176	70 30				CALCILUTITE: as above. CALCISILTITE: as above.
1179	60 40				CALCILUTITE: as above, rare to minor loose fossil fragments. CALCISILTITE: medium to occasionally dark grey, firm to moderately hard, trace soft, argillaceous, trace disseminated pyrite and nodular pyrite, trace fossil fragments.
1182	50 50				CALCILUTITE: as above. CALCISILTITE: as above.
1185	70 30				CALCILUTITE: as above, predominantly light to medium grey. CALCISILTITE: as above.
1188	60 40				CALCILUTITE: light grey to off white, commonly medium gray, soft to dispersive, commonly firm, argillaceous, grades to marl, trace glauconite, trace silty, abundant fossils. CALCISILTITE: as above.
1191	50 50				CALCILUTITE: as above. CALCISILTITE: as above.
1194	60 40				CALCILUTITE: as above. CALCISILTITE: as above.
1197	30 70				CALCILUTITE: as above. CALCISILTITE: as above.
1200	50 50				CALCILUTITE: light grey to off white, commonly medium grey, soft to dispersive, commonly firm, argillaceous, grades to marl, trace glauconite, trace silty, rare fossils. CALCISILTITE: medium to occasionally dark grey, firm to moderately hard, trace soft, argillaceous, trace disseminated pyrite and nodular pyrite, trace fossil fragments.
1203	20 80				CALCILUTITE: as above CALCISILTITE: medium to occasionally dark grey, minor light grey, firm to minor soft, argillaceous, grades to calcilutite, trace disseminated pyrite, trace disseminated and nodular glauconite, trace fossil fragments.
1206	10 90				CALCILUTITE: as above. CALCISILTITE: as above.
1209	70 30				CALCILUTITE: light grey to off white, commonly medium grey, soft to dispersive, argillaceous, grades to marl, trace silty, trace glauconite, rare fossils. CALCISILTITE: light medium to occasionally dark grey, firm to moderately hard, trace soft, argillaceous, trace glauconite trace fossil fragments.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1212	80 20				CALCILUTITE: as above. CALCISILTITE: as above.
1215	100				CALCILUTITE: medium light to medium grey, soft to firm, trace dispersive, blocky, argillaceous, grades to marl, trace silty, trace very fine calcite grains, trace nodular and disseminated pyrite, trace fossil fragments.
1218	100				CALCILUTITE: as above.
1221	80 20				CALCILUTITE: medium light to medium grey, soft to firm, trace dispersive, blocky, argillaceous, grades to marl, trace silty, trace very fine calcite grains, trace nodular and disseminated pyrite, trace fossil fragments. CALCISILTITE: medium to occasionally dark grey, firm to moderately hard, trace soft, argillaceous, trace glauconite trace fossil fragments.
1224	80 20				CALCILUTITE: as above. CALCISILTITE: as above.
1227	70 30				CALCILUTITE: as above. CALCISILTITE: as above.
1230	70 30				CALCILUTITE: as above, commonly grades to marl CALCISILTITE: as above.
1233	60 40	tr			CALCILUTITE: light to medium grey, soft to firm, occasionally dispersive, subblocky to blocky, argillaceous, commonly grades to Marl, trace silty, very fine calcite in part, trace Glauconite, trace nodular and disseminated Pyrite, trace fossil fragments, forams. CALCISILTITE: as above.
1236	70 30	tr			CALCILUTITE: as above. CALCISILTITE: as above.
1239	60 40	tr			CALCILUTITE: as above. CALCISILTITE: as above.
1242	70 30	tr			CALCILUTITE: as above. CALCISILTITE: light to medium grey, occasionally dark grey, firm to moderately hard, soft in part, argillaceous, trace glauconite trace fossil fragments.
1245	80 20	tr			CALCILUTITE: dominantly as above, trace to minor Glauconite. Trace fossil fragments, forams. CALCISILTITE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 4 of 34
1248	80 20				CALCILUTITE: white to off white, light to medium grey, soft to firm, occasionally dispersive, amorphous to subblocky, argillaceous, commonly grades to Marl, trace silty, very fine calcite in part, trace Glauconite, trace nodular and disseminated Pyrite, trace fossil fragments, forams. CALCISILTITE: as above.
1251	30 70				CALCILUTITE: as above. SANDSTONE: brown, grey brown, mottled, clear to translucent, rare yellow Fe stained, firm to moderately hard, abundant loose grains, fine to occasionally very coarse grained, subangular, poorly sorted, minor moderate siliceous cement, rare to minor off white argillaceous matrix, trace yellowish orange argillaceous matrix, trace silty, rare to locally minor glauconite nodules, trace pyrite, poor visual porosity, no fluorescence.
1254	100				SANDSTONE: as above.
1260	100				SANDSTONE: medium brown, mottled, clear to translucent, friable to moderately hard, abundant loose grains, very fine to coarse grained, predominantly fine to medium, subrounded to subangular, moderately sorted, common moderate to strong siliceous cement, minor to locally common off white argillaceous matrix, trace yellow orange argillaceous matrix, rare glauconite, trace nodular pyrite, poor visual porosity, no fluorescence.
1263	80 20				SANDSTONE: as above. COAL: dark brown, black, moderately hard, brittle, blocky, slightly argillaceous, earthy to dull lustre.
1266	60 30 10				SANDSTONE: as above. CALCILUTITE: as above. Jetted header box - presumed from above. COAL: black, dark brown, brittle, blocky to subblocky, minor sub-conchoidal fracture, trace argillaceous, earthy to sub-vitreous lustre.
1269	90 10				SANDSTONE: medium brown, mottled, clear to translucent, loose, abundant friable to occasionally hard, very fine to coarse grained, predominantly medium, subrounded to subangular, moderately sorted, common moderate to strong siliceous cement, minor off white argillaceous matrix, trace to rare glauconite, trace nodular pyrite, poor visual porosity, fair inferred porosity, no fluorescence. SILTSTONE: medium to dark brown, firm to minor soft, blocky to subblocky, argillaceous, minor to common carbonaceous material.
72	100				SANDSTONE: generally as above, increased percentage of loose grains due to matrix washing out.
1275	70 30				SANDSTONE: dominantly as above. CALCILUTITE: cavings. Sample logged after trip.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 5 of 34
1278	90 10				SANDSTONE: white, milky, clear to translucent, loose, fine to very coarse, dominantly coarse, subangular to subrounded, occasional angular bit fractured grains, moderately sorted, minor to moderate weak silica cementing, occasional Quartz overgrowths, trace off white argillaceous matrix, trace nodular Pyrite, good inferred porosity. No shows. SILTSTONE: dominantly as above, minor coaly fragments (Cavings).
1281	100				SANDSTONE: as above. No shows.
1284	100				SANDSTONE: white to milky, opaque, clear to translucent, loose to occasionally friable. dominantly medium to very coarse, minor fine, subangular to subrounded, poor to moderately sorted, minor moderately strong silica cementing, minor to locally common white to light grey argillaceous matrix, trace nodular and disseminated Pyrite, fair to good inferred porosity. No shows.
1287	100				SANDSTONE: dominantly as above. No shows.
1290	90 10				SANDSTONE: dominantly as above. No shows. SILTSTONE: medium to dark brown, soft to firm, subblocky to blocky, common carbonaceous material, coaly in part, micro-micaceous, commonly arenaceous, trace disseminated Pyrite.
1293	100				SANDSTONE: white, opaque, clear to translucent, loose, dominantly coarse to very coarse, minor fine to medium, commonly subrounded, moderately well sorted, minor weak silica cement, common white argillaceous matrix, silty in part, trace nodular Pyrite, good inferred porosity. No shows.
1296	90 10				SANDSTONE: dominantly as above, abundant white argillaceous matrix, poor to fair inferred porosity. No shows. COAL: as above.
1299	40 40 20				SANDSTONE: as above, abundant white to light grey argillaceous matrix, poor inferred porosity. No shows. COAL: medium to commonly dark grey, black, firm to hard, brittle in part, blocky to subfissile, subconchoidal in part, commonly silty, grades to very carbonaceous Siltstone, SILTSTONE: medium to dark grey, brownish grey, firm to moderately hard, blocky to subfissile, commonly carbonaceous, grades to Silty Coal in part, micromicaceous, arenaceous.
1302	50 30 20				SANDSTONE: opaque, white, clear to translucent, loose to very friable, commonly coarse to very coarse, minor fine to medium, moderately sorted, dominantly subrounded, minor weak silica cementing, abundant pale brown to of white argillaceous matrix, matrix supported in part, trace pyrite, poor to fair inferred porosity. No shows. SILTSTONE: dominantly as above. COAL: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1305	70 30 TR				SANDSTONE: dominantly as above. No shows. SILTSTONE: as above. COAL: as above.
1308	80 20				SANDSTONE: clear to translucent, white, opaque, loose, dominantly coarse to very coarse, minor fine to medium, subangular to subrounded, poor to moderately sorted, weak silica cement, common white to very pale brown argillaceous matrix, trace Pyrite, fair to good inferred porosity. No shows. SILTSTONE: as above.
1311	40 40 10 10				SANDSTONE: dominantly as above. No shows. CLAYSTONE: off white to light grey, soft, amorphous, dispersive, slightly sticky, minor carbonaceous flecks, silty in part, minor very fine Quartz grains. SILTSTONE : as above. COAL: as above.
1314	30 50 10 10				SANDSTONE: dominantly as above. No shows. CLAYSTONE: as above. SILTSTONE: as above. COAL: as above.
1317	20 60 10 10				SANDSTONE: clear to translucent, white, opaque, loose, dominantly coarse to very coarse, minor fine to medium, subangular to subrounded, poor to moderately sorted, weak silica cement, common white to very pale brown argillaceous matrix, trace Pyrite, fair inferred porosity. No shows. CLAYSTONE: light brown to light grey, soft, amorphous, dispersive, slightly sticky, minor carbonaceous flecks, silty in part, minor very fine Quartz grains. SILTSTONE: medium to dark grey, medium brown , firm to minor soft, blocky to subfissile, commonly carbonaceous, grades to Silty Coal in part, micromicaceous, arenaceous. COAL: as above.
1320	10 60 30 tr				SANDSTONE: as above. CLAYSTONE: as above. SILTSTONE: as above. COAL: as above.
1323	10 80 10				SANDSTONE: clear to translucent, white, opaque, loose, predominantly coarse to very coarse, minor medium, subangular to subrounded, moderate to poorly sorted, trace weak siliceous cement, common pale brown argillaceous matrix, trace pyrite, fair inferred porosity. CLAYSTONE: as above. SILTSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET BHP Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 7 of 34
1326	10 50 40				SANDSTONE: as above. CLAYSTONE: as above. SILTSTONE: as above.
1329	10 40 50				SANDSTONE: as above. CLAYSTONE: light to trace medium brown, light grey brown, soft, amorphous, dispersive, minor carbonaceous specks, locally silty, minor very fine quartz grains. SILTSTONE: medium brown, medium to dark grey, grey brown, firm to soft, minor dispersive, blocky to subfissile, argillaceous, grades locally to claystone, commonly carbonaceous, micromicaceous.
1332	20 30 50 tr				SANDSTONE: clear to translucent, white, opaque, loose, dominantly coarse to very coarse, minor fine to medium, subangular to subrounded, poor to moderately sorted, common white to very pale brown argillaceous matrix, trace pyrite, fair inferred porosity, no fluorescence. CLAYSTONE: as above. SILTSTONE: as above. COAL: as above.
1335	30 20 50 tr				SANDSTONE: as above. CLAYSTONE: as above. SILTSTONE: generally as above, trace grades to silty coal. COAL: black, dark brown, brittle to firm, subblocky to subfissile, locally silty, trace disseminated pyrite, earthy to subvitreous lustre.
1338	40 60				SANDSTONE: as above. SILTSTONE: medium brown, medium to dark grey, grey brown, firm to soft, minor dispersive, blocky to subfissile, argillaceous, grades locally to claystone, commonly carbonaceous, micromicaceous.
1341	20 80 tr				SANDSTONE: as above. SILTSTONE: as above. CLAYSTONE: light to medium brown, light grey brown, soft, dispersive, amorphous, trace carbonaceous specks, trace silty.
1344	40 50 10				SANDSTONE: as above. SILTSTONE: as above. CLAYSTONE: light olive grey, light grey, soft to firm, blocky to subblocky, trace silty, trace carbonaceous specks.
1347	100				SANDSTONE: clear to translucent, light to medium grey, loose to friable, fine to coarse grained, predominantly medium, subrounded, moderately to well sorted, abundant medium grey to grey brown argillaceous matrix - washes out, trace lithics, trace pyrite nodules, fair visual porosity, fair to good inferred porosity.
1350	100				SANDSTONE: as above.
1353	100				SANDSTONE: as above.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: LONGTOM-1/ST1 Permit: VIC/P1 Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 8 of 34
1356	100				SANDSTONE: clear to translucent, loose to friable, fine to coarse, predominantly medium, subrounded to subangular, moderately sorted, trace pyritic cement, abundant light brown to light grey argillaceous matrix - washes out of samples, trace lithics, trace mica flakes, trace pyrite nodules, fair visual porosity, fair to good inferred porosity.
1359	100				SANDSTONE: as above.
1362	90 10 tr				SANDSTONE: as above. COAL: black, dark brown, brittle to moderately hard, blocky to subblocky, trace conchoidal fracture, argillaceous, grades to silty claystone, earthy to subvitreous. SILTSTONE: medium to dark grey, grey brown, firm, subblocky to subfissile, argillaceous, micromicaceous, trace carbonaceous specks.
1365	90 10				SANDSTONE: clear to translucent, loose to friable, fine to coarse, predominantly medium, subrounded to subangular, moderately sorted, trace pyritic cement, abundant light brown to light grey argillaceous matrix - washes out of samples, trace lithics, trace mica flakes, trace pyrite nodules, fair visual porosity, fair to good inferred porosity. COAL: as above. From unwashed samples siltstone/claystone appears to be dispersing throughout sample.
1368	60 40				SANDSTONE: clear to translucent, loose, fine to rarely very coarse, trace granule sized grains, predominantly medium, subangular to subrounded, trace angular, moderately to poorly sorted, trace pyritic cement, abundant grey to grey brown argillaceous matrix appears to be washing out, trace lithics, trace pyrite nodules, fair inferred porosity, no fluorescence. CLAYSTONE: medium brown, medium to dark grey, soft to firm, blocky to subblocky, silty, grades to siltstone, commonly micromicaceous, trace very fine sand grains,, trace to rare carbonaceous material.
1371	70 30				SANDSTONE: generally as above but with increased percentage coarse to very coarse grain sizes, poor to moderate sorting. CLAYSTONE: off white to light brown, soft, amorphous, dispersive, trace sticky, minor very fine mica flakes, minor silty, grades locally to siltstone.
1374	70 30				SANDSTONE: clear to translucent, milky, loose, fine to very coarse, occasional granules, subangular to subrounded, poorly sorted, matrix possibly washing out, trace pyritic cement, poor to fair inferred porosity, no fluorescence. CLAYSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1377	80 10 10				SANDSTONE: as above. CLAYSTONE: as above. SILTSTONE: medium brown, medium to dark grey, soft to firm, subblocky, argillaceous, grades to claystone, minor micromicaceous, trace carbonaceous material.
1380	80 10 10				SANDSTONE: translucent, milky, opaque, loose, fine to granule sized grains, predominantly coarse to very coarse, angular to subrounded, poor to moderate sorting, trace pyritic cement, abundant grey brown argillaceous matrix/ dispersed claystone, fair to good inferred porosity, no fluorescence. CLAYSTONE: grey brown, soft, amorphous, dispersive, micromicaceous, trace carbonaceous material. SILTSTONE: as above.
1383	70 20 10				SANDSTONE: dominantly as above. No shows. SILTSTONE: as above. CLAYSTONE: as above.
1386	80 10 10				SANDSTONE: as above. abundant silty clay matrix being washed from samples. No shows. SILTSTONE: as above. CLAYSTONE: as above.
1389	80 10 10				SANDSTONE: milky white, opaque, clear to translucent in part, loose, fine to very coarse, dominantly medium to coarse, angular to dominantly subrounded, moderately sorted, minor weak silica cement, trace Quartz overgrowths, abundant greyish brown to off white silty clay matrix (washing out of samples), trace to minor Pyrite nodules, fair inferred porosity. No shows. SILTSTONE: as above. CLAYSTONE: as above. Present as Sandstone matrix.
1392	80 10 10				SANDSTONE: as above. No shows. SILTSTONE: as above. CLAYSTONE: as above.
1395	70 20 10				SANDSTONE: dominantly as above. No shows. SILTSTONE: light to medium brown, medium to dark grey, soft to firm, amorphous in part, subblocky, commonly argillaceous, grades to claystone, minor micromicaceous, trace carbonaceous material, arenaceous in part, trace to minor nodular and very fine disseminated Pyrite. CLAYSTONE:as above.
1398	80 20				SANDSTONE: predominantly as above, commonly coarse to very coarse, minor fine to medium, poorly sorted, good inferred porosity. No shows. SILTSTONE: as above.

CUTTINGS DESCRIPTION SHEET

BHP

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1401	70 20 10				SANDSTONE: as above. No shows. CLAYSTONE: white to very pale brown, very light grey, soft, amorphous, dispersive in part, silty in part, trace fine carbonaceous flecks. SILTSTONE: as above.
1404	30 60 10				SANDSTONE: as above. CLAYSTONE: as above. SILTSTONE as above.
1407	30 50 20				SANDSTONE: as above. No shows. CLAYSTONE: as above. SILTSTONE: as above.
1410	50 40 10				SANDSTONE: milky white, opaque, clear to translucent, light grey, friable to occasionally firm, medium to coarse, subangular to subrounded, moderately sorted, weak silica cement, abundant white argillaceous matrix, poor to fair inferred porosity. No shows. CLAYSTONE: as above. SILTSTONE: as above.
1413	20 70 10				SANDSTONE: as above. CLAYSTONE: as above. SILTSTONE: as above.
1416	30 70 TR				SANDSTONE: as above. No shows. CLAYSTONE: as above. SILTSTONE: as above.
1419	80 20 TR				CLAYSTONE: white to off white, minor very pale brown, soft to rare firm, dispersive, slightly sticky, amorphous to rare blocky, trace carbonaceous flecks, trace nodular Pyrite. silty in part. SANDSTONE: as above. COAL: medium to commonly dark grey, black, firm to hard, brittle in part, blocky to subfissile, subconchoidal in part, commonly silty, grades to very carbonaceous Siltstone,
1422	80 20				CLAYSTONE: as above. SANDSTONE: as above. No shows.
1425	50 50 TR				SANDSTONE (Pyritic) : milky white, opaque, light grey, clear to translucent, loose to very friable, medium to very coarse, angular to commonly subrounded, moderately sorted, minor weak silica cementing, minor moderately strong Pyrite cementing, common white to very light grey argillaceous matrix, common (5-7%) nodular Pyrite, fair to good inferred porosity. No shows. CLAYSTONE as above. SILTSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1428	40 60 TR TR				SANDSTONE: as above, common nodular Pyrite. No shows. CLAYSTONE: as above. SILTSTONE: as above. COAL: as above.
1431	30 60 10 TR				SANDSTONE: as above. common nodular Pyrite. No shows. CLAYSTONE: as above. SILTSTONE: light to medium brown, very light grey, soft to locally firm, amorphous to minor blocky, commonly argillaceous, grading to Silty Claystone in part, minor micro-micaceous, minor carbonaceous flecks, trace coaly fragments, minor nodular Pyrite. COAL: as above.
1434	30 40 20 10				SANDSTONE: as above. No shows. CLAYSTONE: as above. SILTSTONE: medium brownish grey, light to medium grey, soft to firm, blocky to subfissile, commonly carbonaceous, Coaly in part, Grades to Silty Coal in part, micromicaceous, arenaceous in part, trace disseminated Pyrite, trace nodular Pyrite. COAL: medium to commonly dark grey, black, firm to hard, brittle in part, blocky to subfissile, subconchoidal in part, commonly silty, grades to very carbonaceous Siltstone.
1437	20 40 30 10				SANDSTONE: as above. No shows. CLAYSTONE: as above. SILTSTONE: as above. COAL: as above.
1440	20 60 20 TR				SANDSTONE: as above. Common Pyrite nodules. CLAYSTONE: medium brown to medium greyish brown, minor white to very light grey, soft, dispersive in part, amorphous, minor carbonaceous flecks, micromicaceous, commonly silty, minor very fine Quartz grains. SILTSTONE: as above. COAL: as above. NOTE: change in CLAYSTONE colour.
1443	20 70 10				SANDSTONE: dominantly as above. No shows. CLAYSTONE: as above. SILTSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1446	10 80 10				SANDSTONE: milky white, opaque, light grey, clear to translucent, loose to very friable, medium to very coarse, angular to commonly subrounded, moderately sorted, trace weak silica cementing, minor moderately strong pyrite cementing, common light grey to light brown argillaceous matrix, rare to common nodular pyrite, fair to good inferred porosity, no fluorescence. CLAYSTONE: medium brown to medium greyish brown, minor white to very light grey, soft, dispersive in part, amorphous, minor carbonaceous flecks, micromicaceous, commonly silty, minor very fine Quartz grains. SILTSTONE: as above
1449	10 80 10				SANDSTONE: as above. CLAYSTONE: as above. SILTSTONE: as above.
1452	60 40 tr				SANDSTONE: clear to translucent, loose, very fine to very coarse, predominantly fine to medium, subangular to subrounded, poor to moderately sorted, trace pyritic cement, common to abundant light grey to light brown argillaceous matrix, trace to rare nodular pyrite, fair inferred porosity, no fluorescence. CLAYSTONE: as above. SILTSTONE: as above.
1455	50 50				SANDSTONE: generally as above, trace strong siliceous cemented aggregates, minor to common white to light brown argillaceous matrix, trace pyrite nodules, poor visual, fair inferred porosity, no fluorescence. CLAYSTONE: as above.
1458	80 20				SANDSTONE: clear to translucent, off white to light grey, mottled, loose to commonly friable to hard, fine to very coarse, predominantly medium to coarse, poor to moderately sorted, subangular to subrounded, minor angular, minor strong calcareous cement, minor to locally abundant white to light brown argillaceous matrix, rare lithics, trace to rare mica flakes, poor visual porosity, fair inferred porosity. CLAYSTONE: as above.
1461	90 10				SANDSTONE: as above. CLAYSTONE: as above.
1464	100				SANDSTONE: clear to translucent, milky, opaque, loose to minor hard, fine to very coarse, occasional granules, predominantly coarse to very coarse, moderately sorted, minor strong calcareous cement, trace pyritic cement, minor to common off white to light brown argillaceous matrix, trace pyrite nodules, good inferred porosity, no fluorescence.
1467	100				SANDSTONE: as above, but generally coarse to granule sized.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1470	100				SANDSTONE: translucent to opaque, loose to trace friable, fine to granule, predominantly coarse to very corse, subangular to subrounded, minor angular, trace siliceous cement, minor off white to light grey argillaceous matrix- washing out, trace pyrite nodules, good inferred porosity, no fluorescence.
1473	100				SANDSTONE: as above but predominantly coarse to very coarse.
1476	100				SANDSTONE: as above.
1479	90 10				SANDSTONE: clear to translucent, opaque, loose to rarely hard, fine to very coarse, predominantly medium to coarse, moderately sorted, trace moderate to strong siliceous cement/quartz overgrowths, trace pyritic cement, minor to common light brown argillaceous matrix - washing out, trace pyrite, good inferred porosity, no fluorescence. SILTSTONE: dark grey, dark grey brown, firm to minor soft, subblocky to subfissile, argillaceous, grades to claystone, carbonaceous, minor micromicaceous, trace disseminated pyrite.
1482	90 10				SANDSTONE: as above. SILTSTONE: as above.
1485	100				SANDSTONE: as above.
1488	70 30				SANDSTONE: as above but predominantly coarse to very coarse, minor granules, abundant light brown argillaceous matrix washing out of samples. CLAYSTONE: light brown, light grey brown, soft to trace firm, amorphous, dispersive, micromicaceous, minor silty, trace carbonaceous specks. Claystone dispersing and being washed out.
1491	80 20				SANDSTONE: as above. CLAYSTONE: as above.
1494	90 10				SANDSTONE: clear to translucent, loose to minor friable, fine to coarse, predominantly medium grained, subangular to subrounded, minor angular, moderately sorted, trace siliceous cement, abundant light grey brown argillaceous matrix- washing out of samples, trace mica flakes, trace pyrite nodules, fair inferred porosity, no fluorescence. CLAYSTONE: as above.
1497	100				SANDSTONE: as above. Common claystone/argillaceous matrix dispersed throughout sample.
1500	90 10				SANDSTONE: as above, minor very coarse to granule sized grains. CLAYSTONE: as above, very dispersive.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 14 of 34
1503	60 40 tr				SANDSTONE: as above. CLAYSTONE: as above, minor grades to siltstone. COAL: black, dark brown, firm, subblocky to subfissile, argillaceous, earthy to subvitreous lustre.
1506	70 30				SANDSTONE: clear to translucent, loose to trace friable, fine to rare granules, predominantly coarse to very coarse, angular to subrounded, poor to moderately sorted, trace siliceous cement, trace pyritic cement, abundant grey brown argillaceous matrix - washing out of samples, trace pyrite nodules. CLAYSTONE: light to medium brown, grey brown, soft to minor firm, amorphous, dispersive, micromicaceous, minor carbonaceous, rarely silty, trace to rare carbonaceous specks.
1509	70 30				SANDSTONE: as above. CLAYSTONE: as above.
1512	70 30				SANDSTONE: as above. CLAYSTONE: as above. Claystone dispersing and being washed out of sample.
1515	90 10				SANDSTONE: clear to translucent, loose to trace friable, medium to very coarse, predominantly medium to coarse, subrounded to subangular, moderately to well sorted, minor grey to grey brown argillaceous matrix, matrix washing out of sample, trace mica flakes, trace pyrite nodules, fair inferred porosity, no fluorescence. CLAYSTONE: as above.
1518	100				SANDSTONE: clear to translucent, loose, fine to minor coarse, predominantly medium to coarse, subrounded to subangular, moderately to well sorted, trace argillaceous matrix - matrix washing out, trace mica flakes, trace lithics, fair to good inferred porosity, no fluorescence.
1521	100 tr				SANDSTONE: clear to translucent, loose, fine to minor coarse, subrounded to subangular, moderately to well sorted, abundant argillaceous matrix - matrix washing out, trace mica flakes, trace lithics, trace pyrite nodules, fair to good inferred porosity, no fluorescence. COAL: black, dark brown, argillaceous, grades to silty claystone.
1524	70 20 10 tr				SANDSTONE: as above. SILTSTONE: dark grey, brown to dark brown, firm to minor soft, subblocky, argillaceous, carbonaceous grades locally to silty coal, micromicaceous. CLAYSTONE: light brown, soft, dispersive, amorphous to trace blocky, trace mica flakes and carbonaceous material, trace to minor very fine sand grains. COAL: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1527	80 10 10				SANDSTONE: as above, trace to rare granules. SILTSTONE: as above. CLAYSTONE: as above.
1530	90 10 tr				SANDSTONE: as above, abundant argillaceous matrix. CLAYSTONE: as above. SILTSTONE: as above.
1533	80 20 tr				SANDSTONE: translucent to clear, milky, loose, fine to coarse, predominantly medium, angular to subrounded, moderately to well sorted, minor white to off white argillaceous matrix, trace pyrite nodules, trace mica flakes, fair to good inferred porosity, no fluorescence. CLAYSTONE: off white to light brown, soft, dispersive, amorphous to trace blocky, trace mica flakes and carbonaceous material, trace to minor very fine sand grains. SILTSTONE: as above.
1536	80 20				SANDSTONE: as above. CLAYSTONE: as above.
39	70 20 10				SANDSTONE: as above. No fluorescence CLAYSTONE: as above. SILTSTONE: medium to dark grey, greyish black, minor soft to dominantly firm, blocky to subfissile, common to abundant carbonaceous material, coaly in part, trace to minor very fine disseminated and nodular Pyrite.
1542	80 10 10				SANDSTONE: clear to translucent, opaque, white, loose, fine to coarse, dominantly medium, angular to subrounded, dominantly subangular, poor to moderately sorted, minor weak silica cement, trace pyrite cement, minor white to very light grey argillaceous matrix, minor pyrite nodules, fair to good inferred porosity. No fluorescence. CLAYSTONE: as above. SILTSTONE: as above. Trace Coaly fragments.
1545	90 10 Tr				SANDSTONE: dominantly as above. SILTSTONE: as above. CLAYSTONE: as above.
1548	80 10 10				SANDSTONE: clear to translucent, light to medium bluish grey in part, milky white, loose, fine to coarse, occasionally very coarse to granular, dominantly medium to coarse, poorly sorted, angular bit fractured Quartz grains, dominantly subangular to subrounded, minor strong silica cementing / Quartz overgrowths, trace Pyrite cementing, minor white to off white argillaceous matrix, fair to good inferred porosity. No fluorescence. SILTSTONE: as above. CLAYSTONE: as above.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth (mRT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1551	90 10				SANDSTONE: as above. SILTSTONE: medium to dark grey, greyish brown in part, bluish grey in part, firm to hard, carbonaceous in part, commonly siliceous, common very fine disseminated Pyrite, trace to minor nodular Pyrite.
1553	90 10				SANDSTONE: as above. SILTSTONE: as above. BOTTOMS UP SAMPLE - POOH FOR BIT AT 1553mRT
1557	30 50 20				SILTSTONE: light to medium brown, soft to firm, blocky to minor subfissile, common carbonaceous flecks / material, argillaceous in part, minor very fine disseminated Pyrite. VOLCANICS: pale bluish grey, greenish grey, white to pale brown, soft to firm, aggregated in part, common altered Feldspars, common Feldspar laths were aggregated, minor Chlorite, locally common very fine disseminated Pyrite, minor nodular Pyrite, minor white firm coarse micro-crystalline aggregates, argillaceous. CLAYSTONE: of white to pale brown, soft, amorphous, dispersive.
1560	10 60 30				SILTSTONE: as above. VOLCANICS: as above, common to abundant weathered / altered Feldspar (Kaolinitic). CLAYSTONE: as above.
1563	70 30				VOLCANICS: as above. CLAYSTONE as above.
1566	20 50 30				SANDSTONE: clear to translucent, light grey, loose to friable, fine to occasionally medium, dominantly fine, subangular to subrounded, moderately well sorted, minor weak silica cement, common moderately strong Pyrite cement, common white Kaolinitic matrix, common nodular pyrite, poor inferred porosity. No shows. VOLCANICS: as above. CLAYSTONE: as above.
1569	40 40 20				SANDSTONE: dominantly clear to translucent, loose, fine to medium, dominantly medium, subangular to subrounded, moderately well sorted, weak silica cement, minor to moderate Pyrite cement, minor white argillaceous matrix, fair to good inferred porosity. No shows. VOLCANICS: dominantly as above. CLAYSTONE: as above.
1572	70 20 10				SANDSTONE: as above. No shows. VOLCANICS: as above. CLAYSTONE: as above.
1575	90 10				SANDSTONE: as above, good inferred porosity. No shows. VOLCANICS: as above.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 17 of 34
1578	70 30 TR				SANDSTONE: dominantly as above. No shows. CLAYSTONE: white to off white, commonly pale to medium brown, soft, dispersive, amorphous, micro-micaceous in part, minor very fine carbonaceous flecks, minor very fine to silty quartz grains. VOLCANICS: as above.
1581	100				SANDSTONE: clear to translucent, white, opaque, loose to occasional firm aggregates, fine to coarse, dominantly medium, angular to subrounded, moderately sorted, trace moderately strong silica cementing, trace pyrite cementing, minor white argillaceous matrix, trace nodular Pyrite, good inferred porosity. No shows.
1584	70 30				SANDSTONE: clear to translucent, white, opaque, loose to minor firm to hard, fine to very coarse, dominantly medium to coarse, angular to subrounded, poor to moderately sorted, trace to minor moderately strong silica cementing,trace pyrite cementing, minor quartz overgrowths, minor to moderately common white to pale brown argillaceous matrix, trace nodular pyrite, fair inferred porosity. No shows. CLAYSTONE: light to medium brown, greyish brown, white to off white, soft, dispersive, amorphous, silty in part, minor very fine Quartz, trace carbonaceous flecks, minor very fine disseminated Pyrite.
1587	70 30				SANDSTONE: as above. CLAYSTONE: as above. suspect claystone dispersing into mud system.
1590	90 10				SANDSTONE: dominantly as above, dominantly fine to medium, moderately sorted, abundant white to pale brown argillaceous matrix, fair inferred porosity. No shows. CLAYSTONE: as above.
1593	90 10				SANDSTONE: dominantly as above, commonly medium, fair to good inferred porosity. No shows. CLAYSTONE: as above. Minor Volcanic cavings.
1596	90 10				SANDSTONE: as above, dominantly medium, moderately sorted, good inferred porosity. Locally common nodular Pyrite (3-5%) CLAYSTONE: as above.
1599	100				SANDSTONE: clear to translucent, off white to light grey, loose, fine to very coarse, dominantly medium, minor coarse angular bit fractures Quartz grains, subangular to subrounded, moderately sorted, minor moderately strong silica cement, minor Quartz overgrowths, locally common white argillaceous matrix, trace to minor pyrite nodules, fair inferred porosity. No shows.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 18 of 34
1602	50 50				SANDSTONE: dominantly as above, common coarse to very coarse angular bit fractured Quartz fragments, poorly sorted, moderately common Quartz overgrowths, common argillaceous matrix, poor inferred porosity. No shows. CLAYSTONE: light brownish grey to medium olive grey, white to very light grey, soft, amorphous, minor carbonaceous flecks, silty, minor micro-micaceous, trace very fine Quartz grains.
1605	100				CLAYSTONE: as above.
1608	80 20				CLAYSTONE: as above. SANDSTONE: dominantly as above, common very coarse angular bit fractured Quartz fragments, common over growths, poor inferred porosity. (Cavings?)
1611	100				CLAYSTONE: dominantly as above.
1614	80 20				CLAYSTONE: as above. SANDSTONE: clear to translucent, milky, opaque, loose, fine to very coarse, dominantly medium to coarse, common coarse angular bit fractured grains, angular to subrounded, poorly sorted, minor strong silica cementing as overgrowths, common argillaceous matrix, minor Pyrite nodules, poor inferred porosity. No shows.
1617	90 10				CLAYSTONE: light brownish grey to medium olive grey, white to very light grey, soft, amorphous, minor carbonaceous flecks, silty, minor micro-micaceous, trace to common very fine to fine Quartz grains, trace disseminated and nodular Pyrite. SANDSTONE: clear to translucent, white, opaque, loose, trace friable, fine to coarse, dominantly fine, angular to subrounded, moderately sorted, weak silica cement, common pale brown to olive grey argillaceous and silty matrix, trace nodular Pyrite, poor inferred porosity. No shows.
1620	100 TR				CLAYSTONE: dominantly as above. SANDSTONE: as above. No shows.
1623	80 20				CLAYSTONE: as above. SANDSTONE: as above. No shows.
1626	50 50				CLAYSTONE: as above. SANDSTONE: clear to translucent, white, opaque, loose, trace friable, fine to coarse, dominantly medium, angular to subrounded, moderately sorted, weak silica cement, trace pyrite cement, common pale brown to olive grey argillaceous and silty matrix, trace to minor nodular Pyrite, poor inferred porosity. No shows.
1629	60 40				CLAYSTONE: as above. SANDSTONE: as above, minor medium to coarse, moderately sorted, common white to pale brown argillaceous matrix, minor Pyrite nodules. poor to fair inferred porosity. no shows.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1632	50 50				CLAYSTONE: as above. SANDSTONE: as above. No shows.
1635	50 50				CLAYSTONE: light brownish grey to medium olive grey, white to very light grey, soft, amorphous, minor carbonaceous flecks, silty, minor micro-micaceous, trace to common very fine to fine Quartz grains, trace disseminated and nodular Pyrite. SANDSTONE: clear to translucent, off white to white, loose to minor friable aggregates, very fine to medium, dominantly fine, angular to subrounded, moderate to well sorted, trace silica cementing, common to abundant white to pale brown argillaceous matrix, matrix supported in part, trace nodular pyrite, poor inferred porosity. No shows.
1639	40 60				CLAYSTONE: as above. SANDSTONE: as above. No shows. POOH FOR BHA CHANGE - HOLE DROPPING ANGLE.
1644	30 70				CLAYSTONE: light brownish grey to medium grey brown, off white to light grey, soft, amorphous, minor carbonaceous flecks, silty, minor micro-micaceous, trace to common very fine to fine quartz grains, trace disseminated and nodular pyrite. SANDSTONE: clear to translucent, off white to white, loose to minor friable to moderately hard aggregates, fine to occasionally coarse, dominantly medium, angular to subrounded, moderately to well sorted, trace silica cementing, common to abundant white to pale brown argillaceous matrix, matrix supported in part, trace nodular pyrite, poor inferred porosity, no shows.
1650	80 20				CLAYSTONE: as above, trace grades to siltstone. SANDSTONE: as above.
1653	70 30				CLAYSTONE: as above. SANDSTONE: as above, trace moderately strong siliceous cement.
1655	90 10				CLAYSTONE light grey brown, soft to minor firm, amorphous to minor blocky, rarely silty, trace carbonaceous material, trace pyrite nodules. SANDSTONE: clear to translucent, milky, opaque, white to light grey, loose to minor friable to moderately hard, fine to medium, subangular to subrounded, moderately to well sorted, rare moderately strong siliceous cement, minor to common white argillaceous matrix, trace lithics, poor to fair inferred porosity. POOH DUE TO SLOW ROP -BIT BALLED.
1659	90 10				CLAYSTONE: as above. SANDSTONE: as above. No shows.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
1662	100 TR				CLAYSTONE: light greyish brown, light to medium grey, off white, soft, to minor moderately firm, amorphous to minor blocky, dispersive in part, silty, minor to moderately common carbonaceous flecks, micromicaceous in part, trace Pyrite nodules, minor to moderately common very fine Quartz sand grains. SANDSTONE: as above. No shows. START 6M SAMPLING FROM 1662 DUE TO HIGH ROP
1668	100 TR				CLAYSTONE: dominantly as above. SANDSTONE: as above. No shows.
1674	100 TR				CLAYSTONE: as above. SANDSTONE: clear to translucent, milky, opaque, white to light grey, loose to minor friable, very fine to fine, subangular to subrounded, moderately to well sorted, rare moderately strong siliceous cement,abundant inferred white to pale greyish brown argillaceous matrix, matrix supported in Claystone, trace lithics, poor inferred porosity. No shows.
1680	40 60				CLAYSTONE: dominantly as above. SANDSTONE: clear to translucent, white to light grey, opaque, loose to moderately firm aggregates, friable, very fine to fine, rare medium, dominantly fine, subangular to subrounded, moderately well sorted, trace moderately strong silica cement, common moderately strong calcite cement, common white argillaceous matrix, trace pyrite, trace lithics, poor visual porosity. No shows. NOTE CHANGE IN SANDSTONE - CALCITE CEMENTED.
1686	70 30				CLAYSTONE: light greyish brown, light to medium grey, off white, soft, to minor moderately firm, amorphous to minor blocky, dispersive in part, commonly silty, moderately common carbonaceous flecks, micromicaceous, trace Pyrite nodules, minor to moderately common very fine Quartz sand grains. SANDSTONE: as above. No shows
1692	90 10				CLAYSTONE: as above. SANDSTONE: as above. No shows.
1698	100 TR				CLAYSTONE: as above. SANDSTONE: as above. No shows.
[illegible]04	100				CLAYSTONE: as above.
1710	100				CLAYSTONE: medium brownish grey, medium to occasionally dark grey, soft to dominantly firm, blocky, moderately common carbonaceous flecks, commonly silty, grades to Argillaceous Siltstone in part, micromicaceous, trace nodular Pyrite.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET — Well: LONGTOM-1/ST1 Permit: VIC/P1 Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY
1716	100				CLAYSTONE: as above.
1722	80 20				CLAYSTONE: as above. SANDSTONE: white, opaque, clear to translucent, loose, very fine to medium, dominantly fine, subangular to subrounded, moderately well sorted, trace weak silica cementing, minor weak calcite cementing, trace to minor white argillaceous matrix, trace to minor nodular pyrite, poor visual to fair inferred porosity. No shows.
1728	70 30				CLAYSTONE: (Type 1) 40% as above. (Type 2) 60% off white to very pale brown, very light greyish brown, soft, amorphous, very dispersive, trace to minor carbonaceous flecks, occasional coarse matrix supported Quartz grains. SANDSTONE: colour dominantly as above, loose, fine to medium, minor coarse grained, angular to subrounded, poor to moderately sorted, trace weak silica cementing, common to abundant white to very light grey argillaceous matrix, inferred to be matrix supported, poor inferred porosity. No shows.
1734	60 40				CLAYSTONE: (Type 1) 20% as above. (Type 2) 80% as above. SANDSTONE: as above.
1740	100 TR				CLAYSTONE: (Type 2) 100% off white to very pale brown, very light greyish brown, soft, amorphous, very dispersive, trace to minor carbonaceous flecks, trace coarse Quartz grains. SANDSTONE: as above.
1746	100 TR				CLAYSTONE: as above. SANDSTONE: as above
1752	90 10				CLAYSTONE: (Type 1) 10% as above. (Type 2) 90% as above. SANDSTONE: clear t tranlucent, white, loose, fine to medium, minor coarse grained, angular to subrounded, poor to moderately sorted, trace weak silica cementing, common to abundant white to very light grey argillaceous matrix, inferred to be matrix supported, poor inferred porosity. No shows.
1758	80 20				CLAYSTONE: (Type 1) 20% as above. (Type 2) white to very pale brown, very light greyish brown, soft to minor firm, amorphous to subblocky, dispersive in part, commonly silty, common very fine Quatrz (matrix supported), minor carbonaceous flecks, trace to minor micromicaceous. SANDSTONE: dominantly as above. No shows.

CUTTINGS DESCRIPTION SHEET

BHP

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1764	70 30				CLAYSTONE: predominantly off white to pale brown, soft to minor firm, amorphous, minor subblocky, dispersive, trace silty, minor very fine quartz grains, rare carbonaceous specks, rare to minor medium grey to grey brown, firm, subblocky, silty, trace carbonaceous specks. SANDSTONE: clear to transluscent, loose, very fine to medium, rarely coarse, predominantly fine to medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, common to abundant white to light grey argillaceous matrix, poor to fair inferred porosity, no fluorescence.
1770	80 20				CLAYSTONE: as above. SANDSTONE: as above.
1776	100				CLAYSTONE: light brown, light to medium grey brown, medium to occasionally dark grey, soft to minor firm, blocky to subblocky, minor amorphous, commonly silty, grades locally to siltstone, minor micromicaceous, trace to locally common carbonaceous material, trace pyrite nodules.
1782	90 10				CLAYSTONE: as above. SANDSTONE: as above.
1788	100				CLAYSTONE: light to medium grey brown, medium to occasionally dark grey, soft to firm, amorphous to commonly blocky, commonly silty, grades locally to siltstone, trace micromicaceous, trace to rare carbonaceous material, trace very fine quartz grains.
1794	100				CLAYSTONE: as above.
1800	100				CLAYSTONE: medium to occasionally dark grey, medium grey brown, firm to minor moderately hard, minor soft, blocky to subblocky, trace silty, minor micromicaceous, trace carbonaceous specks.
1806	100				CLAYSTONE: medium to dark grey, firm to minor moderately hard, minor soft, minor micromicaceous, trace silty, trace carbonaceous specks, trace disseminated and nodular pyrite.
1812	100				CLAYSTONE: as above.
1818	100				CLAYSTONE: as above, but becoming slightly dark and generally firm to moderately hard, trace soft.
1824	100				CLAYSTONE: medium to dark grey, grey brown, minor light brown to light grey, firm to moderately hard, minor soft, minor micromicaceous, trace silty, trace carbonaceous specks, trace nodular pyrite.
1830	100				CLAYSTONE: light brown to light grey brown, light to medium grey, trace dark grey, soft to minor firm, trace silty, trace to rare carbonaceous material, trace pyrite nodules.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 23 of 34
1833	100 tr				CLAYSTONE: as above. SANDSTONE: clear to transluscent, loose, very fine to fine, subangular to subrounded, probably washing out of claystone.
1836	90 10				CLAYSTONE: as above. SANDSTONE: clear to transluscent, loose to trace soft, very fine to occasionally medium, subangular to subrounded, moderately sorted, trace to locally abundant argillaceous matrix, probably washing out of claystone, trace lithics, poor inferred porosity.
1842	80 20				CLAYSTONE: as above. SANDSTONE: as above.
1848	90 10				CLAYSTONE: as above. SANDSTONE: as above.
1854	90 10				CLAYSTONE: as above. SILTSTONE: light to rarely medium grey, firm, blocky, arenaceous grades locally to very fine sandstone, trace lithics, trace to rare carbonaceous material.
1860	90 10				CLAYSTONE: light to medium grey, light brown, brown to grey brown, firm to soft, blocky to subblocky, trace silty, trace disseminated and nodular pyrite. SANDSTONE: as above.
1866	70 30				CLAYSTONE: as above. SANDSTONE: clear to transluscent, loose to friable, very fine to medium grained, predominantly medium, angular to subrounded, moderately sorted, minor to locally very abundant white argillaceous matrix, trace lithics, trace carbonaceous material, poor visual porosity, no fluorescence.
1872	70 20 10				CLAYSTONE: as above. SANDSTONE: as above. SILTSTONE: light to medium grey, firm, blocky, arenaceous, grades to very fine sandstone, commonly argillaceous, grading to claystone, minor micromicaceous, trace lithics, trace to rare carbonaceous material.
1878	50 30 20				CLAYSTONE: as above. SANDSTONE: as above. SILTSTONE: as above.
1884	100				CLAYSTONE: medium to dark grey, grey brown, soft to firm, minor moderately hard, amorphous, dispersive, commonly blocky to subfissile, rare micromicaceous, trace silty.
1890	100				CLAYSTONE: generally as above, minor light brown to light grey brown, soft, amorphous to minor blocky, dispersive.

CUTTINGS DESCRIPTION SHEET

BHP

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1896	100 tr				CLAYSTONE: dominantly light brown to light grey brown, soft, dispersive, amorphous to minor blocky, minor very fine quartz grains, trace carbonaceous flecks and mica flakes. SANDSTONE: clear to transluscent, milky, loose, very fine to fine, subangular to subrounded, presumed washed out of the claystone, poor inferred porosity, no luorescence.
1902	100				CLAYSTONE: medium to dark grey, grey brown, light grey brown to grey brown, soft to firm, minor moderately hard, blocky to subfissile, rarely amorphous, rare micromicaceous, trace silty.
1908	90 10 tr				CLAYSTONE: as above. SANDSTONE: as above. SILTSTONE: light to medium grey, firm, blocky, arenaceous, trace grades to very fine sandstone, minor micromicaceous, commonly argillaceous, trace carbonaceous material.
1914	100 tr tr				CLAYSTONE: as above. SANDSTONE: as above. SILTSTONE: as above.
1920	90 10 tr				CLAYSTONE: light brown, light grey brown, light to medium grey, trace dark grey, firm to soft, blocky to subblocky, minor amorphous, rare to minor silty, minor micromicaceous, trace carbonaceous material, trace pyrite nodules. SANDSTONE: as above. SILTSTONE: as above.
1926	60 40				CLAYSTONE: light brown, light grey brown, light to medium grey, trace dark grey, firm to soft, blocky to subblocky, minor amorphous, rare to minor silty, minor micromicaceous, trace carbonaceous material, trace pyrite nodules. SANDSTONE: clear to transluscent, loose, fine to medium grained, subangular to subrounded, moderately sorted, common to abundant grey argillaceous matrix, trace lithics, poor to fair inferred porosity, no fluorescence.
1932	60 30 10				CLAYSTONE: as above. SANDSTONE: as above. SILTSTONE: light to medium grey, firm, blocky, arenaceous, trace grades to very fine sandstone, minor micromicaceous, commonly argillaceous, trace carbonaceous material.
1938	60 20 20				CLAYSTONE: as above. SANDSTONE: as above. SILTSTONE: as above.
1944	100				CLAYSTONE: medium to dark grey, grey brown, firm to minor moderately hard, rarely soft, blocky to subblocky, rare amorphous, trace silty, trace carbonaceous specks, trace pyrite nodules.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
1950	100				CLAYSTONE: as above.
1956	100				CLAYSTONE: as above.
1962	100				CLAYSTONE: as above.
1968	70 30				CLAYSTONE: dominantly as above. SILTSTONE: off white to very light grey, very light greyish brown, soft to commonly moderately firm, blocky, commonly very argillaceous, common carbonaceous flecks and micro-laminae, minor very fine grained Quartz , micromicaceous, trace nodular Pyrite.
1974	50 50				CLAYSTONE: medium to dark grey, greyish brown, white to very light grey, soft to moderately firm, amorphous to blocky, rare subfissile, dispersive in part, commonly silty, minor carbonaceous material, grades to argillaceous Siltstone, minor matrix supported very fine to fine grained Quartz. SILTSTONE: as above.
1980	60 40				CLAYSTONE: as above. SILTSTONE: as above.
1986	80 20				CLAYSTONE: as above. SILTSTONE: as above.
1992	70 30				CLAYSTONE: as above. SILTSTONE: as above.
1998	40 50 10				CLAYSTONE: as above. SILTSTONE: off white to very light grey, very light greyish brown, soft to commonly moderately firm, blocky, commonly very argillaceous, common carbonaceous flecks and micro-laminae, minor to locally common very fine grained Quartz , grades tin part to silty Sandstone, micromicaceous, trace nodular Pyrite. SANDSTONE: clear to translucent, white, opaque, loose, very fine to medium, dominantly fine, angular to subrounded, moderately well sorted, trace weak silica cementing, common silty argillaceous matrix (washing out), poor inferred porosity. No shows.
2004	30 60 10				CLAYSTONE: as above. SANDY SILTSTONE: dominantly as above, common very fine Quartz, commonly grades to Silty Sandstone. SANDSTONE: as above. No shows.

Depth RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
2010	30 40 30				CLAYSTONE: dominantly as above. SILTSTONE: as above. SANDSTONE: clear to translucent, white, light grey, loose to moderately firm aggregates, very fine to medium, dominantly fine to minor medium, angular to subrounded, moderately well sorted, common weak to moderately strong calcite cement, trace weak silica cement, abundant white to light grey Kaolinitic matrix, minor trace pale green Chlorite?, trce nodular pyrite, poor visible porosity. No shows.
2016	50 40 10				SANDSTONE: as above. No fluorescence. SILTSTONE: very light grey, light greyish brown, minor medium brown, soft to commonly moderately firm, blocky, commonly very argillaceous, common carbonaceous flecks and micro-laminae, minor to locally common very fine grained Quartz , grades in part to silty Sandstone, micromicaceous, trace nodular Pyrite. CLAYSTONE: as above.
2022	60 40 TR				SANDSTONE: dominantly as above. No fluorescence. SILTSTONE: as above. CLAYSTONE: as above.
2028	30 60 TR				SANDSTONE: as above. SILTSTONE: as above. CLAYSTONE: as above.
2034	20 80 TR				SANDSTONE: as above. No shows. SILTSTONE: as above. CLAYSTONE: as above.
2040	30 50 20				SANDSTONE: as above. No shows. SILTSTONE: as above. CLAYSTONE: of white to very light grey, light greyish brown, soft, dispersive, amorphous, minor carbonaceous flecks, micromicaceous in part, commonly silty, minor very fine Quartz .
2046	40 50 10				SANDSTONE: clear to translucent, white, light grey, loose to moderately firm aggregates, very fine to medium, dominantly fine to minor medium, angular to subrounded, moderately sorted, common weak to moderately strong calcite cement, trace weak silica cement, abundant white to light grey Kaolinitic matrix, minor altered Feldspar, minor trace pale green Chlorite?, trce nodular pyrite, poor visible porosity. No shows. SILTSTONE: light grey, light greyish brown, minor medium brown, soft to commonly moderately firm, blocky, commonly very argillaceous, common carbonaceous flecks and micro-laminae, minor to locally common very fine grained Quartz , grades in part to silty Sandstone, micromicaceous, trace nodular Pyrite. CLAYSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 27 of 34
2052	40 60 TR				SANDSTONE: as above. No shows. SILTSTONE: as above. CLAYSTONE: as above.
2058	20 70 10				SANDSTONE: as above. No shows. SILTSTONE: as above. CLAYSTONE: as above.
2064	10 80 10				SANDSTONE: as above. No shows. SILTSTONE: as above, commonly grades to silty CLAYSTONE. CLAYSTONE: as above, commonly silty.
2070	100 TR				SILTSTONE: as above. SANDSTONE: as above. No shows.
2076	100 TR				SILTSTONE: as above. SANDSTONE: as above. No shows.
2082	100 TR				SILTSTONE: light grey - light brownish grey, soft to minor moderately firm, blocky, common carbonaceous flecks and micro-laminae, micromicaceous, trace nodular pyrite.
2088	70 30				SILTSTONE: as above. CLAYSTONE: medium to commonly dark grey, firm to moderately hard, blocky to subfissile, minor carbonaceous flecks, minor micromicaceous.
2094	60 40				SILTSTONE: as above. CLAYSTONE: as above.
2100	40 60				SILTSTONE: as above commonly grading to silty Claystone: CLAYSTONE: medium brownish grey, medium to dark grey, firm to moderately hard, blocky to subfissile, minor carbonaceous flecks, minor micromicaceous.
2106	100				CLAYSTONE: medium brownish grey to commonly medium to dark grey, firm to moderately hard, subfissile to minor fissile, trace micro carbonaceaous specks, trace micromicaceous.
2112	100				CLAYSTONE: as above.
2118	100				CLAYSTONE: as above.
2124	100				CLAYSTONE: as above.
2130	100				CLAYSTONE: as above.
33	100				CLAYSTONE: medium to dark grey, minor pale brown, firm, blocky to dominantly subfissile, minor fissile, minor carbonaceous flecks.
2136	60 40				CLAYSTONE: as above. SILTSTONE: light grey - light brownish grey, soft to minor moderately firm, blocky, common carbonaceous flecks and micro-laminae, micromicaceous, trace nodular pyrite.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 28 of 34
2139	40 50 10				CLAYSTONE: as above. SILTSTONE: as above, commonly argillaceous. SANDSTONE: clear to translucent, white, opaque, loose, very fine to medium, rare coarse, subangular to subrounded, poorly sorted, trace weak silica cementing, abundant white argillaceous matrix, poor inferred porosity. No fluorescence.
2142	40 40 20				CLAYSTONE: as above. SILTSTONE: as above. SANDSTONE: clear to translucent, white, opaque, loose, very fine to medium, rare coarse, subangular to subrounded, poorly sorted, trace weak silica cementing, abundant white argillaceous matrix, poor inferred porosity. No fluorescence.
2148	30 50 20				CLAYSTONE: as above. SILTSTONE: as above. SANDSTONE: as above. No fluorescence.
2154	30 60 10				CLAYSTONE: as above. SILTSTONE: light grey to light brownish grey, soft to minor moderately firm, blocky, common carbonaceous flecks and micro-laminae, micromicaceous, trace nodular pyrite. SANDSTONE: as above.
2160	60 40				CLAYSTONE: light brown to light grey brown, light olive grey, minor medium to dark grey, soft to firm, blocky to subblocky, commonly amorphous, locally silty, minor carbonaceous flecks. SILTSTONE: as above.
2166	60 40				CLAYSTONE: as above. SILTSTONE: light grey to light brownish grey, trace dark grey, firm to soft, blocky, common carbonaceous flecks and micro-laminae, micromicaceous, trace nodular pyrite.
2172	60 30 10				CLAYSTONE: as above. SILTSTONE: as above. SANDSTONE: clear to transluscent, loose, very fine to fine grained, subangular to subrounded, moderately sorted, minor grades to arenaceous siltstone, minor weak siliceous cement, rare to minor white to light brown argillaceous matrix, rare to common carbonaceous material, poor inferred porosity.
2178	50 30 20				CLAYSTONE: as above. SILTSTONE: as above. SANDSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
2184	60 40				CLAYSTONE: light to medium grey brown, medium to occasionally grey brown, minor medium to dark grey, soft to firm, blocky to subblocky, trace amorphous, locally silty, grades to argillaceous siltstone, minor carbonaceous flecks. SILTSTONE: medium to minor dark grey, brownish grey, firm to moderately hard, minor soft, blocky, trace to rare carbonaceous flecks and micro-laminae, micromicaceous, trace lithics.
2190	30 70				CLAYSTONE: as above. SILTSTONE: as above.
2196	40 60 tr				CLAYSTONE: as above. SILTSTONE: medium to dark grey, minor grey brown, trace light grey, firm to moderately hard, arenaceous, grades locally to very fine sandstone, minor argillaceous, micromicaceous, rare carbonaceous specks. SANDSTONE: clear to transluscent, milky to opaque, loose to minor friable, very fine to occasionally medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, minor to common white argillaceous matrix, rare lithics, poor visual porosity, no fluorescence.
2202	50 50				CLAYSTONE: as above. SILTSTONE: as above.
2208	70 30 tr				CLAYSTONE: light brown, light to minor medium grey, light grey brown, soft to firm, blocky to subblocky, minor amorphous, locally silty, grades to argillaceous siltstone, rare micromicaceous, trace carbonaceous flecks. SILTSTONE: as above. SANDSTONE: as above.
2214	80 20 tr				CLAYSTONE: as above. SILTSTONE: as above. SANDSTONE: as above.
2220	60 40 tr				CLAYSTONE: as above. SILTSTONE: medium to dark grey, grey brown, trace light grey, firm to moderately hard, arenaceous, grades locally to very fine sandstone, minor argillaceous, micromicaceous, rare carbonaceous specks. SANDSTONE: clear to transluscent, milky to opaque, loose to minor friable, very fine to occasionally medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, minor to common white argillaceous matrix, rare lithics, trace to rare carbonaceous material, poor visual porosity, no fluorescence.
2226	50 50				CLAYSTONE: as above. SILTSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
2232	30 70				CLAYSTONE: medium to dark grey, medium grey brown to brown, minor olive grey, firm to minor moderately hard, minor soft, blocky to subblocky, minor amorphous, locally silty, grades to argillaceous siltstone, rare micromicaceous, trace carbonaceous flecks. SILTSTONE: medium to dark grey, grey brown, trace grey green, firm to moderately hard, arenaceous, grades locally to very fine sandstone, minor argillaceous, micromicaceous, trace feldspars, rare to locally common carbonaceous specks and flakes.
2238	10 80 10				CLAYSTONE: as above. SILTSTONE: as above. SANDSTONE: as above.
2244	20 80				CLAYSTONE: as above. SILTSTONE: as above.
2250	70 30 tr				CLAYSTONE: light to minor medium brown, light to medium grey, tracegrey brown and olive grey, dominantly soft to firm, trace moderately hard, subblocky to subfissile, minor amorphous, commonly silty, minor micromicaceous, trace carbonaceous specks. SILTSTONE: medium to dark grey, grey brown, minor light grey, firm to moderately hard, blocky to minor subfissile, slightly arenaceous, trace grades to very fine sandstone, micromicaceous, minor argillaceous, trace lithics and feldspars, trace to rare carbonaceous material. SANDSTONE: as above.
2256	80 20				CLAYSTONE: as above, rare red brown. SILTSTONE: as above.
2262	90 10				CLAYSTONE: light to medium brown, light to medium grey, light olive grey, trace red brown, trace to rare grey green, firm to minor moderately hard, subblocky to subfissile, trace carbonaceous material, trace micromicaceous. SILTSTONE: as above.
2268	100 tr				CLAYSTONE: as above. SILTSTONE: as above.
2274	100 tr				CLAYSTONE: as above. SILTSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	CUTTINGS DESCRIPTION SHEET Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 31 of 34
2280	90 10 tr				CLAYSTONE: medium to dark grey, minor medium brown, firm to minor moderately hard, trace soft, subblocky to occasionally fissile, rarely silty, trace carbonaceous specks. SILTSTONE: medium to dark grey, grey brown, minor light grey, firm to moderately hard, blocky to minor subfissile, slightly arenaceous, trace grades to very fine sandstone, micromicaceous, minor argillaceous, trace lithics and feldspars, trace to rare carbonaceous material. SANDSTONE: clear to transluscent, loose to minor friable aggregates, very fine to medium, predominantly fine to medium, subangular to subrounded, moderately well sorted, rare weak siliceous cement, minor to locally abundant white argillaceous matrix, trace lithics and carbonaceous material, poor to fair visual porosity, no fluorescence.
2286	60 40 tr				CLAYSTONE: as above, commonly silty, grades to argillaceous Siltstone. SILTSTONE: as above. SANDSTONE: as above.
2292	30 70				CLAYSTONE: as above. SILTSTONE: as above.
[illegible]98	80 20				CLAYSTONE: dark grey, minor medium grey and medium brown, trace greenish grey, firm to moderately hard, trace soft, subbocky to subfissile, rarely silty, trace carbonaceous specks. SILTSTONE: as above.
2304	70 30				CLAYSTONE: as above. SILTSTONE: medium to dark grey, grey brown, minor light grey, firm to moderately hard, blocky to minor subfissile, slightly arenaceous, trace grades to very fine sandstone, micromicaceous, minor argillaceous, trace lithics and feldspars, trace to rare carbonaceous material.
2310	80 20				CLAYSTONE: as above. SILTSTONE: as above.
2316	90 10				CLAYSTONE: as above. SILTSTONE: as above.
2322	90 10				CLAYSTONE: dominantly as above, 40% is pale greenish grey, firm, blocky, rare to trace caronaceous specks, rare silty. SILTSTONE: as above.
2328	80 20				CLAYSTONE: 50% is dark grey, minor medium grey and medium brown, 50% is greenish grey, firm to moderately hard, trace soft, subbocky to subfissile, rarely silty, trace carbonaceous specks. SILTSTONE: as above, grades inpart to a very fine grained Sandstone.

CUTTINGS DESCRIPTION SHEET

Well: **LONGTOM-1/ST1**
Permit: **VIC/P1**
Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	
2334	60 40				CLAYSTONE: as above. SILTSTONE: medium to dark grey, commonly pale greenish grey, soft to commonly firm, rare moderately hard, blocky to minor subfissile, arenaceous in part, grades to very fine grained Sandstone in part, micromicaceous, minor argillaceous, trace lithics, trace carbonaceous material.
2341	50 45 5				CLAYSTONE: as above. SILTSTONE: as above. SANDSTONE: white, clear to translucent, opaque, loose to minor firm aggregates, very fine to fine, angular to subrounded, moderately sorted, moderate weak calcite cement, common white Kaolinitic matrix, commonly grades to arenaceous Siltstone, poor inferred porosity. CIRC BOTTOMS UP - Decide to Drill ahead.
2346	40 40 20				SANDSTONE: white to light grey, clear to translucent, minor pale green, loose to common firm aggregates, very fine to minor medium, dominatly fine, angular to subrounded, moderately sorted, common weak to moderately strong calcite cementing, abundant white Kaolinitic matrix, (Altered Feldspars), trace pale green Chlorite?, trace reddish brown lithics, poor visuble porosity. No fluorescence. CLAYSTONE: as above. SILTSTONE as above.
2352	50 30 20				SANDSTONE: as above. CLAYSTONE: as above. SILTSTONE: as above.
2355	70 20 10				SANDSTONE: white to light grey, clear to translucent, minor pale green, loose to common firm aggregates, very fine to minor medium, dominatly fine, angular to subrounded, moderately sorted, common weak to moderately strong calcite cementing, abundant white Kaolinitic matrix, (Altered Feldspars), trace pale green Chlorite?, trace to minor carbonaceous material and micro-laminae, trace reddish brown lithics, poor visuble porosity. No fluorescence. CLAYSTONE: as above. SILTSTONE: as above. SPOT SAMPLE
2358	60 30 10				SANDSTONE: as above. No fluorescence. CLAYSTONE: as above. SILTSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
2364	80 20				SANDSTONE: clear to translucent, opaque, white, minor pale green and redish brown, friable to moderately firm aggregates, commonly loose, very fine to medium, dominantly fine to medium, angular to subrounded, moderately well sorted, common moderately strong calcite cement, abundant white Kaolinitic matrix, minor Feldspars, common lithics, minor carbonaceous flecks and micro-laminae in aggregates, trace nodular pyrite, poor visible to ocasionally fair inferred porosity. No fluorescence. CLAYSTONE: as above.
2370	70 20 10				SANDSTONE: as above. No fluorescence. CLAYSTONE: medium to dark grey, medium brownish grey, firm to moderately hard, trace soft, subbocky to subfissile, rarely silty, trace carbonaceous specks. SILTSTONE: off white to commonly light greyish brown, soft to firm, blocky, commonly arenaceous, common carbonaceous flecks and micro-lamiae, micro-micaceous, minor Feldspar, minor lithics.
2373	70 20 10				SANDSTONE: as above, with occasional coarse angular bit fractured Quartz grains, poor to moderately sorted, poor visible to minor fair inferred porosity. Trace to 10% very dull orange mineral fluorescence. (No solvent cut or residue). SILTSTONE: as above. CLAYSTONE: as above.
2376	70 20 10				SANDSTONE: clear to translucent, opaque, loose, minor friable aggregates, fine to medium, minor coarse, dominantly medium, angular to subrounded, moderately sorted, moderate weak calcite cementing, minor to moderately common white Kaolinitic matrix, minor Feldspar, trace chlorite, trace lithics, fair inferred porosity. Trace dull orange mineral fluorescence. CLAYSTONE: as above. SILTSTONE: as above.
2382	40 40 20				SANDSTONE: dominantly as above. Trace mineral fluorescence. CLAYSTONE: medium to dark grey, medium brownish grey, firm to moderately hard, trace soft, subbocky to subfissile, rarely silty, trace carbonaceous specks. SILTSTONE: as above.
2388	10 60 30				SANDSTONE: as above. No fluorescence. CLAYSTONE: as above. SILTSTONE: light to medium brownish grey, medium grey, minor dark grey, soft to commonly firm, blocky, common carbonaceous flecks and micro-laminae, arenaceous, commonly argillaceous, grades to silty Claystone.
2394	10 40 50				SANDSTONE: as above. SILTSTONE: as above. CLAYSTONE: as above.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	Description
2400	60 40 TR				CLAYSTONE: light to medium grey, minor dark grey, mottled medium brownish grey to white, firm, blocky to subfissile, rare fissile, trace to minor carbonaceous material, micromicaceous in part, silty in part. SILTSTONE: as above. SANDSTONE: as above. no fluorescence.
2403	10 60 30				SANDSTONE: clear to translucent, opaque, white, loose, fine to medium, rare coarse, angular to subrounded, minor to moderately common calcite cement, minor to moderately common white Kaolinitic matrix, minor Feldspar, poor inferred porosity. No fluorescence. CLAYSTONE: as above. SILTSTONE: as above.
2406	30 50 20				SANDSTONE: clear to translucent, opaque, white, loose to common firm to friable aggregates, very fine to medium, rare coarse, dominantly fine to medium, angular to subrounded, common moderately firm calcite cement, minor to moderately common white Kaolinitic matrix, minor Feldspar, trace chlorite?, poor visible to minor fair inferred porosity. No fluorescence. CLAYSTONE: as above. SILTSTONE: as above.
2412	40 30 30				SANDSTONE: as above. No fluorescence. CLAYSTONE: as above. SILTSTONE: as above.
2416	40 20 40				SANDSTONE: as above. Trace very dull orange mineral fluorescence. CLAYSTONE: as above. SILTSTONE: as above.
2418	80 20				SILTSTONE: light grey to minor medium grey, pale brownish grey, soft to moderately firm, blocky, common carbonaceous flecks and micro-laminae, commonly arenaceous, grades to very fine grained Sandstone in part, trace to minor lithics, minor micro-micaceous. CLAYSTONE: as above.
2424	100 tr				SILTSTONE: as above. CLAYSTONE: light to medium grey, minor dark grey, firm to moderately hard, blocky to subfissile, rare fissile, trace to minor carbonaceous material, micromicaceous in part, silty in part.
2430	90 10				SILTSTONE: light grey to minor medium grey, firm to moderately hard, blocky, common carbonaceous flecks and micro-laminae, commonly arenaceous, grades to very fine grained Sandstone in part, trace to minor lithics, minor micro-micaceous. CLAYSTONE: medium to dark grey, minor light grey, firm to moderately hard, subblocky to subfissile, rare fissile, trace silty, trace carbonaceous material.

Depth (RT)	Lithology (%)	%Fluor	Glauconite	Carb Matter	**CUTTINGS DESCRIPTION SHEET** Well: **LONGTOM-1/ST1** Permit: **VIC/P1** Geologist(s):S.HORAN/K.HAAK/P.BOOTHBY Page: 35 of 34
2436	60 40				CLAYSTONE: as above. SILTSTONE: as above.
2442	80 20				CLAYSTONE: medium to dark grey, minor light grey, light brown, trace medium brown, firm to moderately hard, trace soft, subblocky to subfissile, rare fissile, trace silty, trace carbonaceous material. SILTSTONE: as above.
2445	90 10				CLAYSTONE: medium to dark grey, minor light grey, light brown, trace medium brown, firm to moderately hard, trace soft, subblocky to subfissile, rare fissile, trace silty, trace carbonaceous material. SILTSTONE: light grey to medium grey, firm to moderately hard, blocky, minor carbonaceous flecks, commonly arenaceous, grades to very fine grained Sandstone in part, trace to minor lithics, minor micro-micaceous.
					T.D. 2445m REACHED AT 20:30 HRS 05/06/95.

APPENDIX 3

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6.3 APPENDIX 3 Longtom-1 Sidewall Core Descriptions

Core No.	Depth (mRT)	Recovery (mm)	SIDEWALL CORE DESCRIPTION SHEET Well: Longtom-1 Permit: VIC/P1 Date: 26-May-1995 Geologist(s):S.HORAN/K.HAAK Logging Suite No:2 Page: 1 of 6
1	2213	25	CLAYSTONE: light grey, firm to rarely soft, massive, trace silty grains, non calcareous.
2	2192	25	SANDSTONE:lithic, greenish grey to pale green, friable, very fine to fine grained, trace medium grained, subangular to subrounded, poorly sorted, abundant white and greenish grey argillaceous matrix, trace calcite cement, abundant lithics,common quartz grains,trace to rare carbonaceous material, nil to poor visual porosity.
3	2148	20	SANDSTONE: lithic, greenish grey to light grey, commonly pale green, friable to soft, very fine to fine grained, subangular to subrounded, poorly sorted, abundant white and greenish grey matrix, trace calcite cement, abundant lithics, minor feldspars, common quartz grains, trace carbonaceous material, nil to poor visual porosity.
4	2137	35	INTERLAMINATED SANDSTONE AND CARBONACEOUS CLAYSTONE SANDSTONE: quartzose, light grey, friable, very fine to fine grained, subangular to subrounded, moderately sorted, common white to light grey argillaceou matrix, common lithics, trace feldspar, trace carbonaceous material, poor visual porosity. CARBONACEOUS CLAYSTONE:grayish black to brownish gray, soft, fissile, trace coal ragments, common very fine to fine sand grains. SWC laminated on a mm scale with parrallel continous laminations, 60% carbonaceous claystone and 40% sandstone.
5	2131	25	CLAYSTONE: light to medium gray, soft, massive, trace silty grains, trace micromicaeous, non calcareous.
6	2127	35	CLAYSTONE: medium gray to greenish gray, soft, trace silty grains, trace micromicaeous, rare carbonaceous material, non calcareous.
7	2124	30	CLAYSTONE: medium gray to greenish gray, soft, trace silty grains, trace micromicaeous, non calcareous.
8	2116	35	SILTSTONE: medium to dark gray, soft, common argillaceous material, trace micromicaeous, trace carbonaceous material, no calcareous.
9	2078	20	CLAYSTONE: medium to dark gray, soft, common silty material, trace micromicaeous,minor carbonaceous material, trace calcareous.
10	2056	25	SANDSTONE: lithic, greenish gray to pale green, friable, very fine to fine grained, subangular to subrounded, poorly sorted, abundant greenish grey to white argillaceous matrix, trace calcite cement, abundant lithics, trace feldspars, common quartz grains, trace carbonaceous material, nil to poor visual porosity.

SIDEWALL CORE DESCRIPTION SHEET

Well: Longtom-1
Permit: VIC/P1 Date: 26-May-1995
Geologist(s):S.HORAN/K.HAAK
Logging Suite No:2

Core No.	Depth (mRT)	Recovery (mm)	Description
11	2018.5	20	SANDSTONE: lithic, greenish gray to light gray,commonly pale green, commonly moderate green, friable, very fine to fine grained, subangular to subrounded, poorly sorted, abundant greenish gray to light grey and white argillaceous matrix, trace calcareous cement, abundant lithics, rare feldspar, common quartz, trace carbonaceous material, nil to poor visual porosity.
12	1986	25	CLAYSTONE: light to medium gray, soft, trace silty material, trace micromicaeous, minor carbonaceous material, trace calcareous.
13	1974.5	30	SANDSTONE: lithic, greenish grey to pale green, friable, very fine to fine grained, subangular to subrounded, poorly sorted, abundant greenish grey to white argillacous cement, abundant lithics, common quartz grains, trace carbonaceous material, nil to poor visual porosity.
14	1964.5	30	SANDSTONE: lithic, greenish grey to pale green, friable, very fine to fine grained, subangular to commonly subrounded, poorly sorted, abundant greenish gray to grayish green argillaceous matrix, trace calcite cement, abundant lithics, common quartz grains, trace carbonaceous material, nil to poor visual porosity.
15	1956	35	SANDSTONE: lithic, greenish gray to grayish green, friable, fine grained to trace medium grained, subangular to commonly subrounded, poorly sorted, abundant greenish gray to grayish green argillaceous matrix, trace calcite cement, abundant lithics, common quartz grains, trace carbonaceous material, poor to nil visual porosity.
16	1949.5	25	CALCAREOUS SANDSTONE: light grey to white, friable, very fine to fine grained, subangular to subrounded, poorly sorted, abundant calcite cement, common light grey argillaceous matrix, abundant lithics including reddy brown lithic grains, trace carbonaceous material, nil to poor visual porosity.
17	1947	20	SANDSTONE: lithic, greenish gray to grayish green, friable, very fine to fine grained, subangular to subrounded, poorly sorted, abundant greenish gray argillaceous matrix, trace calcite cement, trace carbonaceous material,nil visual porosity.
18	1936	25	CALCAREOUS SANDSTONE: white to light grey, friable, very fine to fine, subangular to predominatly subrounded, poorly sorted, abundant white calcite cement, minor cross cutting calcite veins, abundant lithics, trace to rare carbonaceous material, nil visual porosity.
19	1934	40	CALCAREOUS CLAYSTONE: light to dark grey, soft, minor carbonaceous material, calcareous in part.
20	1933.8	40	CLAYSTONE: greenish grey to medium grey, soft, rare carbonaceous material, trace silty material.
[illegible]	1931	30	SILTY CLAYSTONE: medium to trace dark gray, soft, abundant silty grains and common fine sand grains, common carbonaceous material.
22	1928.5	25	CALCAREOUS SANDSTONE: quartz,white to light gray, friable, fine to medium grained, subangular to trace subrounded, poorly sorted, abundant calcite cement, common lithic grains, nil to poor visual porosity.

Core No.	Depth (mRT)	Recovery (mm)	SIDEWALL CORE DESCRIPTION SHEET Well: Longtom-1 Permit: VIC/P1 Date: 26-May-1995 Geologist(s):S.HORAN/K.HAAK Logging Suite No:2 Page: 3 of 6
23	1923.5	30	SANDSTONE: quartzose, white to light gray, friable, fine to trace medium grained, subangular to commonly subrounded, moderately sorted, abundant white argillaceous matrix, rare calcite cement, common lithics, poor visual porosity.
24	1922	35	CLAYSTONE: light to medium grey, soft, trace silty material, trace calcite.
25	1911	30	SANDSTONE: quartzose, light grey, friable, medium to fine grained, subangular to commonly subrounded, moderately to well sorted, common white to light brown argillaceous matrix, trace siliceous cement, common lithics and feldspars, trace mica flakes, fair visual porosity.
26	1904.5	30	SANDSTONE: quartzose, off white to light grey, friable, fine to rarely coarse grains, moderately to poorly sorted, subangular to occasionally subrounded, common white to off white argillaceous matrix, minor to common feldspars and lithic grains, trace mica flakes, poor to fair visual porosity.
27	1899.5	30	SANDSTONE: off white to light grey, light greenish grey, friable, medium to fine grained, subangular to minor subrounded, common to abundant off white argillaceous matrix, minor to common lithics and feldspars, poor to fair visual porosity.
28	1892.5	30	SANDSTONE: off white to light grey, light greenish grey, friable to trace moderately hard, medium to fine grained, subangular to minor subrounded, common off white argillaceous matrix, minor to common lithics and feldspars, poor to fair visual porosity.
29	1882	35	CLAYSTONE: dark grey, moderately hard, minor silty material, grdes locally to siltstone, rare micromicaceous, trace carbonaceous material.
30	1860	20	CLAYSTONE: medium dark grey, firm to moderately hard, rare to locally abundant silt, grades to siltstone, trace very fine sand grains, trace carbonaceous material.
31	1805	30	SILTSTONE: medium to medium dark grey, firm to moderately hard, argillaceous, grades to claystone, trace very fine lithic grains, trace very fine mica flakes, trace to rare carbonaceous material.
32	1778	35	CLAYSTONE: dark grey, firm, trace very fine sand and silt sized grains, trace micromicaceous, trace carbonaceous specks.
33	1755	20	SILTSTONE: light olive grey, firm to occasionally moderately hard, minor arenaceous with common to abundant very fine sand grains, grades to very fine sandstone, commonly argillaceous, trace calareous cement, trace carbonaceous material.
34	1721	25	CLAYSTONE: light to medium light grey, firm, trace very fine sand grains, trace very fine mica flakes, trace to rare carbonaceous material.
35	1629	30	SILTSTONE: medium dark to dark grey, firm,argillaceous, grades locally to claystone, trace very fine sand grains, trace very fine mica flakes, trace to rare carbonaceous material.
36	1615	40	CLAYSTONE: dark grey, greyish black,firm to moderately hard, rare to minor silt grains, grades locally to siltstone, trace carbonaceous material.

Core No.	Depth (mRT)	Recovery (mm)	SIDEWALL CORE DESCRIPTION SHEET Well: Longtom-1 Permit: VIC/P1 Date: 26-May-1995 Geologist(s):S.HORAN/K.HAAK Logging Suite No:2 Page: 4 of 6
37	1567	35	SILTSTONE: medium dark to dark grey, firm to moderately hard, arenaceous, minor to commonly argillaceous, rare very fine sand and lithic grains, rare to minor very fine mica flakes, trace to rare carbonaceous material, trace nodular and disseminated pyrite.
38	1545	45	SANDSTONE: light to medium grey, friable, fine to minor coarse grained, predominantly medium, subangular to subrounded, rare weak to moderate siliceous cement, common white to pale grey argillaceous matrix, rare lithics, fair visual porosity.
39	1524		LOST
40	1516	40	SANDSTONE: light to medium grey, friable, fine to minor coarse grained, predominantly medium, subangular to subrounded, abundant white to pale grey argillaceous matrix, rare lithics, trace to rare carbonaceous material, fair visual porosity.
41	1510	30	SILTSTONE: brownish grey, firm to moderately hard, argillaceous, rare to minor very fine mica flakes, trace to rare carbonaceous material.
42	1483	30	CLAYSTONE: light to medium grey, firm, rare very fine to silt sized sand grains, grades to siltstone, trace very fine mica flakes, trace nodular pyrite, trace carbonaceous material.
43	1453	40	SANDSTONE: light to medium grey, friable, fine to granule sized grains, predominantly medium to coarse, poorly sorted, subangular to minor subrounded, trace pyrite cement, minor to common argillaceous matrix, trace nodular pyrite, fair to good visual porosity.
44	1443	40	SANDSTONE: light to medium grey, friable, fine to granule sized grained, predominantly medium to coarse, poorly sorted, subangular to minor subrounded, trace to rare siliceous cement and quartz overgrowths, minor to common argillaceous matrix, trace carbonaceous material, fair visual porosity.
45	1428	35	SILTSTONE: dark grey, dark grey brown, firm, argillaceous, rarely arenaceous, rare to minor very fine sand grains, minor very fine mica flakes.
46	1392	50	CLAYSTONE: light olive grey, soft to firm, rare carbonaceous material.
47	1387	30	SANDSTONE: light to medium grey, friable, very fine to granule sized grains, subangular, poorly sorted, minor quartzovergrowths and siliceous cement, commont to abundant white argillaceous matrix, trace pyrite on grain boundaries, trace lithics, poor visual porosity.
48	1358	30	SILTSTONE: brownish grey, firm to moderately hard, micaceous, minor arenaceous, common to abundant very fine mica flakes, common very fine quartz grains, trace carbonaceous material. Minor interbedded sandstones from 1mm to 3mm in width. SANDSTONE: light grey, off white, friable, very fine, subangular to subround, well sorted, common to abundant white argillaceous matrix, trace carbonaceous material, very poor visual porosity.

SIDEWALL CORE DESCRIPTION SHEET

BHP

Well: Longtom-1
Permit: VIC/P1
Date: 26-May-1995
Geologist(s):S.HORAN/K.HAAK
Logging Suite No:2

Core No.	Depth (mRT)	Recovery (mm)	Description
49	1308	40	SILTSTONE: brownish grey, dark grey, firm, argillaceous, trace to minor very fine mica flakes, trace to rare very fine sand and lithic grains, rare carbonaceous material.
50	1272	40	SANDSTONE: light brownish grey, friable to rarely moderately hard, fine to occasionally granule sized, predominantly medium grained, subangular, moderately to well sorted, trace pyritic cement, minor argillaceous matrix, trace carbonaceous material and nodular pyrite, fair visual porosity.
51	1268	40	SILTSTONE: brownish grey, firm to moderately hard, micaceous, minor arenaceous, common to abundant very fine mica flakes, minor very fine quartz grains, trace carbonaceous material. Minor interbedded sandstones from 1mm to 2mm in width. SANDSTONE: light grey, off white, friable, very fine, subangular to subround, well sorted, common to abundant white argillaceous matrix, trace carbonaceous material, very poor visual porosity.
52	1257	40	SANDSTONE: medium dark grey, friable, very fine to occasionally medium grained, subangular to subrounded, moderately sorted, minor to common light brown to brown argillaceous matrix, minor to common very fine mica flakes, trace feldspars and lithic grains, trace nodular pyrite, poor visual porosity.
53	1253	35	SILTSTONE: greenish grey, firm to moderately hard, arenaceous, grades to very fine sandstone, trace siliceous cemented, common to abundant very fine sand grains, rare to minor fine to medium grained dark green lithic/mineral grains, trace to rare very fine micas flakes.
54	1248	40	SANDSTONE: olive grey, friable to firm, very fine to medium, occasional very coarse to granule sized grains, subangular to minor subrounded, moderately sorted, minor to siliceous cement, common grey brown argillaceous matrix, abundant dark green lithic/mineral grains, poor visual porosity.
55	1244	35	CALCISILTITE: light olive grey to olive grey, firm, arenaceous, trace grades to calcarenite, rare to minor argillaceous material, rare to minor micrite/micritic cement, trace glauconite and disseminated pyrite, trace fossil fragments.
56	1242	30	ARGILLACEOUS CALCILUTITE: medium light to medium grey, firm, minor to common argillaceous material, trace glauconite and fossil fragments.
57	1177	30	MARL: medium dark grey to olive grey, firm to moderately hard, rarely silty, trace micrite, trace to rare disseminated pyrite.
58	1140	40	MARL: medium dark grey to olive grey, firm to moderately hard, rare to minor silt, trace micrite, trace disseminated pyrite.
59	1107	40	ARGILLACEOUS CALCISILTITE: medium grey to olive grey, firm, argillaceous, grades to silty marl, trace to rare disseminated pyrite, trace fossil fragments.

Core No.	Depth (mRT)	Recovery (mm)	**SIDEWALL CORE DESCRIPTION SHEET** Well: Longtom-1 Permit: VIC/P1 Date: 26-May-1995 Geologist(s):S.HORAN/K.HAAK Logging Suite No:2 Page: 6 of 6
60	1048	40	ARGILLACEOUS CALCISILTITE: medium grey to olive grey, firm, argillaceous, grades to silty marl, trace to rare disseminated pyrite, trace fossil fragments.

SIDEWALL CORE FLUORESCENCE EVALUATION

BHP

Well: Longtom-1
Permit: VIC/P1 Date: 26-May-1995
Geologist(s): S. Horan/K. Haak
Logging Suite No: 2

Core No.	Depth (mRT)	Recovery (mm)	Lithology	
1	2213	25	CLYST	No direct, no cut, no crush cut, yellow/white trace dull residual ring.
2	2192	25	SST	No direct, no cut, no crush cut, no residual ring.
3	2148	20	SST	No direct, no cut, no crush cut, no residual ring.
4	2137	35	SLTST	No direct, no cut, no crush cut, no residual ring.
5	2131	25	CLYST	No direct, no cut, no crush cut, no residual ring.
6	2127	35	CLYST	No direct, no cut, no crush cut,no residual ring.
7	2124	30	CLYST	No direct, no cut, no crush cut, no residual ring.
8	2116	35	CLYST	No direct, no cut, no crush cut, no residual ring.
9	2078	20	CLYST	No direct, no cut, no crush cut, milky white thin moerate residual ring.
10	2056	25	SST	No direct, no cut, no crush cut, no residual ring.
11	2018.5	20	SST	No direct, no cut, no crush cut, no residual ring.
12	1986	25	CLYST	No direct, no cut, no crush cut, no residual ring.
13	1974.5	30	SST	No direct, no cut, no crush cut, no residual ring.
14	1964.5	30	SST	No direct, no cut, no crush cut, no residual ring.
15	1956	35	SST	No direct, no cut, no crush cut, no residual ring.
16	1949.5	25	SST	No direct, no cut, no crush cut, no residual ring.
17	1947	20	CLYST	No direct, no cut, no crush cut, no residual ring.
18	1936	25	SST	No direct, no cut, no crush cut, no residual ring.
19	1934	40	CLYST	No direct, no cut, no crush cut, no residual ring
20	1933.8	40	CLYST	No direct, no cut, no crush cut, no residual ring.
21	1931	30	CLYST	No direct, no cut, no crush cut, yellow/white race residual ring.
22	1928.5	25	SST	No direct, no cut, no crush cut, no residual ring.
23	1923.5	30	SST	No direct, no cut, no crush cut, no residual ring.
[illegible]	1922	35	CLYST	No direct, no cut, no crush cut, no residual ring.
25	1911	30	SST	No direct,no cut, no crush cut, no residual ring.

SIDEWALL CORE FLUORESCENCE EVALUATION

BHP

Well: Longtom-1
Permit: VIC/P1 Date: 26-May-1995
Geologist(s): S. Horan/K. Haak
Logging Suite No: 2 Page: 2 of 3

re No.	Depth (mRT)	Recovery (mm)	Lithology	
26	1904.5	30	SST	No direct, no cut, no crush cut, no residual ring.
27	1899.5	30	SST	No direct, no cut, no crush cut, no residual ring.
28	1892.5	30	SST	No direct, no cut, no crush cut, no residual ring.
29	1882	35	CLYST	No direct, no cut, no crush cut, no residual ring.
30	1860	20	CLYST	No direct, no cut, no crush cut, no residual ring.
31	1805	30	CLYST	No direct, no cut, no crush cut, no residual ring.
32	1778	35	CLYST	No direct, no cut, no crush cut, no residual ring.
33	1755	20	CLYST	No direct, no cut, no crush cut, no residual ring.
34	1721	25	CLYST	No direct, no cut, no crush cut, no residual ring.
35	1629	30	CLYST	No direct, no cut, no crush cut, no residual ring.
36	1615	40	CLYST	No direct, no cut, no crush cut, no residual ring.
37	1567	35	CLYST	No direct, no cut, no crush cut, no residual ring.
	1545	45	SST	No direct, no cut, no crush cut, no residual ring.
39	1524		LOST	No sample.
40	1516	40	SST	No direct, no cut, no crush cut, no residual ring.
41	1510	30	CLYST	No direct, moderately bright bleeding yellow white cut, bleeding moderately bright yellow white cut, yellow white thin to moderate dull to moderately bright residual ring.
42	1483	30	CLYST	No direct, no cut, no crush cut, yellow trace dull residual ring.
43	1453	40	SST	No direct, no cut, no crush cut, no residual ring.
44	1443	40	SST	No direct, no cut, no crush cut, no residual ring.
45	1428	35	SLTST	No direct,moderate slow bleeding yellow white cut, bleeding moderately bright yellow white crush cut, yellow white thin to moderate moderately bright residual ring.
46	1392	50	CLYST	No direct, no cut, no crush cut, no residual ring.
47	1387	30	SST	No direct, no cut, no crush cut, no residual ring.
48	1358	30	SLTST	No direct,dull weak bleeding yellow white,slow bleeding moderately bright yellow white crush cut, yellow white trace to thin dull to moderate moderately bright residual ring.
	1308	40	CLYST	No direct, no cut, no crush cut, no residual ring.
50	1272	40	SST	No direct, no cut, no crush cut, no residual ring.
51	1268	40	SST	No direct, no cut, no crush cut, yellow trace dull residual ring.
52	1257	40	SST	No direct, no cut, no crush cut, no residual ring.

Core No.	Depth (mRT)	Recovery (mm)	Lithology	**SIDEWALL CORE FLUORESCENCE EVALUATION** BHP Well: Longtom-1 Permit: VIC/P1 Date: 26-May-1995 Geologist(s): S. Horan/K. Haak Logging Suite No: 2 Page: 3 of 3
53	1253	35	SLTST	No direct, no cut, no crush cut, yellow trace dull residual ring.
54	1248	40	SST	No direct, no cut, no crush cut, no residual ring.
55	1244	35	CLYST	No direct, no cut, no crush cut, no residual ring.
56	1242	30	SLTST	No direct, no cut, no crush cut, no residual ring.
57	1177	30	CLYST	No direct, no cut, no crush cut, no residual ring.
58	1140	40	CLYST	No direct, no cut, no crush cut, no residual ring.
59	1107	40	CLYST	No direct, no cut, no crush cut, no residual ring.
60	1048	40	CLYST	No direct, no cut, no crush cut, no residual ring.

APPENDIX 4

4

6.4 APPENDIX 4 End of Well Report (Mudlogging)

END OF WELL REPORT

COMPILED FOR

BHP PETROLEUM

LONGTOM-1
Drilled
May 12 to 24, 1995

and

LONGTOM-1ST
Drilled
May 30 to June 5, 1995

CONTENTS

SECTION 1 INTRODUCTION

1.1 WELL SUMMARY

1.2 DRILLING SUMMARY

1.3 WELL PLOTS and TABLES

1.4 SURFACE DATA LOGGING SERVICE

1.1.1 LONGTOM-1 SUMMARY DATA SHEET

VERTICAL WELL

WELL:	Longtom 1
DESIGNATION:	Wildcat Well
OPERATOR:	BHP Petroleum Pty Ltd.
PERMIT:	VIC/P1
DRILLING RIG/CONTRACTOR	Ocean Bounty - Diamond Offshore
AIR GAP:	25m
WATER DEPTH:	56.25m
GEOGRAPHIC LOCATION11 May 1995:	Lat 38° 06' 00.03" S, Long 148° 18' 54.28" E Northing : 5 782 257.5m Easting : 615 306.2m UTM-Zone : 50 CM 147°E
SEISMIC REFERENCE:	Line = G91A-2004, SP2582
OFFSET WELLS:	Judith 1
PRIMARY OBJECTIVE:	Judith Formation sands
SPUD:	12 MAY, 1995, 16:30hrs
TOTAL DEPTH:	2242m, May 24, 1995, 20:00hrs [TVD 2240m, SS 2215m]
BOTTOM HOLE LOCATION	From GPT LOG Northing : 5 782 347.8m Easting : 615 304.6m 90.33m N and 1.58m W of Wellhead ie about 90m NORTH of the wellhead
WELL STATUS:	Plugged back, and sidetracked.

Bit Size	Hole Depth	Casing/Liner Size	Shoe Depth	LOT/FIT	Mud System
26"	116m	20"	116.5m	-	Sea water
17 ½"	1025	13-3/8"	1011.6m	-	GEL/POLYMER
12 ¼"	2242m	none	-	1.75 SG	KCl/PHPA/POLYMER

1.1.2 LONGTOM-1ST SUMMARY DATA SHEET

SIDETRACKED WELL

WELL:	Longtom 1ST
DESIGNATION:	Wildcat Well
OPERATOR:	BHP Petroleum Pty Ltd.
PERMIT:	VIC/P1
DRILLING RIG/CONTRACTOR	Ocean Bounty - Diamond Offshore
AIR GAP:	25m
WATER DEPTH:	56.25m
GEOGRAPHIC LOCATION:	38° 05' 59.89" S, 148° 18' 54.11" E 5 782 262m N, 615 302m E UTM-Zone : 50 CM 147°E
SEISMIC REFERENCE:	Line = G91A-2004, SP2582
OFFSET WELLS:	Judith 1, Longtom-1
PRIMARY OBJECTIVE:	Judith Formation sands
TARGET COORDINATES:	38° 06' 087.71" S, 148° 18' 49.0" 5 781 992m N, 615 174m E
KICKOFF:	28 MAY, 1995
TOTAL DEPTH:	2445m, June 5, 1995, 20:30 hours
WELL STATUS:	Plugged and abandoned

Bit Size	Hole Depth	Casing/Liner Size	Shoe Depth	LOT/FIT	Mud System
28"	116m	20"	116.5m	-	Sea water
17 ½"	1011	13-3/8"	1011.6m	-	GEL/POLYMER
12 ¼"	2245	none	-	1.75sg	KCl/PHPA/POLYMER

1.2 DRILLING SUMMARY

For more information and details on the events outlined below refer to SECTION 4 - Drilling and Engineering Data or to the BHPP Drilling Supervisor's daily reports.

The data acquisition service commenced from drilling out the 13-3/8" casing shoe at 116.5m
All depths quoted in this section are Measured Depth below the Rotary Table.
The following is a drilling summary of the 17-1/2" and 12-1/4" hole sections based on bit runs. Bottom Hole Assembly data is summarised, and listed in the Drilling Discussion Section.
Bit performance can be seen in the Drilling Data Summary Plot and Drilling Parameter Log. ASCII data is supplied on 3.5" disc included with this report under the file [:\DRILLING.LAS].
Representative hydraulics printouts for each of the Bit runs have been provided in the Drilling Discussion section. Each hydraulics listing shows the hydraulic performance at the end of that particular Bitrun 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. The STANDARD POWER LAW MODEL is used for calculating the pressure losses in the system and flow regime.

28" Hole Section 81.25m to 116.5m (TD)

The well was spudded on the 12 May 1995 at 16:30hrs. Mud line at 81.25m.
Bit Run 1 (81.25m to 116.5m) **Bit 1 26" STC S3SJ Rockbit**, jets 3x28.and Anderdrift.
Objective of Bit Run was drill to a total depth of 116m, the 20" Casing Point **BHA 1:** 26" Bit, 28"Anderdrift Hole Opener, Float Sub, Anderdrift, 9-1/2" Drill Collar (DC), 12-1/4" String Roller Reamer, 9-1/2" DC, 17-1/2" String Roller Reamer, Cross Over (X/O), 5 x 8" DCs, X/O, 7 x Heavyweight Drillpipe (HWDP). **Progress** 35m in 0.9 rotating hours, average penetration rate (ROP) of 40 m/hr. **WEAR:** 1-1-WT-1-A-2-I-NO-TD. **SURVEYS**:Anderdrift Survey at 116.5m 2.0°. Dropped and retrieved TOTCO after Wiper Trip back to Mudline 1.0°. **HOLE PROBLEMS:** No hole drilling problems encountered.

Swept hole with 50bbls (barrels) Hi Vis (High Viscosity) Pill every half single. 100bbls pre-hydrated gel spotted on bottom at TD, TOTCO survey after final wiper trip.

The 20" casing was run with the shoe set at 116.5m and cemented as per BHP Petroleum specifications: 655sx(133bbl) G grade cement with 2% CaCl, average slurry 1.91sg. displaced with 19bbl seawater, good returns to seafloor observed with ROV.

BOP and riser were run, tested, tensioners installed, and landed.

17-1/2" Hole Section 116.5m to 1025m (TD)

Bit Run 2 (116.5m to 1025m) **Bit 2, HUGHES MAX T00** Rockbit, jets 28,28,22 and **Anderdrift.**
Objective of Bit Run was to drill the 17 ½" section in Longtom-1 to the 13-3/8" casing point. **BHA 2:** 17-1/2" Bit, Float Sub, Anderdrift, 9-1/2" DC, 12-1/4" String Roller Reamer, 9-1/2" DC, 17-1/2" String Roller Reamer, X/O, 7 x 8" DCs.
BHA 3 & 4 17-1/2" Bit, Float Sub, Anderdrift, 9-1/2" DC, 12-1/4" String Roller Reamer, 9-1/2" DC, 17-1/2" String Roller Reamer, X/O, 7 x 8" DCs, 1 x Dailey Jars, X/O, 3 x 8" DCs, Accelerator, X/O, 1 x HWDP, 1 x Drop in Dart Sub (DIDS), 11 x HWDP. **Reason for POOH:** Reached section TD. **Progress:** 908.5m in 24.5 rotating hours on bottom with an average ROP of 37 m/hr, 194 Krevs. **Wear:** 0-0-NO-A-E-I-NO-TD. **Hole Problems:** No discernible downhole losses.

BHA 2 drilled cement and the shoe track from 110m to 116.5m and new formation to 171m. Circulated bottoms up, worked pipe and Tripped out to 8" DCs picking up drilling Jars, 3x8" DC and Accelerators. RIH. with BHA 3. No hole drilling problems occurred for Bit Run 2. At 1025m, swept hole with 100bbl Hi-Vis pill. Large amount of cuttings/cavings coming over shakers. Swept second 100bl pill to clean hole. On the wiper trip, the hole did not take fluid, and 50kips overpull was experienced- suspect bit or BHA balled up. Hole fill okay, tight spot at 550m, 100kips. Bit taking weight at 526m. Wash and ream, then minimal drag. Roller reamers packed with sticky clay. Hole unable to be logged due to obstruction at 753m.

RIH for wiper trip with BHA 4. Wash and ream at 415m, and run in to and wash and ream obstructions at 753m, and 818m, and soft fill 985m (no torque). Large amount of cavings after starting circulation, lost mud over shakers. Circulated and conditioned mud, increase mud weight to 1.12sg. Okay after that- no losses.

Seventy Eight joints of 13-3/8" K-55 68ppf BTC casing run with the shoe set at 1011.61m. A hard hat was lost and retrieved while running casing. Pip tag at 999.2m. Casing was cemented as per BHP Petroleum specifications: 830sx class G cement, with 0.4gal/bbl mix water HR-6L. Average slurry density 1.91sg. Displace with rig pumps, 3645 strokes. Full returns throughout cement job. Set and energised seal assembly with 3500psi against lower pipe rams. Stack equipment tested to 500/3000psi.

12-1/4" Hole Section 1025m to 2242m (TD)

Bit Run 3 (1025-1034m) **Bit 3 HYCALOG DS34HG**, PDC Bit, Jets 7x13, Anderdrift.
Objective Of Bit Run: Drill to 12-1/4" hole TD.. **BHA 5** 12-14" Bit, Bit Sub, Anderdrift, 9-1/2" DC, 12-1/4" String Roller Reamer, 9-1/2" DC, 12-1/4" String Roller Reamer, X/O, 7 x 8" DCs, 1 x Dailey Jars, X/O, 3 x 8" DCs, 1 x HWDP, 1 x DIDS, 14 x HWDP. **Reason for POOH**: Bit balled-up. **Progress**: 9m in 4.7 Rotating hours, average ROP 2 m/hr, 34 Krevs. **Wear:** 0-0-NO-A-X-I-BT-BU. **Hole Problems:** Intermittent drag up to 40kips to 1300m.

Bit 3 tagged cement at 984m, drilled out cement, shoe and rathole and displaced to KCl/Polymer mud system. LOT performed at 1027m. Leak off calculated as 1.75sg EMW (14.6ppg). Bit drilled 9m. Drilled with low ROP from 1028-1033m due to bit balling. Varied parameters and pumped seawater, caustic pill, and nut plug in attempt to clear bit. Pulled back to shoe and attempted to clear balled bit and BHA. Attempted to drill ahead, drilled to 1034m. POH to change bit and BHA.

Bit Run 4 (1034-1438m) **Bit 4 HYCALOG DS40HSF**, PDC Bit, Jets 5x14, Anderdrift.
Objective of bit run: Drill to 12-1/4" TD. **BHA 6**: 12-1/4" Bit, Bit Sub, Anderdrift, 12-1/4" String Roller Reamer, 9-1/2" DC, 9-1/2" DC, X/O, 7 x 8" DCs, 1 x Dailey Jars, X/O, 3 x 8" DCs, 1 x HWDP, 1 x DIDS, 14 x HWDP. **Reason for POOH**: Poor penetration rate. **Progress:** Drilled 404m in 18.6 Rotating hours, 25 m/hr average ROP, 178 Krevs. **Wear**: 3-2-Wt-A-X-I-1BR/ER-PR. **Surveys**: TOTCO at 1438m 3°.

Bit Took weight at 1027m, reamed to bottom. Drilled ahead, flow checks at 1171m, 1245m, 1272m. Hard pyrite bands at 1434m and 1438m. There was an 8 bbl pit gain, flow checked- 1 bbl in 15min, shut in upper rams- zero pressure, circulated bottoms up with last 1000 strokes through choke - flow check negative. Attempt to drill ahead- no progress. POOH, laid down bit and make up new Bit and BHA. Difficulties servicing Anderdrift tool. Laid out.

Bit Run 5 (1438-1915m) **Bit 5 HTC ATM22GD**, Rockbit, Jets 3x16.
Objective Of Bit Run: Drill 12-1/4" section to TD. **BHA 7:** 12-1/4" Bit, 12-1/4" Near Bit Roller Reamer, Shock Sub, 12-1/4" String Roller Reamer, 9-1/2" DC, 12-1/4" String Roller Reamer, 9-1/2" DC , X/O, 12 x 8" DCs, 1 x Dailey Jars, 3 x 8" DCs, X/O, 1 x HWDP, 1 x DIDS, 14 x HWDP. **Reason for POOH**:. Poor penetration rate. Pick up 5 x 8"DC: **Progress**: 477m in 40.0 Rotating hours, average ROP 12 m/hr, 246 Krevs. **Wear:** 1-1-WT-A-N-I-ER-PR. **Surveys**: TOTCO at 1915m, 6°. **Hole Problems:** Washed and reamed tight spots (80kips overpull) at 1842m, 1696m, 1640m, 1592m, 1562-1517m

RIH, precautionary reamed 1392m to 1438m, drill ahead with flow checks at drilling breaks- 1675m, 1825m,1889m. Connection gas peaks occurring from 1789m to 1876m. Circulated mud system from 1900m until gas background fell to previous levels of 0.3% from 9.1% peak. POOH at 1915m. Laid out BHA jewellery, made up BHA 8.

Bit Run 6 (1915-2242m) **ReRun Bit 3 HYCALOG DS34HG**, PDC Bit, Jets 7x12.
Objective Of Bit Run: Drill 12-1/4" section to TD. **BHA 8:** 12-1/4" Bit, Near Bit Roller Reamer, 9-1/2" Pony DC, 12-1/4" String Roller Reamer, 9-1/2" DC, 12-1/4" String Roller Reamer, 9-1/2" DC , X/O, 6 x 8" DCs, 1 x Dailey Jars, 3 x 8" DCs, X/O, 1 x HWDP, 1 x DIDS, 14 x HWDP. **Reason for POOH**: drilled to section TD at 2242m **Progress**: 327m in 26.4 Rotating hours, 12.4m/hr, 119 Krevs. **Surveys**: TOTCO at TD 2242m 7°. **Wear**: 2-2-WT-S-X-N-CT-ER-TD. **Hole Problems:** Overpull on Wiper Trip at 1395-1357m, otherwise clean.

RIH. Bit took weight at 1898m - washed and reamed to bottom. Broke bit in with low WOB and rotary. Reduced flow due to mud losses at shakers due to high flow rate. Flow checks at 2038m, ROP dropped to less than 1m/hr, call TD at 2242m, POOH for logs. Wiper trip,.

Made up Cementing Sub on 5" DP and RIH to 2015m. Circulated - Gas increasing to 17.2% at 4400 strokes (bottoms up 8900). Flow check - 4bbl gain in 10 mins. Shut in upper annular, no pressure. Circulated bottoms up across choke as precaution. Max gas 15.2%, Max CO_2 9%. Circulated across choke with 100psi back-pressure while raising mudweight to 1.18sg. Opened annular and flow checked - static. Gas down to 0.2%. Spotted 50bbl Hi-Vis pill .Pulled back to 1965m, and set Plug 1 from 1965-1830m with 335sx class G cement and 0.3 gal/bbl SCR-100L. Average density 1.9sg. Pressure tested plug. Set Sidetrack plug from 1220-1100m as per BHPP program.

SIDETRACKED HOLE SECTION LONGTOM-1ST

12-1/4" Hole Section 1108m to 2445m

Bit Run 7, (1108m-1275m) **Bit 6 HTC ATMG3** rockbit, jets 3 x 20, with SMITH 1-1/8°-1-1/4° bent mud motor assembly LF5/6 M2000S and Halliburton MWD.
Objective of Bit Run was to Kickoff Sidetrack and build angle. **BHA 9:** 12-1/4" Bit, Mud Motor, X/O, 8" Pony DC, 12-1/8" Stabiliser, MWD , Monel DC, X/O, 1 x HWDP, 1 x DIDS, 17 x HWDP, 1 x Dailey Jars, 6 x HWDP. **Progress:** Bit drilled 167m in 29.6 rotating hours on bottom, average ROP 5.2 198 Krevs. **Wear**:4-7-RG-G-F-6-FC-TQ. **Surveys** as per Survey Data section. **Hole Problems:** None.

RIH to drill out cement from rathole to kickoff depth, from 1099m (top of cement). Washed and rotated to 1113m, bit taking steady weight. Kicked off plug to sidetrack well. Slid and drilled from 1155-1252m. TDS saver sub backed out on connection. Rotated pipe in slips while retorquing saver sub. Slid and drilled from 1252m to build angle to 23° towards 190° by sliding and rotating as required. Run ended at 1275m due to stabiliser hanging up and low drilling rate, stabiliser laid out.

Bit Run 8, (1275m-1553m)**Bit 7 REED MHP13G** rockbit, Jets 3 x 20 with Mud Motor and Halliburton MWD
Objective of Bit Run: To build angle and hold angle by sliding and rotating as required. **BHA 10**: 12-1/4" Bit, Mud Motor, X/O, MWD, 2 x Monel DC, X/O, 1 x HWDP, 1 x DIDS, 23 x HWDP, Jars, 6 x HWDP. **Progress:** 278m in 30.7 rotating hours, average ROP 9 m/hr, 310 Krevs. **Wear:** 4-7-RG-G-F-6-FC- TQ **Surveys:** as per Survey Data section **Hole Problems:** Tight hole at 1482m & 1398m- max 70kips overpull. Worked and reamed back to 1458m.

Drill by sliding and rotating as required from 1275m to 1553m. POOH for a change to a slick BHA.

Bit Run 9, (1553m-1639m) **Bit 8 HTC ATM22GD** rockbit, jets 3 x 18, with Halliburton MWD.
Objective of Bit Run: to build angle by sliding and rotating drill string. **BHA 11** 12-1/4" Bit, Near Bit Roller Reamer, 2 x Pony DC, 12-1/8" Stabiliser, MWD, 2 x Monel DC, X/O, 1 x HWDP, 1 x DIDS, 23 x HWDP, Jars, 6 x HWDP. **Progress:** 86m in 6.6 rotating hours, average ROP 13 m/hr, 42 Krevs. **Wear:** 0-0-NO-A-E-O-NO-BHA **Surveys**: as per Survey Data section **Hole Problems:** POH max drag 50kips.

RIH to 1278m. Bit held up. Washed and reamed from 1278-1553m with intermittent high torque. Drilled from 1553-1639m Pulled out to change BHA for a Packed Hole Rotating Drilling Assembly

Bit Run 10, (1639m-1655m) **Bit 9 HYCALOG DS34H,** PDC bit, Jets 5 x 15, with Halliburton MWD.
Objective of Bit Run: Drill to TD. **BHA 12,** 12-1/4" Bit, Near Bit Roller Reamer, MWD, 2 x Monel DC, 12-1/8" Stabiliser Spiral blade,X/O, 1 x HWDP, 1 x DIDS, 20 x HWDP, 1 x Jars, 6 x HWDP. **Progress**: 16m in 4.1 rotating hours, average ROP 4 m/hr, 20 Krevs **Wear** : 0-0-NO-A-X-I-BU-PR **Hole Problems:** None

RIH to 1604m, precautionary ream to 1639m. Broke in bit and drilled from 1639-1655m. ROP down to less than 1 m/hr.

Bit Run 11, (1655m-2445m)**Re Run Bit 9, HYCALOG DS34H,** PDC bit, jets 5 x 15 with Halliburton MWD.
Objective of Bit Run: to maintain hole angle and drill to TD. **BHA 13,** 12-1/4" Bit, Near Bit Roller Reamer, MWD, 1 x Monel DC, 12-1/8" Stabiliser Spiral blade, 1 x Monel DC, X/O, 1 x HWDP, 1 x DIDS, 20 x HWDP, 1 x Jars, 6 x HWDP. **Progress**: 16m in 4.1 rotating hours, average ROP 20.5 m/hr, 383 Krevs. **Wear**: 0-0-NO-A-X-I-ER-TD **Surveys:** as per Survey Data section **Hole Problems:** POH 20-50 kips overpull over normal drag from 2270m to 2192m. Tight spot at 2164-2135m 80 kips overpull. Able to come up without overpull while rotating, however overpull persisted in absence of rotation. Tight spot from 1755-1736m max overpull 100kips, pulled free with rotation. Intermittent drag back to shoe to 50kips.

Washed and reamed from 1639m to 1655m. Drilled to 2341m (Provisional TD) Circulate bottoms up. Ordered to drill ahead, TD at 2445m (2274m TVD).
Ran Logging string but unable to pass 1780m.
RIH for Wiper Trip with BHA 14. RIH and precautionary ream from 1711-1765m, after several passes, still unable to pull through 1750m without resistance. Continued to RIH, reaming past obstructions/tight hole at 1775m-1795m and 1948m - 2247m. Progress became increasingly difficult. Top Drive stalling and packing off. Backreamed from 2274m-2100. Hole packed off - pipe temporarily stuck. Worked pipe free and established circulation, reamed down to 2130m. Backreamed 2130m-1910m where pipe pulled freely. POH.

BHA 14, 12-1/4" Bit, Near Bit Roller Reamer, 2 x 8" DC, 12-1/4" Roller Reamer, 1 x 8" DC, X/O, 1 x HWDP, 1 x DIDS, 20 x HWDP, 1 x Jars, 6 x HWDP.

RIH BHA 15 for Wiper Trip 2 to 1900m. Bit took 40kips weight. Washed and reamed through intermittent tight spots from 1900-2445m. Swept hole with 50bbl Hi-Vis pill. Marginal increase in returns over shakers. POH and Backreamed past tight spots at 2432m, 2424m, .2406m, 2395m, 2387m, 2299m, and 2200m. POH to 2079m - OK. RIH to2192m, bit held up. Reamed passed ledges at 2192m and 2230m. RIH to 2284m and attempted to ream pass, very slow progress. Pumped out of hole to 1960m, buckreaming as required.

BHA 15: 12-1/4" Bit, Near Bit Roller Reamer, 3 x 8" DC, X/O, 1 x HWDP, 1 x DIDS, 20 x HWDP, 1 x Jars, 6 x HWDP.

Picked up LWD collar and underguage string stabiliser. RIH to 1688m. Logged with CDR (Dual Resistivity / Gamma Ray) tool while washing with light rotation at 60m/hr from 1688-2445m. Swept hole clean with 75bbl Hi-Vis pill. Backreamed out of hole to 1875m. Intermittent tight hole to 1750m. Pulled freely above 1595m.

BHA 16: 12-1/4" Bit, Near Bit Roller Reamer, X/O, LWD, X/O, 2 x 8" DC, 12-1/16" Spiral Stabiliser, 1 x 8" DC, X/O, 1 x HWDP, 1 x DIDS, 20 x HWDP, 1 x Jars, 6 x HWDP.

RIH and Logged with CDR (Dual Resistivity / Gamma Ray) tool while washing with light rotation at 60m/hr maximum. TDS Saver Sub backed out on connection at 2000m, re-installed and torqued up same. Logged while reaming to 2445m, TD. Swept hole with 75bbl Hi-Vis pill and circulated clean. POH backreaming as required.

RIH with cementing Sub and set plug 1 from 2208m to 2087m with 1.9sg slurry. Pulled back and set plug 2 from 1042m to 942m with 1.9sg slurry. Circulated 200bbls mud and displaced casing with 400bbls of inhibited mud. POH.

1.3 SUMMARY OF SERVICES AND PERSONNEL

1.3.1 SURFACE DATA LOGGING SERVICE

Surface Data Logging Services were provided by Halliburton Australia Pty. Ltd.

EQUIPMENT AND SCOPE OF SERVICE

The SDL 9000 surface data logging unit is a new generation computerised laboratory equipped to receive signals from external surface sensors. These sensors provide information, which allows the logging crew to evaluate the formation, detect the presence of hydrocarbons, assess down hole pore pressure conditions, and to analyse drilling and engineering data.

In the logging unit, sensors provide measurements of the following parameters:-

1. Total Gas.
2. Chromatographic Gas Breakdown.
3. Hydrogen Sulphide Levels (3 sensors, located at Shakers, Flowline and Drillfloor)
4. Depth / Rate of Penetration. Tide compensated
5. Pipe speed / Block Position.
6. Top drive RPM,
7. Top drive Torque.
8. Hook Load / Weight On Bit.
9. Standpipe Pressure.
10. Mud Pump Rate (3 pumps)
10. Casing Shut In Pressure.
11. Mud Pit Levels on 6 pits.& Trip Tank
12. Mud Weight In and Out.
13. Mud Temperature In and Out.
14. Mud Flow Out.
15. Mud Conductivity In and Out

In addition to microscopic examination of drilled cuttings, samples are subjected to the following tests:-

1. Bulk Density Measurement
2. Fluoroscope examination.
3. Calcimetry (as required)

Typical offline computer services included:-
Daily drilling summary in metric SI units and rig API units
Drilling hydraulics summaries and modelling (six models available).
Preparation of daily geological report.
Modem transmission of Formation Evaluation, Pressure Evaluation and Drilling Log to Melbourne.

1.3.2 PERSONNEL

For the well Longtom-1 / Longtom-1ST, the Halliburton Australia crew of SDL9000 Unit 182 comprised the following :-

Data/Pressure Engineers	Logging Geologists
Tony Ford (Unit Supervisor)	Tim Geddes
Chris White	Shaun Watson
David Trend	
Andrew James	

1.3.3 OTHER WELLSITE SERVICES:

Mud Logging	Halliburton Australia
Cementing	Halliburton Australia
Survey	Anderdrift MWD & EMS
Casing	Weatherford
Mud Engineering	Baroid
Wireline Logging	Schlumberger
Directional Drilling	Halliburton Australia *
MWD	Halliburton Australia *
LWD	Anadrill*

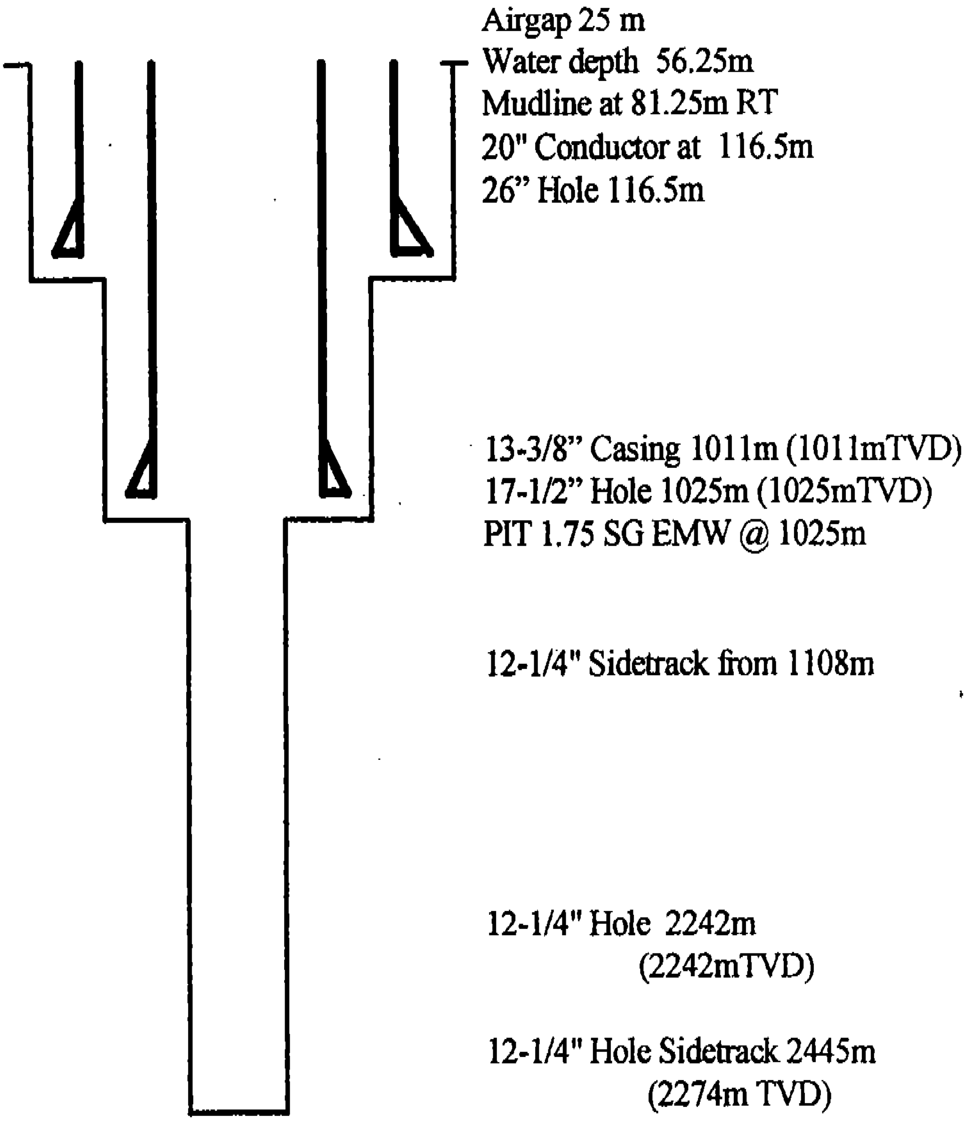
* LONGTOM-1ST

1.4 WELL SUMMARY TABLES AND PLOTS FOR LONGTOM 1 AND LONGTOM 1ST

Well Profile
Condensed Lithology
Drilling Parameters Plot
Wireline Data Plot
Hydrocarbon Shows
Well Progress Table
Well Progress Plot
Bit Rotation Hours
Well Plan View
Well Vertical Section
Target Probabilities

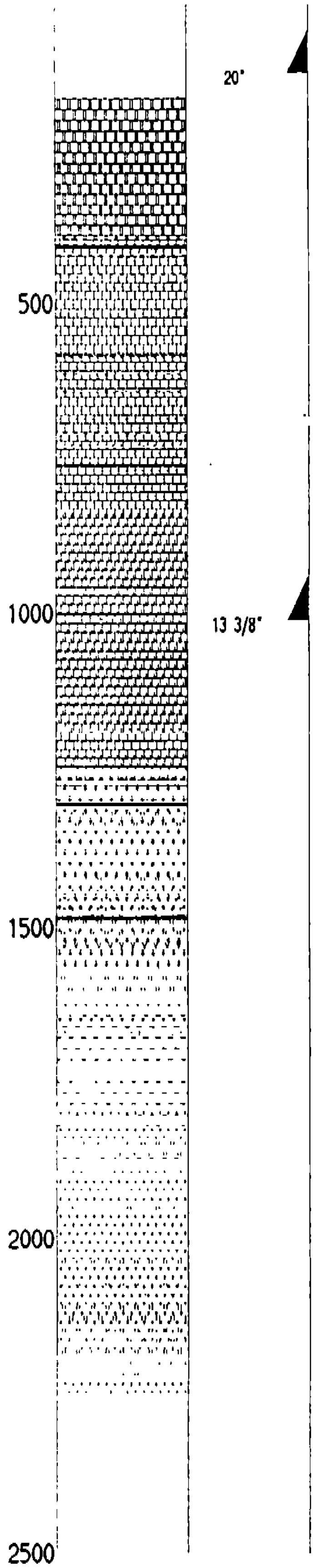
WELL PROFILE

LONGTOM-1 / LONGTOM-1ST



NB Diagramatic Only Not to scale

CONDENSED LITHOLOGY LONGTOM - 1



SEASPRAY GROUP:
- GIPPSLAND LIMESTONE
- LAKES ENTRANCE FORMATION

LIMESTONE: Calcilutite grading to calcisiltite and calcarenite. Light to medium grey, light olive grey to light grey green in part, soft to firm, friable to moderately hard calcarenite - fine to medium grain size, argillaceous in part, micritic to sparitic cement. Trace glauconite, common fossils: Foraminifera, Bryozoa.

SANDSTONE: mottled pale to medium brown, clear to translucent with common milky grains, medium to very coarse geain size, occasionally fine, sub-angylar to sub-rounded, poorly sorted, minor siliceous cement - trace argillaceous matrix. Trace to common pyrite nodules, inferred porosity fair to good.

SILTSTONE: light brown to light grey brown, firm to dispersive, occasionally moderately hard, moderately argillaceous in part, trace carbonaceous flecks and detritus, trace pyrite.

VOLCANICS: light brown to buff, green to green grey, trace reddish brown, firm to hard, crystalline, common pale buff argillaceous matrix (weathering/alteration?).

COAL: black to brown black, dull, brittle, sub-fissile to sub-blocky fracture.

LATROBE GROUP

SANDSTONE: white, clear to translucent, loose to friable, very fine to medium grain size, occasionally coarse, sub-angular to sub-rounded, moderately sorted. Trace calcareous and siliceous cement, trace to common very light grey argillaceous matrix, rare carbonaceous lithic fragments, poor to fair visual porosity.

GOLDEN BEACH GROUP
- KIPPER FORMATION
- JUDITH FORMATION

CLAYSTONE: medium grey to dark grey, firm to moderately hard, dispersive, amorphous to sub-blocky in aggregate, silty in part, trace pyrite and carbonaceous flecks.

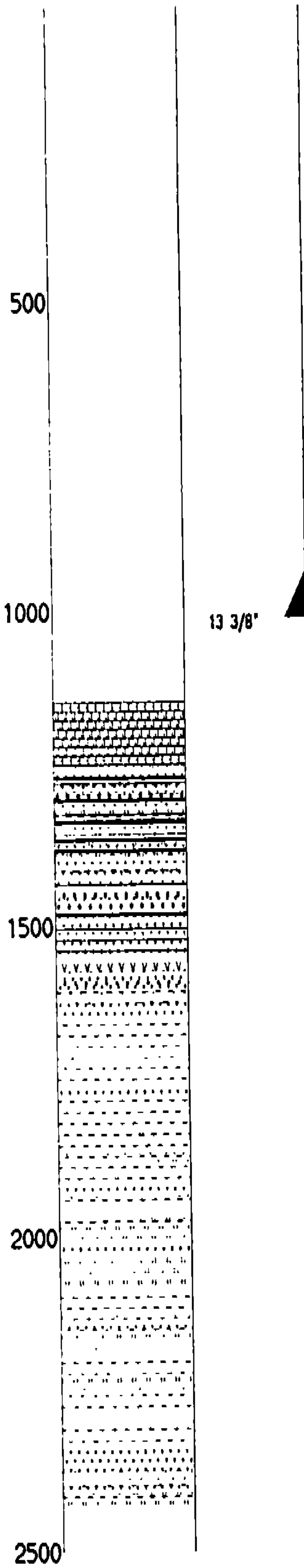
SILTSTONE: light to medium grey brown, soft to firm, amorphous to sub-blocky, commonly argillaceous grading to claystone, trace very finely arenaceous, minor to common carbonaceous material.

STRZELECKI GROUP

SANDSTONE: off wh to light grey, occasionally grey green, frosted/translucent to clear grains, friable to loose, very fine to medium - dominantly fine grained to medium, sub-angular to sub-rounded, moderate to well sorted, trace calcareous cement, common to abundant white argillaceous matrix, trace lithic fragments, trace carbonaceous fragments, rare pyrite.

SILTSTONE: medium grey to dark grey, occasionally grey brown, firm to moderately hard, commonly argillaceous, very finely arenaceous in part, locally common carbonaceous specks and fragments, rare pyrite.

CONDENSED LITHOLOGY LONGTOM - 1 ST



SEASPRAY GROUP:
- GIPPSLAND LIMESTONE
- LAKES ENTRANCE FORMATION

LATROBE GROUP

GOLDEN BEACH GROUP
- KIPPER FORMATION
- JUDITH FORMATION

STRZELECKI GROUP

LIMESTONE: Calcilutite grading to calcisiltite and calcarenite. Light to medium grey, light olive grey to light grey green in part, soft to firm, friable to moderately hard calcarenite - fine to medium grain size, argillaceous in part, micritic to sparitic cement. Trace glauconite, common fossils: Foraminifera, Bryozoa.

SANDSTONE: mottled pale to medium brown, clear to translucent with common milky grains, medium to very coarse geain size, occasionally fine, sub-angylar to sub-rounded, poorly sorted, minor siliceous cement - trace argillaceous matrix. Trace to common pyrite nodules, inferred porosity fair to good.

SILTSTONE: light brown to light grey brown, firm to dispersive, occasionally moderately hard, moderately argillaceous in part, trace carbonaceous flecks and detritus, trace pyrite.

VOLCANICS: light brown to buff, green to green grey, trace reddish brown, firm to hard, crystalline, common pale buff argillaceous matrix (weathering/alteration?).

COAL: black to brown black, dull, brittle, sub-fissile to sub-blocky fracture.

SANDSTONE: white, clear to translucent, loose to friable, very fine to medium grain size, occasionally coarse, sub-angular to sub-rounded, moderately sorted. Trace calcareous and siliceous cement, trace to common very light grey argillaceous matrix, rare carbonaceous lithic fragments, poor to fair visual porosity.

CLAYSTONE: medium grey to dark grey, firm to moderately hard, dispersive, amorphous to sub-blocky in aggregate, silty in part, trace pyrite and carbonaceous flecks.

SILTSTONE: light to medium grey brown, soft to firm, amorphous to sub-blocky, commonly argillaceous grading to claystone, trace very finely arenaceous, minor to common carbonaceous material

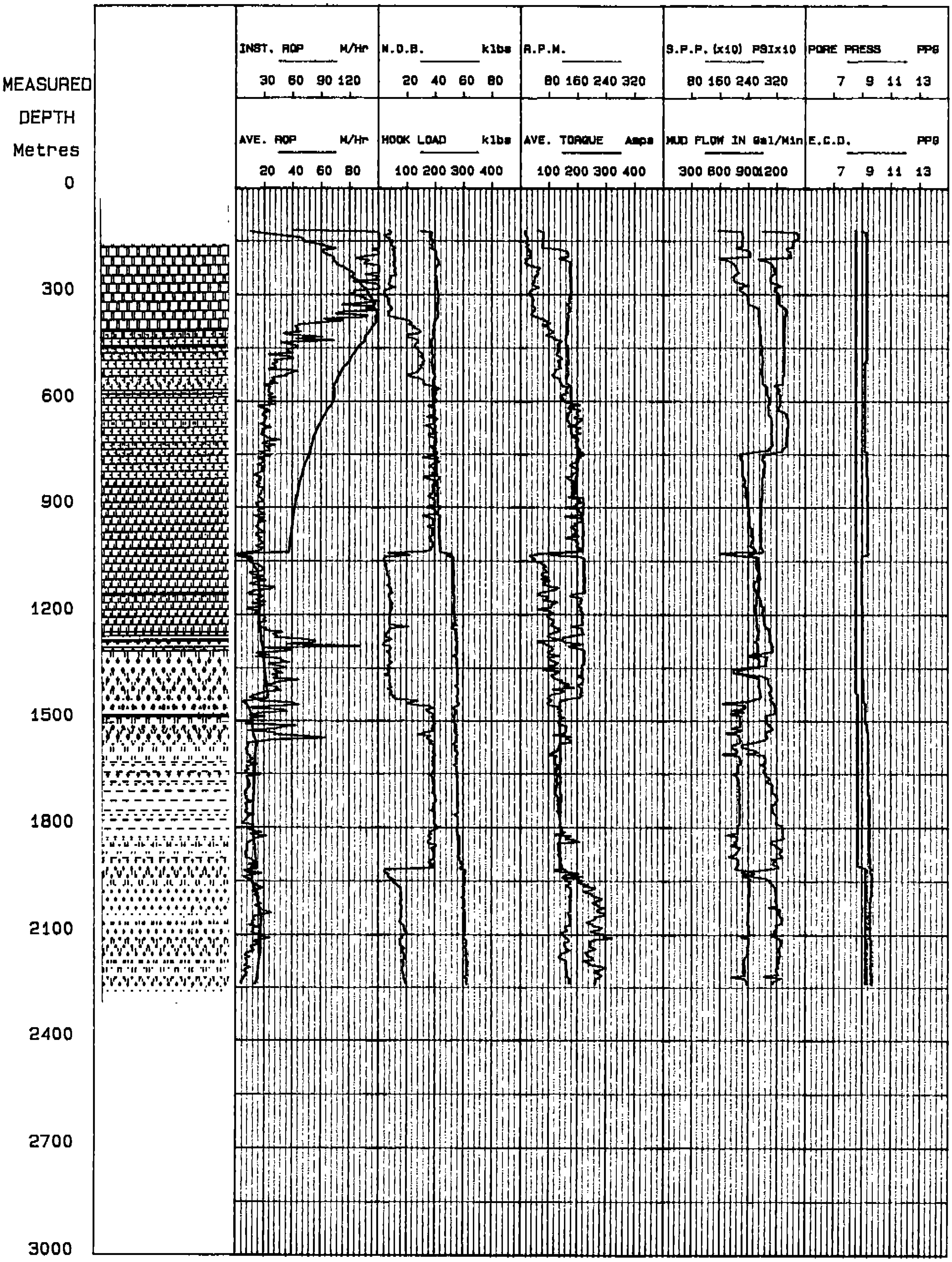
SANDSTONE: off wh to light grey, occasionally grey green, frosted/translucent to clear grains, friable to loose, very fine to medium - dominantly fine grained to medium, sub-angular to sub-rounded, moderate to well sorted, trace calcareous cement, common to abundant white argillaceous matrix, trace lithic fragments, trace carbonaceous fragments, rare pyrite.

SILTSTONE: medium grey to dark grey, occasionally grey brown, firm to moderately hard, commonly argillaceous, very finely arenaceous in part, locally common carbonaceous specks and fragments, rare pyrite.

