



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

CONAN-1, VIC/P31
WELL COMPLETION REPORT
BASIC DATA
VOLUME ONE

PREPARED BY: C. Ellis

71582.WCR

DATE: January, 1996

PETROLEUM DIVISION

22 FEB 1996

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ENCLOSURES

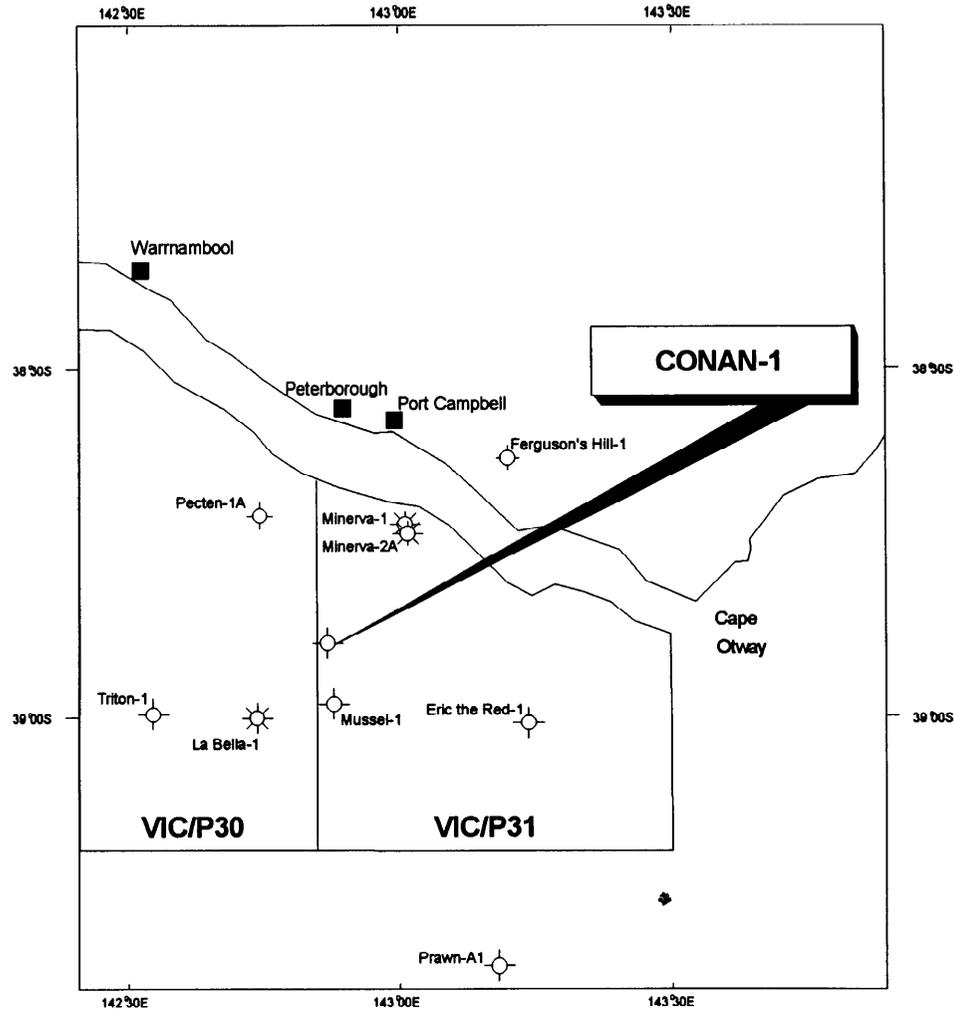
1	Dual Propagation Resistivity, Gamma Ray Logs (Scales 1:200, 1:500 and 1:1000)
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VOLUME 2

Well Seismic Processing Report & Analogue Site Survey Report

1

CONAN-1 LOCATION MAP



Permit No. : VIC/P31

Rig : OCEAN BOUNTY

Latitude : 38° 52' 14.953" S

Longitude : 142° 46' 52.224" E

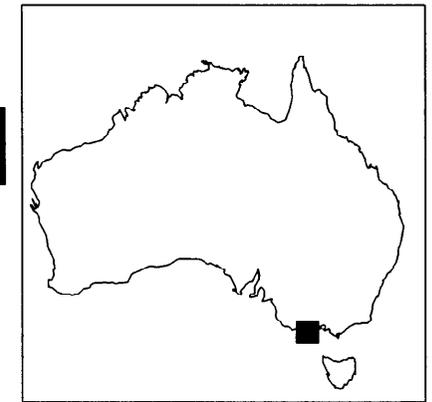
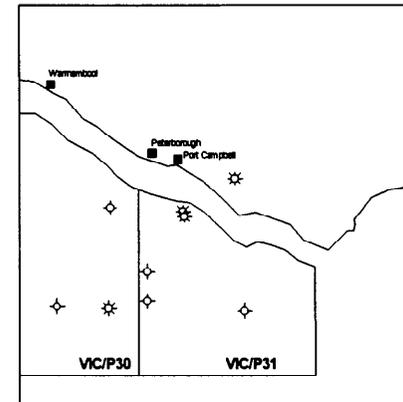