DRILLING DATA PLOT

Well No: LONGTOM-1

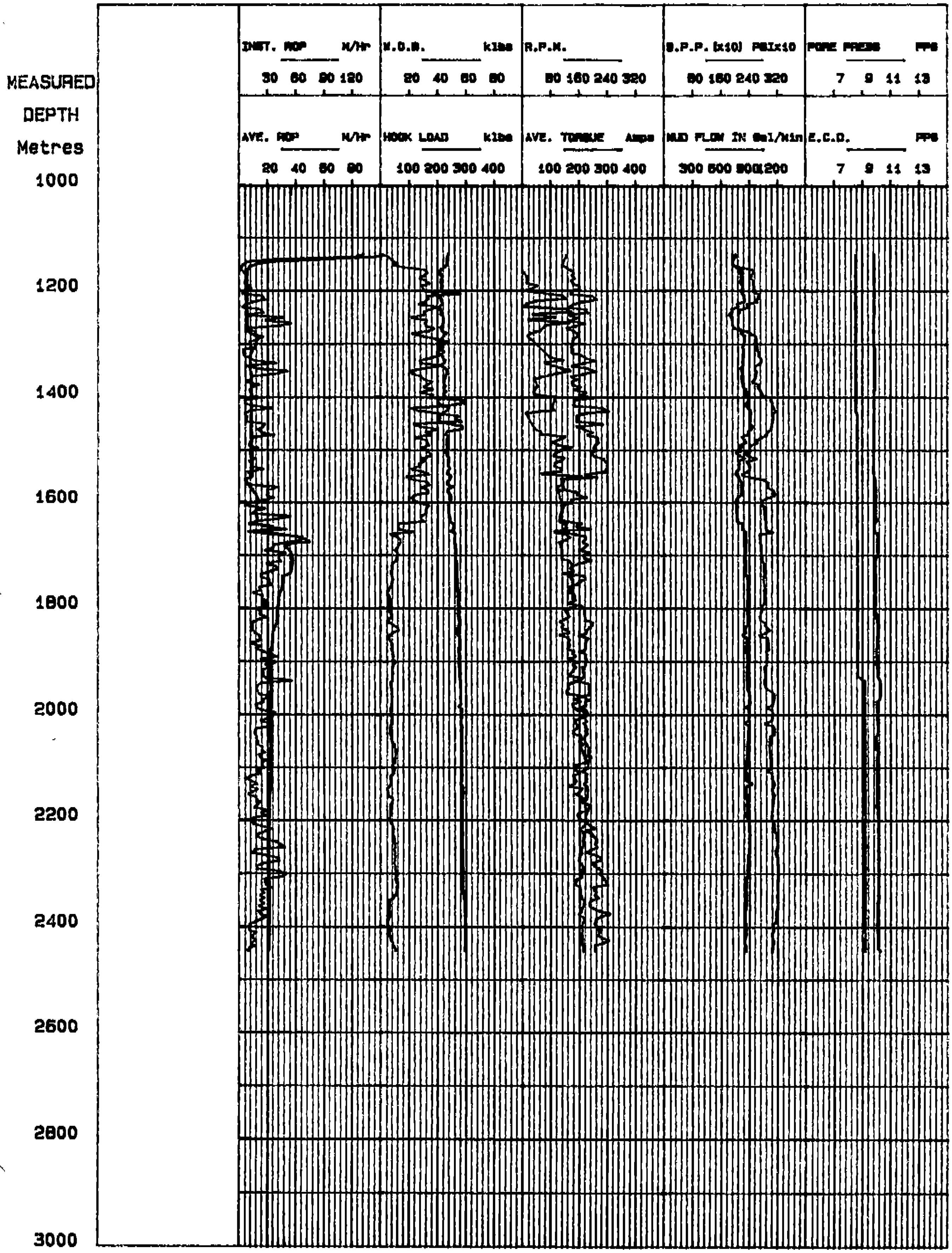
Operator: BHPP



DEPTH SCALE = 1 : 15000

DRILLING DATA PLOT

Well No: LONGTOM-1ST
Operator: BHPP

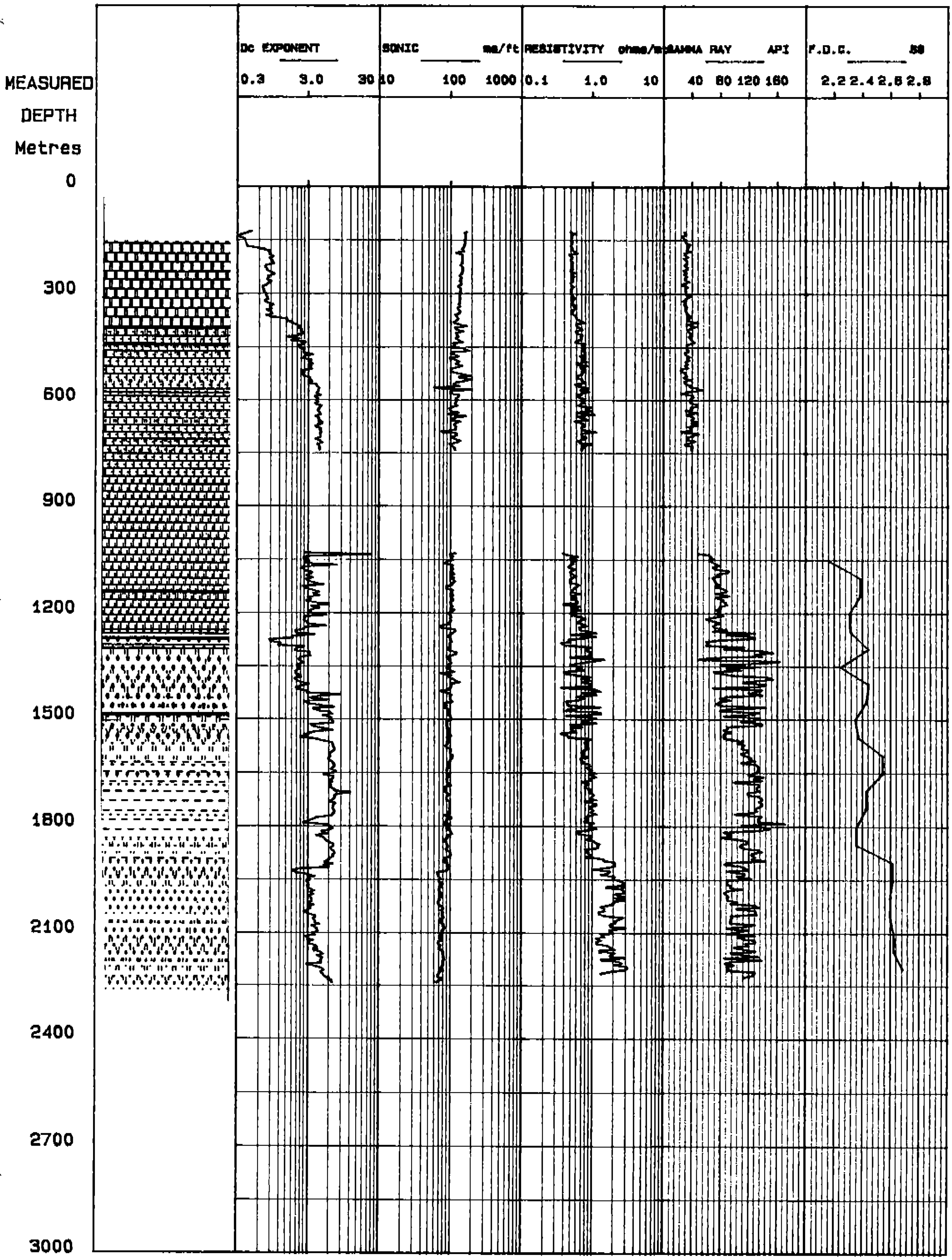


DEPTH SCALE = 1 : 10000

OVERPRESSURE PLOT

Well No: LONGTOM-1
Operator: BHPP

HALLIBURTON



DEPTH SCALE = 1 : 15000

WELL PROGRESS TABLE

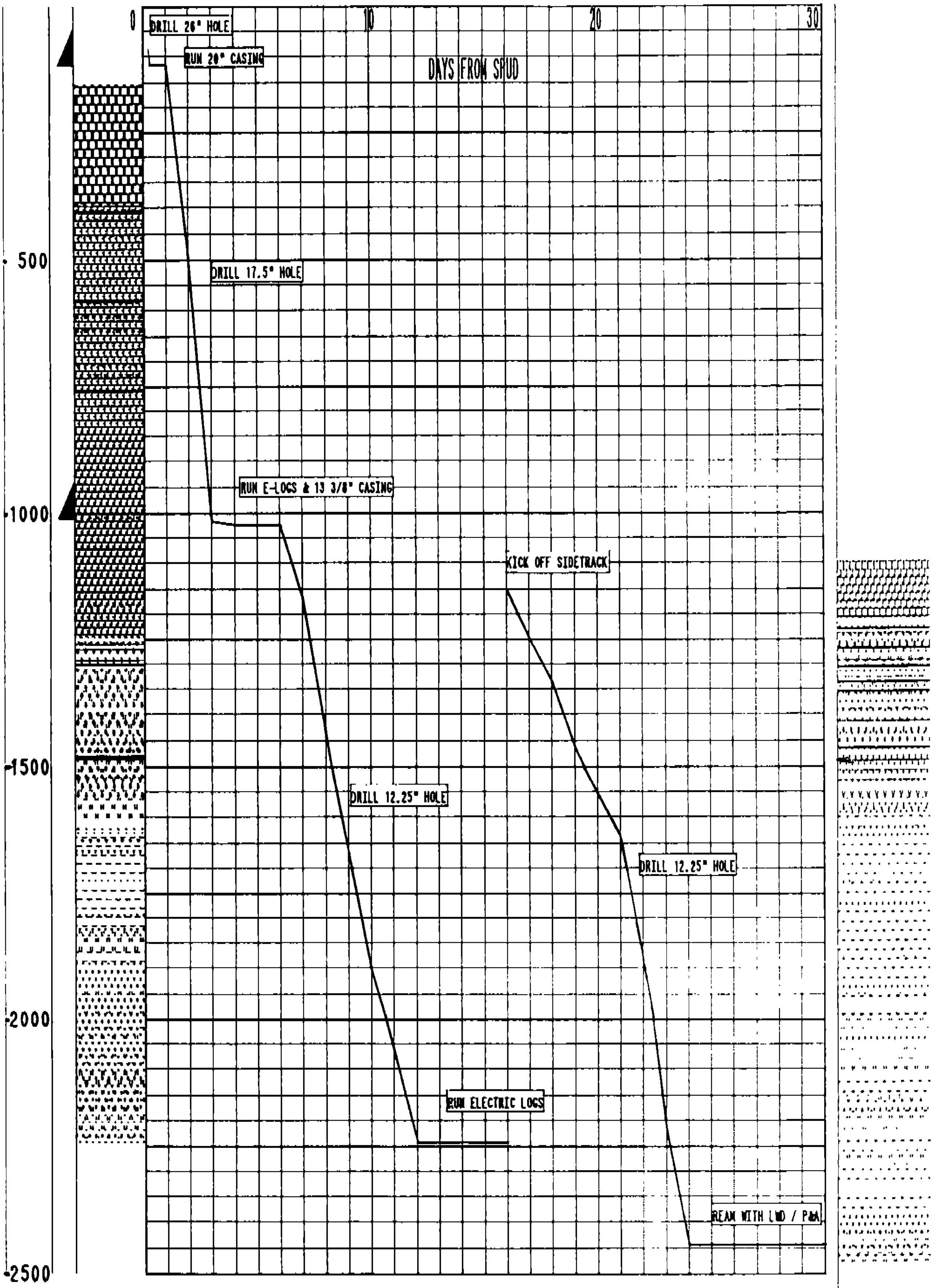
DRILLING DEPTH AND DAYS FROM SPUD TABLE

Longtom-1

DATE	DEPTH 24:00 HRS	DAYS FROM SPUD
11-5-95	ANCHORING	0
(SPUD)12-5-95	116m	1
13-5-95	116.5m	2
14-5-95	497m	3
15-5-95	1019m	4
16-5-95	1025m	5
17-5-95	1025m	6
18-5-95	1025m	7
19-5-95	1168m	8
20-5-95	1438m	9
21-5-95	1668m	10
22-5-95	1903m	11
23-5-95	2052m	12
24-5-95	2242m TD	13
25 to 27-5-95	Logging, prepare to Sidetrack	14 to 16

Longtom-1ST

DATE	DEPTH 24:00 HRS	DAYS FROM KICKOFF/spud
28-5-95	1155m kickoff	0 / 17
29-5-95	1252m	1 / 1\8
30-5-95	1336m	2 / 19
31-5-95	1467m	3 / 20
01-6-95	1553m	4 / 21
02-6-95	1639m	5 / 22
03-6-95	1835m	6 / 23
04-6-95	2117m	7 / 24
05-6-95	2445m TD	8 / 25
06-6-95	Attempt Logs	9 / 26
07-6-95	Wiper Trip	10 / 27
08-6-95	Wiper Trip	11 / 28
09-6-95	Wash to bottom w/LWD	12 / 29
10-6-95	POH w/LWD	13 / 30
11-6-95	Plug & Abandon	14 / 31
12-6-95	Plug & Abandon	15 / 32
13-6-95	Plug & Abandon	16 / 33
14-6-95	Pull Anchors	17 / 33

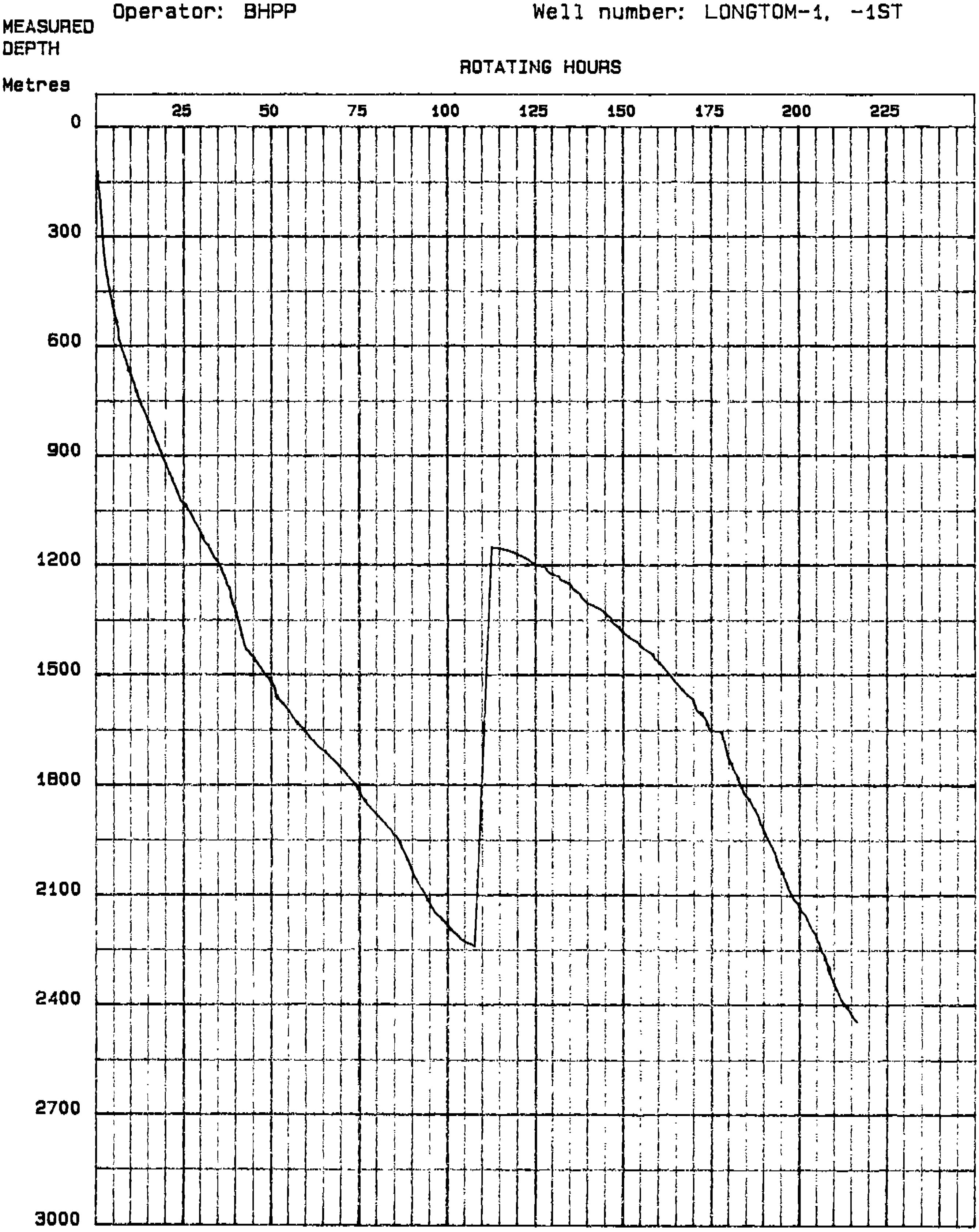


0
10
20
30
DAYS FROM SPUD
DRILL 26" HOLE
RUN 20" CASING
DRILL 17.5" HOLE
RUN E-LOGS & 13 3/8" CASING
KICK OFF SIDETRACK
DRILL 12.25" HOLE
DRILL 12.25" HOLE
RUN ELECTRIC LOGS
REAM WITH LWD / P&A
500
1000
1500
2000
2500

ROTATING HOURS PLOT

Operator: BHPP

Well number: LONGTOM-1, -1ST



DEPTH SCALE = 1 : 15000

DIRECTIONAL SURVEY PROGRAM

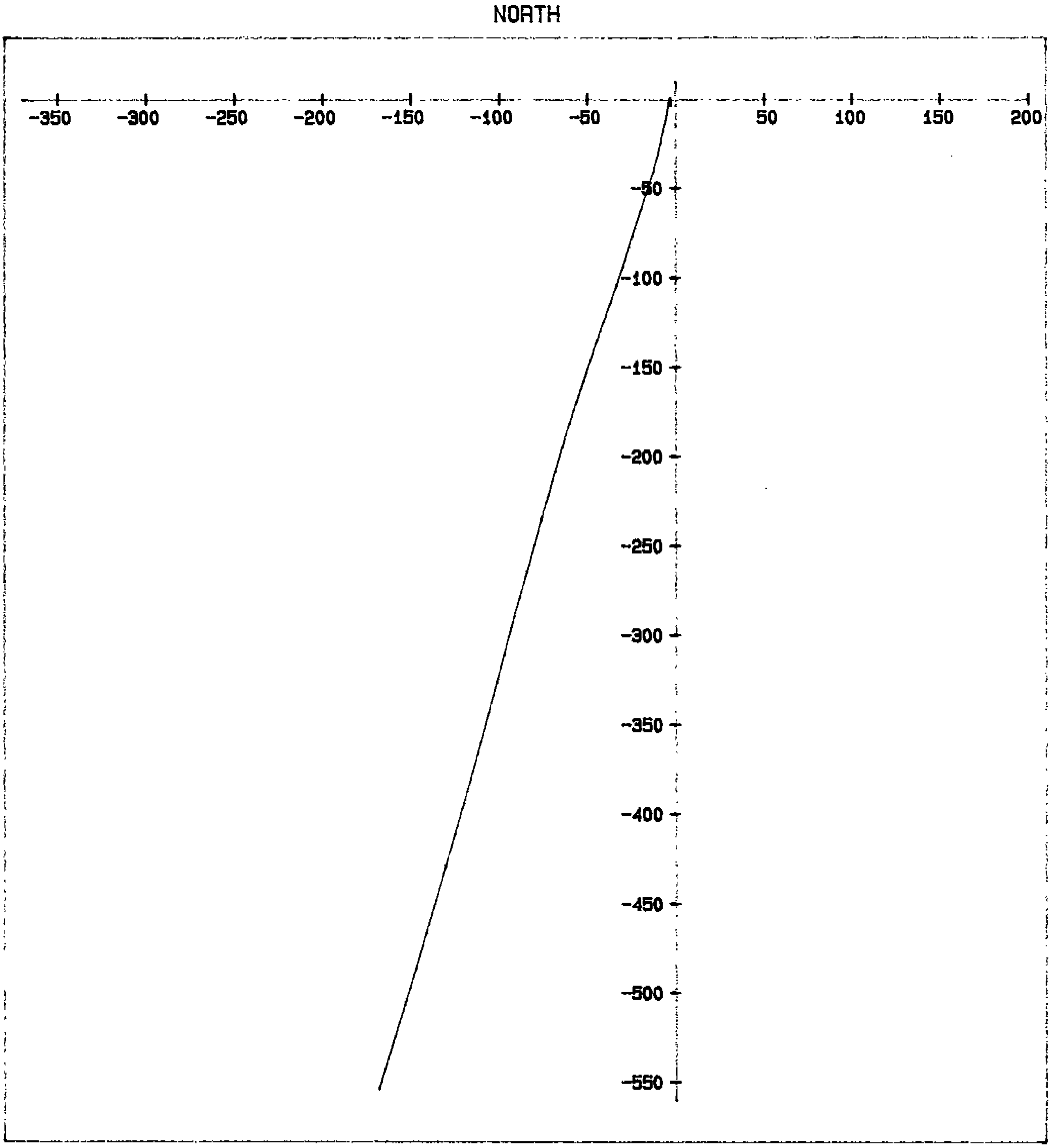
FULL PLAN PLOT

Operator : BHPP

Well number: LONGTOM 1

Rig name : OCEAN BOUNTY

Rig co-ords: 38 06' 00.03 S, 148 18' 54.2E



Co-ordinates measured in Metres

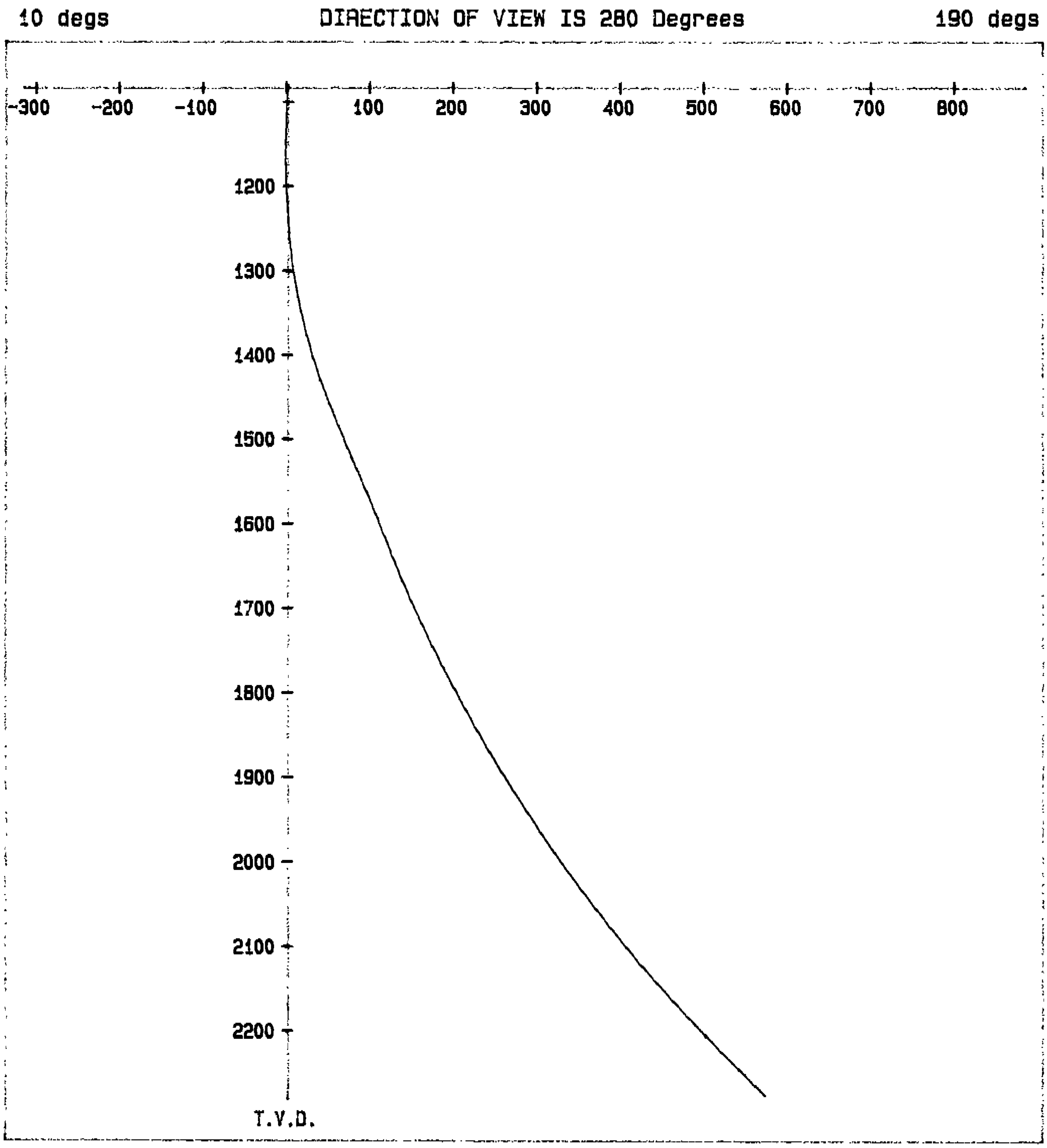
Plotted from 1032.80 to 2274.32 Metres T.V.D.

DIRECTIONAL SURVEY PROGRAM

PARTIAL VERTICAL PLOT

Operator : BHPP | Rig name : OCEAN BOUNTY

Well number: LONGTOM 1 | Rig co-ords: 38 06' 00.03 S, 148 18' 54.2E



Co-ordinates measured in Metres

Plotted from 1082.75 to 2274.32 Metres T.V.D.

DIRECTIONAL SURVEY PROGRAM

HALLIBURTON

ELLIPSE OF UNCERTAINTY

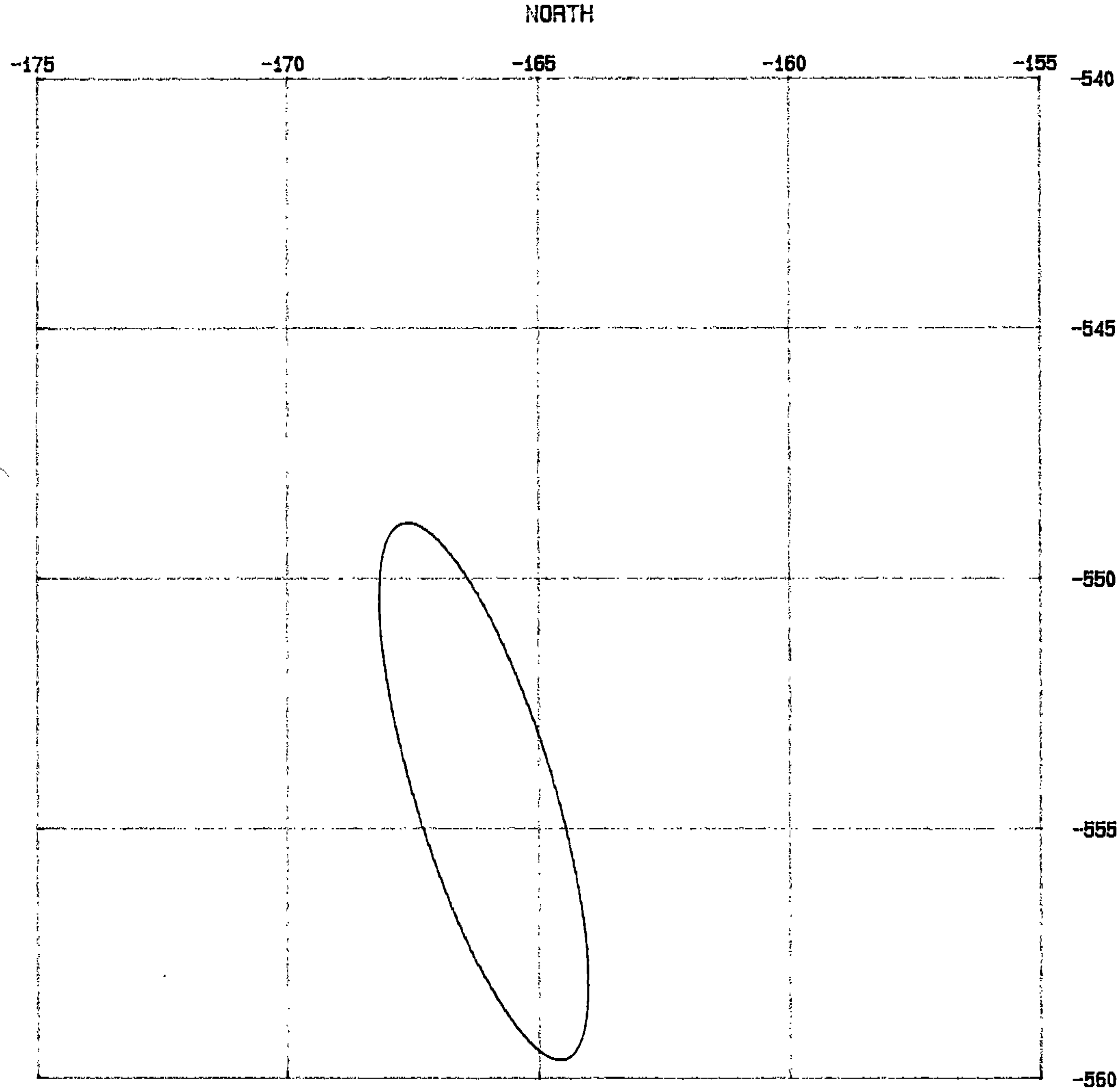
Operator : BHPP

Rig name : OCEAN BOUNTY

Well number: LONGTOM 1

Rig co-ords: 38 06' 00.03 S, 148 18' 54.28

At 2274.33 Metres T.V.D.



For a probability of 99 %

Co-ordinates measured in Metres

DIRECTIONAL SURVEY PROGRAM

HALLIBURTON

ELLIPSE OF UNCERTAINTY

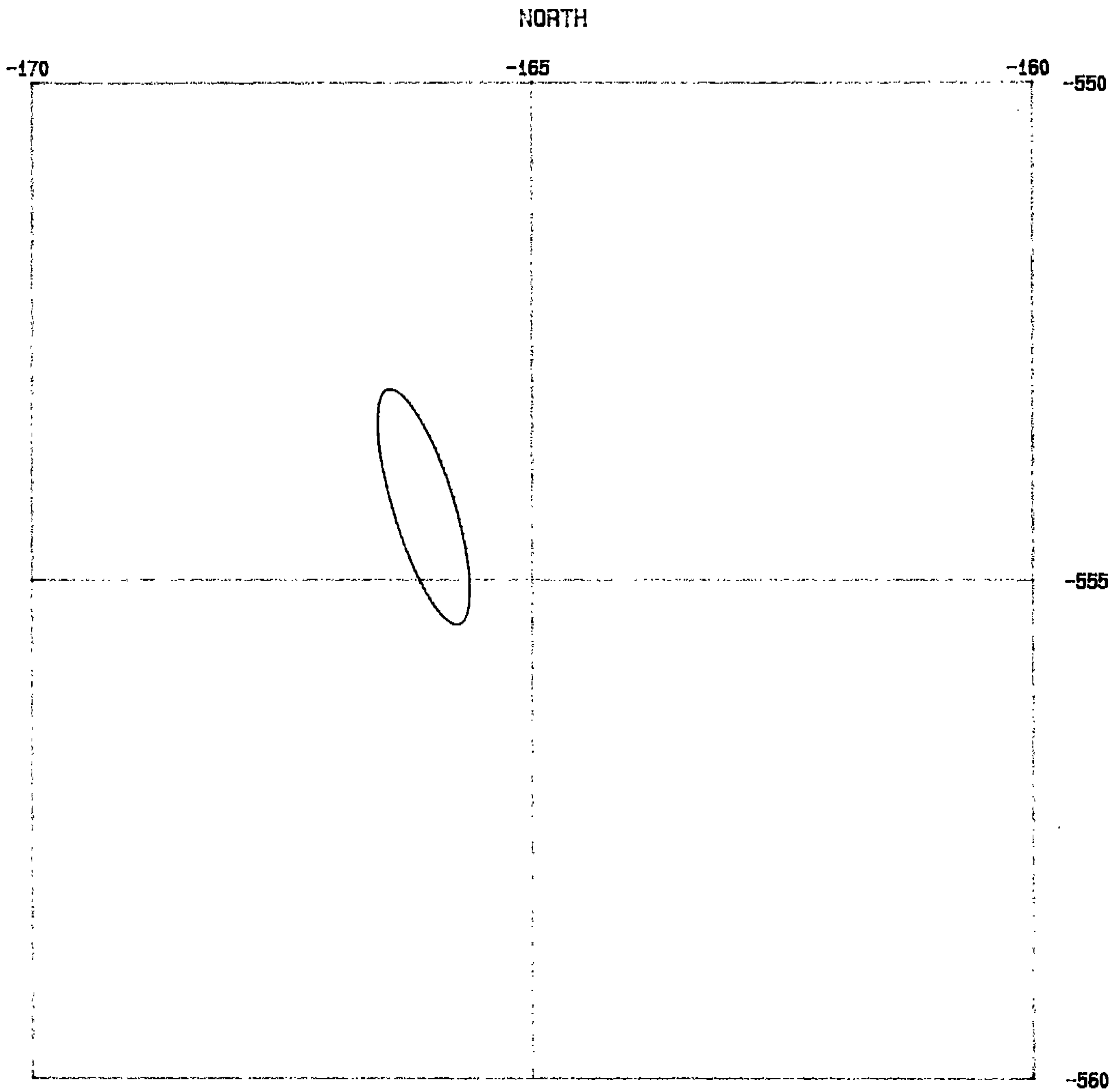
Operator : BHPP

Well number: LONGTOM 1

At 2274.33 Metres T.V.D.

Rig name : OCEAN BOUNTY

Rig co-ords: 38 06' 00.03 S, 148 18' 54.28



For a probability of 20 %

Co-ordinates measured in Metres

TARGET PROBABILITIES for LONGTOM-1ST

Ellipse of uncertainty

Distances in meters from well centre.

Ellipse

Mean value and Centre of Ellipse	166.1 W	554.3 S
Variance	3.1	0.5

Covariance of East-west To North-south is -0.9

Semi-axis A is rotated -16.8° from East-West

For Probability Of 20% at Depth 3516.95m TVD

Length of semi-axis A is 1.23m
Length of semi-axis B is 0.30m

For Probability Of 99% at Depth 3516.95m TVD

Length of semi-axis A is 5.60m
Length of semi-axis B is 1.37m

SECTION 2 GEOLOGY

2.0 FORMAT OF THE FORMATION EVALUATION LOG

Scale 1:500 to TD at 2242m
The Log is divided into 7 tracks

Track (1) ROP m/hr, range 1-100 from right to left, this track is logarithmic
Track (2) DEPTH and CASING SHOES
Track (3) LITHOLOGY in Percent
Track (4) INTERPRETED LITHOLOGY
Track (5) TOTAL GAS in % range 0.001-10% from left to right [logarithmic]
CHROMATOGRAPHIC BREAK DOWN range 0.001-10% from left to right [logarithmic]
Track (6) CALCITE in Percent 0-100% left to right
DOLOMITE in Percent 0-100% right to left.
Track (7) LITHOLOGY DESCRIPTIONS , MUD DATA and SURVEY DATA

Any relevant hole information is presented on the log where required

2.1.1 SAMPLE PROGRAM

Longtom 1

DEPTH (m)	INTERVAL (m)	COMMENT
160m TO 1025m	10m	
1025m TO 1518m	6m	spots from 1476m to 1518m
1518 m TO 1662m	3m	
1662 m TO 1782m	6m	
1782 m TO 1968m	3m	
1968 m TO 2242m TD	6m	

Longtom 1ST

DEPTH (m)	INTERVAL (m)	COMMENT
1146m TO 1662m	3m	
1662m TO 2445m	6m	spots as required

N.B 3 & 6m sampling intervals were set at Wellsite Geologists' discretion & ROP constraints.
Sampling intervals greater than 3m are due to high ROP.

SAMPLES SENT TO
BHP Petroleum Core Store,
c/- Kestrel Management (Australia)
Unit 58, Slough Estate
170 Forster Road.
MT. WAVERLY VIC. 3149

Telephone (03) 544 3399

2.1.2 SAMPLE MANIFEST

SUBJECT: SAMPLE MANIFEST FOR BHP PETROLEUM CORE STORE-MT WAVERLY
OPERATOR: BHPP LTD
WELL: LONGTOM 1
RIG: OCEAN BOUNTY
DATE: JUNE 1995

WASHED AND AIR DRIED DRILL CUTTINGS
3 SETS: A, D, AND F ; FOR BHPP,Melbourne; AGSO,Canberra; Vic DEM,Victoria; respectively.
100g + ENVELOPES

CONTENTS OF EACH SET :-

CARTON 1 CONTAINS:	CARTON 2 CONTAINS:
BOX 1:160-340m	BOX 10: 1458-1560m
BOX 2:340-500m	BOX 11: 1560-1614m
BOX 3:500-670m	BOX 12: 1614-1686m
BOX 4:670-860m	BOX 13: 1686-1791m
BOX 5:860- 1025m	BOX 14: 1791-1860m
BOX 6:1025-1134m	BOX 15: 1860-1935m
BOX 7:1134-1236m	BOX 16: 1935-2040m
BOX 8:1236-1344m	BOX 17: 2040-2178m
BOX 9:1344-1458m	BOX 18: 2178-2242m

TOTAL OF 6 CARTONS

UNWASHED AND AIR DRIED DRILL CUTTINGS
(SET B) 1 SET FOR BHPP

300g HUBCO SENTRY BAGS

BOX 1:160-540m	BOX 5:1422-1674m
BOX 2:540-900m	BOX 6:1674-1863m
BOX 3:900-1200m	BOX 7:1863-1998m
BOX 4:1200-1422m	BOX 8:1998-2242m

TOTAL OF 8 CARTONS

TOTAL CONSIGNMENT: 14 BOXES SENT BY VESSEL TO SHORE, STORE

PETROCRAFT SAMPLES (SET E) - to J. Phipps, (Geology Operations Coordinator)
Hand carried by Wellsite Geologist on 11 / 6 / 95

TRAY 1:160-660m	TRAY 5:1620-1833m
TRAY 2:660-1104m	TRAY 6:1883-2010m
TRAY 3:1104-1404m	TRAY 7:2010-2242m
TRAY 4:1404-1620m	

TOTAL OF 1 BOX

SUBJECT: SAMPLE MANIFEST FOR BHP PETROLEUM CORE STORE-MT WAVERLEY
OPERATOR: BHPP LTD
WELL: LONGTOM 1-SIDETRACK 1
RIG: OCEAN BOUNTY
DATE: JUNE 1995

WASHED AND AIR DRIED DRILL CUTTINGS
SETS: B, D, & F for BHPP,Mel bourne; AGSO,Canberra; Vic DEM,Victoria; respectively.
100g + minigrips
3m SAMPLE INTERVALS FROM 1146 m TO 1662m
6m SAMPLE INTERVALS FROM 1662 m TO 2445m
N.B: 3 & 6m sampling intervals were set at Wellsite Geologists' discretion & ROP constraints.

CARTON 1 CONTAINS:	CARTON 2 CONTAINS:
BOX 1:1146-1224m	BOX 10: 1938-2070m
BOX 2:1224-1284m	BOX 11: 2070-2226m
BOX 3:1284-1344m	BOX 12: 2226-2364m
BOX 4:1344-1425m	BOX 13: 2364-2445m
BOX 5:1425-1500m	
BOX 6:1500-1575m	
BOX 7:1575-1650m	
BOX 8:1650-1812m	
BOX 9:1812-1938m	

TOTAL OF 6 CARTONS

UNWASHED AND AIR DRIED DRILL CUTTINGS
SET A
300g HUBCO SENTRY BAGS
1 SET FOR BHPP

BOX 1:1146-1254m	BOX 5:1599-1812m
BOX 2:1254-1377m	BOX 6:1812-2010m
BOX 3:1377-1491m	BOX 7:2010-2226m
BOX 4:1491-1599m	BOX 8:2226-2445m

N.B. - Same sampling intervals as above

TOTAL CONSIGNMENT: 14 BOXES SENT BY VESSEL TO SHORE STORE

PETROCRAFT SAMPLES - Hand carried to J. Phipps, (Geology Operations Coordinator)
SET E

TRAY 1:1146-1296m	TRAY 6:1902-2052m
TRAY 2:1296-1446m	TRAY 7:2052-2205m
TRAY 3:1446-1559m	TRAY 8:2205-2355m
TRAY 4:1559-1749m	TRAY 9:2355-2445m
TRAY 5:1749-1902m	

N.B - Same sampling intervals as above

ONLINE DATA CHARTS FOR LONGTOM 1 & LONGTOM 1ST
1 BOX - **Handcarried to J. Phipps** (Geology Operations Coordinator)

2.2 LONGTOM-1 PROGNOSED FORMATION TOPS

FORMATION	EXPECTED LITHOLOGY	TVD RT DEPTH	MD RT DEPTH	Predicted Fluid
Gippsland Limestone	Calcarenite with minor Marl and Calcisiltite	80	80	
Lakes Entrance	Claystone, Calcilutite & Marl	1092	1092	
Latrobe Group	Interbedded Sandstone & minor Claystone & Coal	1250	1250	
Kipper Formation	Volcanics	1537	1537	Oil
Golden Beach Group - Judith Formation	Interbedded Sand, Silt, Claystone & Coal	1589	1589	Oil
Strzelecki Group	Volcanoclastic Sandstone & Siltstone, minor Coal.	2233	2233	
TD		2285	2285	

2.3 PROGNOSED STRATIGRAPHIC SUMMARY FOR LONGTOM-1

Geological Summary

Introduction

The proposed Longtom 1 exploration well was located approximately 6km SW of Sperm Whale 1 and 9km NE of Sunfish 1. The well was designed to test a three-way fault dependant closure formed on the downthrown side of a major WNW - ENE trending fault.

Structure

The Longtom structure consists of three way dip closure against a sealing fault on the downthrown side of a major WNW - ENE terrace fault The Judith Formation is the primary target with top seal provided by the overlying Kipper Formation. Sands within the Kipper Formation provide a secondary target with top seal provided by volcanics above the 80MY Unconformity. Intra formational seals within both targets could provide stacked hydrocarbon accumulations. The Strzelecki Formation on the upthrown fault block is expected to provide cross fault seal.

The units above the 80MY Unconformity dip down to the southwest into the basin. Considerable fault drag/folding beneath the unconformity cause the Golden Beach and Strzelecki formations to dip down more steeply near the fault providing closure to the SSW. The Snapper/Barracouta anticlinal trend, resulting from late Eocene to Middle Miocene compressional tectonism, provides closure along the strike direction. In the most likely fill case, the structure is 9km wide and with 380m of vertical closure.

2.3 FORMATION EVALUATION SUMMARY

The formation evaluation has been divided into intervals based on lithological units. All depths quoted are below the rotary table, ie. Measured depth.

81-117m - Returns to seafloor

117m-1245m
SEASPRAY GROUP
GIPPSLAND LIMESTONE/LAKES ENTRANCE FORMATION
CALCARENITE, CALCILUTITE, and CALCISILTITE, grading to MARL

Drilling Parameters:
WOB: 24 KLBS
RPM: 146
TRQ: 126 AMPS
SPP: 2564 PSI
MFI: 1150 gal/min

Lithology	Lithological Description	ROP m/hr Ave.	ROP m/hr Max.	ROP m/hr Min.	GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
C'AREN	*Light grey to medium light grey and occasionally light olive grey to light grey green. The Calcarenite was friable to firm, occasionally moderately hard. Grain size predominantly fine to medium, trace argillaceous matrix with both micritic and sparitic cement. Trace Glauconite present, and frequent fossils; Foraminifera, Bryozoa.*	29	394.3 @ 128m	1.5 @ 1033m	Background Max @ 920m Min @ 747m	0.150 0.590 0.007	0.1300 0.5816 0.0061	0.0025 0.0095 0	0.0010 0.0032 0	0 0 0	0 0 0	0 0 0
C'LUT	*Medium light grey to medium grey, firm, with common micritic cement.. The lithology had a minor argillaceous content. Acccessory minerals include traces of Glauconite and rare Pyrite nodules. Pyrite could also be found as an infill within fossil cavities. Trace Fominifera and Bryozoans were present.*											
C'SILT	*Light to medium grey and was firm with an amorphous to sub blocky structure. This lithology had common micritic cement and contained common to abundant argillaceous matrix. Traces of nodular and disseminated Pyrite and traces of Glauconite were present along with rare Foraminifera.*											

2.3. FORMATION EVALUATION SUMMARY

1245-1557m
LATROBE GROUP
SANDSTONE, SILTSTONE, MINOR VOLCANICS and COAL

Drilling Parameters:
WOB: 18 KLBS
RPM: 145
TRQ: 126 AMPS
SPP: 2901 PSI
MFI: 950 gal/min

Lithology	Lithological Description	ROP m/hr			GAS	Total	C1	C2	C3	iC4	nC4	C5
		Ave.	Max.	Min.		%	%	%	%	%	%	%
SST	*Initially mottled pale to medium brown, becoming clear to translucent with common milky grains below 1270m, medium to very coarse, occasionally fine, predominantly coarse. Loose in sample with rare aggregates seen. Grains were sub angular to sub rounded and poorly sorted. The SANDSTONE had minor siliceous cement with minor argillaceous matrix. Trace to common Pyrite nodules were present. Porosity was inferred to be fair to good.*	23	211.8 @ 1287m	2.1 @ 1441m	Background Max @ 1273m Min @ 1455m	0.350 2.250 0.013	0.3000 2.1400 0.0127	0.0200 0.0910 0.0010	0.0020 0.0063 0.0002	0.0005 0.0025 0	0 0 0	0 0 0
SLTST	*Light brown to light grey brown, firm to dispersive, occasionally moderately hard, with common argillaceous matrix. Accessory minerals included micromicaceous material, trace to rare carbonaceous material,and Pyrite.*											
VOLCS	*Light brown to buff, green to green grey, reddish brown in part. The lithology was firm to hard, crystalline, with a common pale buff argillaceous matrix. Common weathered Feldspar, Chlorites, and Quartz crystals were other features.*											
COAL	*Black to brown black, dull, brittle, with sub brittle to sub blocky structure*											

2.3 FORMATION EVALUATION SUMMARY

1557-1935m
GOLDEN BEACH GROUP
KIPPER FORMATION/JUDITH FORMATION
CLAYSTONE, SANDSTONE, Argillaceous SILTSTONE,and trace COAL

Drilling Parameters:
WOB: 35 KLBS
RPM: 112
TRQ: 135 AMPS
SPP: 2988 PSI
MFI: 770 gal/min

Lithology	Lithological Description	ROP m/hr			GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
		Ave.	Max.	Min.								
SST	*White, clear to translucent, loose in sample with friable aggregates. Grains were very fine to medium, occasionally coarse, sub angular to sub rounded and moderately sorted. The SANDSTONE had trace calcareous and siliceous cement and trace to common very light grey argillaceous matrix. Rare carbonaceous lithic fragments were found within the matrix. The SANDSTONE had poor to fair visual porosity.*	12.5	58.1 @ 1813m	4.8 @ 1902m	Background Max @ Min @	0.35 9.021 0.059	0.3 6.8710 0.0577	0.01 0.3587 0.0015	0.001 0.1141 0.0001	0 0.0148 0	0 0.0114 0	0 0.0023 0
CLYST	*Medium grey to dark grey, and firm to moderately hard. Largely dispersed. Aggregates displayed an amorphous to sub blocky structure. The matrix was occasionally silty and contained traces of Pyrite and carbonaceous material*											
SLTST	*Light to medium grey brown, soft to firm, with an amorphous to sub blocky structure. The SILTSTONE had abundant argillaceous matrix and tended to grade to CLAYSTONE below 1600m. The lithology was also very finely arenaceous in part, and contained minor to common carbonaceous material.*											

2.3 FORMATION EVALUATION SUMMARY

1935-2242m (TD)
STRZELECKI GROUP
Interbedded SANDSTONE, SILTSTONE and trace COAL

Drilling Parameters:
WOB: 15 KLBS | SPP: 3150 PSI
RPM: 132 | MFI: 880 gal/min
TRQ: 253 AMPS

Lithology	Lithological Description	ROP m/hr Ave.	ROP m/hr Max.	ROP m/hr Min.	GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
SST	*Off white to light grey, occasionally grey green, with frosted, translucent to clear grains. The SANDSTONE was friable and loose, along with with common aggregates in the sample. Grains were very fine to medium, predominantly fine, sub angular to sub rounded and moderately to well sorted. Minor calcareous cement and common to abundant off white argillaceous matrix were present. Accessory minerals included trace green lithic grains (glauconite?), common Feldspar grains, trace carbonaceous lithics and fragments, and rare Pyrite*	13.5	45.6 @ 2036m	2.7 @ 2235m	Background Max @ 2062m Min @ 2235m	0.15 0.955 0.042	0.13 0.9260 0.0408	0.007 0.0297 0.0008	0.001 0.003 0	0 0 0	0 0 0	0 0 0
SLTST	*Medium grey to dark grey, and very occasionally grey brown. This lithology was firm to moderately hard with common argillaceous matrix and very finely arenaceous in part. Trace to locally common carbonaceous specks and fragments, and rare Pyrite were the accessory minerals.*											

2.3 FORMATION EVALUATION SUMMARY

The formation evaluation has been divided into intervals based on lithological units. All depths quoted are below the rotary table, ie. Measured depth.

1150m-1245m
SEASPRAY GROUP
GIPPSLAND LIMESTONE/LAKES ENTRANCE FORMATION
CALCILUTITE and CALCISILTITE grading to MARL

Drilling Parameters:
WOB: 32 KLBS
RPM: 153
TRQ: 44 AMPS (sliding)
SPP: 2432 PSI
MFI: 800 gal/min

Lithology	Lithological Description	ROP m/hr Ave.	ROP m/hr Max.	ROP m/hr Min.	GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
C'SILTITE	*Medium light grey to medium dark grey, soft to firm, with common micritic cement. The lithology had a common to abundant argillaceous content, and hence graded to MARL.. Accessory minerals include traces of Glauconite and rare disseminated Pyrite. Common Foraminifera were present.*	4.5	45.6 @ 1238m	1.3 @ 1152m	Background	0.09	0.06	0.015	0.0005	0	0	0
					Max @ 1138m	3.686	3.1979	0.18	0.0618	0.0016	0.0011	0
					Min @ 1218m	0.022	0.0208	0.0007	0.0001	0	0	0
C'LUTITE	*Very light to medium grey, soft to firm with an amorphous to sub blocky structure. This lithology had common micritic cement, occasional crystalline calcite laminations, and contained minor argillaceous matrix. Trace to locally common Glauconite was present, particularly below 1225m.*											

2.3. FORMATION EVALUATION SUMMARY

1245-1600m
LATROBE GROUP
SANDSTONE, SILTSTONE, CLAYSTONE, minor VOLCANICS and COAL

Drilling Parameters:
WOB: 33 KLBS **SPP: 2668 PSI**
RPM: 167 **MFI: 800 gal/min**
TRQ: 82 AMPS (sliding)

Lithology	Lithological Description	ROP m/hr			GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
		Ave.	Max.	Min.								
SST	*Initially mottled pale to medium brown, becoming clear to translucent with common milky grains below 1270m, fine to very coarse, predominantly coarse, with occasional granules. The SANDSTONE was friable and mostly loose in sample with rare aggregates seen. Grains were angular to sub rounded and poorly sorted. The SANDSTONE had trace to minor calcareous and siliceous cements with minor to common white argillaceous matrix. Trace to common Pyrite nodules were present. Porosity was inferred to be fair to good.*	9	112.5 @ 1249m	1.3 @ 1463m	Background	0.12	0.1	0.009	0.002	0.0002	0.0001	0
					Max @ 1298m	1.977	1.7121	0.0965	0.0079	0.001	0.0006	0
					Min @ 1308m	0.015	0.0112	0.0006	0	0	0	0
CLYST	*Very light grey and grey brown, soft to firm, amorphous and slightly sticky. The CLAYSTONE was predominantly dispersed, and was finely arenaceous in part.*											

2.3. FORMATION EVALUATION SUMMARY

1245-1600m *(continued from previous page)*
LATROBE GROUP
SANDSTONE, SILTSTONE, CLAYSTONE, minor VOLCANICS and COAL

Drilling Parameters:
WOB: 33 KLBS
RPM: 167
TRQ: 82 AMPS (sliding)
SPP: 2668 PSI
MFI: 800 gal/min

Lithology	Lithological Description	ROP m/hr			GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
		Ave.	Max.	Min.								
SLTST	*Light brown to light grey brown, firm to occasionally moderately hard, amorphous, with common argillaceous matrix. Accessory minerals included micromicaceous material, and trace to locally common carbonaceous material.*	9	112.5 @ 1249m	1.3 @ 1463m	Background	0.12	0.1	0.009	0.002	0.0002	0.0001	0
					Max @ 1298m	1.977	1.7121	0.0965	0.0079	0.001	0.0006	0
					Min @ 1308m	0.015	0.0112	0.0006	0	0	0	0
VOLCS	*Light brown to buff, light blue grey to green grey, reddish brown in part. The lithology was soft to hard, crystalline, with a common pale buff argillaceous matrix. Common weathered Feldspar, Chlorites, and minor disseminated pyrite where other features.*											
COAL	*Black to brown black, dull to sub vitreous, brittle, with sub blocky to sub fissile structure. The Coal was argillaceous in part and graded at times to carbonaceous SILTSTONE.*											

2.3 FORMATION EVALUATION SUMMARY

1600-2137m
GOLDEN BEACH GROUP
KIPPER FORMATION/JUDITH FORMATION
CLAYSTONE, SILTSTONE, and minor SANDSTONE

Drilling Parameters:
WOB: 10 KLBS **SPP: 2897 PSI**
RPM: 159 **MFI: 900 gal/min**
TRQ: 182 AMPS

Lithology	Lithological Description	ROP m/hr Ave.	ROP m/hr Max.	ROP m/hr Min.	GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
CLYST	*Light to medium light grey and dark grey, soft to firm, and commonly dispersive. Aggregates displayed an amorphous to sub blocky structure. The matrix was occasionally finely arenaceous, and contained trace disseminated/nodular Pyrite and carbonaceous material.*	18	133.3 @ 1929m	0.8 @ 1655m	Background	0.3	0.25	0.008	0.007	0	0	0
					Max @ 2001m	1.034	1.032	0.024	0.0014	0.003	0	0
					Min @ 1655m	0.023	0.0143	0.0008	0.0002	0	0	0
SLTST	*Medium grey to grey brown, soft to firm, with an amorphous to sub blocky structure. The SILTSTONE had abundant argillaceous matrix, was finely arenaceous in part, and contained trace to locally common carbonaceous material.*											
SST	*White, clear to translucent, very fine to fine with minor medium grains. The Sandstone was predominantly fine, loose, with angular to sub round grains. Sorting was moderate. The SANDSTONE had trace calcareous cement and abundant off white argillaceous matrix, with common lithic grains and carbonaceous fragments. Porosity was inferred to be poor.*											

2.3 FORMATION EVALUATION SUMMARY

2137-2445m (TD)
STRZELECKI GROUP
Interbedded CLAYSTONE, SILTSTONE, and SANDSTONE

Drilling Parameters:
WOB: 8 KLBS
RPM: 169
TRQ: 250 AMPS
SPP: 3129 PSI
MFI: 870 gal/min

Lithology	Lithological Description	ROP m/hr			GAS	Total	C1	C2	C3	iC4	nC4	C5
		Ave.	Max.	Min.		%	%	%	%	%	%	%
SST	*White, very light grey, clear to translucent grains, friable to firm, very fine to medium, with rare coarse grains. Grains were predominantly medium, angular to sub round, and poor to moderately sorted. The SANDSTONE had minor weak calcareous cement and common white argillaceous matrix. Common green, black, and rare reddish brown lithics were found within the matrix, and trace Mica flakes at 2400m The SANDSTONE had poor visual porosity.*	18	59 @ 2248m	4.8 @ 2404m	Background	0.6	0.55	0.02	0.003	0	0	0
					Max @ 2362m	15.085	10.5516	1.0645	0.2391	0.0269	0.0297	0.004
					Min @ 2332m	0.128	0.1141	0.003	0.0005	0	0	0
SLTST	*Medium grey to mottled grey black, occasionally grey brown, firm and amorphous. The SILTSTONE had abundant argillaceous matrix, was finely arenaceous in part, with common to abundant carbonaceous specks and laminations.*											
CLYST	*Medium light grey to dark grey, and locally pale red to bluish grey at 2275m. The is lithology was firm to moderately hard, blocky to sub fissile and silty in part. Trace carbonaceous specks were the accessory minerals.*											

2.5 GAS RATIO LOG INTERPRETATION AND PLOTS

2.5.0 GAS RATIO LOG FORMAT

Scale 1:500m

Log Format, tracks left to right:

1. Penetration Rate (m/hr), Strokes per minute.
2. Depth.
3. Interpreted Lithology.
2. Lagged Total Gas, Normalised Gas Trend (%), Chromatographic breakdown (%).
4. Wetness and Balance ratios.
5. Character Ratio, Survey data.

INTRODUCTION TO GAS RATIO plot ANALYSIS

Alkane ratio chromatography involves ratio quantification of the relative percentages of methane (C1), ethane (C2), propane (C3), iso and normal butane (IC4 and NC4), and pentane (C5) present in a gas sample.

Whittaker and Sellens (1987) developed a three parameter method to more accurately define the nature of the gas yielded from any one formation. The parameters they defined are *Hydrocarbon Wetness* (Wh), *Hydrocarbon Balance* (Bh), and *Hydrocarbon Character* (Ch).
Previously, gas ratio analysis enabled the user to define only the non-productive or productive oil and gas, using logarithmic or triangular ratio plots. Hydrocarbon wetness, balance and character can be plotted on the formation evaluation log. This gives instant information on the nature of the hydrocarbons present in the well. Zones of interest can be further analysed using ratio plots.

Hydrocarbon Wetness

The Hydrocarbon Wetness ratio is defined as a measure of the proportion of heavy alkanes present in the gas sample where:-

$$Wh = \frac{[C_2 + C_3 + C_4 + C_5]}{[C_1 + C_2 + C_3 + C_4 + C_5]} \times 100$$

As a rule it can be said that Wh will increase as the hydrocarbon gravity increases from light dry gas to residual oil.

Below a Wh value of 0.5 the gas is extremely light with a low productivity potential. If the wetness ratio value is between 0.5 and 1.75 the sample is productive gas. If the value is between 17.5 and 40, the sample contains potentially productive oil. Over 40 the sample contains residual oil with a low productivity potential (see the example gas ratio log extract).

Hydrocarbon Balance

Hydrocarbon balance is a measure of the relative concentrations of C1 and C2 to C3, C4 and C5 present in a gas sample, where:-

$$Bh = \frac{[C_1 + C_2]}{[C_3 + C_4 + C_5]}$$

As the hydrocarbon gravity increases from light gas to residual oil the balance ratio falls. Wh and Bh have an inverse relationship and when plotted on the same scale can further improve evaluation.

Hydrocarbon Character

When used together, Wh and Bh will resolve differences in the hydrocarbon makeup. However , when considering gas condensates or a high gravity gas/oil ratio GOR oil, little distinction is apparent. To combat this Whittaker and Sellens developed the Character ratio.
Hydrocarbon character is calculated as :-

$$Ch = \frac{[C_4 + C_2]}{C_3}$$

Gas condensates and GOR oils have Wh ratio values of 0.5 to 17.5 and Bh values characteristically below Wh. Using character to discriminate between the two, we can say that gas condensates have a Ch value less than 0.5 whereas high gravity and GOR oils have Ch values greater than 0.5.

It is important to note that Wh, Bh and Ch do not conclusively prove the reservoir potential, however they can be used as an aid to help clearer definition of potential zones for future evaluation.

Gas Ratio Log Interpretation Summary:

The Gas Ratio Log is an interpretation of ratios of chromatographic gas data and normalised Total Gas from the flowline mud stream, integrated with the Penetration Rate (ROP), Lagged Total Gas (LTG). Interpretation of Gases in Reservoir fluids is subjective. The ratio method plotted against depth can enhance interpretation and analysis whilst drilling and post e-logging data correlation. Residual oil through to gas fluids in the formation can be determined by correlation with the ratios. The Normalised gas trend takes into account the ROP, volume of rock cut, and the pump rate whilst drilling.

The Gas Ratio Log is based on Hydrocarbon Wetness Ratio (Wh), balance ratio (Bh), character ratio (Ch) and Normalised Lagged Total Gas calculated as follows:

$Wh=[C_1 + C_2...+C_5) / (C_1+C_2..C_5)] \times 100$

$Bh= (C_1+C_2) / (C_3+iC_4+nC_4+C_5)$

$Ch= (iC_4+nC_4+C_5) / C_3$

$NTG=(KxTGxMFI) / (ROPx[Bit\ Diam]^2)$, *where K factor = 763942*

Wetness Wh	If Wh < 0.5 = very dry gas; If Wh is 0.5-17.5 = gas;
	If Wh is 17.5-40 = oil ; If Wh > 40 = residual oil
Balance Bh	If Bh > 100, zone has very dry gas
	If Wh indicates gas, & Bh > Wh, gas indicated, density increasing as converging
	If Wh indicates gas, & Bh > Wh, maybe gas/oil/condensate
	If Wh in Oil phase, Bh < Wh, oil indicated, density increasing as approaching each other
	If Wh > 40, then Bh << Wh, indicating residual oil
Character Ch	If Ch < 0.5, the Wh & Bh interpretation is correct
	If Ch > 0.5, gas indicated by Bh & Wh ratios is associated with oil.

TRIANGULAR GAS RATIO PLOTS

The plot is constructed in a number of stages. First an equilateral triangle is drawn with C2, C3 and nC4 at it's
The ellipsoid plotted within the triangle will be used later to indicate the productive potential of the show.

Each side of the triangle can now be used to plot ratios of C2/C3, C3/nC4 and nC4/C2. If each side of the triangle is taken to be length = 1, then these ratios can be found by:-

$$\frac{C2}{[C2+C3]}, \frac{C3}{[C3+nC4]}, \frac{nC4}{[C2+nC4]}$$

This gives a value of up to 1 for each ratio. Plot these points onto the side of the triangle. The next step is to construct lines from each point to the opposite corner of the triangle (figure 4). The intersection of these lines defines the *productivity* of the show. If the intersection falls within the ellipsoid, the formation is likely to be productive. If it falls outside then the show is probably non productive. An intersection falling near to the edges of the ellipsoid would indicate a marginal show.

To discover whether the show represents *oil or gas*, we consider the ratios of C2/Ctot, C3/Ctot and nC4/Ctot, where Ctot is the sum of all the alkanes present, ie C1 to C5.

A triangular graph is now constructed such that each side reads from 0 to 0.17. This is superimposed onto the existing triangular plot. Each of the above ratios is calculated and plotted onto the relevant side of the triangle using this scale. If the ratio value exceeds 0.17, extrapolate the scale and plot as normal.

Now construct a line through each of these ratio points such that it parallels the side opposite the C2, C3 or nC4 apex. The three lines will form a triangle whose way up will indicate whether the Cn/Ctot ratios represent oil or gas.

Gas Ratio Plot

This plot is based ratios of C1/C2, C1/C3, C1/C4 and C1/C5.

These ratios are plotted onto the relevant *vertical* line of the plot. Analysis of real well data has shown that these ratios can indicate whether a formation bears oil, gas or water and whether or not it is productive.

The points corresponding to each ratio are then joined together to produce a slope. If this slope is positive, the show is likely to be productive. Any negative slope, eg. C1/C4<C1/C3, suggests that the formation is likely to be non productive or water bearing.

Generally speaking an extremely steep slope, eg. C1/C2 low in the oil zone and C1/C4 high in the gas zone, would suggest very tight formations.

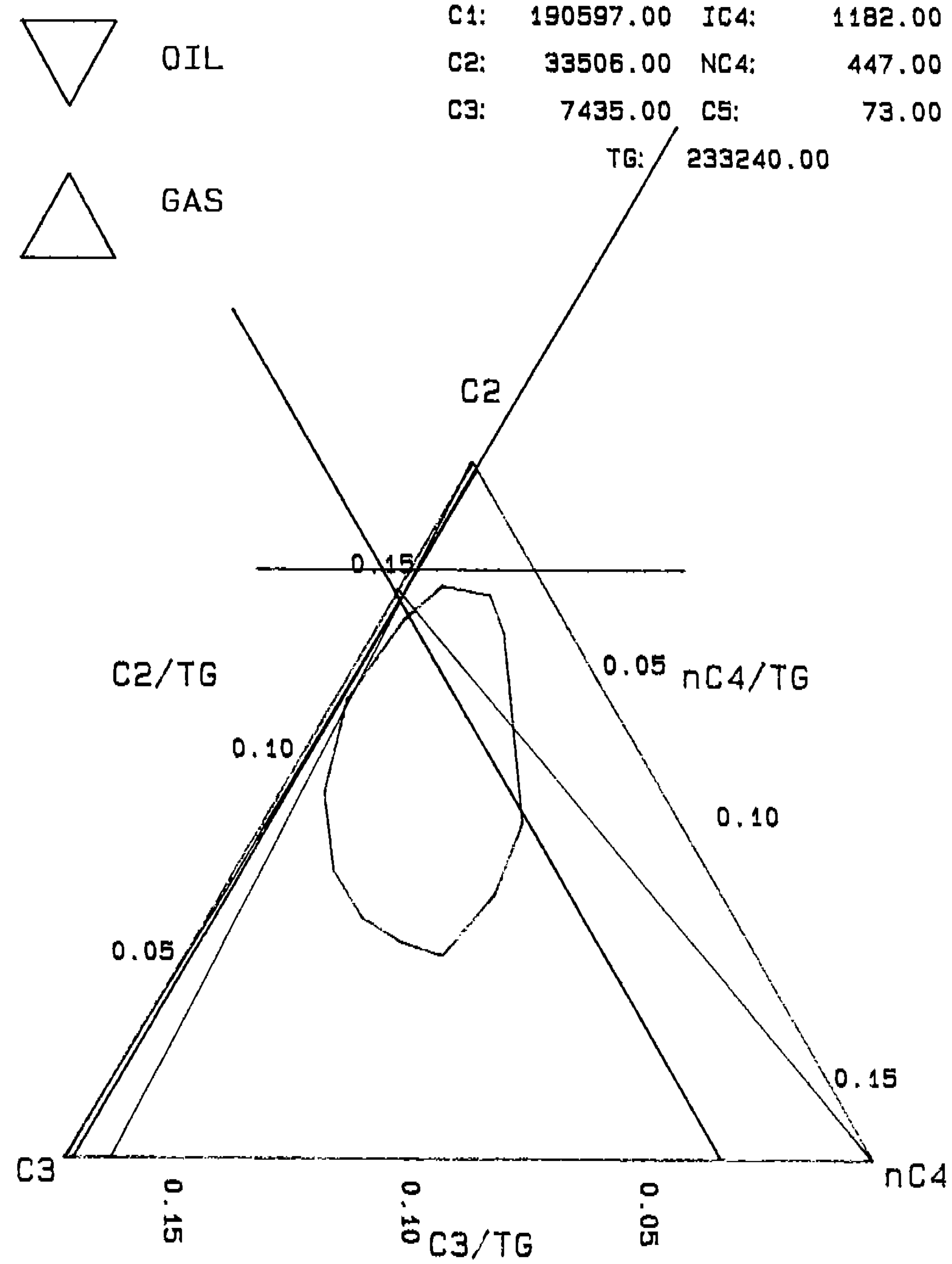
GAS CROSS-PLOT

Operator: BHPP

Well number: LONGTOM 1

Sample depth: 1900

C1:	190597.00	IC4:	1182.00
C2:	33506.00	NC4:	447.00
C3:	7435.00	C5:	73.00
TG:	233240.00		



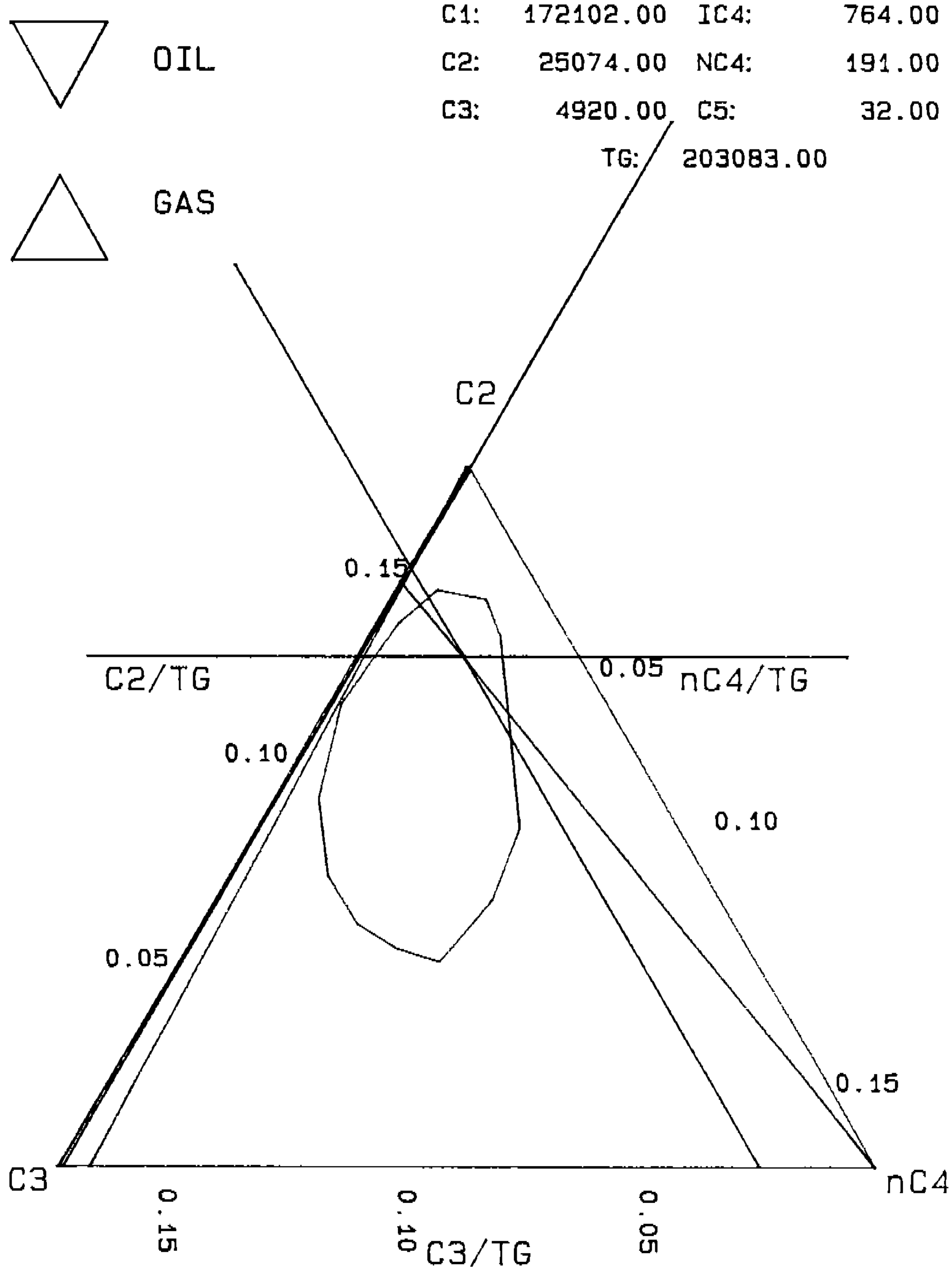
HALLIBURTON

GAS CROSS-PLOT

Operator: BHPP   Well number: LONGTOM 1

Sample depth: 1900

C1:	172102.00	IC4:	764.00
C2:	25074.00	NC4:	191.00
C3:	4920.00	C5:	32.00
		TG:	203083.00



SECTION 3 FORMATION PRESSURE ANALYSIS

3.0 FORMAT OF THE PRESSURE EVALUATION LOG

The **Pressure Evaluation Log** was plotted using a scale of 1:2500 from 1130m to 3836m (TD).
All depths being measured below the rotary table.
It is divided into eight columns which , from left to right, display the following information:

Track (1)	Dxc Exponent, Bit Data, Drilling Parameters(WOB, RPM, GPM, PP)
Track (2)	Measured Depth, and True Vertical Depth (in case of deviated holes), casing and formation integrity test information, and Wireline log depths.
Track (3)	Percentage cuttings lithology of each sample.
Track (4)	Comments
Track (5)	Plots of Flowline Temperature, Delta (0°C to 20°C). Suitable comments of effects of additions of mud, drillwater, baryte, and KCl to the Active Pit are also made here.
Track (6)	Total hydrocarbon gas content in the returning mud stream, trip and connection gas concentrations The scale is logarithmic and ranges from 0.001 to 10 percent.
Track (7)	Pore Pressure gradient, Equivalent Circulating Density (ECD), Daines' Fracture gradient, and Overburden gradient.
Track (8)	Pertinent Lithological descriptions, and mud data (mud weight, chloride content, plastic viscosity, and yield point).

3.1 INTRODUCTION TO FORMATION PRESSURE EVALUATION

Plots maintained during drilling include corrected drilling exponent, interpreted lithology, shale density, flowline temperature, differential temperature, total gas and mud weight. In addition other information pertinent to pressure detection such as hole condition during trips, cavings, trip gas and connection gas was 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 firstly a result of the sediments being undercompacted and therefore more drillable, since pore pressure exerts forces which resist the compaction resulting from overburden stresses, and secondly 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.

Jordan and Shirley (1966) produced the 'd' exponent equation aimed at normalising the 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.

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

$$d = \frac{\log_{10}\left[\frac{R}{60N}\right]}{\log_{10}\left[\frac{12W}{10^{6}D}\right]}$$

where R = ROP   N = RPM   W = WOB   D = Bit size

A corrected 'd' exponent (DXC) related to the mud weight and 'normal' pore pressure makes reasonably accurate pore pressure prediction feasible.

$$dc = \frac{FPG \times d}{MW}$$

where dc = Modified d exponent   FPG = Pore pressure   MW = Mud Weight or ECD.

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

The drilling exponent is largely dependent on lithology and rarely works well in sections other than those composed purely of shale or claystone. Poorly consolidated sands or silty mudstones or porous rocks such as silts and sandstone tend to reduce the DXC, whereas tight carbonates, marls, or calcareous or dolomitic cements tend to increase DXC values. Normal compaction trend lines are usually established in a top hole mudstone section. Deviation from this trend may indicate abnormal pressure.

Quantitative evaluation of the DcExp is achieved by the use of an **Eaton overlay**. A series of increasing pressure trend lines are constructed using the following equation:

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

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

The overburden gradient is best calculated using RHOB 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:

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

For wildcat wells the overburden gradient may be estimated from prognosed seismic two way transit times.

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

The drilling exponent assumes optimum drilling conditions so that poor hydraulics and controlled drilling will affect the plot. Whilst the DXC will accommodate variations in mud weight, RPM, and WOB to a considerable extent, shifts in the plot are likely to occur when parameters are markedly changed. This is often the case when hole size is changed at casing points, and it becomes necessary to change the position but not the gradient, of the normal trend line. When a major stratigraphic or tectonic boundary is encountered, such as an unconformity, the normal trend may have to be re-established.

Occasionally the use of some types of PDC bit will yield a steeper DXC trend than that observed for an equivalent sized tri-cone "rock" bit. In such instances a new trend has to be established. Certain PDC bits which tend to drill most formations at similar drilling rates make the use of the DC exponent as a quantitative pore pressure analysis technique, extremely difficult. Changes in formation and formation pressure are not as accurately represented by these bit types .

Shale Density
A normal compaction trend can be established by plotting shale density versus depth. A departure from this trend to a lower density than would normally be expected may indicate undercompacted formation and thus overpressure. This test only works well on pure shale / claystone as any accessory minerals may affect readings, similarly large amounts of silt or sand or silt in the claystone will produce anomalous data.

Flowline Temperature

The geothermal gradient is expressed in °C/30m.

The geothermal gradient may be estimated thus:

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

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 of that of most matrix minerals. As a result overpressured formations are comparatively poor thermal conductors. This leads to high geothermal gradients across overpressured zones.

Flowline temperature is the drilling parameter most affected by surface events such as adding water in the pits 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.

A more meaningful measurement is ΔT (the difference between temperature in and out). ΔT will normally decrease with depth due to longer circulation times at lower rates of penetration. An increase in ΔT may indicate entry into a transitional zone.

ΔT is less affected by surface temperature changes and mud system additions, such as water, barite, cool reserve mud, than raw temperature data.

Gas Levels

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

- *Background gas*: During drilling gas enters the mud from drill cuttings and from the borehole wall via diffusion. In an overbalanced situation and especially when formation permeability is low, the gas levels are proportional to the amount of gas liberated from the drilled cuttings. In an overpressured section the formation generally contains more gas (measured at standard temperature and pressure) in a given volume of rock and would thus be marked by an increase in background gas even though sufficient overbalance is maintained. Should the overbalance be reduced to a near balance situation, then connection gases and large amounts of trip gas can be expected. In an underbalance situation gas will bleed into the mud from the borehole, especially if the formation permeability is high, causing background levels to rise. High gas levels do not necessarily indicate the presence of overpressure, particularly if a lithological change takes place or when drilling into hydrocarbon reservoir or source rock.

  Gas levels are sensitive to changes in mud weight and other mud properties, as well as the rate of penetration. Less gas will be recorded where mud viscosity is high due to the greater holding ability of the mud. Therefore a considerable degree of discrimination is required when interpreting background gas.

- *Connection Gas*: This indicates that the formation pore pressure is near balance with the hydrostatic pressure of the drilling mud, thus yielding a close estimate of the pore pressure. Increasing levels of connection gas with depth may indicate a continually rising pore pressure. Connection gas results from a decrease in effective mud density when circulation stops.

- *Trip Gas*: This enters the mud via diffusion from the borehole wall during trips. An increase in trip gas is sometimes noted in overpressured zones. In situations where the well is close to balance, large concentrations of trip gas may be swabbed into the hole indicating that the pore pressure is only fractionally below the mud weight. An increase in trip gas may also occur after reservoir units have been drilled.

Wireline Logs

When examining wireline logs for possible indications of overpressured formation, normal trend lines may have to be re-established should a major stratigraphic or tectonic boundary be encountered, such as an unconformity.

BHC Sonic:- For a given lithology, sonic transit time (delta t) is dependent on porosity (c.f. the Wyllie eqn.). In a normally compacted sequence claystone porosity decreases exponentially with depth. Therefore delta t values for claystones should also decrease exponentially and a logarithmic plot should yield a linear normal compaction trend. Any increase from this trend for claystone units indicates an abnormally high porosity and hence overpressure.

Formation Resistivity (ILD or LLD): Values for normally compacted claystones show a linear trend when plotted on a logarithmic scale. Increases from this trend indicate an overpressured zone, where claystone may have a high water content. This method of overpressure detection is limited by variations in the salinity of the pore fluids i.e decreasing salinity gives an increased resistivity reading.

Formation Density (RHOB): Where values of DRHO are not excessive, the value of RHOB can be used to plot the density of the formation. It is particularly useful in thick argillaceous sequences in assessing and cross checking shale density anomalies. It is difficult to establish a Normal Compaction Trend for RHOB as the log is rarely run in top-hole.

Gamma Ray : Used to isolate shaly sections and other intervals of uniform lithology and to assess the Poissons Ratio of the formation for Fracture Gradient determination in clastic sequences (Eaton,B.A (1969)). Cutbacks have been observed in some undercompacted sequences but do not occur in all instances (Mouchet & Mitchell (1989)). Transmitted M.W.D. gamma ray data is particularly useful in assessing the developing Corrected Drilling Exponent plot.

Eaton overlays, based on a method published by B.A. Eaton in 1972 may be used for quantitative analysis of the sonic and resistivity 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 (e.g. micas, glauconite). (Eaton,B A (1972))

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 and calibrate the position of the Corrected Drilling Exponent normal compaction trend

Other Data

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

FRACTURE PRESSURE ESTIMATION

Several methods exist for estimating fracture pressure while drilling. The method most commonly used by Halliburton Drilling Systems is the Eaton Method.
Eaton (1969) determined that:

$$\frac{F}{D} = \left(\frac{m}{1-m}\right) s + \frac{P}{D}$$

Where
= Poissons Ratio , σ = Effective Stress and D = Depth F/D = Eaton Fracture Gradient.

Effective Stress given by:

$$s = \frac{S}{D} - \frac{F}{D}$$

Where S = Variable Overburden Pressure, P = Formation pressure and D = Depth

For a given formation, the Poissons Ratio maybe determined from Gamma Ray data using the formula

$$m = 0.125\, x \left(\frac{GR_{\log} - GR_{\min}}{GR\max - GR_{\min}}\right) + 0.27$$

Poissons Ratio may also be estimated from the type of lithology present. Daines (1982) published a table of experimentally determined Poisson's ratio for specific rock types. This determination is most useful while drilling ahead.

3.2 PRESSURE LOG ANALYSIS

Pressure analysis for each estimated pore pressure regimes:

3.2.1 LONGTOM-1

<table>
<tr><td colspan="2">LONGTOM-1 Depth Interval Normal Pore Pressure (1.03sge).
Two hole sections, no returns from 28" hole, returns from 17-1/2" hole section.</td></tr>
<tr><td colspan="2">Lithology: calcarenite, calclutite, bioclastic in top sections.</td></tr>
<tr><th>Observations</th><th>Remarks</th></tr>
<tr><td>Corrected Drilling Exponent. Scattering of Dxc was observed, and few cutbacks were also recorded.</td><td>Dxc trend show a general increase with depth, despite its erratic nature. This erratic nature is probably due to variations in mineralogy of the formation and the degree of compaction of the sediments at this depth. Dxc is generally of little use in formation pore pressure analysis in limestones.</td></tr>
<tr><td>Background Gas First gas returns was recorded from 350m. Average background 0.2%, rising to a maximum of 0.47% at 963m.
Connection Gas Peaks None detected this section</td><td>Initial fairly sharp increase, steady at decreased to earlier levels at about 963m. Trend in background gas is thought to be probably related to the chemistry of the rock rather than the formation pore pressure. The absence of connection gas peaks suggest good overbalance.</td></tr>
<tr><td>Flowline Temperature Flowline temperature show a gradual increase with depth, occasional cutbacks in the ΔT mud temperatures. 38°-51°C, ΔT large in top hole- 20°C to 4°C at 587m and 6°C by 1025m.</td><td>The trend overall suggests normal pore pressure regime. Delta mud temperature occasional cutbacks or a steady near-vertical trend over part of this interval could be related to the cooling of the active system due to frequent addition of mud while drilling this interval.</td></tr>
<tr><td>Cuttings No bulk density measurement was performed in this predominantly carbonate lithology. No abnormal cuttings were observed in the samples.</td><td>Parameter does not indicate overpressure.</td></tr>
<tr><td colspan="2">Other Data
On the wiper trip, the hole did not take fluid, and 50kips overpull was experienced- suspect bit or BHA balled up. Hole fill okay, tight spot at 550m, 100kips. Bit taking weight at 526m. Wash and ream, then minimal drag. Roller reamers packed with sticky clay. Hole unable to be logged due to obstruction at 753m
Wash and ream at 414m, and run in to and wash and ream obstructions at 753m, and 818m, and soft fill 985m (no torque). Large amount of cavings after starting circulation, lost mud over shakers. Circulated and conditioned mud, increase mud weight to 1.12 sg. Okay after that- no losses, and clean hole on trips.
Wireline data where collected does not show over pressure trends.</td></tr>
<tr><td colspan="2">Conclusions Dxc trend, despite showing a general increase with depth is considered of little use in formation pore pressure analysis in carbonates. The absence of connection gas peaks suggests good overbalance. Flowline temperature trend suggests normal pore pressure regime. The pore pressure over this interval is considered normal (1.03 sg).</td></tr>
</table>

Depth Interval 12-1/4" hole section 1025m -1788m (1.03sg, rising to a maximum of 1.04 sg).	
Lithology: limestone, sandstone, siltstone, claystone.	
Observations	**Remarks**
Corrected Drilling Exponent, very erratic, cutting back from 1175m. PDC bit in use from 1025m to 1438m, a rockbit to 1915m. Steady cutback from1650m (rockbit run in claystones)	On entering the Latrobe, the Dxc became an unsuitable formation for analysis due to sandstone beds. However, the trend is one of normal compaction to the Latrobe. Erratic trend and PDC bit- hard to interpret, increasing overall trend. Eaton Overlay interpretation suggests a maximum of 1.1 sg formation pore pressure by 1788m
Background Gas Increasing background from nil to 0.17-.15%, 1257m, rising to 0.35% by 1763m.	The trip gas peaks recorded may suggest close to balance conditions while tripping. General Gas levels increased with depth (unless mud weight increased- ie gas level proportional to mud weight). Swabbed gas showed close to pore pressure at 1420-1430m > 1.05+sg. Pore pressure increasing with depth is indicated from the Gas data.
Flowline Temperature Flowline temperature over this interval shows a gradually increasing trend with depth unless mud additions interfered. From 1750m, decreasing ΔT to 1900m.	Flowline temperature trend here suggests a normal pore pressure regime, gradient averages 3°/100m However, ΔT shows a potential overpressured zone below this section. (Blanket effect).
Cuttings No density analysis performed over the sandstone and interbedded intervals.	Cavings seen in the cuttings were not considered to be related to abnormal pore pressure/hole instability
Other Data Wireline data: sonic trend cutback from approx 1175m to 1888m. Resistivity too erratic to use. Minor overpull on trip at 1438m.	
Conclusions Normal pore pressure regime from above parameters to approximately 1175m. Pore pressure increases with depth from 1.02sg to 1.05+ at about 1420m from swabbed gas peak to 1.1+ sg from Eaton Overlays for Dxc and Sonic data. RFT data at 1829 was 1.05 sg for pore pressure.	

Depth Interval 1788m- 1887m (1.04sge, rising to a maximum of 1.10 sge)

Lithology: claystone, siltstone .

Observations	Remarks
Corrected Drilling Exponent. Severe cutbacks in this interval.	Cutbacks suggest 1.1+ sg pressure on Eaton overlay.
Background Gas A 9.1% peak recorded at 1891m.. levels erratic from 1876 due to interbedded sst/clst. Background level rose from 0.2% to 5.05 Av, from 1875m. **Connection gas peaks:** 1788m, 0.34%, 1818m 0.7%, 1846m 0.16%, 1862m 0.14%, 1876m 0.15%. **Swabbed Gas:** induced gas peak at 1862m.	Pore Pressure increase evidenced from increased gas background and connection gas. MW increased from 1.11sg to 1.14sg, probably suppressing con.gas.pks and general background from 1720m to 1875m- then background increased
Flowline Temperature MTO gradually increasing trend with depth to 1870m, 55° to 56°C, then sudden increase 1880m. ΔT jumps at 1875m.	Flowline temperature trend here suggested entering an overpressured zone from about 1870m, indicated by a sudden increase in MTO and ΔT
Cuttings No density analysis performed over the sandstone and interrbedded intervals.	Cavings seen in the cuttings were not considered to be related to abnormal pore pressure/hole instability.

Other Data Sonic has an Eaton Overlay pore pressure of well over 1.1sg. This, however, does not agree with other data, and 1.1-1.15sg is a reasonable assertion.

Conclusions Abnormal pressure regime from above parameters, of up to 1.1+ sg maximum by 1888m

Section 3.2.2 Longtom-1ST

Sidetrack Depth Interval 1161m to 1450m Normal Pore Pressure (1.03sge).	
Lithology: calcarenite, calclutite, bioclastic in top sections. calcilutite/arenite grading to claystone and siltstone.	
Observations	**Remarks**
Corrected Drilling Exponent. 0.6-2.21 Scattering of Dxc was observed, Directional drilling sidetrack, sliding and rotating controlling ROP.	Dxc trend show a general increase with depth, despite its erratic nature. Pore pressure left as normal.
Background Gas 0.02%- **Connection Gas Peaks** None detected this section	Initially high through cement plug, falling to background of LONGTOM-1 levels. Overall, no abnormal pressure indications from background, lack of connection gas indicates well overbalanced hole. Gas varying with ROP. Increasing with depth
Flowline Temperature Flowline temperature show a gradual increase with depth, occasional cutbacks in the ΔT mud temperatures. 48°-51°C, ΔT 2-3°.	The trend overall suggests normal pore pressure regime, some additions show as a lower gradient. 3-2.5°C/100m.
Cuttings Bulk density measurement was performed in argillaceous sections.	Data too few to indicate overpressure, trend decreased as approaching Latrobe.
Other Data Cavings rather large gravelly blocky shape over bottom section of Lakes Entrance. No Elog data supplied to compare to LONGTOM-1.	
Conclusions Dxc trend shows a normal pore pressure with depth. The absence of connection gas peaks suggests good overbalance. Flowline temperature trend suggests normal pore pressure regime. The pore pressure over this interval is considered normal (1.03 sg).	

Longtom-1ST

Sidetrack Depth Interval 1450m-2125m	
Lithology. sandstone, siltstone, claystone.	
Observations	**Remarks**
Corrected Drilling Exponent. Erratic trend, controlled drilling while kicking off and building angle..	The Dxc became unsuitable formation for analysis where Sandstone was encountered. Trend appears to show a pore pressure increase- but lithology unsuitable to interpret as an increase. Normal trend from 1600m (Claystone) to 2125m. In any case, controlled directional drilling may mask any pore pressure increase.
Background Gas Erratic levels due to controlled drilling, ranging from 3% out of cement plug down to less than 1% general level (0.02 to 2.0%), lithological and ROP dependent. Below volcanics at 1570m, increase in sandy sequence. Using Claystone from 1650m and at 2150m, gas background steady. **Connection gas peaks** Possible con gas pks 1482m 0.38%(0.28%ABG), 1511m 0.38% (0.28%ABG)	The trend in gas levels in this section appear to be directly related to the rate of penetration. Connection gas peaks suggest a pore pressure of 1.1sg, but not a reasonable assumption, static MW 1.07-1.08 sg.
Flowline Temperature Flowline temperature over this interval shows a gradually increasing trend with depth until	Flowline temperature trend here suggests a normal pore pressure regime.. Large mud additions, transfers and bit trips. and mixing severely affecting trend 1400m to 1675m.
Cuttings Rare to trace cavings were seen in the cuttings. Cut back in bulk density readings 1.7 to 1.67 sg from 1660 to 1820m. No large splintery, propeller shaped cavings	Bulk density plot did not suggest abnormal pore pressure Cavings seen in the cuttings were not considered to be related to abnormal pore pressure/hole instability. Bulk density readings suggests an abnormal trend
Other Data Tight hole on bit-trip from 1553m for first 7 stands thru intrbd sst/sltst. No wireline data to present any overpressure interpretation.	
Conclusions Above parameters taken together suggest Normally pressured regime- probably slightly overpressured (proximity to LONGTOM -1 wellbore and Swabbed gas at the 1420m mark in that well) up to 1.04 sg.	

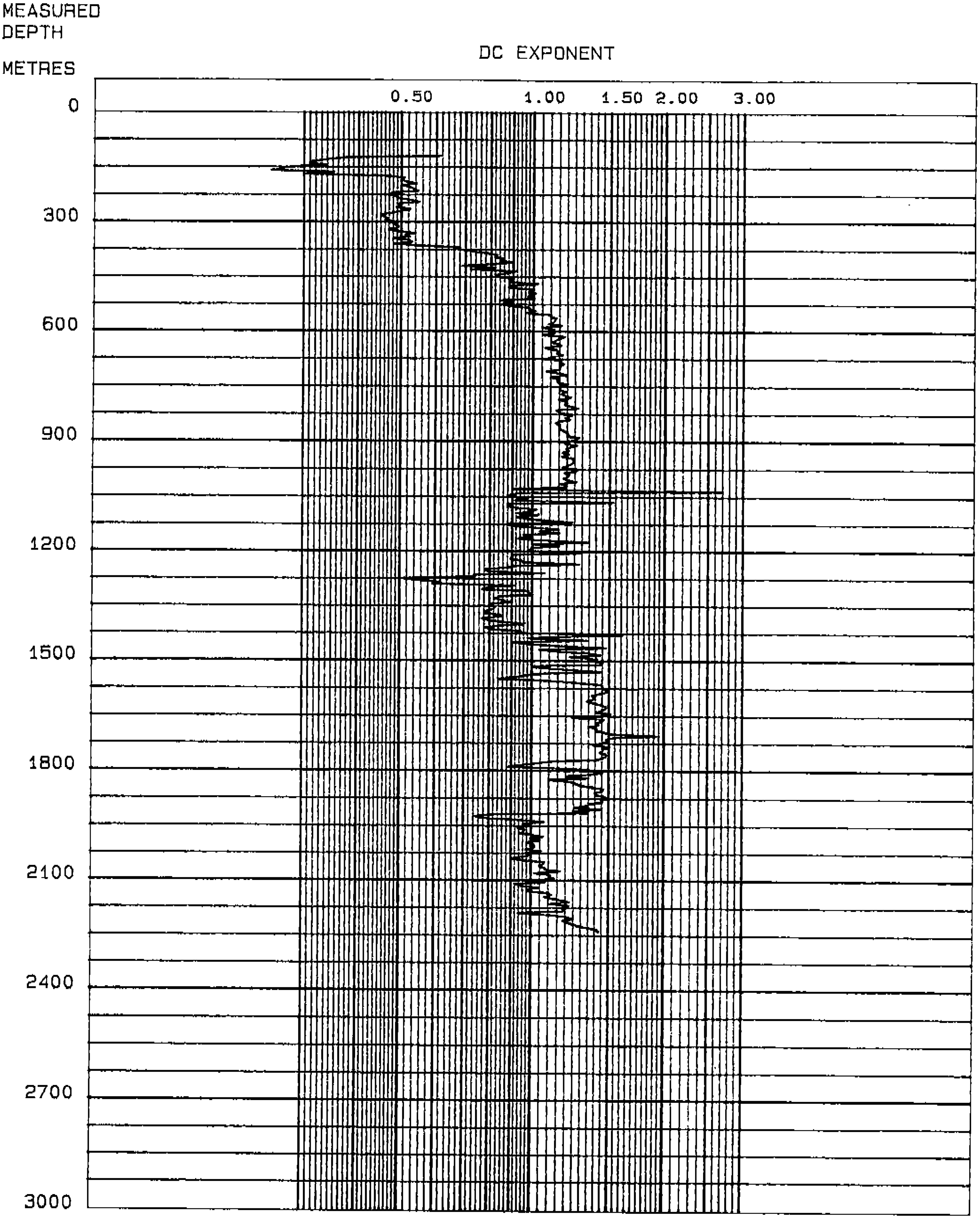
Longtom-1ST

Sidetrack Depth Interval 2125m to TD 2445m	
Lithology. sandstone, siltstone, claystone.	
Observations	**Remarks**
Corrected Drilling Exponent. Very Erratic trend, interbedded Sandstone, siltstone and Claystone. Cutback trend, 0.95 to 0.7, dropping angle to TD.	Dxc became unsuitable for analysis where Sandstone encountered. Trend appears to show a pore pressure increase- varying lithology unsuitable to interpret as an increase. From 2125m, over Claystone sections, it can be seen that the pore pressure could be increasing to over 1.1sg with Eaton Overlay.
Background Gas Erratic levels again 0.15% to over 10% at 2175m and 7-10% at 2330-2370m. Claystone gas backgrounds low and steady. High over Sandstone. A general increase 2130m-2230m (0.17% to 1.5%) **Connection gas peaks**	Erratic levels again, due to lithological changes. The gas levels over this interval indicative of abnormal pressure conditions.
Flowline Temperature Flowline temperature over this interval shows a gradually increasing trend with depth until	Large mud additions, transfers and bit trips. and mixing severely affecting trend. A case for a overpressured zone underlying 2350m can be seen from lower gradient trend 1975m to 2350m
Cuttings Rare to trace splintery, propeller shaped cavings were seen in the cuttings. Bulk density readings not suitable for formation.	Cavings seen in the cuttings were not considered to be related to high abnormal pore pressure/hole instability, but were evidence for increasing pore pressure anyway
Other Data Tight hole on bit trip from 1553m for first 7 stands thru intrbd sst/sltst. No wireline data to present any overpressure interpretation. Problems with logging tools and wiper trips suggest either a higher estimated pore pressure or stress release, from nearby fault zone crossed up higher in LONGTOM-1	
Conclusions Above data and interpretations suggest am increase in bottom hole pore pressure from 2150m, over "gas prone" ? sand intervals. Maximum estimated pore pressure 1.07-1.1 sg.	

DC EXPONENT PLOT

Operator: BHPP

Well number: LONGTOM-1

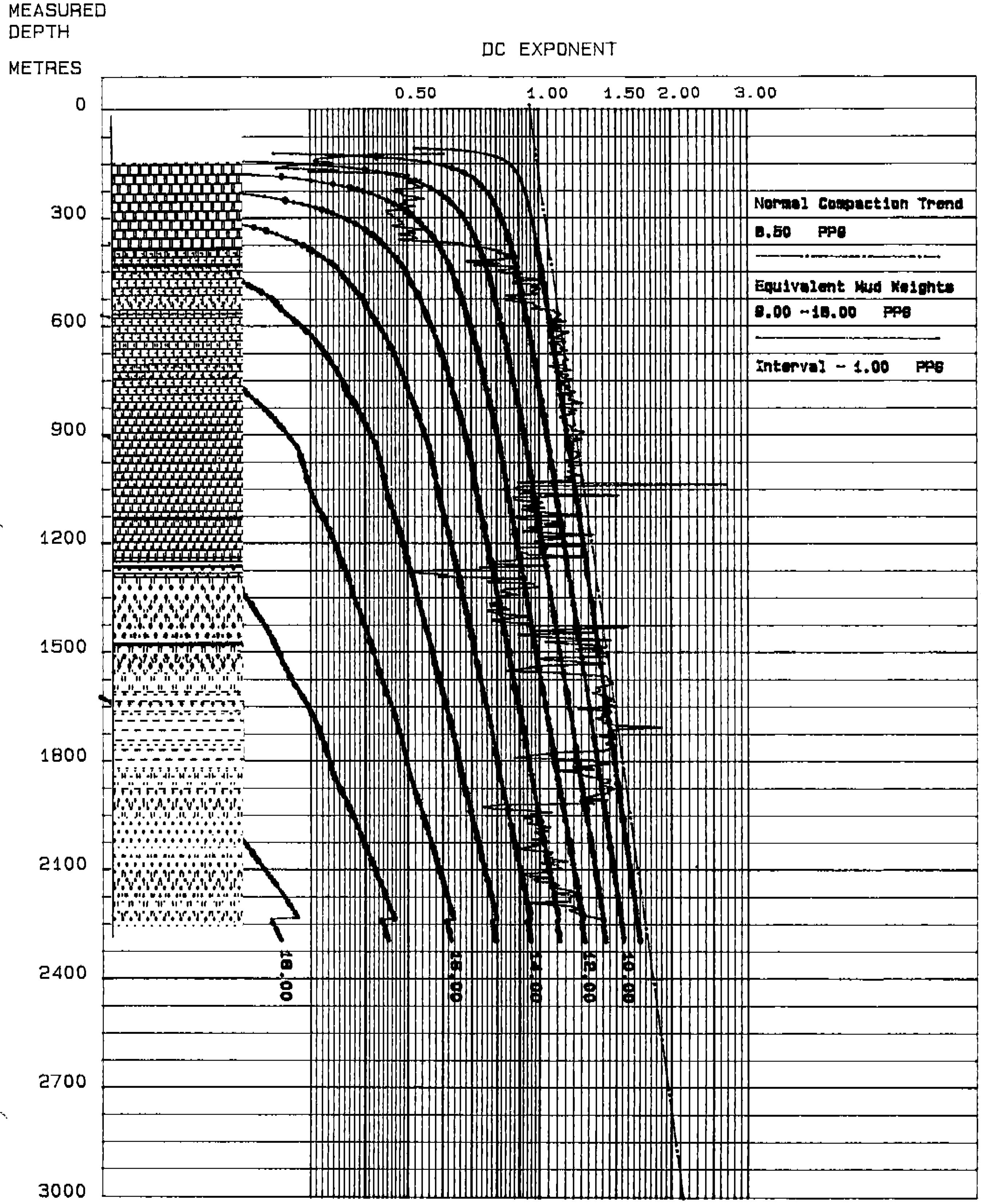


DEPTH SCALE = 1 : 15000

DC EXPONENT PLOT

Operator: BHPP

Well number: LONGTOM-1



DEPTH SCALE = 1 : 15000

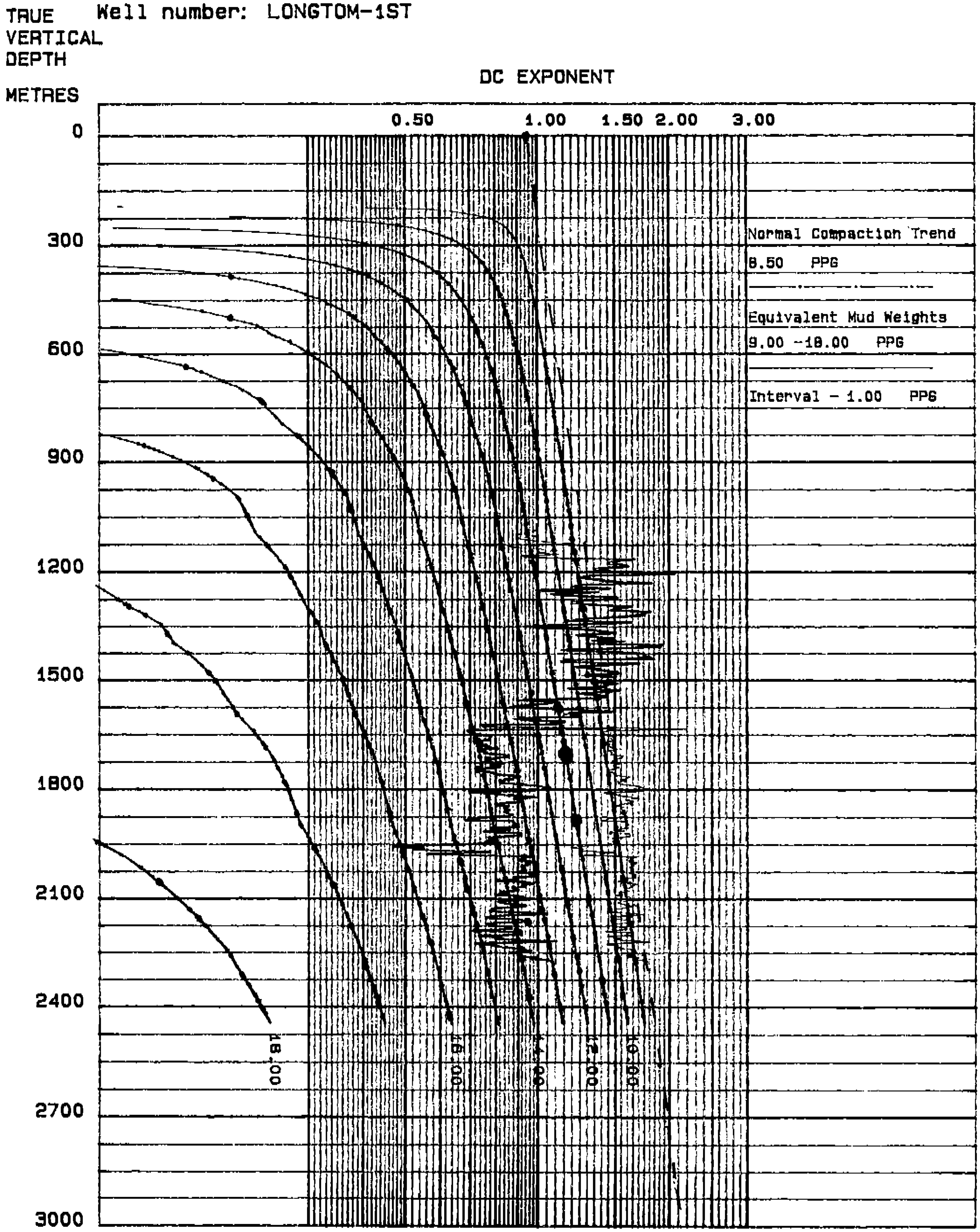
Dxc plots
LONGTOM-1ST Dxc plot against TVD with Eaton Overlay has a shifted Dxc plot of certain bitruns, so it can be compared to LONGTOM-1.

HALLIBURTON

DC EXPONENT PLOT

Operator: BHPP

Well number: LONGTOM-1ST



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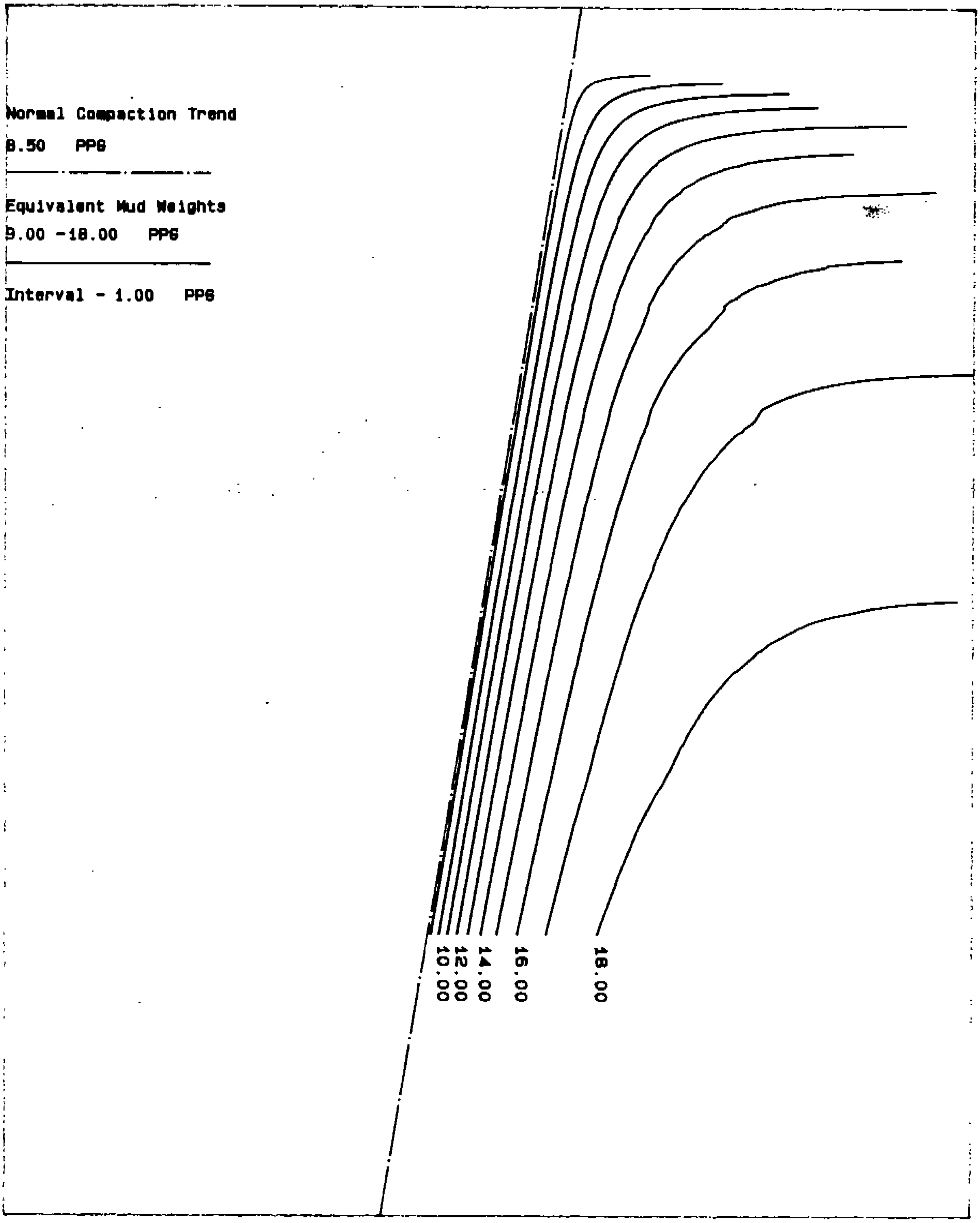
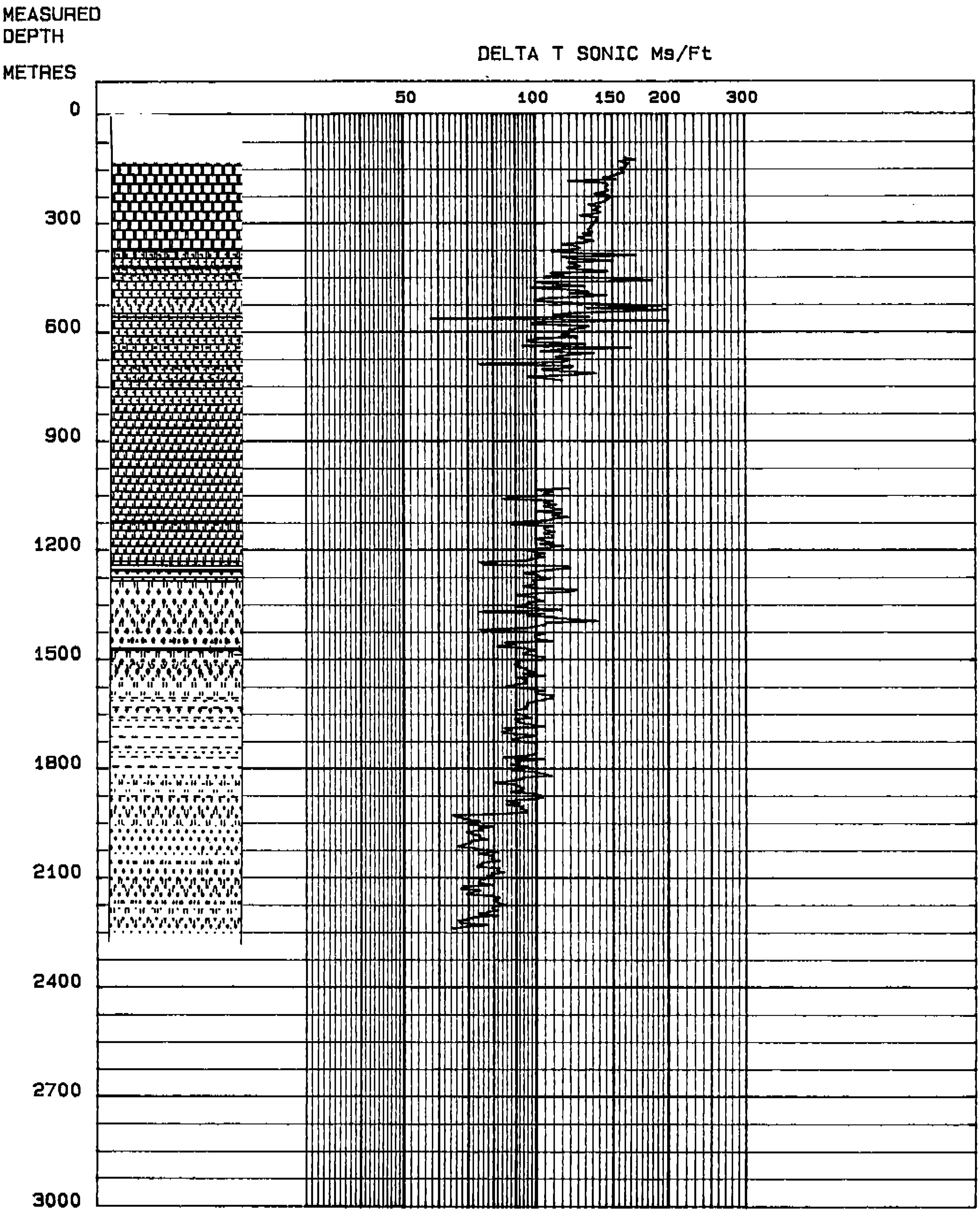

Normal Compaction Trend
8.50 PPG
Equivalent Mud Weights
9.00 -18.00 PPG
Interval - 1.00 PPG
10.00
12.00
14.00
16.00
18.00

HALLIBURTON

DELTA T SONIC PLOT

Operator: BHPP

Well number: LONGTOM-1

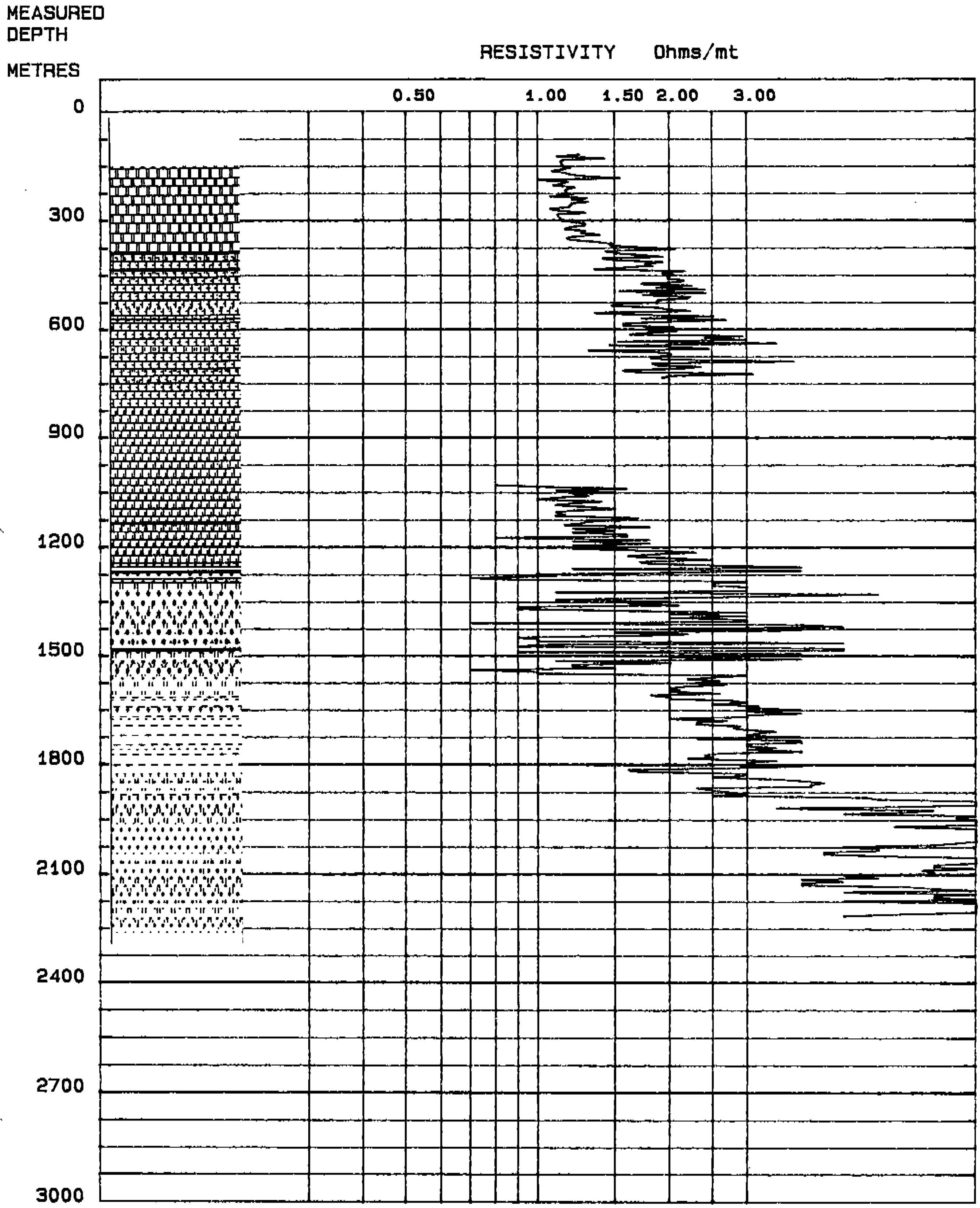


DEPTH SCALE = 1 : 15000

RESISTIVITY PLOT

Operator: BHPP

Well number: LONGTOM-1

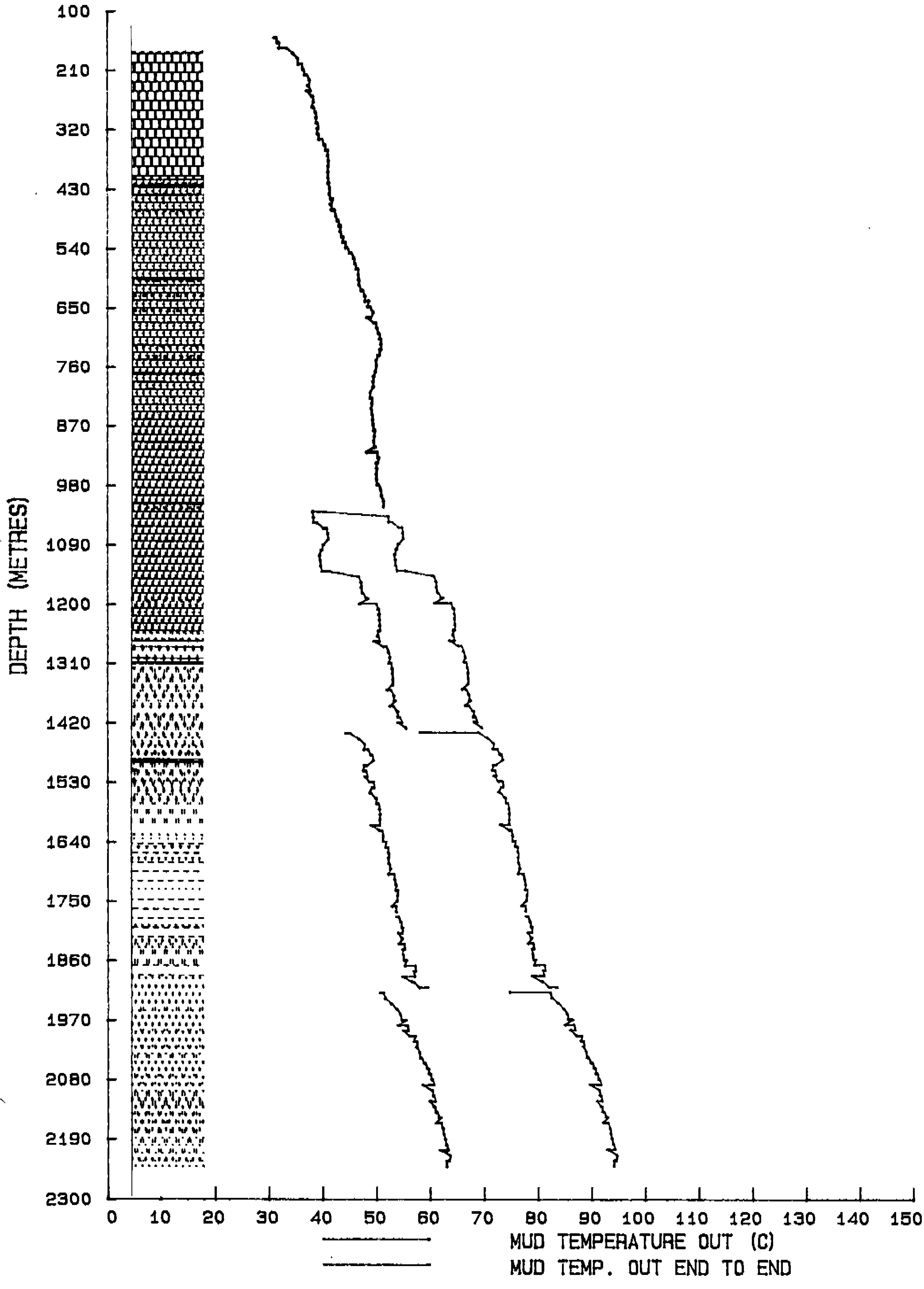


DEPTH SCALE = 1 : 15000

HALLIBURTON

FLOWLINE TEMPERATURE PLOT.

Operator: BHPP   Well No: LONGTOM 1

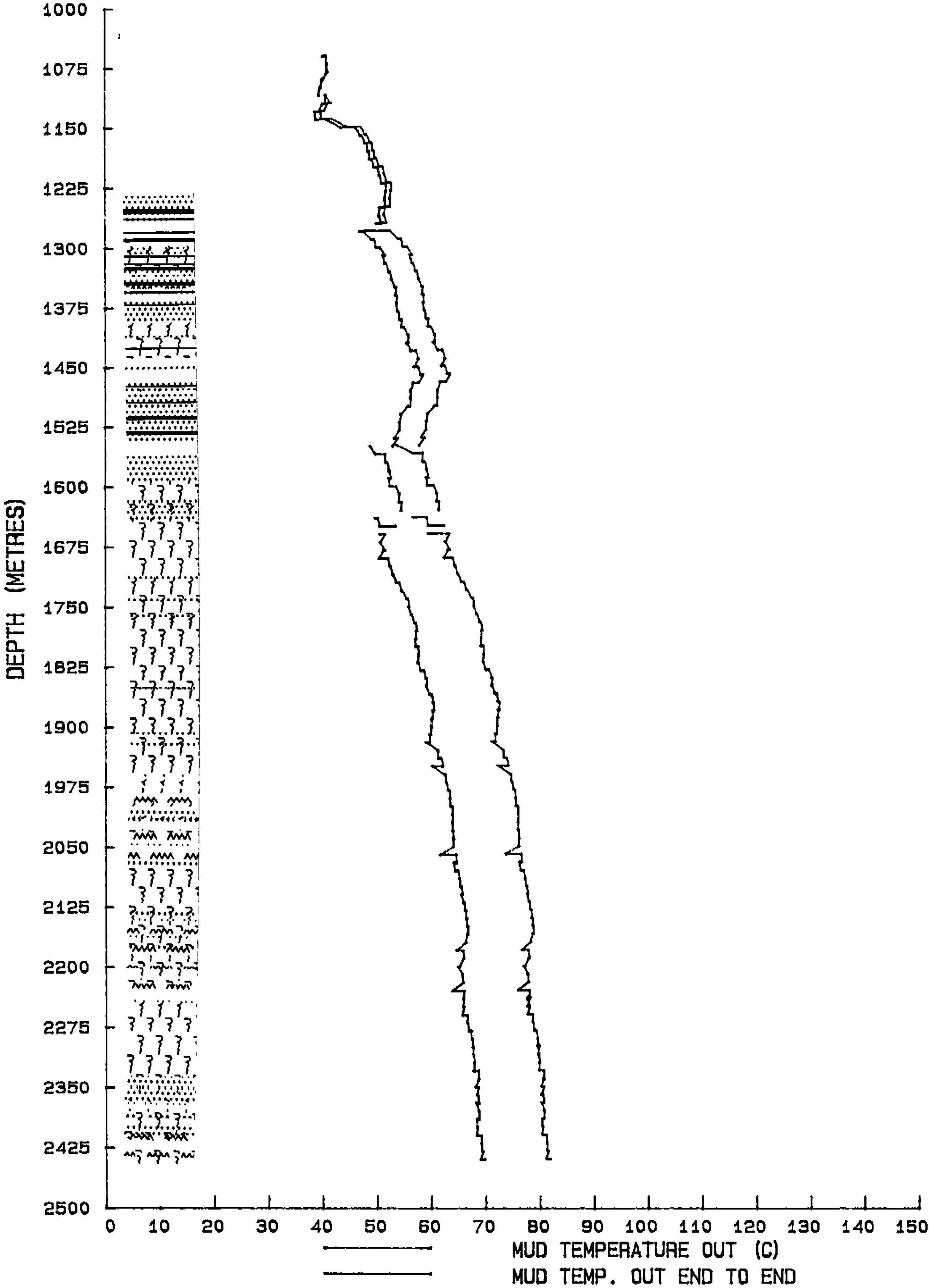


H A L L I B U R T O N

FLOWLINE TEMPERATURE PLOT.

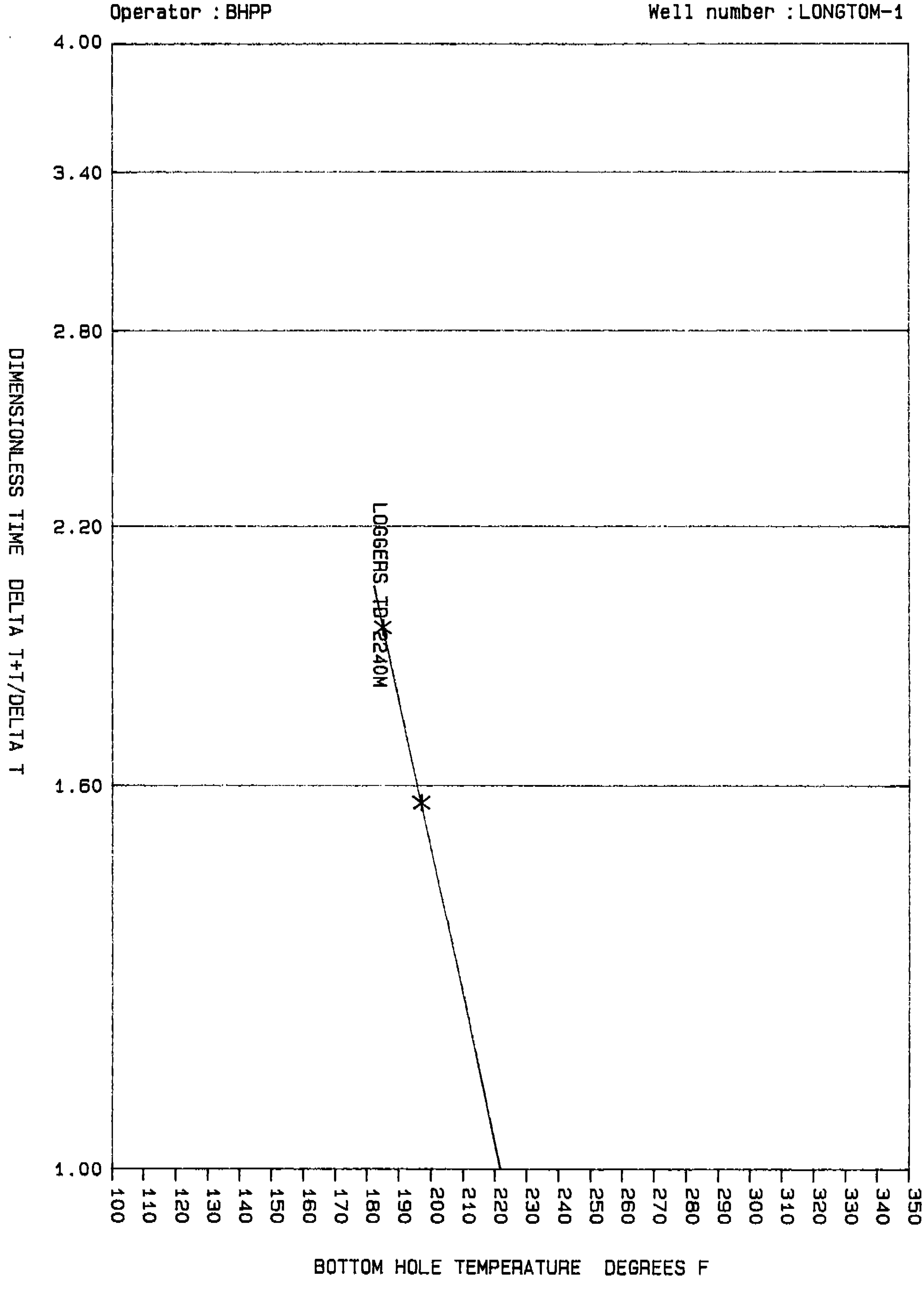
Operator: BHPP

Well No: LONGTOM 1 ST



H A L L I B U R T O N

HORNER TEMPERATURE PLOT



3.4 OTHER DATA

Leak Off data

1025m 1.75sg or 12.4ppg Equivalent Mud Weight

Longtom-1 Horner Plot.

Bottom hole Temperature Calculated from ELOG data

DEPTH M	MAX TEMP F	MAX TEMP C	DELTA TIME	CIRC TIME	HORNER VALUE
2240	185°	85°	10.50	10.00	1.952
2240	197°	92°	17.50	10.00	1.571

Bottom hole temperature estimated from Horner Plot: 221°F, 105.3°C

RFT data points

Test	Depth	TVD	Equiv SG
1	1797.06	1797.06	1.047
2	1812.05	1812.05	1.055
5	1900.06	1900.06	1.165
3	1815.08	1815.08	1.044
4	1829.07	1829.07	1.049
9	1908.46	1908.46	1.171
10	1904.58	1904.58	1.163
12	1911.58	1911.58	1.165
23	1893.07	1893.07	1.170

4.1 FORMAT OF THE DRILLING PARAMETER LOG

The Log is plotted at 1:500 from 75m to 2375m TD
The Drilling Parameter Log is divided into 9 tracks

Track (1)	Weight On Bit 0-100 kilo lbs left to right Bit Revolutions Per Minute 0-300 left to right Torque 0-400 Amps left to right
Track (2)	Rate Of Penetration 0-100 m/hr from right to left
Track (4)	Depth and Casing Shoes
Track (5)	Lithology %
Track (6)	Mud flow in 0-1500 gpm Stand pipe pressure 0-3500 psi
Track (7)	Total gas 0.001-10% Trip gas 0.001-10% Connection gas 0.001-10%
Track (8)	Mud weight in 1-1.2 SG Mud weight out 1-1.2 SG Equivalent circulating density 1-1.2 SG
Track (9)	Text. Bit data, Mud data etc

4.2 BOTTOM HOLE ASSEMBLIES

SECTION 4 DRILLING AND ENGINEERING DATA

LONGTOM-1 BOTTOM HOLE ASSEMBLY RECORD

BHA No. 1, 12 May 95

Bit No. 1 26" STC S3S, s/n 622044, Jets 3x28 + 28" ANDER-OPENER (Drill from spud to 116.5m)

Description	Length	Total Length	I.D.	O.D.
Bit - 26"	0.57	0.57		26.00
Hole Opener - 28"	1.60	2.17	2.00	28.00
Float Sub	1.10	3.34	3.00	9-1/2
Anderdrift	2.3	5.57	3.00	9-1/2
Drill Collar - 9.5"	9.33	14.90	3.00	9-1/2
Roller Reamer 12-1/4"	2.27	17.17	3-1/16	12-1/4
Drill Collar - 9.5"	9.15	26.32	2-15/16	9-3/8
Roller Reamer 17-1/2"	2.31	28.63	3-1/16	17-1/2
Cross Over [X/O]	0.93	29.56	2-15/16	9-5/8
8" Drill Collar [DC]	8.91	38.47	3.00	7-7/8
8" DC	8.85	47.32	3-1/8	7-13/16
8" DC	8.75	56.07	3-1/8	7-15/16
8" DC	8.98	65.05	3-1/8	7-7/8
8" DC	8.57	73.32	2-15/16	7-13/16
X/O	0.92	74.54	2-7/8	7-13/16
7x Heavy Wall Drill Pipe [HWDP]	64.44	138.98	3.00	5.00
	total	138.98		

Total BHA Weight -N/A Weight Below Jars - No Jars.

BHA No. 2, 14 May 95

HTC MAX T00, 17.5", s/n W86BC, Jets 28,28,22 (Drill from 116.5 to 171m)

Description	Length	Total Length	I.D.	O.D.
Bit - 17-1/2"	.43	.43		17-1/2
Float Sub	1.10	1.53	3.00	9-1/2
Anderdrift	2.3	3.83	3.00	9-1/2
Drill Collar - 9.5"	9.33	13.16	3.00	9-1/2
Roller Reamer 12-1/4"	2.27	15.43	3-1/16	12-1/4
Drill Collar - 9.5"	9.15	24.58	2-15/16	9-3/8
Roller Reamer 17-1/2"	2.31	26.89	3-1/16	17-1/2
X/O	0.93	27.82	2-15/16	9-5/8
8" DC	8.91	36.73	3.00	7-7/8
8" DC	8.85	45.58	3-1/8	7-13/16
8" DC	8.75	54.33		7-15/16
8" DC	9.01	63.34	2-15/16	7-11/16
8" DC	9.13	72.47	3-1/8	7-13/16
8" DC	8.98	81.45	3-1/8	7-7/8
8" DC	8.57	90.02	2-15/16	7-13/16
X/O	0.92	90.94	2-7/8	7-13/16
	total	90.94		

Total BHA Weight - 35,000lbs

Weight Below Jars - No Jars

BHA No. 3 , 14 May 95

Bit No. 2 HTC MAX T00, s/n W86BC, 17.5", Jets 28,28,22 (Drill from 171m to 1025m)

Description	Length	Total Length	I.D.	O.D.
Bit - 17-1/2"	.43	.43		17-1/2
Float Sub	1.10	1.53	3.00	9-1/2
Anderdrift	2.3	3.83	3.00	9-1/2
Drill Collar - 9.5"	9.33	13.16	3.00	9-1/2
Roller Reamer 12-1/4"	2.27	15.43	3-1/16	12-1/4
Drill Collar - 9.5"	9.15	24.58	2-15/16	9-3/8
Roller Reamer 17-1/2"	2.31	26.89	3-1/16	17-1/2
X/O	0.93	27.82	2-15/16	9-5/8
8" DC	8.91	36.73	3.00	7-7/8
8" DC	8.85	45.58	3-1/8	7-13/16
8" DC	8.75	54.33	3-1/8	7-15/16
8" DC	9.01	63.34	2-15/16	7-11/16
8" DC	9.13	72.47	3-1/8	7-13/16
8" DC	8.98	81.45	3-1/8	7-7/8
8" DC	8.57	90.02	2-15/16	7-13/16
Jars	9.68	99.70	3.00	8.00
8" DC	8.85	108.53	3-1/16	7-3/4
8" DC	9.34	117.89	2-7/8	8.00
8" DC	8.73	126.62	3.00	8.00
Accelerator	6.22	132.84	3.00	8.00
X/O	0.92	133.76	2-7/8	7-13/16
1 x HWDP	9.22	142.98	3.00	5.00
DIDS	0.69	143.67	3.00	6-3/8
11 x HWDP	101.56	245.13	3.00	5.00
	total	245.13		

Total BHA Weight -60,000lbs Weight Below Jars - 35,000lbs

BHA No. 4 , 16 May 95

HTC MAX T00, s/n W86BC, 17.5", Jets 28,28,22, (Wiper trip)

Description	Length	Total Length	I.D.	O.D.
Bit - 17-1/2"	.43	.43		17-1/2
Float Sub	1.10	1.53	3.00	9-1/2
Anderdrift	2.3	3.83	3.00	9-1/2
Drill Collar - 9.5"	9.33	13.16	3.00	9-1/2
Roller Reamer 12-1/4"	2.27	15.43	3-1/16	12-1/4
Drill Collar - 9.5"	9.15	24.58	2-15/16	9-3/8
Roller Reamer 17-1/2"	2.31	26.89	3-1/16	17-1/2
X/O	0.93	27.82	2-15/16	9-5/8
8" DC	8.91	36.73	3.00	7-7/8
8" DC	8.85	45.58	3-1/8	7-13/16
8" DC	8.75	54.33	3-1/8	7-15/16
8" DC	9.01	63.34	2-15/16	7-11/16
8" DC	9.13	72.47	3-1/8	7-13/16
8" DC	8.98	81.45	3-1/8	7-7/8
8" DC	8.57	90.02	2-15/16	7-13/16
Jars	9.68	99.70	3.00	8.00
8" DC	8.85	108.53	3-1/16	7-3/4
8" DC	9.34	117.89	2-7/8	8.00
8" DC	8.73	126.62	3.00	8.00
Accelerator	6.22	132.84	3.00	8.00
X/O	0.92	133.76	2-7/8	7-13/16
1 x HWDP	9.22	142.98	3.00	5.00
DIDS	0.69	143.67	3.00	6-3/8
11 x hwdp	101.56	245.13	3.00	5.00
	total	245.13		

Total BHA Weight -60,000lbs   Weight Below Jars - 35,000lbs

BHA No. 5, 18 May 95

Bit No. 3, 12-1/4" HYCALOG DS34HG, s/n15820, Jets 7x13 (Drill from 1025m to 1034m)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.29	0.29		12-1/4
Bit Sub	1.17	1.46	3.00	9-1/2
Anderdrift	2.30	3.76	3.00	9-1/2
Drill Collar - 9.5"	9.33	13.09	3.00	9-1/2
Roller Reamer 12-1/4"	2.32	15.40	3-1/16	12-1/4
Drill Collar - 9.5"	9.15	24.55	2-15/16	9-3/8
Roller Reamer 12-1/4"	2.32	26.87	3-1/16	17-1/2
X/O	0.93	27.80	2-15/16	9-5/8
8" DC	8.91	36.71	3.00	7-7/8
8" DC	8.85	45.56	3-1/8	7-13/16
8" DC	8.75	54.31	3-1/8	7-15/16
8" DC	9.01	63.32	2-15/16	7-11/16
8" DC	9.13	72.45	3-1/8	7-13/16
8" DC	8.98	81.43	3-1/8	7-7/8
8" DC	8.57	90.00	2-15/16	7-13/16
Jars	9.68	99.68	3.00	8.00
8" DC	8.85	108.53	3-1/16	7-3/4
8" DC	9.34	117.87	2-7/8	8.00
8" DC	8.73	126.60	3.00	8.00
X/O	0.92	127.52	2-7/8	7-13/16
1 x HWDP	9.22	136.74	3.00	5.00
DIDS	0.69	137.43	3.00	6-3/8
14 x HWDP	128.89	266.32	3.00	5.00
	total	266.32		

Total BHA Weight -70,000lbs Weight Below Jars - 40,000lbs

BHA No. 6, 19 May 95

Bit No. 4, 12-1/4" HYCALOG DS34HSF, s/n 14744, Jets 5x14 (Drill from 1034 to 1438m)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.29	0.29		12-1/4
Bit Sub	1.17	1.46	3.00	9-1/2
Anderdrift	2.32	3.76	3.00	9-1/2
Roller Reamer 12-1/4"	2.30	15.40	3-1/16	12-1/4
Drill Collar - 9.5"	9.33	13.09	3.00	9-1/2
Drill Collar - 9.5"	9.15	24.55	2-15/16	9-3/8
Roller Reamer 12-1/4"	2.32	26.87	3-1/16	17-1/2
X/O	0.93	27.80	2-15/16	9-5/8
8" DC	8.91	36.71	3.00	7-7/8
8" DC	8.85	45.56	3-1/8	7-13/16
8" DC	8.75	54.31	3-1/8	7-15/16
8" DC	9.01	63.32	2-15/16	7-11/16
8" DC	9.13	72.45	3-1/8	7-13/16
8" DC	8.98	81.43	3-1/8	7-7/8
8" DC	8.57	90.00	2-15/16	7-13/16
Jars	9.68	99.68	3.00	8.00
8" DC	8.85	108.53	3-1/16	7-3/4
8" DC	9.34	117.87	2-7/8	8.00
8" DC	8.73	126.60	3.00	8.00
X/O	0.92	127.52	2-7/8	7-13/16
1 x HWDP	9.22	136.74	3.00	5.00
DIDS	0.69	137.43	3.00	6-3/8
14 x HWDP	128.89	266.32	3.00	5.00
	total	266.32		

Total BHA Weight -70,000lbs Weight Below Jars - 40,000lbs

BHA No. 7, 20 May 95

Bit No. 5, 12-1/4" HTC ATM22GD, s/n X45BG, Jets 3x16 (Drill 1438m to 1915m)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4
Near Bit R/Reamer	2.40	2.70	3.00	9-1/2
Shock Sub	4.24	6.94	3.00	9-1/2
Roller Reamer 12-1/4"	2.32	9.26	3-1/16	12-1/4
Drill Collar - 9.5"	9.33	18.59	2-15/16	9-3/8
Roller Reamer 12-1/4"	2.31	20.90	3-1/16	17-1/2
Drill Collar - 9.5"	9.15	30.05	3.00	9-1/2
X/O	0.93	30.98	2-15/16	9-5/8
8" DC	8.91	39.98	3.00	7-7/8
8" DC	8.85	48.74	3-1/8	7-13/16
8" DC	8.75	57.49	3-1/8	7-15/16
8" DC	9.01	66.50	2-15/16	7-11/16
8" DC	9.13	75.63	3-1/8	7-13/16
8" DC	8.98	84.61	3-1/8	7-7/8
8" DC	9.01	93.62	2-7/8	8.00
8" DC	9.04	102.66	2-13/16	7-13/16
8" DC	9.46	112.12	2-7/8	8.00
8" DC	9.06	121.18	2-13/16	7-7/8
8" DC	8.75	129.93	2-7/8	7-13/16
8" DC	8.57	138.50	2-15/16	7-13/16
Jars	9.68	148.18	3.00	8.00
8" DC	8.85	157.08	3-1/16	7-3/4
8" DC	9.34	166.37	2-7/8	8.00
8" DC	8.73	175.10	3.00	8.00
X/O	0.92	176.02	2-7/8	7-13/16
1 x HWDP	9.22	185.24	3.00	5.00
DIDS	0.69	185.93	3.00	6-3/8
14 x HWDP	128.89	314.82	3.00	5.00
	total	314.82		

Total BHA Weight -80,000lbs   Weight Below Jars - 60,000lbs

BHA No. 8, 20 May 95

Bit No. 3RR 12-1/4" HYCALOG DS34HG, s/n 15820, Jets 7x12 (Drill 1915m to 2242m)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.29	0.29		12-1/4
Near Bit R/Reamer	2.40	2.69	3.00	9-1/2
Pony 9.5" DC	3.68	6.37	3.00	9-1/2
Roller Reamer 12-1/4"	2.32	8.69	3-1/16	12-1/4
Drill Collar - 9.5"	9.33	18.02	2-15/16	9-3/8
Roller Reamer 12-1/4"	2.31	20.33	3-1/16	17-1/2
Drill Collar - 9.5"	9.15	29.48	3.00	9.50
X/O	0.93	30.41	2-15/16	9-5/8
8" DC	8.91	29.32	3.00	7-7/8
8" DC	8.85	48.17	3-1/8	7-13/16
8" DC	8.75	56.92	3-1/8	7-15/16
8" DC	9.06	65.98	2-13/16	7-7/8
8" DC	8.75	74.73	2-7/8	7-13/16
8" DC	8.57	83.30	2-15/16	7-13/16
Jars	9.68	92.98	3.00	8.00
8" DC	8.85	101.83	3-1/16	7-3/4
8" DC	9.34	111.17	2-7/8	8.00
8" DC	8.73	119.90	3.00	8.00
X/O	0.92	120.82	2-7/8	7-13/16
1 x HWDP	9.22	130.04	3.00	5.00
DIDS	0.69	130.73	3.00	6-3/8
14 x HWDP	128.89	259.62	3.00	5.00
	total	259.62		

Total BHA Weight -60,000lbs   Weight Below Jars - 40,000lbs

LONGTOM-1ST BOTTOM HOLE ASSEMBLY RECORD

BHA No. 9, 27 May 95

KICKOFF/STEERING ASSEMBLY,
Bit No. 6, 12-1/4" HTC ATMG3, s/n C66CA, Jets 3x20

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4
Mud Motor	8.13	8.43		10-1/4
X/O	0.69	9.12	3.00	8 00
Pony 8" DC	3.68	11.47	3.00	8.00
12-1/8" Stabiliser	1.67	13.14	3-7/16	8-1/16
MWD	6.48	19.62		8-1/4
Monel DC	8.32	27.91	2-7/8	7-3/4
X/O	0.92	28.86	2-7/8	7-13/16
1 x HWDP	9.22	38.08	3.00	5.00
DIDS	0.69	38.77	3.00	6-3/8
17 x HWDP	157.30	196.07	3.00	5.00
6-1/2" Jars	9.92	205.99	3.00	6-1/2
6 x HWDP	54.38	260.37	3.00	5.00
	total	260.37		

Total BHA Weight -42,000lbs Weight Below Jars -32,000

BHA No.10, 30 May 95,

STEERING ASSEMBLY,
Bit No. 7, 12-1/4", REED MHP13G, Jets 3 x 20

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4
Mud Motor	8.13	8.47		10-1/4
X/O	0.69	9.16	3.00	8.00
MWD	6.48	15.64		8-1/4
Monel DC	9.18	24.82	3.00	8.00
Monel DC	8.32	33.14	2-7/8	7-3/4
X/O	0.92	34.06	2-7/8	7-13/16
1 x HWDP	9.22	43.28	3.00	5.00
DIDS	0.69	43.97	3.00	6-3/8
23 HWDP	212.41	256.38	3.00	5.00
6-1/2" Jars	9.92	266.30	3.00	6-1/2
6 x HWDP	54.38	320.68	3.00	5.00
	total	320.68		

Total BHA Weight -49,000lbs   Weight Below Jars -40,000

BHA No. 11, 1 JUNE 95

PACKED HOLE ROTATING DRILLING ASSEMBLY,
Bit No. 8, 12-1/4", HTC ATM22GD, Jets 3 x 20

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4
NB Roller Reamer	2.29	2.59		10-1/4
Pony DC	2.34	4.93	3.00	8.00
Pony DC	1.56	6.49	3.00	8.00
Spiral blade Stab 12-1/8	1.86	8.17		12-1/8
MWD	6.48	14.65		8-1/4
Spiral blade Stab 12-1/8	1.78	16.43		12-1/8
Monel DC	9.18	25.61	3.00	8.00
Monel DC	8.32	33.93	2-7/8	7-3/4
X/O	0.92	34.85	2-7/8	7-13/16
1 x HWDP	9.22	44.07	3.00	5.00
DIDS	0.69	44.76	3.00	6-3/8
23 HWDP	212.41	257.17	3.00	5.00
6-1/2" Jars	9.92	267.09	3.00	6-1/2
6 x HWDP	54.38	321.47	3.00	5.00
	total	321.47		

Total BHA Weight -46,000lbs   Weight Below Jars -38,000

BHA No. 12, 2 JUNE 95

ANGLE BUILDING ROTATING DRILLING ASSEMBLY,
Bit No. 9, 12-1/4", HYCALOG DS34H, s/n 13507 Jets 5 x 15

DESCRIPTION	LENGTH	TOTAL LENGTH	I.D.	O.D.
BIT - 12-1/4"	0.30	0.30		12-1/4
NB ROLLER REAMER	2.29	2.59		10-1/4
MWD	6.48	9.07		8-1/4
MONEL DC	9.18	18.25	3.00	8.00
MONEL DC	8.32	26.57	2-7/8	7-3/4
STAB 12-1/8	1.78	28.35	3.00	12 -1/8
X/O	0.92	29.27	2-7/8	7-13/16
1 X HWDP	9.22	38.49	3.00	5.00
DIDS	0.69	39.18	3.00	6-3/8
20 HWDP	184.69	223.87	3.00	5.00
6-1/2" JARS	9.92	233.79	3.00	6-1/2
6 X HWDP	54.38	288.17	3.00	5 00
	TOTAL	288.17		

Total BHA Weight -40,000lbs Weight Below Jars -35,000

BHA No. 13, 3 JUNE 95

ANGLE BUILDING ROTATING DRILLING ASSEMBLY,
Bit No. 9RR, 12-1/4", HYCALOG DS34H, Jets 3 x 15, 3 x 16

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4
NB Roller Reamer	2.29	2.59		10-1/4
MWD	6.48	9.07		8-1/4
Monel DC	9.18	18.25	3.00	8.00
Stab 12-1/8	1.78	20.05	3.00	12.-1/8
Monel DC	8.32	28.35	2-7/8	7-3/4
X/O	0.92	29.27	2-7/8	7-13/16
1 x HWDP	9.22	38.49	3.00	5.00
DIDS	0.69	39.18	3.00	6-3/8
20 HWDP	184.69	223.87	3.00	5.00
6-1/2" Jars	9.92	233.79	3.00	6-1/2
6 x HWDP	54.38	288.17	3.00	5.00
	total	288.17		

Total BHA Weight -40,000lbs Weight Below Jars -35,000

BHA No. 14, 6 JUNE 95

12-1/4", HTC ATM22GD, s/n VS2BR, Jets 3 x 18 (Wiper Trip)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4
NB Roller Reamer	2.29	2.59	2-13/16	8.00
8"DC	9.01	11.60	2-15/16	7-11/16
8"DC	9.13	20.73	3.00	7-13/16
12-1/4" Roller Reamer	2.32	23.05	3.00	8.00
8"DC	8.57	31.62	2-7/8	7-13/16
X/O	0.92	32.54	2-7/8	7-13/16
1 x HWDP	9.22	41.76	3.00	5.00
DIDS	0.69	42.45	3.00	6-3/8
20 HWDP	184.69	227.14	3.00	5.00
6-1/2" Jars	9.92	237.06	3.00	6-1/2
6 x HWDP	54.38	291.44	3.00	5.00
	total	291.44		

Total BHA Weight -46,000lbs Weight Below Jars -40,000

BHA No. 15, 7 JUNE 95
12-1/4", HTC ATM22GD, s/n VS2BR, Jets 3 x 24 (Wiper Trip)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4"
NB Roller Reamer	2.32	2.62	2-13/16	8.00
8"DC	9.01	11.63	2-15/16	7-11/16
8"DC	9.13	20.76	3.00	7-13/16
8"DC	8.57	29.33	2-15/16	7-13/16
X/O	0.92	30.25	2-7/8	7-13/16
1 x HWDP	9.22	39.47	3.00	5.00
DIDS	0.69	40.16	3.00	6-3/8
20 HWDP	184.69	224.85	3.00	5.00
6-1/2" Jars	9.92	234.77	3.00	6-1/2
6 x HWDP	54.38	289.15	3.00	5.00
	total	289.15		

Total BHA Weight -46,000lbs   Weight Below Jars -40,000

BHA No. 16, 9 JUNE 95

12-1/4", HTC ATM22GD, s/n VS2BR, Jets 3 x 24 (LWD - Logging Run)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4
NB Roller Reamer	2.32	2.62	3.00	8.00
X/O	0.32	2.94	3-1/2	8-1/16
LWD	6.19	9.13		8-1/8
X/O	0.34	9.47	2-15/16	8-1/8
8"DC	9.01	18.48	2-15/16	7-11/16
8"DC	9.13	27.61	3.00	7-13/16
12-1/4" Spiral Stab.	1.78	29.39		12-1/4
8"DC	8.57	37.96	2-15/16	7-13/16
X/O	0.92	38.88	2-7/8	7-13/16
1 x HWDP	9.22	48.10	3.00	5.00
DIDS	0.69	48.79	3.00	6-3/8
20 HWDP	184.69	233.48	3.00	5.00
6-1/2" Jars	9.92	243.40	3.00	6-1/2
6 x HWDP	54.38	297.78	3.00	5.00
	total	297.78		

Total BHA Weight -42,000lbs Weight Below Jars -38,000

4.5 MUD RECORD

Mud Company- Baroid
Mud Type- Flocculated seawater/Aquagel mud to 1025m; KCl /PHPA /Polymer mud to 2242m.
Data recorded as final mud check for the day from the Active Pit

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Date		12/5/95	13/5/95	14/5/95	15/5/95	16/5/95	17/5/95	18/5/95	19/5/95	20/5/95	21/5/95
Depth	m	85	117	255	953	1025	1025	1025	1133	1438	1628
Weight	SG	1.04	1.04	1.05	1.11	1.13	1.10	1.05	1.05	1.09	1.11
Funnel Visc.	sec/qt	100	41	40	37	36	32	66	40	41	44
Plastic Visc.	cP	20	5	11	6	6	2	15	7	16	13
Yield Point	lb/100 ft^2	82	19	21	23	18	9	19	16	14	18
Gels 10s/10m/30m	lb/100 ft^2	23/39/49	7/9/13	11/16/22	18/22/24	11/18/20	5/12/13	6/7/9	6/8/9	4/6/8	7/9/12
API Filtrate	ml/30min		NC	NC	NC	NC	NC	6.9	5.6	6.0	5.4
HPHT Filtrate	250^{0}F ml/30min								15.2	14.8	14.0
API/HPHT Filter Cake	32nd ins								-/1	1/2	1/2
Solids	%Vol		3.0	4.9	11.1	10.8	6.2	2.2	2.5	4.2	8.0
Dissolved Salts	%Vol		1.0	1.3	1.3	1.2	1.4	3.0	3.5	3.4	3.8
/ Water Content	%Vol		-/96.0	-/93.8	-/87.6	-/88.0	-/92.4	-/94.8	-/94.0	-/92.4	-/88.2
Sand	%Vol			0.8	0.1	0.2	0.2		TR	TR	0.2
Methylene Blue cap.	ppb		12	12	19	27	15	6	6	7	9
pH	metre	11.2	10.2	9.7	9.7	9.2	9.0	9.5	9.3	9.7	8.9
Alk. Mud pm	ml		2.00	1.70	0.55	0.40	0.65	0.22	0.20	0.28	0.13
Alk. Filtrate , Pf/Mf	ml		0.50/0.65	0.13/0.17	0.20/0.25	0.15/0.18	0.08/0.12	0.07/0.25	0.13/0.25	0.10/0.32	0.08/0.18
Chlorides	mg/Lx10^3		11.5	15.0	16.0	15.5	17.0	34.5	41.0	40.0	48.0
Total Hardness/Calcium	mg/L		-/720	-/800	-/920	-/1020	-/840	-/160	-/200	-/220	-/280
KCl	%Wt Soln.								7.2	6.0	6.8
PHPA Excess	ppb								60	60	30
Glycol	%								1.2	1	1.1
Low Grav. Solids	%Vol		3.9	7.4	16	13.5	7.0	3.2	4.1	5.3	11.5
n/K Ratio											
Rheometer	600 rpm / 300 rpm	122/102	29/24	43/32	35/29	30/24	13/11	49/34	30/23	46/30	44/31
lb/100 ft^2	200 rpm / 100 rpm	91/80	20/17	27/21	26/22	20/16	9/7	28/20	17/13	24/17	25/18
	6 rpm / 3 rpm	26/21	11/8	16/11	17/14	12/10	4/3	6/5	6/5	5/4	6/4

MUD RECORD

Date		22/5/95	23/5/95	24/5/95	25/5/95	26/5/95	27/5/95	28/5/95	29/05/95	30/5/95	31/5/95
Depth	m	1828	1988	2242	2242	2242	2242	1160	1253	1318	1455
Weight	SG	1.11	1.14	1.13	1.16	1.16	1.17	1.17	1.17	1.17	1.17
Funnel Visc	sec/qt	44	41	43	48	47	46	42	40	41	40
Plastic Visc.	cP	13	12	14	15	15	14	11	12	13	13
Yield Point	lb/100 ft^2	18	18	19	18	17	20	13	16	15	16
Gels	10sec/10min/30min	4/9/12	5/11/14	5/11/14	4/13/18	3/15/18	4/7/19	3/12/16	3/12/15	3/10/13	3/10/14
API Filtrate	ml/30min	5.4	5.0	5.1	4.4	4.6	5.2	8.0	6.6	6.2	6.8
HPHT Filtrate	250^{0}F ml/30min	14.0	14.8	15.2	15.8		16.2	32.0	25.2	24.0	25.2
API/HPHT Filter Cake	32nd ins	1/2	1/1	1/2	1/2	1/-	1/2	1/3	1/2	1/2	1/2
Solids	%Vol	8.0	7.8	6.7	7.0	7.2	7.4	7.6	7.5	7.1	7.3
Dissolved Salts	%Vol	3.8	3.4	4.1	4.5	4.3	3.6	3.9	4.0	3.9	4.2
/ Water Content	%Vol	-/88.2	-/88.8	-/89.2	-/88.5	-/88.5	-/89.0	-/88.5	-/88.5	-/89.0	-/88.5
Sand	%Vol	0.2	TR	TR	TR	TR	0.4	0.4	0.4	0.4	0.5
Methylene Blue cap.	ppb	9	8	6	8	8	8	6	8	8	8
pH	metre	8.9	9.0	9.4	10.0	9.5	8.0	10.9	10.5	10.0	9.2
Alk. Mud pm	ml	0.13	0.35	0.48	0.29	0.35	0.01	0.92	0.68	0.44	0.58
Alk. Filtrate , Pf/Mf	ml	0.08/0.18	0.07/0.13	0.06/0.14	0.10/0.96	0.10/0.35	-/0.10	0.12/1.70	0.05/0.24	0.04/0.22	0.4/0.14
Chlorides	mg/Lx10^3	48.0	41.5	50.0	56.0	54.0	45.0	49.0	50.0	48.0	52
Total Hardness/Calcium	mg/L	-/300	-/180	-/220	-/200	-/160	-/360	800/800	-/640	-/360	-/280
KCl	%Wt Soln.	5.4	6.5	7.0	7.5	7.2	7.2	6.3	6.0	6.1	6.3
PHPA Excess	ppb	10	1.1	1.2	1	1	0.9	0.75	1	1	20
Glycol	%										
Low Grav. Solids	%Vol	8.2	9.3	7.5	7	7.2	6.5	7.1	7.5	6.2	6.8
n/K Ratio											
Rheometer	600 rpm / 300 rpm	42/43	47/33	47/33	48/33	47/32	48/34	35/24	40/28	41/28	42/29
lb/100 ft^2	200 rpm / 100 rpm	24/17	26/19	27/19	26/18	27/19	28/19	19/13	23/16	23/16	24/17
	6 rpm / 3 rpm	6/4	6/5	6/5	5/4	5/4	6/4	5/4	6/4	5/4	5/4

4.1 BIT RECORD

WELL No.LONGTOM-1, LONGTOM-1ST OPERATOR -BHP PETROLEUM LOCATION BASS STRAIT, Gippsland Basin, Victoria, Australia. RIG - OCEAN BOUNTY		MUD TYPE Gel POLYMER KCL PUMPS 1,2,3 OILWELL A1700 PT. 6.5" LINER (36",26" & 17.5"), 6.0" LINER (12.25")

BHA	RUN	BIT	MAKE	TYPE	SIZE	JETS/ TFA	SERIAL	DEPTH IN (M)	MTRS ON BIT	HRS ON BTM	ROP M/Hr	TOTAL DRILL HRS	WOB klbs	RPM	KREVS	PUMP PRESS psi	GPM	GRADING							
																		I	O	L	D	B	G	O	R
1	1	1	STC	S3SJ	26 (28)	3x28	622044	81.25	35	0.9	40	0.9	10	70	4	1000	1040	1	1	WT	A	2	I	NO	TD
2	-	-	HTC	MAXT00	17.5	2x28,1x22	W86BC	Pick	Up	8"DCs															
3	2	2	HTC	MAXT00	17.5	2x28,1x22	W86BC	116.5	908.5	24.5	37	25.4	10	150	194	2600	1040	0	0	NO	A	E	I	NO	TD
4	-	-	HTC	MAXT00	17.5	2x28,1x22	W86BC	Wiper	Trip																
5	3	3	HYCALOG	DS34HG	12.25.	7x13	15820	1025	9	4.7	2	30.1	25	150	34	1800	1040	0	0	NO	A	X	I	BT	BO
6	4	4	HYCALOG	DS40HSF	12.25	5x14	14744	1034	464	18.6	25	18.7	0-10	170	178	3000	1030	3	2	WT	A	X	I	IBR	PR
7	5	5	HTC	ATM22DG	12.25	3x16	X45BG	1438	477	40.0	12	88.7	40	100	246	3000	777	1	1	WT	A	N	I	ER	PR
8	6	3RR	HYCALOG	DS34HG	12.25	7x12	15820	1915	327	26.4	12.4	115.1	20	150	119	3100	870	2	2	WTS	X	N	CT	ER	TD
SIDET RACK																									
9	7	6	HTC	ATMG3	12.25	3x20	C66CA	1108	167	29.6	5.2	144.7	32	154	198	2363	780	0	1	RG	G	N	1/16	O	BHA
10	8	7	REED	MHP13G	12.25	3x20	JE2406	1275	278	30.7	9.0	175.4	35	180	310	2680	840	4	7	RG	G	F	6	FC	TQ
11	9	8	HTC	ATM22GD	12.25	3x18	M2222	1553	86	6.6	13	182.0	30	110	42	2890	777	0	0	NO	A	E	O	NO	BHA
12	10	9	HYCALOG	DS34IJ	12.25	5x15	13507	1639	16	4.1	4	186.1	16	110	20	2940	840	0	0	NO	A	X	I	BU	PR
13	11	9RR	HYCALOG	DS34IJ	12.25	5x15	13507	1655	790	38.6	20.5	224.7	11	172	383	3030	859	0	0	NO	A	X	I	ER	TD
14	-	-	HTC	ATM22GD	12.25	3x18	V52BR	Wiper	Trip																
15	-	-	HTC	ATM22GD	12.25	3x24	V52BR	Wiper	Trip																
16	-	-	HTC	ATM22GD	12.25	3x24	V52BR	LWD	Run																

1. The BHA numbering follows that used by the Drilling Contractor.
2. The Bit numbering follows that used by the BHP Petroleum Bit Record.
3. ROP is averaged bit run length divided by rotating hours on bottom as recorded by the drill monitor.

MUD RECORD

Date		1/6/95	2/6/95	3/6/95	4/6/95	5/6/95					
Depth	m	1553	1639	1786	2173	2445 (TD)					
Weight	SG	1.17	1.17	1.19	1.20	1.19					
Funnel Visc.	sec/qt	39	40	41	50	70					
Plastic Visc.	cP	12	12	14	19	24					
Yield Point	lb/100 ft^2	16	17	17	20	11					
Gels	10sec/10min/30min	3/10/13	3/10/14	3/10/14	4/12/17	3/10/13					
API Filtrate	ml/30min	6.0	6.7	6.9	6.8	7.8					
HPHT Filtrate	250°F ml/30min	22	23.8	26.0	24.6	27.0					
API/HPHT Filter Cake	32nd ins	1/2	1/2	1/2	1/2	1/28					
Solids	%Vol	7.5	8.0	8.1	9.0	9.6					
Dissolved Salts	%Vol	4.0	4.0	3.9	4.0	3.4					
/ Water Content	%Vol	-/88.5	-/88.0	-/88.0	-/87.0	-/87.0					
Sand	%Vol	0.5	0.8	0.5	0.7	0.5					
Methylene Blue cap.	ppb	8	8	9	10	10					
pH	metre	9.4	9.1	9.3	9.2	9.2					
Alk. Mud pm	ml	0.58	0.46	0.49	0.56	0.54					
Alk. Filtrate . Pf/Mf	ml	0.06/0.16	0.03/0.16	0.04/0.16	0.06/0.15	0.07/0.18					
Chlorides	mg/Lx10^3	50	50.0	49.0	51.0	43.0					
Total Hardness/Calcium	mg/L	-/200	-/240	-/200	-/180	-/140					
KCl	%Wt Soln.	6.2	6.3	6.3	6.5	5.6					
PHPA Excess	ppb	1	0.9	1	1	0.9					
Glycol	%										
Low Grav. Solids	%Vol	7	7.5	7.6	8.4	9.6					
n/K Ratio											
Rheometer	600 rpm / 300 rpm	40/28	41/29	45/31	58/39	59/35					
lb/100 ft^2	200 rpm / 100 rpm	23/16	23/16	16/18	31/23	27/17					
	6 rpm / 3 rpm	5/4	5/4	6/5	8/7	6/5					

4.5 BIT COST/PERFORMANCE PLOTS (scale 1:5000)

4.6 SUMMARY HYDRAULICS LISTINGS

HALLIBURTON

DRILLING HYDRAULICS PROGRAM

BIT NO.2 HUGHES MAXTOO   DRILLED DEPTH 1025. mt   TRUE DEPTH 1025. mt

MUD PROPERTIES

Mud weight	9.80 ppg
PV/YP	10./ 28.
Theta 300/600	38./ 48.
N	0.34
K	4.65
R Laminar	3008.53
R Turbulent	3808.53
E.C.D.	9.88 ppg
E.C.D. SHOE	9.85 ppg

Actual standpipe pressure	2600 psi
Pump rate	208 spm
Flow rate	1043.1 gpm
Hydrostatic head	1713.7 psi
Pore pressure	1486.4 psi
Estimated overbalance	227.3 psi
M.A.A.S.P	53.7 psi
Equivalent B.H.P	1767.36 psi

BIT HYDRAULICS

Total flow area (Nozzles)	1.574 sq.ins
Nozzle velocity	68.2 m /sec
Hydraulic Impact	1185.9 lbs.wt.
Bit hydraulic power	241.3 HP
Total hydraulic horsepower	868.8 HP
Theor .% HHP at bit	27.8
Actual % HHP at bit	15.3

PRESSURE LOSSES

Total annular pressure loss	13.3 psi
Drill string pressure loss	902.6 psi
Surface equipment press. loss	115.2 psi
Bit pressure loss	396.5 psi
Total system pressure loss	1427.7 psi

LAG TIME

Annular volume	935. bbls
Lag time of mud in mins.	37.6 mins
Lag time of mud in strokes	7830. strks
Lag time of cuttings	39.7 mins

VELOCITIES

Max. annular velocity	36.1 m /min
Min. annular velocity	21.3 m /min
Ave. annular velocity	27.2 m /min
Ave. cuttings slip velocity	1.3 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT + DCS OPEN HOLE	9.50 17.50	36.1	142.7	0.7	386.8	3.3	Laminar
8" DCS OPEN HOLE	8.00 17.50	32.2	137.8	1.2	338.7	3.1	Laminar
DRILL PIPE OPEN HOLE	5.00 17.50	27.7	130.4	10.3	289.8	1.3	Laminar
DRILL PIPE CASING	5.00 19.45	22.1	126.6	0.3	208.2	1.0	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	21.3	126.1	0.8	198.6	1.0	Laminar

Critical Velocities Turbulent Reynolds No.

HALLIBURTON

HALLIBURTON

DRILLING HYDRAULICS PROGRAM

BIT NO.3 HYCALOG DS34HG   DRILLED DEPTH 1034. mt   TRUE DEPTH 1034. mt

MUD PROPERTIES

Mud weight	8.70 ppg
PV/YP	14./ 15.
Theta 300/600	29./ 43.
N	0.57
K	0.84
R Laminar	2691.90
R Turbulent	3491.90
E.C.D.	8.80 ppg
E.C.D. SHOE	8.79 ppg

Actual standpipe pressure	1800 psi
Pump rate	183 spm
Flow rate	917.7 gpm
Hydrostatic head	1534.7 psi
Pore pressure	1499.4 psi
Estimated overbalance	35.3 psi
M.A.A.S.P	1014.8 psi
Equivalent B.H.P	2549.48 psi

BIT HYDRAULICS

Total flow area (Nozzles)	0.910 sq.ins
Nozzle velocity	103.8 m /sec
Hydraulic Impact	1409.4 lbs.wt.
Bit hydraulic power	436.4 HP
Total hydraulic horsepower	1069.7 HP
Theor .% HHP at bit	40.8
Actual % HHP at bit	45.3

PRESSURE LOSSES

Total annular pressure loss	18.4 psi
Drill string pressure loss	1083.8 psi
Surface equipment press. loss	80.6 psi
Bit pressure loss	815.1 psi
Total system pressure loss	1997.9 psi

LAG TIME

Annular volume	467. bbls
Lag time of mud in mins.	21.4 mins
Lag time of mud in strokes	3908. strks
Lag time of cuttings	24.5 mins

VELOCITIES

Max. annular velocity	114.6 m /min
Min. annular velocity	18.8 m /min
Ave. annular velocity	48.4 m /min
Ave. cuttings slip velocity	5.4 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
12 1/4" BIT,9 1/2" DC OPEN HOLE	9.50 12.25	114.6	145.6	2.3	2479.8	7.0	Laminar
12 1/4" BIT,9 1/2" DC CASING	9.50 12.41	107.5	142.3	0.5	2336.9	6.9	Laminar
8"DCS CASING	8.00 12.41	76.2	120.7	3.8	1806.1	6.2	Laminar
HWDP CASING	5.25 12.41	54.2	99.6	2.1	1461.8	5.5	Laminar
DRILL PIPE CASING	5.00 12.41	53.1	98.3	9.5	1448.3	5.5	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	18.8	74.8	0.2	482.8	4.3	Laminar

Critical Velocities Turbulent Reynolds No.

DRILLING HYDRAULICS PROGRAM

BIT NO.4 HYCALOG DS40HSF | DRILLED DEPTH 1438. mt | TRUE DEPTH 1438. mt

MUD PROPERTIES

Mud weight	9.10 ppg
PV/YP	16./ 14.
Theta 300/600	30./ 46.
N	0.62
K	0.64
R Laminar	2625.65
R Turbulent	3425.65
E.C.D.	9.20 ppg
E.C.D. SHOE	9.18 ppg

Actual standpipe pressure	3030 psi
Pump rate	205 spm
Flow rate	1028.0 gpm
Hydrostatic head	2232.5 psi
Pore pressure	2085.3 psi
Estimated overbalance	147.2 psi
M.A.A.S.P	945.8 psi
Equivalent B.H.P	3178.21 psi

BIT HYDRAULICS

Total flow area (Nozzles)	0.750 sq.ins
Nozzle velocity	141.1 m /sec
Hydraulic Impact	2244.6 lbs.wt.
Bit hydraulic power	944.7 HP
Total hydraulic horsepower	2025.5 HP
Theor .% HHP at bit	46.6
Actual % HHP at bit	52.0

PRESSURE LOSSES

Total annular pressure loss	25.7 psi
Drill string pressure loss	1672.3 psi
Surface equipment press. loss	104.1 psi
Bit pressure loss	1575.0 psi
Total system pressure loss	3377.1 psi

LAG TIME

Annular volume	628. bbls
Lag time of mud in mins.	25.6 mins
Lag time of mud in strokes	5257. strks
Lag time of cuttings	28.8 mins

VELOCITIES

Max. annular velocity	128.4 m /min
Min. annular velocity	21.0 m /min
Ave. annular velocity	56.1 m /min
Ave. cuttings slip velocity	5.5 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
12 1/4" BIT,9 1/2" DC OPEN HOLE	9.50 12.25	128.4	140.2	4.0	3033.9	6.8	Transitional
8"DCS OPEN HOLE	8.00 12.25	89.2	115.5	4.3	2398.1	6.2	Laminar
HWDP OPEN HOLE	5.25 12.25	62.7	92.5	2.2	2001.2	5.5	Laminar
DRILL PIPE OPEN HOLE	5.00 12.25	61.4	91.0	2.3	1987.2	5.5	Laminar
DRILL PIPE CASING	5.00 12.41	59.5	90.1	12.8	1929.4	5.5	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	21.0	66.3	0.2	699.2	4.4	Laminar

Critical Velocities Turbulent Reynolds No.

H A L L I B U R T O N

DRILLING HYDRAULICS PROGRAM

BIT NO.5 HTC ATM22DG — DRILLED DEPTH 1915. mt — TRUE DEPTH 1915. mt

MUD PROPERTIES

Mud weight	9.60 ppg
PV/YP	14./ 19.
Theta 300/600	33./ 47.
N	0.51
K	1.37
R Laminar	2771.44
R Turbulent	3571.44
E.C.D.	9.72 ppg
E.C.D. SHOE	9.69 ppg

Actual standpipe pressure	3200 psi
Pump rate	150 spm
Flow rate	752.2 gpm
Hydrostatic head	3136.3 psi
Pore pressure	2998.8 psi
Estimated overbalance	137.5 psi
M.A.A.S.P	859.5 psi
Equivalent B.H.P	3995.80 psi

BIT HYDRAULICS

Total flow area (Nozzles)	0.589 sq.ins
Nozzle velocity	131.5 m /sec
Hydraulic Impact	1614.2 lbs.wt.
Bit hydraulic power	632.9 HP
Total hydraulic horsepower	1214.0 HP
Theor .% HHP at bit	52.1
Actual % HHP at bit	45.1

PRESSURE LOSSES

Total annular pressure loss	38.5 psi
Drill string pressure loss	1224.1 psi
Surface equipment press. loss	61.4 psi
Bit pressure loss	1442.1 psi
Total system pressure loss	2766.1 psi

LAG TIME

Annular volume	812. bbls
Lag time of mud in mins.	45.3 mins
Lag time of mud in strokes	6797. strks
Lag time of cuttings	51.1 mins

VELOCITIES

Max. annular velocity	94.0 m /min
Min. annular velocity	15.4 m /min
Ave. annular velocity	42.3 m /min
Ave. cuttings slip velocity	4.4 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
12 1/4" BIT,9 1/2" DC OPEN HOLE	9.50 12.25	94.0	153.4	3.4	1719.5	5.8	Laminar
8"DCS OPEN HOLE	8.00 12.25	65.3	132.2	6.8	1248.3	5.1	Laminar
HWDP OPEN HOLE	5.25 12.25	45.9	111.5	2.6	951.4	4.5	Laminar
DRILL PIPE OPEN HOLE	5.00 12.25	44.9	110.1	10.2	939.2	4.4	Laminar
DRILL PIPE CASING	5.00 12.41	43.6	109.3	15.3	906.7	4.4	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	15.4	86.4	0.3	273.4	3.3	Laminar

Critical Velocities Turbulent Reynolds No.

HALLIBURTON

DRILLING HYDRAULICS PROGRAM

BIT NO RR HYCALOG DS34HG   DRILLED DEPTH 2242. mt   TRUE DEPTH 2242. mt

MUD PROPERTIES

Mud weight	9.50 ppg
PV/YP	14./ 19.
Theta 300/600	33./ 47.
N	0.51
K	1.37
R Laminar	2771.44
R Turbulent	3571.44
E.C.D.	9.62 ppg
E.C.D. SHOE	9.60 ppg

Actual standpipe pressure	3190 psi
Pump rate	180 spm
Flow rate	902.7 gpm
Hydrostatic head	3633.6 psi
Pore pressure	3511.2 psi
Estimated overbalance	122.4 psi
M.A.A.S.P	876.7 psi
Equivalent B.H.P	4510.36 psi

BIT HYDRAULICS

Total flow area (Nozzles)	0.770 sq.ins
Nozzle velocity	120.7 m /sec
Hydraulic Impact	1759.7 lbs.wt.
Bit hydraulic power	633.4 HP
Total hydraulic horsepower	1611.7 HP
Theor .% HHP at bit	39.3
Actual % HHP at bit	37.7

PRESSURE LOSSES

Total annular pressure loss	46.6 psi
Drill string pressure loss	1725.8 psi
Surface equipment press. loss	85.3 psi
Bit pressure loss	1202.7 psi
Total system pressure loss	3060.4 psi

LAG TIME

Annular volume	949. bbls
Lag time of mud in mins.	44.1 mins
Lag time of mud in strokes	7946. strks
Lag time of cuttings	48.9 mins

VELOCITIES

Max. annular velocity	112.7 m /min
Min. annular velocity	18.5 m /min
Ave. annular velocity	50.8 m /min
Ave. cuttings slip velocity	4.6 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
12 1/4" BIT,9 1/2" DC OPEN HOLE	9.50 12.25	112.7	154.5	3.6	2232.8	6.1	Laminar
8"DCS OPEN HOLE	8.00 12.25	78.4	133.1	4.7	1621.0	5.3	Laminar
HWDP OPEN HOLE	5.25 12.25	55.0	112.2	2.8	1235.4	4.6	Laminar
DRILL PIPE OPEN HOLE	5.00 12.25	53.9	110.9	18.4	1219.5	4.6	Laminar
DRILL PIPE CASING	5.00 12.41	52.3	110.1	16.8	1177.4	4.6	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	18.5	87.0	0.3	355.0	3.4	Laminar

Critical Velocities Turbulent Reynolds No.

HALLIBURTON

HALLIBURTON

DRILLING HYDRAULICS PROGRAM

DATE 30-MAY-95

BR9 NB6 HTC ATM23 DRILLED DEPTH 1275. mt TRUE DEPTH 1274. mt

MUD PROPERTIES

Mud weight	9.70 ppg
PV/YP	12./ 15.
Theta 300/600	27./ 39.
N	0.53
K	0.99
R Laminar	2743.62
R Turbulent	3543.62
E.C.D.	9.78 ppg
E.C.D. SHOE	9.77 ppg

Actual standpipe pressure	2331 psi
Pump rate	162 spm
Flow rate	812.4 gpm
Hydrostatic head	2108.3 psi
Pore pressure	1847.4 psi
Estimated overbalance	260.8 psi
M.A.A.S.P	842.2 psi
Equivalent B.H.P	2950.46 psi

BIT HYDRAULICS

Total flow area (Nozzles)	0.920 sq.ins
Nozzle velocity	90.9 m /sec
Hydraulic Impact	1217.6 lbs.wt.
Bit hydraulic power	330.0 HP
Total hydraulic horsepower	1320.3 HP
Theor .% HHP at bit	25.0
Actual % HHP at bit	29.9

PRESSURE LOSSES

Total annular pressure loss	17.2 psi
Drill string pressure loss	2000.6 psi
Surface equipment press. loss	71.6 psi
Bit pressure loss	696.2 psi
Total system pressure loss	2785.6 psi

LAG TIME

Annular volume	576. bbls
Lag time of mud in mins.	29.8 mins
Lag time of mud in strokes	4828. strks
Lag time of cuttings	34.9 mins

VELOCITIES

Max. annular velocity	70.5 m /min
Min. annular velocity	16.6 m /min
Ave. annular velocity	42.8 m /min
Ave. cuttings slip velocity	5.6 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
12 1/4"BIT,DC'S,MOTOR OPEN HOLE	8.00 12.25	70.5	112.4	1.1	1785.6	6.6	Laminar
HWDP OPEN HOLE	5.25 12.25	49.5	93.9	3.5	1384.6	5.7	Laminar
HWDP CASING	5.25 12.41	48.0	93.1	0.1	1337.5	5.7	Laminar
DRILL PIPE CASING	5.00 12.41	47.0	92.0	12.3	1322.5	5.6	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	16.6	71.8	0.2	413.0	4.3	Laminar

DRILLING HYDRAULICS PROGRAM

BIT NO.7 REED MHP13G   DRILLED DEPTH 1553. mt   TRUE DEPTH 1538. mt

MUD PROPERTIES

Mud weight	9.80 ppg	Actual standpipe pressure	2440 psi
PV/YP	13./ 17.	Pump rate	155 spm
Theta 300/600	30./ 43.	Flow rate	777.3 gpm
N	0.52	Hydrostatic head	2571.4 psi
K	1.18	Pore pressure	2256.5 psi
R Laminar	2758.87	Estimated overbalance	314.9 psi
R Turbulent	3558.87	M.A.A.S.P	824.9 psi
E.C.D.	9.89 ppg	Equivalent B.H.P	3396.32 psi
E.C.D. SHOE	9.88 ppg		

BIT HYDRAULICS

Total flow area (Nozzles)	0.920 sq.ins
Nozzle velocity	87.0 m /sec
Hydraulic Impact	1126.1 lbs.wt.
Bit hydraulic power	292.0 HP
Total hydraulic horsepower	1022.0 HP
Theor .% HHP at bit	28.6
Actual % HHP at bit	26.4

PRESSURE LOSSES

Total annular pressure loss	23.8 psi
Drill string pressure loss	1519.3 psi
Surface equipment press. loss	66.7 psi
Bit pressure loss	643.9 psi
Total system pressure loss	2253.6 psi

LAG TIME

Annular volume	686. bbls
Lag time of mud in mins.	37.1 mins
Lag time of mud in strokes	5748. strks
Lag time of cuttings	44.4 mins

VELOCITIES

Max. annular velocity	67.5 m /min
Min. annular velocity	15.9 m /min
Ave. annular velocity	41.9 m /min
Ave. cuttings slip velocity	6.2 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
12 1/4"BIT,DC'S,MOTOR OPEN HOLE	8.00 12.25	67.5	121.2	1.5	1494.1	7.4	Laminar
HWDP OPEN HOLE	5.25 12.25	47.4	101.8	4.8	1147.7	6.4	Laminar
DRILL PIPE OPEN HOLE	5.00 12.25	46.4	100.5	3.4	1133.5	6.4	Laminar
DRILL PIPE CASING	5.00 12.41	45.0	99.8	13.8	1094.8	6.3	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	15.9	78.4	0.2	335.4	4.8	Laminar

Critical Velocities Turbulent Reynolds No.

HALLIBURTON

DRILLING HYDRAULICS PROGRAM

BIT NO.8 HTC ATM23GD DRILLED DEPTH 1639. mt TRUE DEPTH 1617. mt

MUD PROPERTIES

Mud weight	9.80 ppg
PV/YP	12./ 16.
Theta 300/600	28./ 40.
N	0.51
K	1.13
R Laminar	2765.44
R Turbulent	3565.44
E.C.D.	9.88 ppg
E.C.D. SHOE	9.88 ppg

Actual standpipe pressure	2870 psi
Pump rate	150 spm
Flow rate	752.2 gpm
Hydrostatic head	2703.5 psi
Pore pressure	2372.4 psi
Estimated overbalance	331.0 psi
M.A.A.S.P	824.9 psi
Equivalent B.H.P	3528.40 psi

BIT HYDRAULICS

Total flow area (Nozzles)	0.746 sq.ins
Nozzle velocity	103.9 m /sec
Hydraulic Impact	1302.0 lbs.wt.
Bit hydraulic power	403.4 HP
Total hydraulic horsepower	1188.5 HP
Theor .% HHP at bit	33.9
Actual % HHP at bit	32.0

PRESSURE LOSSES

Total annular pressure loss	23.3 psi
Drill string pressure loss	1703.0 psi
Surface equipment press. loss	62.7 psi
Bit pressure loss	919.1 psi
Total system pressure loss	2708.1 psi

LAG TIME

Annular volume	720. bbls
Lag time of mud in mins.	40.2 mins
Lag time of mud in strokes	6034. strks
Lag time of cuttings	48.7 mins

VELOCITIES

Max. annular velocity	65.3 m /min
Min. annular velocity	15.4 m /min
Ave. annular velocity	40.7 m /min
Ave. cuttings slip velocity	6.4 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT/STB/MWD/STB OPEN HOLE	8.00 12.25	65.3	116.3	1.4	1512.9	7.6	Laminar
HWDP OPEN HOLE	5.25 12.25	45.9	97.8	4.4	1157.3	6.6	Laminar
DRILL PIPE OPEN HOLE	5.00 12.25	44.9	96.6	4.4	1142.7	6.5	Laminar
DRILL PIPE CASING	5.00 12.41	43.6	95.9	12.9	1103.5	6.5	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	15.4	75.6	0.2	335.2	4.9	Laminar

Critical Velocities Turbulent Reynolds No.

HALLIBURTON

H A L L I B U R T O N

DRILLING HYDRAULICS PROGRAM

BIT NO.9 HYCALOG DS34H   DRILLED DEPTH 1655. mt   TRUE DEPTH 1633. mt

MUD PROPERTIES

Mud weight	9.90 ppg
PV/YP	16./ 17.
Theta 300/600	33./ 49.
N	0.57
K	0.94
R Laminar	2689.12
R Turbulent	3489.12
E.C.D.	9.99 ppg
E.C.D. SHOE	9.98 ppg

Actual standpipe pressure	2950 psi
Pump rate	172 spm
Flow rate	862.5 gpm
Hydrostatic head	2758.1 psi
Pore pressure	2674.5 psi
Estimated overbalance	83.6 psi
M.A.A.S.P	807.7 psi
Equivalent B.H.P	3565.75 psi

BIT HYDRAULICS

Total flow area (Nozzles)	0.863 sq.ins
Nozzle velocity	102.9 m /sec
Hydraulic Impact	1494.0 lbs.wt.
Bit hydraulic power	458.5 HP
Total hydraulic horsepower	1335.4 HP
Theor .% HHP at bit	34.3
Actual % HHP at bit	30.9

PRESSURE LOSSES

Total annular pressure loss	25.8 psi
Drill string pressure loss	1635.2 psi
Surface equipment press. loss	81.7 psi
Bit pressure loss	911.0 psi
Total system pressure loss	2653.7 psi

LAG TIME

Annular volume	728. bbls
Lag time of mud in mins.	35.4 mins
Lag time of mud in strokes	6095. strks
Lag time of cuttings	41.7 mins

VELOCITIES

Max. annular velocity	74.9 m /min
Min. annular velocity	17.7 m /min
Ave. annular velocity	46.7 m /min
Ave. cuttings slip velocity	6.4 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT/STB/MWD/STB OPEN HOLE	8.00 12.25	74.9	122.2	1.3	1731.0	7.4	Laminar
HWDP OPEN HOLE	5.25 12.25	52.6	100.2	4.4	1388.6	6.5	Laminar
DRILL PIPE OPEN HOLE	5.00 12.25	51.5	98.8	5.7	1375.3	6.5	Laminar
DRILL PIPE CASING	5.00 12.41	49.9	97.9	14.1	1332.0	6.4	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	17.7	74.4	0.2	445.6	5.0	Laminar

Critical Velocities Turbulent Reynolds No.

HALLIBURTON

DRILLING HYDRAULICS PROGRAM

BIT NO. 9 RR.HYCALOG DS34H   DRILLED DEPTH 2445. mt   TRUE DEPTH 2274. mt

MUD PROPERTIES

Mud weight	9.95 ppg
PV/YP	24./ 11.
Theta 300/600	35./ 59.
N	0.75
K	0.32
R Laminar	2438.50
R Turbulent	3238.50
E.C.D.	10.02 ppg
E.C.D. SHOE	10.01 ppg

Actual standpipe pressure	3030 psi
Pump rate	172 spm
Flow rate	862.5 gpm
Hydrostatic head	3860.1 psi
Pore pressure	3375.1 psi
Estimated overbalance	484.9 psi
M.A.A.S.P	799.1 psi
Equivalent B.H.P	4659.14 psi

BIT HYDRAULICS

Total flow area (Nozzles)	0.911 sq.ins
Nozzle velocity	97.5 m /sec
Hydraulic Impact	1422.4 lbs.wt.
Bit hydraulic power	413.5 HP
Total hydraulic horsepower	1577.8 HP
Theor .% HHP at bit	26.2
Actual % HHP at bit	27.1

PRESSURE LOSSES

Total annular pressure loss	26.0 psi
Drill string pressure loss	2205.5 psi
Surface equipment press. loss	82.1 psi
Bit pressure loss	821.7 psi
Total system pressure loss	3135.2 psi

LAG TIME

Annular volume	1043. bbls
Lag time of mud in mins.	50.8 mins
Lag time of mud in strokes	8732. strks
Lag time of cuttings	61.8 mins

VELOCITIES

Max. annular velocity	74.9 m /min
Min. annular velocity	17.7 m /min
Ave. annular velocity	48.2 m /min
Ave. cuttings slip velocity	7.7 m /min

SECTIONAL VELOCITIES

Section	Size ins.	Ann.Vel m /min	Crit. Vel m /min	Pres. loss psi	Modified Reynolds No.	Cuttings slip Vel. m /min	Flow type
BIT/STB/MWD/STB OPEN HOLE	8.00 12.25	74.9	102.5	1.1	2188.4	8.3	Laminar
HWDP OPEN HOLE	5.25 12.25	52.6	75.9	3.0	2051.6	7.8	Laminar
DRILL PIPE OPEN HOLE	5.00 12.25	51.5	74.3	12.3	2052.8	7.7	Laminar
DRILL PIPE CASING	5.00 12.41	49.9	73.3	9.4	2007.5	7.7	Laminar
DRILL PIPE MARINE RISER	5.00 19.75	17.7	48.4	0.1	921.3	6.7	Laminar

Critical Velocities Turbulent Reynolds No.

4.7 DATA ACQUISITION & OUTPUT SERVICE

INTRODUCTION

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

The system is based on a DILOG PDP/11-73 22 bit server computer performing realtime data acquisition via 20 analogue signal input channels. Online data acquisition and offline engineering software were accessed in the logging unit via a VT220 console linked to an Epson dot matrix printer. Data was displayed continuously on the rig floor via a slaved video display.

Online real-time graphical data displays with offline engineering Workstations linked to the DILOG computer via RS232 cables were provided in three locations; the Operator's office, the Toolpusher's office and in the Logging Unit. This enabled the user to view data from the logging in their own personal configuration on self-scrolling graphical display. A Smarterm 240 alpha-numeric VT320 terminal emulation package was also provided, giving access to online alpha-numeric data displays, offline engineering applications and also graphical data replay software with access to the time and depth based databases stored on the DILOG computer's hard disks.

An alarm program is provided with the realtime graphics system, providing audio-visual alarms on Gas Level, Trip Tank, Total Pit, Pump Pressure, Casing Pressure, Returning Mud Flow, Topdrive Torque and RPM.

A Hewlett Packard 7475A XY plotter was provided in the logging unit for plotted output.

A "WYSI-WYG" oriented Log Drawing System was used exclusively to draw the Formation, Drilling, Pressure Evaluation and Gas Ratio Logs. The system consisted of a 30mB 80486 IBM PC compatible computer with a VGA 1024x800 multifrequency VDU, Zeta 912 plotter and a BJ330 printer for either paper or sepia output. The system was linked to the databases stored on the PDP11/73 computer. A Maestro modem was setup to facilitate transmittal of the Log Drawing System data to the operations office.

DESCRIPTION OF ONLINE AND OFFLINE PROGRAMS.

THE DRILL MONITOR.

The drill monitor program was 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 0data 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**
R.O.P.	**Metres Drilled**	**Mud Temperature in**
W.O.B	**Average R.O.P**	**Mud Temperature out**
R.P.M.	**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 Volume**	**Estimated Pore Pressure**
E.C.D.	**Active Pit Volume**	**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, or 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. A separate section of the display gives a section of the parameters displayed on an instantaneous basis.

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

The third 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.

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	**Number of stands to pull/run**
Maximum pipe speed	**String Weight**
Maximum pull, Klbs.	**Maximum Overpull,Klbs**
Trip Tank Vol.	**Active Pit Volume**
Total Pit Volume	**Actual Hole Fill**
Calculated 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. 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 channel four of the alpha-numeric display system and is primarily in the form of a bar graph for quick assessment of pit level stability. The pit volume and the rate of any volume change are also displayed numerically. 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, as an additional check on hole fill.

TIME BASED DATA STORAGE

A background online program constantly stores the following parameters every 15 seconds independent of operation. The data is stored for seven days before being overwritten. It is also possible to backup the data to diskette for permanent storage.

Time	**Trip Tank**
Total Gas	**Block Position**
SPM/SPP/CSIP	**Mud Flow Out**
Hook Load/String Weight	**Tripping Calc Fill/Actual Fill**
RPM/Torque/WOB	**Tripping Overpull**
Active Pit/Total Pit	**Tripping Swab/Surge**
Mud Weight In/Out	**Instantaneous Cost/Cost per Metre**
Mud Temp In/Out	**Drilling Depth/TVD**
Equivalent Circ Density	**Tripping Depth**
Bit Hours/Bit Revs/Bit Metres	

INTEGRATED LAGGED GAS DATA ACQUISITION

A background program collates and stores all values calculated and on each injection by SpectraPhysics gas integrator against time and depth of returns. Data is output as a LIS ASCII file which can be imported to the Log Drawing System for Gas Ratio calculations.

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. Hydraulics calculations based on the Power Law model were frequently run to calculate the following:

Estimated Static Overbalance	**Cuttings Slip Velocity**
Estimated Dynamic Overbalance	**Nozzle Velocity**
Hydrostatic Pressure	**Hole Volume**
Bit Hydraulic Horsepower	**Bit Hydraulic Impact**
Annular Pressure Losses	**Power Law n Factor**
Drill String Pressure loss	**Power Law k Factor**

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. A table of fluid/fluid and fluid/gas interfaces and theoretical pressures while circulating out the influx.

A 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.

H A L L I B U R T O N

DIRECTIONAL SURVEY PROGRAM

Minimum Curvature method

Operator:- BHPP

Rig name:- OCEAN BOUNTY

Well number:- LONGTOM-1ST

Location:- 38 06' 00.03 S, 148 18' 54.28

	NORTH	EAST	
Well offsets:-	0.0 Metres	0.0 Metres (local)	Spud date:- 28-MAY-95
	5782258. Metres	615306. Metres (U.T.M.)	
Target Co-ords:-	5787992.0 Metres	615174.0 Metres	Current date:- 08-JUN-95

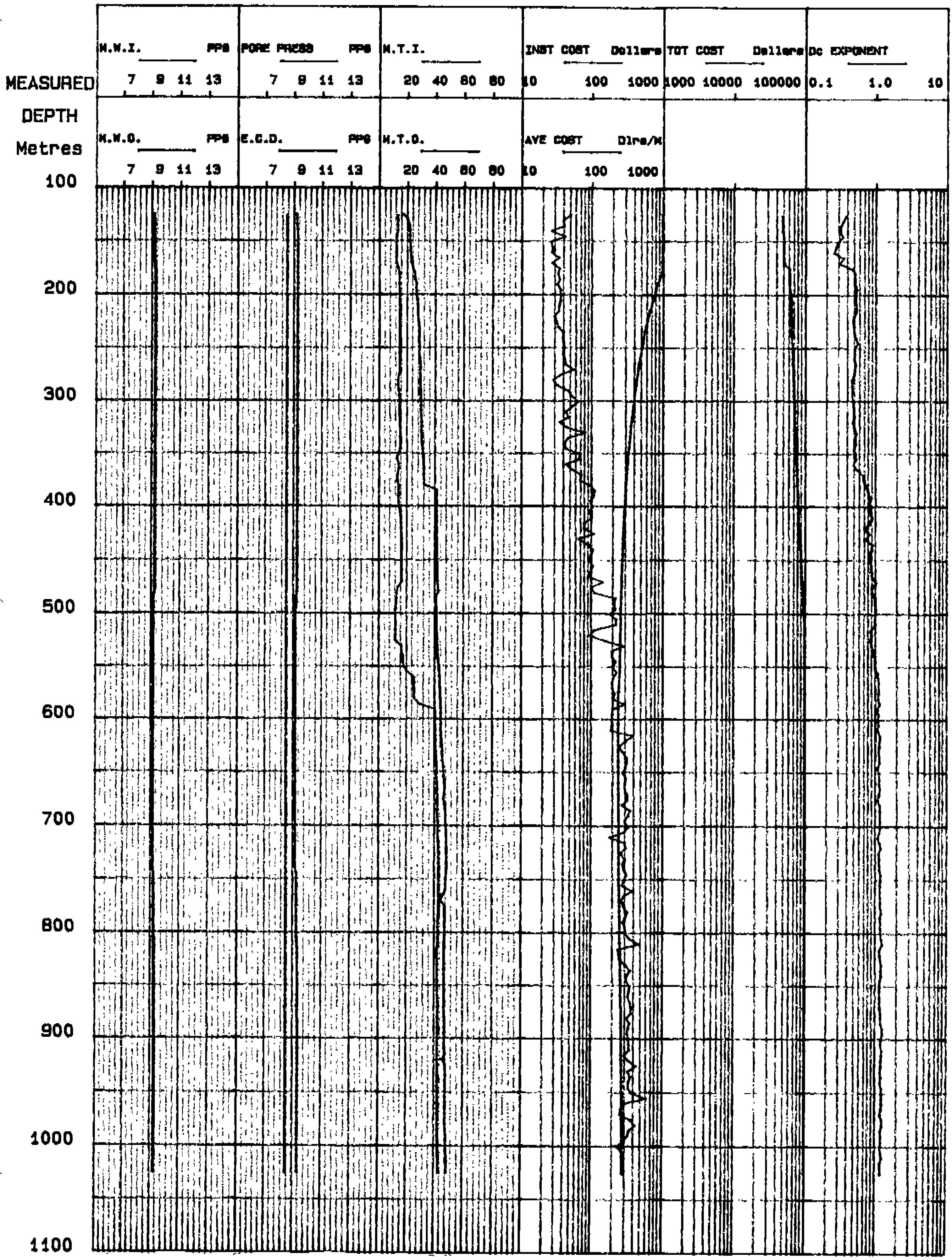
MEASURED DEPTH Metres	TRUE DEPTH Metres	INCL. Degs.	AZIMUTH Degs.	DELTA NORTH Metres	DELTA EAST Metres	VERTICAL DISP. Metres	COURSE LENGTH Metres	DOG-LEG SEVERITY Degs/30Mt	CLOSURE Metres	CLOSURE DIRECTION Degrees	SECTION Metres	UTM NORTH Metres	UTM EAST Metres	REC NUM
1032.8	1032.8	2.70	5.00	0.00	0.00	1032.80	1032.8	0.000	0.0	0.00	0.00	5782258.	615306.	1
1032.8	1032.8	2.70	5.00	-3.38	-2.09	1032.80	1032.8	0.000	4.0	211.73	-3.58	5782254.	615304.	2
1082.8	1082.8	2.40	350.30	-1.17	-2.16	49.95	50.0	0.430	2.5	241.50	-1.40	5782256.	615304.	3
1114.8	1114.7	2.50	351.30	0.18	-2.38	31.97	32.0	0.102	2.4	274.21	-0.08	5782258.	615304.	4
1143.9	1143.8	1.70	344.30	1.22	-2.60	29.08	29.1	0.865	2.9	295.15	0.94	5782259.	615304.	5
[illegible]2.0	1171.9	1.70	198.90	1.23	-2.84	28.10	28.1	3.465	3.1	293.32	0.92	5782259.	615303.	6
1200.2	1200.1	3.10	189.10	0.08	-3.10	28.17	28.2	1.547	3.1	271.42	-0.25	5782258.	615303.	7
1229.5	1229.3	3.80	190.50	-1.66	-3.40	29.25	29.3	0.722	3.8	243.98	-2.01	5782256.	615303.	8
1250.3	1250.1	4.90	190.10	-3.21	-3.68	20.74	20.8	1.587	4.9	228.90	-3.58	5782254.	615303.	9
1262.4	1262.1	5.30	190.50	-4.27	-3.88	12.05	12.1	0.993	5.8	222.22	-4.66	5782253.	615302.	10
1293.2	1292.7	7.30	190.80	-7.59	-4.50	30.61	30.8	1.948	8.8	210.66	-8.03	5782250.	615302.	11
1302.0	1301.4	8.90	192.80	-8.81	-4.76	8.71	8.8	5.537	10.0	208.38	-9.26	5782249.	615301.	12
1313.4	1312.7	10.40	192.20	-10.67	-5.17	11.24	11.4	3.956	11.9	205.85	-11.16	5782247.	615301.	13
1331.9	1330.8	11.50	193.30	-14.10	-5.95	18.16	18.5	1.815	15.3	202.87	-14.65	5782243.	615300.	14
1348.8	1347.4	12.20	191.00	-17.49	-6.67	16.54	16.9	1.498	18.7	200.89	-18.10	5782240.	615300.	15
1378.0	1375.7	15.10	192.20	-24.24	-8.07	28.37	29.2	2.993	25.5	198.41	-24.95	5782233.	615298.	16
1406.6	1403.2	17.40	194.70	-32.02	-9.94	27.46	28.6	2.521	33.5	197.25	-32.89	5782225.	615296.	17
1434.2	1429.3	20.20	197.30	-40.56	-12.41	26.13	27.6	3.176	42.4	197.01	-41.64	5782217.	615294.	18
1463.6	1456.7	22.40	198.20	-50.73	-15.66	27.39	29.4	2.269	53.1	197.16	-52.10	5782207.	615291.	19
1492.7	1483.6	23.10	198.40	-61.41	-19.20	26.84	29.1	0.726	64.3	197.36	-63.10	5782196.	615287.	20
1521.0	1509.6	23.10	198.40	-71.95	-22.70	26.03	28.3	0.000	75.4	197.51	-73.94	5782186.	615283.	21
1533.2	1520.8	23.60	198.00	-76.54	-24.21	11.20	12.2	1.288	80.3	197.55	-78.67	5782181.	615282.	22
1549.0	1535.3	23.80	198.40	-82.57	-26.20	14.47	15.8	0.485	86.6	197.60	-84.88	5782175.	615280.	23
1577.4	1561.3	23.30	198.80	-93.33	-29.82	26.03	28.4	0.554	98.0	197.72	-95.96	5782164.	615276.	24
1605.9	1587.5	22.60	199.20	-103.84	-33.43	26.24	28.5	0.755	109.1	197.85	-106.79	5782154.	615273.	25
1633.6	1613.2	21.80	199.30	-113.72	-36.88	25.65	27.7	0.868	119.5	197.97	-115.98	5782144.	615269.	26
1662.2	1639.7	22.50	199.70	-123.88	-40.48	26.49	28.6	0.751	130.3	198.10	-127.47	5782134.	615266.	27
[illegible]0.9	1666.1	23.50	199.40	-134.45	-44.24	26.42	28.7	1.052	141.5	198.21	-138.37	5782123.	615262.	28
1719.5	1692.2	24.70	198.90	-145.48	-48.07	26.11	28.6	1.277	153.2	198.28	-149.75	5782112.	615258.	29
1747.8	1717.8	25.80	198.80	-156.91	-51.97	25.60	28.3	1.167	165.3	198.32	-161.52	5782101.	615254.	30

MEASURED DEPTH Metres	TRUE DEPTH Metres	INCL. Degs.	AZIMUTH Degs.	DELTA NORTH Metres	DELTA EAST Metres	VERTICAL DISP. Metres	COURSE LENGTH Metres	DOG-LEG SEVERITY Degs/30Mt	CLOSURE Metres	CLOSURE DIRECTION Degrees	SECTION Metres	UTM NORTH Metres	UTM EAST Metres	REC NUM
1776.9	1743.9	26.60	198.20	-169.13	-56.06	26.09	29.1	1.066	178.2	198.34	-174.12	5782088.	615250.	31
1805.0	1768.8	27.90	197.40	-181.42	-60.00	24.96	28.1	1.238	191.1	198.30	-186.76	5782076.	615246.	32
1833.4	1793.9	28.60	197.10	-194.26	-63.99	25.02	28.4	0.754	204.5	198.23	-199.94	5782063.	615242.	33
1862.4	1819.3	28.90	196.40	-207.62	-68.01	25.43	29.0	0.466	218.5	198.14	-213.65	5782050.	615238.	34
1891.0	1844.2	29.60	196.20	-221.03	-71.93	24.95	28.6	0.741	232.4	198.03	-227.40	5782036.	615234.	35
1919.2	1868.6	30.70	196.10	-234.64	-75.87	24.38	28.2	1.171	246.6	197.92	-241.35	5782023.	615230.	36
1948.1	1893.3	31.70	196.10	-249.02	-80.02	24.72	28.9	1.038	261.6	197.81	-256.09	5782008.	615226.	37
1976.2	1917.1	32.60	195.90	-263.39	-84.14	23.79	28.1	0.968	276.5	197.72	-270.82	5781994.	615222.	38
2004.7	1941.0	33.80	195.50	-278.42	-88.36	23.85	28.5	1.284	292.1	197.61	-286.20	5781979.	615218.	39
2033.4	1964.7	34.50	195.00	-293.96	-92.60	23.75	28.7	0.788	308.2	197.48	-302.11	5781964.	615214.	40
2061.9	1988.1	35.50	195.20	-309.74	-96.86	23.35	28.5	1.059	324.5	197.36	-318.25	5781948.	615209.	41
2090.1	2010.8	36.80	195.60	-325.78	-101.28	22.77	28.2	1.405	341.2	197.27	-334.67	5781932.	615205.	42
2118.4	2033.4	37.70	195.00	-342.30	-105.79	22.53	28.3	1.029	358.3	197.17	-351.58	5781915.	615200.	43
2146.1	2055.2	38.30	195.90	-358.74	-110.34	21.83	27.7	0.884	375.3	197.10	-368.40	5781899.	615196.	44
2174.1	2077.0	39.40	195.60	-375.64	-115.11	21.81	28.0	1.195	392.9	197.04	-385.72	5781882.	615191.	45
2203.2	2099.4	39.90	195.90	-393.52	-120.15	22.41	29.1	0.551	411.4	196.98	-404.02	5781864.	615186.	46
2231.5	2120.9	41.00	195.80	-411.18	-125.16	21.54	28.3	1.168	429.8	196.93	-422.11	5781846.	615181.	47
2259.7	2142.1	41.90	196.00	-429.13	-130.27	21.14	28.2	0.968	448.5	196.89	-440.51	5781828.	615176.	48
2288.9	2163.7	42.80	196.50	-448.02	-135.78	21.58	29.2	0.987	468.1	196.86	-459.87	5781809.	615170.	49
2316.6	2183.8	44.00	196.40	-466.27	-141.17	20.13	27.7	1.302	487.2	196.84	-478.59	5781791.	615165.	50
2326.2	2190.7	44.50	195.90	-472.70	-143.03	6.88	9.6	1.903	493.9	196.83	-485.18	5781785.	615163.	51
2345.4	2204.4	44.30	196.30	-485.61	-146.76	13.72	19.2	0.536	507.3	196.82	-498.41	5781772.	615159.	52
2373.2	2224.1	45.20	197.30	-504.34	-152.42	19.74	27.8	1.233	526.9	196.82	-517.64	5781753.	615154.	53
2402.3	2244.5	45.70	197.50	-524.13	-158.62	20.41	29.1	0.535	547.6	196.84	-537.98	5781733.	615148.	54
2429.2	2263.3	45.80	197.40	-542.52	-164.39	18.77	26.9	0.136	566.9	196.86	-556.86	5781715.	615142.	55
2445.0	2274.3	45.86	197.34	-553.33	-167.78	11.01	15.8	0.125	578.2	196.87	-567.98	5781704.	615138.	56

DRILLING COST PLOT

Well No: LONGTOM-1
Operator: BHPP

HALLIBURTON



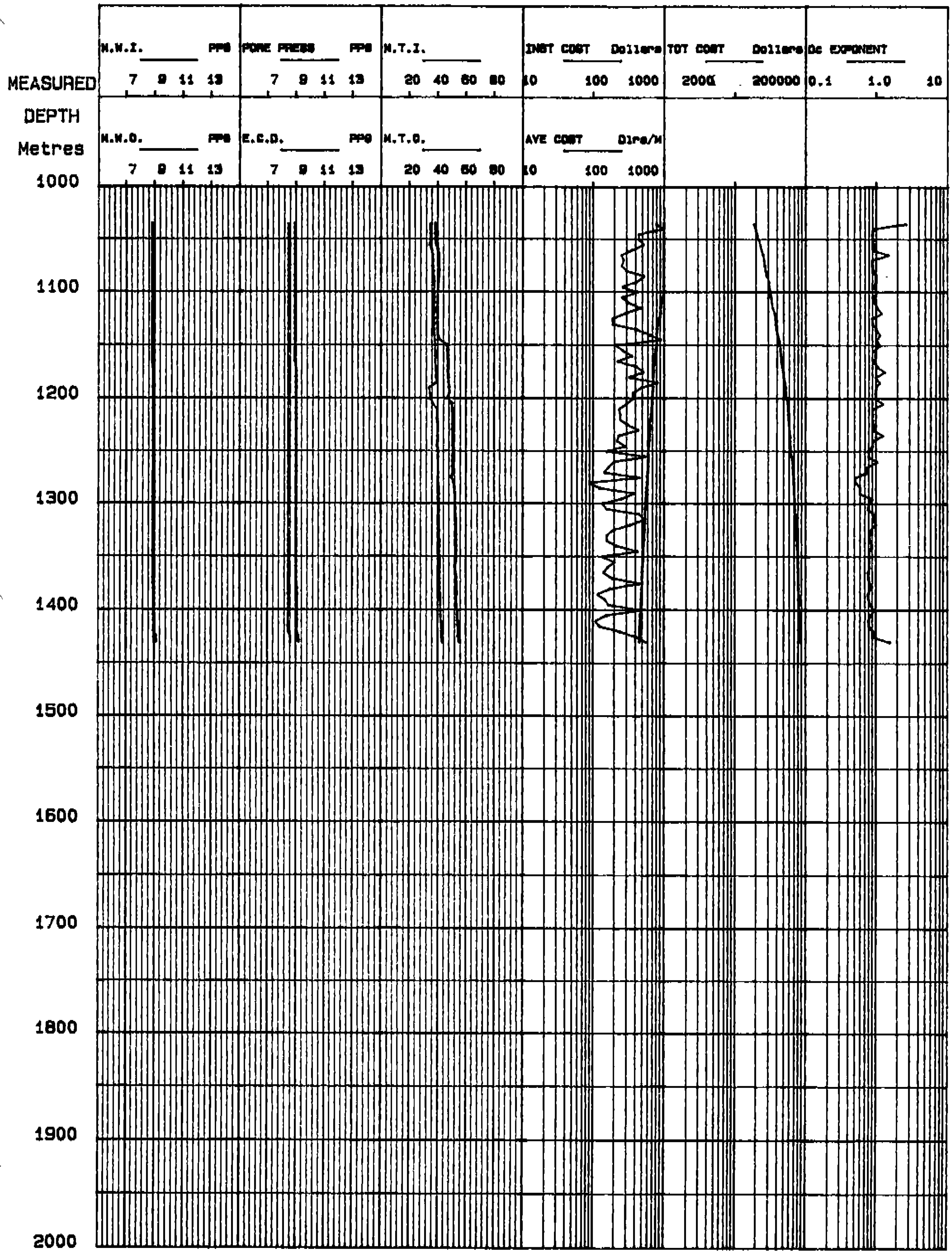
BIT RUN 2, BIT 2 HTC MAXTOO

DEPTH SCALE = 1 : 5000

DRILLING COST PLOT

Well No: LONGTOM-1
Operator: BHPP

HALLIBURTON

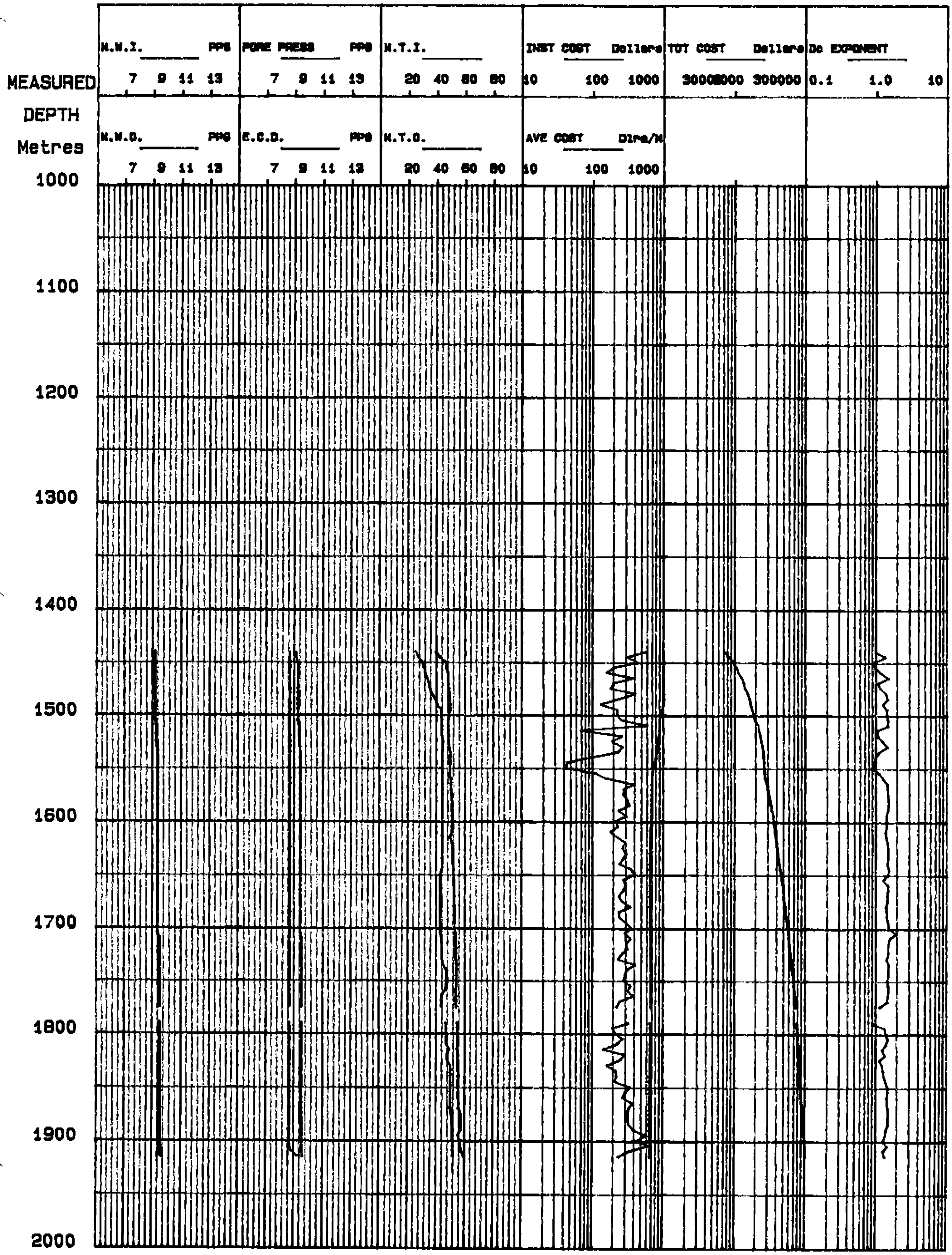


BIT RUN 4. BIT 4 HYCALOG DS40HSF

DEPTH SCALE = 1 : 5000

DRILLING COST PLOT

Well No: LONGTOM-1
Operator: BHPP

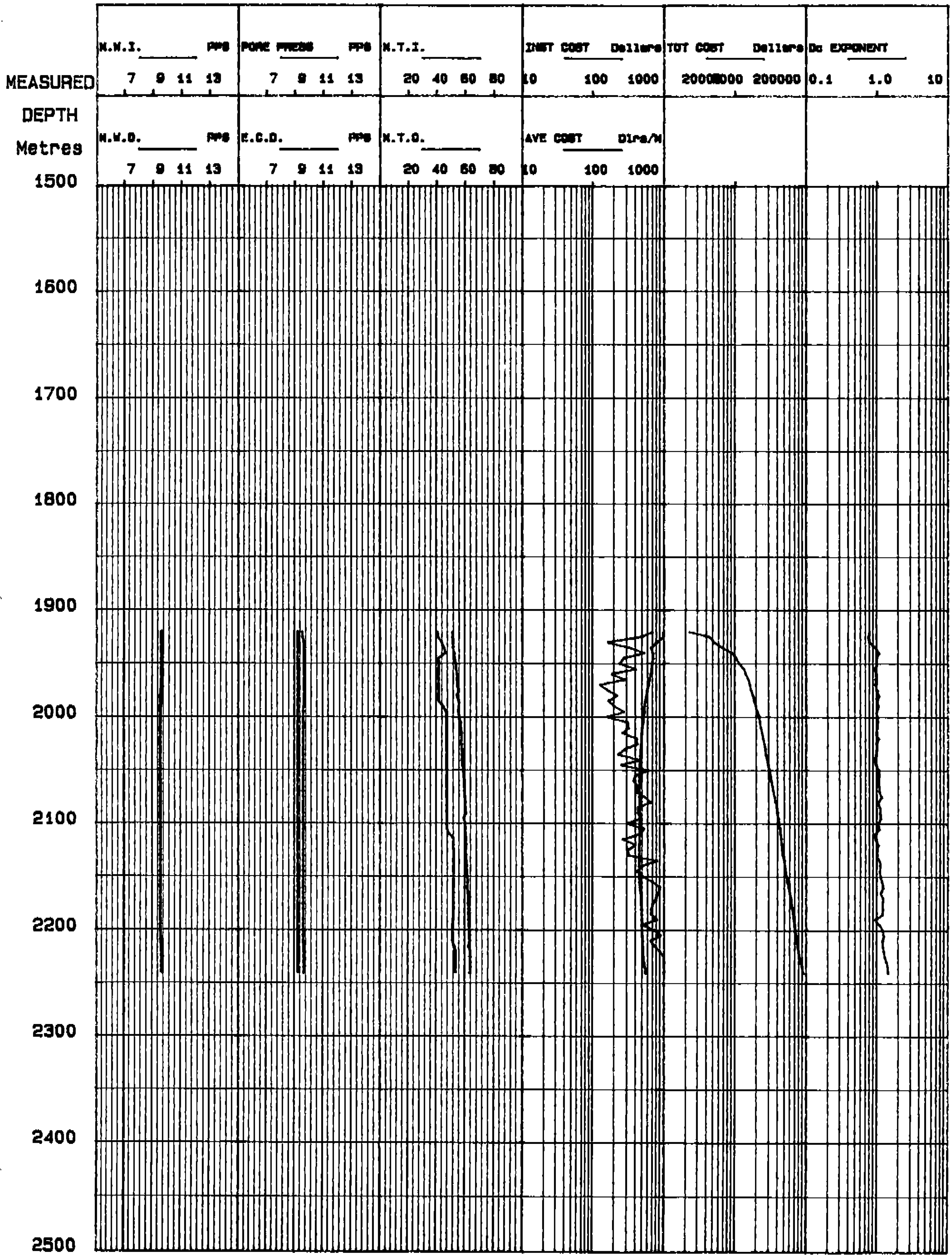


BIT RUN 5, BIT 5 HTC ATM22DG

DEPTH SCALE = 1 : 5000

DRILLING COST PLOT

Well No: LONGTOM-1
Operator: BHPP

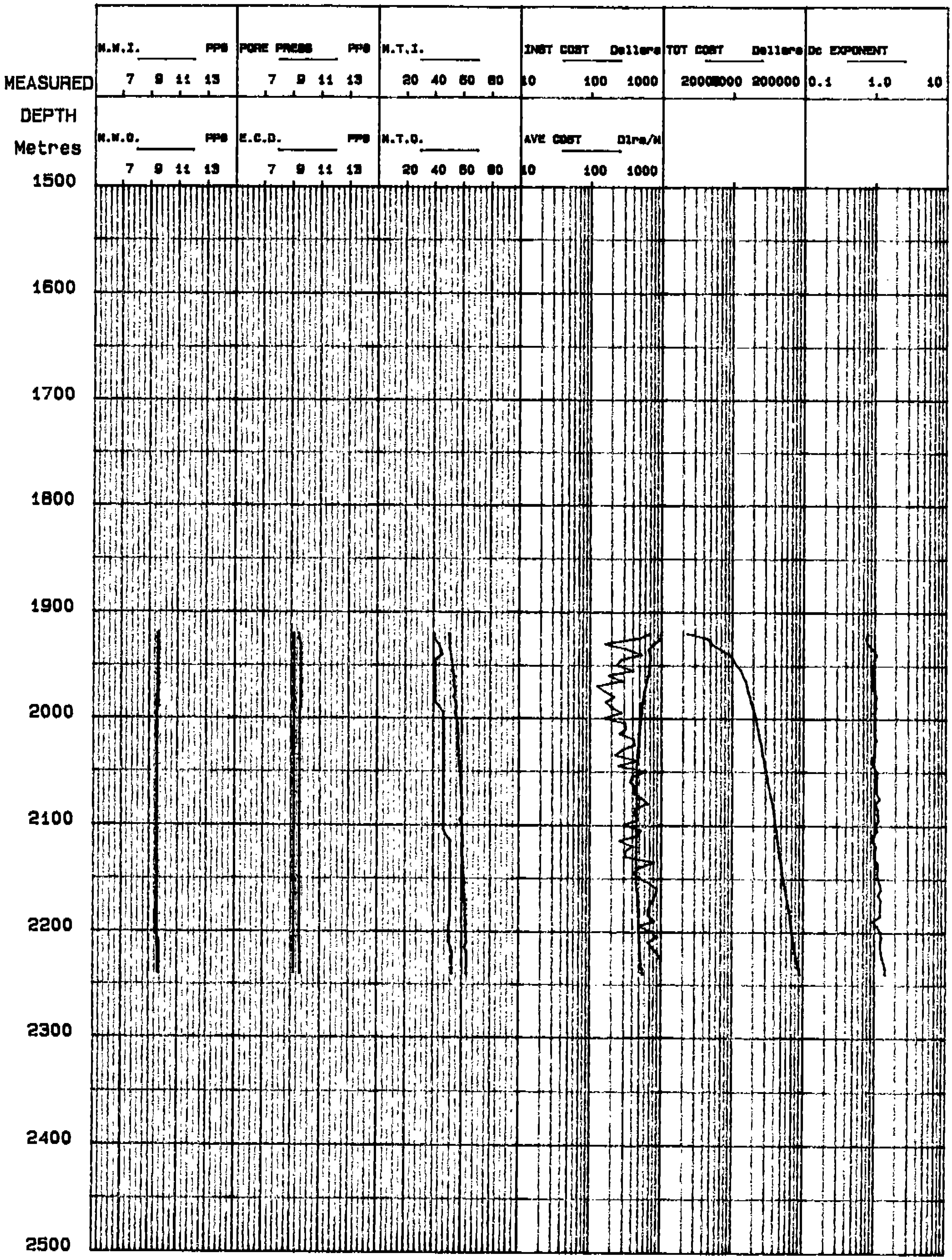


BIT RUN 6, BIT 3RR HYCALOG DS34HG

DEPTH SCALE = 1 : 5000

DRILLING COST PLOT

Well No: LONGTOM-1
Operator: BHPP



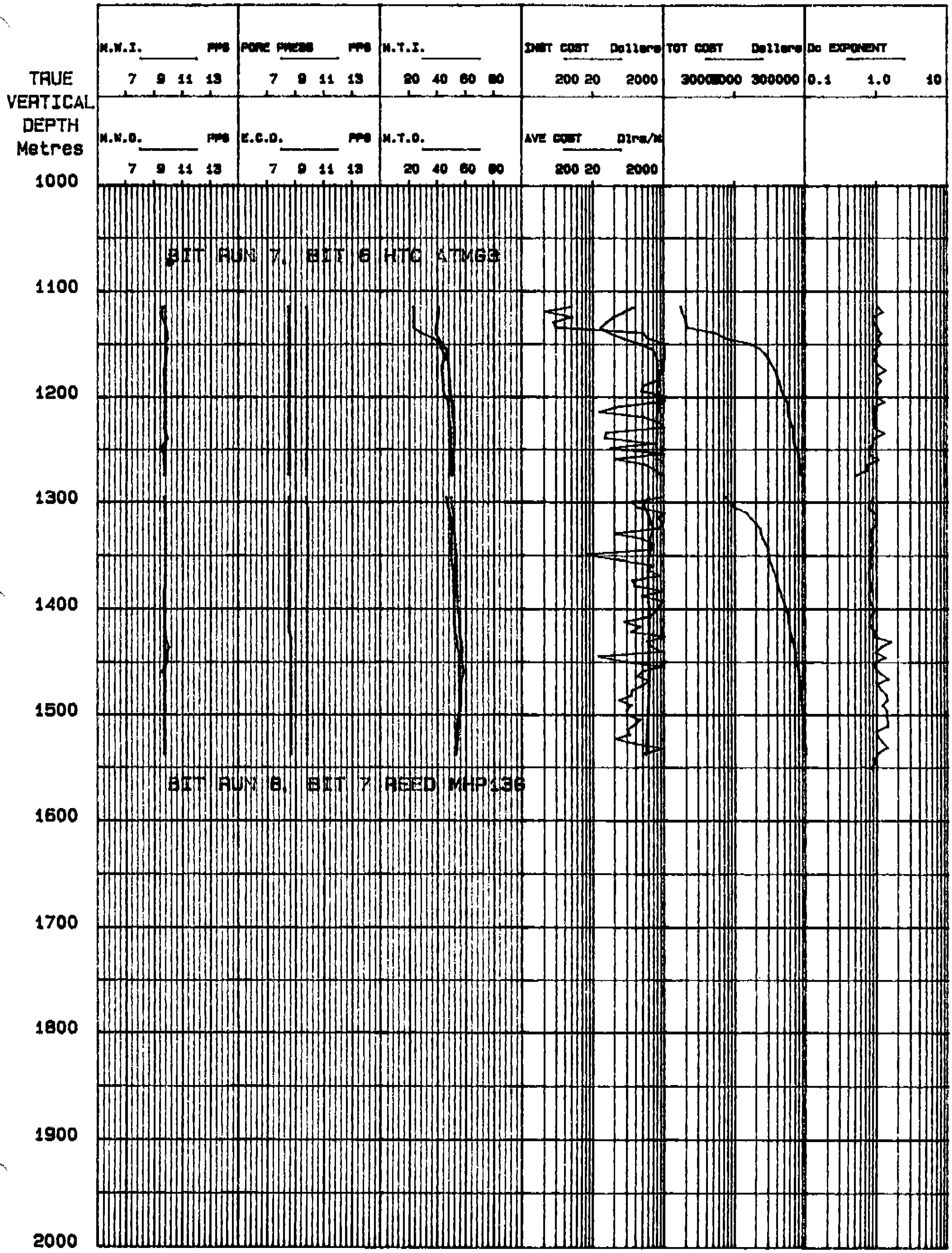
BIT RUN 6, BIT 3RR HYCALOG DS34HG

DEPTH SCALE = 1 : 5000

DRILLING COST PLOT

Well No: LONGTOM-1ST
Operator: BHPP

HALLIBURTON

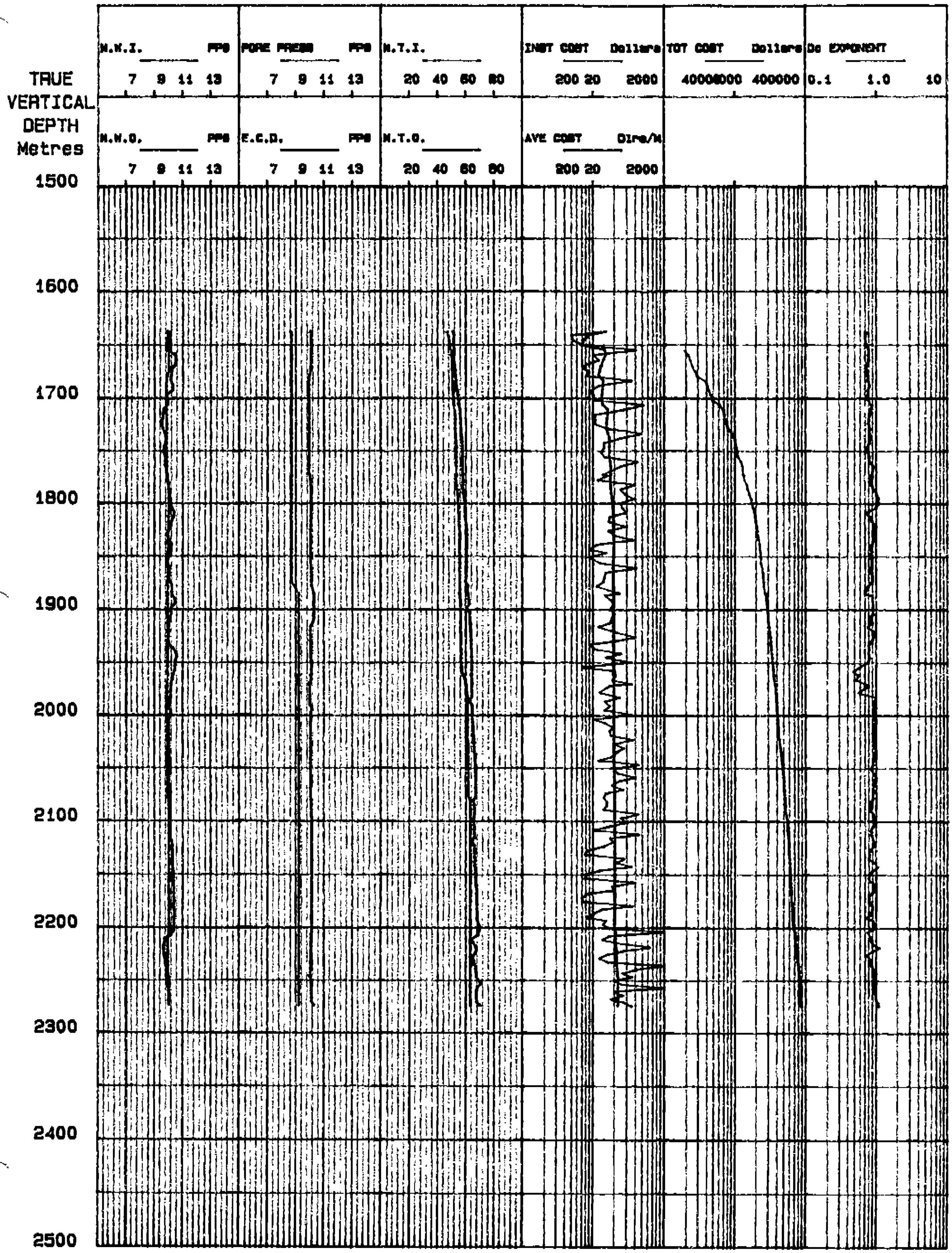


DEPTH SCALE = 1 : 5000

DRILLING COST PLOT

Well No: LONGTOM-1ST
Operator: BHPP

HALLIBURTON



DEPTH SCALE = 1 : 5000

4.8. BIT RUN DRILLING DATA

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 2

DATE: 13-MAY-95

WELL	LONGTOM 1	OPERATOR	BHPP
SHOE DEPTH	116.5m	CASING SIZE	13-3/8"
BIT SIZE	17-1/2"	BIT No. & TYPE	2 HTC MAXTOO
START DEPTH	116.5m	JETS / TFA	3x28
		PUMP CAP. (bbls / stk)	0.102

MUD DATA LISTING

MUD TYPE: Aquagel Mud

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.04	41	5	19	7/9/13	10.2	NC	3.0	-	96.0	11.5	-	-

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
117.0	15:43	117.0	10.8	10	175	56	23	1053	1176	825	1730	9.1	13.4	-999.3	15.5	0.000	1.2	0.37	0.86	117
118.0	15:43	118.0	46.6	6	190	64	20	1405	2210	750	1733	9.1	13.4	117.0	15.4	0.000	1.2	0.37	0.55	118
119.0	15:44	119.0	90.0	8	187	63	15	1412	2229	731	1697	9.1	13.4	118.7	15.7	0.000	1.3	0.39	0.46	119
120.0	15:45	120.0	50.7	10	188	63	10	1404	2205	704	1622	9.1	13.4	119.7	16.3	0.000	1.3	0.41	0.58	120
121.0	15:45	121.0	91.8	6	185	63	16	1410	2212	679	1581	9.1	13.4	120.0	17.2	0.000	1.3	0.41	0.42	121
122.0	15:45	122.0	120.0	10	187	63	14	1413	2214	673	1560	9.1	13.4	121.2	17.5	0.000	1.3	0.41	0.42	122
123.0	15:45	123.0	207.3	10	187	64	11	1413	2215	666	1546	9.1	13.4	121.2	17.8	0.000	1.4	0.42	0.32	123
124.0	15:46	124.0	207.3	10	189	64	13	1413	2209	660	1532	9.1	13.4	122.6	18.1	0.000	1.4	0.42	0.32	124
125.0	15:46	125.0	120.0	6	188	63	15	1414	2213	654	1512	9.1	13.4	124.7	18.5	0.000	1.4	0.42	0.39	125
126.0	15:46	126.0	105.0	8	187	63	11	1417	2211	639	1485	9.1	13.4	124.7	18.8	0.000	1.4	0.43	0.43	126
127.0	15:46	127.1	120.0	7	186	63	11	1417	2205	635	1477	9.1	13.4	125.9	19.9	0.000	1.4	0.43	0.40	127
128.0	15:47	128.0	394.3	9	187	63	18	1417	2205	627	1454	9.1	13.4	125.9	20.9	0.000	1.5	0.44	0.20	128
129.0	15:47	129.0	130.2	6	181	63	19	1417	2202	618	1448	9.1	13.4	127.5	21.4	0.000	1.5	0.44	0.37	129
130.0	15:47	130.0	180.0	5	183	63	20	1419	2206	618	1443	9.1	13.4	127.5	21.7	0.000	1.5	0.44	0.30	130
131.0	15:47	131.0	180.0	3	184	63	13	1426	2226	614	1435	9.1	13.4	130.1	21.8	0.000	1.5	0.44	0.29	131
132.0	15:47	132.0	156.9	1	186	63	10	1429	2229	604	1414	9.1	13.3	130.1	21.9	0.000	1.5	0.45	0.27	132
133.0	15:47	133.0	120.0	2	186	63	16	1426	2226	600	1404	9.1	13.2	132.0	21.9	0.000	1.5	0.45	0.33	133
134.0	15:48	134.0	69.5	3	185	62	22	1426	2227	592	1395	9.1	13.1	133.0	21.9	0.000	1.6	0.46	0.42	134
135.0	15:48	135.0	240.0	5	183	62	27	1426	2225	579	1379	9.2	13.1	133.0	22.0	0.000	1.6	0.46	0.25	135
136.0	15:48	136.0	207.3	8	180	61	31	1427	2226	579	1384	9.2	13.0	134.9	22.1	0.000	1.6	0.46	0.30	136
137.0	15:48	137.0	207.3	6	181	62	27	1427	2228	573	1374	9.2	13.0	136.8	22.2	0.000	1.6	0.46	0.29	137
138.0	15:48	138.0	167.0	7	181	63	17	1426	2228	560	1356	9.2	12.9	136.8	22.2	0.000	1.6	0.47	0.33	138
139.0	15:49	139.0	145.6	3	184	64	18	1426	2231	560	1359	9.2	12.9	136.8	22.2	0.000	1.6	0.47	0.32	139
140.0	15:49	140.0	168.0	4	184	63	21	1426	2228	560	1363	9.2	12.9	138.2	22.2	0.000	1.6	0.47	0.30	140
141.0	15:49	141.0	171.4	3	184	64	24	1426	2227	548	1348	9.2	12.8	140.9	22.2	0.000	1.6	0.48	0.29	141
142.0	15:50	142.0	87.8	6	188	64	17	1429	2226	536	1348	9.2	12.7	142.0	22.5	0.000	1.7	0.49	0.43	142
143.0	16:06	143.1	158.3	8	177	60	24	1427	2210	470	1285	9.2	12.4	142.7	22.3	0.000	1.9	0.62	0.35	143
144.0	16:06	144.0	240.0	10	194	58	24	1358	2201	423	1235	9.2	11.9	143.6	22.3	0.000	1.9	0.62	0.28	144
145.0	16:06	145.0	128.6	5	194	59	24	1359	2195	417	1229	9.2	11.9	144.6	22.3	0.000	2.0	0.63	0.34	145
146.0	16:07	146.0	163.6	10	194	61	18	1363	2198	413	1225	9.2	11.9	145.6	22.2	0.000	2.0	0.63	0.36	146
147.0	16:07	147.0	225.0	11	191	59	20	1367	2202	412	1222	9.2	11.9	146.6	22.1	0.000	2.0	0.64	0.30	147
148.0	16:07	148.1	240.0	10	189	59	20	1366	2205	410	1221	9.2	11.9	146.6	22.1	0.000	2.0	0.64	0.28	148
149.0	16:07	149.0	260.2	6	185	59	27	1364	2206	408	1219	9.2	11.9	148.0	22.0	0.000	2.1	0.64	0.24	149
150.0	16:08	150.1	276.9	8	190	59	19	1364	2207	408	1218	9.2	11.9	149.3	22.1	0.000	2.1	0.65	0.24	150
151.0	16:08	151.1	227.3	7	192	60	14	1363	2210	410	1221	9.2	11.9	149.3	22.2	0.000	2.1	0.65	0.27	151
152.0	16:08	152.1	300.0	9	192	60	12	1362	2210	411	1223	9.2	11.9	150.8	22.4	0.000	2.1	0.65	0.24	152
153.0	16:08	153.0	360.0	11	192	59	16	1363	2210	410	1219	9.2	11.9	150.8	22.5	0.000	2.1	0.66	0.21	153
154.0	16:08	154.0	163.6	5	188	59	21	1363	2210	409	1220	9.2	11.9	152.4	22.6	0.000	2.1	0.66	0.31	154
155.0	16:09	155.0	211.8	10	189	59	16	1362	2215	407	1216	9.2	11.9	154.0	22.6	0.000	2.1	0.67	0.30	155
156.0	16:09	156.0	276.9	7	187	59	23	1363	2212	409	1219	9.2	11.9	154.9	22.7	0.000	2.1	0.67	0.24	156
157.0	16:09	157.0	200.0	10	185	58	33	1362	2218	411	1222	9.2	11.9	156.6	22.7	0.000	2.1	0.68	0.31	157
158.0	16:10	158.0	276.9	7	181	58	36	1362	2214	411	1221	9.2	11.9	156.6	22.7	0.000	2.2	0.68	0.24	158
159.0	16:10	159.0	266.0	5	185	59	25	1362	2216	408	1218	9.2	11.9	157.2	22.7	0.000	2.2	0.68	0.23	159
160.0	16:10	160.0	285.0	9	188	59	20	1362	2214	410	1220	9.2	11.9	157.2	22.8	0.000	2.2	0.69	0.25	160
161.0	16:10	161.0	180.0	7	189	60	14	1362	2216	408	1217	9.2	11.9	159.8	22.9	0.000	2.2	0.69	0.31	161
162.0	16:11	162.0	200.0	11	189	60	14	1362	2217	412	1223	9.2	11.9	161.0	23.0	0.000	2.2	0.70	0.32	162
163.0	16:11	163.0	150.0	10	188	59	19	1362	2219	410	1219	9.2	11.9	161.8	23.1	0.000	2.2	0.70	0.37	163
164.0	16:12	164.1	87.8	7	188	58	25	1362	2218	415	1226	9.2	11.8	164.0	23.1	0.000	2.3	0.72	0.43	164
165.0	16:12	165.0	189.5	11	190	59	15	1362	2216	414	1224	9.2	11.8	164.0	23.2	0.000	2.3	0.72	0.33	165
166.0	16:12	166.0	240.0	6	190	59	11	1362	2217	410	1216	9.2	11.8	164.8	23.1	0.000	2.3	0.73	0.25	166

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
166.0	16:12	166.0	240.0	6	190	59	11	1362	2217	410	1216	9.2	11.8	164.8	23.1	0.000	2.3	0.73	0.25	166
167.0	16:12	167.0	240.0	15	181	58	34	1363	2216	417	1228	9.2	11.9	166.1	23.1	0.000	2.3	0.73	0.30	167
168.0	16:13	168.1	257.1	15	181	58	28	1362	2223	413	1222	9.2	11.9	167.7	23.0	0.000	2.4	0.73	0.29	168
169.0	16:13	169.0	211.8	9	187	58	21	1227	1847	411	1218	9.2	11.9	167.7	23.0	0.000	2.4	0.74	0.30	169
170.0	16:13	170.0	138.5	8	188	58	23	1187	1742	413	1222	9.2	11.9	169.6	22.9	0.000	2.4	0.75	0.36	170
171.0	16:14	171.0	128.6	6	187	58	24	1173	1710	406	1215	9.2	11.9	170.7	22.9	0.000	2.4	0.75	0.36	171
172.0	18:41	172.0	133.0	8	202	121	33	1340	2431	518	1126	9.3	14.2	171.6	22.7	0.000	3.2	0.98	0.50	172
173.0	18:41	173.0	135.6	10	201	122	35	1341	2432	525	1131	9.3	14.2	172.3	25.4	0.000	3.3	0.98	0.52	173
174.0	18:41	174.0	140.2	11	202	121	30	1345	2436	526	1125	9.3	14.3	173.9	25.5	0.000	3.3	0.99	0.52	174
175.0	18:42	175.0	180.0	8	203	123	29	1345	2436	532	1131	9.3	14.3	174.9	25.5	0.000	3.3	0.99	0.44	175
176.0	18:42	176.0	156.5	11	203	124	26	1344	2438	536	1128	9.3	14.3	175.9	25.7	0.000	3.4	1.00	0.50	176
177.0	18:43	177.0	150.0	11	203	129	28	1345	2436	540	1129	9.3	14.3	176.7	25.7	0.000	3.4	1.00	0.52	177
178.0	18:43	178.0	150.0	11	202	133	31	1345	2438	544	1129	9.3	14.4	177.5	25.7	0.000	3.4	1.01	0.52	178
179.0	18:43	179.0	144.0	8	202	133	31	1345	2441	548	1126	9.3	14.4	178.4	25.6	0.000	3.5	1.02	0.50	179
180.0	18:44	180.0	163.6	9	201	132	33	1345	2442	556	1132	9.3	14.4	179.0	25.5	0.000	3.5	1.02	0.49	180
181.0	18:44	181.0	133.3	9	200	132	35	1344	2440	558	1129	9.3	14.4	181.0	25.5	0.000	3.6	1.03	0.52	181
182.0	18:44	182.0	180.0	10	200	132	35	1344	2440	566	1131	9.3	14.4	181.8	25.4	0.000	3.6	1.04	0.48	182
183.0	18:45	183.0	163.6	11	200	132	36	1344	2441	569	1130	9.3	14.4	182.7	25.5	0.000	3.6	1.04	0.51	183
184.0	18:45	184.0	156.5	8	201	132	32	1344	2438	573	1129	9.3	14.4	183.8	25.6	0.000	3.8	1.05	0.49	184
185.0	18:46	185.0	163.6	10	202	133	28	1345	2437	577	1128	9.3	14.4	184.7	26.3	0.000	3.8	1.06	0.50	185
186.0	18:46	186.0	150.0	9	202	133	32	1345	2440	579	1130	9.3	14.5	185.7	26.6	0.000	3.8	1.06	0.51	186
187.0	18:46	187.0	138.5	11	202	133	29	1344	2441	579	1129	9.3	14.5	186.4	26.6	0.000	3.9	1.07	0.54	187
188.0	18:47	188.0	150.2	9	202	133	28	1345	2440	581	1131	9.3	14.5	187.0	26.6	0.000	3.9	1.07	0.51	188
189.0	18:47	189.0	124.1	8	203	133	27	1345	2441	579	1130	9.3	14.5	188.2	26.6	0.000	4.1	1.08	0.53	189
190.0	18:48	190.0	180.0	10	203	133	27	1344	2443	579	1127	9.3	14.5	189.0	26.6	0.000	4.1	1.09	0.48	190
191.0	18:48	191.0	128.6	9	202	133	27	1347	2443	579	1128	9.3	14.5	190.6	26.6	0.000	4.1	1.10	0.53	191
192.0	18:48	192.0	128.6	11	201	133	34	1348	2442	578	1127	9.3	14.5	191.2	26.5	0.000	4.2	1.10	0.56	192
193.0	18:49	193.0	100.0	11	201	132	34	1348	2442	573	1123	9.3	14.6	192.8	26.5	0.000	4.2	1.11	0.60	193
194.0	18:49	194.0	176.3	9	199	132	38	1348	2440	571	1121	9.3	14.6	193.6	26.5	0.000	4.3	1.12	0.47	194
195.0	18:50	195.0	133.3	11	197	131	48	1348	2440	571	1120	9.3	14.6	194.5	26.5	0.000	4.3	1.13	0.55	195
196.0	18:50	196.0	112.5	11	199	132	38	1349	2441	567	1117	9.3	14.6	195.5	26.5	0.000	4.5	1.13	0.58	196
197.0	18:58	198.7	128.0	9	209	101	13	823	1134	605	1154	9.3	14.6	196.0	26.5	0.000	5.8	1.30	0.48	197
198.0	18:58	199.5	132.3	9	209	101	20	822	1141	605	1155	9.3	14.6	196.0	26.5	0.000	5.8	1.30	0.48	198
199.0	18:59	200.4	123.8	10	209	101	0	925	1353	602	1152	9.3	14.6	209.3	27.0	0.000	5.8	1.30	0.50	199
200.0	18:59	201.3	135.6	10	210	101	0	1076	1747	596	1145	9.3	14.6	209.3	27.1	0.000	5.8	1.31	0.48	200
201.0	18:59	202.2	143.9	10	210	101	0	1085	1799	592	1141	9.3	14.6	209.3	27.4	0.000	5.8	1.31	0.48	201
202.0	18:59	203.1	119.2	10	212	112	48	1089	1805	591	1140	9.3	14.6	209.3	27.5	0.000	5.8	1.31	0.53	202
203.0	18:59	203.9	144.5	11	211	139	13	1089	1805	591	1138	9.3	14.6	209.7	27.3	0.000	5.8	1.31	0.54	203
204.0	18:59	204.8	146.1	10	212	139	13	1089	1805	586	1135	9.3	14.6	209.7	27.3	0.000	5.8	1.31	0.53	204
205.0	18:59	205.8	145.0	11	211	138	16	1089	1806	586	1135	9.3	14.6	209.7	27.4	0.000	5.8	1.31	0.54	205
206.0	18:59	206.7	124.3	9	212	139	13	1089	1807	586	1135	9.3	14.6	209.7	27.4	0.000	5.8	1.32	0.55	206
207.0	18:59	207.5	133.8	9	211	139	13	1089	1809	580	1128	9.3	14.6	210.2	27.5	0.000	5.8	1.32	0.54	207
208.0	18:59	208.5	129.0	10	211	139	15	1151	1966	580	1128	9.3	14.6	210.2	27.4	0.000	5.8	1.32	0.55	208
209.0	18:59	209.4	139.1	9	211	139	13	1146	1987	579	1128	9.3	14.6	210.2	27.5	0.000	5.8	1.32	0.53	209
210.0	19:00	210.3	149.7	9	211	139	13	1144	1982	576	1126	9.3	14.6	211.6	27.7	0.000	5.8	1.32	0.51	210
211.0	19:00	211.2	122.3	10	212	139	14	1145	1983	575	1125	9.3	14.6	211.6	27.9	0.000	5.8	1.32	0.56	211
212.0	19:00	212.1	141.5	11	211	139	13	1148	1981	574	1125	9.3	14.6	211.6	26.6	0.000	5.8	1.32	0.54	212
213.0	19:00	213.0	131.2	10	212	139	14	1144	1978	574	1124	9.3	14.6	211.6	27.9	0.000	5.8	1.33	0.55	213
214.0	19:00	214.0	112.5	9	208	138	28	1150	1981	568	1116	9.3	14.6	213.7	27.9	0.000	6.0	1.34	0.57	214
215.0	19:01	215.0	163.6	10	206	137	34	1152	1986	565	1114	9.3	14.6	214.3	27.9	0.000	6.0	1.34	0.51	215

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
215.0	19:01	215.0	163.6	10	206	137	34	1152	1986	565	1114	9.3	14.6	214.3	27.9	0.000	6.0	1.34	0.51	215
216.0	19:01	216.0	124.1	10	205	137	36	1152	1987	560	1109	9.3	14.6	215.9	27.9	0.000	6.1	1.35	0.56	216
217.0	19:02	217.0	189.5	9	205	137	39	1151	1988	560	1111	9.3	14.6	215.9	27.9	0.000	6.1	1.35	0.47	217
218.0	19:02	218.0	225.0	11	203	137	44	1164	2033	560	1108	9.3	14.6	216.7	27.9	0.000	6.1	1.36	0.45	218
219.0	19:02	219.0	200.0	10	202	136	44	1164	2043	557	1107	9.3	14.6	217.7	28.0	0.000	6.3	1.36	0.47	219
220.0	19:02	220.0	215.0	8	203	137	42	1168	2044	557	1106	9.3	14.6	219.2	28.0	0.000	6.3	1.37	0.43	220
221.0	19:03	221.0	133.3	10	200	136	56	1168	2047	561	1112	9.3	14.7	220.1	28.1	0.000	6.3	1.38	0.54	221
222.0	19:03	222.0	240.0	11	199	135	62	1169	2049	559	1108	9.3	14.7	221.4	28.1	0.000	6.3	1.38	0.44	222
223.0	19:03	223.0	256.0	11	196	135	65	1170	2049	560	1110	9.3	14.7	221.4	28.3	0.000	6.4	1.38	0.42	223
224.0	19:04	224.0	200.0	12	195	133	80	1172	2054	560	1109	9.3	14.7	222.9	28.5	0.000	6.4	1.39	0.48	224
225.0	19:04	225.0	226.0	12	197	134	70	1169	2055	559	1107	9.3	14.7	224.3	28.5	0.000	6.4	1.39	0.46	225
226.0	19:04	226.0	189.5	11	198	135	62	1171	2055	559	1108	9.3	14.7	225.6	28.6	0.000	6.4	1.40	0.48	226
227.0	19:04	227.0	171.4	9	200	136	54	1169	2057	558	1107	9.3	14.7	226.6	28.7	0.000	6.5	1.40	0.49	227
228.0	19:05	228.0	163.6	10	199	135	65	1168	2058	559	1106	9.3	14.7	227.6	28.8	0.000	6.5	1.41	0.51	228
229.0	19:05	229.0	156.5	11	198	135	65	1166	2061	558	1109	9.3	14.7	228.5	28.9	0.000	6.5	1.42	0.52	229
230.0	19:05	230.0	225.0	10	199	135	58	1167	2062	560	1110	9.3	14.7	229.8	29.0	0.000	6.7	1.42	0.44	230
231.0	19:06	231.0	169.0	10	199	136	53	1164	2063	557	1107	9.3	14.7	229.8	29.1	0.000	6.7	1.42	0.50	231
232.0	19:06	232.0	150.0	11	198	135	60	1168	2063	558	1108	9.3	14.7	231.2	29.0	0.000	6.7	1.43	0.53	232
233.0	19:06	233.0	176.0	9	200	137	51	1164	2061	558	1108	9.3	14.7	231.9	28.9	0.000	6.7	1.43	0.48	233
234.0	19:07	234.0	189.5	8	201	137	53	1182	2109	559	1107	9.3	14.8	233.0	28.7	0.000	6.8	1.44	0.46	234
235.0	19:07	235.0	171.4	10	199	135	64	1186	2121	558	1106	9.3	14.8	234.2	28.6	0.000	6.8	1.44	0.50	235
236.0	19:07	236.0	171.4	10	199	136	63	1184	2121	560	1108	9.3	14.8	235.2	28.6	0.000	6.8	1.45	0.50	236
237.0	19:08	237.0	156.5	9	200	136	55	1187	2128	561	1112	9.3	14.8	236.3	28.6	0.000	7.0	1.46	0.51	237
238.0	19:08	238.0	156.5	9	200	136	59	1185	2127	559	1109	9.3	14.8	237.1	28.6	0.000	7.0	1.46	0.50	238
239.0	19:08	239.0	157.3	12	197	135	71	1184	2125	563	1113	9.3	14.8	238.0	28.6	0.000	7.0	1.47	0.53	239
240.0	19:09	240.0	112.5	12	197	136	63	1183	2124	560	1109	9.3	14.8	239.4	28.6	0.000	7.1	1.48	0.60	240
241.0	19:20	241.0	125.0	25	185	136	60	1170	2080	567	1112	9.3	14.8	240.9	28.6	0.000	7.2	1.56	0.67	241
242.0	19:20	242.0	144.0	6	204	137	50	1156	2065	597	1113	9.3	14.8	241.7	28.6	0.000	7.2	1.56	0.49	242
243.0	19:23	243.9	120.0	9	202	138	50	1148	2037	600	1103	9.3	14.8	242.7	26.6	0.000	7.7	1.61	0.55	243
244.0	19:23	244.8	155.3	10	201	138	61	1126	1963	607	1097	9.3	14.8	242.7	29.0	0.000	7.7	1.61	0.51	244
245.0	19:23	245.7	134.6	8	202	138	54	1126	1962	608	1099	9.3	14.9	242.7	29.1	0.000	7.7	1.62	0.52	245
246.0	19:23	246.6	148.2	9	201	138	62	1127	1965	612	1105	9.3	14.9	242.7	29.2	0.000	7.7	1.62	0.52	246
247.0	19:23	247.5	157.9	7	204	139	43	1127	1961	613	1106	9.3	14.8	242.7	29.2	0.000	7.7	1.62	0.48	247
248.0	19:24	248.4	129.2	7	204	139	42	1126	1964	611	1103	9.3	14.9	250.2	29.2	0.000	7.7	1.62	0.51	248
249.0	19:24	249.3	158.6	7	204	139	45	1127	1965	611	1101	9.3	14.9	250.2	29.0	0.000	7.7	1.62	0.48	249
250.0	19:24	250.2	160.4	7	203	139	45	1126	1964	607	1098	9.3	14.9	250.2	29.1	0.000	7.7	1.62	0.48	250
251.0	19:24	251.1	159.2	9	202	139	56	1126	1965	609	1100	9.3	14.9	251.0	27.0	0.000	7.7	1.63	0.50	251
252.0	19:24	252.0	135.1	7	203	139	44	1126	1965	608	1100	9.3	14.9	251.0	29.1	0.000	7.7	1.63	0.51	252
253.0	19:24	253.3	146.1	7	204	139	50	1126	1964	609	1102	9.3	14.9	252.0	29.0	0.000	7.9	1.64	0.50	253
254.0	19:24	254.2	140.6	8	203	138	52	1126	1965	611	1107	9.3	14.9	252.0	29.0	0.000	7.9	1.64	0.51	254
255.0	19:25	255.1	152.3	6	205	139	40	1126	1965	610	1101	9.3	14.9	255.3	27.1	0.000	7.9	1.64	0.47	255
256.0	19:25	256.0	164.7	5	206	139	37	1126	1963	608	1095	9.2	14.9	255.3	29.1	0.000	7.9	1.64	0.45	256
257.0	19:25	257.0	132.9	7	204	139	47	1126	1966	609	1099	9.2	14.9	256.3	29.1	0.000	7.9	1.65	0.51	257
258.0	19:25	258.0	155.1	7	204	139	46	1126	1966	609	1096	9.2	14.9	257.1	29.2	0.000	8.0	1.65	0.49	258
259.0	19:26	259.0	143.2	7	203	139	49	1126	1968	611	1102	9.2	14.9	258.1	29.3	0.000	8.0	1.66	0.50	259
260.0	19:26	260.0	158.8	8	203	138	50	1126	1971	611	1100	9.2	14.9	259.0	29.3	0.000	8.0	1.66	0.49	260
261.0	19:26	261.0	144.1	9	202	138	52	1126	1971	613	1107	9.2	14.9	260.3	29.4	0.000	8.2	1.67	0.52	261
262.0	19:27	262.0	156.5	7	204	139	46	1126	1973	611	1103	9.2	14.9	261.7	29.5	0.000	8.2	1.67	0.48	262
263.0	19:27	263.0	124.1	6	204	139	45	1128	1975	611	1104	9.2	14.9	262.5	29.6	0.000	8.2	1.68	0.52	263
264.0	19:28	264.0	90.0	6	205	139	40	1147	2038	612	1104	9.2	14.9	263.7	29.6	0.000	8.3	1.69	0.56	264

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
264.0	19:28	264.0	90.0	6	205	139	40	1147	2038	612	1104	9.2	14.9	263.7	29.6	0.000	8.3	1.69	0.56	264
265.0	19:28	265.0	97.3	6	205	139	41	1166	2095	611	1105	9.2	14.9	264.7	29.7	0.000	8.5	1.70	0.55	265
266.0	19:29	266.0	112.5	5	205	139	40	1166	2097	611	1103	9.2	14.9	265.9	29.7	0.000	8.5	1.71	0.52	266
267.0	19:29	267.1	189.5	6	205	139	43	1166	2100	614	1107	9.2	15.0	265.9	29.7	0.000	8.5	1.72	0.44	267
268.0	19:30	268.0	180.0	7	203	139	47	1166	2101	611	1101	9.2	15.0	266.9	29.7	0.000	8.6	1.72	0.46	268
269.0	19:41	269.0	52.2	7	203	140	31	1219	2280	610	1101	9.2	15.0	269.0	29.6	0.000	8.8	1.74	0.68	269
270.0	19:41	270.0	200.0	3	209	141	32	1306	2576	580	1073	9.2	14.6	269.0	29.6	0.000	8.8	1.75	0.38	270
271.0	19:42	271.0	144.0	5	207	140	40	1306	2582	579	1072	9.2	14.3	269.8	29.5	0.000	8.8	1.75	0.47	271
272.0	19:42	272.1	163.6	6	206	140	47	1306	2579	574	1067	9.2	14.0	270.5	29.5	0.000	8.9	1.76	0.47	272
273.0	19:42	273.0	140.0	8	204	139	51	1262	2418	574	1068	9.2	13.8	271.9	29.5	0.000	8.9	1.76	0.51	273
274.0	19:43	274.0	157.6	8	204	140	49	1175	2146	571	1064	9.2	13.6	272.9	29.5	0.000	8.9	1.77	0.49	274
275.0	19:43	275.0	225.0	9	203	139	58	1175	2144	572	1068	9.2	13.5	274.8	29.4	0.000	8.9	1.77	0.44	275
276.0	19:43	276.0	200.0	10	202	139	59	1174	2141	569	1064	9.2	13.4	274.8	29.3	0.000	9.1	1.78	0.48	276
277.0	19:43	277.0	240.0	12	200	139	66	1175	2144	568	1062	9.2	13.3	276.0	29.2	0.000	9.1	1.78	0.45	277
278.0	19:44	278.0	225.0	11	201	139	68	1170	2143	569	1065	9.2	13.2	277.0	29.2	0.000	9.1	1.79	0.46	278
279.0	19:44	279.0	227.0	9	203	140	60	1170	2142	567	1062	9.2	13.1	277.0	29.2	0.000	9.1	1.79	0.44	279
280.0	19:44	280.0	257.1	10	202	139	61	1170	2142	569	1066	9.2	13.1	278.8	29.3	0.000	9.2	1.79	0.43	280
281.0	19:44	281.0	240.0	8	204	140	47	1171	2142	568	1063	9.2	13.0	279.7	29.4	0.000	9.2	1.80	0.42	281
282.0	19:45	282.0	200.0	7	205	140	48	1170	2143	568	1061	9.2	13.1	281.4	29.5	0.000	9.2	1.80	0.45	282
283.0	19:45	283.0	180.0	5	207	140	38	1171	2145	566	1059	9.2	13.3	282.5	29.6	0.000	9.2	1.81	0.44	283
284.0	19:45	284.0	144.0	5	207	141	33	1170	2143	571	1066	9.2	13.2	283.7	29.8	0.000	9.4	1.81	0.48	284
285.0	19:46	285.0	109.1	4	208	141	30	1170	2141	571	1064	9.2	13.2	284.7	29.8	0.000	9.4	1.82	0.49	285
286.0	19:47	286.0	53.7	2	210	141	22	1170	2141	431	1065	9.2	13.6	285.7	29.8	0.000	9.5	1.84	0.55	286
287.0	19:47	287.1	133.3	3	209	141	31	1170	2144	352	1062	9.2	13.9	286.8	29.8	0.000	9.7	1.85	0.45	287
288.0	19:48	288.0	156.5	4	208	140	38	1170	2145	352	1062	9.2	14.1	286.9	29.9	0.000	9.7	1.86	0.44	288
289.0	19:48	289.0	133.3	2	210	141	31	1170	2142	355	1061	9.2	14.3	288.0	30.0	0.000	9.7	1.86	0.44	289
290.0	19:49	290.0	138.5	3	209	141	31	1170	2144	354	1063	9.2	14.4	289.6	30.0	0.000	9.9	1.87	0.44	290
291.0	19:49	291.0	80.0	3	209	141	31	1171	2143	356	1062	9.2	14.5	290.9	30.0	0.035	9.9	1.88	0.53	291
292.0	19:50	292.0	128.6	3	209	141	34	1218	2294	358	1066	9.2	14.6	290.9	30.0	0.035	10.0	1.89	0.46	292
293.0	19:50	293.0	116.1	3	209	141	28	1218	2293	357	1060	9.2	14.6	292.7	30.1	0.039	10.0	1.90	0.46	293
294.0	19:51	294.0	156.5	3	209	141	27	1218	2290	355	1054	9.2	14.7	293.1	30.0	0.045	10.2	1.91	0.43	294
295.0	19:51	295.0	138.5	3	209	141	28	1218	2294	357	1058	9.2	14.7	294.0	30.1	0.045	10.2	1.91	0.43	295
296.0	19:52	296.0	73.5	3	209	141	31	1218	2291	356	1052	9.2	14.8	296.0	30.1	0.055	10.3	1.93	0.53	296
297.0	20:05	297.1	62.1	6	206	141	22	1218	2296	358	1050	9.2	14.8	296.8	30.1	0.000	10.5	1.94	0.63	297
298.0	20:05	298.0	150.0	4	217	136	13	1219	2360	374	1033	9.2	15.2	296.8	30.1	0.000	10.5	1.95	0.44	298
299.0	20:06	299.0	124.1	2	212	135	33	1223	2366	366	1026	9.2	15.2	298.9	30.1	0.000	10.5	1.95	0.42	299
300.0	20:06	300.0	189.5	3	210	135	38	1223	2362	363	1021	9.2	14.9	298.9	30.1	0.000	10.5	1.96	0.40	300
301.0	20:07	301.0	109.1	4	210	135	38	1223	2366	357	1013	9.2	14.8	300.8	30.1	0.000	10.7	1.97	0.49	301
302.0	20:07	302.0	100.0	4	209	134	40	1223	2368	360	1019	9.2	14.8	301.4	30.2	0.000	10.7	1.97	0.51	302
303.0	20:07	303.0	111.0	5	209	134	40	1223	2370	360	1015	9.2	14.5	302.6	30.1	0.000	10.7	1.98	0.50	303
304.0	20:08	304.0	133.3	5	209	135	40	1223	2370	360	1016	9.2	14.0	303.4	30.1	0.000	10.8	1.99	0.48	304
305.0	20:08	305.0	189.5	5	208	134	39	1223	2371	361	1018	9.2	13.8	304.2	30.1	0.000	10.8	1.99	0.42	305
306.0	20:08	306.0	124.1	5	208	134	41	1223	2373	363	1017	9.2	14.1	305.4	30.0	0.000	10.8	2.00	0.50	306
307.0	20:09	307.0	109.3	5	208	135	41	1223	2371	363	1018	9.2	14.3	305.9	30.0	0.026	10.9	2.00	0.52	307
308.0	20:09	308.0	156.5	6	208	134	42	1223	2372	364	1019	9.2	14.5	307.1	30.0	0.035	10.9	2.01	0.46	308
309.0	20:10	309.0	105.9	6	208	134	41	1223	2374	366	1017	9.2	14.7	308.8	30.1	0.067	10.9	2.02	0.53	309
310.0	20:10	310.0	180.0	6	207	134	46	1224	2379	367	1018	9.2	14.8	309.8	30.2	0.145	11.1	2.02	0.45	310
311.0	20:10	311.0	138.5	6	207	134	45	1225	2377	372	1023	9.2	14.9	310.7	30.3	0.145	11.1	2.03	0.49	311
312.0	20:11	312.0	163.6	6	207	135	41	1224	2374	370	1020	9.2	15.0	311.5	30.3	0.166	11.1	2.04	0.46	312
313.0	20:11	313.0	120.0	6	207	134	45	1223	2375	370	1020	9.2	14.9	312.2	30.3	0.180	11.2	2.05	0.51	313

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
313.0	20:11	313.0	120.0	6	207	134	45	1223	2375	370	1020	9.2	14.9	312.2	30.3	0.180	11.2	2.05	0.51	313
314.0	20:12	314.0	111.5	6	207	134	45	1223	2377	371	1020	9.2	14.9	312.9	30.3	0.182	11.2	2.05	0.53	314
315.0	20:12	315.0	144.0	6	208	134	43	1225	2380	370	1019	9.2	14.9	313.9	30.4	0.220	11.4	2.06	0.48	315
316.0	20:12	316.1	180.0	6	207	134	41	1223	2381	369	1014	9.2	15.0	315.0	30.4	0.220	11.4	2.06	0.45	316
317.0	20:13	317.0	200.0	5	208	135	42	1224	2381	373	1021	9.2	15.0	315.8	30.5	0.211	11.4	2.07	0.42	317
318.0	20:13	318.0	138.5	6	208	135	42	1223	2381	368	1021	9.2	15.1	317.9	30.6	0.205	11.5	2.07	0.48	318
319.0	20:13	319.0	145.0	6	208	135	37	1224	2381	369	1026	9.2	15.1	318.7	30.7	0.203	11.5	2.08	0.47	319
320.0	20:14	320.0	97.3	5	209	135	37	1226	2383	369	1039	9.2	15.0	319.2	30.4	0.185	11.5	2.09	0.52	320
321.0	20:14	321.0	133.3	6	208	135	41	1225	2382	373	1054	9.2	15.0	320.9	30.3	0.185	11.7	2.10	0.49	321
322.0	20:15	322.0	133.3	6	207	134	42	1225	2380	370	1060	9.2	15.0	321.6	30.3	0.185	11.7	2.10	0.50	322
323.0	20:15	323.0	128.6	7	207	134	42	1223	2381	373	1073	9.2	15.2	322.3	30.2	0.165	11.8	2.11	0.51	323
324.0	20:16	324.0	150.0	6	208	134	37	1223	2380	379	1083	9.2	15.3	322.9	30.1	0.178	11.8	2.12	0.47	324
325.0	20:16	325.0	124.1	6	207	135	41	1223	2380	374	1076	9.2	15.4	324.6	30.2	0.125	11.9	2.13	0.51	325
326.0	20:21	326.0	31.3	6	207	120	22	1226	2380	375	1076	9.2	15.5	325.9	30.2	0.125	12.2	2.16	0.72	326
327.0	20:28	327.0	123.0	6	182	121	40	1230	2400	376	1074	9.2	15.5	326.7	30.2	0.083	12.2	2.20	0.48	327
328.0	20:29	328.0	116.1	5	210	135	43	1237	2471	362	1062	9.2	15.5	327.5	30.3	0.060	12.3	2.21	0.50	328
329.0	20:29	329.0	156.5	6	209	135	41	1240	2479	357	1056	9.2	15.2	328.0	30.3	0.058	12.3	2.22	0.47	329
330.0	20:30	330.0	128.6	7	208	135	45	1245	2500	355	1054	9.2	14.6	329.8	30.5	0.045	12.4	2.22	0.51	330
331.0	20:30	331.0	180.0	7	208	135	47	1249	2519	354	1053	9.2	15.0	331.0	30.6	0.045	12.4	2.23	0.46	331
332.0	20:30	332.0	140.0	8	207	135	43	1263	2568	353	1054	9.2	15,1	331.0	30.6	0.045	12.4	2.23	0.51	332
333.0	20:31	333.0	120.0	8	207	135	44	1269	2584	353	1053	9.2	15.2	332.7	30.5	0.045	12.5	2.24	0.54	333
334.0	20:31	334.0	111.0	8	207	135	55	1271	2583	354	1056	9.2	15.3	332.7	30.4	0.048	12.5	2.25	0.56	334
335.0	20:32	335.0	163.6	9	206	135	48	1286	2638	355	1056	9.2	15.3	334.8	30.4	0.055	12.5	2.25	0.49	335
336.0	20:32	336.1	124.1	8	207	135	49	1295	2669	358	1059	9.2	15.4	335.6	30.4	0.055	12.7	2.26	0.53	336
337.0	20:32	337.0	157.6	9	206	134	54	1295	2671	357	1060	9.2	15.4	336.8	30.5	0.000	12.7	2.27	0.50	337
338.0	20:33	338.0	138.5	8	207	135	47	1295	2673	354	1054	9.2	15.4	337.6	30.6	0.000	12.7	2.27	0.52	338
339.0	20:33	339.0	145.6	8	207	135	49	1295	2673	353	1057	9.2	15.4	338.3	30.7	0.009	12.8	2.28	0.51	339
340.0	20:33	340.0	116.1	9	206	135	50	1296	2673	353	1053	9.2	15.3	339.6	30.9	0.025	12.8	2.29	0.56	340
341.0	20:34	341.0	138.5	9	206	135	55	1295	2673	353	1055	9.2	15.3	340.2	31.0	0.025	12.9	2.29	0.52	341
342.0	20:34	342.0	163.6	9	206	135	54	1295	2674	351	1048	9.2	15.2	341.0	31.1	0.079	12.9	2.30	0.49	342
343.0	20:35	343.0	171.4	7	208	135	44	1295	2678	352	1051	9.2	15.2	342.0	31.2	0.090	12.9	2.30	0.47	343
344.0	20:35	344.0	150.0	7	208	135	41	1296	2681	346	1044	9.2	14.8	343.8	31.3	0.122	13.1	2.31	0.48	344
345.0	20:35	345.0	189.5	7	208	135	39	1296	2684	345	1042	9.2	14.6	344.8	31.5	0.200	13.1	2.32	0.44	345
346.0	20:36	346.0	144.0	6	209	135	42	1296	2684	342	1040	9.2	14.3	345.8	31.5	0.200	13.1	2.32	0.49	346
347.0	20:36	347.0	138.5	6	209	135	40	1295	2686	338	1034	9.2	13.8	346.6	31.6	0.336	13.2	2.33	0.49	347
348.0	20:37	348.0	133.3	6	209	135	43	1296	2686	335	1030	9.2	13.5	346.9	31.6	0.355	13.2	2.34	0.50	348
349.0	20:37	349.0	90.0	5	210	136	36	1295	2689	332	1026	9.2	13.2	348.5	31.7	0.368	13.4	2.35	0.54	349
350.0	20:38	350.0	61.0	4	211	136	34	1295	2688	335	1029	9.2	12.9	349.6	31.7	0.400	13.5	2.37	0.59	350
351.0	20:39	351.0	112.5	5	210	136	36	1295	2688	337	1030	9.2	12.7	350.8	31.8	0.400	13.5	2.37	0.50	351
352.0	20:40	352.1	81.8	6	209	135	41	1295	2689	335	1028	9.2	12.7	352.0	31.8	0.459	13.6	2.39	0.57	352
353.0	20:40	353.0	163.6	6	209	135	41	1295	2686	331	1024	9.2	12.6	352.8	31.9	0.000	13.6	2.39	0.46	353
354.0	20:41	354.0	92.3	5	210	136	38	1295	2687	334	1026	9.2	12.5	353.9	31.9	0.000	13.8	2.40	0.55	354
355.0	20:44	355.0	73.5	8	207	103	21	1295	2686	335	1026	9.2	12.4	354.4	31.9	0.090	0.0	2.42	0.58	355
356.0	20:52	356.0	121.8	6	188	134	40	1280	2650	346	1034	9.2	13.2	355.5	31.9	0.000	0.1	2.46	0.50	356
357.0	20:52	357.0	102.9	4	212	134	41	1272	2664	341	1025	9.2	15.1	356.6	31.9	0.165	0.1	2.47	0.50	357
358.0	20:53	358.0	180.0	5	211	133	48	1273	2667	340	1022	9.2	14.8	357.8	31.9	0.220	0.2	2.48	0.43	358
359.0	20:53	359.0	138.5	6	210	133	49	1280	2685	339	1025	9.2	14.7	358.5	31.9	0.284	0.2	2.49	0.49	359
360.0	20:54	360.0	150.0	7	209	133	53	1281	2689	336	1018	9.2	14.4	359.1	32.0	0.490	0.2	2.49	0.49	360
361.0	20:54	361.0	189.5	8	208	132	57	1281	2692	347	1032	9.2	14.3	360.0	32.1	0.681	0.3	2.50	0.46	361
362.0	20:54	362.0	144.0	8	208	133	52	1281	2691	337	1021	9.2	14.2	360.9	32.3	0.610	0.3	2.50	0.50	362

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
362.0	20:54	362.0	144.0	8	208	133	52	1281	2691	337	1021	9.2	14.2	360.9	32.3	0.610	0.3	2.50	0.50	362
363.0	20:55	363.0	189.5	8	208	133	54	1280	2693	343	1028	9.2	14.0	361.9	32.4	0.601	0.3	2.51	0.46	363
364.0	20:55	364.0	83.7	11	206	132	65	1281	2692	340	1022	9.2	13.7	363.6	32.4	0.595	0.5	2.52	0.63	364
365.0	20:56	365.0	69.2	16	200	132	67	1281	2695	340	1021	9.2	13.3	364.6	32.3	0.700	0.6	2.54	0.72	365
366.0	20:57	366.0	67.9	13	203	132	60	1281	2695	339	1019	9.2	13.0	365.6	32.3	0.595	0.8	2.55	0.70	366
367.0	20:58	367.0	64.3	14	203	131	72	1281	2697	343	1024	9.2	12.9	366.7	32.3	0.795	0.9	2.57	0.71	367
368.0	20:59	368.0	138.5	16	200	132	82	1281	2699	342	1023	9.2	12.8	367.8	32.3	0.795	0.9	2.57	0.58	368
369.0	20:59	369.0	85.7	18	198	130	94	1280	2701	343	1022	9.2	12.9	368.2	32.3	0.635	1.0	2.59	0.70	369
370.0	21:00	370.0	102.9	22	194	130	97	1280	2698	341	1021	9.2	13.0	368.2	32.3	0.450	1.0	2.59	0.69	370
371.0	21:00	371.0	92.3	23	193	129	92	1281	2699	342	1020	9.2	12.8	368.2	32.3	0.450	1.2	2.61	0.72	371
372.0	21:01	372.0	189.5	23	194	131	87	1281	2701	343	1020	9.2	12.7	368.2	32.3	0.360	1.2	2.61	0.56	372
373.0	21:02	373.0	78.3	19	198	130	95	1280	2700	345	1023	9.2	12.9	368.2	32.2	0.330	1.3	2.62	0.72	373
374.0	21:02	374.0	83.7	20	196	131	84	1281	2700	346	1024	9.2	13.2	368.2	32.0	0.330	1.4	2.64	0.72	374
375.0	21:03	375.0	116.1	21	196	129	99	1280	2699	344	1021	9.2	13.4	368.2	31.9	0.215	1.4	2.64	0.65	375
376.0	21:04	376.1	64.3	21	196	130	105	1280	2704	347	1022	9.2	13.7	368.2	31.9	0.160	1.6	2.66	0.78	376
377.0	21:04	377.0	124.1	21	196	130	98	1281	2700	346	1019	9.2	14.1	368.2	32.0	0.150	1.6	2.67	0.64	377
378.0	21:05	378.1	70.6	22	195	129	103	1281	2699	349	1026	9.2	14.3	368.2	32.4	0.170	1.7	2.68	0.77	378
379.0	21:06	379.0	102.9	22	194	129	110	1280	2695	346	1021	9.2	14.1	368.2	32.8	0.170	1.8	2.69	0.69	379
380.0	21:06	380.0	76.6	24	193	129	102	1280	2696	346	1019	9.2	13.9	368.2	32.9	0.270	1.8	2.70	0.77	380
381.0	21:07	381.0	124.1	24	192	129	109	1280	2692	346	1017	9.2	13.8	368.2	41.4	2.845	2.0	2.71	0.66	381
382.0	21:08	382.0	54.5	26	191	129	96	1280	2697	343	1013	9.2	13.3	368.2	41.4	2.845	2.1	2.73	0.86	382
383.0	21:12	383.0	36.7	21	196	130	58	1281	2697	341	1010	9.2	13.0	368.2	41.4	2.903	2.3	2.76	0.90	383
384.0	21:23	384.0	64.0	20	180	133	60	1275	2700	357	1021	9.2	14.1	368.2	41.3	2.935	2.4	2.81	0.78	384
385.0	21:24	385.0	52.9	11	207	133	50	1270	2708	348	1006	9.2	15.5	368.2	41.3	2.876	2.5	2.83	0.73	385
386.0	21:25	386.0	63.2	20	198	131	85	1273	2711	343	1000	9.2	14.4	368.2	41.3	2.430	2.6	2.84	0.78	386
387.0	21:26	387.1	64.3	23	195	131	84	1273	2712	344	1000	9.2	13.9	368.2	41.2	2.314	2.7	2.86	0.80	387
388.0	21:26	388.0	70.0	26	192	128	114	1273	2710	344	995	9.2	13.9	368.2	41.2	0.940	2.7	2.86	0.80	388
389.0	21:27	389.0	64.3	29	189	132	94	1273	2712	342	996	9.2	14.0	368.2	41.2	2.250	2.9	2.87	0.85	389
390.0	21:27	390.0	44.6	26	192	130	110	1273	2713	344	999	9.2	13.9	368.2	41.2	2.239	2.9	2.88	0.91	390
391.0	21:28	391.0	65.3	23	195	131	97	1272	2712	341	996	9.2	13.9	368.2	41.2	2.155	3.0	2.89	0.80	391
392.0	21:28	392.0	81.8	20	198	132	88	1274	2715	343	997	9.2	13.9	368.2	41.2	2.155	3.0	2.90	0.73	392
393.0	21:29	393.0	60.0	21	197	132	90	1274	2716	344	998	9.2	13.7	368.2	41.2	1.725	3.2	2.92	0.80	393
394.0	21:30	394.0	67.9	28	190	130	105	1276	2717	346	1000	9.2	13.3	368.2	41.2	1.725	3.3	2.93	0.82	394
395.0	21:32	395.0	46.8	29	189	132	91	1275	2718	343	995	9.2	13.7	368.2	41.2	1.703	3.4	2.95	0.92	395
396.0	21:33	396.0	36.0	27	191	132	91	1274	2717	347	998	9.2	13.6	368.2	41.2	1.420	3.7	2.98	0.97	396
397.0	21:34	397.0	62.1	27	191	131	99	1275	2721	347	997	9.2	13.9	368.2	41.2	1.364	3.8	3.00	0.84	397
398.0	21:35	398.0	48.0	29	189	130	111	1273	2718	350	998	9.2	14.3	368.2	41.2	1.120	4.0	3.02	0.92	398
399.0	21:36	399.0	83.7	30	188	129	123	1272	2720	351	998	9.2	14.8	368.2	41.1	1.120	4.1	3.03	0.79	399
400.0	21:37	400.0	85.7	27	191	130	112	1275	2720	349	997	9.2	14.9	368.2	41.1	0.985	4.1	3.04	0.76	400
401.0	21:38	401.0	92.3	28	190	130	120	1276	2719	351	996	9.2	15.1	368.2	41.1	0.925	4.2	3.05	0.75	401
402.0	21:38	402.0	67.9	31	187	130	121	1276	2718	352	996	9.2	15.2	368.2	41.1	0.922	4.4	3.07	0.85	402
403.0	21:39	403.0	81.8	31	187	130	136	1276	2717	353	996	9.2	15.4	368.2	41.1	0.900	4.4	3.08	0.80	403
404.0	21:40	404.0	56.3	29	189	131	104	1276	2714	354	997	9.2	15.5	368.2	41.1	0.900	4.5	3.10	0.88	404
405.0	21:42	405.0	41.9	26	192	132	95	1276	2712	354	994	9.2	15.6	368.2	41.1	0.976	4.6	3.12	0.92	405
406.0	21:43	406.0	57.1	25	193	131	97	1277	2709	352	991	9.2	15.6	368.2	41.1	1.010	4.9	3.14	0.85	406
407.0	21:44	407.0	51.4	28	190	131	104	1277	2709	353	989	9.2	15.7	368.2	41.1	1.045	5.1	3.16	0.90	407
408.0	21:45	408.0	54.5	30	188	131	110	1277	2710	353	987	9.2	15.6	368.2	41.2	1.195	5.2	3.17	0.89	408
409.0	21:45	409.0	45.0	25	193	132	94	1276	2709	354	988	9.2	15.7	368.2	41.2	1.195	5.2	3.18	0.90	409
410.0	21:47	410.0	40.0	26	192	132	93	1276	2710	357	988	9.2	15.9	368.2	41.2	1.555	5.5	3.20	0.93	410
411.0	21:48	411.0	45.6	29	189	131	105	1276	2709	356	986	9.2	16.0	368.2	41.2	1.735	5.6	3.23	0.93	411