Figure 1

1 WELL SUMMARY SHEET

Well: Conan-1

Permit: VIC/P31

Basin: Otway

Well Path: Vertical

Planned Location: Lat: 38°52'14.80"S
Long: 142°46'52.50"E

Actual Location: Lat: 38°52'14.953"S
Long: 142°46'52.224"E
East: 654 520.9m
North: 5 696 035.9m
AGD ZONE 54, C.M. 141°E

Seismic Reference: OH94-246 SP: 1147

Elevation: RT to MSL: 25.0 m

Water Depth MSL to Seabed: 70.0 m

Total Depth Driller: 1985 mRT

(TVD)Driller: 1985 mTVDRT

Rig on Location: 1600 hrs, 22-July-1995

Spud Date: 0200 hrs, 24-July-1995

Reached TD: 2230 hrs, 31-July-1995

Rig Released: 1330 hrs, 05-August-1995

Total Rig Days: 19 Days, 14.00 hours

Well Status: DRY HOLE, ABANDONED

Operator: BHP Petroleum

Rig Name: Ocean Bounty

Drilling Contractor: Diamond Offshore

Well AFE Cost: \$ 4.930 million (Source: BHPP Finance Dept.)

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2 FINAL DRILLING REPORT



**FINAL DRILLING REPORT
CONAN-1
PERMIT: VIC/P31**

**PREPARED BY: M. Nasarczyk
K.Graves**

con1_fdr.doc

DATE: 5 October 1995

**BHP PETROLEUM (91-12) Pty. Ltd.
A.C.N. 064 963 346**

DISTRIBUTION LIST

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

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1.0 WELL DATA

Well : CONAN-1

Permit : VIC/P31

Designation : EXPLORATION

Operator : BHP PETROLEUM PTY. LTD.

Rig : OCEAN BOUNTY

Type : SEMI-SUBMERSIBLE

Drilling Contractor : DIAMOND OFFSHORE

Water Depth : 70m

RT Elevation : 25m

Total Depth : 1985mMD
1985mTVD

Final Surface Location : Lat 38° 52' 14.953" S
Long 142° 46' 52.224" E
Easting 654 520.9
Northing 5 696 035.9

Location Reference Datum : AGD ZONE 54, C.M. 141°E.