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
411.0	21:48	411.0	45.6	29	189	131	105	1276	2709	356	986	9.2	16.0	368.2	41.2	1.735	5.6	3.23	0.93	411
412.0	21:52	412.0	33.0	25	193	124	66	1276	2708	357	984	9.2	16.1	368.2	41.2	1.735	5.9	3.26	0.95	412
413.0	22:02	413.0	17.0	12	199	128	75	1274	2743	367	975	9.2	15.8	368.2	41.2	1.866	6.1	3.29	0.94	413
414.0	22:03	414.0	102.9	16	195	127	92	1274	2745	368	975	9.2	15.8	368.2	41.2	1.875	6.2	3.30	0.64	414
415.0	22:04	415.0	100.0	16	195	126	99	1274	2746	370	976	9.2	16.1	368.2	41.2	1.920	6.2	3.31	0.64	415
416.0	22:04	416.0	75.0	18	193	126	113	1274	2746	370	974	9.2	16.2	368.2	41.2	1.990	6.3	3.33	0.72	416
417.0	22:05	417.0	100.0	18	193	126	113	1274	2744	371	975	9.2	16.3	368.2	41.2	1.990	6.4	3.34	0.65	417
418.0	22:06	418.0	94.7	18	193	125	120	1274	2743	370	973	9.2	16.3	368.2	41.2	2.155	6.4	3.35	0.67	418
419.0	22:06	419.0	78.3	22	189	124	140	1274	2743	370	971	9.2	16.3	368.2	41.2	2.155	6.6	3.36	0.74	419
420.0	22:07	420.0	105.9	19	192	126	112	1276	2746	372	973	9.2	16.2	368.2	41.3	2.184	6.7	3.37	0.65	420
421.0	22:08	421.0	90.0	20	191	125	119	1274	2744	374	975	9.2	16.3	368.2	41.3	2.590	6.7	3.38	0.69	421
422.0	22:09	422.1	39.6	23	188	126	106	1274	2743	376	975	9.2	16.4	368.2	41.3	2.590	7.0	3.41	0.91	422
423.0	22:09	423.0	60.0	28	183	125	125	1274	2742	378	979	9.2	16.5	368.2	41.4	2.590	7.0	3.41	0.85	423
424.0	22:10	424.0	73.5	25	186	126	124	1274	2742	378	975	9.2	16.5	423.8	41.4	2.530	7.1	3.42	0.78	424
425.0	22:11	425.0	50.7	26	185	126	117	1274	2742	380	975	9.2	16.5	424.8	41.5	2.530	7.2	3.44	0.87	425
426.0	22:12	426.0	97.3	25	186	125	143	1274	2742	383	977	9.2	16.6	425.9	41.5	2.532	7.2	3.45	0.71	426
427.0	22:12	427.0	133.3	27	184	124	145	1274	2744	385	978	9.2	16.6	426.3	41.5	2.535	7.4	3.46	0.65	427
428.0	22:13	428.0	78.3	30	181	124	157	1274	2743	385	977	9.2	16.6	427.9	41.5	2.535	7.4	3.47	0.80	428
429.0	22:14	429.0	112.5	27	184	124	140	1274	2741	386	979	9.2	16.6	428.7	41.5	2.822	7.5	3.48	0.69	429
430.0	22:14	430.0	92.3	25	186	125	133	1274	2745	390	979	9.2	16.7	429.9	41.5	2.840	7.6	3.49	0.73	430
431.0	22:15	431.0	75.0	26	185	125	135	1274	2747	390	980	9.2	16.7	430.8	41.5	2.598	7.6	3.51	0.78	431
432.0	22:18	432.0	21.1	26	185	125	134	1276	2746	390	977	9.2	16.8	432.0	41.5	2.295	8.0	3.55	1.07	432
433.0	22:20	433.0	34.6	28	183	125	130	1275	2741	391	976	9.2	16.6	432.5	41.5	2.295	8.3	3.58	0.98	433
434.0	22:21	434.0	37.5	26	185	125	131	1277	2740	392	976	9.2	16.6	433.8	41.4	2.425	8.4	3.61	0.94	434
435.0	22:22	435.0	69.2	27	184	125	138	1275	2738	391	972	9.2	16.6	434.6	41.3	2.425	8.5	3.62	0.80	435
436.0	22:23	436.0	97.3	27	184	124	148	1274	2736	396	976	9.2	16.6	435.5	41.4	2.425	8.7	3.63	0.72	436
437.0	22:24	437.0	81.8	27	184	124	147	1274	2733	395	975	9.2	16.6	436.7	41.4	2.425	8.7	3.65	0.77	437
438.0	22:26	438.0	22.8	28	183	125	135	1275	2735	400	977	9.2	16.6	437.9	41.5	2.425	9.0	3.69	1.07	438
439.0	22:30	439.0	32.1	20	191	127	98	1269	2713	402	976	9.2	16.6	438.7	41.5	2.490	9.3	3.72	0.92	439
440.0	22:39	440.0	45.0	23	188	134	115	1269	2750	421	988	9.2	16.6	439.9	41.6	2.490	9.5	3.78	0.88	440
441.0	22:40	441.0	60.0	19	193	133	114	1274	2781	398	964	9.2	16.4	440.9	41.7	2.400	9.6	3.80	0.79	441
442.0	22:41	442.0	83.7	24	189	131	137	1277	2783	399	964	9.2	16.3	441.7	41.7	2.330	9.8	3.81	0.75	442
443.0	22:42	443.0	55.4	27	186	131	136	1278	2784	399	963	9.2	16.4	442.9	41.4	2.330	9.9	3.83	0.87	443
444.0	22:43	444.0	53.7	25	188	132	129	1278	2783	401	962	9.2	15.8	443.7	41.2	2.310	10.0	3.85	0.86	444
445.0	22:44	445.0	69.2	28	184	130	145	1278	2785	403	961	9.2	16.0	444.9	41.5	2.310	10.2	3.86	0.82	445
446.0	22:45	446.0	48.6	27	186	131	136	1278	2783	404	962	9.2	16.1	445.8	41.6	2.228	10.3	3.88	0.90	446
447.0	22:46	447.0	43.4	27	185	131	139	1278	2775	405	961	9.2	16.0	446.8	41.8	2.135	10.4	3.90	0.92	447
448.0	22:47	448.0	83.7	25	188	132	123	1278	2773	406	960	9.2	16.0	447.7	41.8	2.135	10.6	3.92	0.76	448
449.0	22:48	449.0	90.0	23	190	132	129	1278	2775	408	962	9.2	16.1	448.5	41.7	1.975	10.7	3.93	0.73	449
450.0	22:49	450.0	56.3	25	187	131	140	1278	2775	411	961	9.2	16.3	449.5	41.8	1.975	10.8	3.94	0.85	450
451.0	22:50	451.0	45.6	27	185	132	134	1279	2776	413	960	9.2	16.3	450.9	42.0	2.004	11.0	3.97	0.92	451
452.0	22:52	452.0	34.0	29	184	133	121	1278	2775	415	960	9.2	16.5	451.8	42.1	2.470	11.2	4.00	1.00	452
453.0	22:53	453.0	76.6	27	186	132	127	1278	2773	417	957	9.2	16.5	453.0	42.2	2.470	11.4	4.01	0.79	453
454.0	22:54	454.0	65.5	24	188	132	137	1278	2773	420	957	9.2	16.5	453.7	42.2	2.563	11.4	4.02	0.81	454
455.0	22:55	455.0	42.4	27	186	132	128	1279	2771	420	955	9.2	16.6	454.8	42.2	2.785	11.7	4.05	0.93	455
456.0	22:56	456.0	85.7	24	188	132	134	1278	2776	420	953	9.2	16.6	455.4	42.1	2.785	11.7	4.06	0.75	456
457.0	22:57	457.0	50.0	28	184	132	129	1278	2771	421	953	9.2	16.6	456.9	41.7	3.093	11.9	4.08	0.90	457
458.0	22:59	458.0	35.0	26	186	132	125	1278	2768	422	954	9.2	16.5	458.0	41.5	3.155	12.1	4.11	0.97	458
459.0	23:00	459.0	53.7	27	185	132	136	1278	2764	421	957	9.2	16.5	458.8	41.6	3.056	12.2	4.13	0.88	459
460.0	23:01	460.0	53.7	32	183	132	134	1278	2760	420	978	9.2	16.5	459.8	41.7	2.735	12.3	4.14	0.91	460

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
460.0	23:01	460.0	53.7	32	183	132	134	1278	2760	420	978	9.2	16.5	459.8	41.7	2.735	12.3	4.14	0.91	460
461.0	23:02	461.0	48.0	29	187	132	127	1278	2766	420	1002	9.2	16.5	460.9	41.7	2.735	12.6	4.17	0.92	461
462.0	23:04	462.0	30.5	32	184	133	118	1278	2760	420	1031	9.2	16.5	461.7	41.6	2.542	12.9	4.20	1.06	462
463.0	23:05	463.0	97.3	28	188	132	125	1278	2761	420	1037	9.2	16.4	462.8	41.2	2.515	12.9	4.21	0.75	463
464.0	23:06	464.0	57.1	27	189	132	131	1278	2762	419	1035	9.2	16.5	463.8	41.4	2.564	13.0	4.23	0.86	464
465.0	23:07	465.0	62.1	29	187	132	130	1278	2760	420	1038	9.2	16.5	464.9	41.8	2.680	13.1	4.24	0.86	465
466.0	23:09	466.0	33.6	30	186	132	129	1278	2758	419	1034	9.2	16.5	465.9	41.9	2.680	13.4	4.27	1.01	466
467.0	23:13	467.0	25.2	25	191	128	128	1278	2758	420	1030	9.2	17.4	466.9	42.0	2.865	13.7	4.31	1.02	467
468.0	23:13	468.0	35.0	28	213	129	121	1278	2748	415	1027	9.2	17.6	466.9	42.0	2.905	13.7	4.31	0.97	468
469.0	23:23	469.0	19.4	42	175	131	125	1279	2770	402	1015	9.2	16.9	468.8	42.1	2.874	13.8	4.37	1.24	469
470.0	23:24	470.0	54.5	27	191	133	129	1270	2791	327	940	9.2	14.5	469.6	42.2	2.800	13.9	4.38	0.87	470
471.0	23:26	471.0	50.7	30	188	132	142	1271	2790	324	936	9.2	14.1	470.7	42.3	2.800	14.2	4.40	0.91	471
472.0	23:27	472.0	52.9	29	188	132	144	1274	2788	327	938	9.2	13.7	471.6	42.4	3.154	14.3	4.42	0.90	472
473.0	23:28	473.0	47.4	30	188	132	145	1276	2783	329	941	9.2	13.3	472.7	42.4	3.230	14.5	4.44	0.93	473
474.0	23:29	474.0	54.5	28	189	133	136	1276	2783	329	940	9.2	13.0	473.7	42.4	3.147	14.6	4.46	0.88	474
475.0	23:30	475.0	76.6	26	191	133	130	1274	2786	327	938	9.2	12.9	474.9	42.5	2.855	14.7	4.47	0.79	475
476.0	23:31	476.0	67.9	28	189	132	142	1274	2789	326	936	9.2	12.8	475.6	42.5	2.855	14.9	4.49	0.83	476
477.0	23:32	477.0	64.3	31	187	132	156	1274	2796	325	935	9.2	12.7	476.1	42.7	2.591	14.9	4.50	0.86	477
478.0	23:32	478.0	58.0	27	190	132	142	1274	2794	325	939	9.2	12.7	477.8	42.8	1.523	15.0	4.51	0.86	478
479.0	23:33	479.0	52.9	31	187	132	144	1276	2797	326	951	9.2	12.6	478.8	42.8	0.325	15.2	4.53	0.91	479
480.0	23:34	480.0	56.3	35	183	133	140	1274	2795	327	955	9.2	12.5	479.8	42.7	0.267	15.3	4.55	0.92	480
481.0	23:36	481.0	47.4	33	185	133	135	1274	2792	327	956	9.1	12.4	480.8	40.4	2.195	15.4	4.57	0.96	481
482.0	23:37	482.0	43.9	32	186	133	130	1274	2793	328	956	9.1	12.2	481.8	40.4	2.195	15.7	4.59	0.97	482
483.0	23:38	483.0	39.0	29	189	133	139	1274	2790	328	956	9.1	12.3	482.3	40.4	2.195	15.7	4.60	0.98	483
484.0	23:40	484.0	27.5	32	186	134	116	1274	2792	329	957	9.1	12.3	484.0	40.5	2.195	16.0	4.64	1.09	484
485.0	23:41	485.0	40.4	33	185	134	127	1274	2788	327	955	9.1	12.2	484.8	40.6	2.195	16.2	4.67	1.00	485
486.0	23:43	486.0	43.9	31	187	133	132	1274	2789	326	953	9.1	12.2	486.0	40.7	2.195	16.4	4.69	0.97	486
487.0	23:44	487.0	34.0	32	186	133	137	1274	2791	326	954	9.1	12.1	486.6	40.7	2.195	16.7	4.72	1.03	487
488.0	23:46	488.0	49.3	30	188	133	142	1274	2794	326	952	9.1	12.0	487.8	40.8	2.195	16.8	4.74	0.93	488
489.0	23:47	489.0	51.4	31	187	133	128	1274	2792	325	951	9.1	12.0	488.7	40.9	2.195	16.9	4.76	0.93	489
490.0	23:49	490.0	35.0	30	187	133	134	1274	2790	323	949	9.1	12.0	489.9	40.9	2.195	17.2	4.79	1.01	490
491.0	23:50	491.0	63.2	30	187	132	150	1274	2788	322	947	9.1	12.0	490.7	41.0	2.195	17.3	4.80	0.87	491
492.0	23:52	492.0	30.3	31	186	134	127	1274	2790	319	944	9.1	12.0	491.9	41.0	2.195	17.6	4.84	1.06	492
493.0	23:53	493.0	40.4	31	187	133	130	1274	2791	316	940	9.1	11.9	492.9	40.9	2.195	17.7	4.86	0.99	493
494.0	23:55	494.0	33.0	28	190	133	133	1274	2791	314	937	9.1	11.9	494.0	40.9	2.195	18.0	4.89	1.01	494
495.0	23:58	495.0	21.4	31	186	133	138	1268	2784	309	929	9.1	11.9	494.9	40.9	2.195	18.3	4.94	1.14	495
496.0	00:01	496.0	76.6	15	203	119	134	1268	2779	303	921	9.1	11.9	495.7	41.0	2.195	18.5	4.95	0.68	496
497.0	00:12	497.0	16.4	39	178	125	130	1269	2785	314	930	9.1	11.8	497.0	41.0	2.195	18.6	5.01	1.27	497
498.0	00:14	498.0	37.1	29	190	131	127	1271	2790	309	917	9.1	13.0	497.8	41.0	2.195	18.7	5.04	0.99	498
499.0	00:15	499.0	34.0	28	191	131	137	1272	2774	309	915	9.1	12.7	499.0	41.2	2.195	19.0	5.07	1.00	499
500.0	00:17	500.0	40.0	30	189	131	130	1274	2769	310	915	9.1	12.5	499.7	41.3	2.195	19.1	5.09	0.98	500
501.0	00:19	501.0	35.0	27	192	131	132	1272	2769	312	915	9.1	12.3	500.9	41.4	2.276	19.4	5.12	0.98	501
502.0	00:20	502.0	50.0	28	191	130	150	1273	2766	312	913	9.1	12.2	501.6	41.3	2.195	19.5	5.14	0.91	502
503.0	00:22	503.0	35.0	30	189	130	144	1276	2765	313	913	9.1	12.1	502.9	41.3	2.430	19.8	5.17	1.01	503
504.0	00:23	504.0	33.0	33	186	130	141	1277	2762	315	913	9.1	12.0	503.9	41.2	2.155	19.9	5.20	1.05	504
505.0	00:24	505.0	56.3	31	188	130	141	1276	2765	319	913	9.1	11.9	504.8	41.2	1.725	20.1	5.22	0.90	505
506.0	00:26	506.0	42.9	27	192	131	126	1276	2764	322	916	9.1	11.9	506.0	41.2	1.120	20.4	5.24	0.94	506
507.0	00:27	507.0	44.4	26	193	131	127	1276	2763	323	916	9.1	11.9	506.7	41.1	0.925	20.5	5.26	0.92	507
508.0	00:29	508.0	33.3	27	192	131	130	1276	2767	326	916	9.1	11.9	508.0	41.1	1.010	20.8	5.29	1.00	508
509.0	00:29	509.0	25.0	26	193	132	122	1276	2764	327	917	9.1	11.9	508.6	41.2	1.195	20.8	5.30	1.06	509

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
509.0	00:29	509.0	25.0	26	193	132	122	1276	2764	327	917	9.1	11.9	508.6	41.2	1.195	20.6	5.30	1.06	509
510.0	00:32	510.0	24.5	32	187	133	105	1276	2762	329	917	9.1	11.9	509.6	41.2	1.990	21.0	5.34	1.12	510
511.0	00:33	511.0	75.0	29	190	131	130	1276	2761	332	918	9.1	11.8	510.9	41.2	2.155	21.2	5.36	0.82	511
512.0	00:34	512.0	47.4	27	192	132	117	1277	2759	332	919	9.1	11.8	511.9	41.3	2.590	21.3	5.38	0.92	512
513.0	00:35	513.0	73.5	25	194	132	119	1277	2759	334	919	9.1	11.9	513.0	41.4	2.590	21.4	5.39	0.80	513
514.0	00:36	514.0	64.3	26	193	132	123	1276	2756	334	918	9.1	11.9	513.7	41.5	2.530	21.6	5.41	0.84	514
515.0	00:37	515.0	61.0	25	194	133	107	1276	2757	334	916	9.1	11.9	514.9	41.5	2.840	21.7	5.42	0.84	515
516.0	00:38	516.0	69.2	25	194	132	132	1276	2754	335	916	9.1	11.8	515.9	41.5	2.295	21.9	5.44	0.81	516
517.0	00:41	517.0	19.7	27	192	133	102	1276	2752	335	914	9.1	11.8	516.8	41.5	2.490	22.3	5.49	1.13	517
518.0	00:42	518.0	38.3	30	189	133	106	1276	2754	333	909	9.1	11.9	517.5	41.5	2.310	22.4	5.51	1.00	518
519.0	00:43	519.0	94.7	23	196	132	121	1276	2757	332	907	9.1	11.8	518.7	41.7	2.135	22.5	5.52	0.72	519
520.0	00:44	520.0	65.5	22	197	132	117	1276	2757	332	907	9.1	11.8	519.6	41.8	1.975	22.7	5.54	0.80	520
521.0	00:45	521.0	69.2	21	198	132	114	1276	2755	332	905	9.1	11.8	520.7	42.0	2.470	22.8	5.55	0.78	521
522.0	00:45	522.0	75.0	21	198	133	111	1276	2754	332	906	9.1	11.8	521.4	42.2	2.785	22.8	5.57	0.77	522
523.0	00:48	523.0	26.5	22	197	133	101	1277	2757	332	905	9.1	11.9	523.0	41.8	2.735	23.2	5.61	1.00	523
524.0	00:49	524.0	58.1	20	199	133	105	1277	2759	332	903	9.1	11.8	524.0	41.4	2.515	23.3	5.62	0.81	524
525.0	00:53	525.0	34.3	16	203	134	112	1276	2760	332	903	9.1	11.8	524.6	42.0	2.855	23.6	5.65	0.88	525
526.0	01:05	526.0	12.9	29	191	131	115	1277	2770	364	940	9.1	15.7	525.3	41.2	1.550	23.8	5.73	1.23	526
527.0	01:06	527.0	46.8	16	204	130	120	1251	2786	354	954	9.1	16.1	526.8	41.7	4.245	23.9	5.75	0.81	527
528.0	01:07	528.0	47.4	22	199	128	123	1251	2788	352	947	9.1	16.6	528.0	41.2	3.325	24.0	5.77	0.86	528
529.0	01:08	529.0	59.0	19	202	128	113	1251	2785	353	948	9.1	16.7	528.5	42.0	4.828	24.2	5.78	0.79	529
530.0	01:08	530.0	81.8	19	201	128	114	1251	2786	354	947	9.1	16.6	529.7	42.4	4.445	24.2	5.79	0.72	530
531.0	01:09	531.0	58.1	22	199	127	127	1251	2786	353	949	9.1	16.6	530.7	42.1	3.774	24.3	5.81	0.82	531
532.0	01:11	532.0	38.3	26	194	128	115	1255	2789	353	947	9.1	16.6	531.7	42.1	3.690	24.6	5.84	0.95	532
533.0	01:13	533.0	39.1	29	191	126	139	1255	2791	352	941	9.1	16.5	532.7	42.1	3.870	24.7	5.86	0.97	533
534.0	01:15	534.2	22.9	29	192	125	143	1255	2790	354	941	9.1	16.6	533.0	42.5	2.250	25.1	5.91	1.09	534
535.0	01:16	535.1	27.0	29	192	126	154	1255	2796	353	941	9.1	16.7	533.0	42.6	3.570	25.1	5.91	1.05	535
536.0	01:16	536.0	34.0	31	190	126	151	1255	2789	354	939	9.1	16.8	535.3	42.5	2.025	25.1	5.92	1.02	536
537.0	01:18	537.0	28.8	31	190	127	133	1258	2795	355	940	9.1	17.1	536.9	42.3	1.690	25.4	5.95	1.06	537
538.0	01:20	538.0	35.6	32	188	128	127	1256	2795	358	942	9.1	17.5	537.7	42.5	2.025	25.6	5.98	1.02	538
539.0	01:21	539.0	57.1	28	192	125	145	1258	2796	358	940	9.1	17.5	538.8	41.9	1.606	25.6	6.00	0.87	539
540.0	01:22	540.0	41.9	30	190	127	132	1254	2794	358	939	9.1	17.6	539.9	42.2	3.880	25.9	6.02	0.96	540
541.0	01:24	541.0	36.7	32	189	126	146	1257	2790	358	939	9.1	17.6	541.0	42.5	5.075	26.0	6.05	1.00	541
542.0	01:26	542.0	36.7	31	190	127	138	1258	2787	359	937	9.1	17.6	541.8	42.1	3.880	26.3	6.08	1.00	542
543.0	01:27	543.0	40.9	31	190	126	146	1256	2787	360	937	9.1	17.6	542.8	42.6	3.182	26.4	6.10	0.97	543
544.0	01:30	544.0	22.4	34	187	127	131	1257	2784	360	936	9.1	17.6	544.0	42.7	2.725	26.8	6.15	1.14	544
545.0	01:31	545.0	43.9	29	192	127	134	1259	2784	362	936	9.1	17.7	544.7	42.8	2.745	26.9	6.17	0.94	545
546.0	01:33	546.0	40.9	29	192	127	139	1260	2784	365	938	9.1	17.9	546.0	42.7	2.725	27.2	6.19	0.95	546
547.0	01:33	547.0	70.6	29	191	126	152	1259	2785	367	938	9.1	18.1	546.5	42.9	2.259	27.2	6.21	0.83	547
548.0	01:35	548.0	37.5	30	190	126	147	1257	2783	367	938	9.1	18.1	547.9	43.2	2.350	27.5	6.24	0.99	548
549.0	01:37	549.0	38.7	32	189	126	154	1253	2783	369	939	9.1	18.2	548.9	43.2	2.361	27.6	6.26	0.99	549
550.0	01:39	550.0	27.3	33	188	127	133	1254	2779	373	941	9.1	18.2	550.0	43.3	2.260	28.0	6.30	1.09	550
551.0	01:41	551.0	23.7	32	189	127	132	1256	2781	376	942	9.1	18.3	550.8	43.2	2.375	28.3	6.34	1.11	551
552.0	01:43	552.0	34.6	31	190	134	138	1254	2783	378	942	9.1	18.3	551.9	43.3	2.190	28.5	6.37	1.02	552
553.0	01:45	553.0	25.5	27	193	141	129	1254	2779	381	943	9.1	18.4	552.8	43.4	1.755	28.8	6.41	1.08	553
554.0	02:26	726.8	29.0	38	191	140	144	1041	2922	288	1054	9.1	25.6	-999.3	43.5	2.230	33.1	6.44	1.14	554
555.0	02:26	726.8	33.9	39	190	140	168	1041	2921	288	1053	9.1	25.6	-999.3	43.5	2.230	33.1	6.44	1.11	555
556.0	02:26	726.8	37.4	40	189	140	164	1040	2917	285	1049	9.1	25.6	-999.3	43.5	2.230	33.1	6.44	1.09	556
557.0	02:26	726.8	27.1	37	192	140	164	1041	2916	284	1049	9.1	25.6	-999.3	43.5	2.230	33.1	6.44	1.15	557
558.0	02:26	726.8	37.7	40	189	140	165	1040	2922	285	1049	9.1	25.6	-999.3	44.1	0.435	33.1	6.45	1.09	558

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
558.0	02:26	726.8	37.7	40	189	140	165	1040	2922	285	1049	9.1	25.6	-999.3	44.1	0.435	33.1	6.45	1.09	558
559.0	02:26	726.8	38.4	40	189	140	172	1040	2923	288	1056	9.1	25.6	-999.3	43.9	0.000	33.1	6.45	1.08	559
560.0	02:26	727.0	37.9	40	189	140	167	1040	2921	288	1061	9.1	25.6	-999.3	43.9	0.000	33.1	6.45	1.09	560
561.0	02:26	727.0	29.2	41	188	140	162	1040	2921	288	1060	9.1	25.6	-999.3	43.9	0.000	33.1	6.45	1.16	561
562.0	02:26	727.0	33.2	42	187	140	158	1041	2926	288	1058	9.1	25.6	-999.3	43.8	0.000	33.1	6.45	1.13	562
563.0	02:26	727.1	31.2	43	186	140	165	1041	2922	288	1057	9.1	25.6	-999.3	43.8	0.855	33.1	6.45	1.16	563
564.0	02:26	727.2	35.4	41	188	141	151	1041	2916	288	1057	9.1	25.6	574.6	43.8	0.855	33.1	6.45	1.11	564
565.0	02:27	727.2	39.9	42	187	139	161	1041	2920	288	1057	9.1	25.6	574.6	43.8	0.855	33.1	6.45	1.09	565
566.0	02:27	727.2	28.4	41	188	140	171	1041	2916	288	1058	9.1	25.6	574.6	43.8	6.390	33.1	6.46	1.17	566
567.0	02:27	727.2	36.4	39	190	140	158	1040	2919	287	1061	9.1	25.5	574.6	43.8	6.390	33.2	6.46	1.09	567
568.0	02:27	727.2	32.1	39	190	140	159	1040	2918	287	1062	9.1	25.5	574.6	43.9	6.390	33.2	6.46	1.12	568
569.0	02:27	727.2	37.7	40	189	141	142	1040	2917	287	1061	9.1	25.5	574.6	44.0	6.390	33.2	6.46	1.09	569
570.0	02:27	727.4	32.4	40	189	140	159	1040	2918	287	1063	9.1	25.5	574.6	44.1	6.390	33.2	6.46	1.13	570
571.0	02:27	727.4	27.9	39	190	140	163	1040	2914	288	1064	9.1	25.5	574.6	44.1	6.375	33.2	6.46	1.16	571
572.0	02:27	727.4	35.6	40	189	140	175	1040	2923	288	1065	9.1	25.5	574.6	44.2	6.375	33.2	6.47	1.10	572
573.0	02:27	727.4	31.0	38	191	140	168	1041	2921	287	1063	9.1	25.5	574.6	44.3	6.375	33.2	6.47	1.12	573
574.0	02:27	727.4	39.0	41	188	140	169	1040	2927	287	1064	9.1	25.5	574.6	44.3	6.375	33.2	6.47	1.09	574
575.0	02:27	727.5	37.1	39	190	141	153	1041	2922	286	1067	9.1	25.5	574.6	43.5	2.355	33.2	6.47	1.09	575
576.0	02:28	729.2	31.2	40	189	140	166	1041	2918	286	1067	9.1	25.5	574.6	44.3	6.375	33.4	6.48	1.14	576
577.0	02:28	729.2	39.5	38	191	142	119	1040	2913	286	1069	9.1	25.6	574.6	43.7	2.295	33.4	6.48	1.07	577
578.0	02:29	578.0	37.7	39	190	141	142	1041	2907	284	1070	9.1	25.6	574.6	44.3	6.375	33.5	6.50	1.09	578
579.0	02:31	579.0	37.9	40	189	140	167	1041	2910	281	1079	9.1	25.5	574.6	44.4	6.110	33.6	6.52	1.08	579
580.0	02:32	580.1	44.4	39	190	141	148	1041	2913	282	1084	9.1	25.5	574.6	44.6	6.387	33.9	6.55	1.04	580
581.0	02:33	581.0	76.6	38	191	141	152	1041	2911	285	1084	9.1	25.4	574.6	44.7	5.884	34.1	6.56	0.89	581
582.0	02:37	582.0	15.3	40	189	141	138	1040	2909	283	1081	9.1	25.4	574.6	44.6	5.370	34.5	6.63	1.33	582
583.0	02:42	583.2	16.5	35	194	141	129	1227	2912	285	1086	9.1	25.5	574.6	44.5	3.781	35.1	6.69	1.26	583
584.0	02:54	584.1	19.3	42	187	141	132	1228	2950	304	1126	9.1	29.1	583.7	44.6	3.940	35.2	6.74	1.28	584
585.0	02:55	585.0	39.6	37	194	140	142	1229	2957	296	1113	9.1	39.9	583.7	44.6	3.940	35.4	6.76	1.05	585
586.0	02:57	586.1	33.0	36	194	141	139	1230	2961	299	1115	9.1	39.9	583.7	44.6	3.940	35.7	6.79	1.10	586
587.0	02:58	587.1	40.0	37	193	140	151	1227	2962	302	1117	9.1	40.0	583.7	44.7	3.940	35.8	6.82	1.05	587
588.0	03:00	588.1	37.1	38	193	140	147	1228	2965	306	1120	9.1	40.1	583.7	44.7	3.940	36.2	6.85	1.08	588
589.0	03:01	589.0	50.7	38	193	140	149	1230	2971	309	1122	9.1	40.1	583.7	44.6	3.940	36.3	6.87	1.00	589
590.0	03:03	590.1	43.4	40	191	140	152	1229	2973	312	1124	9.1	40.1	583.7	44.6	3.940	36.5	6.89	1.05	590
591.0	03:04	591.2	34.3	40	190	141	134	1228	2980	317	1128	9.1	40.1	583.7	44.6	3.940	36.7	6.92	1.12	591
592.0	03:06	592.0	31.9	39	192	141	136	1229	2978	321	1131	9.1	40.1	583.7	44.6	3.940	37.0	6.95	1.12	592
593.0	03:08	593.0	41.4	40	190	141	139	1230	2979	326	1133	9.1	40.1	583.7	44.6	3.940	37.2	6.97	1.07	593
594.0	03:10	594.1	30.8	41	190	139	173	1230	2970	333	1138	9.1	40.1	583.7	44.6	3.940	37.5	7.01	1.15	594
595.0	03:12	595.1	31.0	40	191	139	170	1231	2958	338	1142	9.1	40.1	583.7	44.6	3.997	37.7	7.04	1.14	595
596.0	03:13	596.2	40.9	39	191	139	169	1231	2966	340	1143	9.1	40.1	584.5	44.6	4.047	37.9	7.06	1.06	596
597.0	03:15	597.1	40.0	40	190	140	167	1230	2969	343	1144	9.1	40.1	585.5	44.7	4.496	38.2	7.09	1.07	597
598.0	03:16	598.1	40.4	41	189	140	152	1229	2971	344	1144	9.1	40.1	586.1	44.7	4.589	38.3	7.11	1.08	598
599.0	03:18	599.0	33.3	38	192	141	139	1229	2970	342	1140	9.1	40.1	587.5	44.6	4.264	38.6	7.14	1.11	599
600.0	03:19	600.0	41.4	39	192	140	154	1230	2963	342	1139	9.1	40.0	588.6	44.7	3.981	38.7	7.17	1.05	600
601.0	03:21	601.1	37.5	41	189	140	155	1230	2964	341	1137	9.1	40.1	589.8	44.7	3.960	39.0	7.19	1.10	601
602.0	03:23	602.0	27.9	38	192	140	151	1230	2954	339	1134	9.1	40.1	590.8	44.7	4.230	39.3	7.23	1.15	602
603.0	03:25	603.0	34.0	39	192	140	172	1229	2953	339	1130	9.1	40.2	591.9	44.8	4.576	39.6	7.26	1.10	603
604.0	03:27	604.0	24.7	38	193	140	195	1228	2955	337	1129	9.1	40.2	593.0	44.7	3.945	39.9	7.30	1.18	604
605.0	03:29	605.1	41.4	39	191	140	228	1227	2954	337	1127	9.1	40.3	593.9	44.6	3.940	40.0	7.32	1.06	605
606.0	03:30	606.1	35.3	37	194	140	202	1229	2948	337	1125	9.1	40.3	594.8	44.6	3.870	40.3	7.35	1.08	606
607.0	03:32	607.1	41.4	37	193	140	212	1231	2951	337	1125	9.1	40.4	595.9	44.6	4.580	40.5	7.38	1.04	607

607.0	03:32	607.1	41.4	37	193	140	212	1231	2951	337	1125	9.1	40.4	595.9	44.6	4.580	40.5	7.38	1.04	607
608.0	03:33	608.9	59.0	39	191	140	203	1227	2945	336	1122	9.1	40.4	596.6	44.7	4.415	40.6	7.39	0.97	608
609.0	03:33	609.1	45.5	36	194	140	214	1227	2947	336	1123	9.1	40.4	596.8	44.7	4.415	40.7	7.40	1.01	609
610.0	03:36	610.0	23.2	37	193	140	206	1229	2948	335	1119	9.1	40.5	598.3	44.6	4.395	41.0	7.44	1.19	610
611.0	03:38	611.1	26.5	38	193	140	195	1227	2950	336	1119	9.1	40.5	599.8	44.7	4.100	41.3	7.48	1.16	611
612.0	03:45	612.3	12.2	31	200	142	146	1228	2950	339	1119	9.1	40.6	603.8	44.7	3.720	42.1	7.56	1.29	612
613.0	03:58	613.1	12.4	34	185	141	159	1197	2931	371	1143	9.1	40.7	605.6	44.8	2.918	42.2	7.64	1.31	613
614.0	04:00	614.0	29.0	31	201	132	167	1197	2888	351	1114	9.1	40.4	607.0	44.8	3.408	42.5	7.68	1.07	614
615.0	04:02	615.1	34.3	38	194	131	192	1216	2946	351	1113	9.1	40.4	607.6	45.0	3.909	42.7	7.70	1.08	615
616.0	04:04	616.2	29.5	37	195	132	176	1218	2950	351	1119	9.1	40.4	609.7	45.0	4.243	43.0	7.74	1.11	616
617.0	04:06	617.0	27.7	38	194	131	189	1218	2952	354	1136	9.1	40.4	610.7	45.0	4.588	43.3	7.77	1.14	617
618.0	04:08	618.0	35.0	37	195	131	192	1218	2953	356	1155	9.1	40.4	611.1	45.1	4.574	43.4	7.80	1.07	618
619.0	04:11	619.0	20.7	39	193	131	194	1218	2957	363	1176	9.1	40.5	611.6	45.4	4.409	43.8	7.85	1.22	619
620.0	04:13	620.0	25.4	39	193	136	183	1218	2962	373	1188	9.1	40.6	611.7	45.5	3.956	44.1	7.89	1.18	620
621.0	04:16	621.0	19.3	39	193	140	209	1218	2958	378	1189	9.1	40.6	612.6	45.4	3.922	44.5	7.94	1.25	621
622.0	04:17	622.2	45.0	42	190	140	211	1218	2955	380	1190	9.1	40.5	612.8	45.3	4.761	44.8	7.97	1.06	622
623.0	04:19	623.0	38.3	39	193	141	199	1218	2954	381	1185	9.1	40.6	613.7	45.4	5.508	44.9	7.99	1.08	623
624.0	04:21	624.0	36.7	36	196	141	192	1219	2962	384	1170	9.1	40.6	614.4	45.6	6.546	45.2	8.02	1.07	624
625.0	04:23	625.2	27.1	40	192	140	238	1219	2954	387	1148	9.1	40.6	615.7	45.6	6.480	45.5	8.06	1.17	625
626.0	04:24	626.0	37.1	40	192	140	214	1221	2952	390	1126	9.1	40.7	616.5	45.7	6.497	45.7	8.08	1.09	626
627.0	04:27	627.1	24.2	37	195	141	182	1259	2946	392	1103	9.1	40.7	617.6	45.8	6.226	46.1	8.12	1.18	627
628.0	04:29	628.2	29.3	36	196	141	183	1298	2948	395	1075	9.1	40.8	618.5	45.7	5.811	46.4	8.16	1.12	628
629.0	04:31	629.1	30.8	38	194	138	203	1297	2948	395	1052	9.1	40.8	619.3	45.8	5.185	46.6	8.19	1.12	629
630.0	04:32	630.0	50.7	41	191	132	199	1300	2943	398	1033	9.1	40.9	619.8	45.9	5.273	46.7	8.21	1.00	630
631.0	04:34	631.0	24.7	39	193	133	186	1297	2948	397	1023	9.1	40.9	620.5	45.9	5.211	47.0	8.25	1.17	631
632.0	04:36	632.1	33.6	41	191	132	216	1297	2953	397	1041	9.1	41.0	621.7	46.0	4.530	47.3	8.28	1.11	632
633.0	04:39	633.0	24.0	39	193	133	187	1297	2956	399	1063	9.1	41.1	623.5	46.0	4.785	47.6	8.32	1.18	633
634.0	04:41	634.0	29.5	37	195	132	199	1297	2950	400	1060	9.1	41.2	624.4	46.0	1.529	47.8	8.36	1.11	634
635.0	04:43	635.1	28.1	39	193	132	197	1297	2940	402	1054	9.1	41.3	625.5	45.3	0.302	48.1	8.39	1.14	635
636.0	04:44	636.0	42.4	36	196	132	199	1297	2944	403	1060	9.1	41.3	626.4	45.6	0.149	48.4	8.42	1.02	636
637.0	04:46	·637.0	33.0	38	194	131	217	1297	2948	403	1081	9.1	41.3	627.2	45.7	5.975	48.5	8.45	1.09	637
638.0	04:49	638.1	25.2	40	192	132	209	1297	2950	404	1107	9.1	41.4	628.3	45.7	5.215	48.9	8.49	1.17	638
639.0	04:51	639.0	20.8	37	195	132	201	1297	2954	405	1131	9.1	41.5	630.1	45.8	5.540	49.2	8.53	1.20	639
640.0	04:58	640.2	13.1	36	196	133	185	1297	2947	405	1155	9.1	41.5	633.0	45.9	4.585	49.9	8.61	1.31	640
641.0	05:05	641.3	24.0	38	183	132	191	1299	2962	427	1225	9.1	41.6	633.9	46.5	4.497	49.9	8.65	1.17	641
642.0	05:07	642.0	44.4	21	213	129	140	1299	2998	370	1226	9.1	41.5	634.6	46.4	4.292	50.1	8.67	0.87	642
643.0	05:09	643.4	31.0	35	198	127	197	1309	3032	340	1204	9.1	41.4	635.7	46.5	3.904	50.3	8.71	1.07	643
644.0	05:10	644.1	33.0	33	201	128	178	1315	3051	333	1194	9.1	41.3	636.6	46.6	4.214	50.5	8.74	1.04	644
645.0	05:13	645.1	25.4	41	193	125	233	1314	3048	334	1194	9.1	41.1	637.8	46.5	3.136	50.9	8.78	1.17	645
646.0	05:15	646.2	27.7	41	192	126	222	1317	3039	340	1199	9.1	41.0	638.6	46.3	1.448	51.1	8.81	1.15	646
647.0	05:16	647.0	43.9	41	192	126	221	1317	3040	347	1210	9.1	41.0	638.9	46.1	1.012	51.2	8.83	1.03	647
648.0	05:18	648.0	28.8	42	191	126	227	1317	3044	352	1219	9.1	41.0	639.5	45.7	1.430	51.5	8.87	1.15	648
649.0	05:21	649.1	29.0	41	192	126	207	1316	3042	354	1223	9.1	41.0	639.9	46.4	0.991	51.8	8.90	1.14	649
650.0	05:23	650.2	24.5	38	196	134	195	1314	3047	357	1223	9.1	41.1	640.7	46.6	0.630	52.0	8.94	1.17	650
651.0	05:25	651.1	35.3	41	193	133	228	1313	3042	359	1226	9.1	41.2	641.7	46.7	0.403	52.3	8.97	1.10	651

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
651.0	05:25	651.1	35.3	41	193	133	228	1313	3042	359	1226	9.1	41.2	641.7	46.7	0.403	52.3	8.97	1.10	651
652.0	05:25	651.1	29.0	41	192	126	207	1316	3042	354	1223	9.1	41.0	639.9	46.4	0.991	51.8	8.90	1.14	652
653.0	05:29	653.0	36.0	37	196	134	207	1314	3046	362	1229	9.1	41.4	643.7	46.9	0.323	52.9	9.04	1.07	653
654.0	05:31	654.0	26.3	40	193	134	223	1313	3041	363	1229	9.1	41.5	644.6	47.1	0.280	53.1	9.08	1.17	654
655.0	05:34	655.0	20.6	37	197	136	171	1317	3041	365	1232	9.1	41.6	646.0	47.2	0.280	53.6	9.13	1.21	655
656.0	05:36	656.1	25.5	37	196	134	204	1320	3039	364	1230	9.1	41.6	647.2	47.1	0.280	53.8	9.17	1.16	656

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
656.0	05:36	656.1	25.5	37	196	134	204	1320	3039	364	1230	9.1	41.6	647.2	47.1	0.280	53.8	9.17	1.16	656
657.0	05:38	657.1	30.8	39	194	135	189	1318	3035	365	1232	9.1	41.6	648.4	47.2	0.167	54.1	9.20	1.13	657
658.0	05:40	658.1	30.0	36	198	135	193	1316	3036	367	1233	9.1	41.6	649.3	47.3	4.449	54.4	9.23	1.10	658
659.0	05:42	659.0	33.0	38	196	134	200	1317	3034	369	1234	9.1	41.6	650.0	47.4	6.775	54.7	9.26	1.09	659
660.0	05:44	660.1	26.3	40	194	134	198	1314	3033	371	1234	9.1	41.6	651.1	47.4	6.993	54.9	9.30	1.17	660
661.0	05:47	661.1	20.9	38	195	135	182	1316	3026	372	1232	9.1	41.7	652.3	47.5	6.887	55.4	9.35	1.22	661
662.0	05:50	662.0	25.0	36	198	135	173	1323	3056	375	1233	9.1	41.7	653.5	47.5	6.646	55.6	9.39	1.15	662
663.0	05:52	663.1	26.5	38	195	140	198	1324	3070	378	1232	9.1	41.7	654.6	47.6	6.023	55.9	9.43	1.17	663
664.0	05:54	664.0	24.5	38	195	141	200	1324	3069	381	1234	9.1	41.8	655.4	47.6	3.593	56.2	9.47	1.18	664
665.0	05:56	665.0	30.0	38	195	140	211	1324	3074	384	1235	9.1	41.8	656.4	47.2	0.706	56.5	9.50	1.13	665
666.0	05:58	666.0	33.6	38	196	141	196	1324	3070	385	1235	9.1	41.9	657.2	46.6	1.517	56.8	9.53	1.10	666
667.0	06:02	667.1	16.1	38	195	141	178	1324	3070	386	1233	9.1	42.0	659.4	46.8	6.476	57.4	9.59	1.29	667
668.0	06:06	668.0	15.2	37	196	141	193	1327	3071	394	1234	9.1	42.1	660.7	47.2	8.213	57.8	9.66	1.30	668
669.0	06:24	669.0	32.7	24	210	141	121	1327	3073	406	1234	9.1	42.1	664.6	47.0	7.683	58.1	9.69	0.99	669
670.0	06:25	670.0	55.4	24	211	142	144	1295	3023	451	1243	9.1	41.8	665.0	46.4	3.961	58.2	9.71	0.87	670
671.0	06:27	671.0	35.6	35	200	141	193	1295	3027	444	1237	9.1	41.7	666.0	45.4	6.661	58.5	9.74	1.06	671
672.0	06:28	672.0	31.9	36	199	140	198	1298	3029	442	1232	9.1	41.6	666.4	44.8	1.271	58.7	9.77	1.10	672
673.0	06:30	673.0	38.3	37	198	140	213	1302	3030	442	1232	9.1	41.5	666.9	46.3	0.231	59.0	9.79	1.06	673
674.0	06:31	674.1	39.6	38	197	140	224	1303	3031	444	1233	9.1	41.4	667.4	47.2	0.481	59.1	9.82	1.06	674
675.0	06:33	675.1	38.3	38	197	140	221	1302	3033	445	1230	9.1	41.5	667.7	47.3	4.846	59.4	9.84	1.07	675
676.0	06:35	676.1	29.3	36	199	141	193	1302	3029	447	1233	9.1	41.6	668.3	47.5	8.499	59.7	9.88	1.13	676
677.0	06:37	677.1	36.4	38	197	140	208	1303	3032	446	1230	9.1	41.7	668.3	47.2	8.867	59.8	9.91	1.08	677
678.0	06:40	678.1	19.9	38	197	140	202	1303	3039	445	1227	9.1	41.8	668.3	47.4	95.003	60.3	9.96	1.24	678
679.0	06:42	679.0	24.7	37	198	141	185	1303	3036	444	1223	9.1	42.0	668.3	47.7	7.280	60.6	10.00	1.18	679
680.0	06:45	680.0	24.5	37	198	141	185	1303	3036	442	1221	9.1	42.0	669.8	47.7	4.820	61.0	10.04	1.18	680
681.0	06:48	681.1	16.6	33	202	142	163	1302	3042	403	1183	9.1	42.1	671.9	47.7	5.846	61.4	10.10	1.24	681
682.0	06:50	682.1	31.0	36	199	141	194	1303	3037	324	1106	9.1	42.1	673.1	47.9	6.263	61.7	10.13	1.11	682
683.0	06:52	683.1	32.4	40	195	140	210	1307	3031	293	1073	9.1	41.7	674.2	47.9	6.342	62.0	10.16	1.13	683
684.0	06:54	684.1	28.3	40	195	141	202	1307	3029	289	1066	9.1	41.5	675.4	47.8	7.320	62.3	10.20	1.16	684
685.0	06:56	685.1	27.5	38	197	140	202	1306	3035	290	1063	9.1	41.6	676.5	47.7	6.429	62.6	10.23	1.16	685
686.0	06:58	686.1	33.6	43	192	140	238	1307	3026	293	1063	9.1	41.7	677.3	47.8	6.750	62.7	10.26	1.14	686
687.0	07:00	687.0	32.4	41	194	140	205	1307	3023	293	1062	9.1	41.8	677.9	48.0	6.874	63.1	10.29	1.13	687
688.0	07:03	688.0	20.5	37	198	141	184	1306	3030	296	1064	9.1	41.9	678.9	48.1	6.532	63.5	10.34	1.22	688
689.0	07:05	689.0	25.7	41	194	140	223	1305	3030	297	1064	9.1	42.0	679.9	48.0	6.830	63.8	10.38	1.19	689
690.0	07:08	690.1	25.5	40	195	140	206	1304	3021	298	1063	9.1	42.1	680.7	48.2	6.848	64.1	10.42	1.19	690
691.0	07:11	691.1	18.0	37	198	141	195	1307	3022	300	1063	9.1	42.2	682.1	48.1	3.799	64.5	10.48	1.26	691
692.0	07:13	692.2	35.6	43	192	140	231	1304	3021	301	1061	9.1	42.3	683.1	47.6	4.490	64.8	10.50	1.12	692
693.0	07:17	693.1	13.0	20	215	127	106	1304	3024	307	1064	9.1	42.4	685.3	48.3	2.429	65.3	10.58	1.12	693
694.0	07:19	694.1	34.3	33	202	155	187	1304	3023	312	1068	9.1	42.4	685.9	48.2	5.474	65.6	10.61	1.08	694
695.0	07:21	695.1	28.6	39	196	155	197	1303	3025	316	1071	9.1	42.4	687.1	48.1	6.263	65.9	10.64	1.18	695
696.0	07:24	696.1	20.3	35	200	156	173	1303	3032	319	1074	9.1	42.4	688.2	48.1	8.503	66.4	10.69	1.23	696
697.0	07:37	697.0	13.8	40	195	156	177	1303	3030	335	1090	9.1	42.5	690.7	48.6	7.134	66.8	10.77	1.37	697
698.0	07:38	698.1	52.2	23	213	157	147	1291	3033	342	1090	9.1	42.4	691.3	48.4	4.500	66.9	10.79	0.90	698
699.0	07:39	699.0	38.7	37	199	155	208	1294	3039	335	1083	9.1	42.3	692.2	48.5	5.312	67.1	10.81	1.08	699
700.0	07:41	700.1	31.6	39	198	155	198	1294	3040	336	1083	9.1	42.2	692.9	48.2	6.322	67.4	10.84	1.15	700
701.0	07:43	701.0	36.4	40	197	155	205	1294	3038	340	1086	9.1	42.2	692.9	48.5	7.545	67.8	10.87	1.12	701
702.0	07:44	702.0	42.9	39	198	155	207	1294	3043	342	1088	9.1	42.2	693.1	48.4	9.512	67.9	10.89	1.07	702
703.0	07:46	703.0	30.5	39	198	155	199	1295	3046	348	1093	9.1	42.2	694.4	48.7	8.247	68.2	10.93	1.16	703
704.0	07:48	704.1	34.6	41	196	155	198	1296	3049	349	1094	9.1	42.2	695.1	48.7	8.211	68.4	10.96	1.14	704
705.0	07:51	705.0	23.4	41	195	155	197	1297	3045	350	1093	9.1	42.2	696.1	48.4	8.717	68.9	11.00	1.25	705

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
705.0	07:51	705.0	23.4	41	195	155	197	1297	3045	350	1093	9.1	42.2	696.1	48.4	8.717	68.9	11.00	1.25	705
706.0	07:52	706.0	59.0	40	196	155	216	1298	3046	353	1096	9.1	42.2	696.3	48.3	9.678	69.1	11.01	1.00	706
707.0	07:53	707.1	50.7	38	198	155	202	1298	3048	355	1097	9.1	42.3	696.4	48.4	10.780	69.2	11.03	1.02	707
708.0	07:54	708.0	50.7	40	197	155	204	1298	3048	355	1097	9.1	42.3	696.4	48.6	11.954	69.4	11.05	1.04	708
709.0	07:56	709.0	37.5	39	197	155	197	1297	3053	357	1096	9.1	42.4	696.4	48.7	13.048	69.6	11.08	1.11	709
710.0	07:58	710.0	28.8	39	197	156	194	1298	3063	358	1099	9.1	42.4	696.9	48.8	12.979	69.9	11.12	1.18	710
711.0	07:59	711.1	33.3	41	196	155	196	1294	3066	361	1100	9.1	42.5	698.1	48.9	10.847	70.2	11.15	1.15	711
712.0	08:02	712.1	26.7	39	197	156	183	1294	3064	361	1100	9.1	42.6	699.5	48.9	9.960	70.5	11.18	1.20	712
713.0	08:03	713.1	36.4	40	197	156	194	1294	3060	362	1099	9.1	42.6	700.4	48.8	10.182	70.8	11.21	1.12	713
714.0	08:05	714.1	33.6	39	197	156	189	1293	3060	365	1101	9.1	42.6	701.7	48.8	9.981	71.0	11.24	1.14	714
715.0	08:07	715.0	32.4	41	196	155	198	1293	3063	366	1101	9.1	42.7	702.7	48.9	10.020	71.3	11.27	1.16	715
716.0	08:09	716.0	29.3	40	197	155	207	1293	3058	367	1102	9.1	42.7	703.9	49.0	9.069	71.6	11.31	1.18	716
717.0	08:11	717.0	26.9	39	198	155	195	1294	3061	370	1103	9.1	42.7	704.8	49.0	7.509	71.9	11.34	1.19	717
718.0	08:14	718.0	26.7	39	197	156	190	1293	3070	374	1105	9.1	42.8	706.5	48.9	0.068	72.4	11.38	1.20	718
719.0	08:16	719.1	26.3	40	197	155	201	1294	3074	374	1105	9.1	42.8	708.2	48.4	4.866	72.7	11.42	1.21	719
720.0	08:18	720.0	26.5	39	198	155	203	1293	3066	377	1106	9.1	42.8	709.6	48.4	7.730	73.0	11.46	1.20	720
721.0	08:20	721.1	30.5	38	199	156	191	1295	3071	379	1107	9.1	42.8	710.5	48.7	7.381	73.4	11.49	1.15	721
722.0	08:22	722.1	38.7	40	196	155	217	1294	3061	382	1109	9.1	42.8	711.2	48.8	7.504	73.5	11.51	1.11	722
723.0	08:23	723.1	33.6	40	197	156	196	1296	3057	383	1109	9.1	42.9	712.0	48.8	7.950	73.8	11.54	1.14	723
724.0	08:25	724.2	45.6	39	198	155	194	1294	3060	382	1108	9.1	42.9	712.8	48.9	8.028	74.0	11.57	1.06	724
725.0	08:26	725.6	52.2	41	196	155	199	1293	3057	383	1107	9.1	42.9	713.7	48.9	8.365	74.1	11.59	1.04	725
726.0	08:28	726.0	22.6	40	197	156	185	1294	3058	386	1109	9.1	42.9	714.9	48.3	8.071	74.6	11.63	1.25	726
727.0	08:32	727.1	38.7	28	208	157	144	1294	3059	390	1114	9.1	42.9	716.7	48.1	11.106	74.9	11.66	1.02	727
728.0	08:45	728.0	28.0	37	188	158	205	1295	3040	413	1131	9.1	42.9	719.5	49.0	8.668	75.2	11.73	1.17	728
729.0	08:47	729.1	26.1	37	201	162	205	1251	2937	403	1118	9.1	42.7	720.3	49.2	8.174	75.6	11.77	1.19	729
730.0	08:48	730.2	40.9	38	200	164	221	1251	2938	405	1119	9.1	42.7	721.1	48.9	8.425	75.7	11.80	1.09	730
731.0	08:50	731.1	33.6	36	202	165	202	1251	2938	407	1121	9.1	42.7	722.2	47.2	1.962	76.1	11.83	1.13	731
732.0	08:52	732.0	40.9	37	201	164	215	1251	2938	408	1121	9.1	42.7	723.0	48.5	2.110	76.2	11.85	1.09	732
733.0	08:53	733.1	34.0	37	201	165	208	1251	2941	409	1121	9.1	42.7	724.2	49.0	6.427	76.6	11.88	1.14	733
734.0	08:55	734.0	35.0	39	199	165	211	1251	2944	410	1122	9.1	42.7	725.8	49.0	6.361	76.9	11.91	1.14	734
735.0	08:57	735.0	30.3	38	200	165	209	1251	2949	414	1124	9.1	42.8	726.0	49.1	6.111	77.3	11.94	1.17	735
736.0	08:59	736.0	32.4	36	202	165	204	1251	2949	415	1123	9.1	42.8	726.4	49.1	5.911	77.4	11.97	1.14	736
737.0	09:01	737.2	29.5	37	201	164	215	1250	2952	416	1124	9.1	42.8	726.4	48.9	6.212	77.8	12.01	1.17	737
738.0	09:02	738.0	47.4	39	199	164	221	1250	2954	419	1127	9.1	42.8	727.2	48.4	6.321	78.1	12.03	1.06	738
739.0	09:04	739.1	31.6	40	198	165	207	1250	2961	421	1128	9.1	42.8	727.2	47.7	6.433	78.3	12.06	1.18	739
740.0	09:06	740.1	32.1	40	198	166	193	1247	2958	423	1130	9.1	42.9	727.4	48.4	10.232	78.6	12.09	1.17	740
741.0	09:08	741.0	33.6	39	199	167	188	1248	2961	424	1131	9.2	42.9	728.1	48.3	8.298	79.0	12.12	1.14	741
742.0	09:10	742.0	23.7	38	200	167	188	1227	2866	425	1131	9.2	43.0	729.5	48.5	5.712	79.3	12.16	1.22	742
743.0	09:19	743.0	22.0	38	231	167	218	1230	2870	449	1152	9.2	43.1	732.1	48.2	5.588	79.8	12.31	1.23	743
744.0	09:22	744.1	21.1	36	202	161	225	1044	2138	447	1147	9.2	43.0	733.6	48.0	1.140	80.3	12.35	1.23	744
745.0	09:24	745.2	26.1	39	199	159	247	1045	2136	453	1152	9.2	42.9	734.4	47.5	0.000	80.6	12.39	1.19	745
746.0	09:26	746.0	30.0	39	199	160	236	1045	2138	455	1154	9.2	42.8	735.3	47.6	3.722	81.0	12.43	1.16	746
747.0	09:28	747.1	27.5	37	201	160	237	1045	2133	456	1153	9.2	42.7	736.4	48.1	8.578	81.3	12.46	1.17	747
748.0	09:30	748.1	29.5	41	197	159	242	1045	2130	455	1151	9.2	42.7	737.4	47.9	2.087	81.6	12.50	1.18	748
749.0	09:32	749.2	29.0	39	199	163	198	1046	2137	451	1146	9.2	42.6	738.6	47.8	6.844	82.0	12.53	1.17	749
750.0	09:34	750.0	34.6	39	199	164	199	1045	2135	447	1140	9.2	42.6	739.4	47.8	7.310	82.3	12.56	1.13	750
751.0	09:37	751.2	22.0	37	201	165	180	1045	2138	451	1143	9.2	42.5	740.4	47.2	4.650	82.8	12.60	1.23	751
752.0	09:39	752.0	34.0	41	197	160	233	1068	2127	455	1147	9.2	42.5	741.2	47.5	6.371	83.0	12.63	1.14	752
753.0	09:42	753.0	16.2	42	196	163	197	1045	2141	457	1147	9.2	42.5	742.0	47.8	8.874	83.6	12.70	1.34	753
754.0	09:43	754.1	78.3	37	201	162	205	1043	2144	459	1150	9.2	42.6	742.0	48.0	6.550	83.8	12.71	0.91	754

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
754.0	09:43	754.1	78.3	37	201	162	205	1043	2144	459	1150	9.2	42.6	742.0	48.0	6.550	83.8	12.71	0.91	754
755.0	09:48	755.3	26.9	30	208	163	195	1047	2107	460	1149	9.2	42.6	743.4	48.1	4.976	84.1	12.75	1.11	755
756.0	09:57	756.0	16.7	35	204	164	180	1052	2130	472	1157	9.2	42.6	744.4	48.0	3.494	84.2	12.81	1.27	756
757.0	10:00	757.1	25.4	30	210	156	176	1042	2150	451	1137	9.2	42.6	745.5	47.9	0.613	84.7	12.84	1.11	757
758.0	10:05	758.1	10.9	13	227	208	205	1041	2160	468	1154	9.2	42.5	747.1	47.8	2.741	85.4	12.94	1.14	758
759.0	10:07	759.1	30.5	37	203	154	209	1040	2157	463	1147	9.2	42.5	748.1	48.0	0.304	85.7	12.97	1.13	759
760.0	10:09	760.1	33.0	38	201	154	209	1040	2154	462	1145	9.2	42.5	748.9	47.8	2.841	85.8	13.00	1.12	760
761.0	10:11	761.1	24.7	40	199	154	216	1040	2155	461	1144	9.2	42.5	750.0	47.7	7.856	86.3	13.04	1.21	761
762.0	10:13	762.0	29.8	38	202	154	201	1040	2162	458	1142	9.2	42.5	750.9	47.6	7.221	86.5	13.07	1.14	762
763.0	10:16	763.1	23.7	40	199	154	199	1041	2161	461	1147	9.2	42.6	752.2	47.1	5.588	87.0	13.12	1.22	763
764.0	10:18	764.1	26.5	41	198	155	199	1041	2165	463	1147	9.2	42.6	752.7	44.4	6.939	87.3	13.15	1.20	764
765.0	10:20	765.0	29.0	41	199	154	203	1041	2162	466	1151	9.2	42.6	754.1	41.7	0.432	87.6	13.19	1.17	765
766.0	10:22	766.0	32.1	40	199	154	202	1044	2162	467	1152	9.2	42.6	754.5	39.7	0.305	87.8	13.22	1.14	766
767.0	10:24	767.1	27.7	41	199	154	201	1040	2174	467	1152	9.2	42.6	754.5	40.9	0.270	88.1	13.26	1.19	767
768.0	10:32	768.0	27.0	40	229	154	200	1041	2170	479	1165	9.2	42.7	756.1	46.9	0.340	89.1	13.38	1.18	768
769.0	10:44	769.0	29.8	38	232	156	198	1077	2335	478	1164	9.2	42.7	758.9	47.5	0.284	89.6	13.48	1.14	769
770.0	10:46	770.0	29.3	38	203	156	198	1077	2235	465	1149	9.2	42.7	759.8	47.5	4.526	89.9	13.52	1.15	770
771.0	10:48	771.0	26.7	37	204	157	171	1073	2219	468	1150	9.2	42.7	761.0	47.5	5.103	90.2	13.56	1.16	771
772.0	10:50	772.1	22.9	40	200	157	155	1066	2237	468	1151	9.2	42.7	762.2	47.5	6.033	90.6	13.60	1.23	772
773.0	10:53	773.1	25.5	40	200	156	198	1071	2213	466	1150	9.2	42.7	763.3	48.0	5.762	91.0	13.64	1.20	773
774.0	10:54	774.0	41.4	37	203	156	184	1071	2212	447	1131	9.2	42.7	763.9	48.0	5.183	91.2	13.66	1.06	774
775.0	10:57	775.0	21.4	41	199	156	201	1071	2212	402	1087	9.2	42.7	765.3	47.2	0.581	91.7	13.71	1.26	775
776.0	10:59	776.0	25.7	38	202	156	180	1072	2205	342	1030	9.2	42.7	766.5	47.3	1.945	92.0	13.75	1.19	776
777.0	11:02	777.1	22.8	36	204	157	176	1072	2201	284	973	9.2	42.5	767.7	47.2	5.792	92.3	13.79	1.20	777
778.0	11:04	778.0	25.2	36	204	157	163	1072	2201	247	936	9.2	42.4	768.3	47.2	6.652	92.8	13.83	1.18	778
779.0	11:08	779.0	18.8	37	204	156	182	1072	2191	250	939	9.2	42.4	768.7	47.6	6.223	93.3	13.89	1.25	779
780.0	11:11	780.0	16.5	37	204	157	156	1072	2199	252	941	9.2	42.4	768.9	47.5	7.480	93.8	13.95	1.29	780
781.0	11:15	781.1	17.7	38	203	156	191	1072	2188	253	942	9.2	42.4	770.6	47.4	6.555	94.3	14.00	1.28	781
782.0	11:18	782.0	18.7	39	201	156	202	1075	2174	255	943	9.2	42.3	772.0	47.6	7.323	94.7	14.06	1.28	782
783.0	11:22	783.1	45.6	20	221	160	109	1075	2172	258	944	9.2	42.3	773.5	47.3	8.302	95.0	14.08	0.89	783
784.0	11:31	784.1	26.0	39	193	155	206	1047	2222	277	959	9.2	42.2	775.1	47.4	8.570	95.3	14.15	1.18	784
785.0	11:33	785.0	39.1	39	203	155	210	1049	2222	270	950	9.2	42.0	775.8	46.9	8.309	95.5	14.18	1.09	785
786.0	11:35	786.1	27.5	39	202	156	207	1049	2218	269	948	9.2	42.0	776.7	46.9	7.810	96.0	14.21	1.18	786
787.0	11:37	787.1	23.7	39	203	156	190	1048	2224	273	953	9.2	42.0	777.5	47.4	7.324	96.3	14.26	1.21	787
788.0	11:40	788.0	25.9	40	202	156	198	1049	2228	276	955	9.2	42.0	778.4	47.4	6.686	96.6	14.29	1.20	788
789.0	11:43	789.1	16.7	39	203	156	209	1050	2214	277	953	9.2	42.0	779.3	47.4	6.340	97.3	14.35	1.30	789
790.0	11:45	790.1	38.3	37	204	156	197	1052	2211	280	956	9.2	42.0	779.9	47.5	6.359	97.4	14.38	1.08	790
791.0	11:47	791.0	23.1	38	203	156	198	1053	2200	281	957	9.2	42.0	780.5	47.0	6.308	97.9	14.42	1.22	791
792.0	11:50	792.0	23.4	37	205	156	192	1052	2197	284	958	9.2	42.0	781.3	47.2	6.902	98.2	14.47	1.20	792
793.0	11:52	793.1	28.3	39	203	156	192	1052	2196	286	959	9.2	42.0	781.9	46.8	8.422	98.6	14.50	1.17	793
794.0	11:55	794.0	22.8	39	203	156	198	1053	2199	287	959	9.2	42.1	782.1	47.3	8.866	99.0	14.55	1.22	794
795.0	11:56	795.0	33.6	38	204	156	202	1053	2192	288	959	9.2	42.1	783.2	47.4	8.604	99.2	14.58	1.11	795
796.0	11:59	796.2	28.1	42	200	155	216	1050	2211	289	960	9.2	42.1	783.4	47.3	7.400	99.5	14.61	1.19	796
797.0	12:01	797.1	27.5	39	203	156	191	1048	2218	291	960	9.2	42.1	784.3	47.0	7.003	99.8	14.65	1.18	797
798.0	12:03	798.0	27.7	39	203	156	188	1067	2209	293	960	9.2	42.1	785.7	47.3	7.488	100.2	14.68	1.17	798
799.0	12:05	799.1	25.5	39	203	156	193	1050	2207	294	961	9.2	42.1	786.7	47.7	9.217	100.7	14.72	1.20	799
800.0	12:07	800.1	28.8	39	203	156	193	1052	2196	296	962	9.2	42.1	787.5	47.6	9.185	101.0	14.76	1.16	800
801.0	12:09	801.1	31.6	39	203	156	194	1052	2201	297	962	9.2	42.1	788.3	47.3	7.855	101.1	14.79	1.14	801
802.0	12:12	802.1	19.9	39	203	157	180	1052	2205	298	962	9.2	42.1	789.3	47.3	7.195	101.6	14.84	1.26	802
803.0	12:15	803.0	21.8	39	203	156	188	1050	2207	300	963	9.2	42.1	790.5	47.1	7.509	102.1	14.88	1.23	803

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
803.0	12:15	803.0	21.8	39	203	156	188	1050	2207	300	963	9.2	42.1	790.5	47.1	7.509	102.1	14.88	1.23	803
804.0	12:19	804.1	15.9	30	212	158	150	1048	2203	303	965	9.2	42.2	792.0	47.1	6.203	102.7	14.95	1.23	804
805.0	12:22	805.0	16.8	37	205	157	174	1050	2196	304	965	9.2	42.2	793.4	46.8	3.334	103.2	15.01	1.28	805
806.0	12:25	806.0	23.8	37	205	157	179	1052	2194	306	966	9.2	42.2	794.6	46.3	0.071	103.6	15.05	1.20	806
807.0	12:28	807.1	19.1	40	202	157	180	1046	2210	308	968	9.2	42.2	796.2	46.8	2.798	104.1	15.10	1.27	807
808.0	12:32	808.0	17.1	39	203	157	169	1045	2204	311	971	9.2	42.2	797.6	46.7	4.889	104.7	15.16	1.29	808
809.0	12:35	809.0	16.1	38	204	157	173	1046	2195	313	974	9.2	42.2	799.1	46.7	3.078	105.2	15.22	1.29	809
810.0	12:39	810.0	16.4	38	204	156	186	1048	2193	317	974	9.2	42.2	800.8	46.9	1.348	105.8	15.28	1.29	810
811.0	12:49	811.5	12.4	34	208	157	163	1047	2195	321	975	9.2	42.2	804.1	46.8	2.855	106.6	15.36	1.31	811
812.0	13:06	812.0	27.0	27	233	154	150	1037	2254	365	990	9.2	41.4	806.5	46.6	3.200	106.7	15.38	1.05	812
813.0	13:08	813.1	29.3	26	217	154	134	1037	2269	372	1025	9.2	41.2	807.1	46.6	3.138	107.0	15.42	1.03	813
814.0	13:10	814.0	39.1	37	207	152	184	1039	2263	374	1056	9.2	41.3	807.4	46.6	3.239	107.3	15.44	1.06	814
815.0	13:13	815.0	20.9	34	210	153	167	1039	2265	376	1097	9.2	41.3	808.4	46.7	3.504	107.6	15.49	1.18	815
816.0	13:15	816.1	24.3	33	210	153	168	1041	2266	379	1122	9.2	41.4	809.0	46.7	3.588	108.1	15.53	1.15	816
817.0	13:17	817.0	29.3	35	209	153	173	1039	2264	379	1120	9.2	41.5	809.6	46.6	2.024	108.4	15.57	1.11	817
818.0	13:20	818.1	24.5	34	210	153	161	1039	2271	380	1121	9.2	41.6	810.3	46.6	0.149	108.7	15.61	1.14	818
819.0	13:22	819.1	21.4	34	210	153	160	1039	2277	380	1120	9.2	41.7	810.7	46.6	0.131	109.2	15.65	1.18	819
820.0	13:25	820.0	26.5	36	208	152	191	1039	2276	382	1122	9.2	41.8	811.0	46.7	1.090	109.5	15.69	1.14	820
821.0	13:27	821.0	28.8	39	204	152	190	1039	2277	380	1123	9.2	41.9	811.0	46.8	0.844	109.8	15.73	1.15	821
822.0	13:30	822.1	21.4	39	204	152	177	1039	2281	379	1124	9.2	42.0	811.5	46.7	0.871	110.3	15.77	1.22	822
823.0	13:32	823.0	26.7	38	205	152	184	1038	2289	380	1125	9.2	42.0	811.5	46.9	0.942	110.6	15.81	1.16	823
824.0	13:34	824.1	26.3	39	204	152	190	1038	2287	381	1126	9.2	42.0	811.5	47.3	1.987	110.9	15.85	1.18	824
825.0	13:37	825.0	21.7	38	205	152	186	1036	2292	381	1127	9.2	42.0	812.0	47.4	3.688	111.3	15.89	1.21	825
826.0	13:39	826.0	24.2	38	205	152	182	1035	2291	381	1128	9.2	42.0	813.5	47.2	3.299	111.7	15.94	1.19	826
827.0	13:42	827.0	24.2	40	204	152	184	1035	2295	383	1129	9.2	42.0	814.6	47.0	2.766	112.1	15.98	1.19	827
828.0	13:45	828.1	18.7	39	204	153	169	1036	2284	383	1129	9.2	42.1	815.8	46.9	2.786	112.6	16.03	1.26	828
829.0	13:48	829.1	18.0	39	204	153	171	1037	2273	384	1129	9.2	42.1	817.5	47.1	1.706	113.1	16.09	1.27	829
830.0	13:51	830.0	20.9	38	205	152	182	1040	2255	384	1130	9.2	42.1	818.4	47.2	0.609	113.5	16.13	1.22	830
831.0	13:54	831.1	19.9	38	206	152	179	1041	2245	385	1129	9.2	42.1	819.5	47.1	0.073	114.0	16.18	1.23	831
832.0	13:57	832.1	22.6	39	204	152	185	1041	2247	388	1130	9.2	42.1	820.7	46.9	0.103	114.3	16.23	1.21	832
833.0	13:59	833.0	25.2	39	205	152	184	1040	2243	391	1130	9.2	42.0	821.8	46.8	1.305	114.6	16.27	1.18	833
834.0	14:01	834.0	29.0	38	205	152	182	1041	2239	396	1133	9.2	42.0	822.5	46.9	1.850	114.9	16.30	1.14	834
835.0	14:03	835.0	27.7	38	206	152	188	1043	2238	398	1133	9.2	41.9	823.5	46.9	1.848	115.2	16.34	1.15	835
836.0	14:07	836.2	18.1	37	206	153	171	1038	2260	401	1133	9.2	41.9	824.7	46.9	4.921	115.9	16.39	1.25	836
837.0	14:09	837.1	31.9	38	206	152	196	1040	2244	405	1134	9.2	41.9	825.5	46.8	7.298	116.0	16.43	1.11	837
838.0	14:11	838.0	21.8	38	205	153	167	1034	2281	408	1134	9.2	41.9	826.5	46.8	7.493	116.5	16.47	1.21	838
839.0	14:15	839.1	19.5	38	205	152	185	1038	2257	411	1135	9.2	41.9	827.7	46.8	6.728	117.0	16.52	1.24	839
840.0	14:22	840.1	14.9	35	209	153	169	1039	2251	415	1137	9.2	41.9	829.6	46.8	5.591	117.6	16.59	1.27	840
841.0	14:25	841.1	22.0	37	236	153	180	1031	2268	419	1134	9.2	41.9	829.8	46.7	4.205	117.6	16.59	1.20	841
842.0	14:40	842.1	25.0	37	194	143	200	1032	2340	434	1147	9.2	41.9	832.3	46.8	0.945	117.8	16.67	1.15	842
843.0	14:42	843.0	26.7	37	207	143	200	1035	2338	433	1139	9.2	41.8	833.0	46.9	0.138	118.1	16.71	1.14	843
844.0	14:44	844.1	28.3	38	207	143	195	1037	2338	435	1139	9.2	41.8	834.0	46.9	0.128	118.4	16.75	1.13	844
845.0	14:46	845.0	32.7	38	207	143	191	1039	2331	436	1141	9.2	41.7	834.9	46.9	0.129	118.7	16.78	1.10	845
846.0	14:48	846.0	30.0	38	207	144	192	1040	2319	436	1140	9.2	41.8	835.6	47.0	0.018	119.0	16.81	1.11	846
847.0	14:50	847.2	28.1	38	206	143	197	1047	2303	438	1142	9.2	41.8	836.5	47.1	0.088	119.3	16.84	1.13	847
848.0	14:52	848.0	37.9	38	207	143	196	1048	2299	437	1141	9.2	41.8	837.1	47.1	2.661	119.4	16.87	1.05	848
849.0	14:54	849.1	24.8	38	206	143	197	1047	2302	437	1140	9.2	41.9	837.9	47.1	12.287	119.9	16.91	1.17	849
850.0	14:56	850.0	24.7	37	208	145	176	1044	2312	438	1145	9.2	41.9	838.7	47.1	13.008	120.2	16.95	1.16	850
851.0	14:59	851.0	26.5	38	207	144	184	1040	2317	439	1147	9.2	42.0	839.4	47.1	12.855	120.5	16.99	1.14	851
852.0	15:01	852.1	28.3	38	207	144	188	1039	2308	439	1147	9.2	42.0	839.9	47.2	12.893	120.8	17.02	1.13	852

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
852.0	15:01	852.1	28.3	38	207	144	188	1039	2308	439	1147	9.2	42.0	839.9	47.2	12.893	120.8	17.02	1.13	852
853.0	15:03	853.0	31.9	37	208	144	182	1040	2306	440	1146	9.2	42.1	839.9	47.2	12.778	121.1	17.06	1.09	853
854.0	15:06	854.1	20.3	36	208	144	177	1044	2297	437	1144	9.2	42.2	841.1	47.2	12.354	121.5	17.11	1.20	854
855.0	15:08	855.0	23.5	38	207	144	184	1040	2307	437	1144	9.2	42.2	841.1	47.2	12.075	121.8	17.15	1.18	855
856.0	15:11	856.1	23.5	39	206	143	192	1039	2305	438	1145	9.2	42.2	841.6	47.2	11.785	122.2	17.19	1.18	856
857.0	15:13	857.3	26.3	37	208	143	193	1040	2300	439	1147	9.2	42.3	842.9	47.3	12.569	122.5	17.23	1.14	857
858.0	15:15	858.1	25.9	38	207	143	199	1040	2295	438	1146	9.2	42.3	844.0	47.3	6.284	122.8	17.27	1.15	858
859.0	15:17	859.0	28.8	37	208	143	196	1041	2295	439	1147	9.2	42.3	845.1	47.2	4.643	123.1	17.30	1.12	859
860.0	15:20	860.0	25.0	36	208	144	179	1040	2300	439	1147	9.2	42.4	846.2	47.1	5.942	123.4	17.34	1.15	860
861.0	15:23	861.1	20.7	37	208	144	183	1039	2305	440	1148	9.2	42.4	847.7	47.1	8.207	123.9	17.39	1.20	861
862.0	15:25	862.1	25.9	37	208	143	192	1039	2299	438	1145	9.2	42.5	848.9	47.1	11.146	124.2	17.43	1.15	862
863.0	15:28	863.0	24.0	36	209	144	182	1040	2295	440	1147	9.2	42.5	849.8	47.1	11.702	124.6	17.47	1.16	863
864.0	15:30	864.1	24.7	36	209	144	180	1040	2294	440	1147	9.2	42.5	850.8	47.1	11.704	124.9	17.51	1.15	864
865.0	15:32	865.3	27.1	34	211	145	172	1039	2294	441	1148	9.2	42.6	851.9	47.1	11.901	125.2	17.55	1.11	865
866.0	15:35	866.0	24.5	36	208	144	183	1040	2298	440	1147	9.2	42.6	853.0	47.2	12.572	125.6	17.59	1.15	866
867.0	15:37	867.0	21.3	37	208	144	182	1040	2301	441	1147	9.2	42.6	853.9	47.3	12.032	126.0	17.64	1.20	867
868.0	15:41	868.0	15.2	38	207	144	191	1039	2299	440	1144	9.2	42.6	855.6	47.3	14.667	126.5	17.70	1.28	868
869.0	15:45	869.2	28.0	27	217	148	129	1040	2294	439	1140	9.2	42.6	857.3	47.3	17.032	126.8	17.73	1.05	869
870.0	16:09	870.1	24.0	34	207	176	156	1040	2383	394	1119	9.2	42.6	861.0	47.3	12.503	127.2	17.86	1.18	870
871.0	16:11	871.0	23.5	34	212	176	172	1031	2383	341	1099	9.2	42.4	862.1	47.3	10.725	127.8	17.90	1.19	871
872.0	16:13	872.1	26.7	39	207	174	221	1034	2373	340	1018	9.2	42.3	862.9	47.3	14.005	128.2	17.94	1.20	872
873.0	16:16	873.1	25.5	38	209	175	209	1039	2361	341	1119	9.2	42.3	863.8	47.3	15.109	128.5	17.97	1.21	873
874.0	16:18	874.2	25.2	38	208	175	212	1039	2352	343	1121	9.2	42.3	865.0	47.4	13.402	128.9	18.01	1.20	874
875.0	16:20	875.0	30.5	39	207	175	215	1038	2362	348	1124	9.2	42.2	865.9	47.4	13.832	129.2	18.05	1.17	875
876.0	16:23	876.0	23.4	39	207	175	218	1038	2356	350	1125	9.2	42.2	866.5	47.4	15.467	129.8	18.09	1.24	876
877.0	16:24	877.1	32.4	40	207	175	209	1039	2350	354	1127	9.2	42.1	867.2	47.4	14.584	130.1	18.12	1.16	877
878.0	16:27	878.0	22.0	38	208	176	196	1037	2361	357	1126	9.2	42.1	868.0	47.4	13.941	130.5	18.17	1.25	878
879.0	16:30	879.1	25.9	38	208	175	205	1030	2372	361	1128	9.2	42.1	868.2	47.4	15.161	130.8	18.20	1.20	879
880.0	16:31	880.0	32.1	39	208	175	211	1029	2369	366	1132	9.2	42.1	868.2	47.4	14.501	131.2	18.24	1.16	880
881.0	16:34	881.1	24.5	40	206	175	216	1030	2370	367	1130	9.2	42.0	869.2	47.4	14.133	131.5	18.28	1.23	881
882.0	16:36	882.0	24.8	39	207	175	209	1030	2374	369	1133	9.2	42.0	869.2	48.0	5.368	132.1	18.32	1.22	882
883.0	16:38	883.1	30.5	39	207	175	214	1029	2378	373	1135	9.2	42.0	870.0	48.0	13.740	132.5	18.35	1.17	883
884.0	16:40	884.0	27.1	39	207	175	206	1030	2369	375	1136	9.2	42.1	870.0	47.3	15.333	132.8	18.39	1.19	884
885.0	16:43	885.1	25.5	39	207	175	206	1029	2375	377	1138	9.2	42.1	870.8	47.6	15.497	133.2	18.43	1.21	885
886.0	16:45	886.1	31.3	38	208	175	204	1029	2374	380	1138	9.2	42.1	871.3	47.8	15.044	133.5	18.46	1.15	886
887.0	16:49	887.2	15.4	38	208	176	183	1030	2375	384	1142	9.2	42.1	872.9	47.6	13.357	134.1	18.52	1.34	887
888.0	16:52	888.1	16.4	40	206	176	186	1030	2369	389	1144	9.2	42.1	874.7	47.3	1.889	134.8	18.58	1.34	888
889.0	16:56	889.2	18.1	38	208	176	194	1030	2354	394	1146	9.2	42.1	876.0	47.4	14.675	135.4	18.64	1.30	889
890.0	16:58	890.0	20.7	37	209	176	195	1032	2347	398	1149	9.2	42.1	877.3	47.4	14.190	135.9	18.69	1.25	890
891.0	17:01	891.0	25.4	39	207	175	204	1030	2360	402	1151	9.2	42.1	878.4	47.5	13.081	136.2	18.73	1.22	891
892.0	17:04	892.0	18.2	38	208	176	188	1030	2354	405	1152	9.2	42.2	879.8	47.3	13.094	136.8	18.78	1.30	892
893.0	17:06	893.1	26.7	39	207	176	194	1030	2349	400	1146	9.2	42.2	880.9	47.5	13.821	137.2	18.82	1.20	893
894.0	17:09	894.1	21.2	38	208	176	200	1032	2345	388	1132	9.2	42.2	881.9	47.5	13.872	137.7	18.87	1.25	894
895.0	17:13	895.0	17.6	37	209	176	190	1030	2348	390	1131	9.2	42.1	883.4	47.6	13.774	138.2	18.92	1.29	895
896.0	17:19	896.2	16.1	33	213	178	151	1032	2350	396	1134	9.2	42.1	886.2	47.3	10.830	139.0	18.99	1.28	896
897.0	17:22	897.1	16.6	36	236	177	194	1035	2324	401	1134	9.2	42.1	886.4	47.2	8.938	139.0	18.99	1.30	897
898.0	17:36	898.1	26.7	31	217	148	137	1029	2385	419	1142	9.2	42.0	888.8	47.2	9.307	139.3	19.03	1.09	898
899.0	17:38	899.0	31.3	31	216	177	142	1028	2399	423	1143	9.2	41.8	889.4	47.0	10.903	139.7	19.06	1.09	899
900.0	17:41	900.1	21.2	35	212	176	167	1026	2402	427	1144	9.2	41.8	890.4	47.4	11.400	140.2	19.11	1.23	900
901.0	17:43	901.0	21.8	35	213	176	178	1028	2395	431	1147	9.2	41.8	891.3	47.5	13.087	140.6	19.15	1.22	901

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
901.0	17:43	901.0	21.8	35	213	176	178	1028	2395	431	1147	9.2	41.8	891.3	47.5	13.087	140.6	19.15	1.22	901
902.0	17:45	902.0	32.7	39	209	174	205	1031	2395	432	1144	9.2	41.8	892.0	47.3	13.960	140.9	19.18	1.14	902
903.0	17:48	903.0	24.8	39	209	174	213	1034	2410	434	1143	9.2	41.8	892.9	47.5	14.042	141.3	19.22	1.22	903
904.0	17:49	904.2	36.7	37	210	174	212	1035	2402	437	1145	9.2	41.9	893.6	47.5	15.411	141.7	19.25	1.10	904
905.0	17:52	905.0	27.1	40	207	174	219	1035	2407	440	1144	9.2	41.9	894.4	47.7	14.952	142.0	19.29	1.21	905
906.0	17:54	906.0	30.0	39	209	174	204	1034	2405	442	1146	9.2	41.9	894.9	47.2	14.077	142.4	19.32	1.17	906
907.0	17:57	907.0	17.5	39	209	175	194	1034	2402	446	1148	9.2	42.0	895.9	47.6	13.260	142.9	19.38	1.31	907
908.0	18:00	908.2	18.7	40	208	175	195	1033	2404	451	1150	9.2	42.0	895.9	47.4	13.501	143.5	19.43	1.30	908
909.0	18:03	909.2	18.4	40	208	174	209	1033	2402	457	1152	9.2	42.0	897.1	47.6	13.667	144.0	19.48	1.31	909
910.0	18:06	910.0	26.5	40	207	174	215	1033	2403	461	1155	9.2	42.0	897.1	47.6	13.762	144.5	19.52	1.22	910
911.0	18:08	911.0	30.3	39	208	174	207	1033	2403	465	1158	9.2	42.0	897.3	47.7	14.091	144.7	19.56	1.17	911
912.0	18:10	912.1	24.8	40	208	174	216	1034	2401	466	1156	9.2	42.0	898.2	48.1	14.418	145.3	19.60	1.23	912
913.0	18:13	913.0	24.2	40	208	174	215	1034	2398	471	1160	9.2	42.0	899.4	48.0	15.909	145.6	19.64	1.23	913
914.0	18:15	914.1	24.0	40	207	174	224	1033	2395	475	1161	9.2	42.1	900.4	47.5	14.793	146.1	19.68	1.24	914
915.0	18:17	915.0	27.1	39	208	174	209	1030	2401	478	1162	9.2	42.1	901.0	47.5	14.676	146.5	19.72	1.20	915
916.0	18:20	916.2	21.1	40	207	174	208	1030	2402	481	1163	9.2	42.1	902.6	42.2	2.494	146.9	19.76	1.27	916
917.0	18:22	917.1	26.9	39	208	175	207	1032	2392	484	1164	9.2	42.1	903.5	46.2	0.153	147.4	19.80	1.20	917
918.0	18:25	918.1	25.9	38	209	175	202	1034	2386	488	1167	9.2	42.1	904.7	46.4	1.713	147.7	19.84	1.21	918
919.0	18:27	919.0	30.0	39	208	175	202	1031	2394	492	1170	9.2	42.1	905.8	47.3	16.900	148.1	19.87	1.18	919
920.0	18:28	920.2	43.9	42	205	173	225	1032	2407	495	1172	9.2	42.1	906.3	47.7	24.216	148.3	19.90	1.10	920
921.0	18:31	921.1	18.0	24	223	177	153	1031	2394	498	1172	9.2	42.1	907.2	47.9	28.214	148.8	19.95	1.15	921
922.0	18:35	922.0	17.1	39	209	174	212	1026	2427	500	1172	9.2	42.2	908.3	48.1	24.334	149.5	20.01	1.31	922
923.0	18:39	923.0	13.6	37	210	176	172	1025	2428	501	1172	9.2	42.3	909.7	48.3	20.165	150.2	20.08	1.36	923
924.0	18:50	924.1	13.3	33	215	172	143	1028	2414	502	1175	9.2	42.4	914.4	47.9	13.615	151.1	20.16	1.31	924
925.0	19:09	925.0	29.8	18	230	135	100	1026	2420	446	1121	9.2	42.6	917.2	47.8	11.729	151.3	20.19	0.92	925
926.0	19:11	926.2	30.8	36	213	173	209	1027	2437	401	1077	9.2	42.5	918.0	48.1	14.720	151.6	20.22	1.15	926
927.0	19:13	927.0	28.1	38	211	172	228	1029	2433	399	1074	9.2	42.4	919.2	48.4	16.054	152.0	20.26	1.17	927
928.0	19:15	928.1	32.4	37	212	172	220	1029	2432	395	1071	9.2	42.3	920.2	48.1	16.839	152.3	20.29	1.13	928
929.0	19:18	929.2	25.7	36	213	173	207	1029	2432	364	1041	9.2	42.1	920.7	47.8	16.237	152.7	20.33	1.19	929
930.0	19:20	930.0	25.7	37	212	172	222	1029	2427	347	1023	9.2	42.1	921.5	48.4	16.838	153.0	20.37	1.19	930
931.0	19:22	931.2	25.4	37	211	173	215	1029	2429	349	1025	9.2	42.1	922.2	48.6	16.265	153.6	20.41	1.20	931
932.0	19:24	932.1	29.8	38	211	173	220	1029	2425	355	1030	9.2	42.1	922.7	48.4	16.033	153.8	20.44	1.16	932
933.0	19:27	933.0	21.8	37	211	172	220	1029	2424	360	1031	9.2	42.1	923.2	48.4	16.284	154.3	20.49	1.24	933
934.0	19:30	934.0	21.4	37	212	173	217	1029	2431	364	1033	9.2	42.2	923.7	48.5	16.513	154.8	20.53	1.24	934
935.0	19:32	935.2	24.3	37	212	173	207	1029	2422	368	1034	9.2	42.2	923.9	48.3	16.083	155.2	20.57	1.21	935
936.0	19:34	936.1	31.6	38	211	173	211	1029	2412	372	1037	9.2	42.2	923.9	48.1	16.644	155.5	20.61	1.15	936
937.0	19:37	937.1	22.6	37	212	173	206	1029	2427	374	1038	9.2	42.2	924.0	47.9	16.950	156.1	20.65	1.23	937
938.0	19:39	938.0	27.9	38	211	173	209	1029	2420	378	1039	9.2	42.3	924.4	47.7	18.102	156.4	20.69	1.18	938
939.0	19:41	939.0	36.7	38	211	173	209	1029	2411	381	1039	9.2	42.3	924.4	48.2	18.205	156.6	20.71	1.11	939
940.0	19:42	940.2	34.0	38	211	173	203	1029	2411	384	1042	9.2	42.2	924.4	48.2	18.753	156.9	20.74	1.13	940
941.0	19:45	941.1	27.9	38	211	174	187	1028	2419	386	1041	9.2	42.2	925.3	48.2	17.025	157.3	20.78	1.18	941
942.0	19:47	942.0	20.5	38	211	175	173	1029	2414	390	1045	9.2	42.3	926.7	48.0	15.508	157.8	20.83	1.26	942
943.0	19:51	943.1	18.0	38	211	174	194	1029	2394	394	1044	9.2	42.3	928.4	47.0	4.420	158.4	20.88	1.29	943
944.0	19:54	944.1	18.3	37	212	174	186	1029	2399	400	1048	9.2	42.3	930.0	47.7	8.180	158.9	20.94	1.27	944
945.0	19:56	945.1	26.3	36	213	174	198	1029	2395	405	1054	9.2	42.3	930.6	48.0	18.154	159.3	20.98	1.18	945
946.0	19:59	946.0	25.5	38	211	174	199	1030	2398	408	1055	9.2	42.4	931.7	47.9	17.798	159.8	21.01	1.20	946
947.0	20:01	947.0	25.5	38	211	174	195	1029	2400	412	1058	9.2	42.4	932.5	47.9	17.047	160.2	21.05	1.21	947
948.0	20:03	948.2	26.7	37	212	174	188	1029	2399	391	1035	9.2	42.4	933.5	48.0	16.399	160.5	21.09	1.19	948
949.0	20:06	949.0	21.6	38	211	174	181	1029	2405	356	998	9.2	42.3	934.5	48.3	16.752	161.1	21.14	1.25	949
950.0	20:10	950.0	16.0	38	211	173	200	1029	2406	353	993	9.2	42.2	936.2	48.2	16.476	161.6	21.20	1.33	950

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
950.0	20:10	950.0	16.0	38	211	173	200	1029	2406	353	993	9.2	42.2	936.2	48.2	16.476	161.6	21.20	1.33	950
951.0	20:14	951.1	15.5	39	210	174	198	1029	2399	357	994	9.2	42.2	937.7	47.5	15.362	162.3	21.27	1.35	951
952.0	20:22	952.0	12.3	28	221	176	155	1028	2399	365	1021	9.2	42.2	941.7	48.2	15.933	163.2	21.35	1.28	952
953.0	20:39	953.0	22.5	31	189	174	162	1031	2420	389	1050	9.2	42.2	944.3	47.8	11.394	163.3	21.39	1.17	953
954.0	20:41	954.0	31.6	34	216	174	189	1035	2491	400	1052	9.2	41.9	945.1	48.0	11.818	163.5	21.42	1.11	954
955.0	20:44	955.2	18.9	37	213	175	175	1033	2500	402	1051	9.2	41.9	946.6	47.9	12.226	164.0	21.48	1.28	955
956.0	20:47	956.0	21.4	38	212	173	202	1031	2492	407	1053	9.2	41.9	947.7	48.0	11.216	164.5	21.52	1.25	956
957.0	20:50	957.1	22.4	38	213	174	182	1030	2500	411	1055	9.2	42.0	948.7	48.1	5.878	165.1	21.57	1.24	957
958.0	20:52	958.1	22.6	38	213	174	187	1030	2494	416	1058	9.2	42.0	949.5	47.7	5.319	165.4	21.61	1.23	958
959.0	20:54	959.0	26.9	37	213	175	178	1030	2494	419	1060	9.2	42.1	950.3	47.9	3.065	165.8	21.65	1.19	959
960.0	20:57	960.1	23.4	37	214	174	196	1031	2475	423	1062	9.2	42.1	950.9	48.1	3.868	166.3	21.69	1.22	960
961.0	20:59	961.1	25.7	37	213	173	200	1030	2474	426	1065	9.2	42.2	951.8	47.7	1.884	166.7	21.73	1.20	961
962.0	21:01	962.1	29.8	37	213	175	199	1034	2467	430	1069	9.2	42.2	951.8	47.2	4.737	167.0	21.76	1.16	962
963.0	21:04	963.1	22.4	37	213	175	189	1030	2471	435	1072	9.2	42.2	951.8	48.0	25.002	167.6	21.81	1.24	963
964.0	21:06	964.1	27.9	36	214	176	181	1028	2476	438	1072	9.2	42.3	952.9	47.8	21.124	167.9	21.84	1.17	964
965.0	21:09	965.1	21.1	37	213	175	196	1032	2469	443	1075	9.2	42.3	952.9	47.7	22.051	166.3	21.89	1.25	965
966.0	21:11	966.1	28.8	37	213	175	190	1028	2471	446	1075	9.2	42.3	952.9	47.3	17.200	166.6	21.93	1.17	966
967.0	21:13	967.0	30.8	37	213	175	193	1028	2469	449	1076	9.2	42.2	952.9	47.9	19.245	169.0	21.96	1.16	967
968.0	21:15	968.2	29.3	37	213	175	200	1028	2472	452	1077	9.2	42.2	953.0	48.2	28.524	169.3	21.99	1.17	968
969.0	21:17	969.1	28.6	38	213	175	191	1028	2472	457	1081	9.2	42.2	954.2	48.1	14.897	169.7	22.03	1.18	969
970.0	21:19	970.0	30.5	37	214	176	186	1026	2493	460	1082	9.2	42.3	954.8	48.1	6.848	170.1	22.06	1.15	970
971.0	21:23	971.1	16.9	36	214	176	185	1024	2501	445	1066	9.2	42.2	956.0	47.9	1.292	170.8	22.12	1.28	971
972.0	21:26	972.0	20.3	37	213	176	169	1022	2506	394	1013	9.2	42.1	957.2	47.9	10.217	171.3	22.17	1.26	972
973.0	21:29	973.0	20.6	37	213	176	185	1022	2500	390	1029	9.2	42.0	958.3	48.0	12.117	171.7	22.22	1.26	973
974.0	21:32	974.1	18.1	37	214	175	195	1024	2484	397	1066	9.2	41.9	959.4	48.0	12.407	172.4	22.27	1.28	974
975.0	21:34	975.1	26.3	37	213	175	191	1023	2479	400	1093	9.2	42.0	960.5	48.0	12.192	172.8	22.31	1.19	975
976.0	21:36	976.0	27.3	37	213	175	199	1025	2463	402	1115	9.2	42.0	961.4	48.0	13.133	173.1	22.35	1.18	976
977.0	21:39	977.0	26.3	37	213	175	215	1029	2454	404	1137	9.2	42.0	962.4	48.1	13.744	173.5	22.39	1.20	977
978.0	21:42	978.0	20.9	37	213	174	213	1028	2450	404	1159	9.2	42.0	963.3	48.1	13.256	174.0	22.43	1.25	978
979.0	21:45	979.0	16.5	38	213	175	205	1026	2454	405	1189	9.2	42.1	965.0	48.1	12.041	174.6	22.49	1.31	979
980.0	21:50	980.0	12.8	37	214	176	182	1025	2456	413	1233	9.2	42.1	967.4	48.1	12.419	175.5	22.57	1.36	980
981.0	21:53	981.1	40.9	27	223	165	129	1027	2448	422	1245	9.2	42.2	968.9	48.2	11.061	175.7	22.60	0.99	981
982.0	22:05	982.2	14.7	38	199	168	50	1037	2501	443	1259	9.2	42.2	971.0	48.2	10.800	175.9	22.66	1.33	982
983.0	22:07	983.0	26.9	36	216	173	213	1046	2555	445	1255	9.2	42.2	971.7	48.3	11.460	176.4	22.70	1.18	983
984.0	22:09	984.1	29.8	37	215	174	194	1046	2559	447	1256	9.2	42.1	972.2	48.4	11.796	176.8	22.74	1.16	984
985.0	22:12	985.1	21.3	38	214	173	206	1046	2553	453	1260	9.2	42.1	973.4	48.5	10.837	177.1	22.78	1.25	985
986.0	22:14	986.1	34.3	38	214	173	218	1046	2550	457	1261	9.2	42.2	973.9	48.7	9.240	177.5	22.81	1.13	986
987.0	22:16	987.1	22.8	37	214	173	207	1046	2557	460	1262	9.2	42.2	974.8	48.8	15.495	178.0	22.86	1.22	987
988.0	22:19	988.0	20.3	37	215	173	205	1045	2557	463	1263	9.2	42.2	976.4	48.7	12.618	178.4	22.90	1.25	988
989.0	22:22	989.1	18.9	34	218	175	151	1025	2529	467	1264	9.2	42.3	977.7	48.7	12.545	178.9	22.96	1.25	989
990.0	22:25	990.1	20.9	35	216	175	179	1024	2476	472	1266	9.2	42.4	978.5	48.6	12.661	179.4	23.01	1.23	990
991.0	22:28	991.0	22.5	37	215	174	185	1025	2475	475	1268	9.2	42.4	979.1	48.7	12.598	180.0	23.05	1.23	991
992.0	22:30	992.0	22.8	36	216	174	187	1025	2475	479	1270	9.2	42.5	979.6	48.7	13.314	180.3	23.09	1.22	992
993.0	22:34	993.0	18.7	35	216	174	195	1025	2468	472	1261	9.2	42.5	980.4	48.7	13.658	180.9	23.15	1.27	993
994.0	22:35	994.0	33.0	37	215	173	203	1025	2467	435	1222	9.2	42.5	980.4	48.8	13.978	181.2	23.18	1.13	994
995.0	22:37	995.1	30.0	37	214	173	205	1024	2464	426	1212	9.2	42.4	981.7	48.8	14.098	181.6	23.21	1.16	995
996.0	22:39	996.0	31.3	39	213	173	208	1025	2460	427	1211	9.2	42.4	981.7	48.8	14.045	181.9	23.24	1.16	996
997.0	22:41	997.1	30.0	37	214	173	204	1025	2467	430	1212	9.2	42.4	982.2	48.8	13.771	182.3	23.28	1.16	997
998.0	22:43	998.0	32.7	37	214	174	197	1025	2466	432	1213	9.2	42.4	982.7	48.9	13.414	182.5	23.31	1.14	998
999.0	22:45	999.1	29.3	37	215	174	202	1025	2459	434	1215	9.2	42.4	983.6	48.9	14.094	182.8	23.34	1.16	999

999.0	22:45	999.1	29.3	37	215	174	202	1025	2459	434	1215	9.2	42.4	983.6	48.9	14.094	182.8	23.34	1.16	999
1000.0	22:48	1000.2	20.6	38	214	174	200	1025	2457	435	1214	9.2	42.5	984.7	48.9	10.832	183.4	23.39	1.25	1000
1001.0	22:51	1001.2	25.2	38	214	174	197	1025	2456	438	1215	9.2	42.6	986.1	48.9	1.022	183.7	23.43	1.21	1001
1002.0	22:53	1002.0	28.6	38	214	174	195	1026	2454	443	1218	9.2	42.6	986.8	48.7	4.902	184.1	23.46	1.18	1002
1003.0	22:55	1003.1	21.3	37	215	173	202	1026	2450	446	1218	9.2	42.7	987.9	48.6	8.595	184.7	23.51	1.25	1003
1004.0	22:58	1004.1	25.4	38	214	174	196	1026	2452	449	1219	9.2	42.7	988.8	48.7	14.053	185.1	23.55	1.20	1004
1005.0	23:00	1005.0	25.9	37	214	174	193	1025	2453	453	1221	9.2	42.8	989.2	48.8	14.225	185.4	23.59	1.20	1005
1006.0	23:03	1006.2	25.0	38	213	173	199	1026	2447	455	1221	9.2	42.8	990.1	49.0	13.291	185.8	23.63	1.22	1006
1007.0	23:05	1007.1	23.1	37	214	174	195	1027	2445	459	1222	9.2	42.9	990.9	49.1	12.800	186.3	23.67	1.23	1007
1008.0	23:08	1008.1	19.4	39	212	173	207	1027	2448	461	1224	9.2	42.9	992.1	49.3	12.716	186.8	23.72	1.28	1008
1009.0	23:13	1009.2	13.7	37	215	174	189	1028	2442	466	1228	9.2	43.0	993.9	49.4	11.492	187.6	23.80	1.35	1009
1010.0	23:37	1010.1	22.0	36	236	178	192	1026	2443	465	1217	9.2	43.0	1001.3	49.3	9.128	187.8	23.84	1.22	1010
1011.0	23:39	1011.0	34.6	34	219	172	214	1020	2436	413	1155	9.2	42.9	1002.0	49.4	11.219	188.2	23.87	1.09	1011
1012.0	23:41	1012.1	23.4	35	218	172	204	1048	2582	400	1141	9.2	42.6	1003.2	49.4	11.170	188.5	23.91	1.19	1012
1013.0	23:43	1013.1	28.8	37	216	172	218	1054	2595	397	1137	9.2	42.5	1004.1	49.4	11.331	188.9	23.95	1.16	1013
1014.0	23:45	1014.2	28.6	36	217	171	218	1055	2592	400	1138	9.2	42.6	1004.8	48.2	3.846	189.2	23.98	1.16	1014
1015.0	23:48	1015.0	27.7	37	216	172	215	1055	2593	402	1139	9.2	42.6	1005.8	0.0	0.000	189.8	24.02	1.17	1015
1016.0	23:50	1016.1	27.5	36	217	172	207	1054	2598	405	1141	9.2	42.7	1006.8	0.0	0.000	190.1	24.06	1.16	1016
1017.0	23:52	1017.0	26.9	36	217	173	201	1050	2600	408	1141	9.2	42.8	1007.4	0.0	0.000	190.5	24.09	1.18	1017
1018.0	23:55	1018.0	23.1	37	216	173	196	1049	2600	410	1142	9.2	42.9	1008.3	0.0	0.000	190.8	24.14	1.23	1018
1019.0	23:57	1019.1	23.4	37	217	173	199	1054	2588	413	1138	9.2	43.0	1008.8	0.0	0.000	191.3	24.18	1.22	1019
1020.0	23:59	1020.0	25.4	36	217	173	201	1050	2592	419	1126	9.2	43.1	1009.2	0.0	0.000	191.7	24.22	1.18	1020
1021.0	00:02	1021.0	23.1	35	218	173	200	1049	2590	426	1131	9.2	43.2	1009.2	0.0	0.000	192.2	24.26	1.20	1021

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1021.0	00:02	1021.0	23.1	35	218	173	200	1049	2590	426	1131	9.2	43.2	1009.2	0.0	0.000	192.2	24.26	1.20	1021
1022.0	00:05	1022.0	20.0	32	221	174	183	1049	2591	428	1131	9.2	43.3	1009.6	0.0	0.000	192.7	24.31	1.21	1022
1023.0	00:08	1023.0	21.1	31	222	174	172	1049	2604	428	1130	9.2	43.3	1009.6	0.0	0.000	193.2	24.36	1.19	1023
1024.0	00:11	1024.1	19.8	31	222	173	190	1049	2594	399	1135	9.2	43.3	1009.8	0.0	0.000	193.8	24.41	1.21	1024
1025.0	00:13	1025.0	25.5	30	223	174	180	1049	2600	367	1137	9.2	43.1	1009.8	37.6	0.000	194.1	24.45	1.13	1025

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 3

DATE: 18-MAY-95

WELL	LONGTOM 1	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	3 HYCALOG DS34HG
START DEPTH	1025m	JETS / TFA	7x13
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.05	40	7	16	6/8/9	9.3	5.6	2.5	TR	94.0	41.0	60	7.2

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1026.0	00:35	1026.1	10.6	6	253	64	79	509	862	532	1665	9.8	-0.1	-999.3	19.9	-0.000	14.5	3.78	0.78	1026
1027.0	00:40	1027.0	12.5	4	261	67	57	1100	1923	530	1345	9.8	-0.1	1026.1	25.7	0.000	14.8	3.86	0.70	1027
1028.0	02:45	1028.0	3.6	6	256	78	39	1070	1897	411	1076	9.1	-0.1	1027.5	26.3	0.000	16.1	4.13	1.11	1028
1029.0	03:17	1029.0	2.1	13	249	80	21	845	1378	482	994	8.8	-0.0	1028.5	26.4	0.000	18.3	4.60	1.45	1029
1030.0	03:17	1030.1	3.5	1	263	102	97	1034	1760	506	1019	8.8	-0.0	1028.5	26.5	0.000	18.4	4.62	0.45	1030
1031.0	04:28	1031.1	12.1	27	237	78	39	1066	2031	570	1069	8.8	-0.1	1032.4	28.7	0.415	23.6	5.80	3.72	1031
1032.0	05:04	1032.0	1.7	21	243	72	30	919	1847	589	1083	8.8	-0.1	1031.6	29.8	0.690	26.1	6.39	1.65	1032
1033.0	05:44	1033.0	1.5	33	230	73	35	774	1865	597	1091	8.8	18.0	1032.3	29.8	0.683	29.0	7.05	1.90	1033
1034.0	07:21	1034.1	2.0	20	243	66	16	784	1668	623	1123	8.8	34.6	1041.1	31.4	0.000	34.0	8.45	3.46	1034

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 4

DATE: 19-MAY-95

WELL	LONGTOM 1	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	4 HYCALOG DS40HSF
START DEPTH	1034m	JETS / TFA	5x14
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.05	40	7	16	6/8/9	9.3	5.6	2.5	TR	94.0	41.0	60	7.2

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1035.0	15:20	1035.3	15.1	5	264	153	36	1003	2642	507	1107	8.8	35.3	1035.1	38.1	0.821	3.0	0.34	2.78	1035
1036.0	15:24	1036.2	15.9	5	264	170	43	1005	2637	516	1115	8.8	35.3	1035.1	38.3	1.100	3.6	0.40	0.96	1036
1037.0	15:27	1037.0	20.8	5	264	134	34	1007	2641	508	1037	8.8	35.0	1035.1	38.4	2.929	4.1	0.45	0.88	1037
1038.0	15:33	1038.1	10.7	3	264	179	33	1003	2638	519	1119	8.8	34.8	1035.1	38.0	3.589	4.9	0.54	0.98	1038
1039.0	15:36	1039.0	15.3	3	264	179	50	1007	2613	520	1123	8.8	34.9	1035.7	38.4	1.276	5.6	0.61	0.90	1039
1040.0	15:40	1040.1	15.5	4	263	179	53	1007	2614	520	1124	8.8	35.0	1035.3	38.4	1.131	6.4	0.67	0.93	1040
1041.0	15:43	1041.0	23.8	3	264	179	51	1007	2613	517	1121	8.8	34.8	1035.9	38.4	2.100	6.7	0.71	0.83	1041
1042.0	15:47	1042.1	13.6	3	264	179	38	1003	2616	516	1119	8.8	35.0	1037.0	38.1	2.489	7.5	0.79	0.92	1042
1043.0	15:53	1043.0	9.7	2	265	180	33	1005	2619	514	1119	8.8	35.0	1038.3	38.2	2.409	8.6	0.89	0.94	1043
1044.0	15:57	1044.1	17.3	3	264	179	55	1004	2614	519	1125	8.8	35.0	1039.5	38.2	1.737	9.4	0.95	0.87	1044
1045.0	16:00	1045.1	18.0	3	264	178	73	1006	2611	520	1123	8.8	34.8	1040.1	38.3	2.223	9.9	1.00	0.87	1045
1046.0	16:04	1046.0	16.1	2	265	179	46	1007	2608	518	1122	8.8	34.9	1041.7	38.5	3.045	10.5	1.06	0.87	1046
1047.0	16:08	1047.1	15.5	2	265	180	45	1003	2612	521	1123	8.8	34.9	1042.2	38.1	3.228	11.2	1.13	0.88	1047
1048.0	16:12	1048.2	15.7	3	264	179	48	1006	2618	523	1127	8.8	34.9	1042.5	38.4	2.937	11.9	1.19	0.90	1048
1049.0	16:15	1049.0	18.1	4	263	179	55	1004	2618	527	1132	8.8	35.0	1043.4	38.2	2.593	12.5	1.25	0.91	1049
1050.0	16:21	1050.1	10.7	3	264	179	57	1007	2619	530	1135	8.8	34.8	1045.1	38.4	2.593	13.4	1.34	0.99	1050
1051.0	16:27	1051.0	10.1	3	264	179	58	1005	2635	532	1138	8.8	34.2	1046.7	38.2	1.746	14.5	1.44	0.99	1051
1052.0	16:33	1052.1	9.0	3	264	179	59	1003	2613	535	1139	8.8	34.0	1048.7	38.5	1.775	15.7	1.55	0.99	1052
1053.0	16:37	1053.1	18.2	5	262	177	91	1006	2606	533	1136	8.8	34.0	1049.5	38.9	2.002	16.2	1.61	0.94	1053
1054.0	16:40	1054.0	18.1	4	263	177	81	1007	2596	534	1137	8.8	34.0	1050.0	39.2	2.343	16.8	1.66	0.94	1054
1055.0	16:44	1055.0	12.9	5	262	178	67	1007	2604	532	1134	8.8	35.3	1050.7	39.8	1.197	17.7	1.74	1.01	1055
1056.0	16:47	1056.1	22.0	4	263	177	81	1008	2593	530	1129	8.8	35.6	1051.2	40.1	3.322	18.1	1.78	0.89	1056
1057.0	16:50	1057.0	19.6	4	263	178	73	1009	2596	531	1130	8.8	36.2	1051.6	40.2	3.213	18.6	1.84	0.91	1057
1058.0	16:53	1058.1	24.3	5	262	177	106	1010	2603	533	1134	8.8	36.7	1051.7	40.3	3.544	19.2	1.88	0.90	1058
1059.0	16:55	1059.2	25.2	5	262	179	88	1010	2596	533	1133	8.8	35.3	1052.5	40.3	2.287	19.6	1.92	0.90	1059
1060.0	17:00	1060.5	21.3	6	261	180	62	1009	2601	533	1133	8.8	36.7	1054.0	40.5	1.822	20.1	1.96	0.95	1060
1061.0	17:14	1061.1	21.1	3	266	178	66	995	2585	532	1139	8.8	37.0	1055.4	40.7	1.439	20.5	2.08	2.49	1061
1062.0	17:20	1062.1	21.0	4	265	176	102	1004	2622	532	1146	8.8	37.0	1057.9	40.7	1.085	21.4	2.18	2.65	1062
1063.0	17:22	1063.0	27.7	4	264	178	86	1004	2620	534	1152	8.8	37.0	1058.7	40.8	0.987	21.8	2.22	0.86	1063
1064.0	17:25	1064.2	25.0	3	265	177	89	1005	2614	533	1153	8.8	37.0	1059.8	40.9	1.034	22.3	2.26	0.83	1064
1065.0	17:26	1065.1	32.4	5	264	176	106	1009	2620	533	1154	8.8	37.1	1059.8	41.1	1.383	22.7	2.29	0.84	1065
1066.0	17:28	1066.1	39.1	6	262	178	90	1007	2629	532	1153	8.8	37.1	1059.8	41.1	1.217	22.9	2.31	0.84	1066
1067.0	17:32	1067.0	14.4	5	264	179	63	1011	2632	531	1152	8.8	37.1	1062.8	41.1	0.862	23.6	2.38	0.99	1067
1068.0	17:34	1068.0	39.1	3	265	178	74	1011	2624	531	1152	8.8	37.2	1063.2	41.1	0.720	24.0	2.41	0.75	1068
1069.0	17:36	1069.0	31.6	5	264	177	90	1011	2628	531	1152	8.8	37.2	1061.5	41.1	0.647	24.1	2.44	0.85	1069
1070.0	17:39	1070.1	18.2	5	264	179	75	1011	2629	528	1149	8.8	37.2	1062.8	41.1	0.561	24.9	2.50	0.95	1070
1071.0	17:41	1071.1	25.2	5	263	178	77	1012	2628	525	1145	8.8	37.3	1062.4	41.1	0.538	25.2	2.54	0.90	1071
1072.0	17:44	1072.1	22.0	6	263	177	84	1009	2640	524	1144	8.8	37.3	1063.6	41.1	0.625	25.8	2.58	0.94	1072
1073.0	17:47	1073.0	21.7	5	264	177	82	1009	2635	522	1142	8.8	37.3	1064.9	41.1	1.350	26.1	2.63	0.91	1073
1074.0	17:49	1074.2	32.7	5	264	177	90	1008	2661	523	1145	8.8	37.4	1066.1	41.1	1.137	26.5	2.66	0.83	1074
1075.0	17:50	1075.0	34.6	5	264	177	106	1007	2678	523	1144	8.8	37.4	1066.6	41.1	0.877	26.9	2.69	0.82	1075
1076.0	17:53	1076.1	26.5	4	264	177	87	1008	2679	521	1142	8.8	37.4	1066.9	41.1	0.683	27.2	2.72	0.86	1076
1077.0	17:55	1077.1	25.2	5	263	177	94	1006	2677	524	1145	8.8	37.4	1068.3	41.1	0.554	27.6	2.76	0.91	1077
1078.0	17:56	1078.0	44.4	6	262	175	113	1007	2682	523	1144	8.8	37.5	1069.1	41.1	0.511	27.9	2.79	0.82	1078
1079.0	18:00	1079.0	18.2	6	263	178	96	1006	2697	523	1144	8.8	37.5	1070.3	41.1	0.451	28.5	2.84	0.97	1079
1080.0	18:04	1080.0	13.6	6	263	177	65	1006	2704	523	1143	8.8	37.5	1071.6	41.1	0.364	29.2	2.92	1.04	1080
1081.0	18:08	1081.0	14.9	5	264	177	76	1006	2699	523	1143	8.8	37.6	1073.5	41.1	0.292	29.9	2.98	0.98	1081
1082.0	18:13	1082.1	12.3	5	264	178	84	1004	2705	523	1145	8.8	37.6	1075.7	41.1	1.176	30.8	3.06	1.03	1082
1083.0	18:16	1083.0	22.0	5	264	179	93	1005	2701	521	1144	8.8	37.7	1077.1	41.1	3.232	31.2	3.11	0.91	1083
1084.0	18:22	1084.1	9.1	5	263	180	61	1002	2720	521	1145	8.8	37.7	1079.2	41.1	3.213	32.5	3.22	1.10	1084

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1084.0	18:22	1084.1	9.1	5	263	180	61	1002	2720	521	1145	8.8	37.7	1079.2	41.1	3.213	32.5	3.22	1.10	1084
1085.0	18:28	1085.0	9.9	6	262	172	63	1005	2728	520	1130	8.8	37.8	1080.9	40.6	1.591	33.5	3.32	1.10	1085
1086.0	18:31	1086.0	19.7	5	264	177	86	1004	2715	519	1121	8.8	37.9	1081.4	40.5	3.625	34.1	3.37	0.93	1086
1087.0	18:35	1087.1	14.9	4	264	179	71	1004	2717	519	1119	8.8	37.9	1082.6	40.3	5.150	34.8	3.44	0.97	1087
1088.0	18:44	1088.5	10.9	7	262	175	65	1002	2729	517	1117	8.8	38.0	1084.3	40.2	5.289	35.7	3.53	1.10	1088
1089.0	18:57	1089.3	14.8	4	266	181	55	998	2711	494	836	8.8	38.1	1085.5	40.1	3.715	36.0	3.62	1.10	1089
1090.0	18:59	1090.0	35.3	5	265	179	89	991	2701	495	845	8.8	38.1	1085.8	40.1	3.172	36.2	3.64	0.84	1090
1091.0	19:03	1091.1	13.6	5	265	179	81	994	2714	508	934	8.8	38.0	1087.0	40.1	4.011	37.0	3.72	1.02	1091
1092.0	19:05	1092.1	37.5	7	263	178	117	993	2719	514	917	8.8	38.0	1087.1	40.0	6.946	37.3	3.74	0.88	1092
1093.0	19:06	1093.0	36.0	7	263	178	97	995	2716	515	917	8.8	38.0	1087.4	40.0	6.379	37.5	3.77	0.88	1093
1094.0	19:09	1094.0	26.7	6	264	179	96	993	2722	515	939	8.8	38.0	1087.7	40.0	6.652	37.9	3.81	0.91	1094
1095.0	19:11	1095.1	30.3	8	262	179	97	991	2729	514	861	8.8	38.0	1087.7	40.0	8.141	38.2	3.84	0.94	1095
1096.0	19:17	1096.0	9.9	8	262	181	49	988	2748	514	892	8.8	38.1	1088.7	39.9	3.417	39.4	3.94	1.18	1096
1097.0	19:22	1097.1	11.7	6	264	181	53	990	2729	515	878	8.8	38.2	1090.6	39.8	1.213	40.3	4.03	1.07	1097
1098.0	19:25	1098.0	20.3	7	263	179	81	990	2737	514	878	8.8	38.2	1091.2	39.8	1.811	40.9	4.08	1.00	1098
1099.0	19:27	1099.2	24.3	7	263	179	98	990	2726	513	920	8.8	38.2	1092.6	39.8	2.513	41.3	4.12	0.96	1099
1100.0	19:30	1100.1	21.2	6	264	180	76	990	2722	514	961	8.8	38.3	1094.1	39.7	3.172	41.8	4.17	0.95	1100
1101.0	19:32	1101.0	30.0	7	263	179	96	990	2725	519	1102	8.8	38.2	1095.1	39.7	4.133	42.2	4.20	0.91	1101
1102.0	19:36	1102.0	16.0	5	265	179	71	993	2704	519	1035	8.8	38.1	1095.9	39.7	4.445	42.7	4.26	0.99	1102
1103.0	19:37	1103.1	52.2	7	263	177	150	998	2665	518	1103	8.8	38.0	1095.9	39.6	3.993	43.1	4.28	0.81	1103
1104.0	19:39	1104.1	38.3	8	262	179	102	1000	2649	518	1155	8.8	38.0	1096.1	39.6	3.232	43.3	4.31	0.88	1104
1105.0	19:42	1105.0	19.5	7	263	179	87	1005	2623	526	1175	8.8	37.9	1096.6	39.6	2.988	43.8	4.36	1.01	1105
1106.0	19:45	1106.0	15.6	7	263	180	75	1009	2588	536	1178	8.8	37.9	1097.8	39.5	2.744	44.6	4.42	1.05	1106
1107.0	19:49	1107.0	17.8	7	263	180	77	1014	2564	544	1178	8.8	37.9	1099.4	39.5	1.429	45.1	4.48	1.02	1107
1108.0	19:52	1108.0	17.7	6	264	180	71	1012	2539	550	1177	8.8	37.9	1100.5	39.4	1.310	45.7	4.54	1.00	1108
1109.0	19:54	1109.0	36.4	6	264	178	93	1011	2522	554	1175	8.8	37.9	1101.2	39.4	1.255	46.0	4.56	0.85	1109
1110.0	19:56	1110.0	25.0	7	263	179	88	1010	2525	559	1176	8.8	37.9	1101.7	39.3	2.199	46.4	4.60	0.95	1110
1111.0	20:01	1111.1	13.3	7	263	179	85	1009	2532	562	1176	8.8	37.9	1104.2	39.3	3.853	47.3	4.68	1.07	1111
1112.0	20:04	1112.0	17.1	6	264	180	81	1012	2539	569	1177	8.8	37.9	1105.3	39.4	2.910	47.8	4.74	1.00	1112
1113.0	20:10	1113.1	11.4	7	263	180	76	1011	2549	576	1173	8.8	37.9	1106.8	39.1	1.869	48.8	4.83	1.11	1113
1114.0	20:14	1114.1	13.6	7	263	180	89	1014	2563	586	1172	8.8	38.0	1108.3	39.5	4.195	49.5	4.90	1.09	1114
1115.0	20:18	1115.1	15.9	8	262	179	97	1007	2531	591	1169	8.8	38.0	1110.0	39.4	5.703	50.2	4.96	1.06	1115
1116.0	20:20	1116.0	26.3	7	263	177	113	1007	2524	598	1170	8.8	38.0	1110.4	39.5	5.660	50.6	5.00	0.94	1116
1117.0	20:50	1117.1	26.1	2	269	173	76	997	2537	610	1135	8.8	37.5	1113.2	39.5	5.660	51.4	5.10	2.46	1117
1118.0	20:54	1118.0	16.0	5	266	179	104	1002	2539	621	1143	8.8	37.5	1114.1	39.6	5.660	52.0	5.16	0.99	1118
1119.0	20:57	1119.1	19.4	4	267	179	93	1004	2552	640	1156	8.8	37.5	1114.7	39.6	5.660	52.5	5.22	0.93	1119
1120.0	20:59	1120.1	36.7	5	266	179	116	1002	2552	655	1168	8.8	37.5	1115.2	39.7	5.660	52.9	5.24	0.84	1120
1121.0	21:00	1121.0	48.6	7	264	178	125	1002	2554	662	1172	8.8	37.5	1115.9	39.7	5.660	53.0	5.26	0.83	1121
1122.0	21:03	1122.1	20.1	7	265	178	127	1002	2553	668	1177	8.8	37.5	1116.1	39.7	5.660	53.6	5.31	0.99	1122
1123.0	21:05	1123.1	35.6	8	263	178	133	1001	2557	676	1181	8.8	37.5	1117.2	39.6	5.660	53.9	5.34	0.91	1123
1124.0	21:06	1124.1	44.4	7	265	178	133	1001	2561	679	1181	8.8	37.6	1117.2	39.6	5.660	54.1	5.36	0.84	1124
1125.0	21:07	1125.1	52.9	7	264	177	145	1001	2566	684	1184	8.8	37.6	1117.2	39.6	5.660	54.3	5.38	0.82	1125
1126.0	21:09	1126.0	30.5	8	264	178	137	999	2575	685	1185	8.8	37.6	1117.2	39.6	5.660	54.7	5.42	0.93	1126
1127.0	21:10	1127.2	40.0	8	263	179	113	998	2584	682	1178	8.8	37.6	1118.7	39.6	5.660	54.8	5.44	0.89	1127
1128.0	21:12	1128.3	34.3	7	264	179	114	999	2572	683	1179	8.8	37.6	1117.2	39.6	5.660	55.2	5.47	0.90	1128
1129.0	21:14	1129.2	41.9	8	263	178	139	998	2581	686	1180	8.8	37.7	1117.5	39.5	1.904	55.6	5.49	0.88	1129
1130.0	21:16	1130.0	29.5	8	263	180	105	998	2605	693	1185	8.8	37.6	1118.3	39.6	2.306	55.9	5.53	0.96	1130
1131.0	21:19	1131.1	16.8	8	263	179	103	1000	2601	696	1183	8.8	37.7	1119.5	39.6	2.160	56.5	5.59	1.07	1131
1132.0	21:22	1132.1	21.2	8	263	179	102	998	2602	699	1182	8.8	37.7	1121.3	39.6	1.816	57.0	5.63	1.02	1132
1133.0	21:28	1133.1	9.9	7	264	181	68	997	2597	705	1181	8.8	37.8	1124.7	39.8	1.249	58.1	5.74	1.15	1133

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1133.0	21:28	1133.1	9.9	7	264	181	68	997	2597	705	1181	8.8	37.8	1124.7	39.8	1.249	58.1	5.74	1.15	1133
1134.0	21:32	1134.0	22.2	8	264	180	88	997	2595	713	1184	8.8	37.8	1127.2	39.8	0.890	58.6	5.78	0.99	1134
1135.0	21:35	1135.1	24.8	8	264	180	85	997	2598	717	1185	8.8	37.9	1128.5	39.8	2.452	59.0	5.82	0.98	1135
1136.0	21:39	1136.1	12.9	8	264	181	63	993	2610	722	1185	8.8	37.9	1130.5	39.8	4.636	59.9	5.90	1.11	1136
1137.0	21:52	1137.1	6.2	9	263	178	44	993	2623	727	1183	8.8	38.0	1133.2	39.9	3.657	61.6	6.06	1.28	1137
1138.0	21:56	1138.0	15.6	9	262	181	57	993	2625	739	1181	8.8	38.0	1134.7	40.0	4.353	62.1	6.13	1.10	1138
1139.0	21:59	1139.0	21.2	9	263	179	88	993	2614	743	1183	8.8	38.1	1135.6	40.0	4.533	62.7	6.17	1.03	1139
1140.0	22:04	1140.1	10.9	11	261	180	69	990	2635	746	1184	8.8	38.1	1136.1	40.1	6.797	63.8	6.26	1.22	1140
1141.0	22:18	1141.1	4.5	8	264	176	46	991	2645	745	1212	8.8	38.3	1137.7	40.2	3.707	66.1	6.49	1.32	1141
1142.0	22:20	1142.2	24.5	7	264	166	109	994	2650	745	1276	8.8	38.5	1138.6	40.3	3.290	66.5	6.53	0.94	1142
1143.0	22:22	1143.1	26.5	6	265	167	88	993	2650	744	1297	8.8	38.5	1139.5	40.3	4.647	66.8	6.57	0.91	1143
1144.0	22:34	1144.1	6.7	7	265	170	55	987	2665	743	1344	8.8	38.6	1140.5	41.0	4.229	68.4	6.71	1.20	1144
1145.0	22:46	1145.4	7.3	2	269	58	12	970	2603	742	1364	8.8	38.7	1143.4	45.5	4.172	68.9	6.85	0.82	1145
1146.0	23:00	1146.0	8.6	3	270	27	16	979	2680	739	1366	8.8	38.8	1143.6	46.5	2.433	69.0	6.99	2.26	1146
1147.0	23:02	1147.1	38.7	6	267	159	114	983	2681	709	1336	8.8	38.8	1143.8	46.6	2.704	69.2	7.02	0.83	1147
1148.0	23:03	1148.1	36.7	7	266	165	127	984	2690	704	1330	8.8	38.8	1143.9	46.6	3.961	69.5	7.04	0.87	1148
1149.0	23:06	1149.1	27.3	6	267	169	88	982	2691	708	1334	8.8	38.8	1144.0	46.6	3.429	69.9	7.08	0.89	1149
1150.0	23:08	1150.0	27.7	7	266	167	120	982	2698	709	1333	8.8	38.8	1144.8	46.6	6.054	70.2	7.12	0.93	1150
1151.0	23:10	1151.1	24.8	6	267	169	85	981	2703	716	1341	8.8	38.8	1144.8	46.7	10.377	70.6	7.16	0.93	1151
1152.0	23:12	1152.1	27.1	7	266	168	104	981	2710	726	1354	8.8	38.8	1144.8	46.7	11.166	70.9	7.19	0.93	1152
1153.0	23:15	1153.2	24.2	7	266	168	95	984	2712	728	1354	8.8	38.7	1144.8	46.8	12.064	71.4	7.24	0.95	1153
1154.0	23:18	1154.2	21.6	8	265	170	84	984	2728	726	1352	8.8	38.7	1144.8	46.9	11.486	71.9	7.28	1.00	1154
1155.0	23:20	1155.0	26.5	7	266	169	81	984	2728	725	1351	8.8	38.7	1145.7	46.9	11.193	72.3	7.32	0.94	1155
1156.0	23:24	1156.2	13.6	8	265	170	70	983	2736	726	1352	8.8	38.7	1147.3	47.0	10.473	73.0	7.39	1.08	1156
1157.0	23:29	1157.0	12.6	8	265	171	58	981	2740	728	1354	8.8	38.7	1149.8	47.1	9.034	73.8	7.47	1.10	1157
1158.0	23:32	1158.0	20.5	7	266	169	82	982	2729	730	1356	8.8	38.8	1150.9	47.2	7.516	74.3	7.52	0.98	1158
1159.0	23:34	1159.1	26.9	8	265	167	105	986	2747	731	1358	8.8	38.8	1151.9	47.2	6.528	74.7	7.56	0.95	1159
1160.0	23:36	1160.1	30.5	7	266	169	84	984	2733	731	1358	8.8	38.8	1152.4	47.2	8.363	75.0	7.59	0.90	1160
1161.0	23:38	1161.0	32.7	7	266	167	113	986	2740	728	1355	8.8	38.8	1153.5	47.2	9.538	75.2	7.62	0.89	1161
1162.0	23:41	1162.1	22.0	9	264	166	125	983	2742	727	1354	8.8	38.9	1154.3	47.2	10.568	75.7	7.67	1.01	1162
1163.0	23:43	1163.1	30.8	8	265	167	117	984	2735	725	1352	8.8	38.9	1155.3	47.2	10.604	76.1	7.70	0.92	1163
1164.0	23:44	1164.1	37.5	8	265	165	125	984	2741	725	1352	8.8	38.9	1155.4	47.2	11.803	76.4	7.73	0.88	1164
1165.0	23:46	1165.0	32.1	9	264	163	170	984	2758	725	1351	8.8	39.0	1155.9	47.2	12.571	76.6	7.76	0.93	1165
1166.0	23:49	1166.0	25.7	10	263	165	135	979	2751	725	1352	8.8	39.0	1156.4	47.3	11.355	77.1	7.80	1.00	1166
1167.0	23:52	1167.0	18.7	8	265	168	93	981	2748	725	1352	8.8	39.0	1157.0	47.3	3.905	77.6	7.85	1.04	1167
1168.0	23:56	1168.1	14.6	8	265	168	103	980	2764	722	1350	8.9	39.1	1158.6	47.2	10.238	78.3	7.92	1.06	1168
1169.0	00:01	1169.0	10.9	10	263	169	89	978	2781	723	1351	8.9	39.2	1161.1	47.2	8.491	79.1	8.01	1.18	1169
1170.0	00:05	1170.0	14.8	9	264	167	118	981	2784	722	1350	8.9	39.2	1162.9	47.2	2.188	79.8	8.08	1.07	1170
1171.0	00:07	1171.0	30.8	10	263	166	118	983	2797	722	1350	8.9	39.2	1164.3	47.2	4.001	80.1	8.11	0.95	1171
1172.0	00:21	1172.0	10.4	6	267	149	86	926	2620	721	1351	8.9	39.3	1167.7	47.2	9.538	81.0	8.21	1.06	1172
1173.0	00:27	1173.1	35.6	8	265	151	76	979	2774	723	1352	8.9	39.3	1168.9	47.3	6.566	81.3	8.24	0.87	1173
1174.0	00:38	1174.0	35.0	8	266	163	140	975	2789	704	1228	8.9	39.3	1170.2	47.3	7.655	81.4	8.30	2.99	1174
1175.0	00:39	1175.0	34.3	7	267	164	126	975	2790	705	1241	8.9	39.3	1171.0	47.2	6.760	81.8	8.33	0.88	1175
1176.0	00:41	1176.1	33.3	7	268	167	110	975	2796	704	1256	8.9	39.3	1171.5	47.4	5.617	81.9	8.36	0.87	1176
1177.0	00:44	1177.1	23.4	8	266	166	122	975	2801	703	1287	8.9	39.3	1171.5	47.4	6.950	82.5	8.40	0.98	1177
1178.0	00:48	1178.1	14.4	10	265	168	83	974	2828	704	1342	8.9	39.2	1171.7	47.4	12.818	83.1	8.47	1.11	1178
1179.0	00:50	1179.0	29.3	10	264	167	108	974	2823	709	1388	8.9	39.2	1172.1	47.4	11.206	83.5	8.50	0.97	1179
1180.0	00:54	1180.0	14.9	8	266	167	103	975	2806	706	1275	8.9	39.2	1172.3	47.5	7.765	84.2	8.57	1.07	1180
1181.0	00:57	1181.1	17.8	7	267	168	89	975	2801	705	1227	8.9	39.3	1173.2	47.5	7.610	84.7	8.63	1.00	1181
1182.0	01:01	1182.0	18.9	8	266	168	91	975	2802	705	1229	8.9	39.3	1174.0	47.5	8.412	85.2	8.68	1.01	1182

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1182.0	01:01	1182.0	18.9	8	266	168	91	975	2802	705	1229	8.9	39.3	1174.0	47.5	8.412	85.2	8.68	1.01	1182
1183.0	01:06	1183.0	11.2	10	265	171	60	976	2816	704	1232	8.9	39.4	1176.8	47.6	8.926	86.2	8.77	1.16	1183
1184.0	01:14	1184.0	7.5	9	265	172	40	975	2815	703	1234	8.9	39.5	1179.1	47.6	6.580	87.5	8.90	1.23	1184
1185.0	01:32	1185.0	3.3	8	266	163	34	975	2802	704	1238	8.9	39.6	1183.5	47.8	4.159	90.5	9.20	1.36	1185
1186.0	01:43	1186.1	6.1	11	263	169	49	976	2808	704	1236	8.9	32.6	1184.3	48.0	4.346	92.2	9.37	1.33	1186
1187.0	01:45	1187.1	30.5	6	268	163	113	980	2779	700	1231	8.9	33.9	1184.4	48.1	4.311	92.4	9.40	0.86	1187
1188.0	01:48	1188.1	22.4	7	267	162	116	979	2790	699	1234	8.9	33.9	1184.4	48.2	4.300	92.9	9.44	0.95	1188
1189.0	01:51	1189.1	17.8	7	268	165	109	978	2786	699	1234	8.9	34.3	1184.7	48.2	6.297	93.4	9.50	0.99	1189
1190.0	01:54	1190.1	29.5	7	267	170	128	976	2774	700	1233	8.9	34.7	1184.8	48.3	7.834	93.7	9.53	0.90	1190
1191.0	01:56	1191.0	29.8	7	267	171	119	980	2776	699	1233	8.9	34.8	1185.0	48.4	8.844	94.1	9.57	0.91	1191
1192.0	02:00	1192.0	14.0	6	268	173	103	977	2772	701	1234	8.9	34.7	1185.5	48.5	9.481	94.8	9.64	1.03	1192
1193.0	02:02	1193.0	25.4	8	267	171	126	976	2778	700	1233	8.9	35.3	1185.9	48.6	8.545	95.1	9.68	0.95	1193
1194.0	02:07	1194.1	13.4	7	267	172	102	977	2784	699	1231	8.9	35.3	1186.0	48.7	6.824	96.0	9.75	1.06	1194
1195.0	02:10	1195.1	18.7	6	268	171	113	976	2777	698	1230	8.9	35.1	1187.5	48.8	7.035	96.5	9.81	0.97	1195
1196.0	02:13	1196.1	17.3	7	268	172	108	975	2783	696	1229	8.9	34.9	1188.6	48.6	5.589	97.1	9.86	1.00	1196
1197.0	02:16	1197.1	21.3	7	267	172	102	975	2789	696	1226	8.9	35.0	1189.8	44.3	5.980	97.6	9.91	0.97	1197
1198.0	02:20	1198.0	16.6	8	266	172	116	976	2788	692	1222	8.9	35.0	1191.1	44.2	0.034	98.1	9.97	1.04	1198
1199.0	02:22	1199.1	23.4	8	266	172	98	975	2781	691	1221	8.9	34.9	1191.8	48.0	1.402	98.6	10.01	0.98	1199
1200.0	02:26	1200.0	15.2	7	267	174	76	975	2781	690	1221	8.9	35.0	1193.3	49.0	7.044	99.3	10.08	1.04	1200
1201.0	02:33	1201.0	11.8	8	266	174	79	976	2786	690	1220	8.9	34.6	1194.9	49.7	9.117	100.2	10.16	1.12	1201
1202.0	02:54	1202.0	12.0	6	270	173	88	986	2821	591	1122	8.9	35.7	1199.4	50.1	7.155	101.5	10.36	2.84	1202
1203.0	02:55	1203.1	51.4	5	271	173	102	988	2819	593	1125	8.9	36.1	1199.7	50.2	6.425	101.7	10.38	0.76	1203
1204.0	02:56	1204.0	50.7	7	269	172	80	990	2833	595	1127	8.9	38.7	1200.0	50.2	6.498	101.8	10.40	0.79	1204
1205.0	02:58	1205.0	24.0	7	269	171	115	987	2830	597	1129	8.9	40.1	1200.3	50.2	5.871	102.4	10.44	0.95	1205
1206.0	03:00	1206.1	42.9	6	270	173	82	988	2827	597	1128	8.9	40.1	1200.5	50.2	7.757	102.6	10.46	0.82	1206
1207.0	03:02	1207.0	25.5	7	269	172	99	991	2839	597	1130	8.9	40.1	1200.6	50.3	15.527	102.9	10.50	0.94	1207
1208.0	03:05	1208.1	20.9	7	269	173	94	989	2821	597	1129	8.9	40.1	1201.2	50.4	15.065	103.4	10.55	0.97	1208
1209.0	03:07	1209.0	35.6	7	269	170	139	989	2812	596	1129	8.9	40.0	1201.2	50.4	14.437	103.8	10.58	0.86	1209
1210.0	03:09	1210.1	27.9	6	270	171	101	990	2822	597	1130	8.9	39.7	1201.9	50.4	13.394	104.1	10.61	0.89	1210
1211.0	03:11	1211.0	33.0	6	270	173	104	989	2814	597	1130	8.9	39.6	1201.9	50.5	12.576	104.3	10.64	0.86	1211
1212.0	03:14	1212.0	18.0	7	269	173	94	990	2822	600	1132	8.9	39.7	1205.0	50.6	11.511	105.0	10.70	1.00	1212
1213.0	03:16	1213.2	29.8	6	270	170	124	989	2812	601	1133	8.9	39.8	1202.4	50.6	12.633	105.4	10.73	0.87	1213
1214.0	03:18	1214.0	35.0	7	269	168	140	989	2812	601	1133	8.9	39.8	1202.6	50.6	9.585	105.5	10.76	0.87	1214
1215.0	03:20	1215.1	28.3	6	270	169	125	989	2820	602	1133	8.9	39.8	1204.0	50.6	7.145	105.9	10.80	0.88	1215
1216.0	03:21	1216.0	50.7	7	269	169	131	989	2825	603	1135	8.9	39.8	1204.8	50.6	8.592	106.2	10.82	0.79	1216
1217.0	03:23	1217.1	33.0	6	270	171	114	988	2825	602	1134	8.9	39.9	1205.5	50.6	10.244	106.4	10.85	0.85	1217
1218.0	03:25	1218.0	28.6	7	269	169	119	990	2833	604	1137	8.9	39.9	1206.8	50.6	12.353	106.7	10.88	0.92	1218
1219.0	03:27	1219.2	29.3	6	270	172	102	989	2834	605	1136	8.9	39.9	1207.4	50.6	11.819	107.1	10.92	0.87	1219
1220.0	03:31	1220.1	15.3	7	269	171	104	988	2839	608	1139	8.9	40.0	1209.5	50.6	7.058	107.8	10.98	1.03	1220
1221.0	03:33	1221.0	30.8	7	269	170	130	987	2839	603	1134	8.9	40.1	1210.5	50.6	5.441	108.2	11.01	0.89	1221
1222.0	03:35	1222.0	26.9	6	270	171	118	988	2835	602	1133	8.9	40.1	1211.5	50.6	6.238	108.5	11.05	0.90	1222
1223.0	03:38	1223.0	22.6	6	270	174	93	985	2837	602	1133	8.9	40.2	1212.2	50.6	7.293	108.9	11.10	0.94	1223
1224.0	03:42	1224.0	14.8	6	270	172	104	986	2843	602	1132	8.9	40.2	1214.5	50.7	8.120	109.6	11.16	1.01	1224
1225.0	03:45	1225.1	18.1	6	270	173	99	986	2843	599	1130	8.9	40.3	1216.4	50.7	4.188	110.3	11.22	0.97	1225
1226.0	03:47	1226.1	27.5	7	269	170	120	985	2842	601	1131	8.9	40.3	1217.4	50.6	1.778	110.6	11.26	0.91	1226
1227.0	03:49	1227.0	31.6	6	270	172	102	984	2842	601	1132	8.9	40.3	1218.2	50.6	6.122	110.8	11.29	0.87	1227
1228.0	03:51	1228.1	35.0	7	269	171	119	984	2842	603	1134	8.9	40.4	1219.2	50.6	8.727	111.2	11.32	0.87	1228
1229.0	03:55	1229.0	13.3	8	268	171	97	981	2851	602	1133	8.9	40.4	1220.5	50.6	10.251	111.9	11.39	1.08	1229
1230.0	04:05	1231.2	15.5	8	268	163	96	983	2854	600	1131	8.9	40.5	1224.0	50.6	6.365	112.7	11.45	1.05	1230
1231.0	04:19	1231.0	18.0	7	271	170	137	971	2802	576	1106	8.9	40.4	1226.4	50.6	9.465	113.3	11.59	2.88	1231

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1231.0	04:19	1231.0	18.0	7	271	170	137	971	2802	576	1106	8.9	40.4	1226.4	50.6	9.465	113.3	11.59	2.88	1231
1232.0	04:21	1232.0	13.7	76	200	15	131	974	2816	578	1108	8.9	40.1	1227.4	50.6	7.429	113.7	11.62	0.88	1232
1233.0	04:23	1233.0	32.7	6	271	173	116	997	2927	583	1113	8.9	40.0	1228.1	50.7	5.842	113.8	11.65	0.87	1233
1234.0	04:25	1234.1	25.9	6	272	173	107	998	2938	582	1112	8.9	39.9	1229.0	50.7	6.707	114.4	11.69	0.90	1234
1235.0	04:27	1235.2	34.3	7	271	172	125	999	2954	582	1113	8.9	39.9	1229.3	50.7	10.781	114.5	11.72	0.87	1235
1236.0	04:28	1236.0	40.9	7	270	171	133	999	2952	581	1112	8.9	39.8	1229.3	50.8	10.346	114.9	11.74	0.84	1236
1237.0	04:30	1237.0	30.0	7	271	171	147	998	2955	583	1114	8.9	39.8	1229.8	50.8	7.927	115.2	11.78	0.90	1237
1238.0	04:32	1238.1	34.6	8	269	169	150	999	2960	584	1117	8.9	39.8	1229.9	50.8	6.609	115.4	11.80	0.90	1238
1239.0	04:34	1239.1	25.0	7	270	172	111	998	2964	584	1118	8.9	39.7	1229.9	50.8	3.405	115.9	11.84	0.94	1239
1240.0	04:37	1240.0	26.5	8	270	171	135	999	2972	586	1119	8.9	39.8	1231.7	50.8	1.645	116.3	11.88	0.94	1240
1241.0	04:42	1241.0	23.4	8	269	173	120	1002	2990	588	1123	8.9	39.8	1231.0	50.8	1.160	116.7	11.92	0.98	1241
1242.0	04:44	1242.0	30.8	6	272	171	116	1000	2966	592	1127	8.9	39.9	1232.0	50.7	4.296	117.0	11.96	0.86	1242
1243.0	04:45	1243.1	38.3	6	271	169	156	998	2959	594	1129	8.9	40.0	1232.7	50.7	5.326	117.3	11.98	0.84	1243
1244.0	04:47	1244.0	35.3	6	272	170	137	998	2959	594	1129	8.9	39.6	1233.7	50.7	4.962	117.5	12.01	0.83	1244
1245.0	04:50	1245.0	25.7	5	272	172	128	999	2963	593	1127	8.9	38.3	1234.7	50.7	6.421	118.0	12.05	0.89	1245
1246.0	04:51	1246.0	33.0	7	270	170	141	999	2968	592	1126	8.9	40.5	1235.6	50.7	6.960	118.2	12.08	0.88	1246
1247.0	04:52	1247.0	63.2	6	271	172	117	999	2983	592	1126	8.9	40.7	1236.2	50.7	6.334	118.4	12.10	0.74	1247
1248.0	04:55	1248.2	26.3	5	273	171	109	998	2973	590	1124	8.9	40.9	1237.9	50.7	4.069	118.9	12.13	0.87	1248
1249.0	04:56	1249.1	57.1	4	274	174	94	998	2975	588	1122	8.9	40.4	1238.4	50.8	4.233	119.1	12.15	0.70	1249
1250.0	04:57	1250.0	64.3	4	273	173	105	998	2978	587	1122	8.9	40.9	1238.6	50.8	6.145	119.1	12.17	0.70	1250
1251.0	04:58	1251.0	50.7	5	273	175	90	996	2975	588	1122	8.9	40.9	1239.0	50.8	4.044	119.5	12.19	0.75	1251
1252.0	05:17	1252.0	27.3	5	272	174	81	990	2963	566	1102	8.9	40.9	1240.7	50.6	3.421	119.7	12.22	0.87	1252
1253.0	05:18	1253.2	44.4	4	274	180	91	990	2969	559	1094	8.9	40.5	1240.7	50.2	1.704	120.0	12.25	0.74	1253
1254.0	05:20	1254.0	40.4	4	274	179	99	992	2970	563	1100	8.9	40.7	1241.5	50.1	2.452	120.2	12.27	0.77	1254
1255.0	05:22	1255.1	32.4	5	273	177	131	996	2993	565	1102	8.9	40.6	1242.7	50.0	4.956	120.6	12.30	0.84	1255
1256.0	05:23	1256.0	41.9	5	273	179	132	993	2983	569	1108	8.9	40.8	1243.4	50.1	7.180	120.8	12.33	0.78	1256
1257.0	05:25	1257.1	30.8	6	272	175	137	994	2984	574	1114	8.9	41.0	1244.4	50.1	14.029	121.1	12.36	0.87	1257
1258.0	06:01	1258.1	38.5	3	276	123	63	988	3002	550	1090	8.9	40.5	1254.2	50.1	14.760	123.6	12.84	2.43	1258
1259.0	06:03	1259.0	48.0	3	276	122	69	989	3001	552	1088	8.9	40.8	1254.6	50.1	15.758	123.9	12.86	0.65	1259
1260.0	06:04	1260.1	58.1	3	276	122	64	989	3001	554	1091	8.9	40.6	1255.6	50.3	13.320	124.0	12.88	0.61	1260
1261.0	06:06	1261.1	32.4	4	275	120	97	989	3001	558	1094	8.9	40.9	1256.3	50.1	16.315	124.1	12.91	0.75	1261
1262.0	06:07	1262.0	47.4	4	275	121	91	986	2999	563	1104	8.9	40.7	1257.7	50.5	4.093	124.4	12.93	0.69	1262
1263.0	06:08	1263.0	52.2	4	275	121	83	985	2991	564	1105	8.9	40.4	1258.2	50.5	6.567	124.5	12.95	0.65	1263
1264.0	06:09	1264.2	39.6	6	273	115	142	988	2986	565	1108	8.9	40.8	1259.4	50.5	7.827	124.6	12.98	0.76	1264
1265.0	06:11	1265.1	35.3	9	270	113	163	987	2982	567	1109	8.9	40.6	1259.5	50.6	9.458	124.8	13.01	0.82	1265
1266.0	06:12	1266.0	48.6	9	270	117	125	988	2986	568	1112	8.9	41.0	1259.5	50.6	14.080	125.0	13.03	0.76	1266
1267.0	06:14	1267.1	29.5	9	270	114	162	987	2981	572	1114	8.9	40.9	1259.5	50.6	25.391	125.2	13.06	0.87	1267
1268.0	06:16	1268.1	43.4	10	269	114	158	987	2980	573	1115	8.9	40.6	1258.2	50.7	33.535	125.3	13.08	0.80	1268
1269.0	06:17	1269.1	38.3	10	269	113	162	983	2978	573	1116	8.9	41.0	1260.0	50.7	42.738	125.5	13.11	0.83	1269
1270.0	06:18	1270.0	189.5	5	274	122	105	980	2987	574	1118	8.9	40.9	1260.0	50.7	43.575	125.5	13.12	0.44	1270
1271.0	06:18	1271.3	116.1	4	275	120	106	982	2985	574	1117	8.9	40.6	1259.4	50.7	43.700	125.7	13.12	0.52	1271
1272.0	06:19	1272.1	128.6	5	274	121	82	984	2990	574	1116	8.9	40.6	1257.9	50.8	44.615	125.7	13.13	0.51	1272
1273.0	06:37	1273.1	39.1	5	274	96	31	892	2737	559	1102	8.9	40.8	1257.6	44.9	5.486	125.9	13.16	0.69	1273
1274.0	06:38	1274.0	51.4	5	280	121	39	993	3054	547	1091	8.9	40.7	1258.2	50.4	27.456	126.0	13.18	0.44	1274
1275.0	06:39	1275.1	83.7	5	279	119	58	992	3051	553	1097	8.9	40.8	1258.7	50.9	30.133	126.0	13.19	0.38	1275
1276.0	06:39	1276.1	83.7	4	279	120	63	992	3051	554	1097	8.9	40.8	1259.6	51.2	31.025	126.1	13.20	0.38	1276
1277.0	06:40	1277.3	100.0	2	277	117	80	991	3048	554	1099	8.9	40.9	1260.1	51.3	29.840	126.2	13.21	0.48	1277
1278.0	06:41	1278.0	112.5	2	277	119	65	991	3049	557	1103	8.9	40.8	1260.5	51.4	28.983	126.2	13.22	0.47	1278
1279.0	06:42	1279.0	53.7	3	276	128	95	994	3038	557	1101	8.9	40.9	1261.0	51.5	27.017	126.4	13.24	0.63	1279
1280.0	06:43	1280.0	52.9	4	275	172	124	995	3037	556	1100	8.9	41.1	1261.9	51.6	22.406	126.5	13.26	0.73	1280

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1280.0	06:43	1280.0	52.9	4	275	172	124	995	3037	556	1100	8.9	41.1	1261.9	51.6	22.406	126.5	13.26	0.73	1280
1281.0	06:44	1281.0	50.0	4	275	170	139	995	3042	556	1100	8.9	41.3	1262.7	51.7	18.418	126.7	13.28	0.74	1281
1282.0	06:45	1282.2	47.4	4	275	173	125	995	3046	556	1101	8.9	41.4	1263.4	51.9	20.556	127.0	13.30	0.74	1282
1283.0	06:46	1283.0	67.9	1	278	176	57	993	3057	554	1098	8.9	41.0	1264.2	52.0	29.090	127.0	13.31	0.54	1283
1284.0	06:48	1284.1	43.9	1	279	176	56	993	3060	556	1100	8.9	41.4	1264.8	52.1	34.750	127.4	13.34	0.50	1284
1285.0	06:49	1285.1	55.4	1	278	176	85	994	3053	556	1100	8.9	41.4	1265.8	52.2	35.987	127.6	13.35	0.57	1285
1286.0	06:49	1286.1	180.0	2	277	174	104	994	3052	559	1103	8.9	41.4	1265.8	52.2	37.118	127.6	13.36	0.46	1286
1287.0	06:49	1287.1	211.8	10	269	177	86	992	3056	557	1099	8.9	41.1	1266.0	52.3	37.215	127.6	13.36	0.57	1287
1288.0	07:04	1288.0	65.5	8	272	97	71	994	3075	533	1075	8.9	41.2	1272.5	52.4	24.459	127.8	13.38	0.66	1288
1289.0	07:05	1289.1	144.0	6	274	109	154	994	3086	506	1047	8.9	41.2	1272.5	52.6	13.560	127.8	13.39	0.50	1289
1290.0	07:06	1290.2	49.3	11	270	108	139	997	3075	500	1047	8.9	41.3	1272.6	52.5	13.511	127.9	13.41	0.78	1290
1291.0	07:10	1291.1	16.7	7	273	114	108	996	3068	497	1042	8.9	41.5	1275.8	52.3	11.897	128.3	13.47	0.95	1291
1292.0	07:12	1292.0	23.7	7	273	124	117	997	3066	502	1046	8.9	41.1	1279.7	52.4	20.974	128.7	13.51	0.89	1292
1293.0	07:15	1293.2	22.1	7	274	179	97	998	3066	509	1052	8.9	41.4	1281.7	52.4	19.230	129.0	13.55	0.97	1293
1294.0	07:16	1294.0	48.0	9	272	178	125	998	3065	511	1058	8.9	41.2	1282.9	52.4	11.061	129.4	13.57	0.85	1294
1295.0	07:18	1295.1	38.7	8	272	179	99	997	3063	510	1056	8.9	41.4	1284.5	52.4	10.626	129.6	13.60	0.89	1295
1296.0	07:19	1296.0	40.9	8	272	178	124	997	3059	510	1054	8.9	41.2	1286.0	52.4	9.562	129.9	13.63	0.88	1296
1297.0	07:20	1297.0	81.8	9	272	171	174	997	3061	509	1055	8.9	41.0	1287.1	52.5	10.664	129.9	13.64	0.74	1297
1298.0	07:22	1298.0	26.3	7	274	180	81	997	3055	508	1054	8.9	41.3	1287.1	52.5	15.680	130.3	13.68	0.92	1298
1299.0	07:23	1299.2	62.1	6	274	179	94	997	3060	507	1054	8.9	41.2	1287.1	52.5	31.695	130.5	13.69	0.75	1299
1300.0	07:24	1300.0	83.7	5	276	179	82	997	3066	511	1057	8.9	41.5	1287.1	52.6	48.777	130.7	13.70	0.67	1300
1301.0	07:25	1301.1	46.8	3	277	181	64	997	3063	514	1061	8.9	41.4	1287.1	52.6	55.673	130.9	13.72	0.72	1301
1302.0	07:26	1302.0	81.8	3	278	179	83	997	3063	513	1059	8.9	41.2	1287.1	52.6	94.667	131.0	13.74	0.62	1302
1303.0	07:27	1303.0	57.1	4	276	179	99	998	3062	512	1059	8.9	41.5	1287.1	52.7	******	131.2	13.75	0.72	1303
1304.0	07:28	1304.0	49.3	7	273	178	133	997	3056	512	1057	8.9	41.4	1287.3	52.7	92.747	131.4	13.77	0.81	1304
1305.0	07:31	1305.1	20.1	7	274	180	90	997	3053	511	1057	8.9	41.2	1290.4	52.7	31.512	132.0	13.82	0.98	1305
1306.0	07:34	1306.1	22.6	6	275	178	99	979	2957	506	1052	8.9	41.2	1290.8	52.7	8.336	132.5	13.87	0.93	1306
1307.0	07:44	1307.0	9.2	7	274	180	73	941	2760	487	1033	8.9	41.4	1295.9	51.8	1.340	133.6	13.98	1.13	1307
1308.0	07:46	1308.0	31.3	7	273	179	111	941	2753	477	1020	8.9	41.3	1297.7	52.1	2.939	134.0	14.01	0.91	1308
1309.0	07:50	1309.0	19.1	7	274	179	116	943	2755	466	1005	8.9	41.4	1300.2	52.3	3.791	134.5	14.06	0.99	1309
1310.0	07:52	1310.0	23.5	7	273	179	125	942	2744	459	998	8.9	41.4	1302.5	52.6	2.194	134.9	14.10	0.96	1310
1311.0	07:53	1311.0	55.4	7	273	177	132	943	2744	456	985	8.9	41.4	1303.5	52.7	1.730	135.1	14.12	0.79	1311
1312.0	07:54	1312.1	56.2	5	275	179	104	942	2739	455	994	8.9	41.3	1304.2	52.7	1.217	135.2	14.14	0.74	1312
1313.0	07:56	1313.0	28.3	8	273	175	166	887	2491	451	990	8.9	41.4	1304.8	52.8	6.147	135.6	14.18	0.93	1313
1314.0	08:13	1314.0	11.1	8	224	175	160	888	2490	464	1003	8.9	41.2	1306.4	52.9	19.408	135.9	14.27	1.43	1314
1315.0	08:16	1315.2	20.9	8	274	178	108	816	2193	431	969	8.9	41.2	1306.7	52.9	22.323	136.3	14.31	1.02	1315
1316.0	08:20	1316.0	16.0	7	275	179	87	925	2665	435	970	8.9	41.3	1306.9	52.9	18.082	137.0	14.38	1.04	1316
1317.0	08:23	1317.1	18.3	7	275	179	88	1002	3013	441	974	8.9	41.2	1308.2	52.9	16.355	137.6	14.43	1.02	1317
1318.0	08:26	1318.0	24.3	8	274	179	97	1005	2994	450	980	8.9	41.2	1309.4	52.9	19.061	138.1	14.47	0.96	1318
1319.0	08:28	1319.0	24.7	8	274	177	111	1008	2978	455	986	8.9	41.3	1310.8	52.9	20.638	138.5	14.51	0.98	1319
1320.0	08:32	1320.1	18.0	7	275	179	92	1011	2951	461	987	8.9	41.4	1313.2	52.9	24.448	139.1	14.57	1.02	1320
1321.0	08:35	1321.1	20.1	8	274	179	87	1008	2912	463	988	8.9	41.3	1313.2	53.0	27.980	139.6	14.62	1.00	1321
1322.0	08:36	1322.1	31.3	8	274	178	97	1008	2903	466	990	8.9	41.2	1313.9	53.0	20.213	140.0	14.65	0.92	1322
1323.0	08:38	1323.0	42.9	7	275	178	133	1010	2899	468	990	8.9	41.3	1313.9	53.0	16.483	140.2	14.67	0.84	1323
1324.0	08:38	1324.0	105.9	4	278	180	82	1008	2908	469	992	8.9	41.3	1313.9	53.1	16.830	140.3	14.68	0.60	1324
1325.0	08:40	1325.0	32.7	6	276	177	116	1011	2895	471	992	8.9	41.1	1314.8	53.1	14.459	140.5	14.71	0.86	1325
1326.0	08:42	1326.0	29.3	8	274	176	135	1012	2892	472	992	8.9	41.4	1315.4	53.1	13.792	140.9	14.75	0.93	1326
1327.0	08:44	1327.0	29.8	9	273	176	95	1013	2884	473	992	8.9	41.3	1316.0	53.1	16.661	141.3	14.78	0.96	1327
1328.0	08:46	1328.0	48.6	6	276	177	95	1014	2883	475	992	8.9	41.0	1316.2	53.1	6.581	141.4	14.80	0.78	1328
1329.0	08:46	1329.1	67.9	6	276	177	109	1013	2888	476	992	8.9	41.6	1316.6	53.1	13.093	141.6	14.82	0.72	1329

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1329.0	08:46	1329.1	67.9	6	276	177	109	1013	2888	476	992	8.9	41.6	1316.6	53.1	13.093	141.6	14.82	0.72	1329
1330.0	08:47	1330.1	66.7	6	276	178	128	1012	2883	478	993	8.9	41.8	1316.7	53.1	28.031	141.8	14.83	0.73	1330
1331.0	08:49	1331.0	48.0	10	272	177	121	1014	2869	478	994	8.9	41.9	1317.1	53.3	25.114	142.0	14.85	0.88	1331
1332.0	08:51	1332.2	25.2	9	273	178	109	1014	2866	477	991	8.9	41.5	1318.1	53.4	52.128	142.6	14.89	0.98	1332
1333.0	08:51	1333.0	124.1	8	274	175	161	1013	2868	480	991	8.9	41.9	1318.4	53.0	24.436	142.6	14.90	0.64	1333
1334.0	08:53	1334.0	53.7	10	272	175	168	1013	2869	480	991	8.9	41.9	1319.0	52.6	17.133	142.7	14.92	0.84	1334
1335.0	08:54	1335.1	31.6	8	274	179	102	1012	2861	480	992	8.9	41.9	1319.6	52.5	26.039	143.1	14.95	0.92	1335
1336.0	08:56	1336.1	45.0	8	274	177	153	1012	2861	481	992	8.9	41.6	1319.9	53.0	56.377	143.3	14.97	0.85	1336
1337.0	08:57	1337.1	49.3	10	272	176	156	1010	2860	482	991	8.9	41.7	1320.3	53.1	48.464	143.5	14.99	0.86	1337
1338.0	09:01	1338.1	17.0	6	276	179	102	1009	2857	481	987	8.9	41.7	1321.7	53.2	37.568	144.2	15.05	0.99	1338
1339.0	09:03	1339.0	27.9	6	276	179	81	1009	2858	482	987	8.9	41.8	1322.9	53.2	23.057	144.6	15.09	0.89	1339
1340.0	09:05	1340.0	33.3	6	276	178	126	1011	2860	482	985	8.9	42.0	1324.8	53.2	14.134	144.8	15.12	0.87	1340
1341.0	09:07	1341.0	30.0	3	279	180	69	1010	2868	482	985	8.9	41.6	1325.5	53.2	14.264	145.1	15.15	0.80	1341
1342.0	09:07	1342.0	85.7	5	277	177	156	1010	2856	482	984	8.9	41.9	1326.0	53.2	16.894	145.3	15.16	0.66	1342
1343.0	09:21	1343.0	22.1	7	275	148	66	1008	2878	482	981	8.9	41.7	1331.6	53.2	16.918	145.7	15.21	0.94	1343
1344.0	09:22	1344.0	61.0	4	279	172	111	1006	2902	475	972	8.9	41.9	1333.3	53.2	20.451	145.9	15.22	0.70	1344
1345.0	09:24	1345.0	24.5	7	277	172	101	1010	2911	468	963	8.9	41.7	1334.8	53.2	21.432	146.2	15.26	0.93	1345
1346.0	09:26	1346.2	38.3	8	275	171	112	918	2500	471	965	8.9	41.5	1335.8	53.2	44.307	146.6	15.29	0.88	1346
1347.0	09:27	1347.1	69.2	8	276	171	120	903	2411	471	964	8.9	41.8	1336.7	53.2	23.274	146.8	15.30	0.76	1347
1348.0	09:28	1348.0	36.7	9	275	171	137	906	2403	473	967	8.9	41.7	1337.2	53.1	20.074	146.9	15.33	0.90	1348
1349.0	09:29	1349.0	52.2	8	276	167	153	907	2407	476	968	8.9	42.0	1337.6	53.1	20.552	147.1	15.35	0.80	1349
1350.0	09:30	1350.0	69.2	7	276	167	124	842	2172	477	969	8.9	41.9	1337.7	53.1	20.166	147.3	15.37	0.74	1350
1351.0	09:32	1351.1	46.2	6	278	173	89	793	1949	478	969	8.9	41.7	1338.0	53.1	15.044	147.5	15.39	0.80	1351
1352.0	09:33	1352.1	63.2	5	278	173	81	793	1952	481	973	8.9	42.0	1338.2	53.1	10.385	147.6	15.40	0.72	1352
1353.0	09:35	1353.1	21.3	6	278	173	80	795	1944	484	975	8.9	41.9	1339.0	53.1	6.280	148.2	15.45	0.93	1353
1354.0	09:37	1354.0	45.6	5	279	176	68	793	1948	485	975	8.9	41.7	1339.9	53.1	4.694	148.3	15.47	0.77	1354
1355.0	09:40	1355.0	21.1	4	279	175	75	795	1949	486	975	8.9	41.7	1340.9	53.1	5.403	148.9	15.52	0.90	1355
1356.0	09:42	1356.0	30.0	3	280	174	65	794	1957	486	976	8.9	41.9	1342.2	53.1	19.001	149.2	15.55	0.80	1356
1357.0	09:43	1357.2	35.6	6	278	171	110	794	1954	484	974	8.9	41.8	1342.3	50.3	4.245	149.6	15.58	0.84	1357
1358.0	09:45	1358.1	48.6	5	278	167	153	794	1960	483	971	8.9	41.9	1342.3	52.2	0.691	149.8	15.60	0.77	1358
1359.0	09:46	1359.1	57.1	8	276	169	157	794	1962	482	970	8.9	41.9	1342.3	52.1	0.542	149.9	15.62	0.79	1359
1360.0	09:47	1360.0	45.6	9	274	164	195	793	1964	483	971	8.9	41.9	1342.4	52.2	1.118	150.1	15.64	0.86	1360
1361.0	09:48	1361.1	45.0	8	275	168	146	795	1967	484	973	8.9	41.8	1342.4	52.3	6.341	150.3	15.66	0.85	1361
1362.0	09:50	1362.1	38.3	7	276	170	128	793	1968	485	973	8.9	41.9	1342.4	52.6	15.881	150.6	15.69	0.86	1362
1363.0	09:51	1363.0	42.9	4	279	173	102	795	1971	485	973	8.9	41.7	1343.3	52.8	22.551	150.8	15.71	0.77	1363
1364.0	09:52	1364.1	64.3	5	279	169	133	794	1977	484	973	8.9	41.7	1343.9	53.0	25.320	151.0	15.73	0.70	1364
1365.0	09:53	1365.1	52.9	4	279	169	102	793	1980	485	971	8.9	41.8	1344.5	53.1	27.414	151.2	15.75	0.72	1365
1366.0	09:55	1366.0	36.4	4	280	171	110	793	1979	486	972	8.9	41.7	1345.0	53.2	29.257	151.5	15.77	0.78	1366
1367.0	09:58	1367.0	22.8	5	279	173	99	838	2162	487	972	8.9	41.7	1347.0	53.2	30.901	151.8	15.82	0.89	1367
1368.0	09:59	1368.2	35.6	3	281	173	95	939	2625	484	969	8.9	41.8	1347.8	53.2	28.707	152.2	15.85	0.75	1368
1369.0	10:01	1369.1	40.9	4	280	170	103	937	2628	482	964	8.9	41.9	1349.2	53.2	29.230	152.4	15.87	0.75	1369
1370.0	10:02	1370.0	53.7	4	279	171	128	938	2625	481	962	8.9	41.8	1350.6	53.3	30.918	152.6	15.89	0.72	1370
1371.0	10:08	1371.1	23.5	8	276	144	94	937	2630	483	963	8.9	41.7	1354.2	53.5	27.619	153.1	15.93	0.93	1371
1372.0	10:19	1372.0	24.8	8	277	137	89	908	2533	464	1012	8.9	41.8	1359.2	53.3	27.432	153.3	15.97	0.92	1372
1373.0	10:21	1373.2	28.1	7	278	176	104	991	2892	449	1019	8.9	41.8	1361.0	53.3	26.012	153.7	16.01	0.92	1373
1374.0	10:22	1374.0	72.0	4	281	176	112	1006	2977	454	1022	8.9	41.6	1361.4	53.3	22.031	153.8	16.02	0.68	1374
1375.0	10:23	1375.1	72.0	9	276	169	170	1007	2969	455	1021	8.9	41.9	1362.4	53.2	16.185	154.0	16.04	0.77	1375
1376.0	10:25	1376.0	35.6	7	278	177	92	1010	2962	458	1023	9.0	41.8	1364.2	53.3	13.575	154.2	16.06	0.86	1376
1377.0	10:26	1377.1	52.2	7	278	175	137	1010	2953	464	1026	9.0	41.5	1365.3	53.3	16.136	154.4	16.08	0.78	1377
1378.0	10:27	1378.1	36.7	9	276	173	143	1011	2950	468	1027	9.0	42.1	1366.3	53.3	24.664	154.7	16.11	0.91	1378

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1378.0	10:27	1378.1	36.7	9	276	173	143	1011	2950	468	1027	9.0	42.1	1366.3	53.3	24.664	154.7	16.11	0.91	1378
1379.0	10:29	1379.2	32.7	7	278	176	111	1011	2946	471	1027	9.0	42.3	1367.1	53.4	25.039	155.1	16.14	0.89	1379
1380.0	10:31	1380.1	40.0	7	278	175	130	1011	2941	475	1028	9.0	42.4	1368.4	53.5	28.518	155.3	16.17	0.84	1380
1381.0	10:32	1381.0	43.4	8	277	175	138	1011	2931	477	1028	9.0	42.0	1369.1	53.6	34.282	155.6	16.19	0.85	1381
1382.0	10:33	1382.1	44.4	8	277	173	150	1010	2931	478	1027	9.0	42.4	1370.3	53.6	39.796	155.8	16.21	0.85	1382
1383.0	10:34	1383.1	58.1	8	277	172	146	1011	2933	479	1028	8.9	42.4	1370.7	53.6	44.551	156.0	16.23	0.79	1383
1384.0	10:35	1384.0	62.1	8	277	172	180	1011	2929	480	1029	8.9	42.4	1370.7	53.7	52.612	156.1	16.24	0.78	1384
1385.0	10:36	1385.0	124.1	4	281	175	119	1009	2942	480	1027	8.9	42.1	1370.7	53.7	52.882	156.1	16.25	0.58	1385
1386.0	10:37	1386.0	56.2	3	282	177	84	1010	2943	480	1028	8.9	42.2	1370.7	53.6	48.380	156.3	16.27	0.67	1386
1387.0	10:39	1387.1	34.6	4	281	178	77	1011	2928	482	1029	9.0	42.2	1370.7	53.0	35.555	156.7	16.30	0.81	1387
1388.0	10:40	1388.1	40.4	8	277	173	152	1011	2923	482	1029	9.0	42.3	1371.1	52.3	8.529	156.9	16.32	0.86	1388
1389.0	10:41	1389.1	52.9	9	276	169	190	1008	2928	480	1027	9.0	42.5	1371.1	51.4	0.477	157.2	16.34	0.82	1389
1390.0	10:43	1390.0	42.4	8	277	168	184	1008	2932	479	1025	9.0	42.1	1371.1	51.9	3.434	157.4	16.37	0.85	1390
1391.0	10:44	1391.1	41.9	9	276	169	159	1007	2937	481	1027	9.0	42.4	1371.9	52.6	17.517	157.6	16.39	0.88	1391
1392.0	10:46	1392.0	42.9	8	277	173	157	1006	2941	485	1031	9.0	42.2	1372.5	53.1	31.435	157.9	16.41	0.84	1392
1393.0	10:47	1393.1	39.6	8	277	166	175	1005	2947	486	1031	9.0	42.4	1373.7	53.4	45.624	158.1	16.44	0.85	1393
1394.0	10:49	1394.1	36.7	7	278	166	194	1005	2957	486	1030	9.0	42.2	1375.1	53.6	49.557	158.4	16.47	0.86	1394
1395.0	10:50	1395.1	35.0	7	278	172	167	1003	2963	487	1031	9.0	42.0	1376.5	53.6	44.115	158.6	16.49	0.86	1395
1396.0	10:53	1396.1	24.0	5	280	174	130	1001	2971	488	1031	9.0	42.3	1378.1	53.7	44.747	159.1	16.54	0.88	1396
1397.0	10:54	1397.0	54.5	6	279	172	173	998	2980	486	1029	9.0	42.2	1378.5	53.8	37.861	159.3	16.55	0.75	1397
1398.0	10:55	1398.2	45.0	7	278	169	183	998	2987	489	1031	9.0	42.5	1379.7	53.9	29.768	159.5	16.58	0.81	1398
1399.0	11:02	1399.1	28.1	8	277	141	141	996	2998	491	1032	9.0	42.4	1385.0	54.1	28.796	159.9	16.61	0.90	1399
1400.0	11:12	1400.0	13.2	9	232	142	140	997	2990	488	1027	8.9	42.2	1388.2	54.1	26.845	160.0	16.69	1.47	1400
1401.0	11:14	1401.2	45.0	8	278	163	219	1009	3062	458	994	9.0	42.5	1389.3	54.1	21.627	160.3	16.71	0.84	1401
1402.0	11:15	1402.0	39.6	8	278	168	159	1011	3048	457	993	9.0	42.4	1390.4	54.1	19.376	160.5	16.74	0.86	1402
1403.0	11:17	1403.0	37.1	8	278	166	183	1016	3036	457	992	9.0	42.2	1391.5	54.1	17.785	160.9	16.76	0.88	1403
1404.0	11:18	1404.1	45.6	9	278	168	172	1018	3027	460	995	9.0	42.2	1392.8	54.1	13.685	161.0	16.78	0.85	1404
1405.0	11:19	1405.2	50.7	10	277	165	209	1020	3028	460	994	9.0	42.4	1393.1	54.1	12.245	161.2	16.80	0.84	1405
1406.0	11:21	1406.2	49.3	10	277	163	208	1020	3020	462	996	9.0	42.3	1393.8	54.1	14.556	161.4	16.82	0.85	1406
1407.0	11:24	1409.5	20.3	7	280	170	179	1018	3019	463	994	8.9	42.7	1395.4	54.1	16.823	161.9	16.87	0.96	1407
1408.0	11:24	1409.6	35.5	2	285	176	13	1020	3023	464	995	8.9	43.0	1395.4	54.1	17.630	161.9	16.87	0.69	1408
1409.0	11:24	1409.7	50.1	6	280	173	103	1019	3032	464	997	8.9	43.3	1395.4	53.8	45.555	161.9	16.88	0.77	1409
1410.0	11:24	1410.1	60.0	3	284	177	53	1020	3030	463	996	8.9	42.5	1396.0	54.1	17.630	161.9	16.89	0.65	1410
1411.0	11:25	1410.1	48.5	3	284	177	53	1020	3030	463	996	8.9	43.3	1396.0	54.2	18.815	161.9	16.89	0.65	1411
1412.0	11:27	1412.0	45.6	8	279	168	157	1019	3030	465	997	9.0	43.4	1397.8	54.2	19.569	162.3	16.92	0.83	1412
1413.0	11:28	1413.1	47.4	10	277	161	199	1018	3037	467	999	8.9	43.3	1398.2	54.5	19.449	162.6	16.95	0.85	1413
1414.0	11:29	1414.0	52.2	11	275	163	204	1018	3039	466	998	8.9	42.7	1399.0	54.7	16.866	162.8	16.96	0.86	1414
1415.0	11:30	1415.0	42.9	9	277	169	165	1019	3037	469	1001	9.0	43.0	1399.0	54.8	13.707	163.0	16.99	0.87	1415
1416.0	11:33	1416.0	28.3	10	277	167	169	1019	3007	468	999	9.0	42.8	1399.0	54.8	16.705	163.3	17.02	0.96	1416
1417.0	11:35	1417.0	24.7	8	279	172	129	1024	2967	466	997	9.0	43.1	1399.1	54.8	18.342	163.7	17.06	0.95	1417
1418.0	11:36	1418.1	46.2	12	275	170	150	1028	2944	465	995	8.9	43.5	1399.1	54.8	19.143	164.0	17.09	0.90	1418
1419.0	11:38	1419.1	28.3	9	277	172	126	1029	2934	465	993	9.0	42.6	1400.3	54.9	16.959	164.4	17.12	0.96	1419
1420.0	11:42	1420.0	18.5	6	281	173	111	1029	2933	465	994	9.0	43.2	1402.4	55.0	23.156	164.9	17.17	0.95	1420
1421.0	11:48	1421.0	27.3	8	279	150	105	1028	2940	467	994	9.0	42.9	1406.2	51.2	10.658	165.3	17.21	0.91	1421
1422.0	11:54	1422.1	10.1	5	281	170	93	1024	2989	465	990	8.9	43.3	1412.9	54.1	1.500	166.1	17.31	1.05	1422
1423.0	11:56	1423.0	30.5	9	277	166	146	1029	3026	459	984	9.0	42.9	1414.6	54.8	5.845	166.5	17.34	0.93	1423
1424.0	11:58	1424.0	27.5	8	279	169	93	1030	3042	464	988	9.0	42.6	1415.9	55.0	7.063	166.8	17.38	0.93	1424
1425.0	12:00	1425.1	24.8	6	281	169	102	1029	3038	468	992	9.0	43.2	1416.7	55.2	8.754	167.3	17.42	0.90	1425
1426.0	12:03	1426.0	23.8	10	276	169	120	1033	3016	465	988	9.0	42.8	1418.1	55.3	16.710	167.7	17.46	1.01	1426
1427.0	12:09	1427.7	14.1	10	277	170	85	1035	2986	461	984	9.0	43.7	1420.6	55.4	37.875	168.5	17.53	1.11	1427

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1427.0	12:09	1427.7	14.1	10	277	170	85	1035	2986	461	984	9.0	43.7	1420.6	55.4	37.875	168.5	17.53	1.11	1427
1428.0	12:19	1428.1	18.0	10	259	169	91	1020	3000	437	957	9.0	44.3	1421.2	55.6	32.520	168.7	17.60	3.78	1428
1429.0	12:23	1429.2	15.2	10	278	169	90	1019	3013	409	929	8.9	44.7	1421.7	55.6	24.531	169.4	17.67	1.10	1429
1430.0	12:27	1430.1	17.5	10	278	167	110	1019	3029	411	929	9.0	43.5	1423.5	55.7	13.007	170.0	17.73	1.07	1430
1431.0	12:29	1431.1	24.3	11	277	167	115	1016	3046	418	934	9.0	44.7	1424.6	55.7	17.341	170.3	17.77	1.02	1431
1432.0	12:34	1432.3	12.4	10	278	168	97	1014	3067	422	936	9.0	44.8	1426.3	55.1	28.439	171.2	17.85	1.13	1432
1433.0	12:38	1433.1	17.9	9	279	167	110	1011	3097	424	939	9.0	44.8	1426.7	55.7	15.612	171.7	17.90	1.05	1433
1434.0	12:42	1434.1	12.6	9	279	169	85	1007	3107	425	939	9.0	43.8	1427.5	56.2	14.287	172.5	17.98	1.13	1434
1435.0	13:06	1435.1	2.6	11	277	144	64	1025	3023	405	916	9.0	44.2	1433.9	55.2	6.399	175.9	18.37	1.46	1435
1436.0	13:07	1436.0	42.9	9	279	149	124	1028	3024	387	897	9.0	44.0	1433.9	56.0	3.195	176.0	18.40	0.85	1436
1437.0	13:09	1437.0	25.0	11	277	165	128	1028	3023	387	894	9.0	44.5	1434.1	56.3	3.957	176.5	18.44	1.00	1437
1438.0	13:11	1438.1	35.0	10	278	163	150	1028	3036	390	897	9.0	45.0	1434.1	53.9	0.999	176.6	18.46	0.92	1438

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 5

DATE: 21-MAY-95

WELL	LONGTOM 1	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	5 HUGHES ATM22G
START DEPTH	1438m	JETS / TFA	3x16
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.11	41	16	14	7/9/12	8.9	14.0	8.0	0.2	88.2	48.0	30	6.8

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1439.0	04:49	1439.4	15.2	8	291	80	62	778	2800	361	902	9.1	23.2	1439.0	38.0	0.045	2.6	0.53	0.89	1439
1440.0	05:00	1440.0	12.3	29	272	110	78	853	3010	381	1003	9.1	25.4	1439.0	39.0	0.166	3.8	0.71	1.34	1440
1441.0	05:08	1441.0	2.1	31	270	113	88	861	3063	379	995	9.1	26.4	1439.0	40.0	0.226	4.7	0.85	1.86	1441
1442.0	05:09	1442.0	75.0	25	276	111	125	861	3070	381	994	9.1	26.5	1439.0	41.0	0.234	4.7	0.86	0.84	1442
1443.0	05:11	1443.0	33.3	23	278	111	118	861	3074	381	995	9.1	26.6	1439.0	42.0	0.220	5.0	0.89	1.02	1443
1444.0	05:18	1444.0	7.6	26	275	112	93	857	3060	383	994	9.1	27.7	1439.0	44.0	0.037	5.9	1.03	1.44	1444
1445.0	05:30	1445.0	5.2	28	273	113	88	855	3050	387	992	9.1	27.1	1444.9	44.5	0.053	7.1	1.22	1.55	1445
1446.0	05:38	1446.0	7.8	29	272	97	98	852	3047	389	994	9.1	28.8	1444.9	45.4	0.032	7.8	1.35	1.41	1446
1447.0	05:42	1447.3	44.4	12	289	112	56	851	3059	389	994	9.1	29.6	1444.9	46.9	0.025	8.1	1.37	0.80	1447
1448.0	05:51	1448.1	24.0	25	290	107	129	330	3160	395	996	9.1	29.9	1444.9	47.1	0.049	8.1	1.41	1.09	1448
1449.0	05:51	1449.2	120.0	30	273	107	129	862	3165	393	991	9.1	30.1	1444.9	47.1	0.047	8.1	1.42	0.73	1449
1450.0	06:13	1450.1	105.0	2	301	111	56	222	3115	436	1025	9.1	29.5	1444.9	47.0	0.039	8.8	1.78	0.44	1450
1451.0	06:13	1451.2	90.0	7	296	111	62	857	3115	416	999	9.1	30.2	1444.9	47.0	0.030	9.0	1.79	0.58	1451
1452.0	06:14	1452.0	116.1	17	286	109	104	860	3119	412	996	9.1	30.9	1444.9	47.0	0.029	9.0	1.80	0.64	1452
1453.0	06:15	1453.0	105.9	23	279	108	120	863	3122	409	992	9.1	31.3	1444.9	47.0	0.028	9.1	1.81	0.72	1453
1454.0	06:18	1454.0	18.2	31	271	109	111	865	3118	409	992	9.1	31.6	1444.9	46.1	0.009	9.4	1.86	1.25	1454
1455.0	06:32	1455.0	4.2	36	266	108	98	868	3112	414	992	9.1	30.7	1445.0	46.9	0.016	10.9	2.10	1.71	1455
1456.0	06:37	1456.0	13.2	40	263	109	143	867	3114	423	994	9.1	31.6	1447.8	47.6	0.015	11.5	2.18	1.43	1456
1457.0	06:44	1457.1	7.9	39	263	111	114	866	3120	430	999	9.1	31.7	1450.0	47.7	0.011	12.2	2.30	1.58	1457
1458.0	06:45	1458.0	92.3	35	268	109	152	866	3124	436	1005	9.1	31.6	1450.0	47.8	0.063	12.4	2.31	0.84	1458
1459.0	06:46	1459.1	80.0	32	271	109	145	866	3130	439	1006	9.1	30.9	1450.0	47.8	0.085	12.5	2.33	0.86	1459
1460.0	06:47	1460.0	37.9	31	272	111	126	866	3129	438	1005	9.1	32.9	1450.8	47.8	0.083	12.6	2.35	1.05	1460
1461.0	07:03	1461.0	8.5	37	266	104	118	855	3130	432	992	9.1	33.2	1454.4	47.8	0.093	13.3	2.47	1.51	1461
1462.0	07:09	1462.0	10.1	40	263	108	128	840	3149	439	995	9.1	33.4	1454.8	47.3	0.048	14.0	2.57	1.51	1462
1463.0	07:12	1463.0	16.1	39	264	108	135	842	3134	448	1002	9.1	32.8	1455.0	47.9	0.273	14.3	2.63	1.36	1463
1464.0	07:18	1464.1	10.4	39	263	108	127	857	3135	453	1004	9.1	33.4	1456.2	48.2	0.271	15.0	2.73	1.49	1464
1465.0	07:25	1465.0	9.2	39	264	108	137	854	3135	462	1011	9.1	33.4	1457.8	47.9	0.053	15.7	2.84	1.52	1465
1466.0	07:30	1466.1	10.8	39	264	108	130	854	3129	468	1013	9.1	33.4	1460.4	47.4	0.010	16.2	2.93	1.47	1466
1467.0	07:32	1467.1	40.0	35	267	107	146	853	3136	470	1014	9.1	32.9	1460.4	47.3	0.057	16.5	2.96	1.07	1467
1468.0	07:32	1468.1	69.2	38	265	106	171	853	3138	472	1015	9.1	34.6	1460.5	47.3	0.098	16.6	2.97	0.94	1468
1469.0	07:43	1469.1	67.7	30	280	108	150	245	3120	495	1036	9.1	35.0	1460.9	47.6	0.158	16.9	3.14	0.88	1469
1470.0	07:44	1470.0	66.7	21	281	108	125	849	3123	460	998	9.1	35.3	1460.9	47.9	0.155	17.0	3.16	0.81	1470
1471.0	07:48	1471.0	13.2	32	271	109	113	852	3134	455	992	9.1	34.4	1461.4	48.0	0.145	17.4	3.23	1.34	1471
1472.0	07:56	1472.0	7.8	36	266	108	122	853	3129	464	998	9.1	35.3	1463.1	48.2	0.087	18.2	3.36	1.54	1472
1473.0	08:00	1473.2	13.6	38	264	108	131	852	3122	473	1005	9.1	35.4	1463.9	48.7	0.180	18.8	3.43	1.41	1473
1474.0	08:01	1474.0	121.0	33	269	107	151	850	3119	479	1010	9.1	35.3	1464.0	48.7	0.152	18.8	3.44	0.75	1474
1475.0	08:01	1475.0	112.5	30	272	107	143	849	3119	477	1007	9.1	34.6	1464.1	48.7	0.159	18.8	3.45	0.75	1475
1476.0	08:02	1476.0	78.3	33	270	106	162	849	3123	479	1008	9.1	34.9	1464.2	48.7	0.176	18.9	3.46	0.86	1476
1477.0	08:23	1477.0	5.3	36	275	110	150	114	3130	505	1032	9.1	36.9	1465.6	48.8	0.218	19.0	3.65	1.64	1477
1478.0	08:27	1478.0	16.0	39	265	110	132	858	3176	472	992	9.1	37.0	1466.5	48.9	0.180	19.3	3.71	1.37	1478
1479.0	08:30	1479.0	17.8	40	264	110	129	855	3161	475	994	9.1	37.1	1468.7	49.0	0.175	19.8	3.77	1.36	1479
1480.0	08:41	1480.0	5.7	38	266	110	123	857	3156	482	998	9.1	36.8	1471.1	49.1	0.292	20.7	3.95	1.68	1480
1481.0	08:45	1481.1	14.0	39	265	110	131	817	2921	493	1006	9.1	37.1	1471.9	49.2	0.169	21.1	4.02	1.42	1481
1482.0	08:51	1482.1	10.0	40	264	110	130	812	2874	500	1011	9.1	38.9	1472.5	49.2	0.152	21.8	4.12	1.53	1482
1483.0	08:54	1483.1	17.4	40	264	109	144	812	2876	503	1012	9.1	39.1	1476.5	49.3	0.174	22.1	4.17	1.37	1483
1484.0	08:59	1484.0	14.5	39	265	110	129	811	2879	506	1013	9.1	39.2	1477.0	49.3	0.659	22.6	4.24	1.41	1484
1485.0	09:03	1485.1	13.3	39	265	110	130	810	2882	509	1016	9.1	38.8	1477.5	49.3	0.347	23.1	4.32	1.43	1485
1486.0	09:06	1486.1	21.3	36	268	109	149	807	2882	511	1015	9.1	39.2	1478.1	49.4	0.593	23.4	4.37	1.27	1486
1487.0	09:09	1487.0	19.5	38	266	108	153	808	2885	512	1017	9.1	39.2	1478.9	49.4	0.910	23.7	4.42	1.31	1487
1488.0	09:13	1488.0	16.2	39	265	109	147	807	2886	512	1020	9.1	39.2	1479.2	49.5	0.439	24.2	4.48	1.38	1488

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1488.0	09:13	1488.0	16.2	39	265	109	147	807	2886	512	1020	9.1	39.2	1479.2	49.5	0.439	24.2	4.48	1.38	1488
1489.0	09:15	1489.0	29.8	36	268	108	153	808	2889	515	1028	9.1	38.9	1479.6	49.5	0.442	24.4	4.51	1.18	1489
1490.0	09:16	1490.0	63.2	34	270	108	157	808	2899	515	1028	9.1	42.7	1479.6	49.5	0.484	24.4	4.53	0.95	1490
1491.0	09:19	1491.0	16.4	37	267	109	136	808	2897	515	1027	9.1	42.9	1480.5	49.5	0.712	24.8	4.59	1.36	1491
1492.0	09:23	1492.0	18.6	38	266	109	140	808	2900	516	1026	9.1	42.9	1481.1	49.5	0.849	25.2	4.64	1.33	1492
1493.0	09:27	1493.0	13.2	39	265	109	143	808	2894	517	1026	9.1	42.7	1481.7	49.4	0.968	25.7	4.72	1.43	1493
1494.0	09:33	1494.0	10.9	37	267	110	129	808	2893	518	1025	9.1	42.9	1483.3	49.5	0.818	26.3	4.81	1.47	1494
1495.0	09:38	1495.0	11.6	37	267	110	131	810	2903	520	1023	9.1	43.0	1484.2	49.6	0.266	26.8	4.90	1.45	1495
1496.0	09:43	1496.0	11.0	41	263	109	140	807	2896	523	1021	9.1	43.0	1485.9	49.7	0.044	27.4	4.99	1.51	1496
1497.0	09:47	1497.0	16.4	38	266	110	128	810	2895	524	1018	9.1	42.8	1487.1	48.5	0.024	27.8	5.05	1.37	1497
1498.0	09:50	1498.0	19.9	35	269	110	131	813	2908	526	1018	9.1	42.8	1487.9	48.4	0.019	28.2	5.10	1.28	1498
1499.0	09:58	1499.0	7.3	37	267	110	122	809	2868	530	1017	9.1	42.8	1491.2	46.6	0.007	29.1	5.24	1.59	1499
1500.0	10:00	1500.0	31.9	38	266	109	152	812	2867	534	1017	9.1	43.2	1492.0	47.2	0.280	29.3	5.27	1.18	1500
1501.0	10:07	1501.1	9.1	38	266	109	137	811	2857	537	1017	9.1	43.3	1493.5	47.9	0.527	30.0	5.38	1.53	1501
1502.0	10:14	1502.1	8.5	39	265	110	127	811	2854	541	1020	9.1	43.3	1494.5	47.8	0.408	30.7	5.49	1.57	1502
1503.0	10:18	1503.0	14.0	40	264	110	128	814	2881	538	1016	9.1	43.2	1495.5	47.7	0.483	31.2	5.57	1.43	1503
1504.0	10:22	1504.2	16.0	37	267	110	131	809	2864	538	1016	9.1	43.3	1496.5	47.7	0.515	31.6	5.63	1.36	1504
1505.0	10:22	1504.2	14.2	37	267	110	131	809	2864	538	1016	9.1	43.3	1496.5	47.1	0.426	31.6	5.63	1.36	1505
1506.0	10:38	1506.0	17.6	39	266	108	132	821	2991	510	994	9.2	43.2	1498.6	47.3	0.274	32.2	5.75	1.34	1506
1507.0	10:45	1507.1	8.7	40	265	106	168	809	2932	516	1003	9.2	43.2	1500.3	47.4	0.072	32.9	5.87	1.55	1507
1508.0	10:58	1508.0	4.6	41	291	106	161	809	2930	538	1025	9.2	43.2	1501.5	47.3	0.072	33.7	6.09	1.17	1508
1509.0	11:08	1509.1	6.1	39	266	109	121	813	2968	510	994	9.2	43.2	1503.1	47.6	0.191	34.7	6.25	1.65	1509
1510.0	11:33	1510.1	10.4	38	268	108	129	808	2943	520	1000	9.2	43.3	1504.2	47.8	0.148	35.3	6.35	1.47	1510
1511.0	11:35	1511.0	22.4	38	267	107	137	805	2945	505	983	9.2	43.2	1504.2	47.9	0.089	35.6	6.39	1.26	1511
1512.0	11:37	1512.0	36.7	34	271	107	149	809	2961	492	971	9.2	43.2	1505.0	48.0	0.097	35.8	6.42	1.08	1512
1513.0	11:38	1513.0	102.9	38	268	105	172	811	2963	493	972	9.2	43.2	1505.6	48.0	0.105	35.8	6.43	0.82	1513
1514.0	11:39	1514.0	66.7	38	268	105	180	812	2967	493	972	9.2	43.2	1505.7	48.0	0.108	35.9	6.44	0.94	1514
1515.0	11:39	1515.1	87.8	39	267	105	176	811	2966	495	973	9.2	43.2	1505.8	48.1	0.253	36.0	6.45	0.87	1515
1516.0	11:40	1516.0	70.6	43	263	105	177	811	2976	495	973	9.2	43.2	1505.9	48.1	0.299	36.1	6.47	0.97	1516
1517.0	12:00	1517.1	3.0	38	283	107	150	349	3060	523	1001	9.2	43.2	1507.1	48.3	0.265	37.0	6.80	1.17	1517
1518.0	12:01	1518.1	80.0	37	269	107	165	822	3058	495	973	9.2	43.2	1507.2	48.5	0.198	37.1	6.81	0.89	1518
1519.0	12:04	1519.0	17.3	40	265	108	145	822	3068	495	973	9.2	43.2	1507.9	48.6	0.224	37.4	6.87	1.36	1519
1520.0	12:05	1520.0	64.3	32	273	107	156	822	3067	495	973	9.2	43.2	1507.9	48.6	0.246	37.5	6.88	0.92	1520
1521.0	12:06	1521.0	94.7	34	272	107	174	822	3070	494	972	9.2	43.2	1508.0	48.7	0.277	37.6	6.89	0.82	1521
1522.0	12:07	1522.0	67.9	37	269	106	182	822	3074	492	970	9.2	43.2	1508.1	48.7	0.311	37.6	6.91	0.94	1522
1523.0	12:12	1523.0	11.4	38	268	109	133	822	3071	490	967	9.2	43.2	1508.7	48.9	0.282	38.3	7.00	1.45	1523
1524.0	12:19	1524.0	8.8	35	271	108	154	820	3068	498	976	9.2	43.8	1509.6	49.3	0.229	38.9	7.11	1.49	1524
1525.0	12:23	1525.1	12.6	38	267	107	157	818	3060	505	982	9.2	47.4	1510.5	43.2	0.110	39.5	7.19	1.43	1525
1526.0	12:27	1526.0	15.4	39	267	107	168	804	2974	506	983	9.2	45.9	1513.0	47.8	0.026	39.9	7.25	1.37	1526
1527.0	12:31	1527.0	14.5	36	269	107	159	799	2941	504	983	9.2	43.2	1516.0	48.2	0.138	40.4	7.32	1.36	1527
1528.0	12:37	1528.1	10.7	38	267	107	163	798	2942	506	977	9.3	43.2	1516.5	48.9	0.144	40.9	7.42	1.46	1528
1529.0	12:42	1529.0	12.4	39	266	107	169	799	2947	507	989	9.3	43.2	1518.6	49.2	0.127	41.5	7.50	1.42	1529
1530.0	12:49	1530.1	8.0	40	266	109	128	802	2912	517	998	9.3	43.2	1522.8	49.3	0.135	42.2	7.62	1.56	1530
1531.0	12:55	1531.0	11.6	40	266	109	138	803	2881	521	1002	9.3	43.2	1523.7	49.4	0.114	42.8	7.71	1.45	1531
1532.0	12:55	1532.0	94.7	37	268	105	194	804	2875	520	1002	9.3	43.2	1523.9	49.3	0.167	42.9	7.72	0.83	1532
1533.0	12:59	1533.1	28.3	27	279	108	144	803	2873	522	1003	9.3	43.2	1524.5	49.4	0.311	43.1	7.75	1.07	1533
1534.0	13:11	1534.0	12.6	28	265	111	150	139	2880	541	1021	9.3	43.2	1525.1	49.6	0.344	43.2	7.83	1.07	1534
1535.0	13:12	1535.1	57.1	27	280	111	135	792	2836	502	984	9.3	43.2	1525.3	49.6	0.327	43.3	7.85	0.90	1535
1536.0	13:13	1536.1	35.3	30	270	114	79	797	2867	490	971	9.3	43.2	1525.6	49.6	0.427	43.4	7.88	0.80	1536
1537.0	13:15	1537.1	44.4	9	298	114	76	798	2879	487	968	9.3	43.2	1526.0	49.6	0.514	43.7	7.90	0.75	1537

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1537.0	13:15	1537.1	44.4	9	298	114	76	798	2879	487	968	9.3	43.2	1526.0	49.6	0.514	43.7	7.90	0.75	1537
1538.0	13:17	1538.0	23.8	27	280	112	108	798	2882	486	967	9.3	43.2	1526.6	49.6	0.597	43.9	7.94	1.13	1538
1539.0	13:20	1539.2	23.2	33	274	111	133	796	2893	488	970	9.3	43.2	1527.1	49.6	0.418	44.3	7.99	1.20	1539
1540.0	13:21	1540.0	76.6	40	267	108	179	799	2914	491	973	9.3	43.2	1527.3	49.6	0.394	44.3	8.00	0.92	1540
1541.0	13:22	1541.1	57.1	41	266	109	171	800	2917	490	972	9.3	43.2	1527.6	49.6	0.425	44.4	8.02	1.01	1541
1542.0	13:23	1542.1	66.7	36	271	109	176	802	2921	492	974	9.3	43.2	1527.7	49.6	0.531	44.5	8.03	0.93	1542
1543.0	13:23	1543.0	80.0	34	273	109	181	804	2920	491	972	9.3	43.2	1527.8	49.2	0.401	44.6	8.05	0.87	1543
1544.0	13:24	1544.1	70.6	35	272	108	188	804	2922	491	972	9.3	43.2	1527.9	48.7	0.109	44.7	8.06	0.90	1544
1545.0	13:25	1545.1	83.7	34	273	109	163	804	2918	490	972	9.3	43.2	1528.2	48.8	0.067	44.8	8.07	0.86	1545
1546.0	13:26	1546.1	94.7	33	274	110	157	804	2915	490	971	9.3	43.2	1528.3	49.0	0.046	44.8	8.08	0.82	1546
1547.0	13:26	1547.1	124.1	32	275	110	162	804	2904	490	972	9.3	43.2	1528.4	49.0	0.031	44.9	8.09	0.74	1547
1548.0	13:28	1548.0	33.3	36	271	109	169	806	2896	488	970	9.3	43.2	1528.7	48.7	0.240	45.0	8.12	1.12	1548
1549.0	13:28	1549.1	133.3	33	274	110	151	808	2878	487	969	9.3	43.2	1528.8	48.4	0.425	45.2	8.13	0.73	1549
1550.0	13:29	1550.0	90.0	31	276	109	165	809	2870	485	966	9.3	43.2	1528.9	48.3	0.507	45.2	8.14	0.81	1550
1551.0	13:30	1551.0	85.7	30	277	109	169	809	2858	486	968	9.3	43.2	1529.3	48.4	0.556	45.3	8.15	0.82	1551
1552.0	13:31	1552.0	41.9	33	274	108	187	811	2844	486	967	9.3	43.2	1529.6	48.5	0.654	45.4	8.17	1.03	1552
1553.0	13:33	1553.1	33.3	36	271	109	177	814	2827	484	966	9.3	43.2	1529.8	49.0	0.708	45.6	8.20	1.12	1553
1554.0	13:35	1554.2	33.6	38	269	107	201	817	2811	484	965	9.3	43.2	1529.8	49.3	0.635	45.8	8.23	1.13	1554
1555.0	13:40	1555.0	11.5	40	267	110	158	812	2727	481	961	9.3	43.2	1530.3	49.7	0.366	46.4	8.32	1.46	1555
1556.0	13:45	1556.0	11.3	41	266	111	138	816	2670	473	954	9.3	43.2	1532.3	49.9	0.135	47.0	8.41	1.48	1556
1557.0	13:47	1557.1	31.6	36	271	110	158	815	2659	468	948	9.3	43.2	1533.2	49.8	0.142	47.2	8.44	1.14	1557
1558.0	13:51	1558.1	15.1	35	272	108	201	813	2656	463	944	9.3	43.2	1535.4	49.8	0.230	47.6	8.51	1.33	1558
1559.0	13:54	1559.1	19.0	40	267	106	227	812	2643	457	938	9.3	43.2	1537.7	49.9	0.260	48.0	8.56	1.31	1559
1560.0	13:55	1560.0	50.7	36	271	110	148	812	2637	455	935	9.3	43.2	1537.9	49.9	0.288	48.1	8.58	1.01	1560
1561.0	14:01	1561.5	18.3	30	277	113	106	813	2632	453	933	9.3	43.2	1541.7	50.0	0.298	48.5	8.64	1.23	1561
1562.0	14:13	1562.1	15.9	30	234	109	180	776	2450	451	932	9.3	43.2	1552.0	50.0	0.134	48.7	8.70	1.45	1562
1563.0	14:18	1563.0	11.4	39	270	109	134	776	2449	436	917	9.3	43.2	1554.3	50.0	0.144	49.2	8.79	1.45	1563
1564.0	14:25	1564.0	8.5	40	269	109	134	724	2166	443	924	9.3	43.2	1555.2	50.0	0.170	50.0	8.90	1.54	1564
1565.0	14:32	1565.1	8.7	38	270	109	126	721	2157	443	924	9.3	43.2	1557.3	50.0	0.172	50.8	9.02	1.52	1565
1566.0	14:38	1566.0	11.3	39	270	109	133	721	2160	437	923	9.3	43.2	1558.2	50.0	0.176	51.3	9.11	1.45	1566
1567.0	14:44	1567.1	8.9	39	270	109	134	720	2167	405	925	9.3	43.2	1560.3	50.0	0.200	52.0	9.22	1.52	1567
1568.0	14:49	1568.2	12.3	39	270	109	132	718	2177	405	926	9.3	43.2	1561.6	49.9	0.209	52.6	9.30	1.43	1568
1569.0	14:53	1569.0	14.6	39	270	109	136	718	2184	405	926	9.3	43.2	1561.6	50.0	0.228	53.0	9.37	1.38	1569
1570.0	14:59	1570.0	10.0	38	270	109	131	719	2189	405	927	9.3	43.2	1562.5	50.0	0.209	53.7	9.47	1.48	1570
1571.0	15:05	1571.0	10.7	40	269	109	138	721	2185	404	927	9.3	43.2	1563.4	50.1	0.184	54.2	9.56	1.47	1571
1572.0	15:11	1572.0	10.5	38	270	109	129	723	2179	402	925	9.3	43.2	1564.2	50.4	0.210	54.9	9.66	1.46	1572
1573.0	15:16	1573.1	12.2	38	270	109	129	721	2174	400	923	9.3	43.2	1565.0	50.5	0.200	55.5	9.74	1.42	1573
1574.0	15:21	1574.0	11.1	39	270	109	133	722	2187	397	921	9.3	43.2	1565.9	50.6	0.169	56.0	9.83	1.45	1574
1575.0	15:26	1575.0	12.5	39	270	109	135	722	2190	396	920	9.3	43.2	1566.7	50.6	0.136	56.6	9.91	1.42	1575
1576.0	15:32	1576.0	10.2	38	270	109	135	722	2180	395	919	9.3	43.2	1567.7	50.5	0.050	57.1	10.01	1.47	1576
1577.0	15:38	1577.0	9.0	39	269	109	129	723	2176	394	920	9.3	43.2	1569.2	50.6	0.070	57.9	10.12	1.52	1577
1578.0	15:44	1578.0	9.9	38	270	109	132	758	2332	392	918	9.3	43.2	1570.3	50.7	0.173	58.6	10.22	1.48	1578
1579.0	15:51	1579.0	9.7	38	270	110	124	792	2512	387	914	9.3	43.2	1571.4	50.7	0.099	59.3	10.32	1.49	1579
1580.0	15:56	1580.0	10.5	37	271	110	125	789	2520	384	912	9.3	43.3	1572.7	50.7	0.111	59.8	10.42	1.46	1580
1581.0	16:00	1581.1	14.8	37	272	109	130	786	2538	384	912	9.3	43.3	1573.5	50.7	0.114	60.3	10.49	1.35	1581
1582.0	16:07	1582.0	9.7	38	270	109	130	784	2556	386	914	9.3	43.3	1574.8	50.7	0.112	60.9	10.59	1.49	1582
1583.0	16:12	1583.2	11.4	38	270	109	129	777	2568	386	914	9.3	43.2	1575.8	50.7	0.164	61.5	10.68	1.44	1583
1584.0	16:18	1584.1	9.9	38	270	109	129	776	2591	383	912	9.3	43.2	1576.9	50.6	0.064	62.2	10.78	1.48	1584
1585.0	16:29	1585.0	5.3	39	270	110	116	773	2625	383	912	9.3	43.2	1578.7	50.7	0.019	63.4	10.97	1.67	1585
1586.0	16:35	1586.0	11.4	38	271	109	129	770	2655	385	915	9.3	43.2	1579.7	50.7	0.163	64.0	11.06	1.44	1586

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1587.0	16:40	1587.1	11.7	38	270	109	129	769	2665	383	913	9.3	43.2	1580.6	50.7	0.112	64.5	11.14	1.44	1587
1588.0	16:45	1588.0	11.3	38	270	109	130	768	2667	382	912	9.3	43.2	1581.5	50.7	0.095	65.1	11.23	1.45	1588
1589.0	16:52	1589.3	11.5	36	273	110	124	767	2668	381	912	9.3	43.2	1582.9	50.7	0.190	65.7	11.32	1.41	1589
1590.0	16:52	1590.5	11.1	36	310	114	46	767	2668	380	913	9.3	43.2	1582.9	50.7	0.190	65.8	11.32	1.40	1590
1591.0	17:08	1591.0	3.4	36	311	115	21	164	225	412	944	9.3	43.2	-999.3	50.7	0.139	66.0	11.47	1.50	1591
1592.0	17:15	1592.0	8.7	38	270	107	69	568	2840	400	929	9.3	43.3	1591.0	50.7	0.289	66.5	11.58	1.11	1592
1593.0	17:19	1593.0	15.3	40	271	107	131	790	2840	377	906	9.3	43.3	1591.0	50.7	0.292	66.9	11.65	1.37	1593
1594.0	17:24	1594.1	11.8	40	271	107	128	792	2862	380	905	9.3	43.2	1591.0	50.7	0.246	67.4	11.73	1.44	1594
1595.0	17:29	1595.1	13.0	40	271	107	133	794	2865	387	905	9.3	43.2	1591.0	50.7	0.228	67.9	11.81	1.42	1595
1596.0	17:33	1596.0	13.6	40	271	107	128	795	2836	391	904	9.3	43.3	1591.0	50.7	0.222	68.5	11.88	1.40	1596
1597.0	17:38	1597.0	12.8	40	271	107	127	795	2814	395	904	9.3	43.3	1591.0	50.6	0.225	68.9	11.96	1.42	1597
1598.0	17:41	1598.1	17.4	39	272	110	124	795	2803	399	904	9.3	43.3	1591.0	50.6	0.228	69.3	12.02	1.33	1598
1599.0	17:46	1599.0	14.2	39	272	110	128	794	2787	401	903	9.3	43.3	1591.0	50.6	0.223	69.8	12.09	1.39	1599
1600.0	17:50	1600.1	15.1	39	272	110	127	795	2784	405	902	9.3	43.3	1591.3	50.6	0.235	70.2	12.16	1.38	1600
1601.0	17:54	1601.2	14.0	36	275	111	118	803	2818	408	902	9.3	43.3	1592.5	50.6	0.160	70.7	12.23	1.37	1601
1602.0	17:57	1602.1	17.8	36	275	111	114	805	2824	412	902	9.3	43.3	1593.2	50.6	0.103	71.0	12.28	1.30	1602
1603.0	18:02	1603.0	13.2	37	274	111	116	811	2853	414	902	9.3	43.3	1594.3	50.6	0.087	71.6	12.36	1.39	1603
1604.0	18:09	1604.1	8.7	37	274	111	119	813	2864	418	901	9.3	43.3	1595.8	50.6	0.054	72.3	12.47	1.51	1604
1605.0	18:12	1605.0	18.3	38	273	111	121	816	2871	421	901	9.3	43.3	1596.5	50.6	0.210	72.6	12.53	1.31	1605
1606.0	18:16	1606.0	16.1	38	273	111	122	815	2870	424	901	9.3	43.3	1597.4	50.6	0.186	73.1	12.59	1.35	1606
1607.0	18:19	1607.1	20.2	38	273	111	122	812	2860	427	900	9.3	43.3	1598.2	50.6	0.186	73.4	12.64	1.29	1607
1608.0	18:22	1608.1	16.3	39	272	111	121	813	2863	430	900	9.3	43.3	1599.3	50.6	0.190	73.9	12.70	1.35	1608
1609.0	18:26	1609.0	16.8	39	272	111	120	813	2865	433	900	9.3	43.3	1600.1	50.6	0.255	74.2	12.76	1.34	1609
1610.0	18:30	1610.0	16.5	38	273	111	119	812	2865	436	900	9.3	43.3	1600.9	50.6	0.191	74.7	12.82	1.34	1610
1611.0	18:33	1611.0	16.9	38	273	111	119	810	2863	440	901	9.3	43.3	1601.9	50.6	0.175	75.0	12.88	1.33	1611
1612.0	18:37	1612.0	16.0	38	273	111	119	810	2865	444	902	9.3	43.3	1602.8	50.6	0.244	75.4	12.94	1.35	1612
1613.0	18:42	1613.0	12.1	38	273	111	117	810	2865	447	902	9.3	43.3	1603.9	50.6	0.187	76.0	13.03	1.42	1613
1614.0	18:47	1614.1	11.1	37	274	111	113	811	2864	452	902	9.3	43.3	1604.7	44.3	0.134	76.6	13.12	1.45	1614
1615.0	18:52	1615.2	13.3	38	273	111	118	809	2860	457	902	9.3	43.3	1606.0	48.8	0.008	77.0	13.19	1.40	1615
1616.0	18:56	1616.1	13.7	38	273	111	115	810	2859	462	901	9.3	43.3	1607.3	49.4	0.100	77.5	13.26	1.39	1616
1617.0	19:00	1617.0	16.1	38	273	111	120	809	2859	469	901	9.3	43.3	1608.5	50.6	0.167	77.9	13.33	1.35	1617
1618.0	19:06	1618.0	9.3	38	273	111	117	810	2855	476	900	9.3	43.3	1610.1	50.9	0.193	78.6	13.43	1.51	1618
1619.0	19:13	1619.0	9.1	39	272	111	116	809	2832	483	900	9.3	43.3	1611.9	51.0	0.218	79.4	13.54	1.52	1619
1620.0	19:21	1620.5	10.6	37	274	111	117	813	2837	484	900	9.3	43.3	1613.4	51.1	0.195	80.0	13.64	1.45	1620
1621.0	19:28	1621.2	25.1	38	224	110	150	773	2700	493	910	9.3	43.3	1613.9	51.1	0.208	80.2	13.69	1.50	1621
1622.0	19:29	1622.1	52.9	36	277	108	146	772	2664	471	889	9.3	43.3	1614.2	51.1	0.250	80.3	13.71	1.50	1622
1623.0	19:35	1623.0	10.3	38	275	110	123	779	2716	451	872	9.3	43.3	1615.5	51.2	0.294	80.9	13.81	1.47	1623
1624.0	19:40	1624.0	11.6	37	276	110	122	785	2767	447	875	9.3	43.3	1616.6	51.2	0.242	81.4	13.89	1.42	1624
1625.0	19:47	1625.0	9.7	38	275	109	124	784	2788	447	875	9.3	43.3	1617.6	51.2	0.128	82.1	14.00	1.48	1625
1626.0	19:53	1626.1	10.2	39	273	109	128	785	2811	447	873	9.3	43.3	1618.8	51.2	0.068	82.8	14.09	1.48	1626
1627.0	19:59	1627.0	9.3	38	274	110	122	784	2835	446	872	9.3	43.3	1619.6	51.3	0.069	83.5	14.20	1.50	1627
1628.0	20:05	1628.1	10.6	38	275	110	123	782	2841	447	872	9.3	43.3	1621.0	51.3	0.129	84.1	14.30	1.46	1628
1629.0	20:11	1629.0	9.8	38	274	110	124	780	2852	446	873	9.3	43.3	1622.5	51.3	0.116	84.7	14.40	1.49	1629
1630.0	20:16	1630.0	11.3	39	274	109	126	782	2869	447	875	9.3	43.3	1623.6	51.3	0.126	85.4	14.49	1.45	1630
1631.0	20:21	1631.1	11.1	39	273	109	128	782	2881	447	877	9.3	43.3	1624.5	51.3	0.135	85.9	14.58	1.46	1631
1632.0	20:27	1632.1	10.9	39	273	109	131	781	2877	447	876	9.3	43.3	1625.6	51.3	0.158	86.5	14.67	1.47	1632
1633.0	20:32	1633.1	12.3	38	275	109	127	777	2866	447	876	9.3	43.3	1626.2	51.3	0.195	87.0	14.75	1.42	1633
1634.0	20:37	1634.0	10.8	39	274	109	128	780	2873	453	876	9.3	43.3	1627.2	51.2	0.199	87.6	14.84	1.46	1634

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1635.0	20:42	1635.0	12.2	39	274	109	126	779	2853	458	876	9.3	43.3	1627.9	51.2	0.253	88.2	14.92	1.43	1635
1636.0	20:46	1636.0	16.8	38	275	109	126	782	2834	466	877	9.3	43.3	1628.4	51.2	0.237	88.5	14.98	1.33	1636
1637.0	20:50	1637.0	13.5	39	274	109	126	785	2824	473	878	9.3	43.3	1629.2	51.1	0.237	89.1	15.06	1.40	1637
1638.0	20:55	1638.0	12.7	38	274	110	122	786	2810	480	878	9.3	43.3	1630.0	51.1	0.251	89.5	15.14	1.41	1638
1639.0	21:00	1639.0	13.1	38	274	110	123	786	2795	489	878	9.3	43.3	1630.9	51.1	0.243	90.0	15.21	1.40	1639
1640.0	21:06	1640.0	9.8	38	274	110	121	787	2789	501	879	9.3	43.3	1632.0	51.6	0.277	90.6	15.31	1.49	1640
1641.0	21:12	1641.0	9.4	39	274	109	125	786	2779	515	881	9.3	43.3	1633.3	52.0	0.210	91.4	15.42	1.50	1641
1642.0	21:20	1642.0	7.4	38	275	110	122	787	2776	531	883	9.3	43.3	1634.8	52.1	0.156	92.2	15.55	1.56	1642
1643.0	21:28	1643.1	8.2	37	276	110	119	792	2791	543	885	9.3	43.3	1636.8	51.8	0.120	93.1	15.68	1.52	1643
1644.0	21:34	1644.0	9.9	38	275	110	121	795	2803	545	887	9.3	43.3	1638.3	51.5	0.100	93.7	15.78	1.48	1644
1645.0	21:41	1645.1	8.3	38	275	110	124	794	2810	548	890	9.3	43.3	1639.5	51.8	0.141	94.5	15.90	1.53	1645
1646.0	21:46	1646.1	11.6	38	275	109	128	801	2880	547	888	9.3	42.3	1640.5	52.0	0.126	95.0	15.99	1.43	1646
1647.0	21:53	1647.0	9.0	37	276	110	121	800	2902	542	881	9.3	41.9	1641.5	51.9	0.162	95.8	16.10	1.49	1647
1648.0	22:02	1648.4	8.5	36	276	110	119	799	2912	538	877	9.3	41.9	1642.6	51.2	0.049	96.6	16.22	1.50	1648
1649.0	22:15	1649.1	10.0	37	277	110	120	482	2875	543	883	9.3	41.9	1643.9	51.1	0.106	97.1	16.34	1.40	1649
1650.0	22:20	1650.0	12.8	37	277	110	121	782	2876	534	873	9.3	41.9	1644.5	51.8	0.094	97.6	16.42	1.40	1650
1651.0	22:26	1651.0	9.5	37	277	110	119	782	2892	533	872	9.3	41.9	1645.3	52.1	0.077	98.2	16.53	1.48	1651
1652.0	22:31	1652.1	11.9	38	276	109	125	782	2906	533	872	9.3	41.9	1646.4	52.2	0.636	98.8	16.61	1.42	1652
1653.0	22:33	1653.0	37.1	36	278	108	144	782	2912	534	873	9.3	41.9	1646.5	52.2	0.101	99.0	16.64	1.09	1653
1654.0	22:34	1654.1	43.4	37	277	108	150	782	2914	534	874	9.3	41.9	1646.7	52.2	0.090	99.1	16.66	1.06	1654
1655.0	22:46	1655.0	25.7	30	284	98	109	707	2633	544	883	9.3	41.9	1647.2	52.3	0.123	99.3	16.70	1.10	1655
1656.0	22:52	1656.0	11.5	38	276	111	132	779	2913	538	877	9.3	41.9	1647.8	52.3	0.216	99.9	16.79	1.44	1656
1657.0	22:58	1657.0	9.1	37	277	112	125	781	2926	538	874	9.3	41.9	1648.1	52.3	0.155	100.7	16.90	1.50	1657
1658.0	23:04	1658.0	9.7	37	277	112	127	785	2960	540	875	9.3	41.9	1649.2	52.3	0.093	101.4	17.00	1.48	1658
1659.0	23:10	1659.0	10.8	37	277	112	125	790	2988	541	877	9.3	41.9	1650.6	52.3	0.091	102.0	17.09	1.45	1659
1660.0	23:16	1660.0	10.7	38	276	112	126	790	2987	541	876	9.3	41.9	1651.4	52.3	0.095	102.5	17.18	1.46	1660
1661.0	23:21	1661.1	10.8	38	276	112	126	790	2990	543	877	9.3	41.9	1654.0	52.3	0.094	103.2	17.28	1.46	1661
1662.0	23:27	1662.0	10.8	37	277	112	124	790	2985	545	875	9.3	41.9	1655.4	52.3	0.090	103.8	17.37	1.45	1662
1663.0	23:33	1663.0	9.6	37	277	112	123	790	2963	547	874	9.3	41.9	1656.3	52.3	0.105	104.5	17.47	1.48	1663
1664.0	23:38	1664.0	13.0	37	277	112	126	790	2950	549	872	9.3	41.9	1657.1	52.3	0.113	105.1	17.55	1.40	1664
1665.0	23:42	1665.0	14.2	38	276	112	128	790	2939	552	873	9.3	41.9	1657.8	52.3	0.107	105.5	17.62	1.39	1665
1666.0	23:46	1666.0	13.7	39	275	111	131	790	2936	555	873	9.3	41.9	1658.5	52.4	0.136	106.0	17.69	1.40	1666
1667.0	23:52	1667.1	11.3	38	276	112	125	791	2928	559	874	9.3	41.9	1659.6	52.4	0.149	106.5	17.78	1.45	1667
1668.0	23:56	1668.1	14.0	38	276	112	124	794	2922	563	873	9.3	41.9	1660.3	52.4	0.095	107.0	17.85	1.39	1668
1669.0	00:00	1669.0	15.5	36	278	112	126	795	2915	567	874	9.3	41.9	1661.1	52.4	0.014	107.5	17.92	1.34	1669
1670.0	00:05	1670.1	11.7	37	277	112	123	795	2916	570	873	9.3	41.9	1662.0	52.2	0.104	108.1	18.00	1.42	1670
1671.0	00:11	1671.1	9.2	38	276	112	124	795	2909	573	873	9.3	41.9	1663.0	51.7	0.136	108.7	18.11	1.50	1671
1672.0	00:17	1672.0	9.9	39	275	111	129	794	2904	576	875	9.3	41.9	1664.4	52.2	0.140	109.4	18.22	1.50	1672
1673.0	00:24	1673.0	9.0	38	276	112	129	794	2907	578	875	9.3	41.9	1665.9	52.3	0.137	110.1	18.33	1.51	1673
1674.0	00:28	1674.1	14.2	38	276	111	131	795	2912	580	875	9.3	41.9	1666.7	52.3	0.145	110.7	18.40	1.38	1674
1675.0	00:31	1675.1	25.0	37	277	111	130	795	2916	580	875	9.3	41.9	1667.2	52.3	0.149	110.9	18.44	1.21	1675
1676.0	01:01	1676.1	9.5	37	271	109	130	724	3071	581	874	9.3	41.8	1670.5	52.3	0.171	112.2	18.85	1.30	1676
1677.0	01:03	1677.0	28.3	37	279	109	129	803	3058	571	864	9.3	41.8	1670.8	52.3	0.252	112.4	18.89	1.17	1677
1678.0	01:08	1678.0	11.7	39	277	109	129	803	3070	571	864	9.3	41.8	1671.6	52.4	0.099	112.9	18.97	1.44	1678
1679.0	01:14	1679.1	10.9	39	276	109	129	803	3083	571	863	9.3	41.8	1672.5	52.4	0.083	113.5	19.06	1.46	1679
1680.0	01:18	1680.0	12.6	39	277	109	127	799	3065	572	863	9.3	41.8	1673.2	52.4	0.071	114.0	19.14	1.42	1680
1681.0	01:23	1681.0	13.8	39	276	109	128	798	3050	573	863	9.3	41.8	1674.7	52.4	0.080	114.5	19.21	1.40	1681
1682.0	01:28	1682.0	11.6	38	277	109	125	799	3052	574	862	9.3	41.8	1676.7	52.5	0.080	115.0	19.30	1.44	1682
1683.0	01:33	1683.0	11.2	38	277	109	126	799	3046	572	859	9.3	41.8	1675.4	52.5	0.060	115.7	19.39	1.45	1683
1684.0	01:38	1684.0	13.7	39	276	109	130	799	3043	569	855	9.3	41.9	1675.5	52.5	0.026	116.1	19.46	1.40	1684

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1684.0	01:38	1684.0	13.7	39	276	109	130	799	3043	569	855	9.3	41.9	1675.5	52.5	0.026	116.1	19.46	1.40	1684
1685.0	01:42	1685.0	15.6	38	277	109	124	799	3040	572	856	9.3	41.8	1677.0	52.6	0.015	116.6	19.53	1.36	1685
1686.0	01:47	1686.1	11.0	39	277	109	125	799	3043	573	857	9.3	41.8	1678.2	52.6	0.116	117.1	19.62	1.46	1686
1687.0	01:51	1687.0	16.2	39	277	109	124	799	3043	573	856	9.3	41.8	1678.7	52.6	0.200	117.5	19.68	1.35	1687
1688.0	01:56	1688.0	10.8	38	278	109	119	799	3046	573	874	9.3	41.8	1679.9	52.6	0.094	118.1	19.77	1.45	1688
1689.0	02:01	1689.1	13.8	37	278	109	119	799	3047	576	921	9.3	41.8	1680.8	52.6	0.089	118.5	19.84	1.38	1689
1690.0	02:05	1690.1	12.8	36	279	109	119	799	3045	577	925	9.3	41.8	1681.8	52.6	0.095	119.1	19.92	1.39	1690
1691.0	02:11	1691.0	10.1	38	278	109	121	799	3047	576	924	9.3	41.8	1682.9	52.7	0.071	119.8	20.02	1.47	1691
1692.0	02:18	1692.0	9.2	37	278	109	122	799	3050	577	925	9.3	41.8	1684.3	52.7	0.065	120.5	20.13	1.49	1692
1693.0	02:23	1693.0	11.3	37	278	109	123	799	3053	575	925	9.3	41.9	1685.5	52.7	0.063	121.0	20.22	1.43	1693
1694.0	02:30	1694.1	9.1	38	278	109	123	798	3052	577	927	9.3	41.9	1687.0	52.7	0.072	121.7	20.33	1.50	1694
1695.0	02:35	1695.0	12.0	38	278	109	119	796	3053	583	929	9.3	41.9	1688.0	52.7	0.061	122.2	20.41	1.43	1695
1696.0	02:41	1696.0	9.5	38	277	109	117	795	3047	586	927	9.3	41.9	1689.2	52.8	0.047	122.9	20.52	1.49	1696
1697.0	02:50	1697.0	6.9	39	277	109	120	797	3034	586	921	9.3	41.9	1691.0	52.8	0.052	123.9	20.66	1.59	1697
1698.0	02:55	1698.0	12.1	38	277	109	122	798	3023	590	926	9.3	41.9	1691.8	52.8	0.158	124.5	20.74	1.43	1698
1699.0	03:02	1699.0	7.8	38	277	109	117	796	3012	593	922	9.3	41.9	1693.1	50.3	0.045	125.2	20.87	1.55	1699
1700.0	03:09	1700.0	8.3	39	277	109	119	796	3007	597	920	9.3	41.9	1694.3	52.2	0.052	126.0	20.99	1.54	1700
1701.0	03:15	1701.0	11.3	38	277	109	122	803	3035	601	922	9.3	41.9	1695.2	52.8	0.121	126.6	21.08	1.45	1701
1702.0	03:20	1702.1	12.2	37	278	109	120	804	3045	603	923	9.3	41.9	1696.0	53.5	0.293	127.1	21.16	1.41	1702
1703.0	04:04	1703.1	0.0	30	287	109	102	805	3111	599	1035	9.3	41.9	1699.9	53.6	0.316	129.6	21.73	3.77	1703
1704.0	04:09	1704.1	10.9	39	278	108	127	804	3118	592	1028	9.3	41.8	1700.9	53.6	0.359	130.3	21.83	1.46	1704
1705.0	04:16	1705.0	8.8	40	277	108	128	807	3132	593	1040	9.3	41.9	1704.7	53.1	0.181	130.9	21.94	1.53	1705
1706.0	04:24	1706.0	8.1	41	276	108	125	805	3140	595	1080	9.3	41.9	1704.7	53.3	0.108	131.8	22.06	1.57	1706
1707.0	04:31	1707.0	8.4	40	277	108	125	803	3144	594	1089	9.4	43.2	1704.7	53.4	0.115	132.6	22.18	1.53	1707
1708.0	04:38	1708.0	8.5	34	283	131	120	799	3143	593	1103	9.4	43.7	1704.7	53.4	0.132	133.4	22.30	1.50	1708
1709.0	04:44	1709.0	9.4	40	277	112	130	798	3147	595	1148	9.4	43.7	1704.7	53.5	0.129	134.2	22.41	1.51	1709
1710.0	04:51	1710.0	9.1	41	276	112	134	801	3164	593	1154	9.4	43.7	1704.7	53.5	0.114	134.9	22.52	1.52	1710
1711.0	04:57	1711.0	10.1	40	277	112	136	799	3167	589	1151	9.4	43.7	1704.8	53.5	0.125	135.6	22.62	1.49	1711
1712.0	05:02	1712.1	11.4	40	277	112	134	798	3171	588	1149	9.4	43.7	1705.6	53.5	0.128	136.1	22.70	1.45	1712
1713.0	05:07	1713.0	12.0	39	278	112	129	796	3165	587	1145	9.4	43.7	1706.3	53.5	0.133	136.7	22.79	1.43	1713
1714.0	05:14	1714.0	8.6	39	278	112	128	797	3175	588	1151	9.4	43.7	1707.2	53.5	0.121	137.4	22.90	1.52	1714
1715.0	05:20	1715.0	9.9	40	277	112	130	798	3186	590	1196	9.4	43.7	1708.0	53.5	0.113	138.1	23.00	1.49	1715
1716.0	05:26	1716.1	9.4	40	277	112	131	796	3183	592	1249	9.4	43.7	1708.9	53.6	0.159	138.8	23.11	1.50	1716
1717.0	05:33	1717.1	8.4	39	278	112	129	792	3171	594	1265	9.4	43.7	1710.1	53.6	0.170	139.6	23.23	1.53	1717
1718.0	05:40	1718.1	9.4	39	278	112	131	794	3188	591	1255	9.4	43.7	1711.2	53.6	0.120	140.3	23.34	1.50	1718
1719.0	05:45	1719.0	10.8	39	278	112	131	794	3203	587	1244	9.4	43.7	1712.3	53.6	0.150	141.0	23.43	1.46	1719
1720.0	05:51	1720.0	11.1	39	278	112	127	792	3200	586	1241	9.4	43.7	1713.2	53.6	0.144	141.6	23.52	1.45	1720
1721.0	05:57	1721.1	10.5	40	277	112	127	790	3195	585	1239	9.4	43.7	1714.0	53.7	0.142	142.3	23.61	1.48	1721
1722.0	06:03	1722.0	9.9	40	277	113	126	790	3197	585	1235	9.4	43.7	1715.0	53.7	0.137	142.8	23.72	1.50	1722
1723.0	06:08	1723.0	12.6	40	277	112	128	790	3202	587	1234	9.4	43.7	1716.0	53.7	0.134	143.4	23.80	1.45	1723
1724.0	06:13	1724.0	16.5	39	278	112	130	790	3193	589	1233	9.4	43.7	1716.6	53.7	0.046	144.0	23.88	1.42	1724
1725.0	06:16	1725.0	8.7	39	278	112	130	796	3181	590	1233	9.4	43.7	1717.1	53.8	0.077	144.3	23.94	1.34	1725
1726.0	06:23	1726.0	8.3	40	277	112	131	798	3166	592	1231	9.4	43.7	1718.2	53.8	0.169	145.1	24.06	1.54	1726
1727.0	06:30	1727.1	21.7	40	277	112	130	793	3129	593	1230	9.4	43.7	1719.5	53.6	0.074	146.0	24.18	1.54	1727
1728.0	06:33	1728.0	29.8	39	278	112	135	794	3126	595	1230	9.4	43.7	1719.9	53.1	0.112	146.3	24.22	1.27	1728
1729.0	06:35	1729.0	18.3	37	280	112	139	794	3123	596	1229	9.4	43.7	1720.4	53.4	0.187	146.5	24.26	1.16	1729
1730.0	06:56	1730.0	9.7	40	277	112	129	798	3120	599	1223	9.4	43.7	1724.5	53.8	0.332	148.8	24.60	1.40	1730
1731.0	07:05	1731.2	9.4	38	279	109	121	798	3115	604	1226	9.4	43.7	1730.2	54.0	0.229	149.5	24.71	1.47	1731
1732.0	07:18	1732.0	3.5	38	278	109	130	806	3163	561	1175	9.4	43.7	1730.2	54.0	0.241	149.9	24.76	1.75	1732
1733.0	07:24	1733.0	9.4	37	279	109	127	808	3156	517	1130	9.4	43.7	1730.2	54.0	0.170	150.5	24.87	1.46	1733

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1733.0	07:24	1733.0	9.4	37	279	109	127	808	3156	517	1130	9.4	43.7	1730.2	54.0	0.170	150.5	24.87	1.46	1733
1734.0	07:30	1734.2	10.1	38	278	108	133	808	3130	508	1117	9.4	44.3	1730.2	54.0	0.170	151.2	24.97	1.46	1734
1735.0	07:35	1735.0	12.3	38	278	108	136	806	3092	514	1118	9.4	46.7	1730.2	54.0	0.177	151.7	25.05	1.40	1735
1736.0	07:42	1736.1	7.9	38	278	108	135	802	3036	518	1119	9.4	46.7	1730.2	54.0	0.161	152.5	25.17	1.52	1736
1737.0	07:48	1737.1	10.5	38	278	109	134	803	3028	523	1121	9.4	46.7	1730.5	53.9	0.142	153.1	25.27	1.45	1737
1738.0	07:53	1738.1	10.9	39	277	109	132	802	3025	526	1120	9.4	46.7	1730.8	53.9	0.136	153.7	25.36	1.44	1738
1739.0	07:58	1739.0	13.1	39	277	109	133	803	3023	527	1117	9.4	46.7	1732.5	53.9	0.127	154.2	25.44	1.39	1739
1740.0	08:04	1740.0	9.5	38	278	110	131	803	3028	533	1118	9.4	46.7	1732.6	53.9	0.147	154.8	25.54	1.47	1740
1741.0	08:10	1741.0	11.3	37	279	111	130	803	3030	537	1118	9.4	46.7	1733.7	53.8	0.159	155.4	25.63	1.42	1741
1742.0	08:16	1742.0	9.9	38	278	111	132	803	3039	541	1118	9.4	46.7	1734.7	53.8	0.158	156.1	25.73	1.47	1742
1743.0	08:21	1743.0	11.3	38	278	111	131	803	3040	544	1118	9.4	46.7	1735.5	53.8	0.138	156.7	25.82	1.43	1743
1744.0	08:26	1744.0	11.0	39	277	111	136	803	3043	548	1117	9.4	46.7	1736.5	53.8	0.130	157.3	25.91	1.45	1744
1745.0	08:33	1745.0	9.3	37	279	111	135	803	3044	552	1116	9.4	46.7	1737.6	53.8	0.135	158.0	26.02	1.47	1745
1746.0	08:37	1746.0	13.3	38	278	111	140	803	3040	556	1116	9.4	46.7	1738.3	53.8	0.159	158.5	26.09	1.38	1746
1747.0	08:44	1747.1	8.6	38	278	111	132	803	3052	560	1116	9.4	46.7	1739.5	53.8	0.189	159.3	26.21	1.51	1747
1748.0	08:49	1748.1	12.9	38	278	111	134	803	3052	564	1115	9.4	46.7	1740.4	53.8	0.140	159.9	26.29	1.40	1748
1749.0	08:54	1749.1	11.0	37	279	111	135	803	3054	567	1114	9.4	46.7	1741.4	53.8	0.129	160.4	26.38	1.43	1749
1750.0	09:00	1750.0	11.4	36	280	111	131	803	3060	570	1113	9.4	46.7	1742.4	53.8	0.139	161.0	26.46	1.41	1750
1751.0	09:07	1751.1	8.7	35	281	112	128	803	3060	575	1113	9.4	46.7	1743.6	53.8	0.130	161.8	26.58	1.47	1751
1752.0	09:13	1752.1	9.6	36	280	112	129	804	3065	581	1113	9.4	46.7	1744.5	53.8	0.126	162.5	26.68	1.46	1752
1753.0	09:21	1753.0	7.1	36	280	112	125	800	3058	590	1117	9.4	46.7	1746.3	53.8	0.128	163.4	26.82	1.54	1753
1754.0	09:28	1754.1	9.3	37	279	112	126	800	3057	598	1119	9.4	46.7	1747.1	53.8	0.123	164.1	26.93	1.47	1754
1755.0	09:34	1755.0	10.1	37	279	112	127	802	3073	604	1121	9.4	46.7	1748.3	53.5	0.063	164.8	27.03	1.45	1755
1756.0	09:40	1756.0	9.4	38	279	111	136	803	3086	612	1124	9.4	46.7	1749.6	50.1	0.058	165.5	27.14	1.48	1756
1757.0	09:46	1757.0	9.9	40	277	111	136	803	3084	618	1125	9.4	46.7	1750.6	53.2	0.122	166.1	27.24	1.49	1757
1758.0	09:52	1758.0	10.3	39	278	111	130	803	3089	622	1125	9.4	46.7	1751.5	53.5	0.146	166.8	27.34	1.47	1758
1759.0	09:58	1759.0	10.6	41	276	111	137	803	3090	627	1126	9.4	43.0	1752.3	53.7	0.204	167.4	27.43	1.48	1759
1760.0	10:05	1760.0	8.8	38	279	111	134	803	3096	631	1127	9.4	42.7	1753.1	53.7	0.202	168.2	27.54	1.50	1760
1761.0	10:26	1761.0	26.5	40	213	110	140	803	3135	648	1134	9.4	42.7	1755.2	53.7	0.279	168.6	27.70	1.88	1761
1762.0	10:28	1762.0	25.5	38	280	109	139	799	3129	621	1105	9.4	42.7	1755.5	53.7	0.247	168.8	27.74	1.20	1762
1763.0	10:33	1763.2	12.4	39	279	109	135	803	3139	622	1105	9.4	42.7	1756.4	53.7	0.272	169.3	27.82	1.41	1763
1764.0	10:37	1764.0	15.7	39	279	110	135	803	3148	623	1105	9.4	42.7	1757.0	53.7	0.279	169.8	27.88	1.34	1764
1765.0	10:42	1765.1	12.8	39	279	110	135	802	3159	623	1105	9.4	42.7	1757.8	53.7	0.273	170.2	27.96	1.40	1765
1766.0	10:48	1766.0	10.3	38	280	110	133	801	3164	627	1106	9.4	42.7	1758.7	53.7	0.215	170.9	28.06	1.46	1766
1767.0	10:53	1767.1	11.6	39	279	110	136	803	3172	630	1107	9.4	42.7	1759.7	53.7	0.197	171.5	28.14	1.43	1767
1768.0	10:57	1768.0	13.2	39	279	109	138	802	3176	633	1108	9.4	42.7	1760.2	53.7	0.279	171.9	28.22	1.39	1768
1769.0	11:01	1769.1	14.6	39	279	109	138	801	3173	635	1109	9.4	42.7	1760.2	53.7	0.344	172.4	28.29	1.37	1769
1770.0	11:06	1770.0	14.2	39	279	109	140	802	3176	638	1111	9.4	42.7	1760.2	53.7	0.274	172.8	28.36	1.38	1770
1771.0	11:10	1771.0	12.5	38	280	110	136	802	3181	638	1108	9.4	42.7	1761.5	53.7	0.243	173.4	28.44	1.40	1771
1772.0	11:15	1772.1	12.0	38	280	110	136	801	3191	636	1102	9.4	42.7	1763.0	53.7	0.250	174.0	28.52	1.41	1772
1773.0	11:19	1773.1	15.5	38	280	110	138	799	3193	639	1103	9.4	42.7	1763.7	53.7	0.291	174.3	28.59	1.34	1773
1774.0	11:24	1774.0	13.9	39	279	110	137	798	3202	647	1108	9.4	42.7	1764.8	53.7	0.251	174.8	28.66	1.38	1774
1775.0		1775.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1775
1776.0		1776.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1776
1777.0		1777.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1777
1778.0		1778.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1778
1779.0		1779.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1779
1780.0		1780.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1780
1781.0		1781.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1781
1782.0		1782.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1782

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1782.0		1782.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1782
1783.0		1783.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1783
1784.0		1784.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1784
1785.0		1785.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1785
1786.0		1786.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1786
1787.0		1787.0	0.0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	1787
1788.0	12:35	1788.0	10.0	40	225	114	130	792	3267	657	1082	9.4	46.3	-999.3	54.5	0.383	183.6	30.00	1.45	1788
1789.0	12:48	1789.0	11.0	41	224	109	128	90	3270	667	1093	9.4	46.3	1787.1	54.6	0.616	183.7	30.03	1.40	1789
1790.0	12:54	1790.0	9.2	43	281	109	128	778	3275	630	1057	9.4	46.4	1787.1	54.6	0.311	184.3	30.14	1.55	1790
1791.0	12:58	1791.2	18.2	39	280	109	131	779	3289	630	1056	9.4	46.5	1787.1	54.6	0.237	184.6	30.20	1.31	1791
1792.0	13:03	1792.1	11.9	39	280	109	135	778	3301	631	1076	9.4	46.5	1787.1	54.6	0.255	185.2	30.28	1.42	1792
1793.0	13:08	1793.1	11.0	40	279	109	136	778	3312	631	1126	9.4	46.5	1787.1	54.7	0.327	185.8	30.37	1.46	1793
1794.0	13:11	1794.0	20.6	40	279	109	143	778	3317	632	1164	9.4	46.5	1787.1	54.7	0.445	186.1	30.42	1.28	1794
1795.0	13:13	1795.0	28.1	40	279	109	141	779	3323	629	1185	9.4	46.6	1787.1	54.7	0.475	186.3	30.46	1.20	1795
1796.0	13:15	1796.0	26.5	41	278	108	153	778	3322	628	1190	9.4	46.6	1787.1	54.7	0.650	186.7	30.49	1.22	1796
1797.0	13:18	1797.1	19.3	42	277	109	149	778	3329	628	1191	9.4	46.6	1787.1	54.7	0.990	187.0	30.55	1.32	1797
1798.0	13:24	1798.0	10.1	40	277	109	146	779	3332	628	1189	9.4	46.6	1788.8	54.8	0.920	187.5	30.64	1.48	1798
1799.0	13:29	1799.0	12.2	40	276	109	143	776	3338	631	1193	9.4	46.6	1789.1	54.8	0.615	188.1	30.73	1.42	1799
1800.0	13:34	1800.0	11.8	40	276	109	140	776	3345	631	1194	9.4	46.6	1789.7	54.9	0.543	188.6	30.81	1.43	1800
1801.0	13:38	1801.0	17.9	40	276	110	144	776	3344	632	1195	9.4	46.7	1790.3	54.9	0.597	189.0	30.87	1.32	1801
1802.0	13:44	1802.0	9.6	41	275	112	140	775	3341	631	1194	9.4	46.7	1792.0	54.9	1.096	189.8	30.97	1.51	1802
1803.0	13:50	1803.1	10.6	40	276	113	137	778	3341	630	1194	9.4	46.7	1793.0	55.0	0.754	190.4	31.07	1.48	1803
1804.0	13:56	1804.0	10.2	41	275	112	137	777	3338	630	1194	9.4	46.7	1795.5	55.0	0.580	191.1	31.16	1.50	1804
1805.0	14:01	1805.1	11.1	39	276	113	137	779	3343	629	1194	9.4	46.7	1797.2	55.0	0.456	191.6	31.25	1.45	1805
1806.0	14:06	1806.1	11.1	39	275	112	143	780	3348	628	1194	9.4	46.7	1798.0	54.8	0.133	192.2	31.34	1.45	1806
1807.0	14:11	1807.0	12.7	38	276	112	143	780	3350	629	1194	9.4	46.7	1799.0	54.5	0.251	192.8	31.42	1.40	1807
1808.0	14:17	1808.0	10.1	37	277	112	145	779	3350	629	1194	9.4	46.7	1800.3	54.7	0.034	193.5	31.52	1.45	1808
1809.0	14:21	1809.1	15.5	38	276	112	148	778	3341	629	1195	9.4	46.7	1801.2	55.0	0.514	193.8	31.59	1.35	1809
1810.0	14:23	1810.0	30.5	36	278	111	158	779	3343	628	1194	9.4	46.7	1801.5	55.0	1.026	194.0	31.62	1.14	1810
1811.0	14:26	1811.0	21.8	36	278	112	150	777	3334	628	1195	9.4	46.7	1801.9	54.7	0.666	194.4	31.66	1.23	1811
1812.0	14:29	1812.0	15.9	36	278	112	153	776	3327	629	1196	9.4	46.7	1802.6	53.6	0.266	194.7	31.73	1.32	1812
1813.0	14:30	1813.0	58.1	34	280	111	158	776	3329	629	1196	9.4	57.0	1802.9	53.7	1.061	194.8	31.74	0.95	1813
1814.0	14:33	1814.1	19.6	35	279	112	153	776	3323	629	1196	9.4	47.0	1803.1	53.9	1.659	195.2	31.80	1.25	1814
1815.0	14:37	1815.1	18.7	35	279	112	145	777	3317	629	1199	9.4	46.7	1803.4	54.2	1.602	195.5	31.85	1.27	1815
1816.0	14:41	1816.0	13.2	35	279	112	147	779	3324	629	1203	9.4	47.4	1804.3	54.6	1.254	196.1	31.92	1.36	1816
1817.0	14:45	1817.6	14.0	37	302	115	82	780	3316	628	1205	9.4	46.7	1804.9	54.8	1.307	196.2	31.94	1.40	1817
1818.0	14:56	1818.0	18.7	38	232	111	100	248	3370	639	1216	9.4	46.7	1806.2	55.0	1.031	196.3	31.99	1.27	1818
1819.0	15:00	1819.2	15.1	36	283	111	141	785	3372	623	1201	9.4	46.7	1806.9	54.4	0.092	196.7	32.06	1.31	1819
1820.0	15:05	1820.1	13.2	37	283	111	138	785	3378	621	1198	9.4	46.7	1807.7	54.7	0.002	197.2	32.13	1.36	1820
1821.0	15:07	1821.1	28.1	36	285	110	150	785	3380	623	1201	9.4	46.7	1808.0	54.9	0.013	197.4	32.17	1.15	1821
1822.0	15:09	1822.1	25.2	37	284	110	145	785	3376	624	1202	9.4	46.7	1808.9	55.0	0.873	197.7	32.21	1.19	1822
1823.0	15:11	1823.1	41.9	36	284	110	154	785	3376	624	1202	9.4	46.7	1809.1	55.0	1.008	197.8	32.23	1.04	1823
1824.0	15:12	1824.2	40.0	36	285	107	216	785	3377	624	1201	9.4	46.7	1810.0	55.0	1.113	198.1	32.26	1.04	1824
1825.0	15:29	1825.1	25.7	26	295	107	198	722	3114	628	1206	9.4	47.7	1811.2	54.7	0.090	198.3	32.30	1.06	1825
1826.0	15:31	1826.0	25.9	36	285	106	230	781	3373	628	1201	9.4	49.7	1811.8	53.5	0.748	198.5	32.33	1.15	1826
1827.0	15:33	1827.0	38.3	36	284	110	155	781	3381	623	1197	9.4	49.7	1812.9	53.8	1.418	198.7	32.36	1.07	1827
1828.0	15:37	1828.0	12.6	38	282	110	146	785	3390	623	1197	9.4	49.7	1814.5	54.0	1.474	199.2	32.44	1.38	1828
1829.0	15:41	1829.1	15.9	36	285	111	138	786	3395	622	1195	9.4	49.7	1815.4	54.5	1.138	199.6	32.50	1.30	1829
1830.0	15:44	1830.0	18.4	35	287	111	130	787	3401	621	1195	9.4	49.7	1816.1	54.7	1.298	200.0	32.56	1.25	1830
1831.0	15:49	1831.0	13.8	37	284	106	218	787	3408	621	1194	9.4	49.7	1817.8	54.9	1.021	200.4	32.63	1.34	1831

DEPTH TIME DEPTH ROP WOB HKL RPM TORQ MFI SPP ACT TOT MWI MTI DEPTH MTO TOTAL KREV HRS DCEXP REC

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1831.0	15:49	1831.0	13.8	37	284	106	218	787	3408	621	1194	9.4	49.7	1817.8	54.9	1.021	200.4	32.63	1.34	1831
1832.0	15:53	1832.1	15.7	37	285	110	152	786	3405	621	1194	9.4	49.7	1817.8	55.0	0.932	200.9	32.69	1.31	1832
1833.0	15:56	1833.1	19.4	36	285	111	140	785	3401	621	1195	9.4	49.7	1818.4	55.1	0.910	201.2	32.75	1.25	1833
1834.0	16:18	1838.0	20.1	35	284	106	218	737	3028	598	1174	9.4	49.7	-999.3	55.4	0.427	202.3	32.91	1.22	1834
1835.0	16:18	1838.0	19.5	33	286	106	226	736	3019	599	1174	9.4	49.8	-999.3	55.4	0.427	202.3	32.91	1.20	1835
1836.0	16:18	1838.0	18.4	33	286	106	226	736	3025	599	1175	9.4	49.7	-999.3	55.4	0.427	202.3	32.92	1.22	1836
1837.0	16:18	1838.0	16.1	33	286	107	218	736	3030	599	1174	9.4	49.7	-999.3	55.4	0.427	202.3	32.92	1.26	1837
1838.0	16:18	1838.0	14.0	32	287	106	240	736	3021	597	1172	9.4	49.8	-999.3	55.4	0.427	202.3	32.92	1.28	1838
1839.0	16:24	1839.0	9.3	34	285	107	202	738	3036	601	1174	9.4	49.7	1838.0	55.4	0.324	203.0	33.03	1.41	1839
1840.0	16:45	1842.4	15.3	37	282	110	144	764	3025	627	1172	9.4	49.7	-999.3	55.3	0.000	204.6	33.28	1.32	1840
1841.0	16:45	1842.4	10.2	33	286	111	137	764	3018	627	1172	9.4	49.7	-999.3	55.2	0.000	204.6	33.28	1.39	1841
1842.0	16:45	1842.4	11.8	36	283	110	139	758	3027	627	1171	9.4	49.7	-999.3	55.2	0.000	204.6	33.28	1.38	1842
1843.0	16:48	1843.0	19.3	33	286	112	123	763	3014	629	1173	9.4	49.7	-999.3	53.5	0.427	204.9	33.33	1.22	1843
1844.0	16:54	1844.0	10.2	34	285	111	126	766	2989	633	1173	9.4	49.7	1843.0	55.0	0.316	205.5	33.43	1.40	1844
1845.0	17:06	1845.3	6.6	34	287	105	119	768	2966	639	1172	9.4	49.7	1843.0	55.0	0.325	206.6	33.58	1.50	1845
1846.0	17:06	1846.1	6.1	40	327	114	120	770	2937	639	1168	9.4	49.7	1843.0	55.0	0.342	206.6	33.58	1.61	1846
1847.0	17:24	1847.0	14.5	40	242	110	140	350	3190	639	1163	9.4	49.8	1843.0	55.1	0.413	206.7	33.65	1.36	1847
1848.0	17:28	1848.1	12.9	40	285	110	137	808	3185	612	1129	9.4	49.8	1843.0	55.1	0.380	207.2	33.73	1.40	1848
1849.0	17:34	1849.0	9.6	40	285	110	134	808	3165	615	1129	9.4	49.7	1843.0	55.1	0.355	207.9	33.84	1.48	1849
1850.0	17:40	1850.1	10.6	40	284	110	136	808	3169	619	1130	9.4	49.7	1843.0	54.9	0.317	208.6	33.93	1.45	1850
1851.0	17:46	1851.0	10.1	39	285	110	134	808	3174	625	1133	9.4	49.7	1843.7	55.0	0.317	209.1	34.03	1.46	1851
1852.0	17:51	1852.0	11.3	40	284	110	138	807	3184	632	1175	9.4	49.7	1844.2	55.0	0.322	209.7	34.12	1.43	1852
1853.0	17:57	1853.0	10.2	39	285	110	130	805	3189	636	1190	9.4	49.7	1844.9	55.0	0.328	210.4	34.22	1.46	1853
1854.0	18:03	1854.2	9.9	39	285	110	132	804	3184	635	1187	9.4	49.7	1846.6	55.1	0.463	211.1	34.32	1.46	1854
1855.0	18:09	1855.0	10.6	38	287	110	131	804	3191	635	1185	9.4	49.8	1847.8	55.1	0.358	211.6	34.41	1.43	1855
1856.0	18:15	1856.0	10.4	39	285	110	132	801	3202	635	1186	9.4	49.8	1848.4	55.1	0.356	212.3	34.51	1.45	1856
1857.0	18:26	1857.0	11.0	33	286	110	136	799	3261	635	1187	9.4	49.7	-999.3	55.0	0.326	212.8	34.59	1.37	1857
1858.0	18:30	1858.0	14.1	34	285	110	132	797	3271	636	1187	9.4	49.7	-999.3	55.0	0.253	213.3	34.66	1.31	1858
1859.0	18:36	1859.1	9.9	36	285	110	134	793	3294	637	1188	9.4	49.7	1858.0	55.4	0.295	213.8	34.76	1.42	1859
1860.0	18:41	1860.1	11.4	39	284	110	136	791	3319	638	1187	9.4	49.7	1858.0	55.5	0.279	214.4	34.85	1.42	1860
1861.0	18:47	1861.0	10.3	38	285	110	131	789	3329	637	1188	9.4	49.7	1858.0	55.5	0.239	215.1	34.95	1.43	1861
1862.0	18:53	1862.1	10.8	38	285	110	134	788	3345	637	1188	9.4	49.7	1858.0	55.5	0.238	215.7	35.04	1.42	1862
1863.0	19:09	1863.0	10.4	35	288	109	129	752	3135	644	1197	9.4	49.7	1858.0	55.6	0.335	216.3	35.14	1.40	1863
1864.0	19:13	1864.0	12.5	37	286	111	136	785	3396	634	1186	9.4	49.7	1858.0	55.7	0.253	216.9	35.22	1.38	1864
1865.0	19:18	1865.0	12.2	37	286	111	138	786	3423	633	1183	9.4	49.7	1858.0	55.7	0.204	217.3	35.30	1.39	1865
1866.0	19:24	1866.0	10.1	38	285	111	135	777	3361	635	1190	9.4	49.7	1858.7	55.8	0.194	218.0	35.40	1.45	1866
1867.0	19:31	1867.0	8.5	38	285	111	141	761	3247	636	1191	9.4	49.7	1859.5	55.8	0.189	218.8	35.51	1.49	1867
1868.0	19:38	1868.1	9.2	38	285	111	137	758	3245	633	1187	9.4	49.7	1860.3	51.1	0.131	219.5	35.62	1.47	1868
1869.0	19:44	1869.1	10.0	38	285	111	138	756	3243	633	1188	9.4	50.0	1861.5	56.4	0.056	220.1	35.72	1.45	1869
1870.0	19:51	1870.0	9.0	39	284	111	137	754	3240	632	1187	9.4	49.7	1862.2	56.8	0.171	220.8	35.83	1.49	1870
1871.0	19:57	1871.0	9.0	38	285	111	136	754	3242	631	1185	9.4	50.0	1863.4	57.1	0.196	221.6	35.95	1.48	1871
1872.0	20:04	1872.1	8.6	38	285	111	133	754	3249	631	1185	9.4	50.1	1864.6	57.2	0.204	222.4	36.06	1.49	1872
1873.0	20:10	1873.1	10.7	38	285	111	134	753	3245	629	1183	9.4	50.4	1865.8	57.3	0.197	223.0	36.16	1.44	1873
1874.0	20:17	1874.0	8.0	40	283	111	140	753	3255	628	1182	9.4	50.6	1866.8	57.3	0.204	223.8	36.28	1.53	1874
1875.0	20:22	1875.2	7.9	39	291	111	111	753	3254	627	1181	9.4	218.2	1867.6	57.3	0.232	224.1	36.32	1.52	1875
1876.0	20:31	1876.0	9.5	40	248	109	135	401	3300	628	1201	9.4	50.8	1868.3	57.4	0.324	224.2	36.38	1.47	1876
1877.0	20:35	1877.0	13.4	39	285	109	138	756	3306	596	1185	9.4	50.6	1868.8	57.4	0.227	224.7	36.45	1.38	1877
1878.0	20:41	1878.0	9.7	38	286	109	136	758	3311	593	1185	9.4	50.7	1869.8	57.4	0.196	225.3	36.56	1.45	1878
1879.0	20:48	1879.1	8.8	39	286	109	134	759	3321	600	1220	9.5	50.9	1870.9	57.3	0.204	226.1	36.67	1.48	1879
1880.0	20:54	1880.1	10.5	38	286	109	136	759	3327	598	1220	9.5	50.7	1871.7	57.3	0.192	226.8	36.77	1.42	1880

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1880.0	20:54	1880.1	10.5	38	286	109	136	759	3327	598	1220	9.5	50.7	1871.7	57.3	0.192	226.8	36.77	1.42	1880
1881.0	21:01	1881.0	8.2	39	286	109	139	758	3324	598	1223	9.4	50.7	1872.9	57.4	0.191	227.6	36.89	1.50	1881
1882.0	21:07	1882.0	9.4	39	286	109	141	757	3323	598	1224	9.5	50.5	1873.8	57.5	0.182	228.2	36.99	1.46	1882
1883.0	21:14	1883.0	8.9	37	287	109	140	758	3329	598	1224	9.5	51.3	1875.8	56.9	0.089	229.0	37.11	1.46	1883
1884.0	21:18	1884.0	15.9	37	287	109	143	758	3329	597	1222	9.5	50.9	1876.1	56.1	0.095	229.3	37.17	1.30	1884
1885.0	21:27	1885.1	7.0	39	286	109	142	761	3303	598	1224	9.4	51.2	1877.8	56.4	0.663	230.3	37.31	1.54	1885
1886.0	21:36	1886.0	6.6	39	286	109	137	771	3179	601	1227	9.4	51.4	1879.1	57.2	0.281	231.2	37.46	1.56	1886
1887.0	21:42	1887.0	9.6	39	286	109	137	786	3024	601	1227	9.5	50.8	1880.1	57.4	0.270	231.9	37.57	1.46	1887
1888.0	21:45	1888.0	18.7	36	288	110	151	793	2946	597	1221	9.5	51.4	1880.7	57.3	0.788	232.4	37.62	1.25	1888
1889.0	21:51	1889.0	9.5	38	286	112	135	800	2999	596	1223	9.5	51.4	1881.6	57.2	2.209	233.0	37.73	1.46	1889
1890.0	21:53	1890.2	36.4	36	289	111	152	799	3033	597	1224	9.4	51.4	1881.9	56.6	1.727	233.2	37.76	1.07	1890
1891.0	21:55	1891.0	36.0	35	289	111	149	798	3054	595	1222	9.4	50.9	1882.0	50.7	0.032	233.4	37.78	1.07	1891
1892.0	22:13	1892.0	30.8	27	298	106	129	791	3071	602	1229	9.4	51.1	1882.7	51.7	1.684	233.6	37.82	1.02	1892
1893.0	22:19	1893.0	9.8	37	287	111	138	788	3148	599	1227	9.5	51.0	1884.1	56.4	7.546	234.2	37.92	1.44	1893
1894.0	22:28	1894.0	7.4	39	286	111	137	789	3204	599	1227	9.4	51.3	1885.1	57.1	3.339	235.2	38.05	1.53	1894
1895.0	22:37	1895.0	6.3	39	286	111	133	790	3190	599	1227	9.4	51.5	1886.3	57.8	0.564	236.2	38.21	1.58	1895
1896.0	22:45	1896.0	7.7	38	286	111	132	788	3196	600	1228	9.5	50.9	1888.0	58.1	0.347	237.0	38.34	1.52	1896
1897.0	22:51	1897.1	10.1	37	287	111	137	793	3130	601	1228	9.5	51.3	1888.9	56.9	0.105	237.7	38.44	1.43	1897
1898.0	23:05	1898.1	28.6	25	299	109	119	768	2930	607	1234	9.5	51.1	1891.1	55.0	2.228	237.9	38.48	1.02	1898
1899.0	23:07	1899.1	36.7	36	289	110	149	781	2976	609	1237	9.4	51.4	1891.4	56.3	8.266	238.1	38.50	1.06	1899
1900.0	23:10	1900.0	19.5	36	289	110	143	791	3095	604	1232	9.5	51.1	1892.4	56.6	8.476	238.4	38.55	1.23	1900
1901.0	23:12	1901.0	31.6	36	288	109	157	793	3122	603	1230	9.4	50.9	1892.6	56.9	8.791	238.7	38.59	1.12	1901
1902.0	23:36	1902.1	4.8	38	318	109	150	802	3060	602	1231	9.4	51.3	1895.4	56.7	3.196	239.2	38.79	1.64	1902
1903.0	00:00	1903.0	5.9	39	303	112	140	717	3020	596	1225	9.4	51.0	1897.7	56.4	5.274	240.1	38.96	1.60	1903
1904.0	00:06	1904.1	9.8	37	289	112	133	792	3018	579	1205	9.4	51.4	1899.5	57.1	0.678	240.8	39.07	1.45	1904
1905.0	00:11	1905.0	12.5	40	286	111	145	801	3200	577	1205	9.4	51.3	1901.0	57.2	0.509	241.3	39.15	1.41	1905
1906.0	00:14	1906.0	19.4	40	286	111	151	796	3270	577	1205	9.4	51.0	1901.0	57.1	1.633	241.6	39.20	1.29	1906
1907.0	00:23	1907.1	6.6	41	285	111	140	776	3246	577	1205	9.4	51.5	1901.0	57.7	3.089	242.6	39.35	1.59	1907
1908.0	00:25	1908.0	27.7	38	288	110	156	763	3259	577	1203	9.4	51.4	1901.0	58.0	2.637	242.9	39.38	1.17	1908
1909.0	00:27	1909.1	29.8	37	289	110	156	750	3180	577	1204	9.4	51.0	1901.0	58.4	6.593	243.1	39.42	1.14	1909
1910.0	00:43	1910.0	24.0	24	302	98	108	745	3167	585	1212	9.6	51.1	1901.0	58.9	8.655	243.4	39.46	1.02	1910
1911.0	00:45	1911.1	23.5	35	291	109	140	750	3211	594	1221	9.6	51.3	1901.8	59.2	8.804	243.6	39.50	1.16	1911
1912.0	00:50	1912.0	13.8	40	286	109	151	751	3220	601	1228	9.5	51.2	1902.9	59.5	8.321	244.1	39.57	1.36	1912
1913.0	00:57	1913.0	8.1	40	286	109	146	751	3216	600	1228	9.5	51.3	1903.0	59.7	5.423	244.8	39.70	1.51	1913
1914.0	01:00	1914.0	18.5	38	288	109	153	754	3222	600	1228	9.5	51.3	1903.4	59.7	3.958	245.3	39.75	1.26	1914
1915.0	01:06	1915.1	11.2	40	286	109	152	754	3221	599	1226	9.5	51.4	1904.1	59.7	2.965	245.8	39.84	1.42	1915

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 7

DATE: 23-MAY-95

WELL	LONGTOM 1	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	3RR HYCALOG DS34HG
START DEPTH	1915m	JETS / TFA	7x12
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.14	41	12	18	5/11/14	5.1	5.0	6.7	TR	88.8	41.5	1.1	6.5

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1916.0	15:04	1916.1	26.8	4	309	105	72	934	2860	434	1040	9.6	40.2	-999.3	49.9	2.613	1.9	0.31	0.72	1916
1917.0	15:12	1917.1	7.3	1	308	132	94	882	2937	416	1024	9.6	40.8	1916.1	51.5	1.189	2.9	0.44	0.84	1917
1918.0	15:16	1918.0	15.9	2	307	129	138	876	2941	380	988	9.6	41.2	1916.1	51.4	1.108	3.5	0.51	0.77	1918
1919.0	15:19	1919.1	18.8	4	306	128	164	849	2814	346	957	9.6	40.0	1916.1	51.3	1.122	3.9	0.56	0.79	1919
1920.0	15:25	1920.0	11.2	4	305	130	141	843	2799	295	895	9.6	41.2	1916.1	51.4	1.178	4.5	0.65	0.89	1920
1921.0	15:30	1921.1	11.1	1	309	131	121	784	2524	243	849	9.6	41.3	1916.1	51.5	1.766	5.2	0.74	0.71	1921
1922.0	15:53	1922.0	5.8	2	309	131	121	633	1722	267	839	9.6	41.3	1916.1	51.5	3.277	6.0	0.91	0.60	1922
1923.0	15:57	1923.0	16.4	3	306	128	175	902	2571	311	835	9.6	40.3	1916.2	50.9	2.006	6.3	0.97	0.80	1923
1924.0	16:00	1924.0	19.5	4	305	131	176	902	2560	322	834	9.6	40.7	1916.6	50.9	5.251	6.7	1.02	0.80	1924
1925.0	16:03	1925.1	17.6	4	305	132	177	903	2556	331	834	9.6	40.5	1917.1	51.5	4.390	7.3	1.08	0.82	1925
1926.0	16:08	1926.0	12.4	2	307	124	132	902	2547	337	836	9.6	42.3	1918.6	51.6	3.637	7.8	1.16	0.78	1926
1927.0	16:11	1927.0	20.1	6	304	156	220	901	2542	339	836	9.6	43.5	1919.4	51.6	3.364	8.2	1.21	0.86	1927
1928.0	16:13	1928.0	33.3	6	303	153	220	902	2552	345	836	9.6	43.2	1919.7	51.6	3.328	8.6	1.24	0.78	1928
1929.0	16:15	1929.0	30.8	6	304	157	221	900	2555	349	835	9.6	44.1	1920.1	51.6	3.974	8.9	1.27	0.79	1929
1930.0	16:17	1930.1	37.1	7	303	156	224	899	2562	355	836	9.6	44.1	1920.4	51.4	4.534	9.0	1.30	0.78	1930
1931.0	16:19	1931.0	25.7	7	303	155	227	899	2570	359	837	9.6	43.9	1920.9	51.5	4.548	9.5	1.34	0.85	1931
1932.0	16:22	1932.1	22.0	6	304	158	207	898	2566	366	839	9.6	43.9	1921.1	51.5	3.578	9.8	1.39	0.85	1932
1933.0	16:27	1933.0	11.0	7	303	160	171	898	2561	378	841	9.6	43.8	1921.1	51.6	2.019	10.8	1.48	1.01	1933
1934.0	16:31	1934.2	10.1	5	304	102	78	898	2558	388	843	9.6	44.9	1921.4	51.8	0.939	11.0	1.50	0.67	1934
1935.0	16:44	1935.0	9.9	6	274	103	80	564	1663	418	847	9.6	49.8	1923.6	51.9	0.427	11.6	1.60	1.41	1935
1936.0	16:51	1936.0	9.2	5	306	162	151	899	2559	435	842	9.6	56.7	1925.5	51.9	0.625	12.6	1.71	1.00	1936
1937.0	17:03	1937.1	5.0	6	305	169	137	900	2554	456	845	9.6	51.0	1930.2	52.4	0.621	14.6	1.91	1.12	1937
1938.0	17:11	1938.0	7.1	6	305	178	143	901	2559	468	843	9.6	41.5	1932.8	52.8	0.568	16.1	2.05	1.08	1938
1939.0	17:19	1939.1	7.5	7	304	178	151	898	2577	474	895	9.6	40.8	1934.4	52.9	0.617	17.6	2.19	1.09	1939
1940.0	17:28	1940.0	6.7	6	305	176	150	892	2605	474	932	9.6	40.9	1935.5	53.1	0.575	19.0	2.34	1.07	1940
1941.0	17:33	1941.1	11.5	6	305	122	163	929	2840	473	932	9.6	41.0	1936.2	53.2	0.565	19.7	2.42	0.92	1941
1942.0	17:38	1942.0	12.9	7	304	121	180	924	2875	472	932	9.6	40.8	1936.6	52.8	0.240	20.3	2.50	0.93	1942
1943.0	17:42	1943.1	13.7	9	302	119	202	919	2904	472	935	9.6	41.0	1936.9	52.1	0.230	20.8	2.57	0.96	1943
1944.0	17:46	1944.1	14.7	12	299	108	239	914	2926	472	936	9.6	41.0	1937.2	52.8	0.049	21.2	2.64	0.98	1944
1945.0	17:50	1945.0	15.9	11	300	129	246	911	2947	472	937	9.6	41.0	1937.9	53.3	0.062	21.8	2.70	1.00	1945
1946.0	17:53	1946.0	18.3	10	301	134	227	909	2960	473	944	9.6	40.8	1938.3	53.4	0.082	22.2	2.76	0.95	1946
1947.0	17:56	1947.0	18.9	11	300	132	241	907	2977	474	949	9.6	40.9	1938.7	53.6	0.268	22.6	2.81	0.95	1947
1948.0	18:01	1948.0	13.4	12	300	134	204	905	2989	474	949	9.6	40.9	1939.2	53.6	0.270	23.1	2.88	1.04	1948
1949.0	18:06	1949.0	12.9	10	301	127	200	904	2997	474	946	9.6	40.9	1939.7	53.9	0.359	23.8	2.96	1.02	1949
1950.0	18:10	1950.0	15.0	10	302	128	199	903	3001	474	946	9.6	41.0	1940.1	54.0	0.370	24.3	3.03	0.99	1950
1951.0	18:13	1951.0	18.4	10	302	126	207	900	3005	474	944	9.6	40.8	1940.9	54.0	0.256	24.7	3.08	0.93	1951
1952.0	18:32	1952.0	15.2	9	306	176	196	900	2806	477	948	9.6	40.9	1942.2	52.8	0.100	25.0	3.15	0.93	1952
1953.0	18:36	1953.0	15.2	9	303	126	195	905	3049	471	941	9.6	40.9	1943.2	53.9	0.322	25.5	3.22	0.95	1953
1954.0	18:39	1954.0	18.7	9	303	125	214	907	3059	472	942	9.6	41.0	1943.9	54.2	0.315	25.9	3.27	0.91	1954
1955.0	18:43	1955.0	17.3	9	303	125	213	908	3071	472	942	9.6	40.9	1944.8	54.3	0.318	26.4	3.33	0.94	1955
1956.0	18:46	1956.0	20.3	9	303	136	225	908	3069	471	941	9.6	40.8	1945.7	54.4	0.294	26.8	3.38	0.93	1956
1957.0	18:50	1957.0	15.1	12	303	137	216	908	3075	472	942	9.6	40.9	1947.0	54.4	0.287	27.2	3.44	1.03	1957
1958.0	18:53	1958.0	16.4	12	303	137	230	906	3073	471	941	9.6	40.9	1947.8	54.4	0.338	27.8	3.50	1.02	1958
1959.0	18:56	1959.0	25.7	13	302	136	243	903	3066	471	941	9.6	41.0	1948.2	54.5	0.289	28.1	3.54	0.94	1959
1960.0	18:58	1960.0	29.3	13	302	135	266	903	3073	471	940	9.6	41.0	1948.7	54.5	0.243	28.3	3.58	0.92	1960
1961.0	19:00	1961.0	27.7	14	301	136	257	903	3072	471	941	9.6	40.9	1949.1	54.5	0.199	28.6	3.61	0.94	1961
1962.0	19:05	1962.0	18.4	12	303	123	185	903	3079	471	941	9.6	41.0	1950.5	54.5	0.116	29.1	3.67	0.97	1962
1963.0	19:05	1963.7	18.1	12	312	122	190	903	3087	469	940	9.6	41.0	1950.7	54.5	0.067	29.1	3.67	0.97	1963
1964.0	19:18	1964.0	15.9	13	260	125	230	903	3091	482	952	9.6	40.9	1951.9	54.5	0.075	29.2	3.73	0.97	1964
1965.0	19:21	1965.0	25.2	14	302	139	251	909	3134	470	940	9.6	40.9	1952.5	54.4	0.096	29.6	3.77	0.97	1965