Commencement Date : 2330 hrs, 16 July 1995

Rig on Location : 1600 hrs, 22 July 1995

Well Spudded : 0200 hrs, 24 July 1995

TD Date : 2230 hrs, 31 July 1995

Spud to TD : 7 Days, 20.5 hours

Rig Released : 1330 hrs, 5 August 1995

Total Well Duration : 19 Days, 14.00 hours

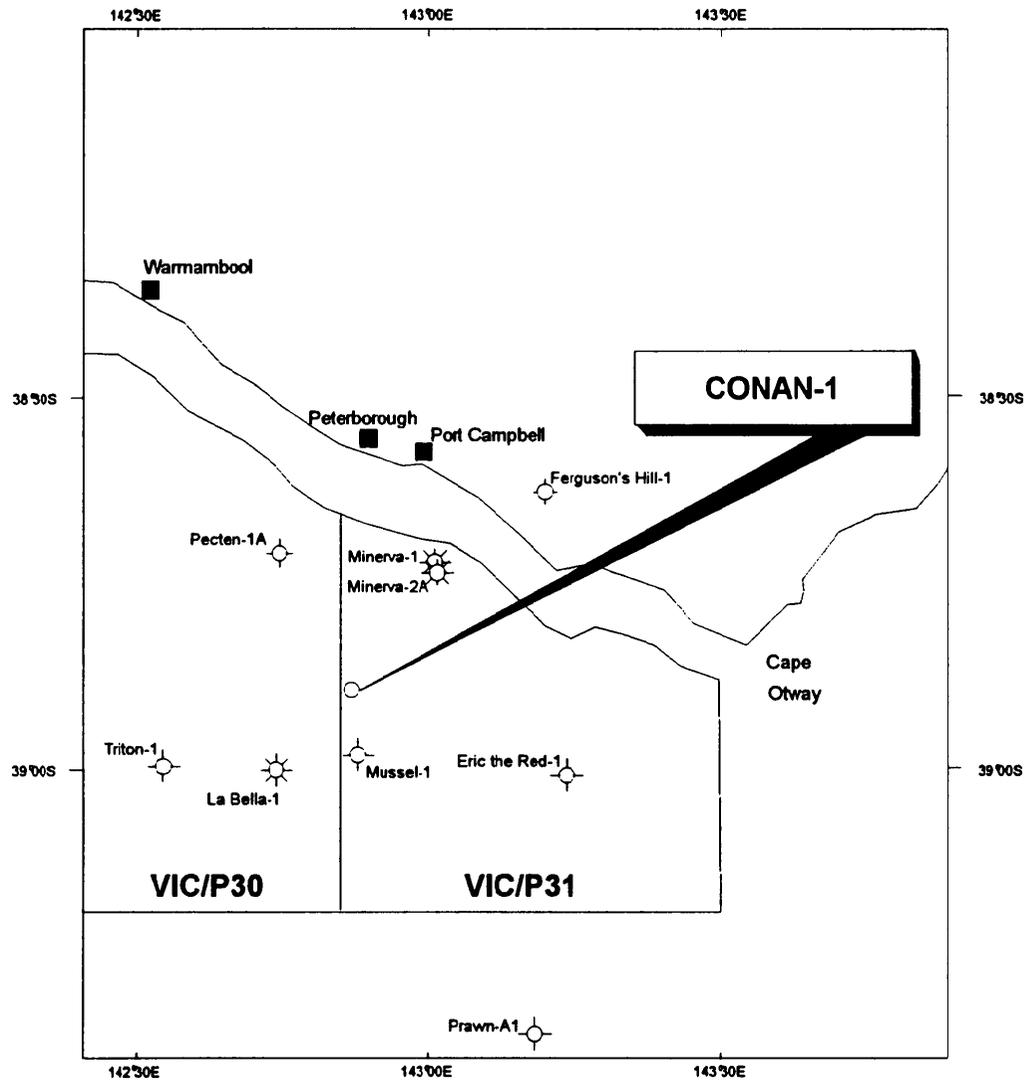
Status : ABANDONED

1.1 CONTRACTORS

<u>SERVICE</u>	<u>CONTRACTOR</u>
CASING CUTTING	AUSTOIL
CASING RUNNING	WEATHERFORD
CATERING	DIAMOND OFFSHORE
CEMENTING	HALLIBURTON
COMMS. SERVICES	TELECOM
DIRECTIONAL	BAKER HUGHES
DIVING/ROV	SUBSEA INTERNATN'L
DRILLING FLUIDS	BAKER HUGHES
ELECTRIC LOGGING	SCHLUMBERGER
HELICOPTERS	BRISTOW
JARS & SHOCK SUBS	AUSTOIL
LINER RUNNING	BAKER HUGHES
MUD LOGGING	HALLIBURTON
MWD	BAKER HUGHES
RIG POSITIONING	RACAL
ROLLER REAMERS	GEARHART UNITED
SUPPLY VESSEL	AOS
SUPPLY VESSEL	TIDEWATER
WEATHER	BUREAU OF MET'GY
WELL TESTING	HES
WELLHEAD	DRILQUIP
WELLHEAD EXPLOSIVE	TASMAN

DRILLING PROGRAMME - CONAN-1

1.2 LOCATION MAP

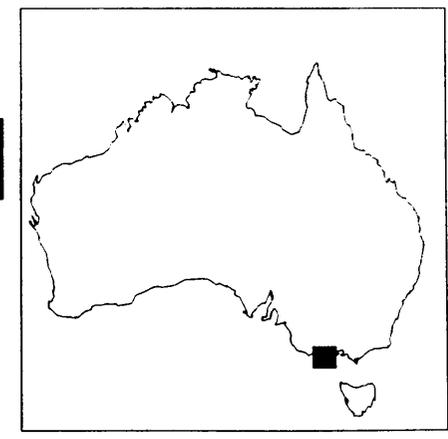
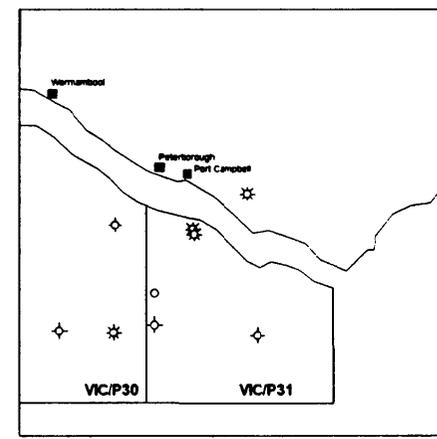