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1965.0	19:21	1965.0	25.2	14	302	139	251	909	3134	470	940	9.6	40.9	1952.5	54.4	0.096	29.6	3.77	0.97	1965
1966.0	19:23	1966.0	27.9	15	302	139	267	908	3136	470	940	9.6	40.9	1953.1	54.4	0.325	29.9	3.81	0.95	1966
1967.0	19:25	1967.0	24.7	15	302	139	252	908	3149	469	941	9.6	40.9	1954.0	54.4	0.452	30.2	3.85	0.98	1967
1968.0	19:27	1968.1	31.0	15	301	137	286	906	3149	470	940	9.6	40.9	1954.3	54.6	0.346	30.5	3.88	0.94	1968
1969.0	19:29	1969.1	30.8	15	302	138	268	906	3145	470	942	9.6	40.9	1955.0	55.0	0.365	30.7	3.91	0.93	1969
1970.0	19:31	1970.1	31.3	14	303	139	239	906	3145	469	942	9.6	41.0	1955.7	55.0	0.297	31.0	3.94	0.92	1970
1971.0	19:34	1971.0	24.0	15	302	139	244	905	3143	469	940	9.6	40.9	1956.4	55.3	0.464	31.3	3.99	0.99	1971
1972.0	19:36	1972.0	23.2	15	302	139	231	905	3140	467	938	9.6	41.0	1957.0	55.4	0.516	31.7	4.03	1.00	1972
1973.0	19:39	1973.0	19.5	16	301	139	247	905	3140	467	936	9.6	40.9	1957.9	55.5	0.457	32.1	4.08	1.04	1973
1974.0	19:42	1974.1	19.9	15	301	139	252	905	3139	466	937	9.6	40.9	1959.1	55.6	0.388	32.6	4.13	1.03	1974
1975.0	19:45	1975.1	27.7	15	302	138	261	905	3140	466	936	9.6	40.9	1960.2	55.7	0.276	32.8	4.17	0.96	1975
1976.0	19:48	1976.0	16.9	15	301	140	226	904	3143	465	936	9.6	40.9	1961.7	55.7	0.266	33.4	4.23	1.07	1976
1977.0	19:52	1977.0	15.5	15	301	140	223	904	3139	465	936	9.6	40.9	1963.7	55.9	0.268	33.8	4.29	1.09	1977
1978.0	19:55	1978.0	18.9	15	302	139	241	905	3137	464	936	9.6	40.9	1963.7	55.9	0.258	34.3	4.34	1.04	1978
1979.0	20:00	1979.0	13.8	15	301	140	211	904	3132	464	935	9.6	41.0	1964.0	47.6	0.090	35.0	4.42	1.11	1979
1980.0	20:03	1980.1	18.7	13	303	140	217	904	3132	464	935	9.6	40.9	1965.4	54.6	0.005	35.4	4.47	1.02	1980
1981.0	20:06	1981.1	18.5	15	302	140	232	903	3130	463	934	9.6	40.9	1966.9	55.3	0.078	35.8	4.52	1.04	1981
1982.0	20:08	1982.1	30.0	15	302	138	271	903	3133	463	934	9.6	40.9	1967.8	55.7	0.114	36.1	4.56	0.94	1982
1983.0	20:10	1983.0	27.3	15	302	140	234	909	3158	462	933	9.6	40.9	1968.9	55.9	0.076	36.4	4.59	0.96	1983
1984.0	20:13	1984.0	18.8	15	302	139	260	908	3170	461	931	9.6	40.9	1970.5	56.0	0.362	36.8	4.65	1.04	1984
1985.0	20:16	1985.0	20.6	14	303	139	251	908	3173	460	931	9.6	41.0	1971.6	56.1	0.558	37.2	4.70	1.01	1985
1986.0	20:19	1986.0	22.6	14	302	139	260	908	3170	458	926	9.6	40.9	1972.5	56.2	0.525	37.7	4.74	0.99	1986
1987.0	20:22	1987.0	20.0	15	302	139	246	908	3167	458	927	9.6	40.8	1973.5	56.2	0.546	37.9	4.79	1.02	1987
1988.0	20:25	1988.0	21.7	16	301	138	277	906	3168	457	927	9.5	46.8	1974.5	55.7	0.270	38.4	4.84	1.03	1988
1989.0	20:30	1989.0	11.5	15	302	139	233	904	3156	457	926	9.5	46.9	1976.3	55.7	0.265	39.1	4.92	1.16	1989
1990.0	20:33	1990.0	19.3	15	302	139	243	903	3145	456	924	9.5	46.9	1977.0	55.9	0.250	39.5	4.97	1.04	1990
1991.0	20:38	1991.3	24.3	12	305	123	170	902	3151	457	926	9.5	46.8	1978.2	55.9	0.232	39.9	5.02	0.92	1991
1992.0	20:49	1992.0	16.1	14	250	139	301	890	3150	459	928	9.5	46.9	1979.7	52.5	0.009	40.1	5.08	1.00	1992
1993.0	20:51	1993.1	24.7	16	302	136	304	888	3113	431	900	9.5	46.9	1980.5	55.1	0.093	40.4	5.12	1.00	1993
1994.0	20:54	1994.0	21.8	16	302	138	286	892	3141	430	900	9.5	46.9	1981.5	55.6	0.123	40.8	5.16	1.03	1994
1995.0	20:56	1995.0	32.4	16	302	137	303	894	3148	429	899	9.5	46.8	1982.3	55.8	0.049	41.1	5.19	0.94	1995
1996.0	20:59	1996.0	21.1	16	302	137	300	893	3150	429	899	9.5	46.8	1983.4	55.9	0.342	41.3	5.24	1.04	1996
1997.0	21:01	1997.0	25.0	16	302	137	289	894	3151	429	899	9.5	46.8	1984.0	56.0	0.560	41.7	5.28	1.00	1997
1998.0	21:04	1998.0	22.1	15	303	138	276	894	3154	429	899	9.5	46.9	1985.0	56.1	0.537	42.0	5.33	1.02	1998
1999.0	21:06	1999.1	25.7	15	303	137	279	895	3157	429	899	9.5	46.9	1985.8	56.2	0.504	42.4	5.37	0.98	1999
2000.0	21:09	2000.0	21.3	16	302	138	286	895	3155	429	899	9.5	46.8	1986.8	56.2	0.548	42.7	5.41	1.04	2000

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2001.0	21:13	2001.0	16.1	16	302	137	287	895	3160	428	898	9.5	46.9	1988.1	57.1	0.489	43.2	5.48	1.10	1
2002.0	21:15	2002.1	24.8	16	302	138	285	895	3164	428	899	9.5	47.0	1988.4	57.2	0.396	43.7	5.52	1.00	2
2003.0	21:17	2003.0	31.0	14	304	139	256	895	3165	428	900	9.5	47.1	1988.9	57.2	0.343	43.9	5.55	0.93	3
2004.0	21:20	2004.0	22.4	14	304	139	257	895	3165	428	899	9.5	46.9	1989.7	57.3	0.377	44.2	5.59	1.00	4
2005.0	21:23	2005.0	18.6	16	302	138	263	895	3167	427	898	9.5	47.1	1990.5	57.4	0.442	44.6	5.65	1.06	5
2006.0	21:26	2006.0	24.5	15	303	138	269	895	3164	426	897	9.5	47.1	1990.5	57.5	0.399	45.1	5.69	1.00	6
2007.0	21:28	2007.0	25.2	15	303	138	269	895	3168	426	896	9.5	47.1	1991.4	55.9	0.061	45.4	5.73	0.99	7
2008.0	21:31	2008.0	21.7	15	303	139	262	894	3174	426	897	9.5	46.9	1991.8	56.5	0.023	45.8	5.77	1.02	8
2009.0	21:33	2009.0	30.3	14	304	139	261	894	3174	425	896	9.5	47.0	1992.5	56.9	0.279	46.1	5.81	0.94	9
2010.0	21:37	2010.0	12.6	15	303	140	203	895	3175	429	899	9.5	47.0	1994.4	57.3	0.436	46.6	5.89	1.15	10
2011.0	21:39	2011.0	32.4	14	304	137	289	894	3177	428	898	9.5	47.0	1995.3	57.5	0.377	46.9	5.92	0.93	11
2012.0	21:42	2012.0	27.5	15	303	137	284	894	3183	427	898	9.5	47.1	1996.2	57.4	0.319	47.2	5.95	0.97	12
2013.0	21:44	2013.0	23.8	14	304	139	263	894	3178	428	897	9.5	46.9	1997.1	57.5	0.353	47.6	5.99	0.99	13
2014.0	21:47	2014.1	24.3	14	304	139	262	893	3179	428	898	9.5	47.0	1998.0	57.6	0.445	47.9	6.04	0.98	14
2015.0	21:49	2015.0	23.5	14	304	139	250	890	3174	429	899	9.5	47.0	1999.1	57.6	0.460	48.3	6.08	0.99	15
2016.0	21:54	2016.0	13.3	17	301	139	249	892	3181	428	899	9.5	47.1	2000.4	57.7	0.419	48.9	6.15	1.15	16
2017.0	21:57	2017.0	16.1	16	302	139	251	893	3186	427	897	9.5	47.0	2001.9	57.8	0.329	49.3	6.22	1.10	17
2018.0	22:00	2018.0	24.7	16	302	138	303	891	3185	425	894	9.5	46.9	2003.0	57.8	0.270	49.7	6.26	1.00	18
2019.0	22:03	2019.1	19.0	15	303	138	280	890	3189	425	895	9.5	47.0	2004.2	57.9	0.280	50.2	6.31	1.06	19
2020.0	22:08	2020.0	25.5	15	307	138	285	888	3193	424	893	9.5	47.0	2005.8	57.1	0.140	50.5	6.35	0.97	20
2021.0	22:18	2021.0	13.8	15	259	138	290	888	1677	433	903	9.5	47.1	2007.9	56.8	0.136	50.7	6.42	0.97	21
2022.0	22:21	2022.0	25.9	15	304	137	299	898	3270	423	893	9.5	47.1	2008.9	57.2	0.282	51.1	6.46	0.98	22
2023.0	22:23	2023.0	26.5	16	304	137	282	896	3275	423	892	9.5	47.0	2009.2	57.5	0.354	51.4	6.50	0.99	23
2024.0	22:25	2024.0	30.8	15	304	138	290	896	3275	422	889	9.5	47.1	2009.7	57.7	0.434	51.6	6.53	0.95	24
2025.0	22:27	2025.1	30.3	16	304	137	301	895	3276	422	889	9.5	47.1	2010.8	57.8	0.454	51.9	6.56	0.96	25
2026.0	22:28	2026.0	41.9	16	304	138	299	895	3279	423	892	9.5	47.0	2011.5	57.8	0.453	52.1	6.59	0.89	26
2027.0	22:31	2027.1	24.2	15	304	138	278	895	3277	421	890	9.5	47.0	2012.6	57.9	0.453	52.3	6.63	1.00	27
2028.0	22:33	2028.0	22.8	15	304	139	264	895	3266	422	891	9.5	47.0	2013.6	58.1	0.450	52.8	6.67	1.02	28
2029.0	22:36	2029.1	25.4	15	305	139	259	893	3270	421	889	9.5	47.0	2014.6	58.2	0.487	53.0	6.71	0.98	29
2030.0	22:39	2030.0	16.9	16	303	138	246	892	3270	420	888	9.5	47.0	2015.4	58.2	0.579	53.6	6.77	1.10	30
2031.0	22:41	2031.0	27.3	15	305	139	261	891	3271	420	890	9.5	47.0	2015.9	58.3	0.589	53.9	6.81	0.97	31
2032.0	22:44	2032.0	26.7	15	305	138	270	891	3276	420	890	9.5	47.1	2016.8	58.2	0.201	54.2	6.84	0.97	32
2033.0	22:46	2033.1	31.6	15	304	138	267	890	3279	419	888	9.5	47.0	2017.1	57.7	0.010	54.5	6.88	0.94	33
2034.0	22:47	2034.1	32.4	15	304	137	292	890	3278	419	888	9.5	47.1	2017.9	57.6	0.184	54.7	6.91	0.94	34
2035.0	22:49	2035.1	32.4	15	305	138	280	890	3283	418	888	9.5	47.0	2018.5	57.7	0.546	54.9	6.94	0.93	35
2036.0	22:51	2036.0	45.6	15	305	138	292	891	3280	418	888	9.5	47.0	2018.8	57.8	0.749	55.2	6.96	0.86	36
2037.0	22:52	2037.1	44.4	16	304	137	350	890	3282	417	887	9.5	47.0	2019.3	58.0	0.780	55.3	6.98	0.87	37
2038.0	23:06	2038.0	30.0	14	305	116	252	880	3243	418	887	9.5	47.0	2020.3	58.1	0.697	55.5	7.01	0.90	38
2039.0	23:08	2039.0	35.3	15	304	135	302	871	3193	418	885	9.5	47.0	2020.3	58.3	0.602	55.8	7.04	0.91	39
2040.0	23:10	2040.0	31.9	16	304	136	289	882	3255	416	879	9.5	47.0	2020.4	58.4	0.523	56.0	7.07	0.94	40
2041.0	23:12	2041.1	36.7	15	305	138	287	885	3265	415	882	9.5	47.1	2020.9	58.4	0.453	56.2	7.10	0.91	41
2042.0	23:14	2042.0	22.9	15	304	137	274	884	3259	414	881	9.5	47.0	2022.1	58.4	0.398	56.5	7.15	1.01	42
2043.0	23:16	2043.0	35.3	15	304	134	334	884	3262	413	879	9.5	47.0	2022.9	58.5	0.409	56.8	7.17	0.92	43
2044.0	23:18	2044.1	22.5	15	305	137	295	885	3261	413	879	9.5	47.0	2024.3	58.5	0.545	57.1	7.22	1.01	44
2045.0	23:21	2045.2	25.2	15	304	137	304	885	3266	413	881	9.5	47.0	2025.6	58.5	0.669	57.5	7.26	0.99	45
2046.0	23:23	2046.0	31.6	15	304	137	296	885	3266	412	875	9.5	47.0	2026.4	58.6	0.665	57.7	7.29	0.94	46
2047.0	23:27	2047.0	15.3	16	304	136	293	885	3263	412	877	9.5	47.1	2027.8	58.6	0.794	58.2	7.35	1.11	47
2048.0	23:35	2048.4	10.4	15	305	129	205	885	3261	411	878	9.5	47.0	2031.0	58.9	0.839	59.1	7.45	1.16	48
2049.0	23:46	2049.0	17.7	15	306	138	252	887	3310	425	894	9.5	46.9	2033.5	59.1	0.511	59.1	7.51	1.15	49
2050.0	23:48	2050.0	21.1	15	306	138	252	889	3314	409	878	9.5	47.0	2035.0	58.9	0.370	59.6	7.55	1.02	50

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2050.0	23:48	2050.0	21.1	15	306	138	252	889	3314	409	878	9.5	47.0	2035.0	58.9	0.370	59.6	7.55	1.02	50
2051.0	23:52	2051.0	18.7	15	306	138	264	889	3317	407	876	9.5	47.1	2037.7	59.0	0.372	60.0	7.61	1.05	51
2052.0	23:55	2052.0	17.1	15	306	138	267	888	3321	406	876	9.5	47.1	2038.0	59.1	0.539	60.4	7.67	1.08	52
2053.0	23:58	2053.0	19.4	14	307	138	262	887	3324	405	875	9.5	46.9	2039.8	59.1	0.659	60.8	7.72	1.04	53
2054.0	00:02	2054.0	15.2	14	307	138	255	887	3321	404	875	9.5	47.0	2041.9	59.2	0.520	61.4	7.78	1.09	54
2055.0	00:06	2055.0	16.7	15	306	138	259	886	3323	403	872	9.5	47.0	2043.3	59.3	0.516	61.9	7.84	1.09	55
2056.0	00:08	2056.0	22.5	15	306	138	278	886	3323	401	870	9.5	47.0	2044.5	59.3	0.476	62.3	7.89	1.02	56
2057.0	00:11	2057.0	19.7	14	307	139	253	886	3324	400	870	9.5	47.0	2045.9	59.3	0.474	62.7	7.94	1.03	57
2058.0	00:16	2058.0	13.1	14	307	140	230	884	3315	399	869	9.5	47.1	2047.2	59.5	0.686	63.3	8.02	1.11	58
2059.0	00:19	2059.0	17.1	14	307	139	243	882	3309	398	867	9.5	47.1	2047.9	59.5	0.776	63.8	8.07	1.07	59
2060.0	00:22	2060.1	23.2	14	307	139	242	883	3315	398	868	9.5	47.1	2047.9	59.5	0.610	64.1	8.12	0.99	60
2061.0	00:25	2061.1	18.8	14	307	139	258	881	3314	398	868	9.5	46.9	2048.7	59.6	0.583	64.6	8.17	1.04	61
2062.0	00:28	2062.0	21.4	14	307	138	250	883	3316	398	866	9.5	47.1	2048.7	59.6	0.859	65.0	8.22	1.01	62
2063.0	00:32	2063.0	15.3	14	307	139	223	882	3318	397	866	9.5	47.0	2049.9	59.7	0.945	65.6	8.28	1.08	63
2064.0	00:36	2064.0	14.6	13	308	140	208	881	3314	397	866	9.5	47.1	2051.2	59.8	0.670	66.1	8.35	1.07	64
2065.0	00:42	2065.0	10.2	15	306	140	215	881	3315	395	865	9.5	47.1	2053.0	59.9	0.494	66.9	8.45	1.18	65
2066.0	00:45	2066.1	19.1	16	305	138	264	881	3317	395	863	9.5	47.1	2053.9	60.0	0.407	67.3	8.50	1.06	66
2067.0	00:50	2067.0	11.7	16	305	139	226	881	3319	393	864	9.5	47.0	2055.1	60.0	0.359	68.0	8.59	1.18	67
2068.0	00:54	2068.3	18.1	15	306	138	257	880	3326	393	863	9.5	47.1	2056.4	60.0	0.228	68.4	8.64	1.06	68
2069.0	00:57	2069.1	19.8	15	306	139	257	880	3319	391	860	9.5	46.9	2057.2	59.0	0.059	68.9	8.69	1.04	69
2070.0	01:00	2070.0	19.5	15	306	139	258	881	3301	391	862	9.5	46.9	2058.0	59.5	0.330	69.3	8.74	1.05	70
2071.0	01:05	2071.0	10.6	17	304	139	231	889	3239	391	864	9.5	47.0	2059.9	60.0	0.271	70.2	8.84	1.21	71
2072.0	01:12	2072.1	8.6	16	305	138	226	899	3156	389	865	9.5	46.9	2062.2	60.2	0.112	71.1	8.95	1.24	72
2073.0	01:17	2073.0	14.3	17	304	136	244	904	3096	388	868	9.5	47.0	2063.2	60.2	0.091	71.7	9.02	1.14	73
2074.0	01:20	2074.0	18.9	18	303	134	291	906	3094	387	864	9.5	46.9	2064.0	60.2	0.102	72.1	9.08	1.09	74
2075.0	01:24	2075.1	14.5	18	303	135	281	905	3113	386	868	9.5	47.1	2064.9	60.1	0.125	72.7	9.15	1.15	75
2076.0	01:31	2076.3	15.0	16	305	121	195	901	3144	386	870	9.5	47.1	2066.6	60.2	0.116	73.2	9.21	1.10	76
2077.0	01:48	2077.0	5.5	19	302	124	300	883	3171	386	869	9.5	47.0	2068.9	60.5	0.425	73.3	9.39	1.20	77
2078.0	01:50	2078.0	27.5	16	306	124	293	888	3212	387	865	9.5	47.1	2069.6	60.3	0.210	73.5	9.43	0.96	78
2079.0	01:51	2079.0	40.4	16	307	123	335	890	3205	388	863	9.5	47.1	2070.1	60.2	0.195	73.8	9.46	0.87	79
2080.0	01:53	2080.0	31.3	17	306	125	314	892	3192	390	862	9.5	47.1	2070.5	60.2	0.320	73.9	9.49	0.95	80
2081.0	01:56	2081.2	21.3	17	306	121	353	894	3177	391	863	9.5	47.0	2070.9	60.2	0.547	74.3	9.53	1.02	81
2082.0	02:02	2082.0	10.2	19	304	130	202	894	3161	394	862	9.5	47.0	2071.7	60.1	0.667	75.0	9.63	1.24	82
2083.0	02:06	2083.0	16.8	18	304	128	295	894	3150	397	859	9.5	47.0	2072.4	60.7	0.607	75.6	9.69	1.11	83
2084.0	02:09	2084.1	19.8	17	305	130	276	895	3142	398	860	9.5	47.0	2073.1	60.6	0.301	75.8	9.74	1.06	84
2085.0	02:12	2085.0	16.1	17	305	131	249	897	3128	398	859	9.5	46.9	2074.3	60.6	0.234	76.4	9.80	1.11	85
2086.0	02:15	2086.0	22.0	16	307	131	256	898	3116	398	857	9.5	46.9	2074.8	60.7	0.235	76.7	9.85	1.02	86
2087.0	02:17	2087.1	26.1	17	305	128	301	900	3110	400	856	9.5	47.1	2075.5	60.7	0.161	77.0	9.89	1.00	87
2088.0	02:21	2088.0	18.1	17	305	133	208	904	3097	400	856	9.5	47.0	2075.9	60.7	0.071	77.4	9.94	1.09	88
2089.0	02:25	2089.0	13.0	18	304	133	229	904	3077	401	853	9.5	47.1	2077.0	60.8	0.137	78.1	10.02	1.18	89
2090.0	02:32	2090.1	9.6	19	304	129	236	902	3077	403	854	9.5	47.1	2077.1	61.0	0.523	78.9	10.12	1.24	90
2091.0	02:38	2091.0	9.4	18	304	121	208	899	3097	405	852	9.5	47.0	2080.3	56.5	0.196	79.6	10.23	1.23	91
2092.0	02:43	2092.0	11.7	20	303	113	245	897	3108	406	852	9.5	47.0	2081.9	58.7	0.001	80.2	10.32	1.18	92
2093.0	02:45	2093.0	25.9	20	302	104	358	896	3110	403	846	9.5	47.1	2082.0	60.0	0.054	80.4	10.35	0.99	93
2094.0	02:49	2094.0	16.1	20	303	122	264	897	3103	404	846	9.5	47.1	2083.0	58.4	0.017	80.8	10.42	1.13	94
2095.0	02:53	2095.0	16.3	19	304	121	256	898	3100	405	846	9.5	47.0	2084.3	59.1	0.059	81.3	10.48	1.12	95
2096.0	02:55	2096.1	25.4	18	305	120	302	901	3092	405	844	9.5	47.1	2084.8	59.9	0.225	81.6	10.52	0.99	96
2097.0	02:58	2097.0	18.9	18	305	121	288	904	3068	406	844	9.5	46.9	2085.7	60.2	0.251	81.9	10.57	1.07	97
2098.0	03:01	2098.1	21.3	19	303	119	290	907	3042	405	840	9.5	47.1	2087.1	60.3	0.317	82.3	10.62	1.05	98
2099.0	03:04	2099.0	22.4	17	305	120	316	907	3035	408	844	9.5	46.9	2087.9	60.3	0.380	82.5	10.66	1.02	99

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2100.0	03:06	2100.0	27.1	18	305	118	321	907	3039	408	841	9.5	47.1	2088.5	60.4	0.381	82.8	10.70	0.98	100
2101.0	03:09	2101.0	22.9	17	305	120	297	907	3046	410	846	9.5	47.0	2089.0	60.4	0.395	83.2	10.74	1.02	101
2102.0	03:11	2102.0	23.4	15	308	121	289	905	3058	411	841	9.5	47.0	2089.3	60.4	0.410	83.4	10.79	0.97	102
2103.0	03:13	2103.0	34.3	15	307	119	326	904	3058	411	845	9.5	46.9	2089.4	60.3	0.417	83.7	10.81	0.89	103
2104.0	03:19	2104.2	16.8	14	309	112	243	904	3059	411	843	9.5	47.0	2090.9	60.4	0.453	84.1	10.87	1.01	104
2105.0	03:30	2105.0	32.7	17	262	134	300	449	3166	422	855	9.5	47.1	2091.2	60.6	0.423	84.3	10.95	1.50	105
2106.0	03:31	2106.0	33.3	13	311	133	297	899	3154	394	825	9.5	46.9	2091.4	60.6	0.262	84.6	10.98	0.90	106
2107.0	03:33	2107.0	38.3	17	307	134	332	899	3176	388	819	9.5	47.0	2092.2	60.5	0.221	84.8	11.01	0.92	107
2108.0	03:46	2108.0	40.0	17	260	127	320	900	3265	415	845	9.5	47.6	2093.9	60.4	0.257	85.4	11.23	0.91	108
2109.0	03:48	2109.0	43.4	17	307	127	381	899	3268	397	823	9.5	51.7	2094.0	60.6	0.362	85.5	11.25	0.87	109
2110.0	03:50	2110.0	23.1	17	308	130	280	899	3270	395	820	9.5	51.8	2094.6	60.6	0.383	85.7	11.30	1.00	110
2111.0	03:53	2111.1	22.4	15	309	134	274	898	3286	394	819	9.5	51.9	2095.7	60.6	0.329	86.2	11.34	1.00	111
2112.0	03:55	2112.1	24.3	14	310	135	267	897	3288	396	819	9.5	51.7	2096.2	60.8	0.261	86.6	11.38	0.97	112
2113.0	03:58	2113.1	22.8	14	310	137	229	896	3289	397	818	9.5	51.9	2097.5	60.8	0.251	86.9	11.42	0.98	113
2114.0	04:00	2114.0	32.4	13	311	135	264	894	3285	397	819	9.5	51.9	2098.0	60.8	0.234	87.2	11.46	0.90	114
2115.0	04:02	2115.0	29.8	13	311	136	246	894	3283	398	817	9.5	51.9	2098.7	60.8	0.249	87.4	11.49	0.92	115
2116.0	04:05	2116.1	17.8	15	309	135	236	894	3280	398	817	9.5	51.7	2100.2	60.8	0.259	87.9	11.55	1.05	116
2117.0	04:08	2117.0	18.3	15	309	135	238	895	3281	400	819	9.5	51.8	2101.6	61.0	0.351	88.3	11.60	1.05	117
2118.0	04:11	2118.0	23.1	14	310	136	255	896	3286	400	814	9.5	51.8	2102.7	61.0	0.344	88.7	11.64	0.98	118
2119.0	04:14	2119.0	22.8	14	310	136	259	895	3284	400	817	9.5	51.8	2103.6	61.0	0.319	89.0	11.69	0.99	119
2120.0	04:19	2120.0	10.3	15	309	133	217	896	3293	402	817	9.6	51.9	2104.2	61.2	0.313	89.8	11.78	1.17	120
2121.0	04:23	2121.1	19.7	15	309	121	242	894	3293	403	812	9.5	51.7	2105.1	60.6	0.053	90.2	11.83	1.01	121
2122.0	04:26	2122.0	20.0	14	310	121	248	893	3291	404	815	9.5	51.8	2106.8	59.0	0.000	90.5	11.88	0.99	122
2123.0	04:28	2123.0	22.4	15	309	121	250	893	3296	404	815	9.5	51.8	2107.6	59.5	0.001	90.8	11.93	0.98	123
2124.0	04:31	2124.1	21.7	14	310	122	242	891	3296	405	815	9.5	51.9	2108.2	60.3	0.078	91.2	11.98	0.98	124
2125.0	04:33	2125.1	27.5	14	310	121	255	892	3302	406	813	9.5	51.8	2109.6	60.5	0.177	91.4	12.01	0.92	125
2126.0	04:36	2126.0	23.4	14	310	121	253	892	3300	405	811	9.5	51.7	2110.4	60.6	0.251	91.8	12.05	0.96	126
2127.0	04:39	2127.0	18.9	14	310	122	243	890	3291	406	814	9.5	51.8	2111.8	60.6	0.238	92.2	12.11	1.00	127
2128.0	04:42	2128.0	20.0	15	309	121	241	890	3291	405	813	9.5	51.8	2112.9	60.6	0.223	92.5	12.16	1.00	128
2129.0	04:45	2129.0	19.7	14	310	121	246	887	3298	405	812	9.5	51.9	2114.3	60.7	0.220	92.9	12.21	1.00	129
2130.0	04:48	2130.0	22.8	14	310	121	234	887	3303	405	813	9.5	51.9	2115.7	60.7	0.214	93.2	12.25	0.97	130
2131.0	04:57	2131.0	6.4	18	306	120	202	884	3313	406	810	9.6	51.8	2118.4	60.8	0.220	94.3	12.41	1.30	131
2132.0	05:01	2132.0	15.7	16	308	119	254	880	3298	407	806	9.6	51.9	2119.4	61.0	0.288	94.8	12.47	1.06	132
2133.0	05:22	2133.1	10.1	16	293	130	230	884	3235	419	814	9.5	51.9	2121.4	61.0	0.305	94.9	12.56	1.04	133
2134.0	05:25	2134.1	22.9	17	309	129	300	874	3241	420	810	9.5	51.8	2122.2	61.0	0.257	95.3	12.61	1.02	134
2135.0	05:28	2135.0	19.0	16	310	130	255	878	3249	414	801	9.5	51.8	2123.2	60.8	0.150	95.7	12.66	1.04	135
2136.0	05:33	2136.1	12.2	17	309	132	240	883	3236	415	800	9.6	51.8	2125.3	60.9	0.193	96.3	12.74	1.16	136
2137.0	05:37	2137.0	16.9	16	309	129	291	887	3236	417	800	9.5	51.8	2126.5	61.0	0.581	96.7	12.80	1.07	137
2138.0	05:39	2138.1	22.0	17	309	128	301	889	3236	417	799	9.5	51.8	2127.5	61.0	0.711	97.1	12.85	1.02	138
2139.0	05:47	2139.0	7.7	19	307	123	185	886	3234	418	798	9.6	51.8	2130.0	61.2	0.769	98.0	12.98	1.28	139
2140.0	05:50	2140.1	22.5	18	307	135	299	886	3235	419	797	9.5	51.9	2130.6	61.3	0.857	98.4	13.02	1.05	140
2141.0	05:53	2141.0	16.1	18	308	136	282	885	3238	421	797	9.6	51.8	2130.7	61.2	0.499	98.9	13.08	1.12	141
2142.0	05:56	2142.0	21.1	17	309	136	267	884	3237	422	796	9.5	51.9	2131.0	61.3	0.439	99.2	13.13	1.05	142
2143.0	05:59	2143.1	22.8	14	312	138	238	883	3242	422	797	9.5	51.8	2131.4	61.3	0.653	99.6	13.17	0.99	143
2144.0	06:01	2144.1	23.5	15	310	138	247	883	3246	424	795	9.5	51.8	2132.1	61.3	0.818	99.9	13.22	1.00	144
2145.0	06:08	2145.0	9.0	15	310	140	191	883	3247	432	804	9.6	51.8	2133.2	61.5	1.002	100.9	13.33	1.21	145
2146.0	06:12	2146.1	16.3	14	311	139	235	882	3256	432	802	9.5	51.8	2134.2	61.6	0.583	101.5	13.39	1.07	146
2147.0	06:14	2147.0	23.1	14	311	138	246	882	3256	434	804	9.5	51.8	2135.3	61.5	0.319	101.7	13.43	0.99	147

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2148.0	06:19	2148.0	13.0	17	309	132	201	882	3258	432	800	9.6	51.8	2136.1	61.6	0.235	102.4	13.51	1.15	148
2149.0	06:26	2149.0	9.0	19	307	125	220	879	3258	430	794	9.6	51.9	2138.5	61.8	0.209	103.2	13.62	1.24	149
2150.0	06:31	2150.0	11.4	17	308	114	233	880	3262	431	793	9.6	51.8	2138.8	61.9	0.201	103.8	13.71	1.15	150
2151.0	06:36	2151.0	11.2	17	308	120	237	880	3263	433	794	9.6	51.8	2140.3	61.9	0.265	104.5	13.80	1.16	151
2152.0	06:42	2152.0	11.2	17	308	111	244	879	3260	434	791	9.6	51.8	2141.8	61.9	0.327	105.0	13.89	1.15	152
2153.0	06:51	2153.0	6.2	18	307	114	199	880	3261	433	789	9.6	51.8	2144.7	62.1	0.343	106.1	14.05	1.30	153
2154.0	06:56	2154.0	13.4	17	308	109	258	879	3258	434	785	9.6	51.8	2145.7	62.0	0.242	106.6	14.12	1.11	154
2155.0	07:03	2155.0	8.4	17	309	111	227	879	3261	434	784	9.6	51.9	2147.6	62.2	0.182	107.4	14.24	1.21	155
2156.0	07:11	2156.0	7.5	16	309	111	229	878	3267	436	784	9.6	51.8	2148.9	57.5	0.081	108.2	14.38	1.22	156
2157.0	07:15	2157.0	14.1	16	309	109	275	877	3269	437	782	9.6	51.7	2149.6	61.5	0.075	108.8	14.45	1.08	157
2158.0	07:24	2158.0	6.8	18	308	112	215	876	3269	436	779	9.6	51.8	2151.3	62.0	0.176	109.7	14.59	1.27	158
2159.0	07:35	2159.0	5.3	18	308	112	210	877	3279	435	771	9.6	51.9	2152.8	62.2	0.100	111.0	14.78	1.33	159
2160.0	07:43	2160.0	8.4	19	307	109	256	876	3291	436	773	9.6	51.9	2154.1	62.2	0.075	111.7	14.90	1.23	160
2161.0	07:59	2161.1	16.8	17	309	101	217	875	3303	436	775	9.6	51.7	2155.3	61.9	0.007	112.2	14.96	1.03	161
2162.0	08:02	2162.0	21.4	15	312	101	273	845	3209	436	775	9.5	51.8	2155.7	62.2	0.133	112.4	15.01	0.96	162
2163.0	08:05	2163.0	16.6	18	309	106	304	845	3225	412	749	9.5	51.8	2156.2	62.0	0.095	112.8	15.07	1.06	163
2164.0	08:13	2164.0	7.2	19	308	111	215	845	3235	409	748	9.6	51.8	2157.4	62.1	0.139	113.7	15.21	1.28	164
2165.0	08:20	2165.0	9.2	19	308	107	260	846	3248	408	744	9.6	51.8	2158.3	62.2	0.118	114.4	15.32	1.21	165
2166.0	08:27	2166.0	8.1	19	308	106	272	846	3248	409	742	9.6	51.9	2158.7	62.2	0.107	115.2	15.44	1.25	166
2167.0	08:37	2167.0	6.2	19	308	109	239	847	3231	411	742	9.6	51.9	2160.0	62.3	0.106	116.2	15.60	1.31	167
2168.0	08:43	2168.0	9.7	18	309	118	268	848	3221	412	740	9.6	51.9	2160.6	62.3	0.085	117.0	15.70	1.20	168
2169.0	08:49	2169.0	10.0	16	311	126	235	848	3218	413	739	9.6	51.7	2162.0	62.3	0.067	117.7	15.80	1.18	169
2170.0	08:55	2170.0	11.1	16	311	124	255	848	3210	414	739	9.6	51.9	2163.4	62.4	0.071	118.4	15.89	1.16	170
2171.0	09:02	2171.0	7.9	16	311	127	212	849	3211	415	738	9.6	51.8	2164.1	62.5	0.077	119.3	16.02	1.24	171
2172.0	09:06	2172.0	16.2	15	312	126	249	848	3217	416	737	9.5	51.9	2164.8	62.4	0.093	119.8	16.08	1.05	172
2173.0	09:10	2173.0	14.8	15	312	126	244	848	3219	417	738	9.5	51.9	2165.3	62.4	0.096	120.3	16.15	1.08	173
2174.0	09:19	2174.2	6.4	16	311	129	198	848	3219	418	737	9.6	51.9	2166.4	62.6	0.150	121.5	16.31	1.29	174
2175.0	09:26	2175.1	9.2	17	310	127	215	848	3223	418	734	9.6	51.8	2167.2	62.5	0.140	122.3	16.41	1.22	175
2176.0	09:32	2176.0	9.8	17	310	126	232	848	3222	419	734	9.6	51.9	2168.2	62.6	0.122	123.1	16.52	1.21	176
2177.0	09:36	2177.1	14.4	17	310	124	287	847	3232	420	732	9.5	51.7	2168.7	62.5	0.186	123.6	16.58	1.11	177
2178.0	09:40	2178.0	14.6	16	311	125	264	848	3235	420	733	9.5	51.7	2169.6	62.5	0.209	124.1	16.65	1.09	178
2179.0	09:47	2179.0	9.3	17	310	128	216	847	3244	420	744	9.6	51.8	2170.5	62.6	0.205	124.9	16.76	1.21	179
2180.0	09:55	2180.0	6.9	18	309	129	205	845	3256	422	767	9.6	51.7	2172.4	62.7	0.186	126.0	16.91	1.30	180
2181.0	10:00	2181.0	13.5	17	310	125	262	845	3249	425	768	9.6	51.8	2173.4	62.4	0.139	126.6	16.98	1.13	181
2182.0	10:06	2182.0	10.4	16	311	124	268	848	3219	431	797	9.6	51.7	2173.8	62.6	0.183	127.3	17.08	1.17	182
2183.0	10:11	2183.1	10.2	17	310	126	227	850	3185	437	848	9.6	51.9	2174.7	62.6	0.115	128.0	17.17	1.19	183
2184.0	10:19	2184.0	8.0	16	311	128	222	855	3163	440	897	9.6	51.9	2175.7	62.6	0.168	129.0	17.30	1.24	184
2185.0	10:25	2185.0	10.3	17	310	126	258	856	3152	442	903	9.6	51.8	2177.2	62.5	0.188	129.7	17.40	1.19	185
2186.0	10:31	2186.0	9.9	15	312	127	231	856	3160	443	902	9.6	51.9	2178.5	62.5	0.179	130.5	17.50	1.17	186
2187.0	10:39	2209.0	7.1	16	311	128	216	853	3171	444	904	9.6	51.4	2179.3	62.7	0.130	131.6	17.64	1.27	187
2188.0	10:39	2209.0	8.3	18	311	120	357	852	3174	445	913	9.6	50.4	2179.3	62.8	0.130	131.6	17.64	0.29	188
2189.0	10:40	2209.0	7.2	20	309	135	300	852	3162	444	912	9.6	50.5	2179.3	62.8	0.130	131.6	17.64	0.32	189
2190.0	11:17	2190.0	7.5	16	312	126	311	847	3250	429	969	9.6	50.6	2184.9	62.9	0.087	132.0	17.69	1.61	190
2191.0	11:22	2191.0	10.4	14	311	127	271	848	3237	429	965	9.6	50.4	2185.8	62.9	0.087	132.6	17.79	1.14	191
2192.0	11:26	2192.1	16.4	17	310	123	329	849	3222	427	962	9.5	50.6	2186.4	62.8	0.082	133.1	17.85	1.08	192
2193.0	11:29	2193.0	19.6	15	312	128	310	848	3218	430	964	9.5	50.6	2186.5	62.7	0.081	133.5	17.90	1.03	193
2194.0	11:32	2194.0	18.7	15	312	127	312	850	3226	432	964	9.5	50.6	2186.8	62.8	0.079	133.9	17.95	1.03	194
2195.0	11:39	2195.0	9.6	16	311	129	285	850	3216	436	963	9.6	50.4	2189.0	62.9	0.144	134.7	18.06	1.20	195
2196.0	11:45	2196.0	9.4	16	311	127	276	853	3186	440	958	9.6	50.5	2192.8	63.0	0.228	135.5	18.16	1.20	196
2197.0	11:51	2197.0	9.4	17	310	127	279	856	3148	446	958	9.6	50.5	2193.0	63.0	0.191	136.2	18.27	1.21	197

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2197.0	11:51	2197.0	9.4	17	310	127	279	856	3148	446	958	9.6	50.5	2193.0	63.0	0.191	136.2	18.27	1.21	197
2198.0	11:58	2198.0	8.8	16	311	127	298	859	3131	451	955	9.6	50.5	2193.0	63.0	0.166	137.1	18.38	1.21	198
2199.0	12:05	2199.0	8.4	15	312	131	244	862	3135	458	957	9.6	50.6	2190.1	63.0	0.115	138.1	18.50	1.21	199
2200.0	12:12	2200.0	8.9	15	312	129	279	862	3134	460	954	9.6	50.4	2191.5	63.0	0.113	138.9	18.62	1.19	200
2201.0	12:19	2201.0	9.2	15	312	130	250	861	3137	461	953	9.6	50.5	2193.4	63.0	0.099	139.7	18.72	1.18	201
2202.0	12:25	2202.0	8.8	16	311	128	265	859	3148	463	953	9.6	50.5	2194.8	63.1	0.108	140.6	18.84	1.20	202
2203.0	12:37	2203.0	5.1	17	310	130	247	856	3166	468	957	9.6	50.6	2196.7	63.0	0.115	142.0	19.03	1.36	203
2204.0	12:45	2204.0	7.6	17	310	129	267	855	3182	470	953	9.6	50.5	2197.9	63.2	0.050	143.1	19.17	1.26	204
2205.0	12:53	2205.0	8.0	16	311	130	262	855	3195	474	953	9.6	50.4	2198.9	63.2	0.094	144.0	19.29	1.24	205
2206.0	13:02	2206.0	6.5	17	310	130	259	853	3197	477	952	9.6	50.5	2200.5	63.3	0.161	145.2	19.44	1.30	206
2207.0	13:08	2207.0	10.0	17	310	131	274	853	3195	481	950	9.6	50.5	2201.1	63.3	0.135	146.0	19.54	1.20	207
2208.0	13:12	2208.0	13.0	17	310	129	281	854	3196	486	951	9.6	50.6	2201.8	63.4	0.122	146.5	19.62	1.14	208
2209.0	13:17	2209.0	12.2	16	311	130	282	855	3191	501	969	9.6	50.6	2202.3	63.4	0.193	147.2	19.70	1.15	209
2210.0	13:22	2210.1	13.7	15	312	131	274	856	3192	493	972	9.5	50.5	2202.7	63.5	0.372	147.7	19.78	1.11	210
2211.0	13:29	2211.0	7.7	17	310	128	293	854	3195	482	928	9.6	50.6	2203.6	63.5	0.254	148.8	19.91	1.26	211
2212.0	13:37	2212.0	8.4	17	310	128	277	851	3213	478	915	9.6	51.2	2204.6	56.2	0.150	149.6	20.02	1.24	212
2213.0	13:40	2213.1	17.4	17	310	131	299	849	3223	477	924	9.6	53.2	2204.9	62.7	0.000	150.1	20.08	1.07	213
2214.0	13:48	2214.0	7.5	19	308	127	271	849	3241	479	1007	9.6	53.4	2205.8	63.1	0.151	151.2	20.22	1.29	214
2215.0	13:56	2215.0	8.1	16	311	130	286	848	3253	477	916	9.6	53.4	2206.9	63.4	0.503	152.1	20.34	1.22	215
2216.0	14:03	2216.0	8.4	18	309	127	289	848	3256	473	833	9.6	53.2	2208.5	63.5	0.375	153.0	20.46	1.25	216
2217.0	14:11	2217.0	6.8	17	310	130	280	847	3258	474	903	9.6	53.4	2210.1	63.5	0.168	154.1	20.61	1.29	217
2218.0	14:21	2218.1	7.7	17	310	124	270	848	3259	474	900	9.6	53.5	2211.4	63.7	0.503	155.1	20.74	1.24	218
2219.0	14:21	2219.0	7.8	17	331	138	270	848	3270	471	897	9.6	53.5	2211.4	63.7	0.667	155.1	20.74	1.23	219
2220.0	14:28	2220.1	8.1	17	247	130	271	216	1011	487	914	9.6	53.3	2211.6	63.7	0.374	155.2	20.79	1.22	220
2221.0	14:32	2221.0	13.9	15	313	137	248	852	3305	457	890	9.6	53.3	2212.5	63.8	0.213	155.7	20.86	1.11	221
2222.0	14:42	2222.0	5.8	18	311	137	248	857	3326	440	878	9.6	53.3	2214.3	63.8	0.168	157.1	21.03	1.34	222
2223.0	14:52	2223.0	6.3	17	311	136	280	858	3318	443	885	9.6	53.4	2215.2	63.7	0.133	158.4	21.19	1.31	223
2224.0	15:02	2224.0	5.7	17	311	135	265	860	3296	443	882	9.6	53.5	2216.5	63.7	0.146	159.8	21.36	1.34	224
2225.0	15:13	2225.0	5.7	17	311	136	273	863	3250	446	878	9.6	53.2	2217.9	63.6	0.122	161.2	21.54	1.34	225
2226.0	15:21	2226.0	7.4	17	312	136	273	867	3222	445	872	9.6	53.4	2221.1	63.5	0.103	162.3	21.67	1.27	226
2227.0	15:31	2227.0	6.1	19	310	138	241	868	3205	448	870	9.6	53.3	2222.0	63.5	0.248	163.7	21.84	1.35	227
2228.0	15:42	2228.0	5.3	18	311	137	272	870	3185	455	869	9.6	53.4	2223.3	63.5	0.204	165.2	22.02	1.36	228
2229.0	15:57	2229.0	4.0	18	310	136	253	875	3133	464	868	9.6	53.3	2224.6	63.4	0.137	167.2	22.28	1.44	229
2230.0	16:08	2230.0	5.3	17	312	136	265	878	3102	473	865	9.6	53.2	2226.0	63.3	0.081	168.7	22.46	1.34	230
2231.0	16:20	2231.0	5.0	17	311	137	270	880	3091	482	864	9.6	53.4	2227.3	63.2	0.087	170.4	22.67	1.37	231
2232.0	16:32	2232.0	5.3	18	310	135	271	879	3077	493	865	9.6	53.3	2228.3	63.1	0.081	171.9	22.85	1.36	232
2233.0	16:43	2233.1	5.4	18	311	135	281	881	3065	507	867	9.6	53.5	2228.9	63.0	0.113	173.3	23.04	1.35	233
2234.0	16:57	2234.0	4.1	19	310	138	249	883	3050	520	867	9.6	53.4	2230.2	63.0	0.168	175.4	23.28	1.43	234
2235.0	17:20	2235.0	2.7	19	309	139	239	885	3043	536	866	9.6	53.3	2232.0	63.0	0.230	178.3	23.66	1.54	235
2236.0	17:36	2236.0	3.7	20	309	138	252	885	3044	553	866	9.6	53.5	2233.4	63.0	0.135	180.6	23.92	1.48	236
2237.0	17:51	2237.0	4.0	19	310	138	254	884	3045	567	866	9.6	53.4	2234.4	63.0	0.148	182.7	24.17	1.44	237
2238.0	18:02	2238.0	5.2	18	311	137	256	884	3045	577	866	9.6	53.3	2234.9	63.1	0.146	184.2	24.36	1.36	238
2239.0	18:17	2239.0	4.0	19	310	136	283	883	3051	592	869	9.6	53.3	2235.5	63.1	0.219	186.2	24.61	1.44	239
2240.0	18:29	2240.0	5.0	19	310	137	256	882	3053	603	870	9.6	53.4	2236.4	63.2	0.175	187.8	24.81	1.40	240
2241.0	18:49	2241.0	3.1	19	309	135	251	888	3084	617	872	9.6	53.4	2237.9	63.3	0.183	190.5	25.14	1.51	241
2242.0	19:06	2242.0	3.4	20	309	131	278	907	3194	632	875	9.6	53.4	2239.3	63.5	0.091	192.8	25.43	1.49	242

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 8

DATE: 28-MAY-95

WELL	LONGTOM 1 ST	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	6 HUGHES ATMG3
START DEPTH	1108m	JETS / TFA	3x20
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.17	42	11	13	3/12/16	10.9	32.0	7.6	0.4	88.5	49.0	0.75	6.3

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1115.0	14:16	1116.3	50.7	2	236	123	0	746	1956	561	856	9.7	22.9	-999.3	40.8	12.116	0.1	0.02	0.56	115
1116.0	14:16	1116.6	900.0	0	239	123	0	749	1944	562	858	9.7	22.9	-999.3	40.9	12.469	0.1	0.02	0.10	116
1117.0	14:16	1117.1	300.0	0	238	123	0	747	1930	563	860	9.7	22.9	-999.3	40.9	12.469	0.1	0.02	0.22	117
1118.0	14:16	1117.9	180.0	1	237	123	0	746	1943	558	854	9.7	22.9	1125.9	40.8	12.469	0.1	0.03	0.34	118
1119.0	14:16	1119.0	225.0	0	238	124	0	750	1926	561	856	9.7	22.9	1125.9	40.8	12.452	0.1	0.03	0.25	119
1120.0	14:17	1119.9	124.1	0	239	124	0	751	1939	561	856	9.7	22.9	1125.9	40.8	12.452	0.2	0.04	0.31	120
1121.0	14:17	1120.9	225.0	0	240	123	0	749	1930	561	857	9.7	22.9	1125.9	40.7	12.628	0.2	0.05	0.25	121
1122.0	14:19	1122.7	26.9	4	234	124	0	752	1919	560	856	9.7	22.9	1125.9	40.6	12.790	0.4	0.08	0.70	122
1123.0	14:20	1124.9	62.1	2	236	123	0	747	1946	560	854	9.7	22.9	1125.9	40.1	12.966	0.5	0.10	0.52	123
1124.0	14:21	1127.6	144.0	1	237	123	0	749	1962	559	855	9.7	22.9	1125.9	39.9	12.669	0.5	0.11	0.36	124
1125.0	14:22	1128.5	81.8	2	236	124	0	750	1910	559	855	9.7	22.9	1125.9	39.8	12.573	0.7	0.12	0.48	125
1126.0	14:22	1128.9	87.8	0	240	124	0	752	1907	559	854	9.7	22.9	1125.9	39.7	12.573	0.7	0.13	0.35	126
1127.0	14:23	1129.7	150.0	5	233	123	0	745	1928	559	853	9.7	22.9	1125.9	39.5	12.050	0.7	0.14	0.46	127
1128.0	14:23	1131.0	163.6	0	240	123	0	748	1906	560	855	9.7	22.9	1125.9	39.4	12.050	0.8	0.14	0.28	128
1129.0	14:23	1132.3	163.6	1	237	124	0	750	1920	559	854	9.7	22.9	1125.9	39.3	11.480	0.8	0.15	0.34	129
1130.0	14:24	1133.0	92.3	4	234	123	0	746	1941	559	855	9.7	22.9	1125.9	39.2	10.703	0.9	0.16	0.51	130
1131.0	14:25	1133.9	138.5	1	237	124	0	750	1912	558	854	9.7	22.9	1125.9	39.0	10.703	0.9	0.17	0.38	131
1132.0	14:25	1134.7	171.4	4	234	124	0	754	1928	560	855	9.7	22.9	1125.9	38.9	9.977	0.9	0.17	0.42	132
1133.0	14:25	1134.8	150.0	5	233	124	0	750	1918	560	855	9.7	22.9	1125.9	38.7	9.977	1.0	0.18	0.46	133
1134.0	14:26	1135.1	97.3	7	231	123	0	744	1956	561	855	9.7	22.9	1125.9	38.6	10.319	1.0	0.19	0.56	134
1135.0	14:27	1135.2	62.1	8	230	123	0	748	1940	562	857	9.7	22.9	1125.9	38.3	10.319	1.2	0.21	0.66	135
1136.0	14:28	1135.9	55.4	8	230	123	0	747	1933	562	857	9.7	22.9	1125.9	38.2	7.826	1.3	0.22	0.68	136
1137.0	14:35	1136.9	8.0	8	230	123	0	747	1924	563	858	9.7	22.9	1125.9	37.6	8.920	2.0	0.35	1.02	137
1138.0	14:45	1137.9	6.3	10	228	111	0	698	1939	568	863	9.7	24.6	1125.9	36.9	3.492	2.8	0.51	1.10	138
1139.0	15:58	1138.9	60.0	5	233	113	0	717	1913	557	852	9.7	35.4	1148.0	41.1	3.589	5.5	1.00	0.60	139
1140.0	15:59	1139.9	56.3	7	232	113	0	712	1936	558	856	9.7	35.4	1148.0	41.4	3.424	5.6	1.02	0.65	140
1141.0	16:05	1141.0	9.4	9	231	113	0	715	1933	557	855	9.7	35.4	1148.0	40.6	2.995	6.1	1.13	1.01	141
1142.0	16:17	1141.8	4.8	14	226	113	0	715	1936	556	852	9.7	35.4	1148.0	40.6	2.567	7.2	1.34	1.25	142
1143.0	16:23	1142.7	10.1	11	229	113	0	715	1944	557	853	9.7	38.7	1148.0	40.8	2.793	7.8	1.44	1.05	143
1144.0	16:44	1143.7	2.8	8	231	113	0	717	1933	557	855	9.7	38.0	1150.4	41.2	2.380	9.7	1.79	1.22	144
1145.0	16:52	1144.7	8.2	8	231	113	0	716	1943	559	878	9.7	38.6	1151.7	41.5	2.703	10.4	1.91	1.02	145
1146.0	17:17	1145.7	2.3	4	235	113	0	720	1949	557	907	9.7	44.2	1153.2	41.6	2.429	12.7	2.33	1.12	146
1147.0	17:47	1146.7	2.0	6	234	114	0	720	1955	553	957	9.7	39.4	1154.9	43.3	2.370	15.4	2.83	1.19	147
1148.0	19:19	1147.7	0.6	9	230	114	0	721	1948	552	961	9.7	40.3	1156.8	44.4	2.115	23.6	4.37	1.54	148
1149.0	20:42	1148.7	3.1	13	227	114	0	720	1968	554	968	9.7	41.5	1157.4	44.3	1.863	25.4	4.69	1.32	149
1150.0	20:53	1149.7	5.9	9	230	114	0	721	1957	555	970	9.7	41.8	1157.4	45.2	1.061	26.3	4.86	1.11	150
1151.0	21:38	1150.7	1.3	5	234	114	0	722	1955	555	973	9.7	41.8	1159.2	45.5	0.827	30.4	5.61	1.24	151
1152.0	22:24	1151.7	1.3	9	231	114	0	721	1969	554	968	9.7	42.7	1160.2	45.6	0.000	34.7	6.38	1.38	152
1153.0	23:09	1152.7	1.3	13	226	118	0	751	2126	557	968	9.7	43.0	1161.3	46.2	0.124	39.0	7.13	1.51	153
1154.0	23:30	1153.7	2.8	26	214	139	0	816	2518	561	974	9.7	43.0	1161.8	47.1	1.877	41.2	7.48	1.63	154
1155.0	23:59	1154.7	2.1	27	212	138	0	814	2507	567	980	9.7	43.5	1163.1	47.1	0.000	44.1	7.96	1.73	155
1156.0	00:28	1155.7	2.0	24	216	138	0	813	2500	575	989	9.7	44.6	1164.1	47.1	0.071	47.2	8.45	1.67	156
1157.0	00:46	1156.7	3.3	23	217	138	0	814	2494	575	987	9.7	44.7	1164.6	47.1	1.702	49.2	8.76	1.55	157
1158.0	01:09	1157.7	2.7	34	205	137	0	808	2535	582	992	9.7	44.8	1165.5	47.2	1.627	51.4	9.13	1.78	158
1159.0	01:22	1158.7	4.6	35	205	137	0	806	2544	595	1010	9.7	45.0	1166.5	47.3	1.315	52.8	9.34	1.64	159
1160.0	01:44	1159.7	2.7	38	202	137	0	808	2535	600	1092	9.7	45.0	1167.4	47.4	1.161	55.1	9.71	1.83	160
1161.0	02:02	1160.7	3.7	38	201	137	0	805	2556	589	1108	9.7	45.0	1168.6	47.5	1.138	56.7	9.98	1.75	161
1162.0	02:27	1161.7	2.4	40	200	138	0	810	2509	564	1122	9.7	45.0	1169.5	47.8	1.031	59.3	10.39	1.88	162
1163.0	03:02	1162.7	1.7	36	203	139	0	815	2473	562	1122	9.7	45.0	1171.3	47.8	1.080	63.0	10.98	1.93	163
1164.0	03:18	1163.7	4.9	29	211	148	0	814	2477	563	1122	9.7	45.0	1171.7	46.7	0.838	64.5	11.18	1.58	164

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1164.0	03:18	1163.7	4.9	29	211	148	0	814	2477	563	1122	9.7	45.0	1171.7	46.7	0.838	64.5	11.18	1.58	164
1165.0	03:22	1164.7	12.5	19	220	155	22	817	2453	566	1124	9.7	44.8	1172.0	47.2	0.291	65.1	11.26	1.22	165
1166.0	03:29	1165.7	8.7	23	217	139	0	817	2455	569	1127	9.7	44.8	1172.0	47.4	0.967	65.8	11.38	1.33	166
1167.0	03:34	1166.7	12.0	30	209	139	0	816	2465	572	1130	9.7	44.8	1172.2	48.1	0.885	66.3	11.46	1.36	167
1168.0	04:08	1167.7	8.7	28	212	137	0	802	2480	541	1101	9.7	42.9	1174.9	48.4	1.220	67.0	11.58	1.41	168
1169.0	04:26	1168.7	3.5	34	207	137	0	803	2470	532	1091	9.7	41.0	1176.1	48.3	0.695	68.8	11.87	1.72	169
1170.0	04:47	1169.7	2.8	35	206	137	0	807	2466	537	1096	9.7	41.0	1177.7	48.5	0.496	71.0	12.23	1.79	170
1171.0	05:15	1170.7	2.2	34	207	138	0	810	2436	541	1105	9.7	41.0	1179.1	48.3	0.703	73.8	12.67	1.84	171
1172.0	05:27	1171.7	5.2	41	200	137	0	801	2497	539	1106	9.7	41.0	1179.3	48.5	0.392	75.0	12.87	1.71	172
1173.0	05:49	1172.7	3.6	25	216	156	25	812	2401	536	1103	9.7	43.2	1180.6	48.4	0.506	76.9	13.14	1.58	173
1174.0	06:10	1173.7	9.3	9	232	168	50	813	2393	529	1097	9.7	43.5	1181.4	48.4	0.296	77.9	13.25	1.09	174
1175.0	06:14	1174.7	16.6	25	216	138	0	809	2435	526	1095	9.7	43.5	1181.4	48.5	0.127	78.2	13.31	1.20	175
1176.0	06:20	1175.7	9.3	33	208	136	0	795	2551	527	1096	9.7	43.5	1182.9	48.6	0.074	78.8	13.41	1.44	176
1177.0	06:51	1176.7	2.6	33	208	136	0	794	2568	538	1107	9.7	43.5	1185.1	48.7	0.076	81.2	13.80	1.77	177
1178.0	07:00	1177.7	6.8	38	203	137	0	805	2479	543	1112	9.7	43.5	1185.3	48.7	0.101	82.0	13.95	1.59	178
1179.0	07:17	1178.7	3.7	28	213	137	0	806	2480	543	1111	9.7	43.5	1185.3	48.7	0.080	83.8	14.22	1.61	179
1180.0	07:29	1179.7	6.1	24	217	137	0	803	2498	544	1112	9.7	43.5	1186.9	48.7	0.095	84.7	14.38	1.41	180
1181.0	07:41	1180.7	4.8	33	208	137	0	807	2485	545	1113	9.7	43.5	1187.4	48.8	0.085	86.0	14.59	1.62	181
1182.0	07:59	1181.7	4.2	34	207	137	0	805	2495	545	1113	9.7	43.9	1189.2	48.8	0.075	87.5	14.83	1.66	182
1183.0	08:19	1182.7	3.4	35	206	137	0	805	2496	549	1119	9.7	44.0	1190.3	48.8	0.074	89.3	15.12	1.72	183
1184.0	08:29	1183.7	7.5	43	198	137	0	804	2513	554	1127	9.7	44.0	1191.2	48.8	0.075	90.1	15.25	1.63	184
1185.0	08:39	1184.7	6.1	24	217	162	62	809	2506	554	1126	9.7	44.1	1191.6	48.8	0.083	91.4	15.42	1.48	185
1186.0	08:44	1185.7	14.3	25	216	187	122	825	2533	553	1125	9.7	44.1	1191.8	48.9	0.102	92.1	15.49	1.32	186
1187.0	08:47	1186.7	19.0	26	215	188	121	825	2525	553	1125	9.7	44.1	1192.0	48.9	0.108	92.6	15.54	1.27	187
1188.0	09:04	1187.7	9.2	15	226	154	11	829	2500	552	1124	9.7	44.1	1193.4	48.9	0.060	93.4	15.65	1.21	188
1189.0	09:09	1188.7	12.0	40	201	137	0	825	2541	551	1123	9.7	44.1	1194.3	49.0	0.039	93.9	15.73	1.47	189
1190.0	09:24	1189.7	5.1	33	208	137	0	826	2528	552	1124	9.7	44.1	1196.4	49.0	0.038	95.2	15.93	1.61	190
1191.0	09:29	1190.7	11.7	45	196	136	0	818	2592	554	1126	9.7	44.1	1196.4	49.0	0.062	95.7	16.01	1.53	191
1192.0	09:41	1191.7	6.3	42	199	138	0	828	2506	555	1127	9.7	44.1	1198.2	49.0	0.054	96.8	16.17	1.68	192
1193.0	10:00	1192.7	3.1	24	217	154	15	827	2508	558	1133	9.7	44.2	1200.3	49.0	0.042	99.1	16.50	1.61	193
1194.0	10:05	1193.7	12.3	17	224	188	72	833	2474	550	1126	9.7	44.3	1200.4	49.5	0.061	99.9	16.58	1.23	194
1195.0	10:07	1194.7	29.3	20	221	187	88	828	2506	549	1125	9.7	44.3	1200.4	49.6	0.063	100.3	16.61	1.08	195
1196.0	10:23	1195.7	16.7	14	227	163	54	827	2518	550	1125	9.7	44.3	1201.5	50.1	0.106	100.8	16.67	1.09	196
1197.0	11:02	1196.7	4.2	13	229	119	0	704	2150	519	1094	9.7	44.3	1205.3	49.0	0.058	102.0	16.91	1.28	197
1198.0	11:24	1197.7	2.7	41	201	135	0	828	2641	468	1040	9.7	44.3	1205.3	50.1	0.061	104.4	17.28	1.89	198
1199.0	11:50	1198.7	2.3	41	202	134	0	820	2697	451	1015	9.7	46.0	1207.0	50.1	0.049	107.1	17.71	1.91	199
1200.0	12:11	1199.7	2.8	47	195	135	0	824	2657	463	1035	9.7	46.9	1207.5	50.1	0.069	109.3	18.07	1.94	200
1201.0	12:40	1200.7	2.1	53	190	134	0	822	2668	465	1036	9.7	47.0	1209.0	49.7	0.071	112.3	18.54	2.10	201
1202.0	12:57	1201.7	3.4	57	185	133	0	815	2706	465	963	9.7	47.0	1209.4	50.7	0.000	114.2	18.84	2.01	202
1203.0	13:26	1202.7	2.1	61	182	134	0	818	2681	468	961	9.7	47.6	1211.0	50.2	0.082	117.1	19.31	2.21	203
1204.0	13:47	1203.7	2.8	60	183	134	0	821	2664	473	965	9.7	48.0	1211.4	51.1	0.063	119.3	19.66	2.10	204
1205.0	14:33	1204.7	2.9	47	196	135	0	829	2648	479	965	9.7	48.0	1213.3	50.6	0.065	121.5	20.01	1.94	205
1206.0	14:45	1205.7	4.9	30	213	160	17	845	2643	492	969	9.7	48.0	1213.3	50.5	0.087	123.0	20.22	1.60	206
1207.0	14:47	1206.7	36.4	35	208	208	181	842	2673	496	971	9.7	48.0	1213.3	50.7	0.068	123.4	20.25	1.21	207
1208.0	14:49	1207.7	29.0	33	209	209	170	844	2662	497	972	9.7	48.0	1213.3	50.8	0.102	123.7	20.28	1.26	208
1209.0	14:51	1208.7	25.7	32	211	209	182	843	2652	497	970	9.7	48.0	1213.3	50.8	0.155	124.1	20.32	1.27	209
1210.0	14:53	1209.7	30.3	33	209	211	155	845	2623	493	966	9.7	48.0	1213.3	50.8	0.211	124.4	20.35	1.25	210
1211.0	14:55	1210.7	30.8	33	209	211	159	846	2621	493	965	9.7	48.0	1213.3	50.8	0.227	124.8	20.38	1.24	211
1212.0	14:57	1211.7	30.3	32	210	211	156	848	2627	493	964	9.7	48.0	1213.8	50.8	0.248	125.1	20.42	1.24	212
1213.0	14:59	1212.7	28.6	32	210	211	162	847	2633	494	964	9.7	48.0	1213.9	50.8	0.238	125.5	20.45	1.25	213

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1213.0	14:59	1212.7	28.6	32	210	211	162	847	2633	494	964	9.7	48.0	1213.9	50.8	0.238	125.5	20.45	1.25	213
1214.0	15:02	1213.6	23.7	32	211	213	133	849	2623	494	964	9.7	48.0	1214.3	50.8	0.121	125.9	20.49	1.30	214
1215.0	15:04	1214.6	25.7	33	210	211	148	846	2627	496	966	9.7	48.0	1214.4	50.9	0.101	126.2	20.53	1.29	215
1216.0	15:06	1215.6	24.3	33	210	211	149	846	2633	499	967	9.7	48.0	1214.6	50.9	0.078	126.8	20.57	1.30	216
1217.0	15:18	1216.6	13.5	20	222	172	47	849	2601	500	967	9.7	48.0	1217.5	51.0	0.064	127.3	20.65	1.23	217
1218.0	15:20	1217.6	21.8	30	213	147	0	849	2615	502	967	9.7	48.0	1218.8	51.0	0.057	127.6	20.69	1.20	218
1219.0	15:35	1218.6	5.3	29	214	147	0	845	2641	504	966	9.7	48.0	1225.3	51.1	0.036	128.9	20.88	1.54	219
1220.0	15:51	1219.6	4.3	38	204	147	0	845	2645	519	976	9.7	48.0	1227.4	51.8	0.038	130.4	21.12	1.73	220
1221.0	16:03	1220.6	5.9	31	212	146	0	842	2678	524	978	9.7	48.0	1227.9	52.1	0.034	131.5	21.29	1.54	221
1222.0	16:10	1221.6	5.0	16	226	145	0	838	2548	523	974	9.7	48.3	1228.5	52.0	0.032	131.6	21.30	1.34	222
1223.0	16:23	1222.6	4.4	13	229	130	0	720	2130	529	977	9.7	49.0	1229.6	51.9	0.061	132.8	21.53	1.28	223
1224.0	16:28	1223.6	11.7	28	215	173	55	799	2387	527	972	9.7	49.0	1229.8	51.7	0.069	133.5	21.61	1.38	224
1225.0	17:17	1224.6	3.5	42	202	115	0	599	1814	533	967	9.7	49.0	1234.0	51.9	0.048	135.7	22.00	1.76	225
1226.0	17:45	1225.6	3.1	39	205	142	0	802	2439	530	954	9.7	49.2	1233.9	51.9	0.042	137.6	22.32	1.83	226
1227.0	18:12	1226.6	2.2	29	215	141	0	802	2444	534	950	9.7	49.5	1234.5	52.0	0.044	140.5	22.78	1.75	227
1228.0	18:28	1227.6	3.7	43	201	140	0	797	2485	529	944	9.7	49.5	1235.3	52.2	0.012	142.1	23.04	1.81	228
1229.0	19:18	1228.6	1.5	43	201	101	0	778	2357	530	943	9.7	49.5	1237.5	52.2	0.019	146.1	23.73	1.99	229
1230.0	19:36	1229.6	3.7	44	200	117	10	708	2091	533	948	9.7	49.5	1237.6	52.1	0.028	148.0	24.00	1.79	230
1231.0	19:39	1230.6	25.7	37	207	168	204	706	2150	537	951	9.7	49.5	1237.6	52.1	0.028	148.6	24.03	1.27	231
1232.0	19:41	1231.6	22.6	33	211	186	155	705	2118	537	952	9.7	49.5	1238.3	52.0	0.030	151.4	24.08	1.74	232
1233.0	19:45	1232.6	16.4	33	211	186	128	701	2099	538	953	9.7	49.5	1240.6	51.8	0.031	155.3	24.14	0.78	233
1234.0	19:47	1233.6	26.5	32	212	186	163	702	2131	538	953	9.7	49.5	1240.9	51.7	0.031	157.1	24.18	1.24	234
1235.0	19:50	1234.6	22.8	30	212	186	140	704	2131	538	953	9.7	49.5	1241.0	51.7	0.034	157.7	24.22	1.25	235
1236.0	19:53	1235.6	16.7	30	211	187	136	705	2115	537	953	9.7	49.5	1241.1	51.7	0.037	158.2	24.28	1.33	236
1237.0	19:56	1236.6	20.3	31	210	185	166	706	2118	538	954	9.7	49.5	1241.2	51.6	0.080	158.8	24.33	1.29	237
1238.0	19:58	1237.6	45.6	30	211	182	233	704	2115	540	956	9.7	49.5	1241.4	51.6	0.113	159.0	24.35	1.08	238
1239.0	20:00	1238.6	27.5	29	212	184	173	705	2110	539	955	9.7	49.5	1241.5	51.6	0.112	159.4	24.39	1.19	239
1240.0	20:03	1239.6	19.9	27	214	187	148	709	2101	538	953	9.7	49.5	1241.5	51.7	0.108	160.0	24.44	1.26	240
1241.0	20:06	1240.6	20.8	28	213	186	168	708	2097	539	954	9.7	49.5	1241.7	51.7	0.114	160.5	24.49	1.26	241
1242.0	20:18	1241.6	9.5	26	215	136	0	702	2060	535	949	9.7	49.5	1246.2	51.7	0.064	161.9	24.59	1.52	242
1243.0	20:29	1242.6	5.3	28	213	120	0	702	2074	532	946	9.7	49.5	1248.8	51.8	0.055	162.5	24.78	1.30	243
1244.0	20:54	1243.6	2.4	32	209	94	0	574	2096	531	945	9.7	49.4	1250.4	51.8	0.029	164.7	25.20	1.68	244
1245.0	21:47	1244.6	1.7	34	207	118	0	706	2080	546	961	9.7	49.7	1253.3	51.8	0.056	168.9	25.87	1.63	245
1246.0	21:57	1245.6	5.7	41	199	117	0	706	2139	546	961	9.7	49.7	1253.3	51.5	0.014	170.1	25.97	1.63	246
1247.0	22:51	1246.6	36.4	17	223	166	170	714	2087	548	961	9.7	49.7	1255.1	51.8	0.027	175.2	26.66	0.96	247
1248.0	22:52	1247.6	45.0	17	223	165	183	713	2093	549	961	9.7	49.7	1255.1	51.7	0.027	175.4	26.68	0.91	248
1249.0	22:53	1248.6	112.5	15	225	168	114	712	2098	548	961	9.7	49.7	1255.1	51.7	0.028	175.5	26.69	0.70	249
1250.0	22:54	1249.6	40.4	13	227	169	107	713	2094	548	961	9.7	49.7	1255.1	51.7	0.029	175.7	26.71	0.88	250
1251.0	22:55	1250.6	105.9	9	231	170	98	713	2084	550	963	9.7	49.6	1255.2	51.7	0.029	175.7	26.72	0.64	251
1252.0	00:15	1251.6	17.6	24	230	118	0	715	2092	471	883	9.7	49.7	1255.9	50.2	0.068	176.0	26.78	1.13	252
1253.0	00:27	1252.6	5.9	38	216	119	0	722	2074	481	893	9.7	49.8	1262.1	50.7	0.024	177.2	26.95	1.59	253
1254.0	01:08	1253.5	2.5	43	211	119	0	722	2063	487	900	9.7	49.6	1253.5	50.7	0.025	180.1	27.36	1.90	254
1255.0	01:26	1254.5	6.5	47	207	120	0	724	2018	503	917	9.7	49.8	1253.9	50.6	0.038	181.2	27.51	1.67	255
1256.0	01:40	1255.5	6.0	43	209	128	0	722	2027	517	946	9.7	49.8	1254.0	50.5	0.048	182.3	27.67	1.66	256
1257.0	01:42	1256.5	58.1	22	224	171	318	720	2034	526	957	9.7	49.8	1254.1	50.5	0.080	182.5	27.69	0.92	257
1258.0	01:43	1257.5	63.2	25	221	196	162	714	2077	527	960	9.7	49.6	1254.1	50.5	0.102	182.7	27.71	0.96	258
1259.0	01:44	1258.5	75.0	30	216	192	193	710	2120	528	961	9.7	49.7	1254.2	50.5	0.118	182.9	27.72	0.97	259
1260.0	01:45	1259.5	73.5	31	215	192	157	712	2091	528	963	9.7	49.7	1254.2	50.5	0.117	183.1	27.73	0.98	260
1261.0	01:46	1260.5	80.0	30	216	190	199	710	2108	527	962	9.7	49.7	1254.2	50.5	0.113	183.3	27.75	0.95	261
1262.0	01:46	1261.5	83.7	31	215	191	196	709	2112	529	963	9.7	49.8	1254.2	50.5	0.103	183.3	27.76	0.95	262

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1263.0	01:54	1262.5	34.6	29	217	126	0	718	2049	526	961	9.7	49.6	1254.4	50.5	0.357	183.5	27.79	1.04	263
1264.0	02:08	1263.5	7.1	33	213	119	0	723	2013	523	958	9.7	49.7	1255.3	50.5	0.551	184.6	27.93	1.48	264
1265.0	02:33	1264.5	5.8	33	213	117	0	711	2067	506	940	9.7	49.7	1263.4	50.9	0.213	185.8	28.10	1.53	265
1266.0	02:42	1265.5	7.5	35	211	122	0	736	2198	461	892	9.7	49.8	1263.9	51.2	0.151	186.7	28.24	1.50	266
1267.0	02:48	1266.5	10.1	37	209	122	0	739	2148	464	895	9.7	49.7	1264.1	51.2	0.148	187.5	28.33	1.44	267
1268.0	03:16	1267.5	5.7	38	208	122	0	741	2111	533	893	9.7	49.6	1266.1	51.2	0.163	188.8	28.51	1.61	268
1269.0	03:29	1268.5	6.9	37	209	123	0	745	2076	629	899	9.7	49.7	1267.6	51.2	0.122	189.8	28.65	1.54	269
1270.0	03:40	1269.5	6.5	38	208	123	0	746	2067	629	899	9.7	49.7	1267.8	51.0	0.085	190.9	28.81	1.57	270
1271.0	04:19	1270.5	4.0	36	210	132	0	776	2145	629	908	9.7	49.8	1270.3	51.0	0.054	192.8	29.06	1.69	271
1272.0	04:20	1271.5	61.0	27	219	185	300	817	2423	630	992	9.7	49.8	1270.3	51.0	0.079	193.0	29.07	0.99	272
1273.0	04:36	1272.5	8.3	32	214	136	0	813	2470	629	1091	9.7	49.7	1270.5	51.0	0.153	194.1	29.19	1.46	273
1274.0	04:47	1273.5	7.5	33	213	138	0	832	2307	619	1112	9.7	49.8	1270.7	47.0	0.147	195.0	29.33	1.51	274
1275.0	05:01	1274.5	4.7	37	209	137	0	829	2331	610	1104	9.7	49.8	1272.9	51.0	0.171	196.8	29.54	1.68	275

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 9

DATE: 30-MAY-95

WELL	LONGTOM 1 ST	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	7 REED MHP13G
START DEPTH	1275m	JETS / TFA	3x20
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.17	41	13	15	3/10/13	10.0	6.2	7.1	0.4	89.0	48.0	1.0	6.1

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1276.0	13:08	1275.5	8.6	17	232	133	0	803	2342	497	1040	9.7	49.7	1275.2	46.8	0.188	0.9	0.12	1.21	276
1277.0	13:16	1276.4	8.1	28	223	132	0	795	2375	509	1054	9.7	41.8	1275.2	46.5	0.102	1.8	0.24	1.40	277
1278.0	13:35	1277.4	4.5	32	219	130	0	783	2444	517	1061	9.7	40.0	1275.9	46.6	0.030	3.6	0.46	1.60	278
1279.0	13:43	1278.4	24.7	18	233	177	48	821	2516	521	1080	9.7	40.0	1276.9	46.6	0.089	3.9	0.50	1.06	279
1280.0	13:45	1279.4	35.6	12	239	207	79	845	2631	521	1078	9.7	40.0	1276.9	48.5	0.054	4.3	0.53	0.93	280
1281.0	14:18	1280.4	39.1	13	237	203	77	844	2635	523	1084	9.7	40.0	1278.4	46.5	0.018	4.7	0.56	0.93	281
1282.0	14:18	1281.4	25.0	30	220	142	0	856	2637	510	1040	9.7	40.0	1278.4	47.0	0.018	4.7	0.70	1.16	282
1283.0	14:23	1282.4	18.3	31	213	141	0	856	2556	508	1056	9.7	40.0	1280.9	47.8	0.114	5.2	0.74	1.34	283
1284.0	14:33	1283.4	7.8	39	213	142	0	856	2562	508	1039	9.7	40.0	1280.9	47.8	0.063	6.2	0.74	1.58	284
1285.0	14:36	1284.4	36.0	37	215	141	0	848	2614	516	1042	9.7	40.0	1280.9	49.8	0.031	6.3	0.77	1.13	285
1286.0	14:39	1285.4	16.4	41	211	141	0	853	2569	518	1039	9.7	40.0	1280.9	49.8	0.025	6.9	0.83	1.38	286
1287.0	14:44	1286.4	15.5	40	212	140	0	846	2629	523	1045	9.7	40.0	1280.9	49.0	0.033	7.4	0.89	1.39	287
1288.0	14:50	1287.4	9.5	43	209	140	0	847	2609	528	1047	9.7	41.4	1282.8	49.0	0.115	8.2	1.00	1.56	288
1289.0	14:54	1288.4	17.6	37	215	139	0	841	2664	534	1050	9.7	42.0	1283.6	49.1	0.090	8.8	1.06	1.33	289
1290.0	14:56	1289.4	33.0	36	216	140	0	846	2602	537	1050	9.7	42.0	1283.8	49.4	0.111	8.9	1.09	1.15	290
1291.0	15:24	1290.4	15.0	43	209	140	0	846	2591	549	1057	9.7	44.3	1289.1	49.5	0.148	11.9	1.43	1.43	291
1292.0	15:37	1291.4	12.0	45	207	139	0	841	2610	569	1064	9.7	47.0	1290.5	50.0	0.075	12.3	1.49	1.52	292
1293.0	15:37	1292.4	20.0	49	203	139	0	840	2637	572	1068	9.7	47.0	1290.5	50.0	0.077	12.8	1.54	1.41	293
1294.0	15:37	1293.3	3.5	48	204	139	0	837	2643	571	1066	9.7	47.0	1290.5	50.0	0.077	13.2	1.60	1.90	294
1295.0	15:38	1294.3	2.9	50	202	139	0	839	2670	570	1065	9.7	47.0	1290.5	49.5	0.100	13.7	1.65	1.98	295
1296.0	15:43	1295.3	10.5	47	205	139	0	839	2630	571	1062	9.7	47.0	1290.8	49.9	0.126	14.4	1.75	1.58	296
1297.0	15:47	1296.3	17.0	44	209	139	0	839	2627	575	1063	9.7	47.0	1290.8	49.9	0.656	14.9	1.81	1.40	297
1298.0	15:51	1297.3	13.8	38	214	139	0	840	2607	579	1066	9.7	47.0	1290.8	50.1	1.612	15.6	1.88	1.40	298
1299.0	15:59	1298.3	7.5	41	211	139	0	836	2645	582	1064	9.7	47.0	1291.3	50.3	1.731	16.6	2.01	1.60	299
1300.0	16:09	1299.3	6.0	44	208	139	0	839	2612	587	1064	9.7	47.0	1295.3	50.4	0.617	18.0	2.18	1.70	300
1301.0	16:27	1300.3	3.4	45	207	139	0	838	2619	589	1065	9.7	47.3	1298.9	50.5	0.238	20.4	2.48	1.87	301
1302.0	16:38	1301.2	8.2	44	208	138	0	835	2636	593	1066	9.7	48.0	1299.6	50.7	0.196	21.4	2.60	1.60	302
1303.0	16:40	1302.2	22.0	40	212	138	0	837	2607	593	1067	9.8	48.0	1300.3	50.9	0.102	21.8	2.64	1.28	303
1304.0	16:43	1303.2	20.0	45	208	139	0	838	2592	594	1067	9.8	48.0	1300.4	51.0	0.100	22.1	2.69	1.35	304
1305.0	16:48	1304.2	13.8	40	212	123	0	747	2610	597	1072	9.8	48.0	1300.6	51.1	0.111	22.6	2.77	1.37	305
1306.0	17:11	1305.2	3.9	40	212	139	0	839	2609	596	1070	9.8	48.0	1303.0	51.6	0.038	24.8	3.02	1.75	306
1307.0	17:56	1306.2	2.5	43	209	140	0	840	2627	579	1052	9.8	48.9	1306.5	52.1	0.018	28.0	3.42	1.91	307
1308.0	18:09	1307.2	4.6	41	211	139	0	837	2661	548	1020	9.8	49.0	1306.5	52.1	0.017	29.8	3.64	1.72	308
1309.0	18:32	1308.1	3.0	43	209	139	0	841	2630	547	1013	9.8	49.2	1307.5	52.3	0.025	32.5	3.97	1.86	309
1310.0	18:57	1309.1	3.1	44	208	138	0	834	2668	545	1007	9.8	49.5	1308.5	51.4	0.020	35.2	4.29	1.87	310
1311.0	19:12	1310.1	3.1	40	256	138	0	834	2660	566	1021	9.8	49.5	1309.3	51.6	0.055	35.6	4.35	1.86	311
1312.0	19:13	1311.1	3.0	29	225	138	0	830	2721	554	1005	9.8	49.5	1309.4	51.7	0.022	35.7	4.38	1.64	312
1313.0	19:32	1312.1	3.1	42	211	139	0	840	2630	559	1004	9.8	49.5	1310.5	51.0	0.081	38.4	4.69	1.84	313
1314.0	19:45	1313.1	5.0	43	209	138	0	835	2673	566	1005	9.8	49.5	1312.1	51.2	0.046	40.0	4.89	1.71	314
1315.0	19:55	1314.0	6.3	40	211	139	0	835	2667	570	1006	9.8	49.5	1312.3	51.2	0.028	41.3	5.05	1.62	315
1316.0	20:12	1315.0	6.4	39	212	139	0	839	2637	577	1009	9.8	50.0	1313.9	51.2	0.043	42.5	5.21	1.60	316
1317.0	20:37	1316.0	3.8	42	210	139	0	839	2627	579	1009	9.8	50.0	1315.8	51.6	0.075	44.7	5.47	1.78	317
1318.0	20:54	1317.0	3.5	43	208	150	0	904	2698	578	1010	9.8	50.0	1316.4	51.9	0.148	47.3	5.75	1.84	318
1319.0	21:03	1318.0	7.0	40	212	164	0	980	2697	577	1006	9.8	50.0	1317.0	52.0	0.136	48.6	5.90	1.63	319
1320.0	21:20	1319.0	3.4	42	210	242	0	1443	2652	578	1007	9.8	50.0	1319.0	52.2	0.161	52.5	6.19	1.96	320
1321.0	21:51	1319.9	2.4	44	208	138	0	835	2660	578	1006	9.8	50.0	1320.0	52.4	0.068	55.9	6.60	1.93	321
1322.0	22:26	1320.9	4.1	39	213	146	0	833	2685	576	1003	9.8	50.0	1320.7	51.7	0.079	58.0	6.84	1.73	322
1323.0	22:30	1321.9	13.7	30	221	200	174	821	2773	573	995	9.8	50.0	1321.0	51.7	0.101	58.8	6.92	1.39	323
1324.0	22:33	1322.9	17.7	28	224	203	160	824	2754	572	994	9.8	50.0	1321.3	51.8	0.081	59.5	6.97	1.30	324
1325.0	22:36	1323.9	21.3	30	221	203	161	823	2767	572	993	9.8	50.0	1321.4	52.0	0.126	60.1	7.02	1.28	325

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1325.0	22:36	1323.9	21.3	30	221	203	161	823	2767	572	993	9.8	50.0	1321.4	52.0	0.126	60.1	7.02	1.28	325
1326.0	22:39	1324.9	20.3	31	221	202	165	823	2770	574	996	9.8	50.0	1321.5	52.1	0.216	60.5	7.07	1.30	326
1327.0	22:44	1325.8	13.7	23	228	204	132	823	2765	573	995	9.8	50.0	1321.5	52.3	0.263	61.4	7.14	1.30	327
1328.0	22:47	1326.8	16.5	25	226	204	135	824	2761	573	995	9.8	50.0	1321.5	52.6	0.254	62.3	7.20	1.28	328
1329.0	22:51	1327.8	15.7	26	226	204	129	825	2747	574	995	9.8	50.0	1321.5	52.6	0.134	62.9	7.27	1.31	329
1330.0	22:55	1328.8	17.6	27	225	203	148	824	2745	574	995	9.8	50.0	1321.5	52.6	0.144	63.7	7.32	1.29	330
1331.0	22:55	1329.8	69.2	23	229	203	166	824	2752	575	995	9.8	50.0	1321.8	52.6	0.155	63.9	7.34	0.92	331
1332.0	22:56	1330.7	73.5	23	228	203	149	825	2733	574	996	9.8	50.0	1321.9	52.6	0.158	63.9	7.35	0.91	332
1333.0	23:08	1331.7	44.4	22	230	171	67	828	2700	574	995	9.8	50.0	1324.6	52.6	0.213	64.3	7.37	0.97	333
1334.0	23:15	1332.7	8.2	32	220	135	0	816	2739	574	995	9.8	50.0	1326.7	52.6	0.332	65.3	7.49	1.44	334
1335.0	23:40	1333.7	2.6	37	215	138	0	829	2627	569	990	9.8	50.0	1333.4	52.6	0.188	68.3	7.87	1.80	335
1336.0	23:50	1334.7	7.5	40	212	137	0	829	2601	569	991	9.8	50.0	1334.1	52.6	0.055	69.4	8.01	1.56	336
1337.0	00:08	1335.6	4.0	43	209	138	0	830	2568	568	990	9.8	50.0	1334.9	53.0	0.183	71.5	8.26	1.77	337
1338.0	00:24	1336.6	7.9	41	211	138	0	834	2554	568	990	9.8	50.0	1336.3	53.5	0.155	72.5	8.38	1.56	338
1339.0	00:30	1337.6	9.7	43	209	137	0	830	2555	568	989	9.8	50.0	1336.6	53.4	0.131	73.3	8.48	1.53	339
1340.0	00:44	1338.6	4.5	46	205	137	0	829	2577	569	991	9.8	50.0	1337.2	52.8	0.054	75.1	8.71	1.79	340
1341.0	01:33	1339.6	2.9	47	205	118	0	706	2244	568	989	9.8	50.0	1340.4	52.4	0.047	77.5	9.05	1.87	341
1342.0	01:38	1340.5	12.5	29	224	202	171	827	2625	542	963	9.8	50.0	1340.4	52.6	0.052	78.5	9.13	1.40	342
1343.0	01:39	1341.5	37.1	27	227	203	164	823	2651	542	963	9.8	50.0	1340.4	52.8	0.098	78.7	9.16	1.10	343
1344.0	01:43	1342.5	18.4	28	225	202	166	823	2632	542	963	9.8	50.0	1340.4	53.0	0.130	79.3	9.21	1.29	344
1345.0	01:46	1343.5	33.3	13	240	204	182	828	2591	543	964	9.8	50.0	1340.6	53.4	0.203	79.9	9.24	0.95	345
1346.0	01:47	1344.5	47.4	9	244	213	81	831	2571	542	963	9.8	50.0	1340.6	53.6	0.236	80.1	9.26	0.83	346
1347.0	01:48	1345.4	75.0	21	233	208	187	823	2617	543	963	9.8	50.0	1340.6	53.6	0.226	80.3	9.27	0.88	347
1348.0	01:49	1346.4	80.0	24	229	201	232	820	2667	542	963	9.8	50.0	1340.6	53.6	0.245	80.3	9.29	0.89	348
1349.0	01:51	1347.4	27.1	24	229	207	170	823	2619	543	963	9.8	50.0	1340.6	53.8	0.273	80.7	9.32	1.15	349
1350.0	01:53	1348.4	27.9	23	230	208	167	821	2634	543	963	9.8	50.0	1340.6	53.9	0.320	81.1	9.36	1.13	350
1351.0	01:54	1349.3	54.5	22	231	205	197	818	2661	543	963	9.8	50.0	1340.6	54.0	0.381	81.4	9.38	0.97	351
1352.0	01:55	1350.3	50.0	23	230	201	217	817	2691	542	962	9.8	50.0	1340.6	54.0	0.421	81.8	9.40	0.99	352
1353.0	02:07	1351.3	25.9	10	243	176	179	826	2578	537	955	9.8	50.1	1341.3	54.0	0.430	82.2	9.44	0.92	353
1354.0	02:09	1352.3	40.4	18	235	135	0	816	2523	532	949	9.8	50.1	1341.7	53.8	0.208	82.3	9.46	0.89	354
1355.0	02:14	1353.2	13.7	36	217	136	0	818	2515	531	947	9.8	50.1	1343.6	53.7	0.152	82.8	9.53	1.36	355
1356.0	02:38	1354.2	3.7	35	218	137	0	820	2499	530	947	9.8	50.1	1353.0	53.6	0.070	85.1	9.80	1.69	356
1357.0	02:43	1355.2	26.3	29	225	134	0	805	2630	530	947	9.8	50.1	1354.8	53.7	0.058	85.4	9.84	1.11	357
1358.0	02:51	1356.2	11.5	27	226	134	0	805	2624	530	947	9.8	50.2	1355.5	53.6	0.114	86.0	9.93	1.29	358
1359.0	03:09	1357.1	7.6	20	233	135	0	814	2543	528	945	9.8	51.5	1355.8	53.5	0.089	87.1	10.06	1.28	359
1360.0	03:14	1358.1	17.5	29	224	136	0	813	2543	528	945	9.8	51.5	1356.6	53.8	0.126	87.6	10.11	1.22	360
1361.0	03:19	1359.1	19.3	16	237	200	143	811	2538	527	944	9.8	51.5	1357.9	53.8	0.338	88.1	10.17	1.11	361
1362.0	03:21	1360.1	28.3	17	236	167	61	809	2579	527	944	9.8	51.5	1357.9	54.0	0.557	88.5	10.20	1.00	362
1363.0	03:32	1361.1	5.8	35	219	135	0	813	2536	525	942	9.8	51.5	1358.4	53.9	0.499	89.8	10.37	1.56	363
1364.0	03:57	1362.0	3.3	39	214	135	0	816	2511	524	941	9.8	51.5	1362.4	54.0	0.145	92.2	10.68	1.77	364
1365.0	04:10	1363.0	4.7	43	211	134	0	811	2543	524	940	9.8	51.5	1363.2	54.0	0.088	93.9	10.89	1.72	365
1366.0	04:20	1364.0	8.5	40	213	135	0	815	2509	523	940	9.8	51.5	1363.6	54.0	0.088	94.8	11.01	1.54	366
1367.0	04:33	1365.0	8.1	40	213	136	0	819	2486	522	939	9.8	51.5	1364.5	53.7	0.049	95.8	11.13	1.55	367
1368.0	04:51	1365.9	4.8	38	215	142	0	818	2494	521	938	9.8	51.5	1365.5	53.6	0.057	97.4	11.34	1.68	368
1369.0	05:18	1366.9	7.0	30	230	139	0	835	2236	525	941	9.8	51.5	1367.1	54.3	0.091	98.7	11.48	1.37	369
1370.0	05:29	1367.9	8.4	29	226	139	0	835	2616	515	929	9.8	51.5	1367.6	54.0	0.044	99.7	11.60	1.41	370
1371.0	05:39	1368.9	8.0	35	219	138	0	834	2631	515	928	9.8	51.5	1368.6	53.7	0.032	100.7	11.72	1.50	371
1372.0	05:43	1369.9	16.1	32	223	137	0	827	2675	515	928	9.8	51.5	1368.6	53.8	0.030	101.2	11.79	1.28	372
1373.0	05:51	1370.8	13.9	33	221	138	0	831	2637	516	929	9.8	51.5	1369.1	53.9	0.056	101.8	11.86	1.34	373
1374.0	05:52	1371.8	38.3	27	227	138	0	829	2664	515	929	9.8	51.5	1369.4	53.9	0.104	101.9	11.88	1.02	374

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1374.0	05:52	1371.8	38.3	27	227	138	0	829	2664	515	929	9.8	51.5	1369.4	53.9	0.104	101.9	11.88	1.02	374
1375.0	06:00	1372.8	28.6	34	220	138	0	834	2633	518	928	9.8	51.5	1370.0	53.6	0.043	102.3	11.92	1.16	375
1376.0	06:10	1373.8	12.9	34	221	139	0	834	2626	540	929	9.8	51.5	1370.8	53.6	0.028	102.9	12.00	1.36	376
1377.0	06:14	1374.7	13.9	32	223	138	0	833	2642	730	936	9.8	51.5	1372.2	54.0	0.044	103.4	12.07	1.32	377
1378.0	06:22	1375.7	10.1	25	230	192	146	832	2643	727	932	9.8	51.5	1373.0	54.2	0.038	104.6	12.17	1.38	378
1379.0	06:26	1376.5	16.6	19	235	206	110	832	2632	725	930	9.8	51.5	1374.4	54.4	0.052	105.2	12.23	1.20	379
1380.0	06:35	1377.5	12.2	36	218	148	0	836	2613	724	928	9.7	51.5	1375.9	54.1	0.090	106.1	12.31	1.42	380
1381.0	07:11	1378.4	4.7	44	211	139	0	836	2601	725	930	9.7	51.5	1380.2	54.0	0.055	107.8	12.52	1.76	381
1382.0	07:17	1379.4	20.1	31	224	143	0	861	2687	721	925	9.7	51.5	1380.3	54.3	0.072	108.1	12.57	1.22	382
1383.0	07:23	1380.4	9.8	24	231	144	0	865	2772	721	926	9.7	51.5	1380.8	54.4	0.118	109.0	12.68	1.31	383
1384.0	07:49	1381.3	3.7	43	211	145	0	870	2718	722	927	9.7	51.5	1382.4	54.2	0.083	111.4	12.94	1.82	384
1385.0	08:03	1382.3	15.1	39	216	145	0	874	2724	727	933	9.7	51.5	1383.4	54.3	0.056	111.9	13.01	1.40	385
1386.0	08:10	1383.3	8.5	36	218	144	0	870	2765	730	937	9.7	52.0	1383.7	53.9	0.087	112.8	13.13	1.52	386
1387.0	08:25	1384.2	7.5	30	224	168	21	873	2735	725	932	9.7	52.0	1384.2	54.1	0.110	114.0	13.26	1.51	387
1388.0	08:31	1385.2	11.0	14	241	227	86	868	2742	704	911	9.7	52.0	1384.8	54.4	0.384	115.2	13.35	1.22	388
1389.0	08:44	1386.2	6.6	15	240	217	71	870	2747	704	911	9.7	52.0	1386.1	54.7	0.403	116.9	13.50	1.34	389
1390.0	08:46	1387.1	24.3	38	216	144	0	865	2801	703	911	9.7	52.0	1386.6	55.0	0.227	117.2	13.54	1.26	390
1391.0	09:02	1388.1	7.6	35	220	145	0	871	2749	703	911	9.7	52.0	1388.1	55.0	0.152	118.4	13.67	1.53	391
1392.0	09:09	1389.1	8.4	43	211	145	0	871	2739	700	907	9.7	52.0	1388.8	55.1	0.071	119.4	13.79	1.61	392
1393.0	09:36	1390.0	3.4	39	216	144	0	867	2767	595	903	9.7	52.0	1391.7	55.2	0.031	121.8	14.08	1.79	393
1394.0	10:26	1391.0	2.6	40	214	145	0	866	2776	676	902	9.7	52.0	1393.9	54.8	0.010	125.1	14.46	1.89	394
1395.0	10:27	1392.0	42.9	24	230	237	214	893	2994	681	986	9.7	52.0	1393.9	54.4	0.053	125.3	14.49	1.09	395
1396.0	10:32	1392.9	48.0	20	235	232	222	895	2953	683	1002	9.7	52.0	1393.9	54.5	0.100	125.7	14.51	1.00	396
1397.0	11:10	1393.9	17.7	21	261	230	224	895	2960	691	1090	9.7	52.0	1394.0	54.6	0.058	126.1	14.56	1.10	397
1398.0	11:21	1394.9	15.7	36	220	235	125	921	3090	678	1113	9.7	52.0	1397.0	54.7	0.210	127.0	14.63	1.48	398
1399.0	11:30	1395.8	8.3	46	211	150	0	899	3085	694	1113	9.7	52.0	1397.0	54.9	0.107	127.9	14.75	1.65	399
1400.0	11:41	1396.8	8.7	46	211	149	0	895	3038	692	1110	9.7	51.7	1397.5	54.9	0.055	129.0	14.86	1.63	400
1401.0	11:51	1397.8	6.5	59	197	146	0	881	3035	690	1109	9.7	51.5	1397.8	54.9	0.048	130.3	15.02	1.86	401
1402.0	12:03	1398.7	5.8	55	201	147	0	883	3006	688	1107	9.7	51.5	1399.1	54.9	0.033	131.8	15.19	1.86	402
1403.0	12:19	1399.7	6.0	54	202	147	0	885	2963	696	1114	9.7	51.5	1400.9	55.6	0.044	133.3	15.36	1.83	403
1404.0	12:32	1400.7	4.6	62	194	146	0	881	2989	688	1107	9.7	51.5	1401.7	55.6	0.022	135.1	15.57	2.00	404
1405.0	12:49	1401.6	3.4	62	194	146	0	879	2981	678	1097	9.7	51.5	1403.0	55.5	0.027	137.7	15.87	2.10	405
1406.0	13:07	1402.6	3.3	62	195	145	0	874	3021	677	1094	9.7	51.5	1404.2	55.7	0.036	140.3	16.17	2.10	406
1407.0	13:16	1403.4	6.4	63	196	144	0	867	3085	670	1086	9.7	51.5	1404.6	55.8	0.013	141.6	16.32	1.90	407
1408.0	13:26	1404.3	6.3	62	196	144	0	869	3064	658	1076	9.7	51.5	1405.5	56.0	0.054	142.9	16.48	1.90	408
1409.0	13:35	1405.3	6.2	57	201	143	0	865	3080	662	1079	9.7	51.5	1405.8	56.2	0.074	144.4	16.64	1.85	409
1410.0	13:45	1406.2	6.0	48	210	144	0	868	3065	662	1079	9.7	51.5	1406.9	56.2	0.064	145.7	16.81	1.76	410
1411.0	13:54	1407.2	7.2	47	211	143	0	866	3072	659	1076	9.7	51.5	1407.6	56.1	0.062	146.9	16.94	1.69	411
1412.0	14:00	1408.2	9.8	47	211	143	0	865	3078	660	1078	9.7	51.5	1408.4	56.1	0.071	147.7	17.05	1.61	412
1413.0	14:04	1409.1	13.4	48	210	143	0	865	3069	661	1079	9.7	51.5	1408.8	56.1	0.075	148.3	17.12	1.53	413
1414.0	14:07	1410.1	18.7	46	212	144	0	866	3070	661	1078	9.7	51.5	1409.1	56.0	0.075	148.8	17.17	1.41	414
1415.0	14:10	1411.0	24.5	45	213	144	0	867	3062	660	1078	9.7	51.5	1409.4	55.9	0.062	149.2	17.21	1.32	415
1416.0	14:45	1412.0	3.0	48	210	147	0	873	2996	659	1078	9.7	51.6	1415.2	56.1	0.075	152.0	17.55	1.96	416
1417.0	14:48	1412.9	20.7	9	249	251	136	883	3090	657	1077	9.7	52.5	1415.2	56.1	0.075	152.7	17.59	1.01	417
1418.0	14:49	1413.9	46.2	14	244	249	136	895	3169	656	1077	9.7	52.5	1415.2	56.1	0.075	153.0	17.62	0.95	418
1419.0	14:50	1414.8	45.0	15	244	250	114	891	3157	656	1077	9.7	52.5	1415.2	55.6	0.071	153.5	17.64	0.96	419
1420.0	14:51	1415.8	62.1	16	242	249	131	890	3166	657	1078	9.7	52.5	1415.2	55.6	0.074	153.7	17.65	0.92	420
1421.0	14:56	1416.7	13.6	20	239	251	95	890	3135	658	1080	9.7	52.5	1415.2	55.6	0.081	154.8	17.73	1.31	421
1422.0	15:01	1417.7	10.9	29	229	248	126	884	3148	658	1079	9.7	52.5	1415.2	55.6	0.110	156.0	17.82	1.50	422
1423.0	15:06	1418.6	11.5	33	226	247	135	987	3140	656	1075	9.7	52.5	1415.5	55.6	0.145	157.2	17.91	1.53	423

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1423.0	15:06	1418.6	11.5	33	226	247	135	987	3140	656	1075	9.7	52.5	1415.5	55.6	0.145	157.2	17.91	1.53	423
1424.0	15:13	1419.6	8.9	28	230	245	102	987	3157	654	1071	9.7	52.5	1417.0	55.7	0.269	160.0	18.02	1.43	424
1425.0	15:22	1420.6	10.2	25	234	231	103	3808	3152	654	1072	9.7	52.5	1424.0	55.6	0.378	164.4	18.12	1.70	425
1426.0	15:23	1421.5	10.0	5	253	235	47	911	3106	648	1069	9.7	52.5	1424.3	55.7	0.378	164.4	18.12	0.96	426
1427.0	16:10	1422.5	3.4	51	204	151	0	908	3047	605	1027	9.7	52.5	1434.3	56.4	0.072	167.4	18.41	1.97	427
1428.0	16:27	1423.4	1.5	48	206	152	0	910	3086	604	1026	9.7	53.7	1426.1	56.6	0.223	169.8	18.69	2.19	428
1429.0	16:38	1424.4	5.3	49	209	151	0	912	3087	604	1026	9.7	54.0	1427.0	56.9	0.257	171.5	18.87	1.82	429
1430.0	16:48	1425.3	6.1	51	208	152	0	913	3047	599	1019	9.7	54.0	1430.0	57.2	0.180	173.0	19.04	1.81	430
1431.0	16:59	1426.3	5.9	53	206	152	0	915	3100	597	1018	9.7	54.0	1428.0	57.8	0.237	174.6	19.21	1.83	431
1432.0	17:05	1427.2	8.7	53	206	151	0	912	3071	596	1017	9.7	54.0	1428.7	57.3	0.123	175.5	19.32	1.72	432
1433.0	17:16	1428.2	5.7	55	204	151	0	909	3049	596	1017	9.7	54.0	1429.8	57.3	0.120	177.0	19.50	1.86	433
1434.0	17:33	1429.1	11.0	56	203	150	0	903	3036	595	1015	9.7	54.0	1431.8	57.4	0.477	177.8	19.59	1.67	434
1435.0	17:39	1429.9	10.2	56	203	150	0	901	3089	595	1014	9.7	54.0	1432.4	57.4	0.377	178.8	19.69	1.70	435
1436.0	17:51	1430.8	7.6	56	203	150	0	899	3145	596	1013	9.7	54.0	1433.1	57.4	0.382	180.0	19.82	1.79	436
1437.0	18:14	1431.8	5.4	57	202	150	0	904	3036	593	1011	9.7	54.0	1435.6	58.0	0.225	181.6	20.00	1.90	437
1438.0	18:20	1432.7	9.5	48	211	150	0	905	3080	592	1009	9.7	54.0	1435.6	58.1	0.210	182.5	20.11	1.64	438
1439.0	18:29	1433.6	7.3	49	210	150	0	902	3087	591	1007	9.7	54.0	1436.5	58.0	0.228	183.7	20.24	1.72	439
1440.0	18:41	1434.6	4.9	53	206	150	0	904	3036	590	1004	9.7	54.2	1436.5	57.8	0.198	185.6	20.45	1.89	440
1441.0	19:04	1435.5	9.5	56	203	149	0	901	3055	589	1001	9.7	55.4	1439.6	57.9	0.165	186.5	20.56	1.71	441
1442.0	19:12	1436.5	7.7	56	203	150	0	899	3081	587	999	9.7	55.4	1440.0	58.0	0.205	187.7	20.69	1.78	442
1443.0	19:21	1437.4	10.9	59	200	150	0	900	3075	585	996	9.7	55.4	1440.3	58.3	0.341	188.5	20.78	1.71	443
1444.0	19:46	1438.3	4.4	58	201	150	0	902	3043	574	985	9.7	55.4	1442.2	58.2	0.224	190.5	21.01	1.98	444
1445.0	20:04	1439.3	4.3	55	204	162	0	903	3006	560	968	9.7	55.4	1443.4	57.6	0.082	192.6	21.24	1.97	445
1446.0	20:06	1440.2	25.8	32	227	226	186	901	3042	567	980	9.7	55.4	1443.4	56.8	0.077	193.1	21.26	1.29	446
1447.0	20:09	1441.1	27.7	16	243	220	161	903	3007	567	979	9.7	55.4	1443.6	56.7	0.089	193.1	21.27	1.06	447
1448.0	20:10	1442.1	29.0	18	241	231	135	903	3037	567	980	9.7	55.4	1443.6	56.9	0.117	193.3	21.27	1.09	448
1449.0	20:11	1443.0	25.0	26	233	230	145	905	3040	566	979	9.7	55.4	1443.6	57.0	0.123	193.5	21.30	1.23	449
1450.0	20:25	1444.0	29.1	20	239	230	124	903	3013	566	979	9.7	55.4	1444.4	58.1	0.311	194.4	21.36	1.12	450
1451.0	20:25	1444.9	29.4	21	418	151	0	935	3003	587	998	9.7	55.4	1444.4	58.1	0.311	194.4	21.36	1.04	451
1452.0	20:25	1445.8	29.2	25	391	151	0	936	3010	590	1001	9.7	55.4	1444.4	58.1	0.311	194.4	21.36	1.08	452
1453.0	20:25	1446.8	25.9	28	392	151	0	937	3016	591	1002	9.7	55.4	1444.4	57.7	0.072	194.4	21.36	1.14	453
1454.0	20:39	1447.7	27.4	20	392	151	0	935	3000	598	1008	9.7	55.4	1446.8	58.0	0.129	194.6	21.38	1.03	454
1455.0	21:12	1448.7	12.2	46	391	151	0	937	3016	590	1001	9.7	55.4	1444.4	57.5	0.311	196.6	21.55	1.54	455
1456.0	21:17	1449.6	6.0	46	390	151	0	937	3017	591	1002	9.7	55.4	1444.4	58.1	0.072	197.6	21.65	1.87	456
1457.0	21:32	1450.5	15.0	20	392	151	0	937	3016	598	1008	9.7	55.4	1446.8	58.3	0.037	201.8	21.90	1.47	457
1458.0	22:03	1451.5	20.0	55	205	176	0	935	3007	729	966	9.7	55.4	1457.3	58.4	0.045	204.4	22.18	2.08	458
1459.0	22:17	1452.4	17.0	47	213	173	56	876	2989	753	964	9.7	55.4	1457.4	57.9	0.027	205.2	22.27	1.62	459
1460.0	22:30	1453.3	40.0	30	230	223	156	878	2953	753	963	9.7	55.4	1457.9	59.0	0.074	206.5	22.36	1.48	460
1461.0	22:32	1454.3	35.0	13	247	230	92	880	2940	751	960	9.7	55.4	1457.9	59.5	0.099	206.7	22.39	0.95	461
1462.0	22:35	1455.2	30.0	18	243	226	99	878	2952	750	960	9.7	55.4	1458.1	59.5	0.116	207.4	22.43	1.16	462
1463.0	23:13	1456.2	1.3	55	205	149	0	883	2910	740	950	9.7	55.6	1463.3	58.6	0.031	210.6	22.79	2.30	463
1464.0	23:24	1456.9	9.0	46	214	176	55	889	2883	725	937	9.7	55.7	1465.6	58.8	0.045	211.9	22.90	1.68	464
1465.0	23:29	1457.8	42.9	20	240	208	78	883	2884	724	933	9.7	55.7	1465.6	58.0	0.083	212.2	22.92	1.02	465
1466.0	23:29	1458.7	69.2	43	217	146	0	879	2942	714	923	9.7	55.7	1465.6	58.2	0.083	212.2	22.94	1.02	466
1467.0	23:47	1459.7	11.5	47	213	147	0	888	2851	715	926	9.7	55.7	1463.1	58.3	0.055	213.0	23.02	1.57	467
1468.0	00:04	1460.6	7.7	37	224	163	21	890	2835	714	923	9.7	55.7	1466.8	57.7	0.030	214.2	23.15	1.58	468
1469.0	00:05	1461.5	50.7	21	239	227	139	887	2863	703	912	9.7	55.7	1466.8	57.7	0.043	214.5	23.17	1.01	469
1470.0	00:06	1462.4	48.6	25	236	228	164	888	2852	701	910	9.7	55.7	1466.8	57.6	0.062	214.7	23.19	1.06	470
1471.0	00:10	1463.4	24.5	22	238	218	201	888	2853	699	908	9.7	55.7	1466.8	57.0	0.013	215.3	23.24	1.18	471
1472.0	00:12	1464.3	29.5	15	245	228	139	890	2832	694	903	9.7	55.7	1466.8	56.4	0.000	215.6	23.27	1.04	472

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1472.0	00:12	1464.3	29.5	15	245	228	139	890	2832	694	903	9.7	55.7	1466.8	56.4	0.000	215.6	23.27	1.04	472
1473.0	00:24	1465.2	4.8	27	234	230	117	892	2824	685	894	9.7	55.7	1467.4	56.8	0.041	218.4	23.48	1.65	473
1474.0	00:31	1466.1	8.9	26	234	224	163	863	2728	671	881	9.7	55.7	1467.6	57.1	0.066	220.0	23.59	1.48	474
1475.0	01:03	1467.1	6.0	27	233	165	128	549	2447	655	863	9.7	55.7	1472.5	56.8	0.026	221.7	23.75	1.52	475
1476.0	01:06	1468.0	18.6	29	231	198	175	783	2520	644	852	9.7	55.7	1472.6	56.4	0.010	222.2	23.81	1.31	476
1477.0	01:15	1468.9	6.3	33	228	210	136	837	2527	642	850	9.7	55.7	1473.3	56.5	0.032	224.1	23.97	1.65	477
1478.0	01:39	1469.8	10.3	32	229	213	111	856	2622	637	846	9.7	55.7	1475.8	56.5	0.217	225.4	24.06	1.52	478
1479.0	01:40	1470.8	19.0	33	229	217	106	881	2713	631	840	9.7	55.7	1476.2	56.3	0.137	225.6	24.09	1.14	479
1480.0	01:46	1471.7	11.1	32	230	217	109	881	2701	629	838	9.7	55.7	1476.6	56.3	0.153	226.8	24.18	1.50	480
1481.0	01:46	1472.6	19.0	32	231	219	89	884	2685	627	835	9.7	55.7	1476.6	56.3	0.151	226.8	24.18	1.49	481
1482.0	01:46	1473.5	8.1	31	231	218	116	884	2702	627	835	9.7	55.7	1476.6	56.7	0.044	227.0	24.18	1.48	482
1483.0	01:51	1474.5	11.9	32	230	217	107	878	2715	626	836	9.7	55.7	1477.2	56.3	0.131	227.9	24.26	1.48	483
1484.0	01:59	1475.4	7.8	32	230	215	106	868	2659	624	832	9.7	55.7	1477.3	56.3	0.110	229.6	24.39	1.59	484
1485.0	02:07	1476.3	7.3	34	229	204	109	803	2363	623	830	9.7	55.7	1477.3	56.3	0.105	231.3	24.53	1.61	485
1486.0	02:14	1477.2	8.5	35	227	203	113	804	2388	621	827	9.7	55.7	1479.2	56.3	0.097	232.6	24.65	1.60	486
1487.0	02:19	1478.2	12.1	34	229	204	131	807	2421	619	825	9.7	55.7	1479.7	56.3	0.065	233.6	24.73	1.48	487
1488.0	02:27	1479.1	8.1	33	229	204	129	807	2430	619	824	9.7	55.7	1483.2	56.3	0.092	235.1	24.85	1.58	488
1489.0	02:32	1480.0	11.8	33	229	204	126	806	2433	617	824	9.7	55.7	1483.8	56.3	0.137	236.1	24.94	1.48	489
1490.0	02:37	1480.9	10.2	33	229	204	119	807	2423	617	828	9.7	55.7	1484.3	56.3	0.170	237.4	25.03	1.52	490
1491.0	02:41	1481.9	18.2	23	239	196	177	808	2411	617	830	9.7	55.7	1484.8	56.3	0.179	238.0	25.09	1.23	491
1492.0	02:48	1482.8	18.0	23	239	192	234	804	2381	617	878	9.7	55.7	1485.7	56.3	0.198	238.5	25.15	1.22	492
1493.0	02:49	1483.6	37.1	30	232	200	167	798	2393	613	914	9.7	55.7	1486.0	56.3	0.201	238.9	25.17	1.15	493
1494.0	02:53	1484.6	16.3	32	230	201	144	797	2392	607	932	9.7	55.7	1486.8	56.3	0.196	239.6	25.23	1.39	494
1495.0	02:58	1485.5	11.2	33	229	202	137	798	2389	606	978	9.7	55.7	1487.6	56.3	0.270	240.7	25.32	1.49	495
1496.0	03:06	1486.4	9.6	31	231	198	160	797	2391	606	1005	9.7	55.7	1488.9	56.3	0.181	241.8	25.43	1.50	496
1497.0	03:10	1487.3	14.4	32	230	203	134	806	2399	607	1006	9.7	55.7	1489.4	56.3	0.114	242.7	25.50	1.42	497
1498.0	03:17	1488.2	9.4	33	229	202	130	797	2426	608	1003	9.7	55.7	1491.2	56.3	0.348	244.1	25.60	1.54	498
1499.0	03:22	1489.2	10.7	34	229	203	120	798	2465	604	999	9.7	55.7	1491.4	56.3	0.422	245.2	25.70	1.51	499
1500.0	03:30	1490.1	8.0	35	227	203	120	799	2448	601	996	9.7	55.7	1494.4	56.3	0.226	246.6	25.82	1.60	500
1501.0	03:36	1491.0	9.6	34	228	187	121	708	2048	597	992	9.7	55.7	1495.3	56.3	0.142	247.8	25.93	1.53	501
1502.0	03:41	1491.9	11.8	33	229	184	113	685	1945	594	991	9.7	55.7	1495.8	56.2	0.135	248.7	26.01	1.46	502
1503.0	03:47	1492.8	10.4	35	227	202	115	793	2413	590	994	9.7	55.7	1497.0	55.9	0.408	249.9	26.11	1.54	503
1504.0	03:53	1493.8	9.4	36	226	202	115	793	2419	588	998	9.7	55.7	1497.8	55.4	0.778	251.1	26.21	1.57	504
1505.0	03:56	1494.7	17.8	33	230	203	101	793	2411	588	995	9.7	55.7	1498.6	55.4	0.436	251.7	26.27	1.37	505
1506.0	04:04	1495.6	7.5	33	231	203	100	794	2401	587	992	9.7	55.7	1499.7	55.1	0.902	253.5	26.40	1.59	506
1507.0	04:10	1496.5	9.9	36	231	203	104	797	2402	586	991	9.7	55.7	1500.6	53.5	0.072	254.7	26.50	1.56	507
1508.0	04:15	1497.4	14.2	34	232	203	107	796	2410	583	988	9.7	55.7	1501.5	54.4	0.057	255.5	26.57	1.45	508
1509.0	04:18	1498.4	15.9	34	232	203	115	797	2410	580	985	9.7	55.7	1502.6	54.8	0.198	256.1	26.64	1.42	509
1510.0	04:24	1499.3	11.9	34	233	203	109	798	2399	563	968	9.7	55.7	1503.2	54.8	0.239	257.2	26.72	1.48	510
1511.0	04:28	1500.2	16.8	23	244	199	137	799	2389	554	958	9.7	55.7	1503.9	54.8	0.280	258.0	26.78	1.25	511
1512.0	04:51	1501.1	18.2	32	234	206	120	805	2443	549	954	9.7	55.5	1506.9	54.6	0.195	258.7	26.83	1.36	512
1513.0	04:56	1502.0	18.9	26	242	248	165	887	2771	522	928	9.7	53.5	1508.0	54.3	0.103	259.3	26.89	1.31	513
1514.0	04:58	1503.0	21.4	32	236	255	130	894	2829	521	927	9.7	53.5	1508.8	54.3	0.134	260.1	26.93	1.37	514
1515.0	05:05	1503.9	10.8	32	236	244	175	859	2680	521	928	9.7	53.5	1510.0	54.4	0.147	261.5	27.03	1.53	515
1516.0	05:09	1504.8	16.7	33	235	244	161	840	2609	522	930	9.7	53.5	1511.1	54.3	0.145	262.3	27.09	1.44	516
1517.0	05:17	1505.7	8.5	29	235	220	149	708	2033	532	939	9.7	53.5	1511.8	54.4	0.150	263.9	27.20	1.53	517
1518.0	05:26	1506.6	6.4	28	235	233	113	752	2174	537	945	9.7	53.5	1511.8	54.3	0.121	266.0	27.36	1.60	518
1519.0	05:35	1507.6	6.7	29	234	240	114	794	2355	522	930	9.7	53.5	1514.1	54.3	0.073	268.2	27.51	1.61	519
1520.0	05:40	1508.5	12.4	29	234	240	120	794	2371	502	910	9.7	53.5	1514.7	54.3	0.055	269.2	27.59	1.46	520
1521.0	05:45	1509.4	13.2	28	235	240	113	794	2370	501	910	9.7	53.5	1515.7	54.3	0.065	270.4	27.67	1.42	521

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1521.0	05:45	1509.4	13.2	28	235	240	113	794	2370	501	910	9.7	53.5	1515.7	54.3	0.065	270.4	27.67	1.42	521
1522.0	05:50	1510.3	10.5	26	237	240	108	795	2351	499	908	9.7	53.5	1516.6	54.3	0.236	271.7	27.76	1.45	522
1523.0	06:01	1511.2	5.6	26	237	241	100	794	2361	495	903	9.7	53.5	1517.8	54.3	0.274	274.4	27.94	1.60	523
1524.0	06:06	1512.1	13.7	26	237	239	111	790	2403	492	898	9.7	53.5	1518.3	54.3	0.111	275.3	28.02	1.39	524
1525.0	06:08	1513.1	27.7	26	237	238	119	788	2422	491	897	9.7	53.5	1518.6	54.3	0.094	275.9	28.05	1.22	525
1526.0	06:13	1514.0	10.5	26	237	239	116	787	2413	488	894	9.7	53.5	1519.4	54.3	0.103	277.1	28.15	1.46	526
1527.0	06:18	1514.9	12.4	26	237	238	116	786	2418	486	892	9.7	53.5	1520.4	54.3	0.188	278.3	28.23	1.42	527
1528.0	06:29	1515.8	5.4	27	236	239	100	787	2420	482	889	9.7	53.5	1522.1	54.3	0.202	281.0	28.41	1.63	528
1529.0	06:35	1516.7	9.8	26	237	239	101	785	2410	481	889	9.7	53.5	1522.8	54.2	0.107	282.4	28.51	1.47	529
1530.0	06:38	1517.7	28.3	24	239	238	116	786	2423	480	888	9.7	53.5	1523.0	54.2	0.084	282.9	28.55	1.19	530
1531.0	06:41	1518.6	32.1	19	244	224	199	787	2413	480	888	9.7	53.5	1523.4	54.2	0.085	283.3	28.58	1.08	531
1532.0	06:43	1519.5	25.5	23	240	238	108	786	2419	480	888	9.7	53.5	1524.4	54.2	0.101	283.8	28.62	1.20	532
1533.0	06:45	1520.4	34.3	19	244	238	115	786	2420	478	886	9.7	53.5	1525.3	54.2	0.129	284.3	28.65	1.08	533
1534.0	06:47	1521.3	31.9	19	244	238	137	787	2416	476	884	9.7	53.5	1525.7	54.2	0.134	284.8	28.68	1.09	534
1535.0	06:57	1522.2	6.2	25	238	235	116	766	2320	471	879	9.7	53.5	1527.1	54.2	0.191	286.9	28.84	1.56	535
1536.0	07:03	1523.2	9.9	29	234	232	129	757	2320	468	875	9.7	53.5	1527.6	54.2	0.169	288.3	28.94	1.50	536
1537.0	07:11	1524.1	6.9	29	234	233	126	756	2316	465	872	9.7	53.5	1528.7	54.2	0.244	290.2	29.09	1.59	537
1538.0	07:19	1525.0	8.1	30	233	232	129	755	2326	461	868	9.7	53.5	1530.9	50.3	0.112	291.9	29.21	1.57	538
1539.0	07:26	1525.9	8.4	30	233	233	129	756	2331	454	860	9.7	53.5	1534.2	53.5	0.033	293.6	29.33	1.56	539
1540.0	07:32	1526.8	10.1	30	233	233	130	758	2313	577	854	9.7	53.5	1534.8	53.9	0.099	295.0	29.43	1.51	540
1541.0	08:07	1527.7	11.9	21	244	212	95	721	2078	666	824	9.7	53.5	1538.3	54.6	0.110	296.0	29.51	1.31	541
1542.0	08:10	1528.7	19.3	27	238	235	134	761	2213	654	812	9.7	53.5	1538.8	54.9	0.082	296.8	29.56	1.31	542
1543.0	08:27	1529.6	10.5	33	232	151	74	739	2198	649	805	9.7	52.8	1540.1	54.2	0.093	297.8	29.66	1.43	543
1544.0	08:34	1530.5	8.9	48	217	122	0	737	2126	643	798	9.7	52.5	1540.4	53.4	0.072	298.5	29.77	1.59	544
1545.0	08:58	1531.4	8.7	40	224	155	25	775	2280	641	796	9.7	52.5	1542.2	53.0	0.052	299.6	29.89	1.58	545
1546.0	09:01	1532.3	20.7	26	239	219	165	787	2421	638	793	9.7	52.5	1542.5	52.9	0.059	300.2	29.94	1.27	546
1547.0	09:13	1533.2	8.5	26	239	207	254	787	2432	637	792	9.7	52.5	1544.1	52.9	0.102	301.6	30.05	1.46	547
1548.0	09:26	1534.2	5.2	11	254	215	188	788	2403	633	788	9.7	52.5	1544.2	53.0	0.083	304.0	30.25	1.29	548
1549.0	09:34	1535.1	15.5	12	252	205	243	786	2408	625	780	9.7	52.5	1544.8	52.9	0.075	304.8	30.31	1.10	549
1550.0	09:45	1536.0	11.6	13	252	213	195	783	2408	623	774	9.7	52.5	1546.7	53.1	0.041	306.0	30.40	1.18	550
1551.0	09:52	1536.9	8.1	20	244	212	220	773	2482	620	771	9.7	52.5	1547.1	53.3	0.046	307.5	30.52	1.39	551
1552.0	10:08	1537.8	5.1	17	248	208	230	778	2443	617	768	9.7	52.5	1548.5	54.4	0.047	309.9	30.71	1.42	552
1553.0	10:12	1538.8	5.0	18	154	210	225	778	2440	614	0	9.7	52.5	0.0	46.2	0.000	310.3	30.70	1.42	553

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 10

DATE: 02-JUNE-95

WELL	LONGTOM 1 ST	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	8 HUGHES ATM22GD
START DEPTH	1553m	JETS / TFA	3x18
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.17	39	12	16	3/10/13	9.4	6.0	7.5	0.5	88.5	50.0	1.0	6.2

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1554.0	06:30	1539.7	6.0	23	258	108	94	789	2882	762	1114	9.7	44.1	1541.6	48.8	0.137	3.2	0.50	1.32	554
1555.0	06:41	1540.6	5.6	23	242	108	132	792	2836	775	1112	9.7	44.1	1545.4	48.8	0.135	4.3	0.68	1.35	555
1556.0	06:55	1541.5	4.4	30	235	104	142	798	2847	770	1107	9.7	44.2	1553.2	48.8	0.124	5.7	0.91	1.49	556
1557.0	07:04	1542.4	6.3	34	231	107	148	812	2926	765	1099	9.7	44.2	1553.7	48.8	0.082	6.7	1.07	1.47	557
1558.0	07:10	1543.3	9.7	34	231	108	151	821	2982	765	1100	9.7	44.2	1554.2	49.9	0.082	7.3	1.17	1.36	558
1559.0	07:17	1544.2	8.6	34	231	108	136	821	2971	764	1098	9.7	44.3	1555.0	50.8	0.084	8.1	1.29	1.39	559
1560.0	07:26	1545.2	7.2	33	232	109	141	819	2957	766	1099	9.7	44.4	1555.6	51.0	0.133	9.0	1.43	1.43	560
1561.0	07:35	1546.1	6.3	34	231	108	132	816	2927	764	1098	9.7	45.6	1556.6	51.3	0.122	10.0	1.58	1.47	561
1562.0	07:41	1547.0	11.0	34	231	108	145	815	2920	760	1092	9.7	47.1	1557.1	51.7	0.070	10.7	1.68	1.33	562
1563.0	07:52	1547.9	5.2	35	230	108	134	814	2916	766	1100	9.7	47.1	1558.8	51.7	0.065	11.9	1.87	1.53	563
1564.0	08:02	1548.8	6.1	34	231	108	139	814	2908	766	1101	9.7	47.3	1560.0	51.7	0.034	12.9	2.03	1.49	564
1565.0	08:04	1549.7	26.3	32	233	108	142	814	2915	759	1092	9.7	47.4	1560.2	51.8	0.023	13.2	2.07	1.09	565
1566.0	08:06	1550.7	49.3	30	235	108	144	813	2915	757	1089	9.7	47.4	1560.3	51.8	0.018	13.3	2.09	0.91	566
1567.0	08:11	1551.6	49.0	19	246	100	140	812	2910	758	1090	9.7	47.5	1561.0	51.5	0.542	13.5	2.11	0.79	567
1568.0	08:11	1552.5	48.5	31	262	97	142	812	2926	762	1098	9.7	47.5	1561.0	51.5	0.542	13.5	2.11	0.89	568
1569.0	08:11	1553.4	49.0	30	262	57	143	812	2927	762	1097	9.7	47.5	1561.0	51.5	0.115	13.5	2.11	0.75	569
1570.0	08:26	1554.3	10.9	30	261	106	140	815	2950	776	1111	9.7	47.6	1562.3	51.8	0.104	13.5	2.20	1.26	570
1571.0	08:27	1555.2	46.2	29	237	105	141	815	3074	764	1101	9.7	47.6	1562.6	51.9	0.148	13.6	2.22	0.91	571
1572.0	08:29	1556.1	31.9	32	235	105	143	817	3085	757	1092	9.7	47.6	1562.8	51.9	0.148	13.8	2.25	1.03	572
1573.0	08:30	1557.1	45.0	34	233	104	153	817	3097	752	1084	9.7	47.6	1562.8	52.0	0.194	13.9	2.27	0.95	573
1574.0	08:35	1558.0	13.7	35	232	105	150	816	3092	752	1085	9.7	47.6	1562.9	52.2	0.456	14.5	2.35	1.27	574
1575.0	08:41	1558.9	9.8	35	232	105	145	815	3101	753	1087	9.7	47.7	1563.5	52.4	0.653	15.0	2.45	1.36	575
1576.0	08:45	1559.8	13.4	35	232	103	189	813	3111	751	1082	9.7	47.8	1564.0	52.5	0.372	15.5	2.52	1.27	576
1577.0	08:47	1560.7	41.4	34	233	103	181	812	3115	751	1084	9.7	47.8	1564.3	52.5	0.346	15.6	2.55	0.97	577
1578.0	08:49	1561.7	32.4	34	233	100	205	812	3117	754	1088	9.7	47.9	1565.5	52.5	0.390	15.8	2.58	1.03	578
1579.0	08:50	1562.6	41.9	35	232	100	245	811	3114	754	1088	9.7	47.9	1566.5	52.4	0.466	16.0	2.60	0.97	579
1580.0	08:59	1563.5	26.3	28	238	97	131	810	3122	759	1093	9.7	47.9	1569.7	52.4	0.522	16.2	2.64	1.02	580
1581.0	09:00	1564.4	48.6	31	235	105	186	806	3104	761	1095	9.7	48.0	1569.7	52.4	0.481	16.3	2.66	0.92	581
1582.0	09:02	1565.3	42.9	30	236	96	239	806	3110	757	1091	9.7	48.0	1569.7	52.4	0.408	16.5	2.69	0.92	582
1583.0	09:07	1566.2	19.7	14	252	100	166	806	3117	749	1079	9.7	47.9	1570.5	52.4	0.311	16.8	2.74	0.93	583
1584.0	09:10	1567.2	18.8	18	249	107	197	806	3120	750	1079	9.7	47.9	1572.7	52.4	0.282	17.1	2.79	1.00	584
1585.0	09:14	1568.1	14.5	21	246	108	178	806	3124	752	1084	9.7	47.9	1573.8	52.3	0.231	17.6	2.86	1.10	585
1586.0	09:15	1569.0	45.0	25	242	102	260	806	3127	755	1088	9.7	47.8	1574.2	52.6	0.385	17.7	2.88	0.87	586
1587.0	09:17	1569.9	31.6	22	244	102	268	800	3099	755	1089	9.7	47.8	1574.4	53.0	0.092	17.9	2.91	0.93	587
1588.0	09:19	1570.8	37.5	18	248	108	181	749	2774	753	1087	9.7	47.9	1574.5	53.0	0.134	18.1	2.94	0.86	588
1589.0	09:21	1571.8	28.1	19	247	107	188	747	2757	754	1087	9.7	47.9	1574.8	52.7	0.039	18.3	2.97	0.93	589
1590.0	09:23	1572.7	42.4	21	246	105	231	749	2756	753	1086	9.7	47.9	1575.0	52.6	0.042	18.4	3.00	0.85	590
1591.0	09:24	1573.6	33.0	19	247	109	175	750	2760	752	1085	9.7	47.9	1575.3	52.5	0.011	18.7	3.03	0.90	591
1592.0	09:26	1574.5	34.3	21	245	108	178	750	2758	751	1084	9.7	47.9	1576.0	52.3	0.054	18.8	3.06	0.91	592
1593.0	09:29	1575.4	20.3	22	244	109	161	750	2760	750	1083	9.7	47.9	1577.5	52.2	0.253	19.1	3.11	1.04	593
1594.0	09:32	1576.3	18.2	25	242	109	164	750	2761	746	1077	9.7	47.9	1579.5	52.2	0.356	19.5	3.16	1.10	594
1595.0	09:36	1577.3	16.0	25	241	109	167	750	2759	742	1073	9.7	48.0	1579.7	52.2	0.336	19.9	3.22	1.14	595
1596.0	09:40	1578.2	14.9	27	239	108	183	750	2762	743	1076	9.9	48.0	1582.2	52.2	0.297	20.4	3.29	1.17	596
1597.0	09:43	1579.1	18.9	27	239	106	197	751	2758	748	1083	9.9	48.0	1582.3	52.2	0.275	20.7	3.34	1.11	597
1598.0	10:20	1580.0	12.2	22	245	105	167	751	2753	664	1074	9.8	48.0	1592.9	52.3	0.091	21.2	3.43	1.15	598
1599.0	10:28	1580.9	7.3	28	240	109	147	753	2746	627	1066	9.8	48.3	1595.1	52.8	0.045	22.1	3.56	1.36	599
1600.0	10:41	1581.9	4.5	32	236	109	144	752	2755	832	1069	9.8	49.0	1597.4	53.2	0.050	23.5	3.78	1.54	600
1601.0	10:55	1582.8	4.4	33	235	110	137	751	2740	830	1067	9.8	49.1	1597.5	53.3	0.049	24.9	4.01	1.55	601
1602.0	11:07	1583.7	4.8	33	235	110	143	761	2785	832	1069	9.8	49.2	1599.0	53.4	0.116	26.3	4.22	1.53	602
1603.0	11:19	1584.6	5.0	34	234	110	144	765	2803	828	1064	9.8	49.3	1599.9	53.5	0.163	27.7	4.42	1.53	603

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1603.0	11:19	1584.6	5.0	34	234	110	144	765	2803	828	1064	9.8	49.3	1599.9	53.5	0.163	27.7	4.42	1.53	603
1604.0	11:27	1585.5	7.9	35	233	109	147	769	2825	832	1069	9.8	49.4	1600.4	54.0	0.290	28.4	4.54	1.42	604
1605.0	11:37	1586.4	6.1	33	235	109	144	766	2825	826	1062	9.8	49.5	1601.1	54.2	0.311	29.5	4.71	1.47	605
1606.0	11:42	1587.4	11.2	31	237	110	133	760	2804	827	1063	9.8	49.6	1601.5	54.3	0.288	30.1	4.80	1.29	606
1607.0	11:43	1588.3	85.7	28	240	110	132	761	2821	824	1060	9.8	49.6	1601.6	54.4	0.290	30.1	4.81	0.76	607
1608.0	11:46	1589.2	19.3	34	234	110	149	759	2809	824	1060	9.8	49.6	1601.7	54.3	0.388	30.5	4.86	1.19	608
1609.0	11:52	1590.2	10.1	32	236	110	140	759	2819	824	1060	9.8	49.7	1602.2	54.4	0.435	31.1	4.96	1.34	609
1610.0	11:57	1591.1	11.3	32	236	110	138	758	2832	833	1070	9.8	49.7	1602.8	54.5	0.319	31.7	5.05	1.31	610
1611.0	12:03	1592.0	10.7	32	236	110	136	757	2841	840	1079	9.9	49.8	1603.4	54.5	0.317	32.4	5.14	1.31	611
1612.0	12:09	1592.9	9.5	31	237	110	134	757	2847	841	1079	9.9	49.8	1604.1	54.5	0.327	33.1	5.25	1.33	612
1613.0	12:16	1593.9	8.5	31	237	111	129	757	2848	840	1079	9.9	49.8	1604.9	54.8	0.275	33.7	5.36	1.36	613
1614.0	12:22	1594.8	11.1	31	237	110	130	756	2830	839	1078	9.9	49.8	1605.7	53.6	0.071	34.4	5.45	1.30	614
1615.0	12:23	1595.7	43.9	30	238	110	148	752	2786	839	1077	9.9	49.8	1607.1	53.9	0.103	34.5	5.48	0.94	615
1616.0	12:27	1596.6	14.3	31	237	110	137	757	2830	838	1076	9.9	49.8	1608.2	54.1	0.039	35.0	5.55	1.23	616
1617.0	12:32	1597.5	12.3	31	237	111	130	758	2837	834	1073	9.9	49.9	1609.2	53.8	0.177	35.5	5.63	1.28	617
1618.0	12:36	1598.5	13.7	31	237	111	131	758	2833	832	1071	9.8	49.9	1609.9	54.1	0.227	36.0	5.70	1.24	618
1619.0	12:42	1599.5	11.5	31	237	110	133	759	2831	831	1070	9.8	49.9	1610.8	54.5	0.205	36.6	5.79	1.29	619
1620.0	12:46	1600.4	12.5	32	236	110	129	759	2830	831	1070	9.8	50.0	1611.6	54.7	0.190	37.1	5.87	1.28	620
1621.0	12:50	1601.3	16.5	31	237	111	134	760	2829	831	1070	9.8	50.0	1612.2	54.7	0.187	37.6	5.93	1.20	621
1622.0	12:51	1602.2	90.0	29	239	111	136	762	2832	831	1070	9.8	50.0	1612.2	54.7	0.192	37.6	5.94	0.76	622
1623.0	12:52	1603.2	45.6	28	240	110	127	767	2863	830	1069	9.8	50.0	1612.4	54.7	0.227	37.7	5.96	0.92	623
1624.0	12:53	1604.1	58.1	27	241	110	128	768	2875	830	1069	9.8	50.0	1612.7	54.8	0.286	37.8	5.98	0.85	624
1625.0	12:54	1605.0	62.1	24	244	111	122	766	2877	829	1068	9.8	50.0	1612.9	54.7	0.364	37.9	5.99	0.81	625
1626.0	12:55	1605.9	63.2	21	247	111	111	767	2870	830	1069	9.8	50.0	1612.9	54.8	0.472	38.0	6.01	0.78	626
1627.0	13:28	1606.9	65.0	32	247	108	125	761	2832	842	1080	9.9	50.0	1615.7	54.6	0.567	38.1	6.02	0.85	627
1628.0	13:33	1607.8	12.5	29	240	103	130	757	2819	833	1072	9.9	49.9	1616.6	54.5	0.301	38.6	6.10	1.22	628
1629.0	13:35	1608.7	39.1	30	240	103	138	759	2831	830	1069	9.9	49.9	1617.0	54.5	0.331	38.8	6.13	0.95	629
1630.0	13:37	1609.7	24.5	30	240	103	136	759	2834	830	1069	9.9	49.9	1617.5	54.5	0.534	39.0	6.17	1.06	630
1631.0	13:39	1610.6	28.8	27	243	103	131	763	2869	830	1069	9.9	49.8	1618.0	54.6	0.729	39.2	6.20	1.00	631
1632.0	13:43	1611.5	14.9	28	241	103	134	763	2879	830	1068	9.9	49.9	1618.8	54.6	0.827	39.6	6.27	1.17	632
1633.0	13:49	1612.4	10.8	32	237	102	148	763	2890	829	1067	9.9	49.9	1620.0	54.7	0.665	40.2	6.36	1.29	633
1634.0	13:53	1613.4	14.8	32	238	102	151	761	2891	776	1070	9.9	50.0	1621.0	54.7	0.573	40.6	6.43	1.21	634
1635.0	13:56	1614.3	19.3	32	238	102	151	761	2889	581	1072	9.9	50.1	1624.7	54.7	0.568	40.9	6.48	1.14	635
1636.0	13:56	1615.2	19.0	29	240	102	157	761	2902	580	1072	9.9	50.1	1624.8	54.7	0.569	40.9	6.49	1.12	636
1637.0	13:56	1616.1	21.0	27	242	103	138	758	2908	579	1070	9.9	50.1	1624.8	54.7	0.401	40.9	6.49	1.08	637
1638.0	13:57	1617.1	15.0	28	241	103	137	759	2898	578	1069	9.9	50.1	1625.7	54.7	0.573	41.0	6.51	1.17	638
1639.0	14:03	1618.0	10.7	31	238	106	143	756	2867	569	1066	9.9	50.1	1626.3	54.7	0.630	41.7	6.60	1.30	639

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 11

DATE: 03-JUNE-95

WELL	LONGTOM 1 ST	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	9 HYCALOG DS34H
START DEPTH	1639m	JETS / TFA	5x15
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.19	41	14	17	3/10/14	9.2	6.8	8.1	0.5	88.0	49.0	1.0	6.3

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1640.0	23:49	1618.9	10.0	12	254	121	208	825	2853	501	970	9.8	45.6	-999.3	49.7	0.000	0.3	0.04	0.71	640
1641.0	23:49	1619.9	18.5	13	257	123	150	825	2882	501	970	9.8	45.6	-999.3	49.7	0.000	0.6	0.10	0.74	641
1642.0	23:49	1620.8	20.1	14	252	118	243	825	2883	500	969	9.8	45.6	-999.3	50.7	0.125	0.9	0.13	0.76	642
1643.0	23:49	1621.7	24.0	11	255	124	154	825	2860	500	970	9.8	45.6	-999.3	49.8	0.000	1.2	0.16	0.70	643
1644.0	23:51	1622.6	37.1	10	256	122	190	824	2879	498	967	9.8	45.7	1643.4	50.7	0.076	1.3	0.19	0.78	644
1645.0	23:52	1623.6	50.0	10	256	121	208	824	2871	498	967	9.8	45.9	1643.4	50.7	0.021	1.6	0.21	0.73	645
1646.0	23:54	1624.5	37.9	11	255	121	211	824	2876	500	969	9.8	46.1	1643.4	50.7	0.011	1.7	0.24	0.79	646
1647.0	23:55	1625.4	58.1	16	250	118	260	823	2871	500	969	9.8	46.2	1643.4	50.6	0.009	1.8	0.25	0.76	647
1648.0	23:56	1626.4	52.9	15	251	117	278	823	2872	503	972	9.8	46.4	1643.4	50.6	0.009	1.9	0.27	0.77	648
1649.0	23:57	1627.3	67.9	13	253	119	255	823	2876	504	973	9.8	46.5	1643.4	50.7	0.001	2.1	0.29	0.70	649
1650.0	00:15	1628.2	36.0	11	255	103	185	829	2934	502	971	9.8	46.8	1643.4	50.9	0.196	2.2	0.32	0.77	650
1651.0	00:16	1629.1	35.6	14	254	112	232	865	3181	497	967	9.8	47.7	1643.4	51.5	0.137	2.5	0.34	0.83	651
1652.0	00:28	1630.1	4.7	23	245	104	88	863	3180	496	965	9.8	48.1	1643.4	54.4	0.037	3.7	0.53	1.60	652
1653.0	01:28	1631.0	1.6	25	242	79	88	863	3120	673	964	9.8	48.8	1652.4	55.5	0.030	6.7	1.16	1.62	653
1654.0	02:28	1631.9	1.2	26	239	61	77	850	2921	715	960	9.7	49.7	1653.4	57.3	0.023	9.7	2.01	1.65	654
1655.0	03:49	1632.8	0.8	26	239	88	81	860	2927	712	957	9.8	50.5	1654.5	49.1	0.001	15.8	3.19	1.79	655

HALLIBURTON

ENGINEERING DATA FOR BIT RUN 12

DATE: 03-JUNE-95

WELL	LONGTOM 1 ST	OPERATOR	BHPP
SHOE DEPTH	1011.6m	CASING SIZE	13-3/8"
BIT SIZE	12-1/4"	BIT No. & TYPE	9RR HYCALOG DS34H
START DEPTH	1655m	JETS / TFA	5x15
		PUMP CAP. (bbls / stk)	0.119

MUD DATA LISTING

MUD TYPE: KCl / PHPA / POLYMER

Weight sg	Visc Sec / Q	Pl Visc C.P	Yield Pt lb/100ft	Gels 10/10/30	pH m	Filtrate ml/30min	Solids %Vol	Sand %Vol	Water % Vol	Chlorides mg/Lx10^3	PHPA ppb	KCl %Wt Soln
1.19	41	14	17	3/10/14	9.2	6.8	8.1	0.5	88.0	49.0	1.0	6.3

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1656.0	13:58	1633.8	14.3	4	263	109	145	862	2683	575	903	10.0	46.4	1655.6	49.2	0.046	0.4	0.07	0.79	656
1657.0	14:00	1634.7	25.0	6	261	120	182	861	2690	574	902	10.0	46.6	1655.7	50.3	0.069	0.7	0.11	0.75	657
1658.0	14:03	1635.6	22.8	5	262	123	152	860	2682	575	903	10.0	46.8	1655.7	50.8	0.100	1.0	0.15	0.75	658
1659.0	14:05	1636.6	39.6	7	260	131	216	859	2689	575	903	10.0	47.1	1655.7	51.1	0.121	1.2	0.18	0.71	659
1660.0	14:05	1637.5	67.9	8	259	135	218	859	2690	575	903	10.0	47.2	1655.7	51.2	0.128	1.3	0.19	0.64	660
1661.0	14:06	1638.4	72.0	11	256	134	245	860	2688	574	902	10.0	47.3	1655.7	51.4	0.134	1.4	0.21	0.67	661
1662.0	14:07	1639.3	69.2	9	258	135	208	860	2690	575	903	10.0	47.4	1655.7	51.4	0.138	1.6	0.22	0.66	662
1663.0	14:08	1640.3	65.5	11	259	136	208	858	2689	575	905	10.0	47.5	1655.7	51.5	0.140	1.6	0.24	0.70	663
1664.0	14:09	1639.8	67.9	13	258	135	228	859	2697	575	903	10.0	47.6	1655.7	51.6	0.144	1.7	0.25	0.70	664
1665.0	14:10	1640.8	64.3	12	259	136	214	861	2712	575	904	10.0	47.7	1655.7	51.6	0.147	1.9	0.27	0.71	665
1666.0	14:11	1641.7	58.1	11	260	137	176	862	2702	576	904	10.0	47.8	1655.7	51.7	0.162	2.0	0.29	0.72	666
1667.0	14:12	1642.6	56.2	13	258	118	223	862	2712	576	904	10.0	47.9	1655.7	51.2	0.173	2.1	0.30	0.72	667
1668.0	14:13	1643.5	59.0	14	257	118	215	860	2702	577	905	10.0	48.0	1655.7	50.5	0.179	2.3	0.32	0.72	668
1669.0	14:14	1644.5	65.5	15	256	115	258	859	2702	579	907	10.0	48.1	1655.7	50.3	0.225	2.4	0.34	0.71	669
1670.0	14:15	1645.4	85.7	14	257	117	236	861	2706	580	909	10.0	48.2	1655.7	50.3	0.242	2.4	0.35	0.65	670
1671.0	14:15	1646.3	75.0	15	256	100	229	859	2712	581	910	10.0	48.3	1627.7	50.4	0.215	2.5	0.36	0.65	671
1672.0	14:16	1647.2	57.1	15	256	100	224	860	2711	581	910	10.0	48.4	1631.7	50.5	0.179	2.6	0.38	0.71	672
1673.0	14:17	1648.2	55.4	13	258	101	205	860	2707	581	910	10.0	48.4	1637.1	50.6	0.146	2.7	0.40	0.69	673
1674.0	14:19	1649.1	45.0	12	259	102	187	859	2710	580	910	10.0	48.5	1639.8	50.7	0.108	2.8	0.42	0.72	674
1675.0	14:22	1650.0	22.0	14	257	101	209	860	2709	579	908	10.0	48.7	1698.8	50.9	0.104	3.2	0.46	0.88	675
1676.0	14:24	1650.9	21.2	14	257	103	238	860	2717	579	913	10.0	48.9	1698.8	50.8	0.313	3.4	0.51	0.90	676
1677.0	15:04	1651.8	21.3	8	264	107	180	855	2736	575	1077	10.0	49.7	1676.0	51.8	0.580	5.1	0.78	0.81	677
1678.0	15:05	1652.8	41.4	12	260	108	237	854	2750	573	1090	10.0	49.7	1676.0	52.0	0.439	5.3	0.80	0.76	678
1679.0	15:06	1653.7	45.0	12	260	107	255	854	2740	573	1089	10.0	49.7	1676.0	52.1	0.341	5.3	0.81	0.74	679
1680.0	15:06	1654.6	51.0	13	260	108	236	852	2738	572	1088	10.0	49.7	1676.0	51.7	0.731	5.4	0.81	0.72	680
1681.0	15:07	1655.5	50.7	12	260	108	236	853	2736	570	1086	10.0	49.8	1676.0	52.2	0.355	5.5	0.83	0.71	681
1682.0	15:09	1656.5	31.0	11	262	109	208	853	2747	569	1083	10.0	49.8	1676.5	52.2	0.283	5.7	0.86	0.79	682
1683.0	15:11	1657.4	38.7	11	261	108	234	853	2740	568	1083	10.0	49.8	1677.0	51.8	0.006	5.9	0.89	0.76	683
1684.0	15:13	1658.3	28.1	10	263	110	210	852	2743	565	1080	10.0	49.9	1677.7	50.6	0.141	6.1	0.93	0.80	684
1685.0	15:15	1659.2	25.9	10	263	110	196	852	2740	564	1080	10.0	49.9	1678.2	49.6	0.332	6.3	0.96	0.81	685
1686.0	15:16	1660.2	25.8	10	263	109	216	852	2750	565	1082	10.0	50.0	1678.3	49.7	0.330	6.4	0.97	0.79	686
1687.0	15:16	1661.1	27.7	8	264	112	223	852	2740	565	1082	10.0	50.0	1678.3	49.7	0.330	6.4	0.97	0.75	687
1688.0	15:16	1662.0	29.0	10	263	109	166	852	2761	564	1080	10.0	50.0	1678.3	52.0	0.349	6.4	0.97	0.77	688
1689.0	15:16	1662.9	25.0	9	263	110	209	852	2736	564	1081	10.0	50.0	1678.4	49.9	0.522	6.4	0.98	0.79	689
1690.0	15:19	1663.9	27.1	9	263	111	188	852	2740	564	1081	10.0	50.0	1679.2	50.8	0.623	6.7	1.02	0.80	690
1691.0	15:20	1666.0	46.8	9	263	109	209	851	2739	563	1080	9.9	50.1	1679.3	52.1	0.632	6.9	1.04	0.70	691
1692.0	15:21	1666.9	38.7	11	262	108	224	851	2736	563	1081	10.0	50.1	1679.3	52.2	0.638	7.0	1.06	0.75	692
1693.0	15:23	1667.8	51.4	11	261	107	248	849	2738	564	1082	10.0	50.2	1679.3	52.1	0.650	7.1	1.08	0.70	693
1694.0	15:24	1668.7	57.1	13	259	107	264	849	2743	564	1081	10.0	50.2	1679.3	52.1	0.663	7.2	1.10	0.71	694
1695.0	15:25	1669.6	51.4	11	261	108	232	850	2742	564	1082	10.0	50.2	1679.3	52.1	0.652	7.3	1.12	0.70	695
1696.0	15:26	1670.6	39.1	12	261	109	215	851	2758	564	1081	10.0	50.3	1679.3	52.3	0.621	7.5	1.15	0.76	696
1697.0	15:28	1671.5	29.8	10	263	111	173	852	2757	564	1081	10.0	50.3	1679.3	52.5	0.640	7.8	1.18	0.79	697
1698.0	15:29	1672.4	54.5	11	261	107	236	851	2759	564	1081	9.9	50.3	1679.3	52.6	0.609	7.9	1.20	0.69	698
1699.0	15:31	1673.3	48.0	12	261	108	236	851	2759	563	1081	10.0	50.4	1679.3	52.6	0.631	8.0	1.22	0.72	699
1700.0	15:32	1674.2	36.7	10	262	110	203	851	2753	563	1082	10.0	50.4	1679.3	52.7	0.644	8.2	1.25	0.76	700
1701.0	15:34	1675.2	34.6	10	263	110	195	850	2766	553	1084	9.9	50.4	1679.3	52.6	0.637	8.3	1.28	0.76	701
1702.0	15:35	1676.1	43.4	11	261	109	227	851	2762	530	1086	9.9	50.5	1679.3	52.6	0.656	8.6	1.30	0.74	702
1703.0	15:37	1677.0	49.3	11	261	109	239	850	2759	511	1087	9.8	50.5	1674.7	52.6	0.650	8.7	1.32	0.72	703
1704.0	15:38	1677.9	35.3	9	263	110	198	851	2763	490	1088	9.8	50.5	1675.6	52.6	0.643	8.8	1.35	0.76	704
1705.0	15:40	1678.8	47.4	10	263	108	233	850	2767	483	1087	9.8	50.5	1676.1	52.7	0.629	9.0	1.37	0.71	705

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1705.0	15:40	1678.8	47.4	10	263	108	233	850	2767	483	1087	9.8	50.5	1676.1	52.7	0.629	9.0	1.37	0.71	705
1706.0	16:06	1679.7	26.5	10	263	123	168	851	2765	482	1086	9.8	50.5	1690.2	53.0	0.556	9.2	1.41	0.84	706
1707.0	16:07	1680.7	50.7	10	264	136	243	852	2761	479	1083	9.8	50.4	1691.2	53.2	0.493	9.4	1.43	0.74	707
1708.0	16:08	1681.6	48.6	12	262	135	284	851	2775	479	1083	9.8	50.3	1692.0	53.1	0.393	9.5	1.45	0.77	708
1709.0	16:10	1682.5	44.4	9	264	136	246	852	2764	479	1082	9.8	50.3	1692.9	53.1	0.353	9.8	1.47	0.75	709
1710.0	16:11	1683.4	52.2	9	264	136	269	851	2774	479	1080	9.8	50.3	1693.9	53.1	0.378	9.9	1.49	0.72	710
1711.0	16:13	1684.3	26.1	8	265	138	200	855	2789	478	1080	9.8	50.3	1695.8	53.1	0.478	10.2	1.53	0.82	711
1712.0	16:15	1685.2	25.9	7	266	138	209	861	2834	478	1080	9.8	50.4	1696.7	53.0	0.636	10.5	1.57	0.82	712
1713.0	16:18	1686.2	26.7	7	266	138	200	860	2837	477	1081	9.8	50.4	1698.8	53.1	0.697	10.7	1.60	0.81	713
1714.0	16:19	1687.1	31.9	8	265	138	202	859	2826	476	1082	9.8	50.5	1699.9	53.2	0.645	11.0	1.63	0.79	714
1715.0	16:21	1688.0	31.9	8	265	138	186	858	2826	476	1082	9.8	50.5	1700.9	53.3	0.525	11.3	1.67	0.79	715
1716.0	16:22	1688.9	52.9	7	266	139	192	859	2824	475	1082	9.8	50.5	1701.8	53.4	0.476	11.5	1.68	0.68	716
1717.0	16:24	1689.8	33.0	5	268	140	138	859	2829	475	1082	9.8	50.6	1703.2	53.6	0.419	11.8	1.71	0.74	717
1718.0	16:27	1690.7	25.4	7	266	139	160	858	2825	474	1080	9.8	50.6	1704.6	53.7	0.375	12.0	1.75	0.82	718
1719.0	16:28	1691.7	43.4	7	266	139	184	857	2816	472	1080	9.8	50.7	1705.6	53.8	0.957	12.2	1.78	0.73	719
1720.0	16:30	1692.6	40.9	8	265	138	197	857	2837	473	1080	9.8	50.7	1705.6	54.1	0.408	12.5	1.80	0.74	720
1721.0	16:32	1693.5	21.2	9	264	139	161	856	2825	472	1078	9.8	50.7	1705.6	54.2	0.108	12.7	1.85	0.90	721
1722.0	16:35	1694.4	26.5	9	264	139	159	857	2825	471	1077	9.8	50.8	1705.6	54.3	0.104	13.1	1.89	0.86	722
1723.0	16:37	1695.3	31.0	7	266	140	144	856	2820	471	1078	9.8	50.8	1705.6	54.1	0.434	13.4	1.92	0.78	723
1724.0	16:38	1696.2	50.7	7	266	139	183	856	2813	471	1077	9.8	50.9	1705.6	54.2	0.522	13.5	1.94	0.69	724
1725.0	16:39	1697.1	73.5	6	267	137	181	855	2822	471	1078	9.8	50.9	1705.6	54.3	0.553	13.7	1.95	0.60	725
1726.0	16:40	1698.0	37.1	5	268	139	151	855	2820	471	1077	9.8	50.9	1705.6	54.6	0.719	13.9	1.98	0.71	726
1727.0	16:42	1698.9	29.5	6	267	138	154	855	2817	470	1077	9.8	50.9	1705.8	54.7	0.821	14.2	2.01	0.78	727
1728.0	16:45	1699.8	25.5	6	267	139	162	855	2821	470	1076	9.8	51.0	1707.3	54.6	0.626	14.5	2.05	0.79	728
1729.0	16:46	1700.7	34.3	6	267	139	222	854	2819	470	1076	9.8	51.0	1708.6	54.6	0.520	14.8	2.08	0.75	729
1730.0	16:48	1701.6	39.6	7	266	137	201	854	2815	472	1077	9.8	51.0	1709.7	54.6	0.450	14.9	2.11	0.74	730
1731.0	16:49	1702.5	36.4	6	267	139	182	855	2817	471	1076	9.8	51.1	1710.8	54.6	0.413	15.2	2.13	0.72	731
1732.0	16:52	1703.4	29.3	7	266	140	156	855	2815	471	1076	9.8	51.1	1711.5	54.6	0.406	15.5	2.17	0.78	732
1733.0	16:56	1704.3	13.9	10	263	140	133	853	2827	470	1073	9.8	51.1	1713.5	54.7	0.393	16.1	2.24	0.99	733
1734.0	17:22	1705.2	27.7	6	267	131	132	855	2822	468	1072	9.8	51.1	1723.4	54.8	0.215	16.3	2.28	0.77	734
1735.0	17:35	1706.1	5.1	5	270	139	124	835	2858	467	1067	9.8	51.4	1727.1	55.2	0.162	17.9	2.47	1.02	735
1736.0	17:49	1707.0	4.2	3	272	136	127	858	2708	470	1064	9.8	51.9	1733.3	55.5	0.155	19.9	2.71	0.96	736
1737.0	17:52	1707.9	20.2	7	267	121	196	884	2836	471	1062	9.8	52.0	1733.6	55.6	0.266	20.2	2.76	0.83	737
1738.0	17:55	1708.8	27.5	9	266	130	239	884	2797	471	1061	9.8	52.0	1733.6	55.7	0.293	20.5	2.80	0.82	738
1739.0	17:56	1709.7	32.1	9	265	133	243	883	2774	472	1062	9.8	52.1	1733.6	55.7	0.356	20.8	2.83	0.81	739
1740.0	17:59	1710.6	29.0	9	266	138	286	882	2797	474	1063	9.8	52.1	1733.6	55.7	0.458	21.0	2.86	0.82	740
1741.0	18:00	1711.5	31.3	10	265	139	279	883	2799	475	1064	9.8	52.1	1733.6	55.8	0.557	21.2	2.89	0.82	741
1742.0	18:03	1712.4	28.1	8	266	139	218	878	2783	477	1064	9.8	52.2	1733.6	55.8	0.670	21.5	2.93	0.82	742
1743.0	18:04	1713.3	31.3	8	266	139	214	879	2789	478	1065	9.8	52.2	1733.6	55.9	0.811	21.8	2.96	0.80	743
1744.0	18:06	1714.2	35.3	8	266	140	201	882	2803	478	1066	9.8	52.2	1733.6	55.9	0.755	22.1	2.99	0.78	744
1745.0	18:08	1715.1	33.3	7	268	140	193	881	2798	478	1065	9.8	52.2	1734.1	56.0	0.660	22.3	3.02	0.77	745
1746.0	18:10	1716.0	28.6	7	268	140	198	884	2808	479	1065	9.8	52.2	1734.4	56.0	0.566	22.6	3.06	0.79	746
1747.0	18:12	1716.9	27.5	7	268	140	168	884	2825	479	1064	9.8	52.3	1734.4	56.1	0.549	22.9	3.09	0.80	747
1748.0	18:14	1717.8	32.1	7	268	141	187	883	2828	479	1064	9.8	52.3	1734.6	56.1	0.295	23.0	3.12	0.77	748
1749.0	18:16	1718.7	33.6	7	268	140	213	880	2807	480	1064	9.8	52.3	1734.9	56.0	0.012	23.4	3.15	0.76	749
1750.0	18:17	1719.6	39.6	7	268	139	235	883	2825	480	1063	9.8	52.3	1735.0	55.9	0.104	23.6	3.18	0.73	750
1751.0	18:19	1720.5	40.9	7	267	140	196	882	2824	480	1064	9.8	52.3	1735.0	55.7	0.383	23.8	3.20	0.73	751
1752.0	18:20	1721.4	39.6	8	267	140	200	884	2824	481	1065	9.8	52.4	1735.1	55.7	0.183	23.9	3.23	0.75	752
1753.0	18:22	1722.3	41.9	7	267	140	207	886	2840	482	1065	9.8	52.4	1735.1	55.8	0.048	24.2	3.25	0.73	753
1754.0	18:24	1723.2	22.9	6	269	141	164	884	2829	482	1064	9.8	52.4	1735.1	56.0	0.233	24.5	3.30	0.80	754

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1754.0	18:24	1723.2	22.9	6	269	141	164	884	2829	482	1064	9.8	52.4	1735.1	56.0	0.233	24.5	3.30	0.80	754
1755.0	18:27	1724.1	23.7	5	269	141	172	883	2830	482	1064	9.8	52.4	1735.2	56.1	0.421	24.9	3.34	0.79	755
1756.0	18:30	1725.0	23.8	5	270	141	159	883	2834	483	1065	9.8	52.5	1735.7	56.2	0.476	25.2	3.38	0.77	756
1757.0	18:33	1725.9	19.7	5	269	142	148	885	2851	484	1065	9.8	52.5	1736.6	56.4	0.460	25.7	3.43	0.82	757
1758.0	18:36	1726.8	18.8	5	269	141	163	887	2860	484	1063	9.8	52.6	1737.9	56.5	0.393	26.1	3.48	0.83	758
1759.0	18:39	1727.7	21.4	6	269	142	163	887	2856	485	1063	9.8	52.6	1739.4	56.5	0.311	26.4	3.53	0.82	759
1760.0	18:42	1728.6	18.9	7	268	141	166	887	2860	483	1060	9.8	52.6	1741.0	56.5	0.308	26.9	3.58	0.86	760
1761.0	18:44	1729.5	23.1	6	269	141	170	886	2856	483	1061	9.8	52.7	1742.4	56.5	0.215	27.3	3.63	0.81	761
1762.0	18:47	1730.4	19.7	5	269	142	150	886	2857	488	1065	9.8	52.7	1743.8	56.5	0.197	27.8	3.68	0.81	762
1763.0	19:20	1731.3	14.9	4	272	125	136	854	2729	513	1080	9.8	52.5	1755.0	56.6	0.193	28.3	3.74	0.79	763
1764.0	19:21	1732.2	37.1	5	272	140	220	872	2787	517	1081	9.8	52.4	1755.8	56.7	0.396	28.4	3.77	0.69	764
1765.0	19:25	1733.1	15.9	4	272	141	172	874	2794	513	1077	9.8	52.5	1757.0	56.7	0.449	29.0	3.83	0.81	765
1766.0	19:30	1734.0	13.4	3	273	141	149	875	2791	508	1072	9.8	52.6	1758.5	56.9	0.364	29.5	3.91	0.79	766
1767.0	19:33	1734.9	16.0	2	274	141	154	873	2793	504	1070	9.8	52.7	1759.8	57.0	0.308	30.1	3.97	0.76	767
1768.0	19:39	1735.8	10.1	5	272	141	173	875	2804	492	1058	9.8	52.9	1761.9	57.1	0.285	30.9	4.07	0.90	768
1769.0	19:43	1736.6	15.5	5	271	141	161	874	2816	488	1055	9.8	53.0	1762.2	57.2	0.304	31.4	4.14	0.84	769
1770.0	19:47	1737.6	18.1	5	271	141	177	875	2823	490	1059	9.8	53.1	1762.2	57.2	0.350	31.8	4.19	0.82	770
1771.0	19:50	1738.4	17.1	5	271	141	170	875	2833	490	1059	9.8	53.1	1762.2	57.2	0.368	32.4	4.25	0.83	771
1772.0	19:53	1739.4	22.9	5	271	141	185	874	2828	490	1056	9.8	53.2	1762.2	57.2	0.367	32.7	4.29	0.79	772
1773.0	19:55	1740.2	26.7	6	270	141	186	874	2829	489	1056	9.8	53.2	1762.2	57.3	0.447	33.0	4.33	0.78	773
1774.0	19:57	1741.1	31.9	6	270	141	193	874	2837	489	1053	9.8	53.3	1762.2	57.3	0.567	33.3	4.36	0.74	774
1775.0	19:59	1742.0	25.9	5	271	141	172	873	2834	489	1054	9.8	53.3	1762.2	57.4	0.573	33.6	4.40	0.77	775
1776.0	20:02	1742.9	20.7	5	271	141	174	873	2836	490	1053	9.8	53.2	1763.3	57.6	0.485	34.0	4.45	0.81	776
1777.0	20:06	1743.8	17.6	6	270	141	167	873	2838	491	1052	9.8	53.2	1764.8	57.8	0.140	34.4	4.51	0.85	777
1778.0	20:08	1744.7	28.1	6	270	141	171	873	2839	492	1050	9.8	53.2	1765.2	57.6	0.039	34.7	4.54	0.77	778
1779.0	20:08	1745.6	30.0	6	270	141	208	874	2817	492	1052	9.8	53.2	1765.2	57.3	0.148	34.9	4.54	0.37	779
1780.0	20:15	1746.4	23.0	7	270	141	193	873	2826	493	1049	9.8	53.2	1766.8	57.2	0.327	34.4	4.59	0.82	780
1781.0	20:15	1747.3	24.2	7	270	141	193	873	2826	493	1049	9.8	53.2	1766.8	57.2	0.327	35.8	4.66	0.81	781
1782.0	20:16	1748.2	52.2	5	271	140	186	874	2829	494	1046	9.8	53.2	1766.9	57.3	0.318	35.9	4.67	0.65	782
1783.0	20:19	1749.1	18.0	5	271	141	171	874	2817	495	1046	9.8	53.1	1767.6	57.3	0.327	36.3	4.73	0.83	783
1784.0	20:21	1750.0	29.5	5	271	140	172	873	2815	498	1045	9.8	53.1	1767.9	57.3	0.351	36.6	4.76	0.75	784
1785.0	20:24	1750.9	23.8	6	271	141	196	873	2815	499	1045	9.8	53.1	1768.5	57.3	0.388	37.0	4.81	0.79	785
1786.0	20:26	1751.8	26.1	6	270	141	177	873	2804	501	1046	9.8	53.1	1769.0	57.3	0.395	37.3	4.84	0.80	786
1787.0	20:29	1752.7	19.1	5	271	141	157	873	2802	504	1047	9.8	53.1	1769.9	57.3	0.391	37.8	4.90	0.83	787
1788.0	20:31	1753.6	25.7	5	271	142	129	873	2789	507	1048	9.8	53.1	1770.7	57.2	0.392	38.1	4.94	0.77	788
1789.0	20:34	1754.5	19.9	5	271	141	165	874	2793	509	1047	9.8	53.1	1771.8	57.2	0.383	38.5	4.99	0.81	789
1790.0	20:37	1755.4	26.7	5	271	141	184	875	2794	510	1045	9.8	53.1	1772.8	57.2	0.383	38.8	5.02	0.76	790
1791.0	21:03	1756.3	42.9	4	273	157	181	873	2766	520	1045	9.8	52.9	1780.4	57.2	0.209	39.0	5.05	0.68	791
1792.0	21:04	1757.2	52.9	7	271	168	207	871	2750	525	1046	9.8	52.8	1780.8	57.1	0.376	39.2	5.07	0.71	792
1793.0	21:04	1758.1	21.0	6	271	165	230	875	2776	525	1045	9.8	52.8	1780.8	57.1	0.403	39.2	5.07	0.86	793
1794.0	21:07	1758.9	20.2	5	272	172	172	874	2753	527	1048	9.8	52.9	1782.4	57.1	0.453	39.7	5.12	0.85	794
1795.0	21:13	1759.8	10.9	5	273	176	141	875	2756	528	1041	9.8	52.9	1784.5	57.2	0.379	40.6	5.21	0.93	795
1796.0	21:25	1760.7	5.0	5	272	175	145	873	2756	530	1037	9.8	53.2	1789.1	57.2	0.322	42.6	5.41	1.09	796
1797.0	21:28	1761.6	19.6	6	271	170	178	870	2757	533	1038	9.8	53.2	1790.5	57.2	0.327	43.2	5.46	0.87	797
1798.0	21:31	1762.5	19.5	7	271	172	168	870	2766	537	1043	9.8	53.2	1790.5	57.2	0.396	43.7	5.51	0.89	798
1799.0	21:32	1763.4	19.0	7	271	171	172	871	2766	541	1046	9.8	53.2	1790.5	57.2	0.432	43.9	5.53	0.89	799
1800.0	21:35	1764.3	23.5	6	272	173	159	870	2758	543	1044	9.8	53.1	1790.5	57.2	0.454	44.4	5.57	0.84	800
1801.0	21:39	1765.2	14.4	5	272	175	135	871	2755	552	1046	9.8	52.9	1790.5	57.3	0.423	45.1	5.64	0.91	801
1802.0	21:42	1766.1	18.7	5	272	176	137	873	2739	564	1049	9.8	52.7	1790.5	57.5	0.202	45.6	5.70	0.86	802
1803.0	21:43	1767.0	45.0	5	273	177	136	876	2730	568	1049	9.8	52.6	1790.5	57.9	0.332	45.8	5.72	0.70	803

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1803.0	21:43	1767.0	45.0	5	273	177	136	876	2730	568	1049	9.8	52.6	1790.5	57.9	0.332	45.8	5.72	0.70	803
1804.0	21:43	1781.6	19.0	4	273	173	136	880	2704	569	1048	9.9	52.6	1790.5	57.9	0.383	45.8	5.72	0.83	804
1805.0	21:44	1772.4	18.0	6	271	169	191	874	2716	570	1048	9.9	52.6	1790.5	57.9	0.376	46.0	5.73	0.89	805
1806.0	21:45	1769.5	19.0	7	270	174	155	879	2715	577	1048	9.9	52.5	1793.5	57.9	0.110	46.3	5.76	0.88	806
1807.0	21:48	1770.4	21.0	7	270	174	155	879	2715	577	1048	9.9	52.5	1793.5	57.9	0.047	46.4	5.78	0.88	807
1808.0	21:51	1771.3	21.0	7	271	173	169	880	2709	582	1047	9.9	52.4	1794.2	57.9	0.047	47.0	5.83	0.88	808
1809.0	21:54	1772.2	24.2	8	270	173	164	880	2693	584	1046	9.9	52.4	1794.6	57.9	0.047	47.3	5.87	0.87	809
1810.0	21:57	1773.1	20.1	6	271	175	144	882	2689	654	1044	9.9	52.5	1795.3	57.8	0.203	47.9	5.92	0.87	810
1811.0	21:59	1773.9	23.7	6	271	175	152	883	2682	762	1042	9.9	52.6	1794.7	57.8	0.353	48.4	5.97	0.84	811
1812.0	22:02	1774.8	24.3	7	271	177	146	883	2677	762	1042	9.9	52.7	1795.0	57.8	0.420	48.8	6.01	0.84	812
1813.0	22:03	1775.7	34.6	7	270	177	174	883	2676	762	1039	9.9	52.9	1795.3	57.8	0.487	49.1	6.04	0.80	813
1814.0	22:05	1776.6	37.1	8	270	175	179	884	2685	760	1039	9.9	53.0	1795.5	57.8	0.534	49.3	6.06	0.79	814
1815.0	22:07	1777.5	30.3	6	271	178	167	884	2682	761	1041	9.9	53.1	1795.9	57.8	0.437	49.7	6.10	0.80	815
1816.0	22:10	1778.4	22.4	6	272	179	159	883	2688	759	1042	9.9	53.2	1796.4	57.8	0.396	50.2	6.14	0.84	816
1817.0	22:12	1779.2	26.1	6	272	178	169	883	2696	758	1042	9.9	53.3	1797.4	57.7	0.372	50.6	6.18	0.82	817
1818.0	22:14	1780.1	21.0	7	271	177	165	881	2705	756	1040	9.9	53.4	1797.8	57.1	0.424	50.9	6.21	0.88	818
1819.0	22:40	1781.0	12.0	3	275	151	101	861	2642	753	1046	9.9	53.5	1808.2	57.6	0.298	51.6	6.29	0.84	819
1820.0	22:41	1781.9	19.0	2	276	197	145	882	2833	749	1151	10.0	53.8	1808.9	57.6	0.195	51.9	6.32	0.73	820
1821.0	22:45	1782.8	15.2	4	274	195	145	882	2834	750	1176	10.0	53.8	1810.2	57.5	0.345	52.7	6.38	0.86	821
1822.0	22:45	1783.7	15.0	6	275	199	126	879	2833	752	1201	10.0	53.9	1810.3	57.8	0.341	52.7	6.38	0.93	822
1823.0	22:49	1784.5	16.9	5	276	198	124	881	2836	753	1202	10.0	53.9	1811.6	57.5	0.361	53.3	6.44	0.89	823
1824.0	22:53	1785.4	14.5	5	277	199	118	882	2843	752	1201	10.0	53.9	1814.1	57.7	0.276	54.1	6.51	0.91	824
1825.0	22:59	1786.3	9.9	6	276	198	129	880	2844	751	1200	10.0	54.0	1816.5	57.8	0.270	55.4	6.61	1.00	825
1826.0	23:04	1787.2	13.6	7	275	197	137	880	2852	751	1200	10.0	54.0	1818.9	57.9	0.292	56.2	6.69	0.98	826
1827.0	23:10	1788.1	9.0	8	274	195	145	879	2855	749	1198	10.0	54.0	1819.0	58.1	0.340	57.4	6.80	1.06	827
1828.0	23:14	1789.0	14.8	8	274	195	147	879	2866	743	1192	10.0	54.0	1812.1	58.2	0.312	58.2	6.87	0.99	828
1829.0	23:17	1789.9	20.7	8	274	196	149	878	2872	744	1193	10.0	54.0	1818.0	58.3	0.228	58.9	6.91	0.92	829
1830.0	23:24	1790.7	8.2	9	273	197	133	878	2881	744	1193	10.0	54.0	1820.0	58.4	0.201	60.3	7.03	1.12	830
1831.0	23:30	1791.6	10.8	8	274	199	123	872	2806	744	1192	10.0	54.0	1822.2	58.5	0.232	61.3	7.13	1.04	831
1832.0	23:37	1792.5	8.8	8	274	199	117	853	2923	745	1194	10.0	54.1	1824.0	58.6	0.225	62.7	7.24	1.07	832
1833.0	23:52	1793.4	6.3	13	269	188	132	845	2970	744	1192	10.0	54.1	1826.7	58.7	0.165	64.4	7.40	1.24	833
1834.0	23:55	1794.2	20.7	14	266	174	143	844	2969	738	1185	10.0	54.1	1827.0	58.9	0.143	65.0	7.45	1.02	834
1835.0	23:58	1795.1	20.5	13	265	172	155	843	2958	737	1184	10.0	54.1	1827.9	59.0	0.145	65.3	7.50	1.00	835
1836.0	00:03	1795.9	11.3	13	265	179	152	842	2960	738	1185	10.0	54.2	1829.3	59.2	0.182	66.3	7.59	1.13	836
1837.0	00:07	1796.8	17.6	12	266	177	178	843	2967	736	1183	10.0	54.2	1829.8	59.2	0.209	66.9	7.64	1.01	837
1838.0	00:10	1797.7	19.0	12	266	179	156	844	2980	735	1181	10.0	54.3	1830.0	59.2	0.297	67.4	7.69	1.00	838
1839.0	00:15	1798.6	11.0	11	267	182	135	845	3004	734	1181	10.0	54.3	1831.0	59.4	0.281	68.5	7.79	1.10	839
1840.0	00:19	1799.4	14.5	13	265	182	134	848	3038	733	1180	10.0	54.4	1831.4	59.3	0.016	69.1	7.85	1.07	840
1841.0	00:28	1800.3	6.8	13	265	182	137	849	3040	742	1191	10.0	54.4	1832.4	59.3	0.166	70.8	8.00	1.22	841
1842.0	00:33	1801.2	12.2	8	270	179	156	865	2800	750	1199	10.0	54.5	1832.8	59.4	0.202	71.5	8.08	1.00	842
1843.0	00:36	1802.1	18.7	5	273	178	174	862	2779	749	1199	10.0	54.5	1832.8	59.3	0.234	72.1	8.14	0.85	843
1844.0	00:41	1803.0	13.0	6	272	181	140	864	2800	748	1198	10.0	54.5	1834.6	59.3	0.348	73.0	8.21	0.92	844
1845.0	00:43	1803.8	33.0	8	270	173	204	863	2808	745	1195	10.0	54.6	1835.1	59.3	0.318	73.4	8.24	0.81	845
1846.0	00:46	1804.7	21.8	6	272	176	182	863	2810	741	1190	10.0	54.6	1835.7	59.3	0.295	73.8	8.29	0.85	846
1847.0	00:49	1805.6	18.7	6	272	177	175	864	2826	734	1181	10.0	54.6	1836.3	59.3	0.326	74.3	8.34	0.88	847
1848.0	01:06	1806.5	8.3	5	232	103	90	642	1916	731	1178	10.0	54.7	1839.7	59.2	0.312	75.2	8.46	0.88	848
1849.0	01:08	1807.3	29.0	5	283	158	76	867	2915	721	1169	9.9	54.7	1840.2	59.1	0.171	75.4	8.50	0.49	849
1850.0	01:09	1808.2	28.0	5	280	175	118	868	2905	719	1167	9.9	54.7	1840.2	59.1	0.142	75.5	8.51	0.37	850
1851.0	01:11	1809.1	27.7	5	278	171	157	868	2919	719	1166	9.9	54.7	1840.5	59.2	0.133	75.9	8.55	0.67	851
1852.0	01:13	1810.0	29.5	5	277	165	191	869	2927	718	1166	9.9	54.8	1840.8	59.2	0.149	76.2	8.58	0.70	852

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1852.0	01:13	1810.0	29.5	5	277	165	191	869	2927	718	1166	9.9	54.8	1840.8	59.2	0.149	76.2	8.58	0.70	852
1853.0	01:16	1810.9	21.7	5	277	195	157	869	2933	718	1166	9.9	54.8	1841.0	59.3	0.206	76.8	8.63	0.81	853
1854.0	01:19	1811.7	20.1	5	276	198	151	869	2935	718	1165	9.9	54.8	1841.6	59.3	0.286	77.4	8.68	0.87	854
1855.0	01:24	1812.6	11.8	6	276	197	140	869	2936	717	1165	9.9	54.9	1842.8	59.5	0.236	78.4	8.76	0.97	855
1856.0	01:27	1813.5	20.7	7	275	175	185	869	2937	717	1165	9.9	54.9	1843.2	59.7	0.165	78.7	8.81	0.87	856
1857.0	01:30	1814.4	20.3	6	276	184	165	870	2945	717	1165	9.9	55.0	1844.4	59.7	0.155	79.3	8.86	0.87	857
1858.0	01:32	1815.2	22.2	6	276	176	170	871	2947	714	1160	9.9	55.0	1845.6	59.8	0.156	79.8	8.90	0.84	858
1859.0	01:35	1816.1	19.7	6	276	179	159	870	2938	714	1160	9.9	55.0	1846.5	59.9	0.164	80.4	8.95	0.87	859
1860.0	01:39	1817.0	19.3	6	276	182	143	871	2948	713	1159	9.9	55.0	1847.4	60.0	0.172	80.9	9.01	0.87	860
1861.0	01:43	1817.9	14.3	7	275	183	154	870	2947	712	1158	9.9	55.1	1847.5	60.1	0.150	81.7	9.08	0.94	861
1862.0	01:47	1818.8	15.2	7	274	175	164	870	2940	710	1156	9.9	55.1	1847.5	60.1	0.142	82.4	9.14	0.95	862
1863.0	01:51	1819.7	13.4	7	275	176	149	870	2942	709	1154	9.9	55.1	1848.4	60.2	0.155	83.1	9.22	0.95	863
1864.0	01:58	1820.6	8.9	9	272	176	155	870	2950	708	1152	9.9	55.2	1852.3	60.3	0.145	84.2	9.33	1.09	864
1865.0	02:04	1821.4	9.4	7	275	174	168	870	2940	707	1151	9.9	55.2	1854.2	60.5	0.216	85.5	9.43	1.02	865
1866.0	02:06	1822.3	34.3	5	276	173	171	869	2935	705	1148	9.9	55.2	1854.4	60.5	0.376	85.7	9.46	0.75	866
1867.0	02:09	1823.2	22.0	8	274	176	156	870	2940	706	1150	9.9	55.2	1855.2	60.7	0.375	86.2	9.51	0.89	867
1868.0	02:13	1824.0	14.0	8	273	177	147	872	2955	706	1150	9.9	55.3	1856.8	60.4	0.246	86.9	9.58	0.98	868
1869.0	02:16	1824.9	19.0	8	274	173	173	872	2956	705	1149	9.9	55.3	1858.0	60.4	0.018	87.5	9.63	0.91	869
1870.0	02:19	1825.8	23.8	8	274	175	179	871	2952	704	1148	9.9	55.3	1858.6	60.3	0.129	88.0	9.68	0.87	870
1871.0	02:21	1826.6	28.8	7	274	172	186	871	2957	704	1148	9.9	55.4	1859.5	60.4	0.211	88.4	9.71	0.83	871
1872.0	02:24	1827.5	16.7	6	275	177	152	872	2957	703	1148	9.9	55.4	1860.4	60.6	0.287	88.9	9.77	0.90	872
1873.0	02:29	1828.4	14.1	7	274	177	147	871	2957	703	1147	9.9	55.4	1861.5	60.7	0.354	89.6	9.84	0.96	873
1874.0	02:34	1829.2	12.2	8	274	178	144	871	2957	703	1147	9.9	55.4	1862.5	60.6	0.339	90.5	9.92	1.00	874
1875.0	02:37	1830.1	17.5	9	273	176	154	871	2967	702	1146	9.9	55.5	1863.7	60.6	0.310	91.1	9.98	0.95	875
1876.0	02:43	1831.0	17.1	8	273	176	152	871	2971	701	1145	9.9	55.5	1864.0	60.6	0.348	92.2	10.08	1.06	876
1877.0	03:07	1831.9	28.0	8	258	125	115	774	2584	699	1144	9.9	55.5	1870.2	60.6	0.320	93.2	10.22	1.33	877
1878.0	03:08	1832.7	30.1	8	275	172	221	872	2938	694	1138	9.9	55.1	1870.8	60.5	0.207	93.3	10.24	0.76	878
1879.0	03:08	1833.6	28.4	10	273	170	225	873	2939	694	1139	9.9	55.1	1871.0	60.5	0.255	93.6	10.25	0.63	879
1880.0	03:11	1834.5	27.5	7	276	177	180	874	2926	693	1137	9.9	55.1	1871.9	60.5	0.320	93.9	10.29	0.84	880
1881.0	03:13	1835.3	29.8	7	276	177	167	875	2922	694	1138	9.9	55.1	1872.1	60.5	0.420	94.3	10.32	0.83	881
1882.0	03:14	1836.2	41.9	8	276	176	190	875	2913	693	1137	9.9	55.1	1872.6	60.4	0.450	94.5	10.34	0.77	882
1883.0	03:16	1837.1	30.3	8	275	178	179	875	2916	693	1137	9.9	55.1	1873.0	60.4	0.467	94.8	10.38	0.84	883
1884.0	03:19	1837.9	22.4	8	275	181	152	875	2904	693	1137	9.9	55.1	1873.5	60.3	0.468	95.2	10.42	0.90	884
1885.0	03:21	1838.8	33.0	9	274	178	178	876	2899	693	1137	9.9	55.1	1873.8	60.3	0.440	95.6	10.45	0.84	885
1886.0	03:22	1839.7	31.3	8	275	178	177	876	2892	692	1136	9.9	55.1	1874.3	60.3	0.433	95.9	10.48	0.83	886
1887.0	03:23	1840.6	67.9	9	274	172	229	876	2892	692	1136	9.9	55.1	1874.6	60.3	0.419	96.1	10.50	0.71	887
1888.0	03:25	1841.4	31.0	9	275	177	178	877	2890	691	1135	9.9	55.1	1875.0	60.3	0.449	96.5	10.53	0.85	888
1889.0	03:27	1842.3	41.9	9	274	177	177	877	2893	692	1136	9.9	55.2	1875.4	60.2	0.473	96.7	10.56	0.79	889
1890.0	03:28	1843.2	36.0	10	273	179	171	877	2890	691	1136	9.9	55.2	1875.6	60.2	0.493	97.0	10.58	0.84	890
1891.0	03:31	1844.0	24.0	9	274	178	177	877	2882	691	1135	9.9	55.2	1876.0	60.2	0.496	97.4	10.63	0.90	891
1892.0	03:33	1843.7	23.4	9	274	180	168	878	2882	691	1135	9.9	55.2	1876.3	60.1	0.483	97.9	10.67	0.90	892
1893.0	03:34	1844.6	24.0	11	273	184	160	877	2875	691	1135	9.9	55.2	1876.3	60.1	0.440	97.9	10.68	0.64	893
1894.0	03:36	1845.4	24.0	8	275	181	150	877	2883	690	1134	9.9	55.2	1876.3	60.1	0.392	98.5	10.72	0.89	894
1895.0	03:40	1846.2	17.0	9	274	183	150	879	2877	690	1135	9.9	55.2	1876.3	60.1	0.070	99.0	10.78	0.97	895
1896.0	03:42	1847.0	32.4	9	274	181	168	878	2879	690	1139	9.9	55.2	1876.3	60.2	0.007	99.4	10.81	0.85	896
1897.0	03:44	1847.9	34.3	11	272	176	193	878	2884	689	1139	9.9	55.2	1876.3	60.2	0.005	99.6	10.84	0.86	897
1898.0	03:45	1848.7	40.4	12	272	177	187	879	2877	689	1143	9.9	55.1	1876.3	60.1	0.005	100.0	10.86	0.85	898
1899.0	03:46	1849.6	44.4	11	272	174	211	879	2885	689	1141	9.9	55.1	1876.3	60.1	0.005	100.1	10.88	0.82	899
1900.0	03:48	1850.4	44.4	10	273	173	212	879	2878	689	1141	9.9	55.2	1876.3	60.1	0.006	100.3	10.91	0.80	900
1901.0	03:50	1851.2	23.7	9	274	179	170	879	2880	689	1142	9.9	55.2	1876.8	60.1	0.006	100.9	10.95	0.90	901

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1901.0	03:50	1851.2	23.7	9	274	179	170	879	2880	689	1142	9.9	55.2	1876.8	60.1	0.006	100.9	10.95	0.90	901
1902.0	03:52	1852.0	32.7	9	274	177	185	879	2882	689	1141	9.9	55.2	1878.0	60.1	0.005	101.2	10.98	0.84	902
1903.0	03:54	1854.8	31.9	8	275	181	173	878	2875	689	1141	9.9	55.2	1879.8	60.0	0.016	101.6	11.01	0.84	903
1904.0	03:56	1855.5	29.8	8	275	177	184	879	2880	689	1142	9.9	55.2	1880.6	60.0	0.030	101.9	11.04	0.84	904
1905.0	03:59	1856.4	18.8	7	276	180	165	880	2880	687	1141	9.9	55.2	1882.5	60.0	0.078	102.5	11.10	0.91	905
1906.0	04:01	1857.3	38.3	7	276	178	186	879	2874	687	1142	9.9	55.2	1883.1	60.0	0.249	102.6	11.12	0.78	906
1907.0	04:02	1858.1	36.0	8	275	171	224	879	2873	687	1143	9.9	55.2	1883.9	60.0	0.311	103.0	11.15	0.80	907
1908.0	04:30	1859.7	35.5	10	265	144	155	814	2616	688	1144	9.9	55.2	1895.8	59.9	0.274	104.7	11.38	0.90	908
1909.0	04:34	1859.9	12.2	6	278	170	177	871	2839	683	1140	9.9	55.2	1899.1	59.9	0.141	105.4	11.46	0.94	909
1910.0	04:36	1860.7	39.1	7	278	168	191	871	2835	682	1139	9.9	55.2	1900.3	59.9	0.252	105.7	11.48	0.76	910
1911.0	04:38	1861.6	28.3	7	277	167	191	872	2847	681	1138	9.9	55.2	1900.9	59.8	0.332	106.1	11.52	0.82	911
1912.0	04:41	1862.5	20.1	7	278	170	185	872	2846	680	1137	9.9	55.2	1902.1	59.8	0.277	106.6	11.57	0.88	912
1913.0	04:43	1863.3	31.9	7	278	170	170	872	2850	682	1139	9.9	55.3	1903.2	59.8	0.200	106.8	11.60	0.79	913
1914.0	04:45	1864.2	26.7	7	278	171	177	872	2848	681	1139	9.9	55.3	1904.4	59.7	0.019	107.3	11.64	0.83	914
1915.0	04:49	1865.1	14.6	7	278	174	156	872	2852	681	1139	9.9	55.3	1906.0	59.8	0.043	108.0	11.71	0.94	915
1916.0	04:52	1866.0	18.7	7	277	175	153	872	2851	679	1138	9.9	55.4	1907.5	59.9	0.153	108.5	11.76	0.90	916
1917.0	04:54	1866.9	40.0	10	274	164	192	872	2852	678	1137	9.9	55.4	1907.1	60.0	0.168	108.7	11.78	0.81	917
1918.0	04:57	1867.7	19.9	8	276	172	168	872	2852	676	1136	9.9	55.4	1907.1	59.9	0.198	109.2	11.83	0.91	918
1919.0	04:59	1868.5	29.8	9	276	173	165	871	2852	676	1135	9.9	55.5	1907.1	59.8	0.261	109.6	11.87	0.84	919
1920.0	05:02	1869.4	20.3	9	276	172	168	872	2853	674	1134	9.9	55.5	1907.1	59.8	0.288	110.1	11.92	0.92	920
1921.0	05:05	1870.3	19.3	8	276	172	174	872	2856	675	1135	9.9	55.5	1899.8	54.2	0.307	110.6	11.97	0.91	921
1922.0	05:07	1871.2	25.7	8	277	172	172	871	2854	674	1134	9.9	55.5	1907.1	58.7	0.051	111.0	12.01	0.85	922
1923.0	05:10	1872.0	24.3	8	277	174	153	871	2856	675	1135	9.9	55.5	1907.1	60.8	0.016	111.5	12.05	0.86	923
1924.0	05:12	1872.9	25.7	7	278	174	154	871	2858	678	1139	9.9	55.4	1908.0	60.8	0.148	111.9	12.09	0.83	924
1925.0	05:14	1873.8	30.0	6	278	173	164	870	2855	676	1136	9.9	55.4	1908.0	61.1	0.061	112.2	12.12	0.79	925
1926.0	05:18	1874.6	16.4	8	277	174	158	871	2852	673	1134	9.9	55.3	1907.8	61.5	0.173	112.8	12.18	0.93	926
1927.0	05:20	1875.5	25.9	8	277	172	165	870	2864	667	1127	9.9	55.2	1909.4	61.4	0.217	113.3	12.22	0.85	927
1928.0	05:22	1876.2	32.4	7	278	173	161	871	2853	663	1122	9.9	55.2	1910.4	61.3	0.215	113.5	12.25	0.79	928
1929.0	05:23	1877.1	133.3	7	278	160	230	872	2853	664	1122	9.9	55.2	1910.6	61.3	0.217	113.6	12.26	0.54	929
1930.0	05:23	1877.9	105.9	8	276	159	263	872	2862	663	1120	9.9	55.1	1910.9	61.3	0.202	113.6	12.27	0.59	930
1931.0	05:40	1878.8	59.0	9	276	138	226	872	2845	663	1121	9.9	55.0	1915.2	61.2	0.310	114.1	12.33	0.89	931
1932.0	05:41	1879.6	52.9	9	276	153	269	873	2803	662	1121	9.9	54.7	1915.6	61.2	0.378	114.3	12.34	0.71	932
1933.0	05:50	1880.5	55.0	9	276	157	215	874	2801	664	1123	9.9	54.8	1919.5	61.1	0.583	115.5	12.46	1.04	933
1934.0	06:05	1884.5	73.5	7	278	132	202	875	2822	660	1119	9.9	54.9	1923.6	61.4	0.153	115.6	12.47	0.59	934
1935.0	06:05	1884.5	40.0	6	285	150	111	876	2818	633	1092	9.9	54.8	1923.6	61.3	0.204	115.6	12.48	0.60	935
1936.0	06:16	1883.1	25.6	6	280	184	173	876	2822	635	1096	9.9	55.0	1928.3	61.4	0.236	117.0	12.65	1.06	936
1937.0	06:18	1883.9	26.1	6	281	187	168	877	2830	631	1088	9.9	55.3	1930.6	61.5	0.246	117.6	12.69	0.80	937
1938.0	06:21	1884.8	21.8	6	280	185	170	876	2826	629	1090	9.9	55.4	1930.6	61.5	0.246	118.0	12.74	0.83	938
1939.0	06:24	1885.6	20.2	6	281	186	168	875	2832	628	1085	9.9	55.5	1930.6	61.5	0.237	118.5	12.79	0.84	939
1940.0	06:27	1886.5	19.0	6	280	188	158	874	2835	627	1081	9.9	55.6	1930.6	61.6	0.238	119.1	12.84	0.86	940
1941.0	06:31	1887.3	16.3	6	281	188	153	873	2840	626	1081	9.9	55.7	1932.3	61.8	0.237	119.9	12.90	0.88	941
1942.0	06:34	1888.2	17.4	7	279	188	152	873	2855	625	1079	9.9	55.8	1933.0	61.9	0.240	120.5	12.96	0.90	942
1943.0	06:38	1889.1	17.4	7	280	187	161	871	2866	625	1078	9.9	55.8	1933.0	62.0	0.256	121.0	13.01	0.89	943
1944.0	06:40	1890.0	22.9	7	279	187	165	870	2876	623	1077	9.9	55.9	1933.0	62.0	0.253	121.6	13.06	0.86	944
1945.0	06:43	1890.8	20.2	8	279	187	158	869	2881	623	1077	9.9	55.9	1933.0	62.1	0.261	122.2	13.11	0.89	945
1946.0	06:46	1891.6	24.5	8	278	186	167	869	2886	623	1079	9.9	56.0	1933.0	62.2	0.288	122.6	13.15	0.86	946
1947.0	06:49	1892.5	16.4	8	279	188	160	869	2901	623	1077	9.9	56.0	1933.0	62.3	0.306	123.3	13.21	0.93	947
1948.0	06:53	1893.3	19.0	8	279	189	155	868	2899	622	1076	9.9	56.0	1937.6	62.4	0.253	123.9	13.26	0.90	948
1949.0	06:58	1894.2	11.8	7	280	188	151	868	2906	621	1077	9.9	56.1	1933.7	62.4	0.230	124.9	13.35	0.96	949
1950.0	07:01	1895.0	18.9	7	279	187	158	867	2909	619	1074	9.9	56.1	1935.8	62.5	0.224	125.5	13.40	0.89	950

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1950.0	07:01	1895.0	18.9	7	279	187	158	867	2909	619	1074	9.9	56.1	1935.8	62.5	0.224	125.5	13.40	0.89	950
1951.0	07:03	1895.9	22.2	8	279	188	156	866	2903	619	1075	9.9	56.1	1936.8	62.5	0.220	125.8	13.44	0.87	951
1952.0	07:06	1896.8	20.9	6	280	189	146	886	3038	619	1072	9.9	56.1	1937.9	62.6	0.220	126.4	13.49	0.85	952
1953.0	07:10	1897.6	15.9	6	280	189	153	897	3120	618	1072	9.9	56.1	1939.1	62.8	0.208	127.2	13.55	0.90	953
1954.0	07:14	1898.4	15.3	7	279	189	144	896	3118	618	1071	9.9	56.2	1940.4	52.1	0.190	127.8	13.62	0.92	954
1955.0	07:16	1899.3	26.7	8	279	187	163	896	3119	617	1072	9.9	56.2	1941.1	61.2	0.008	128.3	13.66	0.84	955
1956.0	07:20	1900.1	17.7	7	280	189	152	895	3115	617	1073	9.9	56.2	1942.1	62.4	0.074	128.9	13.71	0.90	956
1957.0	07:24	1901.0	15.1	7	279	189	145	895	3113	616	1074	9.9	56.3	1943.4	62.4	0.040	129.7	13.78	0.93	957
1958.0	07:26	1901.8	29.0	8	279	186	165	895	3122	616	1073	9.9	56.3	1944.2	62.3	0.028	130.1	13.81	0.83	958
1959.0	07:29	1902.7	18.0	7	279	188	159	895	3119	615	1073	9.9	56.3	1945.4	62.7	0.175	130.6	13.87	0.89	959
1960.0	07:34	1903.5	24.2	7	279	187	161	894	3116	614	1072	9.9	56.4	1946.8	62.7	0.164	131.6	13.95	0.97	960
1961.0	07:40	1904.3	21.2	7	279	188	157	894	3114	614	1072	9.9	56.4	1948.5	62.7	0.247	132.8	14.06	1.01	961
1962.0	08:18	1917.6	25.5	7	279	170	215	899	3124	596	1030	9.9	55.9	1958.1	62.8	0.289	133.7	14.16	0.71	962
1963.0	08:19	1918.4	45.6	7	280	171	227	900	3127	596	1029	9.9	55.9	1958.2	62.8	0.274	134.1	14.18	0.73	963
1964.0	08:20	1919.3	41.5	9	278	166	270	899	3115	597	1029	9.9	55.9	1958.3	62.8	0.303	134.1	14.19	0.62	964
1965.0	08:22	1908.0	27.9	8	279	175	215	900	3114	598	1029	9.9	55.9	1959.5	62.8	0.344	134.6	14.22	0.82	965
1966.0	08:24	1908.7	26.3	8	279	188	196	900	3106	599	1029	9.9	55.9	1959.6	62.8	0.395	135.0	14.26	0.84	966
1967.0	08:25	1909.2	48.6	7	280	186	207	900	3097	601	1029	9.9	55.9	1960.1	62.8	0.406	135.2	14.28	0.73	967
1968.0	08:28	1910.1	24.5	7	280	188	196	900	3096	601	1027	9.9	56.0	1960.5	62.8	0.450	135.6	14.32	0.84	968
1969.0	08:32	1910.9	14.6	6	281	188	146	900	3087	807	1026	9.9	56.0	1961.0	62.8	0.524	136.3	14.39	0.92	969
1970.0	08:37	1911.8	11.1	7	280	183	148	900	3077	815	1025	9.9	56.0	1961.1	63.0	0.399	137.3	14.48	1.00	970
1971.0	08:42	1912.6	11.9	7	280	179	178	900	3070	813	1024	9.9	56.0	1961.1	63.0	0.392	138.2	14.58	1.01	971
1972.0	08:44	1913.5	30.5	7	280	174	205	900	3066	811	1021	9.9	56.1	1961.1	63.1	0.331	138.6	14.60	0.81	972
1973.0	08:47	1915.1	28.1	7	280	174	196	902	3078	810	1020	9.9	56.1	1961.1	63.1	0.467	138.9	14.63	0.83	973
1974.0	08:47	1915.1	33.0	9	278	173	242	902	3057	810	1020	9.9	56.0	1961.1	62.7	0.416	138.9	14.64	0.23	974
1975.0	08:49	1916.0	24.5	7	280	177	194	901	3077	812	1022	9.9	55.9	1961.1	63.1	0.492	139.3	14.68	0.87	975
1976.0	08:54	1916.8	13.4	7	280	182	163	901	3070	814	1024	9.9	55.8	1961.1	63.1	0.561	140.2	14.75	0.97	976
1977.0	08:58	1917.6	14.8	7	280	180	169	902	3060	813	1024	9.9	55.9	1961.1	63.4	0.507	140.9	14.82	0.94	977
1978.0	09:01	1918.5	20.3	7	280	181	173	902	3055	813	1023	9.9	56.0	1961.1	63.3	0.535	141.5	14.87	0.88	978
1979.0	09:04	1919.3	17.7	7	280	180	174	901	3044	812	1023	9.9	56.0	1963.3	63.2	0.087	142.0	14.92	0.91	979
1980.0	09:07	1920.2	20.9	7	280	178	180	901	3048	813	1023	9.9	56.1	1964.7	63.1	0.155	142.6	14.97	0.88	980
1981.0	09:09	1921.0	22.2	7	280	178	190	900	3041	812	1024	9.9	56.1	1966.6	63.2	0.376	142.9	15.02	0.88	981
1982.0	09:14	1921.8	13.2	7	280	179	180	900	3040	812	1024	9.9	56.2	1968.4	63.5	0.418	143.8	15.09	0.96	982
1983.0	09:34	1923.5	24.1	7	280	179	179	897	3058	812	1023	9.9	56.5	1975.1	63.6	0.350	145.9	15.29	1.13	983
1984.0	09:34	1923.5	22.0	7	280	170	265	893	3077	811	1022	9.9	56.7	1975.1	63.0	0.547	145.9	15.29	0.80	984
1985.0	09:52	1925.5	11.3	7	239	94	81	691	2257	813	1023	9.9	56.6	1979.0	63.7	0.245	146.5	15.38	0.83	985
1986.0	09:52	1925.5	12.2	6	287	180	203	888	3031	808	1018	9.9	56.3	1979.0	63.7	0.245	146.5	15.38	0.86	986
1987.0	09:53	1929.4	24.0	6	286	183	146	889	3045	808	1018	9.9	56.3	1979.2	63.7	0.237	146.7	15.39	0.78	987
1988.0	09:53	1929.4	23.8	6	285	181	163	890	3016	808	1018	9.9	56.3	1979.2	63.7	0.237	146.7	15.39	0.86	988
1989.0	09:53	1929.4	30.2	6	283	177	181	890	3059	808	1017	9.9	56.3	1979.2	63.7	0.211	146.7	15.39	0.87	989
1990.0	09:53	1929.4	30.1	6	282	178	264	887	3051	808	1017	9.9	56.3	1979.2	63.7	0.211	146.7	15.39	0.86	990
1991.0	09:53	1929.4	40.0	7	282	170	201	887	3037	808	1019	9.9	56.3	1979.2	63.1	0.041	146.7	15.39	0.80	991
1992.0	09:55	1930.2	34.6	6	283	173	216	893	3070	807	1017	9.9	56.3	1980.0	63.6	0.200	147.0	15.42	0.77	992
1993.0	09:56	1931.1	46.8	7	282	167	247	893	3071	807	1017	9.9	56.3	1980.3	63.5	0.189	147.2	15.44	0.73	993
1994.0	09:58	1931.9	31.0	6	282	171	232	893	3074	807	1017	9.9	56.4	1981.0	63.5	0.215	147.5	15.48	0.79	994
1995.0	09:59	1932.7	41.9	7	281	169	244	892	3068	807	1017	9.9	56.4	1981.4	63.5	0.276	147.7	15.50	0.76	995
1996.0	10:02	1933.5	29.3	7	282	169	227	892	3062	807	1018	9.9	56.4	1981.8	63.6	0.324	148.0	15.53	0.81	996
1997.0	10:03	1934.4	39.1	8	281	165	256	891	3060	808	1018	9.9	56.4	1982.1	63.6	0.365	148.4	15.56	0.77	997
1998.0	10:05	1935.2	33.0	7	281	167	243	892	3058	807	1017	9.9	56.4	1982.5	63.7	0.389	148.6	15.59	0.80	998
1999.0	10:06	1936.0	40.9	7	282	168	239	892	3064	807	1018	9.9	56.5	1982.7	63.7	0.429	148.9	15.61	0.75	999

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
1999.0	10:06	1936.0	40.9	7	282	168	239	892	3064	807	1018	9.9	56.5	1982.7	63.7	0.429	148.9	15.61	0.75	999
2000.0	10:08	1936.8	28.8	6	283	177	191	892	3054	808	1018	9.9	56.5	1982.7	63.7	0.480	149.3	15.65	0.80	1000
2001.0	10:10	1937.7	36.0	6	282	176	202	893	3057	808	1018	9.9	56.5	1982.7	63.5	0.786	149.4	15.68	0.77	1001
2002.0	10:13	1938.5	21.4	8	281	178	183	891	3052	808	1018	9.9	56.6	1982.7	63.0	0.699	150.0	15.72	0.89	1002
2003.0	10:26	1939.3	31.0	10	279	179	178	890	3044	808	1019	9.9	56.6	1984.0	63.5	0.285	150.4	15.76	0.86	1003
2004.0	10:28	1940.1	48.6	8	281	172	246	889	3029	808	1018	9.9	56.6	1984.0	63.9	0.420	150.5	15.78	0.75	1004
2005.0	10:31	1941.0	17.4	8	281	175	216	886	3018	808	1018	9.9	56.7	1984.0	10.0	0.470	151.2	15.83	0.57	1005
2006.0	10:34	1941.8	18.4	6	282	182	178	883	3009	808	1019	9.9	56.8	1984.0	10.0	0.516	151.8	15.89	0.89	1006
2007.0	10:37	1942.6	26.1	6	282	181	189	883	3006	809	1022	9.9	56.6	1984.0	10.0	0.471	152.1	15.93	0.83	1007
2008.0	10:39	1943.4	24.2	6	282	183	177	881	3003	809	1019	9.9	56.8	1991.1	10.0	0.233	152.7	15.97	0.52	1008
2009.0	10:42	1944.2	19.4	7	281	184	176	881	3009	808	1018	9.9	56.8	1993.2	10.0	0.298	153.2	16.02	0.91	1009
2010.0	10:44	1945.1	25.7	8	280	181	188	880	3009	807	1017	9.9	56.8	1994.6	10.0	0.334	153.6	16.06	0.87	1010
2011.0	10:46	1945.9	37.5	10	278	178	202	880	3005	806	1016	9.9	56.6	1995.4	10.0	0.305	153.8	16.09	0.84	1011
2012.0	11:08	1949.0	37.0	9	256	131	164	765	2585	808	1019	9.9	56.7	2002.9	10.0	0.287	154.9	16.22	0.89	1012
2013.0	11:08	1949.0	20.5	5	285	177	241	854	2865	807	1017	9.9	56.7	2002.9	10.0	0.287	155.0	16.22	0.60	1013
2014.0	11:08	1949.0	21.2	5	285	183	150	852	2849	807	1017	9.9	56.7	2002.9	10.0	0.102	155.0	16.22	0.69	1014
2015.0	11:09	1949.1	38.3	5	286	183	172	853	2857	806	1016	9.9	56.8	2002.9	10.0	0.271	155.2	16.24	0.75	1015
2016.0	11:10	1950.3	39.1	5	286	185	164	871	2957	807	1017	9.9	56.6	2002.9	10.0	0.246	155.2	16.26	0.56	1016
2017.0	11:11	1950.8	39.6	7	283	176	224	890	3118	806	1016	9.9	56.7	2002.9	10.0	0.221	155.3	16.27	0.76	1017
2018.0	11:12	1951.6	38.0	7	283	172	246	890	3114	805	1015	9.9	56.7	2002.9	10.0	0.200	155.5	16.28	0.77	1018
2019.0	11:14	1954.2	29.3	7	283	180	190	890	3120	804	1014	9.9	56.8	2002.9	10.0	0.230	155.9	16.32	0.50	1019
2020.0	11:14	1954.2	30.1	6	284	185	142	890	3113	805	1016	9.9	56.7	2002.9	10.0	0.230	155.9	16.32	0.13	1020
2021.0	11:14	1954.2	29.8	6	284	181	249	890	3124	804	1015	9.9	56.6	2002.9	10.0	0.517	155.9	16.32	0.18	1021
2022.0	11:19	1955.6	12.9	6	285	184	169	889	3123	804	1014	9.9	56.7	2003.8	10.0	0.366	156.8	16.40	0.57	1022
2023.0	11:23	1956.0	12.7	5	285	183	170	888	3118	804	1015	9.9	56.7	2005.4	10.0	0.478	157.7	16.47	0.56	1023
2025.0	11:31	1957.6	17.5	6	284	182	176	887	3111	800	1009	9.9	57.5	2008.4	10.0	0.556	159.0	16.61	0.55	1024
2025.0	11:31	1957.6	17.5	6	284	182	176	887	3111	800	1009	9.9	57.5	2008.4	10.0	0.556	159.0	16.61	0.55	1025
2026.0	11:34	1958.5	18.4	6	284	182	181	887	3111	800	1009	9.9	57.5	2009.1	10.0	0.110	159.5	16.66	0.54	1026
2027.0	11:38	1959.3	15.5	6	284	182	179	887	3105	799	1008	9.9	57.5	2011.2	10.0	0.011	160.3	16.73	0.56	1027
2028.0	11:43	1960.2	14.1	5	285	182	174	886	3104	798	1007	9.9	57.5	2012.0	10.0	0.194	161.0	16.80	0.56	1028
2029.0	11:46	1960.9	18.3	6	284	183	177	886	3102	798	1007	9.9	59.2	2012.0	10.0	0.445	161.6	16.85	0.54	1029
2030.0	11:50	1961.7	14.5	5	285	184	171	886	3099	798	1007	9.9	59.2	2012.0	10.0	0.522	162.3	16.92	0.55	1030
2031.0	11:54	1962.6	16.1	6	285	182	183	884	3099	800	1010	9.9	59.2	2012.0	64.1	0.535	163.1	16.98	0.55	1031
2032.0	11:54	1963.4	16.5	6	284	185	175	884	3098	802	1012	9.9	59.2	2012.0	64.1	0.552	163.3	16.99	0.39	1032
2033.0	11:58	1964.2	16.7	6	284	182	183	884	3097	801	1011	9.9	59.2	2018.0	64.1	0.506	163.9	17.05	0.55	1033
2034.0	12:04	1965.0	10.8	6	284	182	185	884	3090	802	1012	9.9	59.2	2021.5	64.1	0.482	164.8	17.15	0.60	1034
2035.0	12:07	1965.8	19.1	6	285	185	164	883	3087	802	1013	9.9	59.2	2022.5	64.1	0.583	165.4	17.20	0.53	1035
2036.0	12:12	1966.6	12.2	7	284	184	167	885	3091	801	1012	9.9	59.2	2023.5	64.3	0.050	166.3	17.28	0.59	1036
2037.0	12:30	1967.5	12.9	6	284	166	187	865	2936	796	1007	9.9	59.2	2027.5	64.2	0.294	167.2	17.36	0.58	1037
2038.0	12:34	1968.3	16.4	8	282	172	222	886	2971	794	1005	9.9	59.2	2028.4	64.2	0.307	167.7	17.42	0.58	1038
2039.0	12:36	1969.1	29.5	9	282	170	223	885	2966	794	1006	14.9	60.1	2029.1	64.2	0.249	168.1	17.45	0.88	1039
2040.0	12:38	1969.9	22.9	8	282	174	230	883	2967	794	1007	9.6	60.3	2029.5	64.1	0.539	168.5	17.50	0.92	1040
2041.0	12:45	1970.8	8.5	8	282	172	219	883	2959	794	1007	9.9	60.4	2032.6	64.1	0.478	169.7	17.61	1.06	1041
2042.0	12:46	1971.5	21.0	7	283	172	206	882	2966	794	1007	9.9	60.0	2032.7	64.1	0.484	169.7	17.62	0.56	1042
2043.0	12:53	1971.5	18.6	6	285	172	210	882	2968	792	1004	9.9	60.4	2034.2	64.1	0.495	170.0	17.65	0.68	1043
2044.0	12:53	1971.5	20.1	6	283	171	201	885	2961	790	1000	9.9	60.4	2034.2	64.1	0.494	170.0	17.65	0.80	1044
2045.0	12:53	1971.5	21.2	7	284	173	205	887	2965	792	1001	9.9	60.4	2034.2	64.1	0.494	170.0	17.65	0.80	1045
2046.0	12:53	1971.5	18.0	8	284	175	208	889	2968	794	1001	9.9	60.1	2034.2	64.1	0.494	170.0	17.65	0.80	1046
2047.0	12:53	1971.5	21.3	6	283	170	200	885	2960	790	1000	9.9	60.2	2034.2	64.1	0.527	170.0	17.65	0.80	1047
2048.0	13:05	1070.3	21.5	9	285	174	204	873	2947	786	998	9.9	61.0	2036.2	64.3	0.005	170.2	17.67	0.57	1048

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2048.0	13:05	1070.3	21.5	9	285	174	204	873	2947	786	998	9.9	61.0	2036.2	64.3	0.005	170.2	17.67	0.57	1048
2049.0	13:06	1997.9	21.4	9	284	177	221	873	2949	787	999	9.9	61.0	2036.2	64.2	0.069	170.5	17.70	0.48	1049
2050.0	13:06	1997.9	18.7	9	286	192	159	872	2941	786	998	9.9	61.0	2036.2	64.0	0.069	170.5	17.70	0.14	1050
2051.0	13:12	1987.6	19.9	10	283	183	227	873	2956	786	998	9.9	61.0	2036.2	64.1	0.406	171.6	17.80	1.13	1051
2052.0	13:16	1980.0	19.3	9	284	186	194	873	2962	784	997	9.9	61.0	2036.6	64.2	0,443	172.2	17.87	0.92	1052
2053.0	13:19	1980.7	20.6	10	283	183	217	872	2965	785	997	9.9	61.0	2037.6	64.2	0.440	172.7	17.92	0.96	1053
2054.0	13:23	1981.5	22.0	10	283	179	220	870	2967	786	999	9.9	61.0	2038.8	64.2	0.414	173.5	17.98	0.95	1054
2055.0	13:28	1982.6	18.4	10	283	182	205	869	2968	789	1002	9.9	61.0	2040.4	64.2	0.531	174.4	18.06	0.96	1055
2056.0	13:30	1984.4	21.6	10	283	181	228	868	2965	788	1001	9.9	61.0	2040.6	64.2	0.727	174.8	18.10	0.95	1056
2057.0	13:30	1984.4	23.0	9	284	191	146	868	2968	789	1002	9.9	61.0	2040.6	64.2	0.401	174.8	18.10	0.92	1057
2058.0	13:32	1984.8	33.6	10	283	182	219	868	2970	788	1001	9.9	61.0	2040.6	64.2	0.629	175.0	18.13	0.86	1058
2059.0	13:37	1985.9	20.9	10	283	186	211	868	2968	788	1001	9.9	61.0	2042.0	53.5	0.763	176.1	18.22	0.95	1059
2060.0	13:38	1986.6	23.2	9	284	187	204	867	2970	788	1001	9.9	61.0	2042.0	62.4	0.360	176.3	18.24	0.93	1060
2061.0	13:44	1987.3	24.8	11	282	181	218	867	2970	787	1000	9.9	61.0	2047.0	64.2	0.027	177.2	18.33	0.93	1061
2062.0	13:48	1988.4	20.0	10	283	187	204	867	2972	788	1001	9.9	61.0	2048.8	64.4	0.078	178.0	18.40	0.97	1062
2063.0	13:50	1989.0	24.9	9	284	189	190	866	2972	789	1002	9.9	61.0	2048.8	64.7	0.321	178.3	18.44	0.92	1063
2064.0	13:53	1990.2	25.2	10	283	186	208	866	2970	789	1003	9.9	61.0	2048.8	64.9	0.418	178.9	18.48	0.93	1064
2065.0	13:54	1990.5	25.0	10	283	184	215	866	2978	789	1003	9.9	61.0	2048.8	64.9	0.437	179.1	18.50	0.92	1065
2066.0	13:58	1991.1	21.0	10	283	186	208	867	2976	789	1002	9.9	61.0	2050.2	65.0	0.482	179.7	18.56	0.96	1066
2067.0	13:58	1991.1	22.9	10	283	191	168	868	3011	788	1001	9.9	61.0	2050.2	66.1	0.764	179.7	18.56	0.94	1067
2068.0	13:58	1992.9	21.9	12	281	181	260	868	2964	790	1003	9.9	61.0	2050.2	64.2	0.277	179.9	18.57	0.90	1068
2069.0	14:01	1994.2	23.9	11	282	183	227	867	2981	789	1003	9.9	61.0	2051.1	64.2	0.396	180.3	18.61	0.94	1069
2070.0	14:02	1994.8	47.4	9	284	188	199	867	2980	789	1003	9.9	61.0	2051.3	64.2	0.473	180.4	18.63	0.80	1070
2071.0	14:05	1995.4	22.6	10	283	187	207	867	2985	790	1004	9.9	61.0	2051.9	64.2	0,425	181.0	18.67	0.94	1071
2072.0	14:09	1996.2	14.3	10	283	187	203	867	2983	789	1003	9.9	61.0	2053.2	64.2	0.418	181.8	18.74	1.02	1072
2073.0	14:11	1997.0	22.8	11	282	183	235	867	2984	789	1003	9.9	61.0	2054.0	64.2	0.392	182.2	18.79	0.96	1073
2074.0	14:14	1997.8	25.9	11	282	184	224	867	2987	782	1012	9.9	61.0	2054.4	64.2	0.512	182.7	18.83	0.93	1074
2075.0	14:33	1998.9	17.8	10	283	181	206	867	2985	746	1006	9.9	61.0	2060.5	64.2	0.012	182.9	18.88	0.98	1075
2076.0	14:34	1999.5	21.0	9	284	173	245	867	2996	692	975	9.9	61.0	2060.8	64.3	0.008	183.0	18.91	0.93	1076
2077.0	14:36	2000.8	25.0	10	284	177	217	867	2996	692	976	9.9	61.0	2061.0	64.3	0.005	183.4	18.94	0.93	1077
2078.0	14:37	2001.2	28.0	10	282	163	280	867	2995	693	976	9.9	61.0	2061.2	64.3	0.005	183.4	18.95	0.91	1078
2079.0	14:42	2002.0	12.8	9	284	179	218	867	2997	689	974	9.9	61.0	2062.7	64.5	0.346	184.3	19.03	1.06	1079
2080.0	14:42	2003.5	27.0	10	284	175	247	867	2995	692	979	9.9	61.0	2062.8	64.7	0.346	184.5	19.04	0.90	1080
2081.0	14:42	2003.6	26.5	10	283	174	264	861	2998	695	981	9.9	61.0	2062.8	64.8	0.367	184.5	19.04	0.92	1081
2082.0	14:46	2004.8	18.0	10	284	176	228	867	3002	700	984	9.9	61.0	2064.9	64.9	0.430	185.0	19.11	1.02	1082
2083.0	14:48	2005.1	34.3	9	283	180	238	867	3001	700	985	9.9	61.0	2065.7	65.0	0.508	185.4	19.14	0.89	1083
2084.0	14:50	2006.1	36.0	10	284	194	216	868	3001	701	986	9.9	61.0	2065.8	65.1	0.510	185.8	19.16	0.88	1084
2085.0	14:54	2006.7	25.0	9	284	197	218	867	3000	701	985	9.9	61.0	2069.7	65.2	0.563	186.4	19.23	1.05	1085
2086.0	14:54	2007.5	25.0	10	283	197	214	865	2995	699	984	9.9	61.0	2069.7	65.2	0.528	186.6	19.24	0.61	1086
2087.0	15:00	2008.3	21.0	10	284	185	209	866	3007	696	981	9.9	61.0	2071.7	65.1	0.524	187.8	19.34	1.12	1087
2088.0	15:06	2009.1	21.6	9	282	182	238	865	3005	699	984	9.9	61.0	2073.6	65.2	0.584	188.7	19.43	0.99	1088
2089.0	15:09	2010.0	25.3	10	282	180	237	865	3007	719	1003	9.9	61.0	2074.7	65.3	0.623	189.2	19.48	0.96	1089
2090.0	15:11	2010.8	28.0	7	282	184	211	864	3007	747	1030	9.9	61.0	2074.7	65.2	0.656	189.6	19.51	0.89	1090
2091.0	15:15	2011.4	20.1	7	284	187	185	864	3009	712	1052	9.9	61.0	2074.7	65.3	0.605	190.4	19.59	0.97	1091
2092.0	15:17	2012.2	28.2	7	284	183	185	863	3011	665	1086	9.9	61.0	2074.7	65.3	0.570	190.8	19.61	0.89	1092
2093.0	15:19	2013.0	23.2	6	284	184	175	863	3009	665	1106	9.9	61.0	2074.7	65.3	0.494	191.1	19.66	0.92	1093
2094.0	15:21	2013.8	29.5	7	284	185	171	863	3007	666	1133	9.9	61.0	2074.8	65.3	0.365	191.5	19.69	0.89	1094
2095.0	15:26	2014.6	18.0	9	284	185	173	863	3012	666	1166	9.9	61.0	2078.4	65.4	0.287	192.3	19.76	0.97	1095
2096.0	15:29	2015.4	19.1	10	283	183	185	863	3011	666	1186	9.9	61.0	2078.8	65.4	0.393	192.8	19.82	0.98	1096
2097.0	15:30	2016.2	35.0	10	284	185	175	863	3005	663	1182	9.9	61.0	2079.0	65.4	0.393	193.0	19.84	0.86	1097

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2097.0	15:30	2016.2	35.0	10	284	185	175	863	3005	663	1182	9.9	61.0	2079.0	65.4	0.393	193.0	19.84	0.86	1097
2098.0	15:37	2017.0	21.0	9	283	183	188	863	3010	660	1182	9.9	61.0	2083.1	65.5	0.595	194.3	19.95	0.94	1098
2099.0	15:39	2017.8	29.0	10	282	180	204	862	3002	659	1185	9.9	61.0	2084.3	65.5	0.641	194.7	19.99	0.90	1099
2100.0	15:42	2018.6	22.4	10	283	182	191	863	3012	660	1184	9.9	61.0	2084.8	65.6	0.611	195.3	20.03	0.95	1100
2101.0	15:47	2019.4	11.4	9	283	180	208	863	3007	660	1190	9.9	61.0	2086.7	65.6	0.609	196.2	20.12	1.05	1101
2102.0	15:51	2020.2	16.8	10	280	179	211	863	3011	660	1201	9.9	61.0	2087.1	65.7	0.590	196.7	20.18	0.98	1102
2103.0	15:53	2021.0	19.0	10	281	180	198	863	3008	659	1204	9.9	61.0	2087.7	65.7	0.604	197.2	20.21	0.97	1103
2104.0	15:53	2021.8	25.0	10	0	181	198	863	3008	0	1200	9.9	61.1	2087.7	65.7	0.604	197.2	20.21	0.91	1104
2105.0	16:13	2022.6	21.0	5	287	113	117	757	2572	654	1189	9.9	61.2	2092.8	65.7	0.098	197.4	20.23	0.76	1105
2106.0	16:14	2023.4	20.0	9	283	178	206	863	3043	652	1186	9.9	61.5	2093.6	65.6	0.322	197.6	20.25	0.94	1106
2107.0	16:16	2024.2	27.9	9	283	181	211	863	3043	652	1183	9.9	61.5	2094.0	65.7	0.369	198.0	20.29	0.89	1107
2108.0	16:17	2025.0	30.0	9	283	182	203	863	3041	651	1182	9.9	61.5	2094.9	65.9	0.371	198.1	20.31	0.87	1108
2109.0	16:24	2025.8	20.0	8	284	183	194	865	3045	650	1182	9.9	61.5	2096.1	66.0	0.392	199.4	20.42	0.93	1109
2110.0	16:31	2026.6	19.0	8	285	183	179	863	3044	652	1184	9.9	61.5	2098.0	65.9	0.350	200.5	20.53	0.92	1110
2111.0	16:34	2027.4	17.6	7	285	179	174	863	3040	651	1184	9.9	61.5	2099.8	65.9	0.327	201.2	20.59	0.92	1111
2112.0	16:36	2028.2	12.0	7	285	178	180	863	3044	650	1185	9.9	61.5	2100.1	65.9	0.365	201.6	20.63	0.98	1112
2113.0	16:38	2029.0	15.0	6	285	177	177	863	3037	647	1181	9.9	61.5	2100.4	65.9	0.364	201.8	20.66	0.91	1113
2114.0	16:45	2029.8	9.4	5	285	179	169	863	3041	641	1176	9.9	61.5	2102.1	65.0	0.421	203.1	20.77	0.96	1114
2115.0	16:55	2030.6	5.8	6	284	178	177	863	3040	616	1153	9.9	61.5	2104.4	65.2	0.383	204.7	20.94	1.07	1115
2116.0	16:56	2031.4	4.0	7	283	177	175	863	3036	613	1153	9.9	61.5	2104.4	65.6	0.344	205.1	20.96	1.17	1116
2117.0	14:16	2032.2	4.1	7	283	177	179	865	3035	613	1153	10.0	61.6	2107.0	66.0	12.469	207.0	21.12	0.68	1117
2118.0	17:15	2033.0	5.0	1	284	190	179	863	3072	614	1153	9.9	61.5	2109.4	66.0	0.218	208.4	21.27	0.88	1118
2119.0	17:24	2033.6	6.4	7	283	181	196	865	3086	612	1148	9.9	61.5	2111.1	66.1	0.156	210.2	21.43	1.10	1119
2120.0	17:27	2034.4	12.0	7	283	182	184	864	3086	611	1147	9.9	61.5	2112.4	66.2	0.171	210.6	21.47	1.00	1120
2121.0	17:32	2035.2	12.2	7	283	183	179	864	3084	611	1143	9.9	61.5	2113.4	66.2	0.164	211.5	21.55	0.98	1121
2122.0	17:37	2036.0	12.0	7	283	181	191	864	3088	611	1143	9.9	61.5	2114.3	66.3	0.153	212.3	21.64	0.99	1122
2123.0	17:39	2036.8	17.8	7	283	180	205	864	3094	610	1140	9.9	61.5	2114.5	66.2	0.142	212.7	21.67	0.93	1123
2124.0	17:41	2037.6	10.2	7	283	182	186	866	3102	611	1142	9.9	61.5	2114.8	66.1	0.162	213.3	21.72	1.02	1124
2125.0	17:44	2038.4	16.8	7	283	183	177	866	3105	610	1141	9.9	61.5	2114.9	66.2	0.180	213.7	21.75	0.93	1125
2126.0	17:46	2039.2	15.0	7	283	182	191	866	3102	610	1139	9.9	61.5	2115.9	66.3	0.189	214.1	21.79	0.96	1126
2127.0	17:49	2040.0	19.0	5	233	123	190	1139	3110	559	853	9.9	61.5	2116.1	66.3	0.170	214.4	21.81	0.82	1127
2128.0	17:50	2040.8	20.0	7	283	184	176	868	3121	609	1138	9.9	61.5	2116.2	66.2	0.162	214.6	21.85	0.91	1128
2129.0	17:52	2041.6	22.0	7	283	183	177	868	3122	609	1139	9.9	61.5	2116.2	66.2	0.172	215.0	21.88	0.87	1129
2130.0	17:52	2042.3	21.0	6	284	187	163	869	3144	607	1136	9.9	61.5	2116.2	66.2	0.176	215.2	21.89	0.86	1130
2131.0	17:54	2043.1	15.0	7	283	182	178	869	3123	609	1139	9.9	61.5	2116.4	66.2	0.163	215.6	21.92	0.95	1131
2132.0	17:59	2043.9	11.2	7	283	183	180	868	3128	610	1139	9.9	61.5	2116.7	66.2	0.160	216.5	22.01	1.00	1132
2133.0	18:13	2044.7	9.0	7	283	182	186	868	3124	610	1138	9.9	61.5	2118.8	66.4	0.207	218.9	22.24	1.03	1133
2134.0	18:31	2045.5	12.0	4	287	177	163	857	3071	608	1137	9.9	61.5	2122.2	66.6	0.044	219.2	22.27	0.88	1134
2135.0	18:32	2046.3	11.2	4	293	196	106	830	2912	606	1145	9.9	61.5	2122.4	66.9	0.023	219.3	22.28	0.61	1135
2136.0	18:37	2047.1	11.2	4	288	180	212	847	3009	605	1142	9.9	61.5	2124.1	66.3	0.119	220.2	22.37	0.90	1136
2137.0	18:42	2047.9	12.9	4	287	181	211	851	3039	604	1142	9.9	61.5	2126.3	66.3	0.219	221.0	22.44	0.90	1137
2138.0	18:44	2048.7	33.3	4	288	182	210	851	3031	605	1154	9.9	61.5	2127.6	66.5	0.214	221.4	22.47	0.72	1138
2139.0	18:46	2049.5	25.9	3	289	183	203	850	3032	606	1177	9.9	61.5	2130.0	66.6	0.225	221.7	22.51	0.74	1139
2140.0	18:50	2050.3	16.4	3	289	183	206	850	3033	604	1205	9.9	61.5	2131.9	66.6	0.237	222.5	22.57	0.81	1140
2141.0	18:51	2051.1	21.0	3	288	186	185	850	3030	604	1226	9.9	61.5	2131.9	66.6	0.239	222.8	22.59	0.79	1141
2142.0	18:54	2051.8	17.8	4	287	186	188	850	3037	604	1241	9.9	61.5	2132.0	66.6	0.225	223.3	22.65	0.85	1142
2143.0	19:04	2052.6	6.0	5	286	182	195	850	3039	604	1243	9.9	61.5	2132.6	66.7	0.202	225.0	22.82	1.06	1143
2144.0	19:06	2053.4	8.0	5	286	179	211	864	3120	603	1241	9.9	61.5	2132.8	66.7	0.208	225.5	22.85	1.01	1144
2145.0	19:10	2054.2	18.4	6	286	180	211	864	3124	602	1240	9.9	61.5	2133.1	66.7	0.324	226.1	22.91	0.88	1145
2146.0	19:14	2055.0	13.2	5	287	180	201	865	3126	602	1240	9.9	61.5	2133.1	66.5	0.589	226.9	22.98	0.90	1146

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2146.0	19:14	2055.0	13.2	5	287	180	201	865	3126	602	1240	9.9	61.5	2133.1	66.5	0.589	226.9	22.98	0.90	1146
2147.0	19:23	2055.9	6.7	5	287	183	187	865	3123	640	1238	9.9	61.5	2135.6	66.6	0.452	228.4	23.13	1.01	1147
2148.0	19:27	2056.6	13.4	5	287	183	184	865	3121	889	1237	9.9	61.5	2136.1	66.8	0.322	229.3	23.21	0.91	1148
2149.0	19:37	2057.4	6.5	5	286	184	179	865	3111	889	1237	9.9	61.5	2139.0	66.6	2.503	231.0	23.36	1.04	1149
2150.0	19:45	2058.2	7.5	5	286	184	178	866	3101	887	1235	9.9	61.5	2142.1	66.7	6.217	232.3	23.49	1.02	1150
2151.0	19:53	2058.9	7.6	5	286	184	177	866	3091	886	1235	9.9	61.5	2142.6	66.8	2.489	233.8	23.62	1.01	1151
2152.0	19:57	2059.7	12.8	6	285	184	181	868	3086	885	1234	9.9	61.5	2144.0	66.9	1.241	234.5	23.70	0.96	1152
2153.0	20:00	2060.5	21.4	7	284	175	241	867	3082	884	1232	9.9	61.5	2145.1	66.9	1.067	235.1	23.75	0.89	1153
2154.0	20:01	2061.3	30.0	7	285	180	218	867	3087	884	1233	9.9	61.5	2145.4	66.8	0.990	235.1	23.76	0.83	1154
2155.0	20:05	2062.0	14.4	7	285	179	207	867	3077	884	1232	9.9	61.5	2146.3	66.8	1.222	235.9	23.83	0.94	1155
2156.0	20:09	2062.8	14.4	8	284	176	223	868	3075	883	1231	9.9	61.5	2146.6	66.7	4.388	236.6	23.90	0.97	1156
2157.0	20:13	2063.6	15.7	8	283	180	209	868	3073	880	1228	9.9	61.5	2146.8	66.8	5.015	237.4	23.96	0.98	1157
2158.0	20:15	2064.4	27.3	10	281	174	238	868	3071	878	1226	9.9	61.5	2147.4	66.9	4.402	237.7	24.00	0.90	1158
2159.0	20:18	2065.1	20.0	8	284	178	204	869	3068	876	1224	9.9	61.5	2148.0	66.9	2.242	238.2	24.05	0.91	1159
2160.0	20:21	2065.9	19.9	8	283	179	215	869	3062	872	1221	9.9	61.5	2148.2	66.8	1.680	238.8	24.10	0.92	1160
2161.0	20:24	2066.7	22.6	8	284	179	195	869	3061	869	1217	9.9	61.5	2148.9	66.7	1.004	239.3	24.14	0.89	1161
2162.0	20:26	2067.4	27.3	2	291	175	111	870	3085	867	1218	9.9	61.5	2149.0	66.9	1.004	239.7	24.18	0.68	1162
2163.0	20:44	2068.2	17.0	12	279	173	207	869	3077	829	1177	9.9	61.5	2150.2	66.4	0.416	240.3	24.24	1.03	1163
2164.0	20:47	2069.0	24.2	9	282	166	252	870	3057	829	1177	9.9	61.5	2151.0	66.4	0.338	240.6	24.28	0.90	1164
2165.0	20:50	2069.8	20.0	6	285	173	239	870	3050	829	1177	9.9	61.5	2151.9	66.3	0.450	241.1	24.33	0.88	1165
2166.0	20:53	2070.5	18.2	6	285	176	234	871	3045	828	1178	9.9	61.5	2152.9	66.2	0.620	241.8	24.39	0.89	1166
2167.0	20:56	2071.3	22.0	6	285	175	240	871	3048	826	1176	9.9	61.5	2154.5	66.2	1.011	242.2	24.43	0.85	1167
2168.0	20:59	2072.1	19.4	6	285	173	249	870	3046	824	1173	9.9	61.5	2155.0	66.2	1.161	242.7	24.48	0.88	1168
2169.0	21:02	2072.9	18.2	6	285	178	231	870	3053	824	1172	9.9	61.5	2155.8	66.3	0.949	243.3	24.54	0.88	1169
2170.0	21:03	2073.6	19.0	7	284	182	205	870	3051	823	1171	9.9	61.5	2156.6	66.4	0.876	243.4	24.55	0.91	1170
2171.0	21:07	2074.4	15.7	6	285	176	243	870	3052	821	1170	9.9	61.5	2157.0	66.3	0.804	244.2	24.62	0.90	1171
2172.0	21:08	2075.2	17.5	6	285	176	243	870	3047	820	1169	9.9	61.5	2157.2	66.3	0.693	244.3	24.63	0.90	1172
2173.0	21:08	2075.9	13.5	6	285	175	224	870	3048	820	1169	9.9	61.5	2157.2	66.2	0.634	245.1	24.70	0.95	1173
2174.0	21:16	2076.9	16.8	6	285	174	246	870	3044	820	1169	10.0	62.8	2160.2	66.3	0.741	245.6	24.76	0.89	1174
2175.0	21:19	2077.5	17.1	7	284	179	222	870	3042	820	1169	10.0	62.8	2174.8	66.4	1.506	246.4	24.82	0.90	1175
2176.0	21:24	2078.3	11.6	6	285	179	227	923	3035	820	1169	10.0	62.8	2162.0	59.4	1.128	247.3	24.91	0.96	1176
2177.0	21:26	2079.0	32.7	5	286	182	220	862	3023	819	1169	10.0	62.8	2162.0	66.1	2.250	247.5	24.94	0.76	1177
2178.0	21:30	2079.8	16.1	6	285	186	211	863	3033	819	1168	10.0	62.8	2162.0	66.0	4.009	248.3	25.00	0.91	1178
2179.0	21:31	2080.6	46.8	7	284	180	245	862	3034	819	1168	10.0	62.8	2162.0	65.8	2.692	248.5	25.02	0.74	1179
2180.0	21:33	2081.4	49.3	7	284	182	230	862	3032	818	1168	10.0	62.8	2162.6	65.9	1.881	248.7	25.04	0.74	1180
2181.0	21:36	2082.1	23.4	7	284	187	199	863	3033	817	1167	10.0	62.8	2163.1	65.9	1.297	249.1	25.09	0.86	1181
2182.0	21:39	2082.9	21.6	7	284	185	197	863	3030	818	1167	10.0	62.8	2164.1	65.8	1.032	249.7	25.13	0.87	1182
2183.0	21:42	2083.7	21.8	7	284	177	202	863	3026	816	1166	10.0	62.8	2165.1	65.9	1.335	250.1	25.18	0.86	1183
2184.0	21:44	2084.4	29.5	6	285	179	198	864	3025	816	1167	10.0	62.8	2165.5	65.9	2.212	250.5	25.21	0.80	1184
2185.0	21:47	2085.2	18.7	6	285	177	196	863	3018	816	1170	10.0	62.8	2166.3	66.0	2.331	251.0	25.27	0.86	1185
2186.0	21:49	2086.0	40.0	5	286	175	187	862	3019	815	1170	10.0	62.8	2166.8	66.0	1.893	251.4	25.29	0.72	1186
2187.0	21:50	2086.8	35.6	5	286	176	189	864	3019	815	1170	10.0	62.8	2167.7	66.0	1.620	251.6	25.32	0.73	1187
2188.0	21:52	2087.5	37.1	6	285	175	197	864	3018	815	1171	10.0	62.8	2168.0	66.0	1.286	251.9	25.35	0.76	1188
2189.0	21:55	2088.3	22.2	6	285	174	194	865	3020	814	1169	10.0	62.8	2168.7	66.0	1.106	252.3	25.39	0.84	1189
2190.0	21:59	2089.1	12.3	6	285	177	191	864	3017	814	1170	10.0	62.8	2170.6	66.0	0.861	253.2	25.47	0.95	1190
2191.0	22:03	2089.9	15.3	6	285	184	182	865	3015	813	1171	10.0	62.8	2172.5	66.0	0.736	253.8	25.54	0.91	1191
2192.0	22:08	2090.6	12.0	7	284	182	187	865	3011	810	1168	10.0	62.8	2173.3	65.9	0.710	254.8	25.62	0.97	1192
2193.0	22:32	2091.4	15.5	5	287	172	191	869	3000	784	1146	10.0	62.8	2179.3	65.8	0.591	255.4	25.69	0.87	1193
2194.0	22:36	2092.2	13.1	6	287	172	210	871	2994	775	1138	10.0	62.8	2181.4	65.8	0.640	256.2	25.76	0.91	1194
2195.0	22:39	2092.9	15.5	6	287	177	213	872	2992	772	1136	10.0	62.8	2182.1	65.8	0.568	256.6	25.80	0.90	1195

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2195.0	22:39	2092.9	15.5	6	287	177	213	872	2992	772	1136	10.0	62.8	2182.1	65.8	0.568	256.6	25.80	0.90	1195
2196.0	22:42	2093.7	17.4	6	287	178	197	884	3045	771	1134	10.0	62.8	2183.0	65.2	0.536	257.3	25.86	0.87	1196
2197.0	22:46	2094.5	14.7	6	286	173	221	894	3092	768	1131	10.0	62.8	2184.8	63.3	0.347	257.8	25.93	0.92	1197
2198.0	22:51	2095.3	11.8	6	286	178	224	896	3108	768	1133	10.0	62.8	2187.8	65.6	0.337	258.7	26.01	0.95	1198
2199.0	22:57	2096.0	10.8	6	287	181	202	895	3105	768	1135	10.0	62.8	2189.2	65.8	0.565	259.8	26.11	0.95	1199
2200.0	23:02	2096.8	12.9	6	286	182	210	894	3104	766	1134	10.0	62.8	2190.8	65.9	0.449	260.6	26.18	0.94	1200
2201.0	23:04	2097.6	12.9	6	287	184	187	894	3107	766	1133	10.0	62.8	2191.3	65.8	0.417	261.1	26.23	0.93	1201
2202.0	23:06	2098.4	11.9	7	286	180	221	893	3109	766	1133	10.0	62.8	2191.7	65.9	0.452	261.3	26.25	0.96	1202
2203.0	23:19	2099.1	5.9	6	286	180	209	893	3104	765	1132	10.0	62.8	2192.2	61.7	0.330	263.2	26.42	1.08	1203
2204.0	23:22	2099.8	25.0	9	283	169	262	892	3111	763	1131	10.0	62.8	2192.2	65.4	0.292	263.5	26.46	0.88	1204
2205.0	23:26	2100.6	15.5	8	284	166	254	892	3109	764	1131	10.0	62.8	2193.0	65.6	0.168	264.2	26.53	0.94	1205
2206.0	23:30	2101.4	14.2	9	284	173	230	892	3112	764	1132	10.0	62.8	2193.9	65.5	0.549	264.9	26.60	0.97	1206
2207.0	23:33	2102.1	20.0	9	284	169	247	892	3110	768	1139	10.0	62.8	2194.8	65.6	0.546	265.4	26.65	0.91	1207
2208.0	23:37	2102.9	13.7	8	284	173	221	891	3114	764	1137	10.0	62.8	2196.2	65.8	0.536	266.1	26.72	0.97	1208
2209.0	23:39	2103.7	32.1	8	284	166	255	891	3108	735	1106	10.0	62.8	2196.6	65.8	0.537	266.5	26.75	0.81	1209
2210.0	23:41	2104.4	39.6	8	284	165	239	892	3114	709	1079	10.0	62.8	2197.0	65.8	0.548	266.6	26.78	0.78	1210
2211.0	23:43	2105.2	24.5	8	285	166	250	890	3119	695	1066	10.0	62.8	2197.5	65.8	0.592	267.1	26.82	0.85	1211
2212.0	23:44	2106.0	48.0	10	283	152	264	890	3122	692	1063	10.0	62.8	2197.6	65.8	0.639	267.3	26.84	0.75	1212
2213.0	23:46	2106.7	36.4	9	284	164	245	891	3113	690	1061	10.0	62.8	2198.0	65.8	0.770	267.5	26.87	0.80	1213
2214.0	23:48	2107.5	31.6	9	284	166	244	891	3120	691	1063	10.0	62.8	2198.3	65.7	1.013	267.8	26.90	0.83	1214
2215.0	23:50	2108.3	34.6	9	283	162	258	891	3112	691	1063	10.0	62.8	2198.8	65.8	0.830	268.1	26.93	0.82	1215
2216.0	23:52	2109.0	23.5	9	284	170	219	891	3110	691	1064	10.0	62.8	2199.1	65.8	0.850	268.5	26.97	0.88	1216
2217.0	23:54	2109.8	26.9	8	284	169	224	890	3121	691	1063	10.0	62.8	2199.5	65.8	0.829	268.8	27.01	0.85	1217
2218.0	23:57	2110.6	20.6	8	285	168	217	891	3118	691	1063	10.0	62.8	2200.9	65.9	0.814	269.3	27.05	0.89	1218
2219.0	23:59	2111.3	32.1	8	284	169	228	890	3113	690	1062	10.0	62.8	2201.8	65.8	0.769	269.7	27.09	0.81	1219
2220.0	00:30	2112.1	34.0	8	285	167	215	891	3117	687	1059	10.0	62.8	2205.7	65.8	0.410	270.0	27.11	0.79	1220
2221.0	00:32	2112.9	22.0	8	286	166	262	905	3187	647	1020	10.0	62.8	2206.5	65.8	0.561	270.3	27.16	0.87	1221
2222.0	00:35	2113.6	20.0	8	286	175	233	904	3191	647	1019	10.0	62.8	2207.1	65.9	0.657	270.9	27.21	0.89	1222
2223.0	00:38	2114.4	25.0	8	286	172	254	901	3179	646	1018	10.0	62.8	2207.2	66.0	0.796	271.4	27.25	0.86	1223
2224.0	00:41	2115.2	19.9	8	286	172	243	896	3165	647	1019	10.0	62.8	2208.9	66.0	0.877	271.9	27.30	0.90	1224
2225.0	00:45	2115.9	14.0	8	286	178	221	896	3175	648	1019	10.0	62.8	2211.4	66.1	0.970	272.6	27.37	0.96	1225
2226.0	00:49	2116.7	14.1	8	286	178	211	895	3175	651	1020	10.0	62.8	2213.8	56.5	0.149	273.4	27.44	0.97	1226
2227.0	00:53	2117.5	16.4	9	285	175	241	895	3167	600	1018	10.0	62.8	2215.8	65.5	0.174	273.9	27.50	0.96	1227
2228.0	00:55	2118.2	25.9	10	284	170	262	895	3159	595	1023	10.0	62.8	2216.7	65.7	1.053	274.4	27.54	0.88	1228
2229.0	00:58	2119.0	23.5	10	284	166	273	896	3162	594	1024	10.0	62.8	2217.4	65.7	1.275	274.7	27.59	0.91	1229
2230.0	01:02	2119.3	14.0	10	284	168	263	895	3168	594	1022	10.0	62.8	2219.5	65.9	1.341	275.4	27.66	1.00	1230
2231.0	01:05	2120.0	20.9	9	285	171	256	893	3171	592	1020	10.0	62.8	2219.9	66.1	1.452	275.9	27.70	0.91	1231
2232.0	01:08	2121.1	17.4	10	284	165	271	892	3180	593	1018	10.0	62.8	2219.9	66.1	1.521	276.4	27.76	0.96	1232
2233.0	01:11	2121.9	23.4	10	284	171	245	892	3191	620	1017	10.0	62.8	2219.9	66.0	1.556	277.0	27.81	0.91	1233
2234.0	01:13	2122.6	29.0	9	285	170	254	889	3189	788	1015	10.0	62.8	2219.9	65.9	1.541	277.3	27.84	0.85	1234
2235.0	01:15	2123.4	40.4	10	284	162	276	888	3189	788	1016	10.0	62.8	2219.9	65.9	1.434	277.5	27.86	0.79	1235
2236.0	01:16	2124.1	38.3	9	285	168	250	889	3196	787	1016	10.0	62.8	2219.9	65.9	1.367	277.8	27.89	0.80	1236
2237.0	01:17	2124.9	39.0	10	284	167	278	889	3200	788	1017	10.0	62.8	2219.9	65.9	1.244	278.0	27.91	0.72	1237
2238.0	01:19	2125.6	37.1	10	284	170	264	889	3199	788	1016	10.0	62.8	2219.9	65.9	1.178	278.2	27.93	0.82	1238
2239.0	01:21	2126.4	30.3	9	285	176	228	889	3194	787	1017	10.0	62.8	2219.9	65.9	1.105	278.5	27.97	0.84	1239
2240.0	01:22	2127.2	54.5	10	284	165	273	888	3188	786	1018	10.0	62.8	2219.9	65.9	1.047	278.7	27.98	0.75	1240
2241.0	01:23	2127.9	46.2	9	284	172	261	888	3187	787	1017	10.0	62.8	2219.9	65.9	1.012	278.9	28.01	0.77	1241
2242.0	01:24	2128.7	50.0	10	284	171	257	889	3187	786	1017	10.0	62.8	2220.2	65.9	0.980	279.2	28.03	0.76	1242
2243.0	01:26	2129.4	38.7	10	284	175	226	889	3186	785	1015	10.0	62.8	2220.8	65.9	0.930	279.4	28.05	0.82	1243
2244.0	01:27	2130.2	50.0	10	284	164	275	889	3191	786	1015	10.0	62.8	2221.0	65.8	0.889	279.6	28.07	0.76	1244

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2244.0	01:27	2130.2	50.0	10	284	164	275	889	3191	786	1015	10.0	62.8	2221.0	65.8	0.889	279.6	28.07	0.76	1244
2245.0	01:28	2130.9	41.4	10	284	173	251	890	3191	785	1015	10.0	62.8	2221.7	65.8	0.891	279.9	28.10	0.81	1245
2246.0	01:30	2131.7	55.4	11	283	171	264	889	3191	785	1015	10.0	62.8	2222.0	65.8	0.884	280.1	28.11	0.76	1246
2247.0	01:31	2132.4	42.9	10	284	172	249	889	3182	783	1014	10.0	62.8	2222.5	65.8	0.899	280.3	28.14	0.79	1247
2248.0	01:32	2133.2	59.0	11	283	169	282	890	3183	783	1012	10.0	62.8	2222.8	65.8	0.880	280.5	28.15	0.74	1248
2249.0	01:51	2133.9	53.7	9	285	170	219	890	3172	776	1005	10.0	62.8	2226.7	65.8	0.463	280.7	28.17	0.74	1249
2250.0	01:53	2134.7	29.0	9	286	148	293	886	3132	736	965	10.0	62.8	2227.4	65.9	0.384	281.0	28.21	0.83	1250
2251.0	01:57	2135.5	14.9	8	287	164	237	887	3133	735	964	10.0	62.8	2229.1	65.9	0.451	281.7	28.28	0.95	1251
2252.0	02:01	2136.2	15.7	9	287	164	240	888	3123	735	964	10.0	62.8	2229.6	66.0	0.387	282.2	28.34	0.95	1252
2253.0	02:04	2137.0	23.1	9	286	163	237	889	3118	733	962	10.0	62.8	2230.7	66.1	0.300	282.7	28.38	0.89	1253
2254.0	02:08	2137.7	13.5	9	286	164	241	888	3114	734	964	10.0	62.8	2232.3	66.1	0.248	283.3	28.46	0.99	1254
2255.0	02:13	2138.5	13.7	9	286	166	230	887	3114	733	963	10.0	62.8	2233.7	66.3	0.237	284.0	28.53	0.99	1255
2256.0	02:17	2139.2	13.3	9	286	170	208	887	3114	733	962	10.0	62.8	2237.2	66.3	0.213	284.9	28.60	0.99	1256
2257.0	02:28	2140.0	11.1	10	286	171	201	887	3123	731	960	10.0	62.8	2244.7	62.3	0.116	286.6	28.78	1.16	1257
2258.0	02:34	2139.5	11.4	10	285	167	222	884	3135	730	959	10.0	62.8	2248.7	66.3	0.089	287.7	28.89	1.08	1258
2259.0	02:41	2140.1	11.4	10	285	166	232	882	3151	732	959	10.0	62.8	2248.7	66.6	0.232	288.6	28.98	1.04	1259
2260.0	02:44	2142.1	17.1	10	285	162	256	881	3161	731	958	10.0	62.8	2248.7	66.8	0.209	289.1	29.04	0.96	1260
2261.0	02:47	2142.8	22.5	10	286	158	267	879	3168	729	955	10.0	62.8	2249.2	66.7	0.192	289.5	29.08	0.90	1261
2262.0	02:49	2143.6	27.3	11	285	160	257	878	3176	726	951	10.0	62.8	2250.2	66.7	0.140	290.0	29.12	0.88	1262
2263.0	02:52	2144.3	21.7	10	286	164	243	878	3183	725	950	10.0	62.8	2250.7	66.6	0.176	290.3	29.16	0.91	1263
2264.0	02:54	2145.1	35.3	10	286	159	266	878	3184	725	949	10.0	62.8	2251.2	66.6	0.457	290.6	29.19	0.81	1264
2265.0	02:55	2145.8	43.9	10	286	161	266	878	3186	724	949	10.0	62.8	2251.7	66.6	0.542	290.8	29.21	0.77	1265
2266.0	02:57	2146.6	40.9	10	285	158	277	878	3187	724	948	10.0	62.8	2252.2	66.6	0.495	291.1	29.24	0.79	1266
2267.0	02:58	2147.3	34.6	10	285	161	256	877	3196	725	949	10.0	62.8	2252.6	66.6	0.271	291.3	29.27	0.83	1267
2268.0	03:00	2148.1	44.4	10	286	161	259	876	3197	724	949	10.0	62.8	2253.1	66.7	0.364	291.6	29.29	0.77	1268
2269.0	03:01	2148.8	44.0	10	286	151	298	877	3198	723	948	10.0	62.8	2253.4	66.7	0.444	291.8	29.31	0.73	1269
2270.0	03:02	2149.5	43.9	9	286	154	285	877	3196	724	949	10.0	62.8	2253.7	66.7	0.503	291.9	29.33	0.76	1270
2271.0	03:04	2150.3	35.3	9	286	156	279	876	3194	724	948	10.0	62.8	2254.0	66.8	0.544	292.2	29.36	0.80	1271
2272.0	03:05	2151.0	44.0	9	286	160	269	877	3197	724	948	10.0	62.8	2254.2	66.8	0.566	292.4	29.38	0.71	1272
2273.0	03:06	2151.8	43.9	9	286	157	273	876	3197	724	948	10.0	62.8	2254.6	66.8	0.574	292.6	29.40	0.76	1273
2274.0	03:08	2152.5	42.9	9	286	156	287	876	3199	723	947	10.0	62.8	2254.9	66.8	0.578	292.7	29.42	0.77	1274
2275.0	03:09	2153.3	46.8	9	286	159	261	876	3198	723	948	10.0	62.8	2255.5	66.7	0.585	293.0	29.44	0.76	1275
2276.0	03:10	2154.0	44.4	9	286	156	274	877	3205	723	948	10.0	62.8	2255.5	66.7	0.587	293.2	29.47	0.76	1276
2277.0	03:32	2154.8	30.3	8	288	163	220	874	3207	713	938	10.0	62.8	2257.5	66.9	0.355	293.5	29.50	0.81	1277
2278.0	03:36	2155.5	15.9	9	288	168	246	870	3209	683	907	10.0	62.8	2258.1	67.0	0.392	294.2	29.56	0.95	1278
2279.0	03:39	2156.2	20.0	9	288	171	240	870	3212	682	906	10.0	62.8	2258.7	67.0	0.397	294.7	29.61	0.93	1279
2280.0	03:42	2157.0	15.9	9	288	173	232	870	3210	682	906	10.0	62.8	2259.2	67.0	0.421	295.2	29.68	0.96	1280
2281.0	03:45	2157.7	20.9	9	288	172	242	870	3214	681	905	10.0	62.8	2260.0	67.1	0.425	295.7	29.72	0.91	1281
2282.0	03:48	2158.5	19.5	10	287	172	250	871	3211	680	904	10.0	62.8	2261.1	67.3	0.461	296.3	29.78	0.95	1282
2283.0	03:52	2159.2	15.7	10	287	174	252	870	3208	680	903	10.0	62.8	2262.3	67.3	0.580	297.0	29.84	0.99	1283
2284.0	03:56	2160.0	17.4	10	287	168	261	870	3207	679	903	10.0	62.8	2264.5	67.4	0.051	297.5	29.90	0.97	1284
2285.0	03:59	2160.7	19.7	11	286	164	257	870	3216	679	903	10.0	62.8	2266.5	67.1	0.308	298.1	29.95	0.95	1285
2286.0	04:04	2161.5	11.5	10	287	177	238	870	3217	679	902	10.0	62.8	2270.7	67.5	0.523	299.0	30.03	1.05	1286
2287.0	04:08	2162.2	15.7	11	286	174	254	869	3213	679	903	10.0	62.8	2273.1	67.6	0.521	299.5	30.10	1.00	1287
2288.0	04:11	2162.9	19.6	10	287	168	273	869	3215	677	902	10.0	62.8	2275.5	67.6	0.615	300.0	30.15	0.94	1288
2289.0	04:13	2163.5	23.4	10	287	159	288	868	3214	677	901	10.0	62.8	2276.5	67.6	0.589	300.5	30.19	0.89	1289
2290.0	04:16	2164.3	24.3	10	287	159	293	868	3216	676	901	10.0	62.8	2276.5	67.5	0.556	300.8	30.23	0.88	1290
2291.0	04:18	2165.0	32.4	10	287	162	288	868	3217	678	902	10.0	62.8	2276.5	67.6	0.544	301.1	30.26	0.84	1291
2292.0	04:19	2165.7	41.4	10	287	168	279	868	3222	679	904	10.0	62.8	2276.5	67.6	0.527	301.5	30.29	0.80	1292
2293.0	04:20	2166.5	58.1	11	286	166	257	867	3232	678	903	10.0	62.8	2276.5	67.6	0.557	301.7	30.31	0.74	1293

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2293.0	04:20	2166.5	58.1	11	286	166	257	867	3232	678	903	10.0	62.8	2276.5	67.6	0.557	301.7	30.31	0.74	1293
2294.0	04:22	2167.2	36.7	11	286	167	276	868	3224	678	903	10.0	62.8	2276.5	67.6	0.555	301.8	30.33	0.83	1294
2295.0	04:23	2167.9	50.0	10	287	166	291	868	3225	678	903	10.0	62.8	2276.5	67.6	0.558	302.0	30.35	0.76	1295
2296.0	04:24	2168.7	53.7	9	287	171	250	868	3226	678	903	10.0	62.8	2276.5	67.6	0.603	302.2	30.37	0.75	1296
2297.0	04:25	2169.4	55.4	10	287	168	275	868	3229	678	903	10.0	62.8	2276.5	67.6	0.589	302.3	30.39	0.75	1297
2298.0	04:26	2170.1	50.7	10	287	169	269	868	3224	678	902	10.0	62.8	2276.5	67.7	0.613	302.7	30.41	0.76	1298
2299.0	04:28	2170.9	37.5	10	287	170	271	867	3224	677	902	10.0	62.8	2276.5	67.7	0.635	302.9	30.44	0.82	1299
2300.0	04:29	2171.6	53.7	10	287	159	283	867	3231	677	901	10.0	62.8	2277.1	67.8	0.654	303.0	30.45	0.74	1300
2301.0	04:30	2172.3	45.6	11	286	163	292	867	3222	677	902	10.0	62.8	2277.6	67.8	0.690	303.2	30.48	0.78	1301
2302.0	04:31	2173.1	50.0	10	287	168	281	868	3228	677	902	10.0	62.8	2277.8	67.8	0.672	303.5	30.50	0.77	1302
2303.0	04:33	2173.8	44.4	10	287	167	279	867	3231	677	901	10.0	62.8	2278.1	67.8	0.658	303.7	30.52	0.79	1303
2304.0	04:34	2174.5	45.6	11	286	167	298	867	3231	676	901	10.0	62.8	2278.4	67.8	0.672	303.9	30.54	0.79	1304
2305.0	04:36	2175.3	37.5	11	286	171	258	867	3230	677	901	10.0	62.8	2279.1	67.8	0.651	304.3	30.57	0.84	1305
2306.0	04:59	2176.0	22.0	9	289	150	280	858	3194	674	899	10.0	62.8	2284.7	67.7	0.409	304.7	30.64	0.95	1306
2307.0	05:02	2176.7	22.6	9	289	155	283	855	3185	673	898	10.0	62.8	2285.4	67.7	0.515	305.2	30.68	0.89	1307
2308.0	05:04	2177.5	26.7	9	289	159	264	855	3184	673	897	10.0	62.8	2285.7	67.7	0.584	305.5	30.72	0.86	1308
2309.0	05:06	2178.2	30.5	10	288	150	293	854	3184	672	897	10.0	62.8	2286.1	67.8	0.821	305.9	30.75	0.84	1309
2310.0	05:08	2178.9	30.0	11	288	139	317	854	3181	672	897	10.0	62.8	2286.5	67.5	0.357	306.1	30.79	0.83	1310
2311.0	05:10	2179.7	33.6	10	288	142	309	854	3187	673	897	10.0	62.8	2287.1	67.4	0.032	306.4	30.82	0.82	1311
2312.0	05:12	2180.4	27.3	11	288	148	295	854	3186	672	896	10.0	62.8	2288.0	67.6	0.150	306.7	30.85	0.87	1312
2313.0	05:15	2181.1	20.7	11	287	157	271	854	3186	671	896	10.0	62.8	2288.8	68.0	0.343	307.2	30.90	0.93	1313
2314.0	05:17	2181.9	26.3	11	287	144	314	854	3182	671	895	10.0	62.8	2289.9	67.8	0.383	307.5	30.94	0.88	1314
2315.0	05:20	2182.6	27.7	11	287	147	288	853	3184	671	896	10.0	62.8	2290.9	67.8	0.606	307.8	30.98	0.87	1315
2316.0	05:21	2183.3	33.0	12	287	156	286	853	3184	670	895	10.0	62.8	2292.1	67.9	0.674	308.1	31.01	0.86	1316
2317.0	05:22	2183.9	28.5	12	287	151	307	853	3184	671	896	10.0	62.8	2292.6	67.8	0.639	308.1	31.02	0.63	1317
2318.0	05:24	2184.6	30.3	12	286	145	316	852	3192	670	895	10.0	62.8	2294.0	68.0	0.593	308.4	31.05	0.87	1318
2319.0	05:26	2185.3	24.8	12	286	146	304	853	3188	670	895	10.0	62.8	2295.9	68.1	0.537	308.7	31.09	0.90	1319
2320.0	05:29	2186.0	26.7	12	287	157	269	853	3191	670	895	10.0	62.8	2297.8	68.1	0.496	309.1	31.13	0.90	1320
2321.0	05:30	2186.7	35.3	11	288	159	276	853	3192	669	894	10.0	62.8	2298.9	68.1	0.455	309.4	31.15	0.83	1321
2322.0	05:32	2187.5	41.9	11	287	160	276	852	3192	670	895	10.0	62.8	2300.0	68.0	0.428	309.6	31.18	0.80	1322
2323.0	05:33	2188.2	41.1	11	288	163	258	853	3187	669	894	10.0	62.8	2300.8	67.9	0.389	309.9	31.20	0.78	1323
2324.0	05:33	2188.9	32.5	9	289	169	188	852	3190	671	896	10.0	62.8	2301.1	67.8	0.677	309.9	31.20	0.23	1324
2325.0	05:36	2189.9	21.8	10	289	165	239	853	3188	669	894	10.0	62.8	2303.3	67.9	0.351	310.3	31.25	0.91	1325
2326.0	05:38	2190.6	24.2	10	289	162	259	854	3193	668	892	10.0	62.8	2304.9	67.8	0.322	310.8	31.29	0.89	1326
2327.0	05:40	2190.7	28.6	10	288	159	264	853	3194	668	892	10.0	62.8	2305.5	67.8	0.326	311.1	31.32	0.86	1327
2328.0	05:44	2191.5	18.5	10	288	163	246	853	3195	667	892	10.0	62.8	2305.5	67.8	0.307	311.6	31.38	0.95	1328
2329.0	05:47	2192.2	20.1	11	287	162	249	852	3196	667	891	10.0	62.8	2305.5	67.8	0.297	312.1	31.43	0.95	1329
2330.0	05:49	2192.9	22.2	11	287	162	247	852	3198	667	891	10.0	62.8	2305.5	67.8	0.330	312.4	31.47	0.93	1330
2331.0	05:51	2193.6	32.1	11	287	155	279	852	3198	668	892	10.0	62.8	2305.5	67.7	0.322	312.7	31.50	0.85	1331
2332.0	05:53	2194.3	31.3	11	287	160	251	852	3197	668	892	10.0	62.8	2305.5	67.8	0.283	313.1	31.54	0.86	1332
2333.0	05:55	2195.0	27.1	11	288	162	251	853	3198	667	891	10.0	62.8	2305.7	68.0	0.139	313.4	31.57	0.89	1333
2334.0	06:24	2195.7	23.0	9	290	166	257	854	3212	655	878	10.0	62.8	2314.5	69.5	0.225	314.4	31.67	0.90	1334
2335.0	06:27	2196.5	18.8	9	290	165	254	854	3205	655	878	10.0	62.8	2316.9	70.2	1.473	314.9	31.72	0.93	1335
2336.0	06:30	2197.2	20.2	9	291	163	255	855	3196	657	880	10.0	62.8	2318.4	70.0	2.817	315.4	31.77	0.90	1336
2337.0	06:33	2197.9	23.1	9	290	169	244	857	3181	659	883	10.0	62.8	2319.5	70.2	3.814	315.8	31.81	0.90	1337
2338.0	06:35	2198.6	23.2	11	289	157	271	858	3159	662	885	10.0	62.8	2320.9	70.2	3.976	316.2	31.86	0.91	1338
2339.0	06:38	2199.3	24.3	9	291	166	253	859	3149	661	884	10.0	62.8	2322.3	70.3	3.968	316.6	31.90	0.88	1339
2340.0	06:43	2200.0	18.8	9	291	171	236	860	3138	661	884	10.0	62.8	2325.5	70.3	3.449	317.5	31.98	1.00	1340
2341.0	06:46	2200.7	16.6	13	287	165	276	861	3121	654	877	10.0	62.8	2327.2	68.3	0.249	318.0	32.04	1.02	1341
2342.0	09:04	2201.4	28.1	10	290	159	264	861	3136	618	919	10.0	62.8	2341.3	68.0	0.148	318.2	32.07	0.85	1342

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2342.0	09:04	2201.4	28.1	10	290	159	264	861	3136	618	919	10.0	62.8	2341.3	68.0	0.148	318.2	32.07	0.85	1342
2343.0	09:05	2202.2	28.0	7	293	173	293	859	3198	472	1110	10.0	62.8	2341.3	69.0	0.148	318.2	32.07	0.22	1343
2344.0	09:07	2202.9	30.0	6	294	172	249	859	3189	471	1108	10.0	62.8	2341.3	69.0	0.143	318.6	32.11	0.78	1344
2345.0	09:09	2203.6	28.3	6	294	172	251	860	3196	470	1108	10.0	62.8	2341.3	68.9	0.141	318.9	32.14	0.79	1345
2346.0	09:12	2204.6	18.7	5	295	176	229	860	3195	472	1109	10.0	62.8	2341.3	68.7	0.126	319.6	32.19	0.84	1346
2347.0	09:15	2205.3	22.6	5	295	175	230	860	3203	472	1109	10.0	62.8	2341.3	68.4	0.123	320.0	32.24	0.80	1347
2348.0	09:16	2206.0	32.1	5	295	172	248	860	3203	472	1109	9.9	62.8	2341.3	68.0	0.124	320.3	32.27	0.76	1348
2349.0	09:19	2206.8	21.8	5	294	172	247	860	3205	473	1110	9.9	62.8	2341.3	67.9	0.132	320.9	32.32	0.83	1349
2350.0	09:23	2207.5	14.0	6	294	172	240	860	3208	473	1110	9.9	62.8	2341.3	67.1	6.534	321.6	32.39	0.92	1350
2351.0	09:25	2208.2	20.5	8	292	171	255	859	3207	473	1110	9.9	62.8	2341.3	67.9	2.908	321.8	32.41	0.76	1351
2352.0	09:29	2208.9	14.3	7	293	171	240	859	3207	473	1110	9.9	62.8	2341.3	52.7	0.539	322.5	32.48	0.95	1352
2353.0	09:32	2209.6	18.0	6	294	173	216	859	3203	473	1109	9.9	62.8	2341.3	65.6	3.373	323.0	32.54	0.87	1353
2354.0	09:34	2210.3	37.5	4	296	172	229	860	3208	474	1110	9.9	62.8	2341.3	65.9	8.604	323.3	32.56	0.71	1354
2355.0	09:35	2211.1	41.4	5	295	172	228	860	3206	474	1111	9.9	62.8	2341.3	66.3	8.802	323.5	32.59	0.70	1355
2356.0	09:42	2211.8	9.0	4	296	175	210	860	3213	474	1110	9.9	62.8	2341.3	65.5	5.107	324.8	32.70	0.93	1356
2357.0	09:45	2212.5	24.0	7	293	171	240	860	3210	475	1111	9.9	62.8	2341.3	64.7	0.615	325.1	32.74	0.84	1357
2358.0	09:54	2213.2	6.1	6	293	172	233	859	3210	476	1112	9.9	62.8	2341.3	65.9	7.098	326.9	32.90	1.08	1358
2359.0	09:56	2213.9	30.3	8	292	162	264	853	3182	477	1113	9.9	62.8	2341.3	64.6	1.522	327.0	32.94	0.82	1359
2360.0	09:58	2214.6	34.3	5	295	173	226	853	3184	477	1113	9.9	62.8	2341.3	64.6	0.452	327.4	32.97	0.73	1360
2361.0	10:00	2215.3	27.3	4	295	172	228	854	3177	477	1113	9.9	62.8	2341.3	65.5	3.459	327.7	33.00	0.76	1361
2362.0	10:50	2216.1	30.0	5	295	171	231	854	3190	468	1105	9.9	62.8	2354.8	66.5	4.783	328.2	33.04	0.77	1362
2363.0	10:52	2216.8	33.6	6	296	165	260	858	3227	444	1082	9.9	62.8	2355.3	66.7	10.581	328.4	33.07	0.75	1363
2364.0	11:11	2217.5	29.6	5	296	153	272	841	3115	436	1077	9.9	62.8	2357.2	67.1	9.946	329.1	33.14	2.45	1364
2365.0	11:13	2218.2	26.3	6	296	163	259	841	3121	435	1075	9.9	62.8	2357.5	67.2	10.580	329.6	33.18	0.79	1365
2366.0	11:16	2218.9	22.4	6	296	161	277	840	3117	433	1072	9.9	62.8	2357.8	67.3	9.895	329.9	33.22	0.82	1366
2367.0	11:25	2219.6	22.4	6	295	158	257	842	3127	432	1066	9.9	62.8	2359.6	67.3	10.800	330.4	33.27	0.83	1367
2368.0	11:29	2220.4	15.5	7	294	162	291	843	3132	427	1059	9.9	62.8	2361.4	67.2	8.928	330.9	33.33	0.92	1368
2369.0	11:34	2221.1	11.9	6	295	166	269	842	3150	424	1057	9.9	62.8	2361.6	67.4	9.035	331.7	33.41	0.95	1369
2370.0	11:37	2221.8	26.3	6	296	171	267	840	3171	425	1057	9.9	62.8	2361.6	67.3	8.240	332.1	33.45	0.80	1370
2371.0	11:37	2222.5	28.1	6	296	139	340	841	3141	425	1057	9.9	62.8	2361.6	66.1	1.727	332.3	33.45	0.24	1371
2372.0	11:39	2222.7	29.8	6	295	155	306	841	3134	425	1057	9.9	62.8	2361.6	67.3	8.060	332.4	33.49	0.78	1372
2373.0	11:41	2223.4	22.5	6	296	162	304	842	3140	424	1057	9.9	62.8	2361.6	67.2	4.075	332.9	33.53	0.82	1373
2374.0	11:45	2224.5	18.5	5	296	163	290	841	3137	425	1057	9.9	62.8	2361.6	66.9	0.011	333.4	33.59	0.85	1374
2375.0	11:48	2225.2	16.9	7	295	161	297	842	3140	424	1056	9.9	62.8	2361.6	60.7	0.879	334.1	33.65	0.89	1375
2376.0	11:51	2225.9	23.5	6	295	168	287	843	3143	424	1057	9.9	62.8	2361.6	62.6	1.632	334.4	33.69	0.83	1376
2377.0	11:53	2226.6	30.3	6	295	169	278	842	3142	425	1058	9.9	62.8	2361.6	63.3	0.972	334.8	33.72	0.78	1377
2378.0	11:54	2227.3	37.9	6	295	167	290	842	3141	425	1057	9.9	62.8	2361.6	64.4	0.832	335.1	33.75	0.75	1378
2379.0	11:56	2228.0	40.0	6	295	172	270	841	3136	426	1058	9.9	62.8	2361.6	65.0	0.709	335.3	33.77	0.75	1379
2380.0	11:59	2228.7	18.9	5	296	175	252	841	3136	425	1058	9.9	62.8	2361.6	65.3	1.076	335.8	33.83	0.86	1380
2381.0	12:03	2229.4	16.0	5	296	175	245	841	3140	425	1057	9.9	62.8	2361.6	65.4	1.216	336.5	33.89	0.87	1381
2382.0	12:05	2230.1	30.3	5	296	173	264	840	3142	424	1056	9.9	62.8	2362.7	65.4	1.220	336.9	33.92	0.77	1382
2383.0	12:07	2230.8	29.5	5	296	174	259	840	3138	424	1056	9.9	62.8	2363.5	65.5	1.260	337.2	33.95	0.78	1383
2384.0	12:10	2231.5	15.9	4	296	175	244	839	3134	424	1056	9.9	62.8	2363.8	65.4	1.249	337.8	34.02	0.84	1384
2385.0	12:13	2232.2	21.4	4	296	172	268	838	3138	412	1054	9.9	62.8	2363.8	65.5	1.223	338.3	34.06	0.78	1385
2386.0	12:16	2232.9	24.8	4	296	174	258	839	3138	285	1056	9.9	62.8	2364.3	65.6	1.198	338.7	34.10	0.76	1386
2387.0	12:21	2233.6	11.4	4	296	175	253	837	3137	285	1056	9.9	62.8	2366.2	65.6	1.074	339.5	34.19	0.91	1387
2388.0	12:24	2234.3	20.0	4	296	173	262	837	3134	285	1055	9.9	62.8	2366.2	65.8	1.170	340.1	34.24	0.80	1388
2389.0	14:18	2235.1	10.9	4	297	162	245	848	3091	409	1042	9.9	62.8	2380.4	66.5	0.565	340.9	34.33	0.90	1389
2390.0	14:22	2235.8	13.2	5	296	159	257	849	3068	410	1043	9.9	62.8	2381.9	66.4	0.628	341.5	34.41	0.87	1390
2391.0	14:27	2236.5	12.7	4	297	161	264	855	3076	411	1046	9.9	62.8	2383.7	66.6	0.592	342.2	34.49	0.88	1391

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2391.0	14:27	2236.5	12.7	4	297	161	264	855	3076	411	1046	9.9	62.8	2383.7	66.6	0.592	342.2	34.49	0.88	1391
2392.0	14:32	2237.2	11.4	5	296	167	260	856	3058	412	1048	9.9	62.8	2385.7	66.5	0.561	343.1	34.58	0.91	1392
2393.0	14:37	2237.9	13.1	4	297	173	237	856	3044	414	1050	9.9	62.8	2386.9	66.7	0.513	343.8	34.65	0.88	1393
2394.0	14:38	2238.6	9.0	4	297	166	246	853	3038	415	1052	9.9	62.8	2387.0	66.9	0.543	343.9	34.67	0.94	1394
2395.0	14:48	2239.3	5.8	5	296	167	254	857	3056	413	1051	9.9	62.8	2390.3	66.8	0.617	345.7	34.84	1.02	1395
2396.0	14:54	2240.0	9.9	6	295	167	270	861	3093	396	1025	9.9	62.8	2390.3	67.0	0.687	346.7	34.94	0.96	1396
2397.0	15:01	2240.7	8.9	6	295	168	258	861	3103	394	1021	9.9	62.8	2388.0	67.0	0.566	347.7	35.05	0.99	1397
2398.0	15:04	2241.4	9.5	6	295	167	279	859	3099	397	1025	9.9	62.8	2388.0	67.2	0.610	348.3	35.10	0.99	1398
2399.0	15:07	2242.1	10.1	6	295	169	254	860	3097	398	1027	9.9	62.8	2388.0	67.2	1.042	348.8	35.15	0.96	1399
2400.0	15:11	2242.8	14.3	6	295	159	287	860	3098	400	1030	9.9	62.8	2388.0	67.2	2.466	349.5	35.22	0.91	1400
2401.0	15:13	2243.5	13.5	6	295	171	260	859	3087	401	1031	9.9	62.8	2388.1	67.1	4.506	349.8	35.25	0.90	1401
2402.0	15:18	2244.2	12.3	6	295	162	280	859	3088	403	1033	9.9	62.8	2388.8	67.1	4.005	350.5	35.33	0.91	1402
2403.0	15:21	2244.8	12.3	5	296	170	260	859	3084	404	1035	10.0	62.8	2389.3	67.1	2.129	351.1	35.38	0.90	1403
2404.0	15:33	2245.5	4.8	6	295	171	252	859	3072	405	1038	10.0	62.8	2392.2	67.3	0.890	353.2	35.59	1.09	1404
2405.0	15:43	2246.2	6.4	6	295	169	270	858	3063	406	1041	10.0	62.8	2394.1	67.4	0.441	354.8	35.75	1.04	1405
2406.0	15:47	2246.9	13.6	7	294	169	266	858	3047	403	1037	10.0	62.8	2394.6	67.0	0.006	355.4	35.82	0.94	1406
2407.0	15:51	2247.6	15.2	6	295	168	264	858	3036	399	1027	10.0	62.8	2395.2	67.6	0.479	356.1	35.89	0.88	1407
2408.0	15:53	2248.3	17.0	6	295	165	282	858	3034	395	1021	10.0	62.8	2395.5	68.4	0.586	356.5	35.92	0.86	1408
2409.0	15:53	2249.0	28.9	5	296	167	269	860	3015	393	1020	10.0	62.8	2395.6	68.8	0.585	356.5	35.92	0.75	1409
2410.0	15:58	2249.7	13.0	6	295	166	271	858	3029	394	1020	10.0	62.8	2396.3	69.4	0.611	357.2	36.00	0.92	1410
2411.0	16:02	2250.4	13.3	6	295	168	271	858	3023	395	1023	10.0	62.8	2397.0	69.4	0.691	358.0	36.08	0.91	1411
2412.0	16:05	2251.1	19.6	6	295	166	272	858	3020	397	1026	10.0	62.8	2398.4	70.1	0.682	358.5	36.13	0.86	1412
2413.0	16:09	2251.8	14.9	6	295	166	277	857	3017	399	1028	10.0	62.8	2399.7	70.4	0.669	359.2	36.19	0.90	1413
2414.0	16:16	2252.5	8.7	5	296	172	250	857	3017	401	1031	10.0	62.8	2401.3	70.8	0.669	360.3	36.31	0.98	1414
2415.0	16:21	2253.2	13.4	6	295	171	252	857	3022	402	1033	10.0	62.8	2402.2	71.2	0.669	361.1	36.38	0.91	1415
2416.0	16:25	2253.9	16.4	6	295	166	275	855	3020	403	1034	10.0	62.8	2403.2	70.9	0.669	361.6	36.45	0.88	1416
2417.0	16:32	2254.6	7.8	6	295	172	222	856	3028	404	1054	10.0	62.8	2416.9	67.6	0.386	362.9	36.51	1.02	1417
2418.0	18:23	2255.4	17.5	6	298	168	283	839	3091	370	1272	10.0	62.8	2416.9	67.1	0.928	363.4	36.57	0.87	1418
2419.0	18:26	2256.0	19.8	7	297	169	306	839	3097	370	1271	10.0	62.8	2416.9	66.8	1.178	363.9	36.62	0.87	1419
2420.0	18:30	2256.7	13.1	8	296	168	312	839	3098	370	1271	10.0	62.8	2416.9	66.7	1.111	364.6	36.70	0.96	1420
2421.0	18:33	2257.4	15.0	8	296	157	305	839	3098	369	1271	10.0	62.8	2416.9	66.7	1.127	365.1	36.74	0.94	1421
2422.0	18:38	2258.2	17.5	7	297	168	297	838	3094	369	1269	10.0	62.8	2416.9	66.7	1.276	366.0	36.82	0.89	1422
2423.0	18:39	2258.8	16.0	7	297	166	313	838	3093	367	1268	10.0	62.8	2416.9	66.8	1.322	366.1	36.84	0.90	1423
2424.0	18:42	2259.5	19.8	7	297	166	299	838	3090	367	1268	10.0	62.8	2416.9	66.8	1.240	366.7	36.90	0.88	1424
2425.0	18:48	2260.3	18.8	8	296	166	306	837	3089	366	1265	10.0	62.8	2416.9	66.8	1.179	367.5	36.99	0.91	1425
2426.0	18:51	2261.0	16.0	8	296	170	283	837	3088	367	1264	10.0	62.8	2416.9	66.9	1.124	368.2	37.05	0.93	1426
2427.0	18:53	2261.6	18.2	8	296	171	282	837	3082	369	1264	10.0	62.8	2416.9	66.8	1.034	368.4	37.07	0.92	1427
2428.0	18:59	2262.2	9.5	9	295	169	282	839	3073	371	1263	10.0	62.8	2417.0	66.8	0.934	369.4	37.18	1.05	1428
2429.0	19:05	2263.0	10.0	10	294	166	295	843	3056	374	1263	10.0	62.8	2417.0	66.7	0.827	370.5	37.28	1.06	1429
2430.0	19:12	2263.7	10.0	9	295	164	272	851	3066	377	1263	10.0	62.8	2417.0	66.8	0.654	371.5	37.38	1.03	1430
2431.0	19:15	2264.4	17.6	9	295	169	262	853	3054	379	1262	10.0	62.8	2417.0	66.8	0.593	372.0	37.44	0.95	1431
2432.0	19:17	2265.1	17.3	9	295	170	257	853	3047	380	1262	10.0	62.8	2432.4	66.7	0.579	372.3	37.48	0.95	1432
2433.0	19:22	2266.0	16.0	9	295	171	255	853	3046	382	1261	10.0	62.8	2417.4	66.8	0.559	373.2	37.56	0.96	1433
2434.0	19:26	2266.8	16.4	9	295	170	249	854	3042	384	1260	10.0	62.8	2418.7	66.9	0.535	373.9	37.62	0.96	1434
2435.0	19:27	2267.6	13.3	9	295	172	242	855	3038	385	1259	10.0	62.8	2419.0	66.9	0.557	374.1	37.65	1.00	1435
2436.0	19:28	2267.8	12.0	9	295	175	227	853	3040	386	1260	10.0	62.8	2419.1	66.9	0.572	374.2	37.66	1.01	1436
2437.0	19:36	2268.5	7.9	10	294	171	246	854	3035	387	1257	10.0	62.8	2421.2	66.9	0.694	375.5	37.79	1.12	1437
2438.0	19:40	2269.2	13.1	11	293	169	261	855	3026	389	1254	10.0	62.8	2422.2	66.8	0.685	376.3	37.86	1.03	1438
2439.0	19:46	2269.9	10.3	10	294	168	269	856	3022	391	1252	10.0	62.8	2424.4	67.5	0.448	377.2	37.96	1.06	1439
2440.0	19:52	2270.5	9.8	10	294	170	261	857	3025	471	1249	10.0	62.8	2426.0	68.4	0.504	378.3	38.06	1.06	1440

DEPTH METRE	TIME HR:MN	DEPTH TVD	ROP MT/H	WOB KLB	HKL KLB	RPM	TORQ AMPS	MFI GPM	SPP PSI	ACT PIT	TOT PIT	MWI PPG	MTI DEG	DEPTH RETN	MTO DEG	TOTAL GAS	KREV BIT	HRS BIT	DCEXP	REC NOS
2440.0	19:52	2270.5	9.8	10	294	170	261	857	3025	471	1249	10.0	62.8	2426.0	68.4	0.504	378.3	38.06	1.06	1440
2441.0	19:58	2271.6	10.4	10	294	170	255	857	3017	617	1248	10.1	62.9	2427.7	69.5	0.589	379.3	38.16	1.02	1441
2442.0	19:59	2272.1	11.0	9	295	171	251	858	3020	616	1247	10.0	63.0	2427.8	69.6	0.675	379.5	38.18	0.99	1442
2443.0	20:06	2272.6	9.4	11	293	170	257	859	3032	615	1246	10.0	63.0	2428.7	69.8	0.737	380.6	38.28	1.10	1443
2444.0	20:15	2273.3	6.4	10	294	172	245	862	3037	614	1244	10.0	63.0	2430.3	69.9	0.774	382.2	38.44	1.16	1444
2445.0	20:23	2274.0	7.2	10	294	172	254	863	3037	613	1243	10.0	63.0	2432.7	70.6	0.809	383.4	38.58	1.14	1445

4.9 DRILLING abbreviations

Standard Abbreviations used throughout.

Assy	Assembly	MWD	Measurement While Drilling
BHA	Bottom Hole Assembly	O/pull	Over Pull
CIRC	Circulate	O/shot	Over shot (fishing)
CMT	Cement	POH	Pull Out of Hole
Cont	Continue	P/U	Pick Up
CSG	Casing	R/D	Rig Down
CXN	Connection	R/U	Rig Up
DC	Drill Collar	RIH	Run In Hole
DP	Drill Pipe	S/shot	Single shot survey
FC	Flow Check	SICP	Shut In Csg Pressure
FIT	Formation Integrity Test	SIDP	Shut In Drill pipe Pressure
HiVis	High Viscosity	SPM	Strokes Per Minute
HWDP	Heavy Weight Drill Pipe	Std	Stand (drill pipe)
Jts	Joints	TGB	Temporary Guide Base
L/O	Lay Out	TOC	Top Of Cmt
LOT	Leak Off Test	Trq	Torque
M/shot	Multi shot survey	Wt	Weight
MW	Mud Weight	X/O	Cross Over
M/U	Make Up		

SECTION 5. ENCLOSURES FOR LONGTOM-1 & LONGTOM-1ST

ASCII DATA DISC CONTENTS

FORMATION EVALUATION LOG

DRILLING EVALUATION LOG

PRESSURE EVALUATION LOG

GAS RATIO EVALUATION LOG

5.1 ASCII DATA DISC CONTENTS

Enclosed with this well report is an MS-DOS format data disc containing ASCII format data collected by Halliburton Australia during the drilling of Longtom-1. The following is a brief guide to help locate the required data.
On the disc are eight files containing the following parameters all referenced to measured depth below drill floor.

CALCIM.ASC	MD m bdf Calct - Calcite (%) Dolom - Dolomite (%)
DRLDAT.ASC	MD - m bdf ROP - Rate of Penetration (m/hr) WOB - Weight on Bit (Tonnes) RPM - Revs per minute TRQ - Torque (kftlbs) SPM - Strokes per minute SPP - Standpipe pressure (Kpa) MFI - Mud flow in (L/min)
DXCFPG.ASC	MD - m bdf Dxc - Drilling Exponent Corrected FPG - Formation Pressure Gradient (sg) FG E - Eaton Fracture Gradient (sg) OBG - Overburden Gradient (sg)
GASDAT.ASC	MD - m bdf LTG - Lagged Total gas (units) LC1 - LC5 (ppm) Gaswh - Gas wetness Gasb - Gas Balance Gasch - Gas Character TrGas - Trip Gas (units)
MUDATA.ASC	MD - m bdf MTI - Mud Temperature In (°C) MTO - Mud Temperature Out (°C) MWI - Mud Weight In (sg) MWO -Mud Weight Out (sg) ECD - Effective Circulating Density (sg)
LITH.SEQ	MD-m bdf % Cuttings Lithology
ILIP.SEQ	MD m bdf Interpreted Lithology
LCODE.SEQ	MD m bdf Lithology Codes.

PE604663

This is an enclosure indicator page.
The enclosure PE604663 is enclosed within the container PE900877 at this location in this document.

The enclosure PE604663 has the following characteristics:

ITEM_BARCODE =	PE604663
CONTAINER_BARCODE =	PE900877
NAME =	Mud Log
BASIN =	GIPPSLAND
ONSHORE? =	N
DATA_TYPE =	WELL
DATA_SUB_TYPE =	MUD_LOG
DESCRIPTION =	Mud Log for Longtom-1
REMARKS =	PERMIT: VIC/P1PAGES: 1
DATE_WRITTEN =	24-MAY-1995
DATE_PROCESSED =	
DATE_RECEIVED =	02-AUG-1995
RECEIVED_FROM =	BHP Petroleum Pty Ltd
WELL_NAME =	LONGTOM-1
CONTRACTOR =	Halliburton Pty Ltd
AUTHOR =	
ORIGINATOR =	BHP Petroleum Pty Ltd
TOP_DEPTH =	117
BOTTOM_DEPTH =	2242
ROW_CREATED_BY =	xls_jc40

(Inserted by DNRE - Vic Govt Mines Dept)

PE604664

This is an enclosure indicator page.
The enclosure PE604664 is enclosed within the container PE900877 at this location in this document.

The enclosure PE604664 has the following characteristics:

ITEM_BARCODE = PE604664
CONTAINER_BARCODE = PE900877
NAME = Drilling Data Log
BASIN = GIPPSLAND
ONSHORE? = N
DATA_TYPE = WELL
DATA_SUB_TYPE = WELL_LOG
DESCRIPTION = Drilling Data Log for Longtom-1
REMARKS = PERMIT: VIC/P1PAGES: 1
DATE_WRITTEN = 24-MAY-1995
DATE_PROCESSED =
DATE_RECEIVED = 02-AUG-1995
RECEIVED_FROM = BHP Petroleum Pty Ltd
WELL_NAME = LONGTOM-1
CONTRACTOR = Halliburton Pty Ltd
AUTHOR =
ORIGINATOR = BHP Petroleum Pty Ltd
TOP_DEPTH = 117
BOTTOM_DEPTH = 2242
ROW_CREATED_BY = xls_jc40

(Inserted by DNRE - Vic Govt Mines Dept)

PE604665

This is an enclosure indicator page.
The enclosure PE604665 is enclosed within the container PE900877 at this location in this document.

The enclosure PE604665 has the following characteristics:

ITEM_BARCODE = PE604665
CONTAINER_BARCODE = PE900877
NAME = Pressure Evaluation Log
BASIN = GIPPSLAND
ONSHORE? = N
DATA_TYPE = WELL
DATA_SUB_TYPE = WELL_LOG
DESCRIPTION = Pressure Evaluation Log for Longtom-1
REMARKS = PERMIT: VIC/P1PAGES: 1
DATE_WRITTEN = 24-MAY-1995
DATE_PROCESSED =
DATE_RECEIVED = 02-AUG-1995
RECEIVED_FROM = BHP Petroleum Pty Ltd
WELL_NAME = LONGTOM-1
CONTRACTOR = Halliburton Pty Ltd
AUTHOR =
ORIGINATOR = BHP Petroleum Pty Ltd
TOP_DEPTH = 117
BOTTOM_DEPTH = 2242
ROW_CREATED_BY = xls_jc40

(Inserted by DNRE - Vic Govt Mines Dept)

PE604666

This is an enclosure indicator page.
The enclosure PE604666 is enclosed within the container PE900877 at this location in this document.

The enclosure PE604666 has the following characteristics:

```
     ITEM_BARCODE = PE604666
CONTAINER_BARCODE = PE900877
             NAME = Gas Ratio Log
            BASIN = GIPPSLAND
         ONSHORE? = N
        DATA_TYPE = WELL
    DATA_SUB_TYPE = WELL_LOG
      DESCRIPTION = Gas Ratio Log for Longtom-1
          REMARKS = PERMIT: VIC/P1PAGES: 1
     DATE_WRITTEN = 24-MAY-1995
   DATE_PROCESSED =
    DATE_RECEIVED = 02-AUG-1995
    RECEIVED_FROM = BHP Petroleum Pty Ltd
        WELL_NAME = LONGTOM-1
       CONTRACTOR = Halliburton Pty Ltd
           AUTHOR =
       ORIGINATOR = BHP Petroleum Pty Ltd
        TOP_DEPTH = 1100
     BOTTOM_DEPTH = 2242
   ROW_CREATED_BY = xls_jc40
```

(Inserted by DNRE - Vic Govt Mines Dept)

APPENDIX

~~SECTION~~ 5

5

6.5 APPENDIX 5 Rig Positioning Report

ESSO AUSTRALIA LTD
MARINE OPERATIONS GROUP
DRILL RIG POSITION REPORT

RIG: Ocean Bounty
LOCATION: Longtom-1
DATE: 12/5/95
TIME: 1520HRS

CALL POSITION:	615,302.0mE	LAT: 38° - 05' - 59.89"
	5,782,262.0mN	LONG: 148° - 18' - 54.11"
FINAL POSITION:	615,306.2mE	LAT: 38° - 06' - 00.03"
	5,782,257.5mN	LONG: 148° - 18' - 54.28"

COMMENT:
The above final position for OCEAN BOUNTY, at LONGTOM-1 was taken at 1520hrs, 12/05/95 upon completion of final tensioning.

The position was derived from Syledis ranges from beacons on Bream, Snapper, Flounder and West Kingfish platforms and Metung radio tower and calculated using PCNAV survey navigation package.

The final position is 6.2m @ 137° (T) *from* the call location. The average RMSE (root mean squared error) of the fix was 1.2m. Final rig heading was 202° (T).

Attached are:

1. PCNAV data printout showing system geodesy and final fixes averaged to determine final position
2. network data printout from Syledis STR4
3. sketch showing offset of Syledis antenna relative to drill string

Signed:...

G.A. Walske

Marine Operations Group

Esso Australia Ltd.

```
'Path: C:\PCNAV\DATA
 File: PC132    .PRN    13,508 .a.. 12-05-95 15:28:30          Page 1

00:29:19 *** PCNAV SETUP FOR V 2.44 *** on 12 May 1995

Header :  Location     :  BASS STRAIT          Vessel         :  OCEAN BOUNTY
          Client       :  BHPP                 Job Number     :
          Setup By     :                       On             :  12 May 1995
          Filter       :   3                   Simulator On:     No
          Printer On   :  No                   Twin Display:     No
Files  :  Runline      :  DEFAULT              Centre Line    :
          Database     :                       Vessel         :  BOUNTY
          WayPoint     :  LONGTOM              Anchor         :  LONGTOM1
Logging:  Directory    : C:\PCNAV\DATA\        Fix Only       :  Yes
          Pri. Pos     :  Yes                  O/T 1          :  Yes
               Raw     :  Yes                  O/T 2          :  No
          Sec. Pos     :  No                   O/T 3          :  No
               Raw     :  No                   O/T 4          :  No
Fixing :  Mode         :  Time                 Fix Int        :   60
          Start Fix    :   25                  Fix Output 1:       1
                                               Fix Output 2:     x 2
Geodesy:  Projection   :  Transverse Mercator (False East     :    500000
          C. Merid.    :   147                       North    :  10000000
          Lat. Origin:     0                   Scale Factor:      .9996
          Spheroid     :  ANS                  Eccen2         :  0.0066945419
          S.M.A.       :  6378160.000          Flattening     :  298.250000000
Geod 2 :  Parameters   :  From WGS84           D Scale        :    -0.0983
          DX           :   116.0000            RX             :      0.2300
          DY           :    50.4700            RY             :      0.3900
          DZ           :  -141.6900            RZ             :      0.3440
Nav. 1 :  System       :  Syledis STR4 R/R     Interface      :  Serial
          X Offset     :    -3.80              Type           :  Range-Range
          Y Offset     :    -1.80              Propagation    :   1
          Ant. Height:      92.00              Gates          :   10 100
Nav  1 Stations - Syledis STR4 R/R
```

Name	Code	East	North	Ht	Delay	C-O	SDev	PPM
FLOUNDER	2	625722.37	5758543.80	68.4	0.0	0.0	3.0	50
MARLIN	3	606723.30	5767751.10	65.7	0.0	0.0	3.0	50
METUNG	5	578626.78	5811370.33	167.7	0.0	0.0	3.0	50
WEST KINGFISH	6	596147.98	5727642.25	68.6	0.0	0.0	3.0	50
SNAPPER	8	589670.20	5772010.80	0.0	0.0	0.0	3.0	50

Offsets:

Name	X	Y
DRILL	0.0	0.0
#1	-42.5	12.5
#2	-42.5	16.5
#3	42.5	16.5
#4	42.5	12.5
#5	42.5	-12.5
#6	42.5	-16.5
#7	-42.5	-16.5
#8	-42.5	-12.5
Rdr	0.0	32.0

```
O/T 1     DRILL
O/T 2     Disabled
```

```
O/T 3      Disabled
O/T 4      Disabled

00:29:20 C:\PCNAV\DATA\PC132_01.RAW  opened for raw logging.
00:29:56 Runline   : run7             Start E :    615302.0    End E :    620466.1
12 May 1995                                 N :   5782262.0        N :   5785243.5
                                         Azim :        60.0   Length :      5964.4.
01:51:01 Waypoint  : #7                     E :    616126.0
12 May 1995                                 N :   5782705.0
Offset       Fix   Easting    Northing  RMSE  Gyro  Speed  Depth    Brg     Dist
01:51:33 Runline   : run7             Start E :    615302.0    End E :    620466.1
12 May 1995                                 N :   5782262.0        N :   5785243.5
                                         Azim :        60.0   Length :      5964.4
01:56:51 Waypoint  : #7                     E :    616126.0
 2 May 1995                                 N :   5782705.0
Offset       Fix   Easting    Northing  RMSE  Gyro  Speed  Depth    Brg     Dist
01:57:37 Runline   : run7             Start E :    615302.0    End E :    620466.1
 2 May 1995                                 N :   5782262.0        N :   5785243.5
                                         Azim :        60.0   Length :      5964.4
2:07:14 Runline    : run7             Start E :    616126.0    End E :    620466.1
2 May 1995                                  N :   5782705.0        N :   5785243.5
                                         Azim :        59.7   Length :      5029.1
2:07:37 Runline    : run7             Start E :    620466.1    End E :    616126.0
2 May 1995                                  N :   5785243.5        N :   5782705.0
                                         Azim :       239.7   Length :      5029.1
2:32:38.22
atum   Pri    25  616342.9  5782904.8   2.1 269.5   1.7     0.0    62.9    4741.0
7             25  616360.2  5782862.6                               17.8    4747.3
2:35:10 Waypoint  : LTM1                    E :    615302.0
2 May 1995                                  N :   5782262.0
ffset        Fix   Easting    Northing  RMSE  Gyro  Speed  Depth    Brg     Dist
3:(  17 *** PCNAV SETUP FOR V 2.44 *** on 12 May 1995

eader :  Location    :  BASS STRAIT         Vessel         :  OCEAN BOUNTY
         Client      :  BHPP                Job Number     :
         Setup By    :                      On             :  12 May 1995
         Filter      :   3                  Simulator On:     No
         Printer On  :  No                  Twin Display:     No
iles  :  Runline     :  DEFAULT             Centre Line    :
         Database    :                      Vessel         :  BOUNTY
         WayPoint    :  LONGTOM             Anchor         :  LONGTOM1
ogging:  Directory   : C:\PCNAV\DATA\       Fix Only       :  Yes
         Pri. Pos    :  Yes                 O/T 1          :  Yes
              Raw    :  Yes                 O/T 2          :  No
         Sec. Pos    :  No                  O/T 3          :  No
              Raw    :  No                  O/T 4          :  No
xing  :  Mode        :  Time                Fix Int        :   60
         Start Fix   :   26                 Fix Output 1:      1
                                            Fix Output 2:     x 2
odesy:   Projection  :  Transverse Mercator (False East    :   500000
         C. Merid.   :   147                       North   :  10000000
         Lat. Origin:    0                  Scale Factor:      .9996
```

	Spheroid :	ANS	Eccen2	:	0.0066945419
	S.M.A. :	6378160.000	Flattening	:	298.250000000
G d 2 :	Parameters :	From WGS84	D Scale	:	-0.0983
	DX :	116.0000	RX	:	0.2300
	DY :	50.4700	RY	:	0.3900
	DZ :	-141.6900	RZ	:	0.3440
Nav. 1 :	System :	Syledis STR4 R/R	Interface	:	Serial
	X Offset :	-3.80	Type	:	Range-Range
	Y Offset :	-1.80	Propagation	:	1
	Ant. Height:	92.00	Gates	:	10 100

Nav. 1 Stations - Syledis STR4 R/R

Name	Code	East	North	Ht	Delay	C-O	SDev	PPM
BREAM	1	567219.95	5738292.93	69.0	0.0	0.0	3.0	50
FLOUNDER	2	625722.37	5758543.80	68.4	0.0	0.0	3.0	50
METUNG	5	578626.78	5811370.33	167.7	0.0	0.0	3.0	50
WEST KINGFISH	6	596147.98	5727642.25	68.6	0.0	0.0	3.0	50
SNAPPER	8	589670.20	5772010.80	0.0	0.0	0.0	3.0	50

Offsets:	Name	X	Y
	DRILL	0.0	0.0
	#1	-42.5	12.5
	#2	-42.5	16.5
	#3	42.5	16.5
	#4	42.5	12.5
	#5	42.5	-12.5
	#6	42.5	-16.5
	#7	-42.5	-16.5
	#8	-42.5	-12.5
	Rdr	0.0	32.0
O/T 1	#7		
O/T 2	Disabled		
O/T	Disabled		
O/T 4	Disabled		

03:04:41 Waypoint : LTM1 E : 615302.0
12 May 1995 N : 5782262.0
Offset Fix Easting Northing RMSE Gyro Speed Depth Brg Dist
05:44:50 Waypoint : #6 E : 615273.0
12 May 1995 N : 5783198.0
Offset Fix Easting Northing RMSE Gyro Speed Depth Brg Dist
0 9:02 Waypoint : LTM1 E : 615302.0
12 May 1995 N : 5782262.0
Offset Fix Easting Northing RMSE Gyro Speed Depth Brg Dist
06:19:01 Waypoint : #8 E : 616245.0
12 May 1995 N : 5782252.0
Offset Fix Easting Northing RMSE Gyro Speed Depth Brg Dist
06:19:38 Waypoint : LTM1 E : 615302.0
12 May 1995 N : 5782262.0
Offset Fix Easting Northing RMSE Gyro Speed Depth Brg Dist
07:20:03 Waypoint : #1 E : 615783.0
12 May 1995 N : 5781450.0
Offset Fix Easting Northing RMSE Gyro Speed Depth Brg Dist

```
07:21:24 Waypoint : #5                        E :     614821.0
12 May 1995                                   N :    5783074.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
07:23:30 Waypoint : LTM1                      E :     615302.0
12 May 1995                                   N :    5782262.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
07:29:13 Waypoint : #5                        E :     614821.0
12 May 1995                                   N :    5783074.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
07:31:06 Waypoint : LTM1                      E :     615302.0
12 May 1995                                   N :    5782262.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
08:01:31 Waypoint : #4                        E :     614359.0
12 May 1995                                   N :    5782272.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
08:04:01 Waypoint : LTM1                      E :     615302.0
12 May 1995                                   N :    5782262.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
09:59:07 Waypoint : LTM1                      E :     615302.0
12 May 1995                                   N :    5782262.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
1[illegible]7:43 Waypoint : LTM1                      E :     615302.0
12 May 1995                                   N :    5782262.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
10:35:55 New Filter Level: 2
10:35:56 New Filter Level: 1
10:35:57 New Filter Level: 0
10:35:58 New Filter Level:-1
11:15:49 Waypoint : LTM1                      E :     615302.0
12 May 1995   FINAL DRILLSTRING POS'N'S       N :    5782262.0
Offset       Fix  Easting   Northing  RMSE  Gyro  Speed  Depth   Brg   Dist
12:  :07 New Filter Level:-1
15:19:09.64
Datum  Pri    26  615306.5  5782257.4   1.0 202.0   0.6    0.0  315.7   6.4
Average of   100     SD 0.8    SD 0.6
15:20:19.89
Datum  Pri    27  615306.5  5782257.6   1.2 202.0   0.8    0.0  314.7   6.3
Average of   100     SD 0.7    SD 0.4
15:21:27.45
Datum  Pri    28  615306.0  5782257.7   1.9 202.0   0.3    0.0  316.9   5.8
Average of   100     SD 0.7    SD 0.5
15:22:27.37
Datum  Pri    29  615305.8  5782257.6   1.3 202.0   0.3    0.0  319.2   5.8
Average of   100     SD 0.7    SD 0.4
15:23:26.42
Datum  Pri    30  615305.9  5782257.5   1.3 202.0   0.5    0.0  318.6   5.9
Average of   100     SD 0.6    SD 0.5
15:24:28.37
Datum  Pri    31  615306.2  5782257.3   1.0 202.0   0.7    0.0  317.7   6.3
Average of   100     SD 0.6    SD 0.8
15:25:28.41
Datum  Pri    32  615306.3  5782257.3   1.6 202.0   0.4    0.0  317.5   6.4
```

Average of	100	SD 0.7	SD 0.9						
15:26:29.54									
Datum Pri	33	615306.3	5782257.4	0.6	202.0	0.6	0.0	316.7	6.3
Average of	100	SD 0.6	SD 0.6						
15:27:27.54									
Datum Pri	34	615306.1	5782257.4	1.1	202.0	0.5	0.0	318.4	6.2
Average of	100	SD 0.7	SD 0.7						
15:28:29.99									
Datum Pri	35	615306.2	5782257.4	0.7	202.0	0.6	0.0	318.1	6.2
Average of	100	SD 0.7	SD 0.7						

Mean of 615 306.2 E 5782257.5 N
10 fixes

~~Average~~ RMSE of fix = 1.2 m

FINAL ANCHOR POSITIONS
LONGTOM-1

The following anchor positions, with the exception of #7, were taken using the anchor vessels GPS at the time the anchor was placed on bottom and, as such, are approximate only. Anchor #7 was dropped by the rig on the way to location.

#1	38° - 06'.55	148° - 19'.36
#2	38° - 06'.61	148° - 18'.81
#3	38°- 06'.25	148° - 18'.27
#4	38° - 06'.03	148° - 18'.13
#5	38° - 05'.55	148° - 18'.52
#6	38° - 05'.50	148° - 18'.90
#7	38° - 05'.66	148° - 19'.62
#8	38° - 05'.95	148° - 19'.74

OCEAN BOUNTY SETUP 4/3/95

STR4 #228

0036.12.58.42 NETWORK DATA

SERCEL SYLEDIS RESTRICTED NETWORK (R)

UHF CHANNEL 074

FORMAT LENGTH 30

		SLOT	S/C	F38	BEACON	Y	X	ALTITUDE	DELAY
	00	00	S	074	01				
	01	01	E	074	89	+5698600.0	+0476000.0	+0103	+0000759.1
SMA	02	02	W	074	01 B'	+5738292.2	+0567219.9	+0069	+0000136.4
FLA	03	03	W	074	02	+5758543.8	+0625722.4	+0069	+0000111.7
MLA	04	04	W	074	03	+5767751.1	+0606723.3	+0065	+0000086.9
LFD	05	05	W	074	04	+5769507.3	+0513545.9	+0148	+0000240.3
MET	06	06	W	074	05	+5811370.3	+0578626.8	+0168	+0000235.7
WKR	07	07	W	074	06	+5727642.2	+0596147.9	+0069	+0000121.4
	08	08	W	074	07	+0000000.0	+0000000.0	+0000	+0000000.0
SNT	09	09	W	074	08	+5772010.8	+0589670.2	+0070	+0000090.9

ELLIPSOID CONSTANTS

EQUATORIAL RADIUS 6378160

FLATTENING (1/E) [1/E] = 0298.25 N/A

DY +0041 DX +0122 DZ -0148

PROJECTION 2

LAT-LONG ORIGIN 00.00.00.00 N 147.00.00.00 E

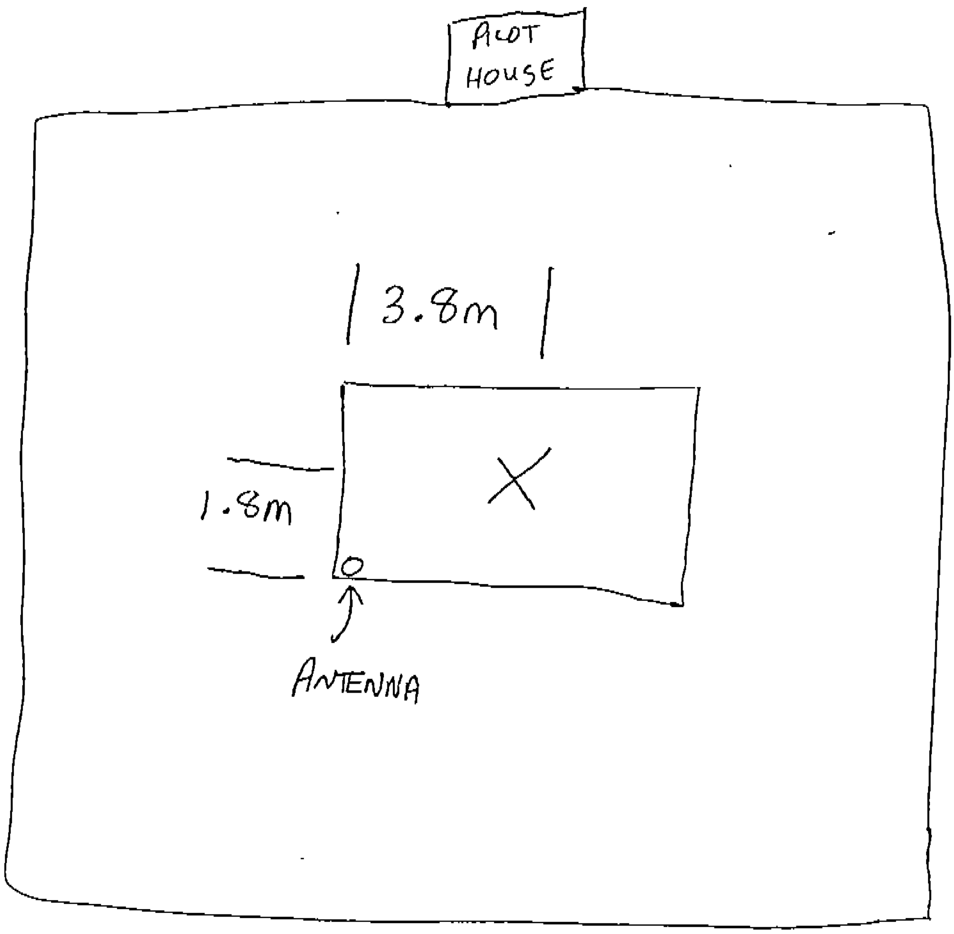
N/A

FALSE ORIGIN +01000000 +0500000

CENTRAL SCALE FACTOR 0.9996000

REFRACTIVE INDEX 330

3/3/95



OFFSET OF ANTENNA FROM CENTRE OF DERRICK.

APPENDIX 6

6

6.6 APPENDIX 6 Longtom-1/ST1 Directional Services Report

BHP PETROLEUM PTY LTD

LONGTOM #1 SIDETRACK

DIRECTIONAL SERVICES

HALLIBURTON

BHP PETROLEUM PTY LTD.

LONGTOM #1 SIDETRACK

TABLE OF CONTENTS

Well Name	: Longtom # 1 sidetrack
Location	: Northing 5782262m Easting 615302m
Client	: BHP Petroleum Pty Ltd.
Drilling Supervisor	: M. Imbert , P. Boudreau
Drilling Contractor	: Diamond Offshore
Rig	: Ocean Bounty
Elevations	: RKB - MSL 25m MSL - Seabed 55m
Spud Date	: 28th May 1995
Total Depth	: 2445m (6th June 1995)
MWD Engineer	: James Lau, Nick Harris
Drilling Engineers	: Wayne Parsons, Billy Powell

BHA SUMMARY

BHA #1 : 1113m - 1275m.

A 12-1/4" Steerable Assembly, consisting of Hughes ATM-23 bit and 9-5/8" F2000S steerable motor having a 1 1/4 degree bent housing, was made up to HDS DIS1-Directional only MWD system.

The top of the cement plug was tagged at 1113m and dressed to 1121m. The toolface was orientated and the sidetrack started. Could not achieve desired build rate.
POOH to lay out pony collar and top stabiliser to achieve a better build rate.

Drilling parameters for this section were 25 to 45 klbs WOB with a Flow Rate of 780gal/min, giving a maximum Standpipe Pressure of 2450 psi. The Rate of Penetration was approximately 3.0m/hr.

BHA #2 : 1275m - 1553m

A steerable assembly without the top stabiliser and pony collar was made up to a Reed MHP13G to try and achieve a better build rate.

This was achieved with an average build rate of 2.19°/30m sliding and 2.07°/30m in rotary.
At 1553m with an angle of 23.6deg and a direction of 198deg, the assembly was pulled out of the hole to lay out the steerable motor and pick up a rotary drilling assembly.

Drilling parameters for this section were 10 to 55 klbs WOB with a Flow Rate of 900gal/min, giving a maximum Standpipe Pressure of 2530 psi.

BHA # 3 : 1553m - 1639m

A rotary assembly, consisting of a Hughes ATM22GD bit, a near bit roller reamer, short drill collar, stabiliser, was made up to the HDS DIS1- Directional/Gamma MWD, stabiliser, and two non-magnetic drill collars.

Hole tight at while tripping in. Drilling continued to 1639m with the hole inclination dropping at 0.6°/30m. POOH to change BHA to try and improve build rate.

Drilling parameters for this section were 20 to 30 klbs WOB with a Flow Rate of between 800 gal/min, giving a maximum Standpipe Pressure of 2900 psi. The average Rate of Penetration was approximately 8.6m/hr.

BHA # 4 : 1639m - 1655m

A 12 1/4" Hycalog DS34H bit was made up to the near bit roller reamer, HDS DIS1 Directional/Gamma MWD, 2 NMDC's and stabiliser.

Drilled only 16m and was unable to judge the affect of the BHA. Reamed in difficult position at 1399m.
It was decided to pull out of hole due to slow penetration rate. The bit was found to be balled on surface.

Drilling parameters for this section were 8 to 30klbs WOB and a Flow Rate of between 800 to 900 gal/min, giving a maximum Standpipe Pressure of 3200 psi. The average Rate of Penetration was approximately 3.2m/hr.

BHA # 5 : 1655m - 2445m

Two NMDC were re-run with the near bit roller reamer and undergauge stabiliser 20m behind. The Hycalog DS34H was re-run also with an increased TFA of .910 in2. The objective of this BHA was to build to the target.

A .99°/30m build and a -0.35°/30m walk was achieved with this BHA.
POOH back reaming where tight.

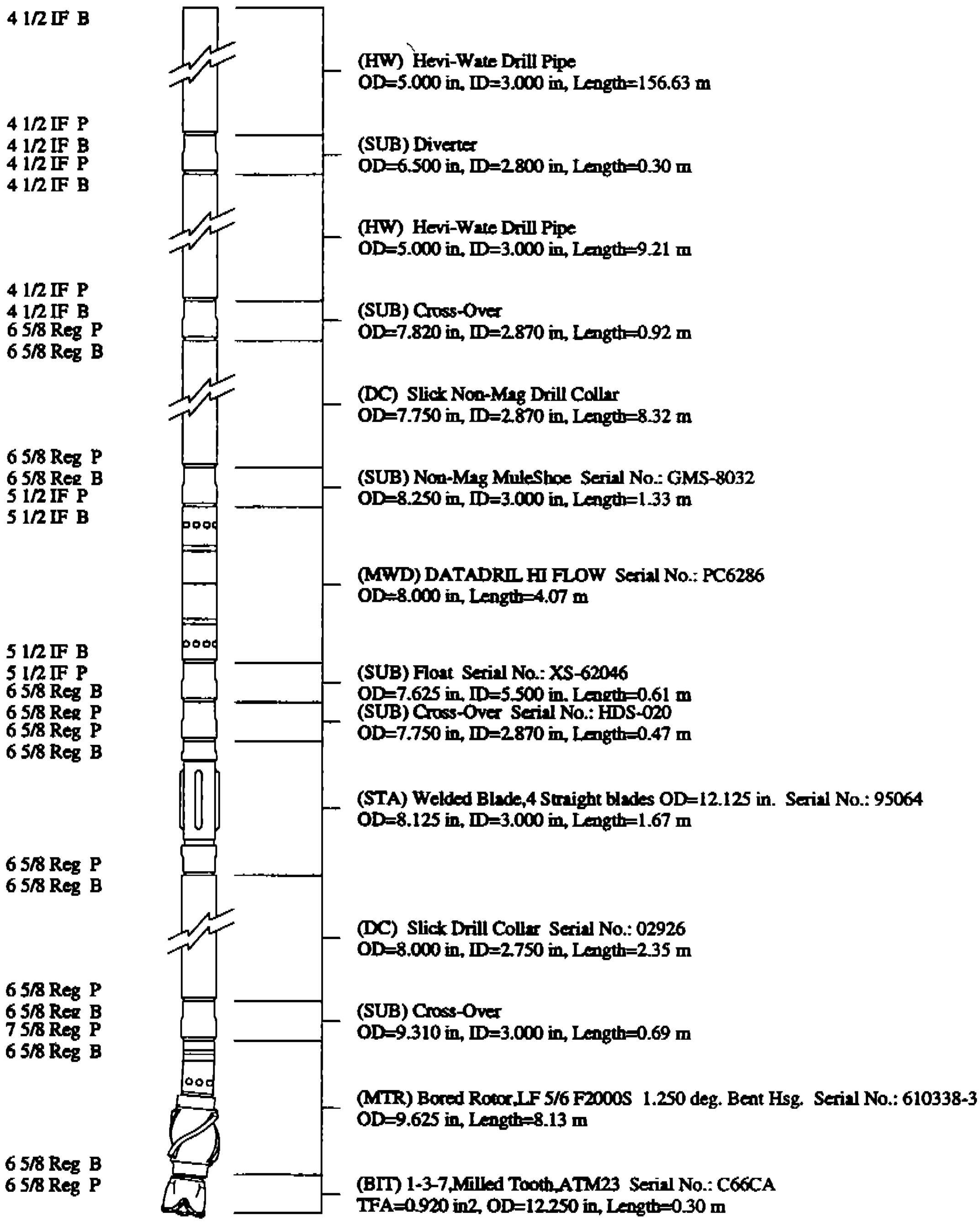
Drilling parameters for this section were 8 to 12klbs WOB and a Flow Rate of 900 gal/min, giving a maximum Standpipe Pressure of 3225 psi. The average Rate of Penetration was approximately 15.8m/hr.

Bottom Hole Assembly #1
12-1/4" Hole Size

Company: HDS
Field: BASS STRAIT
Location:
Well: ltlst
Run No: 1
Operators(s): JAMES LAU, NICK HARRIS
Directional Driller(s): WAYNE PARSON, BILLY POWE

Assembly Type: Steerable System

Total Length = 195.00 m



BHA REPORT

From May 28, 1995 To May 30, 1995

Job No.: **0041950012**
Operator: **BHP PETROLEUM**
Field: **BASS STRAIT**
Well: **lt1st**
Run No.: **1**

AFE No.:
Location:
MWD Operator(s): **JAMES LAU, NICK HARRIS**
Dir'l Driller(s): **WAYNE PARSON, BILLY POWELL**
BHA No.: **1**
Hole Size: **12-1/4"**

BOTTOM HOLE ASSEMBLY

Assembly Type: **Steerable System**
Reason Pulled: **SLIDE - Could not slide**
Objective: **SIDETRACK WELL ALONG AN AZIMUTH OF 205.36 DEGREES,BUILDING TO 23 DEGREES OF ANGLE.**
Motor Size / Type: **9.625 in / LF 5/6 F2000S**
Serial No.: **610338-3**
Circulating: **3.92 hrs**
Sliding(90.8%): **90.90 m @ 31.70 hrs ==> 2.87 m/hr**
Bit Press.Drop: **682.47 psi**
Flow Rate: **800.00 gpm**
Rotating(9.2%): **46.40 m @ 3.22 hrs ==> 14.42 m/hr**
SPM: **160.00**
Total Drilled: **137.30 m @ 34.92 hrs ==> 3.93 m/hr**

No.	Serial No.	Tool Description	OD (in)	ID (in)	Length (m)	Total Length (m)	Connections Up	Connections Down	Conn
1	C66CA	(BIT) HTC,ATM23,Milled Tooth	12.250		0.30	0.30	6 5/8 Reg		P
2	610338-3	(MTR) Halliburton,LF 5/6 F2000S, 1.250° Bend	9.625	7.250	8.13	8.43	6 5/8 Reg	6 5/8 Reg	B/B
3		(SUB) Cross-Over Sub	9.310	3.000	0.69	9.12	6 5/8 Reg	7 5/8 Reg	B/P
4	02926	(DC) Slick Drill Collar	8.000	2.750	2.35	11.47	6 5/8 Reg	6 5/8 Reg	B/P
5	95064	(STA) Welded Blade,4 Straight blades, blade OD=12.125	8.125	3.000	1.67	13.14	6 5/8 Reg	6 5/8 Reg	B/P
6	HDS-020	(SUB) Cross-Over Sub	7.750	2.870	0.47	13.61	6 5/8 Reg	6 5/8 Reg	P/P
7	XS-62046	(SUB) Float Sub	7.625	5.500	0.61	14.22	5 1/2 IF	6 5/8 Reg	P/B
8	PC6286	(MWD) DATADRIL HI FLOW BATTERY(4358), DAS(DAS 1028), MCM(MCM 1023), PULSER, DIS(TP 6090)	8.000	5.250	4.07	18.29	5 1/2 IF	5 1/2 IF	B/B
9	GMS-8032	(SUB) Non-Mag MuleShoe Sub	8.250	3.000	1.33	19.62	6 5/8 Reg	5 1/2 IF	B/P
10		(DC) Slick Non-Mag Drill Collar	7.750	2.870	8.32	27.94	6 5/8 Reg	6 5/8 Reg	B/P
11		(SUB) Cross-Over Sub	7.820	2.870	0.92	28.86	4 1/2 IF	6 5/8 Reg	B/P
12		(HW) Hevi-Wate Drill Pipe	5.000	3.000	9.21	38.07	4 1/2 IF	4 1/2 IF	B/P
13		(SUB) Diverter Sub	6.500	2.800	0.30	38.37	4 1/2 IF	4 1/2 IF	B/P
14		(HW) 17 jts, Hevi-Wate Drill Pipe	5.000	3.000	156.63	195.00	4 1/2 IF	4 1/2 IF	B/P
15	1416-1210	(JAR) DAILY Jar	6.750	2.750	8.40	203.40	4 1/2 IF	4 1/2 IF	B/P
16		(HW) 6 jts, Hevi-Wate Drill Pipe	5.000	3.000	54.38	257.78	4 1/2 IF	4 1/2 IF	B/P
17		(DP) 110 jts, Used (Premium),S-135	4.500	2.875	1010.00	1267.78	4 1/2 IF	4 1/2 IF	B/P

MUD/PUMP DATA

Mud Type: **KCL/PHPA/POLYMER** Wt: **9.80 lb/gal** PV: **14.00 cp** YP: **18.00 lb/100ft2** Oil: **0.00%**
Water Loss: **0.00 cc** Funnel Visc.: **44.00 sec** pH: **8.0** Total Gas: **0 PPM** Sand: **0.75%**
LCM Type: **Type A** LCM Size: **0.00 in** LCM Volume: **0.00 lb/bbl** Solids: **7.00%**
Diesel Grade: **0** Aniline Pt.: **-17.78 °C** Chlorides: **0 PPM** H2S: **0 PPM**
BH(max): **-17.78 °C** Flow Line(max): **-17.78 °C** Temperature Gradient: **0.00 °C/30m**

Pump Type	Volume	SPM	Stroke	Liner
Triplex - 12-P-160	390.00 gpm	75	304.80 mm	6.50 in
Triplex - 12-P-160	390.00 gpm	75	304.80 mm	6.50 in

BIT DATA

Manufacturer: **HTC** IADC: **1-3-7** Length: **0.30 m**
Bit Type: **Milled Tooth** Depth In: **1138.00 - 1275.30 (137.30) m** Gage Length: **0.00 mm**
Serial No.: **C66CA** Nozzles: **20 20 20 /32nd** TFA: **0.920 in2**
Hours On Bit: **34.92** MTG On Bit: **137.30** Dull Code: **1-1-WT-T-BE-BE-BE-1-SS-BHA**

COMMENTS / RESULTS

PREDICTED BUILD RATE 100 % SLIDE 5.67 DEG. P\ 30m. POOH L\D TOP STAB & PONY C.

BHA REPORT

From May 28, 1995 To May 30, 1995

Job No.:	**0041950012**	AFE No.:			
Operator:	**BHP PETROLEUM**	Location:			
Field:	**BASS STRAIT**	MWD Operator(s):	**JAMES LAU, NICK HARRIS**		
Well:	**lt1st**	Dir'l Driller(s):	**WAYNE PARSON, BILLY POWELL**		
Run No.:	**1**	BHA No.:	**1**	Hole Size:	**12-1/4"**

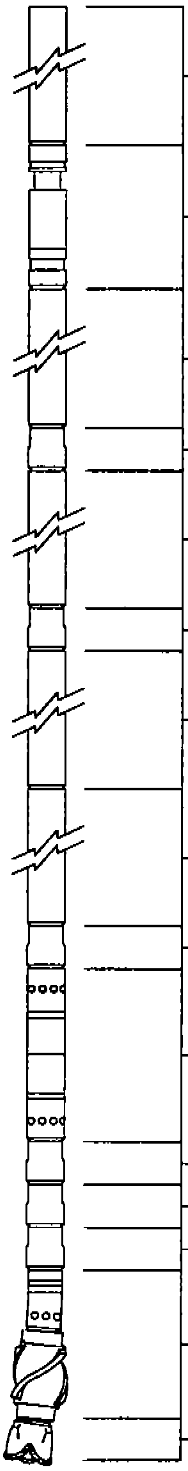
ACTUAL BUILD RATE, SLIDE 0.57 DEG P/ 30m, ROTATING BUILD RATE 1.17 DEG P/ 30m
AVERAGE TOOL FACE 202.2 VETTICAL SECTION AZIMUTH 205.36

Bottom Hole Assembly #2
12-1/4" Hole Size

Company: H.D.S.
Field: BASS STRAIT
Location:
Well: ltlst
Run No: 2
Operators(s): NICK HARRIS, JAMES LAU
Directional Driller(s): BILLY POWELL, WAYNE PARS(

Assembly Type: Steerable System

Total Length = 319.45 m



BHA REPORT

From May 30, 1995 To June 1, 1995

Date: 7/06/95
Time: 12:46 pm

Job No.: 0041950012
Operator: BHP PETROLEUM
Field: BASS STRAIT
Well: lt1st
Run No.: 2

AFE No.:
Location:
MWD Operator(s): NICK HARRIS, JAMES LAU
Dir'l Driller(s): BILLY POWELL, WAYNE PARSONS
BHA No.: 2
Hole Size: 12-1/4"

BOTTOM HOLE ASSEMBLY

Assembly Type: Steerable System
Reason Pulled: HR - Hours on bit
Objective: BUILD ANGLE TO 23 DEGREES , HOLD AT 205 AZIMUTH
Motor Size / Type: 9.625 in / LF 5/6 F2000S
Serial No.: 610338-3
Circulating : 4.28 hrs
Sliding(66.9%): 131.40 m @ 28.83 hrs ==> 4.56 m/hr
Bit Press.Drop: 682.47 psi
Flow Rate : 800.00 gpm
Rotating(33.1%): 146.60 m @ 14.27 hrs ==> 10.28 m/hr
SPM : 160.00
Total Drilled: 278.00 m @ 43.10 hrs ==> 6.45 m/hr

No.	Serial No.	Tool Description	OD (in)	ID (in)	Length (m)	Total Length (m)	Connections Up	Connections Down	Conn
1	JE2406	(BIT) REED,MHP13G,Milled Tooth	12.250		0.34	0.34	6 5/8 Reg		P
2	610338-3	(MTR) Halliburton,LF 5/6 F2000S, 1.250° Bend	9.625	7.250	8.13	8.47	7 5/8 Reg	6 5/8 Reg	B/B
3		(SUB) Cross-Over Sub	9.320	3.000	0.69	9.16	6 5/8 Reg	7 5/8 Reg	B/P
4	HDS-020	(SUB) Cross-Over Sub	7.750	2.870	0.47	9.63	6 5/8 Reg	6 5/8 Reg	P/P
5	XS-62046	(SUB) Float Sub	7.625	5.500	0.61	10.24	5 1/2 IF	6 5/8 Reg	P/B
6	PC6286	(MWD) DATADRIL HI FLOW BATTERY(4476), DAS(DAS 1028), MCM(MCM 1023), PULSER, DIS(TP 6090)	8.000	5.250	4.07	14.31	5 1/2 IF	5 1/2 IF	B/B
7	GMS-8032	(SUB) Non-Mag MuleShoe Sub	8.250	3.000	1.33	15.64	6 5/8 Reg	5 1/2 IF	B/P
8	6290	(DC) Slick Non-Mag Drill Collar	7.780	3.000	9.18	24.82	6 5/8 Reg	6 5/8 Reg	B/P
9		(DC) Slick Non-Mag Drill Collar	7.750	2.870	8.32	33.14	6 5/8 Reg	6 5/8 Reg	B/P
10		(SUB) Cross-Over Sub	7.820	2.870	0.92	34.06	4 1/2 IF	6 5/8 Reg	B/P
11		(HW) Hevi-Wate Drill Pipe	5.000	3.000	9.21	43.27	4 1/2 IF	4 1/2 IF	B/P
12		(SUB) Diverter Sub	6.500	2.800	0.30	43.57	4 1/2 IF	4 1/2 IF	B/P
13		(HW) 23 jts, Hevi-Wate Drill Pipe	5.000	3.000	213.10	256.67	4 1/2 IF	4 1/2 IF	B/P
14	1416-1210	(JAR) DAILY Jar	6.750	2.750	8.40	265.07	4 1/2 IF	4 1/2 IF	B/P
15		(HW) 6 jts, Hevi-Wate Drill Pipe	5.000	3.000	54.38	319.45	4 1/2 IF	4 1/2 IF	B/P

MUD/PUMP DATA

Mud Type: KCL/PHPA/POLYMER
Wt: 9.80 lb/gal
PV: 14.00 cp
YP: 18.00 lb/100ft2
Oil: 0.00%
Water Loss: 0.00 cc
Funnel Visc.: 44.00 sec
pH: 8.0
Total Gas: 0 PPM
Sand: 0.75%
LCM Type: Type A
LCM Size: 0.00 in
LCM Volume: 0.00 lb/bbl
Solids: 7.00%
Diesel Grade: 0
Aniline Pt.: -17.78 °C
Chlorides: 0 PPM
H2S: 0 PPM
BH(max): -17.78 °C
Flow Line(max): -17.78 °C
Temperature Gradient: 0.00 °C/30m

Pump Type	Volume	SPM	Stroke	Liner
Triplex - 12-P-160	425.85 gpm	85	304.80 mm	6.50 in
Triplex - 12-P-160	425.85 gpm	85	304.80 mm	6.50 in

BIT DATA

Manufacturer: REED
IADC: 1-3-7
Length: 0.34 m
Bit Type: Milled Tooth
Depth In: 1275.30 - 1553.30 (278.00) m
Gage Length: 0.00 mm
Serial No.: JE2406
Nozzles: 20 20 20 /32nd
TFA: 0.920 in2
Hours On Bit : 43.10
MTG On Bit : 278.00
Dull Code: 6-8-WT-A-B6-B6-B6-4-PB-HR

COMMENTS / RESULTS

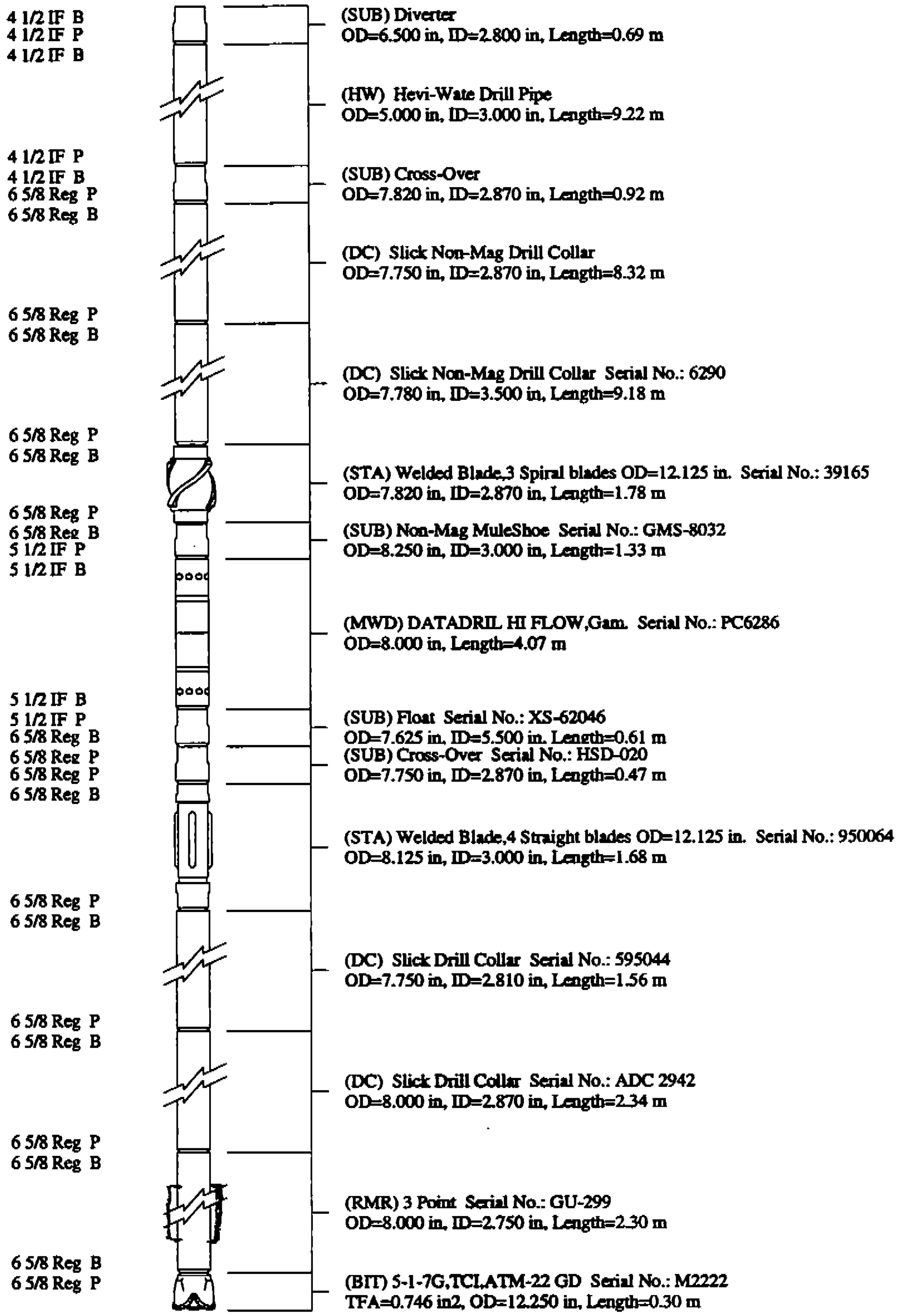
PREDICTED BUILD RATE 100 % SLIDE 5.67 DEG P/ 30m
AVERAGE ROTATING BUILD RATE P/ 30m, 2.07. AVERAGE SLIDE BUILD RATE 2.19
100 % SLIDE 5.4 DLS, 60 SLIDE / 40 SLIDE 3.17 DLS, 50/50 1.7-2.1, 100% ROTATE .7 BUILD.

Bottom Hole Assembly #3
12-1/4" Hole Size

Company: HDS
Field: BASS STRAIT
Location:
Well: lt1st
Run No: 3
Operators(s): NICK HARRIS, JAMES LAU
Directional Driller(s): WAYNE PARSONS, BILLY POWI

Assembly Type: Packed Assembly

Total Length = 44.77 m



BHA REPORT

From June 1, 1995 To June 2, 1995

Job No.:	0041950012	AFE No.:	
Operator:	BHP PETROLEUM	Location:	
Field:	BASS STRAIT	MWD Operator(s):	NICK HARRIS, JAMES LAU
Well:	lt1st	Dir'l Driller(s):	WAYNE PARSONS, BILLY POWELL
Run No.:	3	BHA No.:	3

Hole Size: 12-1/4"

BOTTOM HOLE ASSEMBLY

Assembly Type: **Packed Assembly** Reason Pulled: **TOOD - Dropping too much**
Objective: **BUILD ANGLE TO INTERSECT TARGET.**

Sliding(0.0%):	0.00 m @	0.00 hrs ==>	0.00 m/hr	Bit Press.Drop:	981.61 psi	Flow Rate :	800.00 gpm
Rotating(100.0%):	86.00 m @	7.67 hrs ==>	11.22 m/hr			SPM :	160.00
Total Drilled:	86.00 m @	7.67 hrs ==>	11.22 m/hr				

No.	Serial No.	Tool Description	OD (in)	ID (in)	Length (m)	Total Length (m)	Connections Up	Connections Down	Conn
1	M2222	(BIT) HTC,ATM-22 GD,TCI	12.250		0.30	0.30	6 5/8 Reg		P
2	GU-299	(RMR) 3 Point	8.000	2.750	2.30	2.60	6 5/8 Reg	6 5/8 Reg	B/B
3	ADC 2942	(DC) Slick Drill Collar	8.000	2.870	2.34	4.94	6 5/8 Reg	6 5/8 Reg	B/P
4	595044	(DC) Slick Drill Collar	7.750	2.810	1.56	6.50	6 5/8 Reg	6 5/8 Reg	B/P
5	950064	(STA) Welded Blade,4 Straight blades, blade OD=12.125	8.125	3.000	1.68	8.18	6 5/8 Reg	6 5/8 Reg	B/P
6	HSD-020	(SUB) Cross-Over Sub	7.750	2.870	0.47	8.65	6 5/8 Reg	6 5/8 Reg	P/P
7	XS-62046	(SUB) Float Sub	7.625	5.500	0.61	9.26	5 1/2 IF	6 5/8 Reg	P/B
8	PC6286	(MWD) DATADRIL HI FLOW BATTERY(4476), DAS(DAS 1028), MCM(MCM 1023), PULSER, DIS(TP 6090), GAMMA(GCM 1159)	8.000	5.250	4.07	13.33	5 1/2 IF	5 1/2 IF	B/B
9	GMS-8032	(SUB) Non-Mag MuleShoe Sub	8.250	3.000	1.33	14.66	6 5/8 Reg	5 1/2 IF	B/P
10	39165	(STA) Welded Blade,3 Spiral blades blade OD=12.125	7.820	2.870	1.78	16.44	6 5/8 Reg	6 5/8 Reg	B/P
11	6290	(DC) Slick Non-Mag Drill Collar	7.780	3.500	9.18	25.62	6 5/8 Reg	6 5/8 Reg	B/P
12		(DC) Slick Non-Mag Drill Collar	7.750	2.870	8.32	33.94	6 5/8 Reg	6 5/8 Reg	B/P
13		(SUB) Cross-Over Sub	7.820	2.870	0.92	34.86	4 1/2 IF	6 5/8 Reg	B/P
14		(HW) Hevi-Wate Drill Pipe	5.000	3.000	9.22	44.08	4 1/2 IF	4 1/2 IF	B/P
15		(SUB) Diverter Sub	6.500	2.800	0.69	44.77	4 1/2 IF	4 1/2 IF	B/P
16		(HW) 23 jts, Hevi-Wate Drill Pipe	5.000	3.000	212.41	257.18	4 1/2 IF	4 1/2 IF	B/P
17	1416-1210	(JAR) DAILY Jar	6.750	2.750	9.92	267.10	4 1/2 IF	4 1/2 IF	B/P
18		(HW) 6 jts, Hevi-Wate Drill Pipe	5.000	3.000	54.38	321.48	4 1/2 IF	4 1/2 IF	B/P

MUD/PUMP DATA

Mud Type:	KCL/PHPA/POLYMER	Wt:	9.80 lb/gal	PV:	14.00 cp	YP:	18.00 lb/100ft2
Oil:	0.00%	Water Loss:	0.00 cc	Funnel Visc.:	44.00 sec	pH:	8.0
Total Gas:	0 PPM	Sand:	0.75%	LCM Type:	Type A	LCM Size:	0.00 in
LCM Volume:	0.00 lb/bbl	Solids:	7.00%	Diesel Grade:	0	Aniline Pt.:	-17.78 °C
Chlorides:	0 PPM	H2S:	0 PPM	BH(max):	-17.78 °C	Flow Line(max):	-17.78 °C
Temperature Gradient:	0.00 °C/30m						

Pump Type	Volume	SPM	Stroke	Liner
Triplex - 12-P-160	400.80 gpm	80	304.80 mm	6.50 in
Triplex - 12-P-160	400.80 gpm	80	304.80 mm	6.50 in

BIT DATA

Manufacturer:	HTC	IADC:	5-1-7G	Length:	0.30 m
Bit Type:	TCI	Depth In:	1553.00 - 1639.00 (86.00) m	Gage Length:	0.00 mm
Serial No.:	M2222	Nozzles:	18 18 18 /32nd	TFA:	0.746 in2
Hours On Bit :	7.67	MTG On Bit :	86.00		

COMMENTS / RESULTS

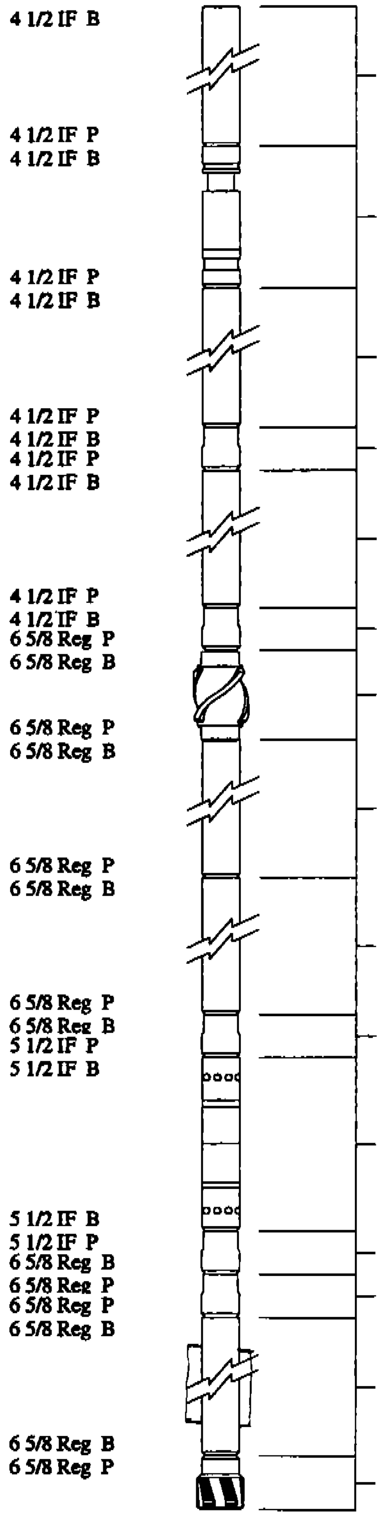
PREDICTED BUILD RATE 0.27 P/30m, ACTUAL WAS 0.7 P/30m DROP.

Bottom Hole Assembly #4
12-1/4" Hole Size

Company: HDS
Field: BASS STRAIT
Location:
Well: lt1st
Run No: 4
Operators(s): NICK HARRIS, JAMES LAU
Directional Driller(s): WAYNE PARSONS, BILLY POWI

Assembly Type: Building Assembly

Total Length = 288.17 m



(HW) Hevi-Wate Drill Pipe
OD=5.000 in, ID=3.000 in, Length=54.38 m

(JAR) Jar Serial No.: 1416-1210
OD=6.750 in, ID=2.750 in, Length=9.92 m

(HW) Hevi-Wate Drill Pipe
OD=5.000 in, ID=3.000 in, Length=184.69 m

(SUB) Diverter
OD=6.500 in, ID=2.800 in, Length=0.69 m

(HW) Hevi-Wate Drill Pipe
OD=5.000 in, ID=3.000 in, Length=9.22 m

(SUB) Cross-Over
OD=7.820 in, ID=2.870 in, Length=0.92 m

(STA) Welded Blade,3 Spiral blades OD=12.125 in. Serial No.: 39165
OD=7.820 in, ID=2.870 in, Length=1.78 m

(DC) Slick Non-Mag Drill Collar
OD=7.750 in, ID=2.870 in, Length=8.32 m

(DC) Slick Non-Mag Drill Collar Serial No.: 6290
OD=7.780 in, ID=3.500 in, Length=9.18 m

(SUB) Non-Mag MuleShoe Serial No.: GMS-8032
OD=8.250 in, ID=3.000 in, Length=1.33 m

(MWD) DATADRIL HI FLOW,Gam. Serial No.: PC6286
OD=8.000 in, Length=4.07 m

(SUB) Float Serial No.: XS-62046
OD=7.625 in, ID=5.500 in, Length=0.61 m

(SUB) Cross-Over Serial No.: HSD-020
OD=7.750 in, ID=2.870 in, Length=0.47 m

(RMR) 3 Point Serial No.: GU-299
OD=8.000 in, ID=2.750 in, Length=2.29 m

(BIT) PDC,DS34 H Serial No.: 13507
TFA=0.863 in2, OD=12.250 in, Length=0.30 m

BHA REPORT

From June 2, 1995 To June 3, 1995

Job No.: **0041950012**
Operator: **BHP PETROLEUM**
Field: **BASS STRAIT**
Well: **lt1st**
Run No.: **4**

AFE No.:
Location:
MWD Operator(s): **NICK HARRIS, JAMES LAU**
Dir'l Driller(s): **WAYNE PARSONS, BILLY POWEL**
BHA No.: **4**
Hole Size: **12-1/4"**

BOTTOM HOLE ASSEMBLY

Assembly Type: **Building Assembly**
Reason Pulled: **PR - Penetration rate**
Objective: **BUILD ANGLE AND HOLD TO TARGET**

Sliding(0.0%):	0.00 m @	0.00 hrs	==>	0.00 m/hr	Bit Press.Drop:	882.83 psi	Flow Rate :	900.00 gpm
Rotating(100.0%):	16.00 m @	5.05 hrs	==>	3.17 m/hr			SPM :	180.00
Total Drilled:	16.00 m @	5.05 hrs	==>	3.17 m/hr				

No.	Serial No.	Tool Description	OD (in)	ID (in)	Length (m)	Total Length (m)	Connections Up	Connections Down	Conn
1	13507	(BIT) HYCALOG,DS34 H,PDC	12.250		0.30	0.30	6 5/8 Reg		P
2	GU-299	(RMR) 3 Point	8.000	2.750	2.29	2.59	6 5/8 Reg	6 5/8 Reg	B/B
3	HSD-020	(SUB) Cross-Over Sub	7.750	2.870	0.47	3.06	6 5/8 Reg	6 5/8 Reg	P/P
4	XS-62046	(SUB) Float Sub	7.625	5.500	0.61	3.67	5 1/2 IF	6 5/8 Reg	P/B
5	PC6286	(MWD) DATADRIL HI FLOW	8.000	5.250	4.07	7.74	5 1/2 IF	5 1/2 IF	B/B
		BATTERY(4476), DAS(DAS 1028), MCM(MCM 1023), PULSER, DIS(TP 6090), GAMMA(GCM 1159)							
6	GMS-8032	(SUB) Non-Mag MuleShoe Sub	8.250	3.000	1.33	9.07	6 5/8 Reg	5 1/2 IF	B/P
7	6290	(DC) Slick Non-Mag Drill Collar	7.780	3.500	9.18	18.25	6 5/8 Reg	6 5/8 Reg	B/P
8		(DC) Slick Non-Mag Drill Collar	7.750	2.870	8.32	26.57	6 5/8 Reg	6 5/8 Reg	B/P
9	39165	(STA) Welded Blade,3 Spiral blades blade OD=12.125	7.820	2.870	1.78	28.35	6 5/8 Reg	6 5/8 Reg	B/P
10		(SUB) Cross-Over Sub	7.820	2.870	0.92	29.27	4 1/2 IF	6 5/8 Reg	B/P
11		(HW) Hevi-Wate Drill Pipe	5.000	3.000	9.22	38.49	4 1/2 IF	4 1/2 IF	B/P
12		(SUB) Diverter Sub	6.500	2.800	0.69	39.18	4 1/2 IF	4 1/2 IF	B/P
13		(HW) 20 jts, Hevi-Wate Drill Pipe	5.000	3.000	184.69	223.87	4 1/2 IF	4 1/2 IF	B/P
14	1416-1210	(JAR) DAILY Jar	6.750	2.750	9.92	233.79	4 1/2 IF	4 1/2 IF	B/P
15		(HW) 6 jts, Hevi-Wate Drill Pipe	5.000	3.000	54.38	288.17	4 1/2 IF	4 1/2 IF	B/P

MUD/PUMP DATA

Mud Type: **KCL/PHPA/POLYMER** Wt: **9.80 lb/gal** PV: **12.00 cp** YP: **15.00 lb/100ft2** Oil: **0.00%**
Water Loss: **6.20 cc** Funnel Visc.: **42.00 sec** pH: **8.8** Total Gas: **0 PPM** Sand: **0.80%**
LCM Type: **Type A** LCM Size: **0.00 in** LCM Volume: **0.00 lb/bbl** Solids: **7.60%**
Diesel Grade: **0** Aniline Pt.: **-17.78 °C** Chlorides: **49 PPM** H2S: **0 PPM**
BH(max): **-17.78 °C** Flow Line(max): **-17.78 °C** Temperature Gradient: **0.00 °C/30m**

Pump Type	Volume	SPM	Stroke	Liner
Triplex - 12-P-160	400.80 gpm	80	304.80 mm	6.50 in
Triplex - 12-P-160	400.80 gpm	80	304.80 mm	6.50 in

BIT DATA

Manufacturer: **HYCALOG** IADC: Length: **0.30 m**
Bit Type: **PDC** Depth In: **1639.00 - 1655.00 (16.00) m** Gage Length: **75.00 mm**
Serial No.: **13507** Nozzles: **15 15 15 15 15 /32nd** TFA: **0.863 in2**
Hours On Bit : **5.05** MTG On Bit : **16.00**

COMMENTS / RESULTS

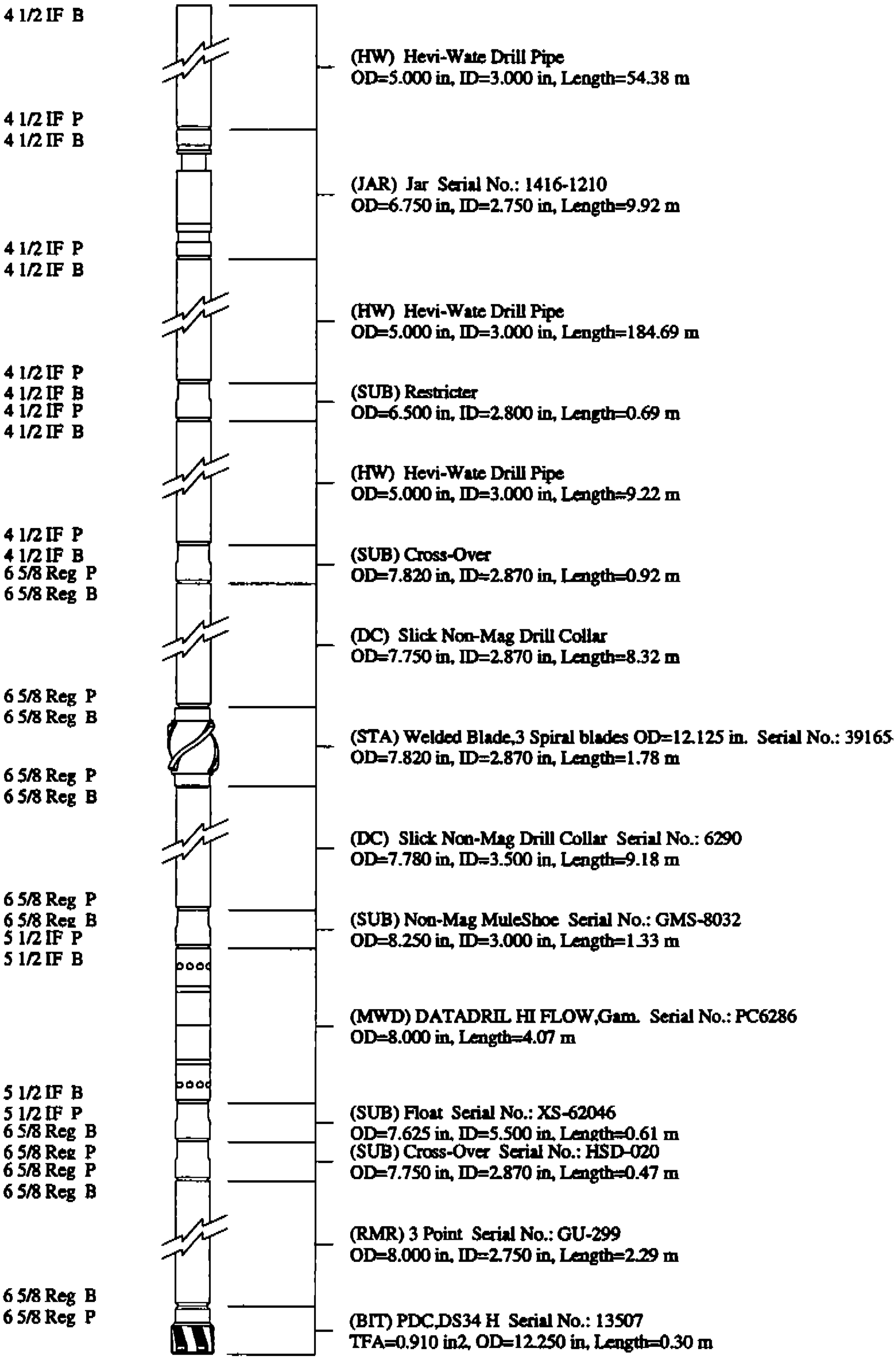
THIS ASSEMBLY PULLED DUE TO PENETRATION RATE. DRILLED 16m, INSUFFICIENT DISTANCE TO DETERMINE TREND. PREDICTED BUILD RATE 1.27 P/30m. BIT BALLED.

Bottom Hole Assembly #5
12-1/4" Hole Size

Company: HALLIBURTON
Field: BASS STRAIT
Location:
Well: lt1st
Run No: 5
Operators(s): NICK HARRIS, JAMES LAU
Directional Driller(s): WAYNE PARSONS, BILLY POWI

Assembly Type: Building Assembly

Total Length = 288.17 m



BHA REPORT

From June 3, 1995 To June 6, 1995

Job No.: 0041950012
Operator: BHP PETROLEUM
Field: BASS STRAIT
Well: lt1st
Run No.: 5

AFE No.:
Location:
MWD Operator(s): NICK HARRIS, JAMES LAU
Dir'l Driller(s): WAYNE PARSONS, BILLY POWEL
BHA No.: 5
Hole Size: 12-1/4"

BOTTOM HOLE ASSEMBLY

Assembly Type: Building Assembly
Objective: BUILD AND HOLD TO TARGET
Reason Pulled: TD - Total depth/Casing point

Sliding(0.0%): 0.00 m @ 0.00 hrs ==> 0.00 m/hr
Rotating(100.0%): 789.90 m @ 44.43 hrs ==> 17.78 m/hr
Total Drilled: 789.90 m @ 44.43 hrs ==> 17.78 m/hr

Bit Press.Drop: 882.83 psi
Flow Rate : 900.00 gpm
SPM : 180.00

No.	Serial No.	Tool Description	OD (in)	ID (in)	Length (m)	Total Length (m)	Connections Up	Connections Down	Conn
1	13507	(BIT) HYCALOG,DS34 H,PDC	12.250		0.30	0.30	6 5/8 Reg		P
2	GU-299	(RMR) 3 Point	8.000	2.750	2.29	2.59	6 5/8 Reg	6 5/8 Reg	B/B
3	HSD-020	(SUB) Cross-Over Sub	7.750	2.870	0.47	3.06	6 5/8 Reg	6 5/8 Reg	P/P
4	XS-62046	(SUB) Float Sub	7.625	5.500	0.61	3.67	5 1/2 IF	6 5/8 Reg	P/B
5	PC6286	(MWD) DATADRIL HI FLOW BATTERY(4476), DAS(DAS 1028), MCM(MCM 1023), PULSER, DIS(TP 6090), GAMMA(GCM 1159)	8.000	5.250	4.07	7.74	5 1/2 IF	5 1/2 IF	B/B
6	GMS-8032	(SUB) Non-Mag MuleShoe Sub	8.250	3.000	1.33	9.07	6 5/8 Reg	5 1/2 IF	B/P
7	6290	(DC) Slick Non-Mag Drill Collar	7.780	3.500	9.18	18.25	6 5/8 Reg	6 5/8 Reg	B/P
8	39165	(STA) Welded Blade,3 Spiral blades blade OD=12.125	7.820	2.870	1.78	20.03	6 5/8 Reg	6 5/8 Reg	B/P
9		(DC) Slick Non-Mag Drill Collar	7.750	2.870	8.32	28.35	6 5/8 Reg	6 5/8 Reg	B/P
10		(SUB) Cross-Over Sub	7.820	2.870	0.92	29.27	4 1/2 IF	6 5/8 Reg	B/P
11		(HW) Hevi-Wate Drill Pipe	5.000	3.000	9.22	38.49	4 1/2 IF	4 1/2 IF	B/P
12		(SUB) Restricter Sub	6.500	2.800	0.69	39.18	4 1/2 IF	4 1/2 IF	B/P
13		(HW) 20 jts, Hevi-Wate Drill Pipe	5.000	3.000	184.69	223.87	4 1/2 IF	4 1/2 IF	B/P
14	1416-1210	(JAR) DAILY Jar	6.750	2.750	9.92	233.79	4 1/2 IF	4 1/2 IF	B/P
15		(HW) 6 jts, Hevi-Wate Drill Pipe	5.000	3.000	54.38	288.17	4 1/2 IF	4 1/2 IF	B/P

MUD/PUMP DATA

Mud Type: KCL/PHPA/POLYMER
Wt: 9.80 lb/gal
PV: 12.00 cp
YP: 15.00 lb/100ft2
Oil: 0.00%
Water Loss: 6.20 cc
Funnel Visc.: 42.00 sec
pH: 8.8
Total Gas: 0 PPM
Sand: 0.80%
LCM Type: Type A
LCM Size: 0.00 in
LCM Volume: 0.00 lb/bbl
Solids: 7.60%
Diesel Grade: 0
Aniline Pt.: -17.78 °C
Chlorides: 49 PPM
H2S: 0 PPM
BH(max): -17.78 °C
Flow Line(max): -17.78 °C
Temperature Gradient: 0.00 °C/30m

Pump Type	Volume	SPM	Stroke	Liner
Triplex - 12-P-160	425.85 gpm	85	304.80 mm	6.50 in
Triplex - 12-P-160	425.85 gpm	85	304.80 mm	6.50 in

BIT DATA

Manufacturer: HYCALOG
Bit Type: PDC
Serial No.: 13507
Hours On Bit : 44.43
IADC:
Depth In: 1655.10 - 2445.00 (789.90) m
Nozzles: 16 16 15 15 15 /32nd
MTG On Bit : 789.90
Length: 0.30 m
Gage Length: 75.00 mm
TFA: 0.910 in2
Dull Code: 0-1-WT-S-BE-BE-BE-I-BU-TD

COMMENTS / RESULTS

THIS ASSEMBLY DRILLED 789.9m. PREDICTED BUILD 0.86. AVERAGE D.L.S. 1.03 P/30m, 0.99 BUILD, -0.35 WALK.

TOM-1

E T SIZE (in) = 12.250 DEPTH (m) = 1400.0

P MP PRESSURE (psi) = 0 FLOW RATE (gpm) = 900

FLUID PROPERTIES

M) WEIGHT (lb/gal) = 9.8 PV (cp) = 14 YP (lb/100 sq ft) = 20

D TYPE : WATER BASE SYSTEM

CASING / HOLE DATA

	OD (in)	Weight (lb/ft)	ID (in)	Depth set (m)	Top (m)
CASING	13.375	48.00	12.715	1205.0	0.0
OPEN HOLE	-----	-----	12.250	1400.0	1205.0

DRILL STRING DATA

	OD (in)	Eq. ID (in)	Weight (lb/ft)	Length (m)	Tool Joint
)	5.000	4.276	19.50	1145.7	XH
WDP	5.000	3.004	50.00	54.4	IF
AR	6.750	2.750	92.00	8.4	
WDP	5.000	3.004	50.00	165.8	IF
ON-MAG COLLAR	8.000	2.813	149.46	8.3	
WD (LF PULSER)	8.000			5.2	
TABILIZER	8.000	3.000	146.57	1.7	
RILL COLLAR	8.000	2.813	149.46	2.4	
-5/8 LF 5/6 F2000S	9.625			8.1	

TOM-1

ON/OFF BOTTOM VALUES AT 900 (gpm)
MOTOR: 9-5/8 LF 5/6 F2000S

	On Bottom	Off Bottom	Pres Diff.
S andpipe Pressure (psi)	3266	2666	600
ɑd Motor Pressure (psi)	700	100	600

9-5/8 LF 5/6 F2000S MOTOR PERFORMANCE DATA

MOTOR SPEED (rpm)	MOTOR TORQUE (ft-lb)	MOTOR POWER (hp)	MINIMUM WOB (lb)	BALANCED WOB (lb)	MAXIMUM WOB (lb)
20	9333	213	0	44,141	69,141

NOZZLE TYPE BIT
12.250 (in) HTC

------PUMP	--------		--------NOZZLES--------	------------BIT	------------			
g n	pres. psi	mech. hp	32nds	j vel mps	hp/ sqin	if kg	pressure psi	%bit
9 0	3266	1816	20,20,20	86	2.80	526	599	21%

TFA = 0.92 (sq. in.)
SOLVED FOR THE PRESSURE LOSSES AS A FUNCTION OF FLOW RATE.
THE FLOW RATE THROUGH THE BIT IS 810 (gpm)

TOM-1

BORE PRESSURE LOSSES AT 900 (gpm)

	LENGTH (m)	LOSS (psi)	ID (in)	
)P	1145.7	650	4.276	
ᴴWDP	54.4	169	3.004	
AR	8.4	40	2.750	
ɨWDP	165.8	516	3.004	
ŃON-MAG COLLAR	8.3	213	2.813	
Tool: MWD (LF PROBE)				
Length (m): 5.7912				
Press loss (psi): 203				
ɪWD (LF PULSER)	5.2	89		
·TABILIZER	1.7	5	3.000	
)‾ ˡL COLLAR	2.3	10	2.813	
ᵊ-ɔ/8 LF 5/6 F2000S	8.1	700		(On bottom)
URFACE EQUIPMENT CASE # 3		118		

Total bore hole pressure (psi) = 2510

HYDRAULICS IN ANNULUS AT 900 (gpm)

----DEPTH---- FROM (m)	TO (m)	TOOL OD (in)	HOLE/CSG ID (in)	PRES. LOSS (psi)	ANNULAR VEL. (mpm)	CRIT. VEL. (mpm)	FLOW REGIME	CHIP RATE (mpm)
0.0	1145.7	5.000	12.715	45	49	90	LAM	47
1145.7	1200.1	5.000	12.715	2	49	90	LAM	47
1200.1	1205.0	6.750	12.715	0	58	91	LAM	55
1205.0	1208.5	6.750	12.250	0	64	91	LAM	61
1208.5	1374.4	5.000	12.250	7	54	90	LAM	52
1374.4	1382.7	8.000	12.250	1	78	93	LAM	73
1382.7	1387.9	8.000	12.250	0	78	93	LAM	73
1387.9	1389.5	8.000	12.250	0	78	93	LAM	73
1389.5	1391.9	8.000	12.250	0	78	93	LAM	73

Total annular pressure loss (psi)= 55
ECD (lb/gal) =10.0 at 900 (gpm)

LTOM1-3

E T SIZE (in) = 12.250 DEPTH (m) = 2200.0

I JMP PRESSURE (psi) = 0 FLOW RATE (gpm) = 800

FLUID PROPERTIES

I JD WEIGHT (lb/gal) = 9.8 PV (cp) = 14 YP (lb/100 sq ft) = 18

M D TYPE : WATER BASE SYSTEM

CASING / HOLE DATA

	OD (in)	Weight (lb/ft)	ID (in)	Depth set (m)	Top (m)
CASING	13.375	48.00	12.715	1205.0	0.0
OPEN HOLE	-----	-----	12.250	2200.0	1205.0

DRILL STRING DATA

	OD (in)	Eq. ID (in)	Weight (lb/ft)	Length (m)	Tool Joint
iP	5.000	4.276	19.50	1949.2	XH
'WDP	5.000	3.004	50.00	54.4	IF
AR	6.750	2.750	92.00	8.4	
WDP	5.000	3.004	50.00	148.0	IF
IDS	5.000	2.250	12.00	0.7	
WDP	5.000	3.004	50.00	9.2	IF
ON-MAG COLLAR	8.000	3.500	137.91	8.3	
ION-MAG COLLAR	8.000	3.500	137.91	9.3	
'WD (HF PULSER)	8.000			5.8	
TABILIZER	8.000	2.813	149.46	2.1	
RILL COLLAR	8.000	2.750	150.40	2.4	
EAMER	8.000	2.750	150.40	2.3	

LTOM1-3

BORE PRESSURE LOSSES AT 800 (gpm)

	LENGTH (m)	LOSS (psi)	ID (in)
DP	1949.2	893	4.276
HWDP	54.4	137	3.004
AR	8.4	32	2.750
IWDP	148.0	372	3.004
DIDS	0.7	7	2.250
HWDP	9.2	23	3.004
ION-MAG COLLAR	8.3	10	3.500
NON-MAG COLLAR	9.3	34	3.500
Tool: MWD (HF PROBE)			
Length (m): 7.3152			
Press loss (psi): 32			
MWD (HF PULSER)	5.8	55	
TABILIZER	2.1	7	2.813
RILL COLLAR	2.3	9	2.750
REAMER	2.3	188	2.750
Tool: MWD (LF PROBE)			
Length (m): 5.7912			
Press loss (psi): 202			
SURFACE EQUIPMENT CASE # 3		95	

Total bore hole pressure (psi) = 1862

HYDRAULICS IN ANNULUS AT 800 (gpm)

DEPTH FROM (m)	DEPTH TO (m)	TOOL OD (in)	HOLE/CSG ID (in)	PRES. LOSS (psi)	ANNULAR VEL. (mpm)	CRIT. VEL. (mpm)	FLOW REGIME	CHIP RATE (mpm)
0.0	1205.0	5.000	12.715	42	44	85	LAM	42
1205.0	1949.2	5.000	12.250	28	48	85	LAM	46
1949.2	2003.6	5.000	12.250	2	48	85	LAM	46
2003.6	2012.0	6.750	12.250	0	57	87	LAM	54
2012.0	2160.0	5.000	12.250	6	48	85	LAM	46
2160.0	2160.7	5.000	12.250	0	48	85	LAM	46
2160.7	2169.9	5.000	12.250	0	48	85	LAM	46
2169.9	2178.2	8.000	12.250	1	69	88	LAM	65
2178.2	2187.5	8.000	12.250	1	69	88	LAM	65
2187.5	2193.3	8.000	12.250	0	69	88	LAM	65
2193.3	2195.3	8.000	12.250	0	69	88	LAM	65
2195.3	2197.7	8.000	12.250	0	69	88	LAM	65
2197.7	2200.0	8.000	12.250	0	69	88	LAM	65

Total annular pressure loss (psi)= 80

ECD (lb/gal) =10.0 at 800 (gpm)

LTOM1-3

NOZZLE TYPE BIT
12.250 (in) DS34H

-----PUMP---------			--------NOZZLES--------	-------------BIT-------------				
	pres.	mech.		j vel	hp/	if	pressure	
ɔm	psi	hp	32nds	mps	sqin	kg	psi	%bit
)0	2854	1567	15,15,14,14,14	98	3.61	593	911	32%

TFA = 0.80 (sq. in.)
SOLVED FOR THE PRESSURE LOSSES AS A FUNCTION OF FLOW RATE.

LTOM1-3

IT SIZE (in) = 12.250 DEPTH (m) = 2200.0

UMP PRESSURE (psi) = 0 FLOW RATE (gpm) = 800

FLUID PROPERTIES

JD WEIGHT (lb/gal) = 9.8 PV (cp) = 14 YP (lb/100 sq ft) = 18

JD TYPE : WATER BASE SYSTEM

CASING / HOLE DATA

	OD (in)	Weight (lb/ft)	ID (in)	Depth set (m)	Top (m)
CASING	13.375	48.00	12.715	1205.0	0.0
OPEN HOLE	-----	-----	12.250	2200.0	1205.0

DRILL STRING DATA

	OD (in)	Eq. ID (in)	Weight (lb/ft)	Length (m)	Tool Joint
P	5.000	4.276	19.50	1949.2	XH
HWDP	5.000	3.004	50.00	54.4	IF
AR	6.750	2.750	92.00	8.4	
IWDP	5.000	3.004	50.00	148.0	IF
DIDS	5.000	2.250	12.00	0.7	
HWDP	5.000	3.004	50.00	9.2	IF
ION-MAG COLLAR	8.000	3.500	137.91	8.3	
ION-MAG COLLAR	8.000	3.500	137.91	9.3	
IWD (HF PULSER)	8.000			5.8	
STABILIZER	8.000	2.813	149.46	2.1	
DRILL COLLAR	8.000	2.750	150.40	2.4	
REAMER	8.000	2.750	150.40	2.3	

LTOM1-3

BORE PRESSURE LOSSES AT 800 (gpm)

	LENGTH (m)	LOSS (psi)	ID (in)
DP	1949.2	893	4.276
HWDP	54.4	137	3.004
JAR	8.4	32	2.750
HWDP	148.0	372	3.004
DIDS	0.7	7	2.250
HWDP	9.2	23	3.004
NON-MAG COLLAR	8.3	10	3.500
NON-MAG COLLAR	9.3	34	3.500
Tool: MWD (HF PROBE)			
Length (m): 7.3152			
Press loss (psi): 32			
MWD (HF PULSER)	5.8	55	
S BILIZER	2.1	7	2.813
DRILL COLLAR	2.3	9	2.750
REAMER	2.3	188	2.750
Tool: MWD (LF PROBE)			
Length (m): 5.7912			
Press loss (psi): 202			
SURFACE EQUIPMENT CASE # 3		95	

Total bore hole pressure (psi) =		1862	

HYDRAULICS IN ANNULUS AT 800 (gpm)

----DEPTH---- FROM (m)	TO (m)	TOOL OD (in)	HOLE/CSG ID (in)	PRES. LOSS (psi)	ANNULAR VEL. (mpm)	CRIT. VEL. (mpm)	FLOW REGIME	CHIP RATE (mpm)
0.0	1205.0	5.000	12.715	42	44	85	LAM	42
1205.0	1949.2	5.000	12.250	28	48	85	LAM	46
1949.2	2003.6	5.000	12.250	2	48	85	LAM	46
2003.6	2012.0	6.750	12.250	0	57	87	LAM	54
2012.0	2160.0	5.000	12.250	6	48	85	LAM	46
2160.0	2160.7	5.000	12.250	0	48	85	LAM	46
2160.7	2169.9	5.000	12.250	0	48	85	LAM	46
2169.9	2178.2	8.000	12.250	1	69	88	LAM	65
2178.2	2187.5	8.000	12.250	1	69	88	LAM	65
2187.5	2193.3	8.000	12.250	0	69	88	LAM	65
2193.3	2195.3	8.000	12.250	0	69	88	LAM	65
2195.3	2197.7	8.000	12.250	0	69	88	LAM	65
2197.7	2200.0	8.000	12.250	0	69	88	LAM	65

Total annular pressure loss (psi)=				80				

ECD (lb/gal) =10.0 at 800 (gpm)

LTOM1-3

NOZZLE TYPE BIT
12.250 (in) DS34H

PUMP			NOZZLES	BIT				
	pres.	mech.		j vel	hp/	if	pressure	
gpm	psi	hp	32nds	mps	sqin	kg	psi	%bit
800	2854	1567	15,15,14,14,14	98	3.61	593	911	32%

TFA = 0.80 (sq. in.)
SOLVED FOR THE PRESSURE LOSSES AS A FUNCTION OF FLOW RATE.

POST WELL UMMARY

From May 28, 1995 To June 6, 1995

Job No.:	0041950012	AFE No.:	
Operator:	BHP PETROLEUM	Location:	
Field:	BASS STRAIT	MWD Operator(s):	NICK HARRIS, JAMES LAU
Well:	It1st	Dir'l Driller(s):	WAYNE PARSONS, BILLY POWEL

METERAGE DRILLED	DRILLING HOURS	AVERAGE ROP	DRILLING DAYS	AVERAGE MTG/DAY	AVERAGE DRILLING HRS/DAY
1307.20	135.17	9.67	10.64	122.80	12.70

RUN NO.	BHA NO.	DEPTH IN	ANGLE IN	DEPTH OUT	ANGLE OUT	METERAGE DRILLED	DRILLING HOURS	AVERAGE ROP	ACTUAL BUILD	FLOW gpm	ON-BOTTOM psi	MAX. BH TEMP °C	MOTOR SERIAL NO.
1	1	1138.00	1.86	1275.30	6.14	137.30	34.92	3.93	-0.84	780	2413	0.00	610338-3
2	2	1275.30	6.14	1553.30	23.72	278.00	43.10	6.45	1.98	852	2831	0.00	610338-3
3	3	1553.00	23.73	1639.00	21.93	86.00	7.67	11.22	-0.54	802	2783	0.00	N/A
4	4	1639.00	21.93	1655.00	22.32	16.00	5.05	3.17	0.75	802	3200	0.00	N/A
5	5	1655.10	22.33	2445.00	45.86	789.90	44.43	17.78	0.75	852	2923	0.00	N/A

RUN NO.	BHA NO.	BIT SIZE(in)	BIT MODEL	BIT NOZZLES (/32nd)	MOTOR DESCRIPTION	STAB O.D.	DISTANCE CTR TO BIT	REASON FOR TRIP
1	1	12-1/4"	ATM23	20 20 20	9-5/8" LF 5/6 F2000S X 1.25° bend	12.125	12.30	SLIDE - Could not slide
2	2	12-1/4"	MHP13G	20 20 20	9-5/8" LF 5/6 F2000S X 1.25° bend	------	------	HR - Hours on bit
3	3	12-1/4"	ATM-22 GD	18 18 18	NO MOTOR	12.125	7.73	TOOD - Dropping too much
4	4	12-1/4"	DS34 H	15 15 15 15 15	NO MOTOR	12.125	27.50	PR - Penetration rate
5	5	12-1/4"	DS34 H	16 16 15 15 15	NO MOTOR	12.125	0.90	TD - Total depth/Casing point

RUN NO.	BHA NO.	SLIDE MTG	ROTATE MTG	SLIDE HRS	ROTATE HRS	SLIDE ROP	ROTATE ROP	COMMENTS
1	1	90.90	46.40	31.70	3.22	2.87	14.42	SIDETRACK WELL ALONG AN AZIMUTH OF 205.36 DEGREES,BUILDING TO 23 DEGREES OF ANGLE.
2	2	131.40	146.60	28.83	14.27	4.56	10.28	BUILD ANGLE TO 23 DEGREES , HOLD AT 205 AZIMUTH
3	3	0.00	86.00	0.00	7.67	0.00	11.22	BUILD ANGLE TO INTERSECT TARGET.
4	4	0.00	16.00	0.00	5.05	0.00	3.17	BUILD ANGLE AND HOLD TO TARGET
5	5	0.00	789.90	0.00	44.43	0.00	17.78	BUILD AND HOLD TO TARGET

Halliburton Australia Ltd Drilling

Job No: 0041950012
Date: 7/06/95
Time: 12:05 pm
Wellpath ID: lt1st
Date Created: 27/05/95
Last Revision: 7/06/95

Survey Report

Calculated using the Minimum Curvature Method
Computed using WIN-CADDS REV2.1.B
Vertical Section Plane: 205.36 deg.

Survey Reference: STRUCTURE ORIGIN
Reference World Coordinates: Lat. 38.06.00 S - Long. 148.18.54 E
Reference GRID System: Australian (UTM) Zone: 55, Cent. Merid: 147.00.00 E
Reference GRID Coordinates: (m): 5782262.00 N 615302.00 E
North Aligned To: GRID NORTH
Offset, Reference To WellHead: (m): 0.00 N 0.00 E 0.00 TVD
Vertical Section Reference: STRUCTURE ORIGIN
Closure Reference: STRUCTURE ORIGIN
TVD Reference: STRUCTURE ORIGIN

BHP EXPLORATION LTD
LONGTOM # 1 (ST)
BASS STRAIT
VICTORIA - P1
OCEAN BOUNTY

Measured Depth (m)	Incl (deg.)	Drift Dir. (deg.)	Course Length (m)	TVD (m)	Vertical Section (m)	TOTAL Rectangular Offsets (m)	(m)	Build Rate (dg/30m)	Walk Rate (dg/30m)	DLS (dg/30m)
1032.80	2.70	5.00	0.00	1032.60	3.95	3.38 S	2.09W	0.00	0.00	0.00
1082.80	2.40	350.30	50.00	1082.55	1.99	1.17 S	2.16W	-0.18	-8.82	0.43
1114.80	2.50	351.30	32.00	1114.52	0.86	0.18N	2.38W	0.09	0.94	0.10
1143.90	1.70	344.30	29.10	1143.60	0.01	1.22N	2.60W	-0.82	-7.22	0.86
1172.00	1.70	198.90	28.10	1171.70	0.11	1.23N	2.84W	0.00	-155.23	3.47
1200.20	3.10	189.10	28.20	1199.87	1.26	0.08N	3.10W	1.49	-10.43	1.55
1229.50	3.80	190.50	29.30	1229.12	2.96	1.66 S	3.40W	0.72	1.43	0.72
1250.30	4.90	190.10	20.80	1249.86	4.48	3.21 S	3.68W	1.59	-0.58	1.59
1262.40	5.30	190.50	12.10	1261.91	5.52	4.27 S	3.88W	0.99	0.99	1.00
1293.20	7.30	190.80	30.80	1292.52	8.79	7.59 S	4.50W	1.95	0.29	1.95
1302.00	8.90	192.80	8.80	1301.23	9.99	8.81 S	4.76W	5.45	6.82	5.54
1313.40	10.40	192.20	11.40	1312.47	11.86	10.67 S	5.17W	3.95	-1.58	3.96
1331.90	11.50	193.30	18.50	1330.64	15.29	14.10 S	5.95W	1.78	1.78	1.82
1348.80	12.20	191.00	16.90	1347.18	18.66	17.49 S	6.67W	1.24	-4.08	1.50
1378.00	15.10	192.20	29.20	1375.55	25.36	24.24 S	8.07W	2.98	1.23	2.99
1406.60	17.40	194.70	28.60	1403.00	33.19	32.02 S	9.94W	2.41	2.62	2.52
1434.20	20.20	197.30	27.60	1429.13	41.96	40.56 S	12.41W	3.04	2.83	3.18
1463.60	22.40	198.20	29.40	1456.52	52.55	50.73 S	15.66W	2.24	0.92	2.27
1492.70	23.10	198.40	29.10	1483.36	63.72	61.41 S	19.20W	0.72	0.21	0.73
1521.00	23.10	198.40	28.30	1509.39	74.74	71.95 S	22.70W	0.00	0.00	0.00
1533.20	23.60	198.00	12.20	1520.59	79.54	76.54 S	24.21W	1.23	-0.98	1.29
1549.00	23.80	198.40	15.80	1535.05	85.84	82.57 S	26.20W	0.38	0.76	0.49
1577.40	23.30	198.80	28.40	1561.09	97.11	93.33 S	29.82W	-0.53	0.42	0.55
1605.90	22.60	199.20	28.50	1587.33	108.15	103.84 S	33.43W	-0.74	0.42	0.75
1633.60	21.80	199.30	27.70	1612.98	118.56	113.72 S	36.88W	-0.87	0.11	0.87
1662.20	22.50	199.70	28.60	1639.47	129.28	123.88 S	40.48W	0.73	0.42	0.75
1690.90	23.50	199.40	28.70	1665.89	140.44	134.45 S	44.24W	1.05	-0.31	1.05
1719.50	24.70	198.90	28.60	1691.99	152.05	145.48 S	48.07W	1.26	-0.52	1.28
1747.80	25.80	198.80	28.30	1717.59	164.04	156.91 S	51.97W	1.17	-0.11	1.17
1776.90	26.80	198.20	29.10	1743.68	176.84	169.13 S	56.06W	1.03	-0.62	1.07
1805.00	27.90	197.40	28.10	1768.64	189.64	181.42 S	60.00W	1.17	-0.85	1.24
1833.40	28.60	197.10	28.40	1793.65	202.95	194.26 S	63.99W	0.74	-0.32	0.75

Halliburton Australia Ltd Drilling

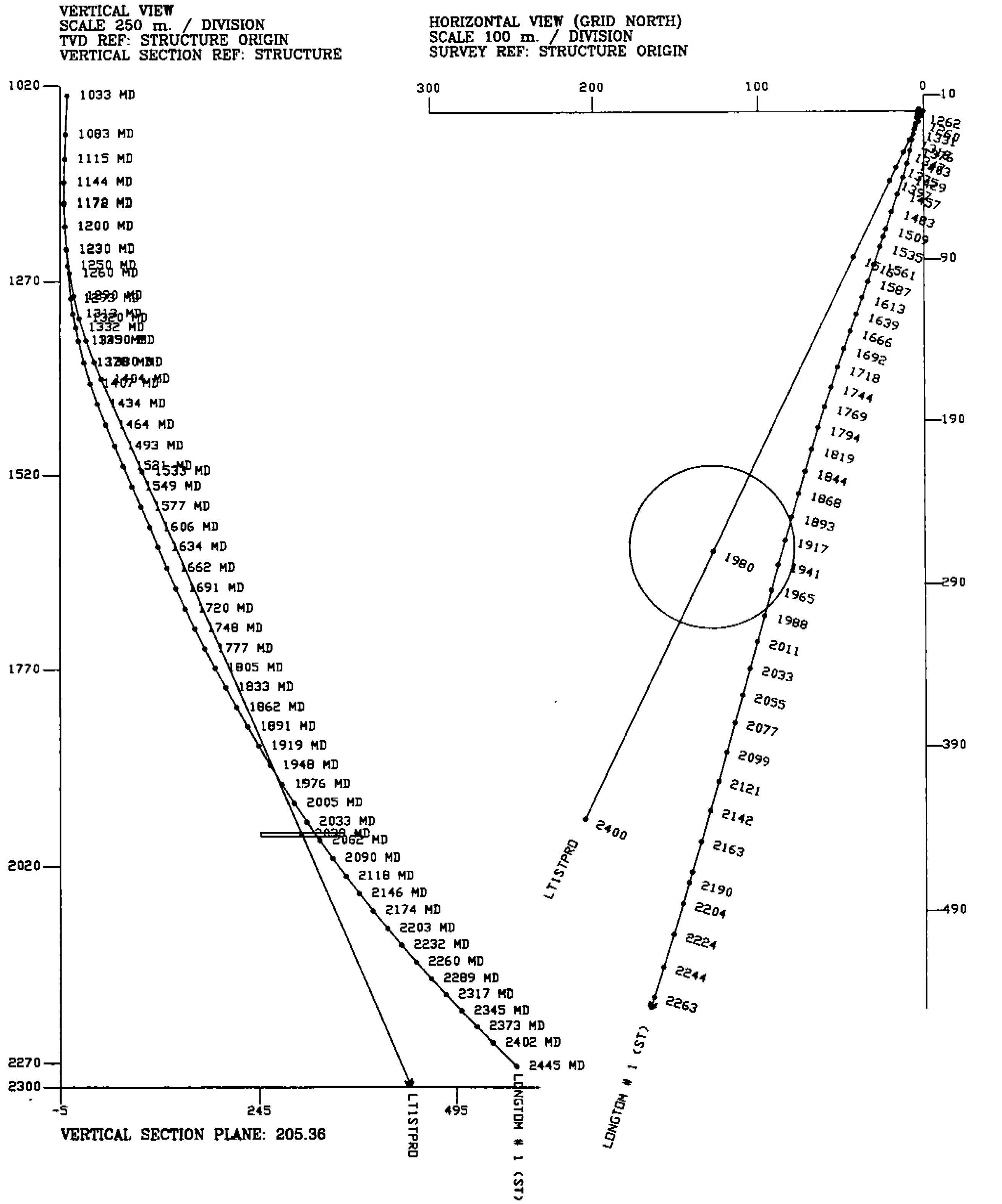
Survey Report

Measured Depth (m)	Incl (deg.)	Drift Dir. (deg.)	Course Length (m)	TVD (m)	Vertical Section (m)	TOTAL Rectangular Offsets (m)	(m)	Build Rate (dg/30m)	Walk Rate (dg/30m)	DLS (dg/30m)
1862.40	28.90	196.40	29.00	1819.08	216.74	207.62 S	68.01W	0.31	-0.72	0.47
1891.00	29.60	196.20	28.60	1844.03	230.54	221.03 S	71.93W	0.73	-0.21	0.74
1919.20	30.70	196.10	28.20	1868.42	244.52	234.64 S	75.87W	1.17	-0.11	1.17
1948.10	31.70	196.10	28.90	1893.13	259.30	249.02 S	80.02W	1.04	0.00	1.04
1976.20	32.60	195.90	28.10	1916.93	274.05	263.39 S	84.14W	0.96	-0.21	0.97
2004.70	33.80	195.50	28.50	1940.77	289.43	278.42 S	88.36W	1.26	-0.42	1.28
2033.40	34.50	195.00	28.70	1964.52	305.29	293.96 S	92.60W	0.73	-0.52	0.79
2061.90	35.50	195.20	28.50	1987.87	321.38	309.74 S	96.86W	1.05	0.21	1.06
2090.10	36.80	195.60	28.20	2010.64	337.76	325.78 S	101.28W	1.38	0.43	1.41
2118.40	37.70	195.00	28.30	2033.17	354.63	342.30 S	105.79W	0.95	-0.64	1.03
2146.10	38.30	195.90	27.70	2054.99	371.43	358.74 S	110.34W	0.65	0.97	0.88
2174.10	39.40	195.60	28.00	2076.80	388.75	375.64 S	115.11W	1.18	-0.32	1.20
2203.20	39.90	195.90	29.10	2099.21	407.05	393.52 S	120.15W	0.52	0.31	0.55
2231.50	41.00	195.80	28.30	2120.74	425.16	411.18 S	125.16W	1.17	-0.11	1.17
2259.70	41.90	196.00	28.20	2141.88	443.57	429.13 S	130.27W	0.96	0.21	0.97
2288.90	42.80	196.50	29.20	2163.46	463.00	448.02 S	135.78W	0.92	0.51	0.99
2316.60	44.00	196.40	27.70	2183.58	481.80	466.27 S	141.17W	1.30	-0.11	1.30
2326.20	44.50	195.90	9.60	2190.46	488.41	472.70 S	143.03W	1.56	-1.56	1.91
2345.40	44.30	196.30	19.20	2204.18	501.67	485.61 S	146.76W	-0.31	0.63	0.54
2373.20	45.20	197.30	27.80	2223.92	521.02	504.34 S	152.42W	0.97	1.08	1.23
2402.30	45.70	197.50	29.10	2244.34	541.56	524.13 S	158.62W	0.52	0.21	0.54
2429.20	45.80	197.40	26.90	2263.11	560.65	542.52 S	164.39W	0.11	-0.11	0.14
PROJECTION TO T.D.										
2445.00	45.86	197.34	15.80	2274.12	571.87	553.33 S	167.78W	0.11	-0.11	0.14

BHP EXPLORATION LTD
LONGTOM # 1 (ST)
BASS STRAIT
VICTORIA - P1
OCEAN BOUNTY

HALLIBURTON

6/6/95 7:56 am

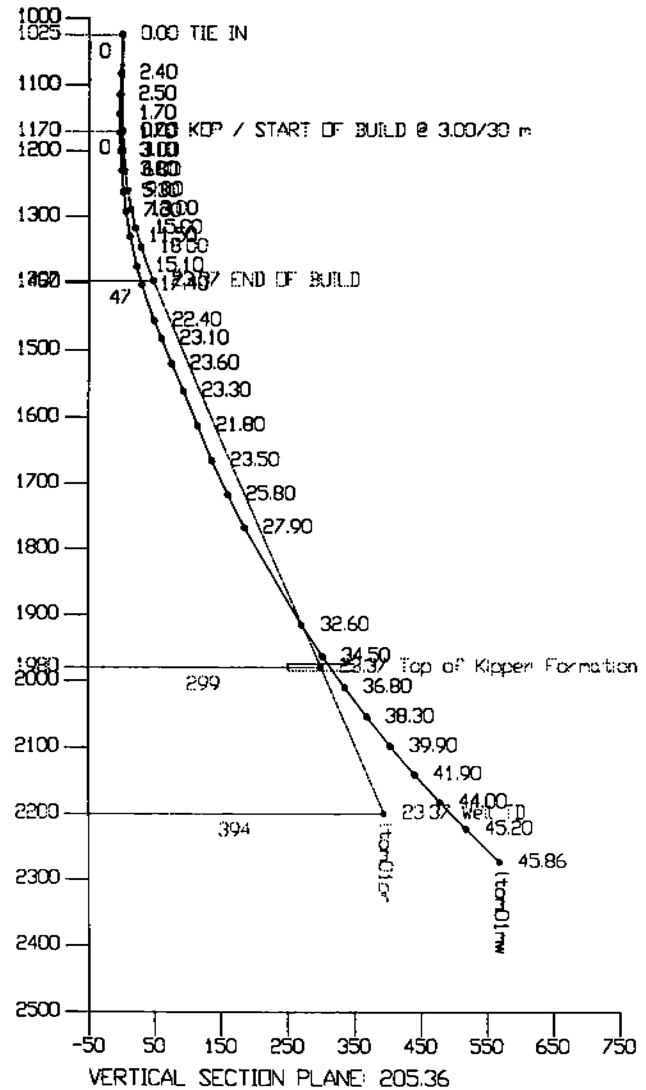


BHP PETROLEUM
LONG TOM #1 Sidetrack
BASS STRAIT
VICTORIA
Assumed vertical to 13 3/8" Casing Shoe

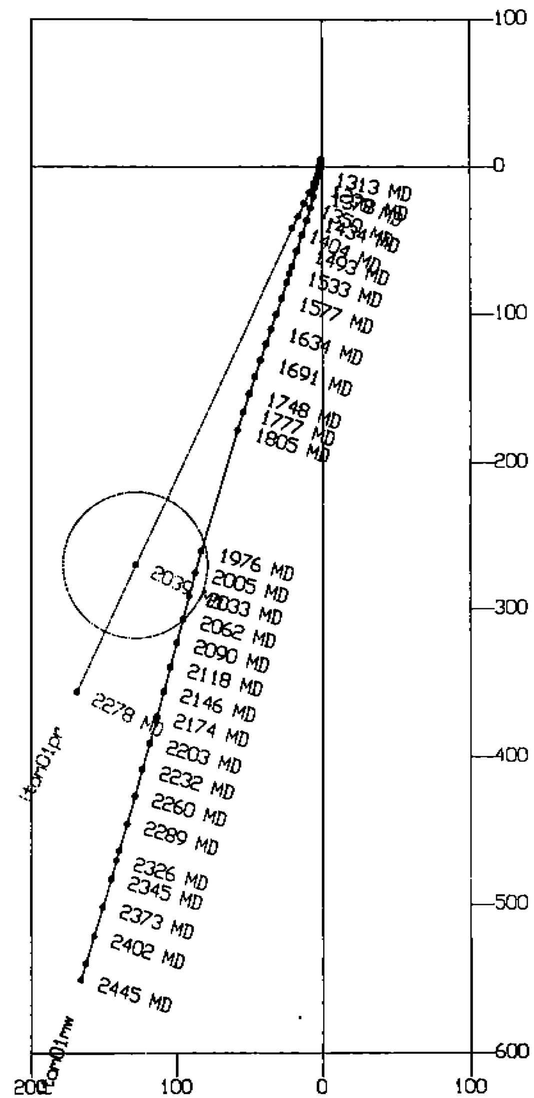
HALLIBURTON

07/06/95 10:10 am

VERTICAL VIEW
SCALE 100 m. / DIVISION
TVD REF: STRUCTURE ORIGIN
VERTICAL SECTION REF: STRUCTURE



HORIZONTAL VIEW (GRID NORTH)
SCALE 100 m. / DIVISION
SURVEY REF: STRUCTURE ORIGIN



BHP PETROLEUM PTY LTD.

LONGTOM #1 SIDETRACK

MWD REPORT

TABLE OF CONTENTS

1. GENERAL INFORMATION

Halliburton Drilling Systems MWD services were utilised in the drilling of the Longtom #1 sidetrack. This service consisted of Directional Surveying and Gamma Ray Logging. Halliburton Drilling Systems MWD services commenced on the 28th of May 1995 at 1113m. All MWD services were completed on the 6th of June 1995 when the MWD was laid out at a depth of 2445m.

2. TRIP REPORTS

RUN #1 : 1113m - 1275m.

A 12-1/4" Steerable Assembly, consisting of Hughes ATM-23 bit and 9-5/8" F2000S steerable motor having a 1 1/4 degree bent housing, was made up to HDS DIS1-Directional only MWD system. The first MWD shallow test was not successful and the pulser was changed out. After the successful MWD test, the BHA was run in the hole.

The top of the cement plug was tagged at 1113m and dressed to 1121m. The toolface was orientated and the sidetrack started. The well was sidetracked at 1161m. The required build rate was difficult to achieve with this assembly and the rate of penetration while sliding was slow. At 1275m it was decided to pull out of the hole to change the BHA.

Drilling parameters for this section were 25 to 45 klbs WOB with a Flow Rate of 780gal/min, giving a maximum Standpipe Pressure of 2450 psi. The Rate of Penetration was approximately 3.0m/hr.

No problems with the MWD were encountered during this run.

RUN #2 : 1275m - 1553m

The assembly used in the previous run was changed by taking out the pony collar and the string stabiliser that were above the motor. A Reed MHP13G bit was also substituted for the previous Hughes bit. A high flow non magnetic drill collar was run with the directional only MWD probe. After a successful shallow test, the BHA was run into the hole.

The drilling continued with sliding and rotary to build angle. At 1553m with an angle of 23.6deg and a direction of 198deg, the assembly was pulled out of the hole to lay out the steerable motor and pick up a rotary drilling assembly.

Drilling parameters for this section were 10 to 55 klbs WOB with a Flow Rate of 900gal/min, giving a maximum Standpipe Pressure of 2530 psi. The Rate of Penetration was approximately 6.4m/hr.

No problems with the MWD were encountered during this run.

RUN # 3 : 1553m - 1639m

A rotary assembly, consisting of a Hughes ATM22GD bit, a near bit roller reamer, short drill collar, stabiliser, was made up to the HDS DIS1- Directional/Gamma MWD, stabiliser, and two Non-magnetic drill collars. The MWD was surface tested before running the assembly in hole.

The hole was washed and reamed from 1278m to the bottom of the hole. The drilling was continued to 1639m with the hole inclination dropping at 0.6°/30m. It was then decided to pull out of hole to change the assembly.

Drilling parameters for this section were 20 to 30 klbs WOB with a Flow Rate of between 800 gal/min, giving a maximum Standpipe Pressure of 2900 psi. The average Rate of Penetration was approximately 8.6m/hr.

No MWD problems were encountered during this run.

RUN # 4 : 1639m - 1655m

A 12 1/4" Hycalog DS34H bit was made up to the near bit roller reamer, HDS DIS1 Directional/Gamma MWD, 2 NMDC's and stabiliser. The MWD was tested at surface and the assembly run into the hole.

Rotary drilling resumed from 1639m and drilled to 1665m with indications showing that the assembly was building angle. However, a decision was made to pull out of hole due to slow penetration rate.

Drilling parameters for this section were 8 to 30klbs WOB and a Flow Rate of between 800 to 900 gal/min, giving a maximum Standpipe Pressure of 3200 psi. The average Rate of Penetration was approximately 3.2m/hr.

No problems with the MWD were encountered during this run.

RUN # 5 : 1655m - 2445m

The same rotary assembly with the top stabilizer moved and inserted between the two monels was run back. The nozzles of the 12 1/4" Hycalog DS34H bit were changed to allow more flows. The MWD was tested at surface and the assembly run into the hole.

Rotary drilling resumed from 1655m to TD at 2445m with the inclination building at an average of 1.1deg per 30m.

Drilling parameters for this section were 8 to 12klbs WOB and a Flow Rate of 900 gal/min, giving a maximum Standpipe Pressure of 3225 psi. The average Rate of Penetration was approximately 15.8m/hr.

No problems with the MWD were encountered during this run.

3. MWD RUN SUMMARY

RUN SU MMARY

From May 28, 1995 To June 6, 1995

Job No.: **0041950012**
Operator: **BHP PETROLEUM**
Field: **BASS STRAIT**
Well: **lt1st**

AFE No.:
Location:
MWD Operator(s): **NICK HARRIS, JAMES LAU**
Dir'l Driller(s): **WAYNE PARSONS, BILLY POWEL**

Run/BHA Number	1/1	2/2	3/3	4/4	5/5
Date Below Rotary Table	May-28	May-30	Jun-1	Jun-2	Jun-3
Time Below Rotary Table	07:30	10:00	19:45	20:00	10:00
Date Above Rotary Table	May-30	Jun-1	Jun-2	Jun-3	Jun-5
Time Above Rotary Table	07:30	16:45	18:00	09:00	24:00
Hours BRT	48.00	54.75	22.25	13.00	62.22
Hours Circulating	3.92	4.28	6.33	0.27	5.00
Hours Rotating	3.22	14.27	7.67	5.05	44.43
Hours Sliding	31.70	28.83	0.00	0.00	0.00
Depth In Hole(m)	1138.00	1275.30	1553.00	1639.00	1655.10
Depth Out Hole(m)	1275.30	1553.30	1639.00	1655.00	2445.00
Depth Drilled(m)	137.30	278.00	86.00	16.00	789.90
Inclination Beginning(deg)	1.86	6.14	23.73	21.93	22.33
Inclination Ending(deg)	6.14	23.72	21.93	22.32	45.86
Azimuth Beginning(deg)	346.20	190.65	198.46	199.38	199.60
Azimuth Ending(deg)	190.65	198.46	199.38	199.60	197.34
Pump Rate(strokes/min)	150	170	160	160	170
Flow Rate(gpm)	780	852	802	802	852
Standpipe Pressure(psi)	2413	2831	2783	3200	2923
Restrictor Pressure Drop(psi)	6137	6137	6137	7767	7767
Bit Pressure Drop(psi)	682	682	1038	982	883
Motor Pressure Drop(psi)	700	700	------	------	------
Total Pressure Drop(psi)	7519	7519	7175	8749	8650
Avg Weight on Bit(kips)	32	41	19	15	10
Avg Rotary Speed(RPM)	56	77	103	120	173
Avg ROP(m/hr)	4	6	11	3	18
Bit Size(in)	12-1/4"	12-1/4"	12-1/4"	12-1/4"	12-1/4"
Bit Manufacturer	HTC	REED	HTC	HYCALOG	HYCALOG
Bit Type	Milled Too/h	Milled Too/h	TCI	PDC	PDC
Nozzle Sizes(/32nd)	20 20 20	20 20 20	18 18 18	15 15 15 15 15	16 16 15 15 15
Bit TFA(in2)	0.920	0.920	0.746	0.863	0.910
Motor Manufacturer	Halliburton	Halliburton	------	------	------

RUN SU MARY

From May 28, 1995 To June 6, 1995

Job No.:	0041950012	AFE No.:	
Operator:	BHP PETROLEUM	Location:	
Field:	BASS STRAIT	MWD Operator(s):	NICK HARRIS, JAMES LAU
Well:	lt1st	Dir'l Driller(s):	WAYNE PARSONS, BILLY POWEL

Motor Model	LF 5/6 F2000S	LF 5/6 F2000S	------	------	------
Motor Serial Number	610338-3	610338-3	------	------	------
Assembly Type	Steerable Sys	Steerable Sys	Packed Assemb	Building Asse	Building Asse
Reason Pulled	SLIDE	HR	TOOD	PR	TD
Failure on Run? (Y/N)	N	N	N	N	N

Objective (1/1)	SIDETRACK WELL ALONG AN AZIMUTH OF 205.36 DEGREES,BUILDING TO 23 DEGREES OF ANGLE.
Comments/Results (1/1)	PREDICTED BUILD RATE 100 % SLIDE 5.67 DEG. P\ 30m. POOH L\D TOP STAB & PONY C.ACTUAL BUILD RATE, SLIDE 0.57 DEG P/ 30m, ROTATING BUILD RATE 1.17 DEG P/ 30mAVERAGE TOOL FACE 202.2 VETTICAL SECTION AZIMUTH 205.36
Objective (2/2)	BUILD ANGLE TO 23 DEGREES , HOLD AT 205 AZIMUTH
Comments/Results (2/2)	PREDICTED BUILD RATE 100 % SLIDE 5.67 DEG P/ 30mAVERAGE ROTATING BUILD RATE P/ 30m, 2.07. AVERAGE SLIDE BUILD RATE 2.19100 % SLIDE 5.4 DLS, 60 SLIDE / 40 SLIDE 3.17 DLS, 50/50 1.7-2.1, 100% ROTATE .7 BUILD.
Objective (3/3)	BUILD ANGLE TO INTERSECT TARGET.
Objective (4/4)	BUILD ANGLE AND HOLD TO TARGET
Comments/Results (4/4)	THIS ASSEMBLY PULLED DUE TO PENETRATION RATE. DRILLED 16m, INSUFFICIENT DISTANCE TO DETERMINE TREND.
Objective (5/5)	BUILD AND HOLD TO TARGET
Comments/Results (5/5)	PREDICTED 0.86 BUILD. AVERAGE D.LS 1.03 P\ 30m, 0.99 BUILD, -0.35 WALK

RUN SU MARY

From May 28, 1995 To June 6, 1995

Job No.: **0041950012**
Operator: **BHP PETROLEUM**
Field: **BASS STRAIT**
Well: **lt1st**

AFE No.:
Location:
MWD Operator(s): **NICK HARRIS, JAMES LAU**
Dir'l Driller(s): **WAYNE PARSONS, BILLY POWEL**

Run/BHA Number	1/1	2/2	3/3	4/4	5/5
Mud Type	KCL/PHPA/POL	KCL/PHPA/POL	KCL/PHPA/POL	KCL/PHPA/POL	KCL/PHPA/POL
Mud Weight(lb/gal)	9.80	9.80	9.80	9.80	9.80
pH | Viscosity(cp)	8.0 | 14.00	8.0 | 14.00	8.0 | 14.00	8.8 | 12.00	8.8 | 12.00
Chlorides(ppm)	0	0	0	49	49
Sand | Solids | Oil(%)	0.75 | 7.00 | 0.00	0.75 | 7.00 | 0.00	0.75 | 7.00 | 0.00	0.80 | 7.60 | 0.00	0.80 | 7.60 | 0.00
Water Loss(cc) | H2S(ppm)	0.00 | 0	0.00 | 0	0.00 | 0	6.20 | 0	6.20 | 0
LCM Type	Type A	Type A	Type A	Type A	Type A
LCM Volume(lb/bbl)	0.00	0.00	0.00	0.00	0.00
Bot. Hole Temp(°C)	-17.78	-17.78	-17.78	-17.78	-17.78

BHA Configuration

Component | Length(m)	1/1		2/2		3/3		4/4		5/5	
	BIT|	0.98	BIT|	1.12	BIT|	0.98	BIT|	0.98	BIT|	0.98
	MOT|	26.67	MOT|	26.67	REA|	7.55	REA|	7.51	REA|	7.51
	SUB|	2.26	SUB|	2.26	COL|	7.68	SUB|	1.54	SUB|	1.54
	COL|	7.71	SUB|	1.54	COL|	5.12	SUB|	2.00	SUB|	2.00
	STA|	5.48	SUB|	2.00	STA|	5.51	MWD|	13.35	MWD|	13.35
	SUB|	1.54	MWD|	13.35	SUB|	1.54	SUB|	4.36	SUB|	4.36
	SUB|	2.00	SUB|	4.36	SUB|	2.00	COL|	30.12	COL|	30.12
	MWD|	13.35	COL|	30.12	MWD|	13.35	COL|	27.30	STA|	5.84
	SUB|	4.36	COL|	27.30	SUB|	4.36	STA|	5.84	COL|	27.30
	COL|	27.30	SUB|	3.02	STA|	5.84	SUB|	3.02	SUB|	3.02
	SUB|	3.02	HEV|	30.22	COL|	30.12	HEV|	30.25	HEV|	30.25
	HEV|	30.22	SUB|	0.98	COL|	27.30	SUB|	2.26	SUB|	2.26
	SUB|	0.98	HEV|	699.15	SUB|	3.02	HEV|	605.94	HEV|	605.94
	HEV|	513.88	JAR|	27.56	HEV|	30.25	JAR|	32.55	JAR|	32.55
	JAR|	27.56	HEV|	178.41	SUB|	2.26	HEV|	178.41	HEV|	178.41
	HEV|	178.41			HEV|	696.88				
	DRI|	3313.65			JAR|	32.55				
					HEV|	178.41				
Total Length(m)		4159.38		1048.06		1054.72		945.44		945.44
MWD/LWD Mod	DATADRIL HI F		DATADRIL HI F		DATADRIL HI F		DATADRIL HI F		DATADRIL HI FL	

RUN SUI MARY

From May 28, 1995 To June 6, 1995

Job No.: **0041950012**
Operator: **BHP PETROLEUM**
Field: **BASS STRAIT**
Well: **lt1st**

AFE No.:
Location:
MWD Operator(s): **NICK HARRIS, JAMES LAU**
Dir'l Driller(s): **WAYNE PARSONS, BILLY POWEL**

MWD/LWD Serial No.	PC6286	PC6286	PC6286	PC6286	PC6286
Collar Size(in)	8"	8"	8"	8"	8"
Sub-Component | Serial No.	BATTERI 4358 D/DAS 1028 M(MCM 1023 PULSERTP 6090	BATTERI 4476 D/DAS 1028 M(MCM 1023 PULSERTP 6090	BATTERI 4476 D/DAS 1028 M(MCM 1023 PULSERTP 6090 GAMNGCM 1159	BATTERI 4476 D/DAS 1028 M(MCM 1023 PULSERTP 6090 GAMNGCM 1159	BATTERI 4476 D/DAS 1028 M(MCM 1023 PULSERTP 6090 GAMNGCM 1159
Sensors to Bit(m)					
GAMMA | Resistivity	--- | ---	--- | ---	46.3 | ---	28.9 | ---	28.9 | ---
Neutron | WOBTOB	--- | ---	--- | ---	--- | ---	--- | ---	--- | ---
Directional | Density	73.2 | ---	62.3 | ---	62.7 | ---	45.3 | ---	45.3 | ---
Caliper | Sonic	--- | ---	--- | ---	--- | ---	--- | ---	--- | ---
Battery Life - Beginning	511.00	0.00	189.00	218.00	233.00
Battery Life - Used	159.00	189.00	28.00	15.00	0.00
Battery Life - Ending	670.00	189.00	217.00	233.00	0.00

APPENDIX 7

7

6.7 APPENDIX 7 Longtom-1 MDT Data Summary Sheets

Well:	Longtom-1	Date:	25-May-95	BHP Engineer:	P Mitchell (not on location)
Rig:	Ocean Bounty	Run no.:	One	BHP Wellsite Geologists:	S Horan/K Haak
RT above MSL:	25 m	CQG No.	98	Schlumberger Engineers:	R Jonsson/S Hookway

Seat	Depth [mRT]	Depth [mSS]	Time	Initial Hydrostatic Pressure Strain [psig]	Initial Hydrostatic Pressure CQG [psia]	Formation Pressure Strain [psig]	Formation Pressure CQG [psia]	CQG Temperature [°C]	Final Hydrostatic Pressure Strain [psig]	Final Hydrostatic Pressure CQG [psia]	Pretest Size [cm³]	Drawdown Mobility [md/cp]	Permeability (md) (mw= 0.34cp)	Comments
1	1797.06	1772.06	23:46	2951.5	2960.5	2624.5	2633.83	83	2951.4	2960.6	20	21.9	7.4	Valid Test
2	1812.05	1787.05	0:12	2976.1	2985.5	2652.1	2661.67	83	2975.8	2984.8	20	5.2	1.8	Valid Test
3	1815.00	1790.00	0:26	2980.8	2990.3	2656.5	2665.69	84	2980.8	2989.8	20	46.8	15.9	Valid Test
4	1829.07	1804.07	0:36	3003.5	3013.0	2677.0	2687.00	84	3003.3	3012.5	20	1.8	0.6	Valid Test
5	1892.87	1867.87	1:49	3107.0	3116.3			86	3107.0	3116.1	20			Tight
5A	1893.07	1868.07	8:21	3109.4	3118.4	3095.4	3104.48	89	3109.4	3118.4	5	1.0	0.3	Slightly Supercharged
6	1894.07	1869.07	1:58	3109.2	3118.4			86	3109.1	3118.4	20			Tight
6A	1894.58	1869.58	8:43	3111.8	3120.9			89	3111.6	3120.8	5			Tight
7	1900.06	1875.06	2:06	3119.1	3128.24	3094.6	3103.77	86	3119.4	3128.4	20	43.2	14.7	Valid Test: collected gas sample
8	1904.06	1879.06	5:25	3127.7	3136.9			88	3127.5	3136.6	20			Tight
8A	1904.58	1879.58	6:04	3128.4	3137.7	3095.7	3104.97	88	3128.5	3137.7	5	32.8	11.2	Valid Test
9	1908.46	1883.46	5:35	3134.7	3143.7	3108.3	3117.65	88	3134.6	3143.9	20	2.6	0.9	Supercharged
10	1911.07	1886.07	6:14	3138.8	3148.1			88	3138.6	3147.9	20			Tight
10A	1911.58	1886.58	6:26	3139.6	3148.77	3113.8	3123.0	88	3139.6	3148.7	10	0.3	0.1	Supercharged
11	1914.40	1889.40	6:54	3144.2	3153.5			88	3144.1	3153.3	5			Tight
11A	1914.47	1889.47	6:46	3144.2	3153.4			88	3144.2	3153.3	5			Tight
12	1916.55	1891.55	7:20	3147.5	3156.8			88	3147.3	3156.6	5			Tight
12A	1916.63	1891.63	7:07	3147.6	3156.9			88	3147.4	3156.8	5			Tight
13	1924.02	1899.02	7:28	3159.5	3168.7			88	3159.4	3168.7	5			Tight
14	1925.07	1900.07	7:35	3161.2	3170.4			88	3161.0	3170.3	5			Tight
15	1929.07	1904.07	7:44	3167.6	3176.7			89	3167.6	3176.6	5			Seal Failure
15A	1929.07	1904.07	7:49	3167.6	3176.6			89	3167.4	3176.5	5			Tight
16	1930.08	1905.08	8:10	3169.1	3178.1			89	3168.9	3178.0	5			Tight

Tool Configuration: AMS-GR-MDT

Reference Log: DLL-MSFL-SDT-GR-AMS-SP-CAL
Suite 2 Run 1, 25 May 1995

MDT Modules:		
	MRPC	Electric Power
	MRSC-BB	1 gallon
	MRSC-DB	2.75 gallon
	MRSC-BA	1 gallon
	MRHY	Hydraulics
	MRPS	Single probe (standard packer, CQG and strain gauge)
	MRSC-EB	6 gallon

Well:	Gwydion-1	Date:	9th June 1995	BHP Engineer: Philip Mitchell (not on location)
Rig:	Sedco 702	Run No.:	One	BHP Wellsite Geologist: T Robertson/D Lockhart
				Schlumberger Engineers: A Fredheim/R Winata

	MUD SAMPLE	MDT SAMPLES						
Sampling Data								
Sample Depth [mRT]	-	**1900.1**		**1900.1**	-	-	-	-
Run No.	-	1		1	-	-	-	-
Chamber Number	-	DB-68		BA-21	-	-	-	-
Chamber Size	-	$2^3/_4$ gallon		1 gallon	-	-	-	-
Sample Type	**Mud**	**Gas**		**Gas**	-	-	-	-
Formation Pressure [psia]	-	3103.77		3103.77	-	-	-	-
Temperature [°C]	-	86		86	-	-	-	-
Sampling Pressure [psia]	-	Approx 1200		Approx 1000	-	-	-	-
Final Pressure (psia)		3099.14		3095.57	-	-	-	-
Time to Fill [mins]	-	103		54	-	-	-	-
Opening Pressure [psig]	-	2150		Sealed for lab	-	-	-	-
Gas Volume, [scf]	-	62.1			-	-	-	-
Total liquids [ml]	-	400			-	-	-	-
Oil/Condensate Volume [ml]	-	Trace			-	-	-	-
Filtrate/Water Volume [ml]	-	400			-	-	-	-
Gas Oil Ratio [scf/stb]	-	-			-	-	-	-
Condensate Gas Ratio [stb/MMscf]	-	-			-	-	-	-
Oil Analysis								
Specific Gravity	-	-		-	-	-	-	-
Colour	-	-		-	-	-	-	-
Wellsite Measurement of Gas Composition (Mol %)								
N2	-	-	-	-	-	-	-	-
CO2	-	0.70	0.70	-	-	-	-	-
C1	-	81.43	84.15	-	-	-	-	-
C2	-	14.31	12.26	-	-	-	-	-
C3	-	3.18	2.41	-	-	-	-	-
iC4	-	0.50	0.37	-	-	-	-	-
nC4	-	0.19	0.09	-	-	-	-	-
C5+	-	0.03	0.02	-	-	-	-	-
Water Analysis								
KCl [wt %]	7.5	7.0		-	-	-	-	-
Chlorides [mg/l]	56,000	62,000		-	-	-	-	-
Potassium [mg/l]	NA	NA		-	-	-	-	-
pH	10.0	6.8		-	-	-	-	-
Total hardness [mg/l]	NA	860		-	-	-	-	-