Permit No. : VIC/P31

Rig : OCEAN BOUNTY

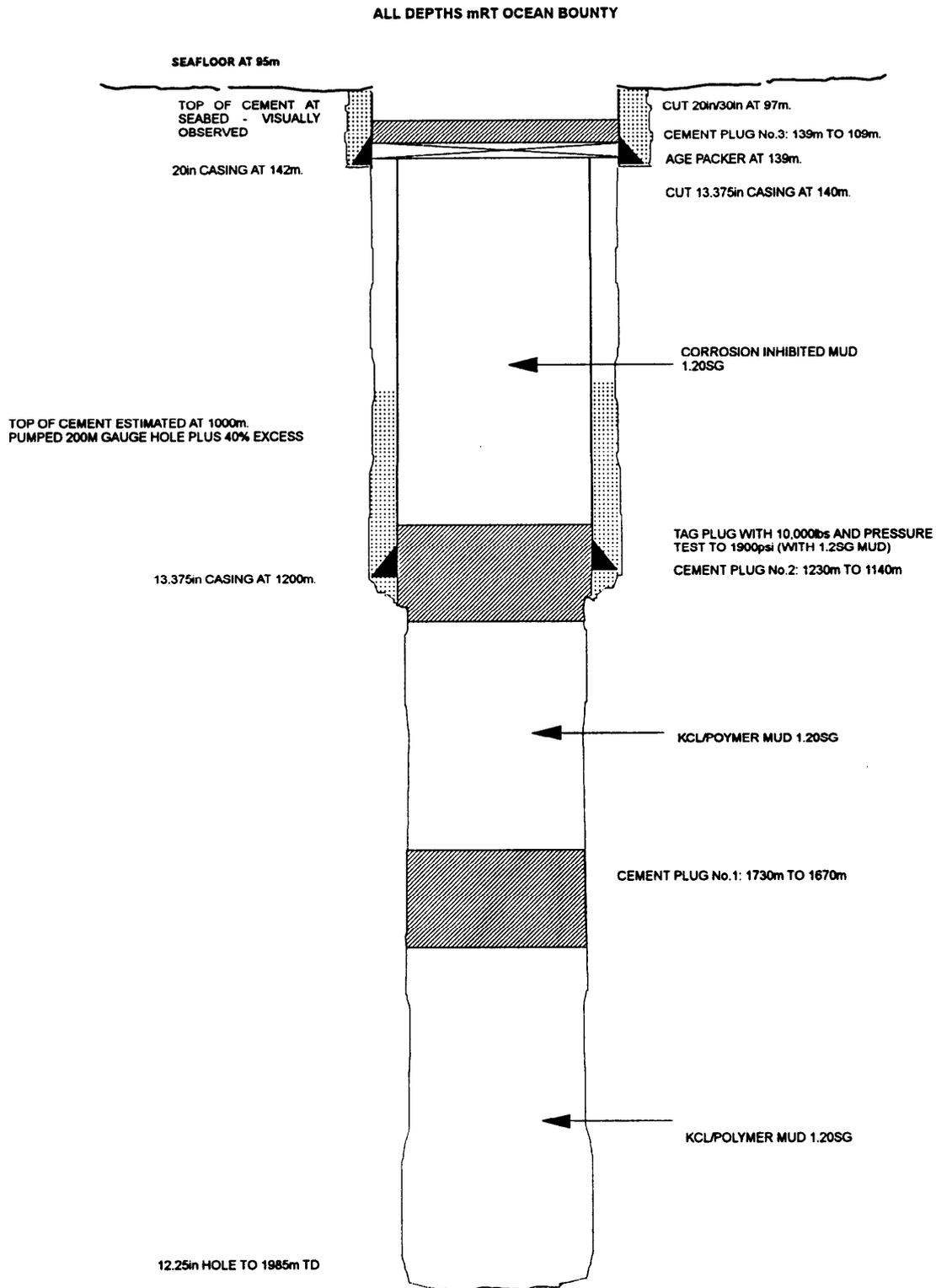
Latitude : 38° 52' 14.95" S

Longitude : 142° 46' 52.22" E



FINAL DRILLING REPORT - CONAN-1

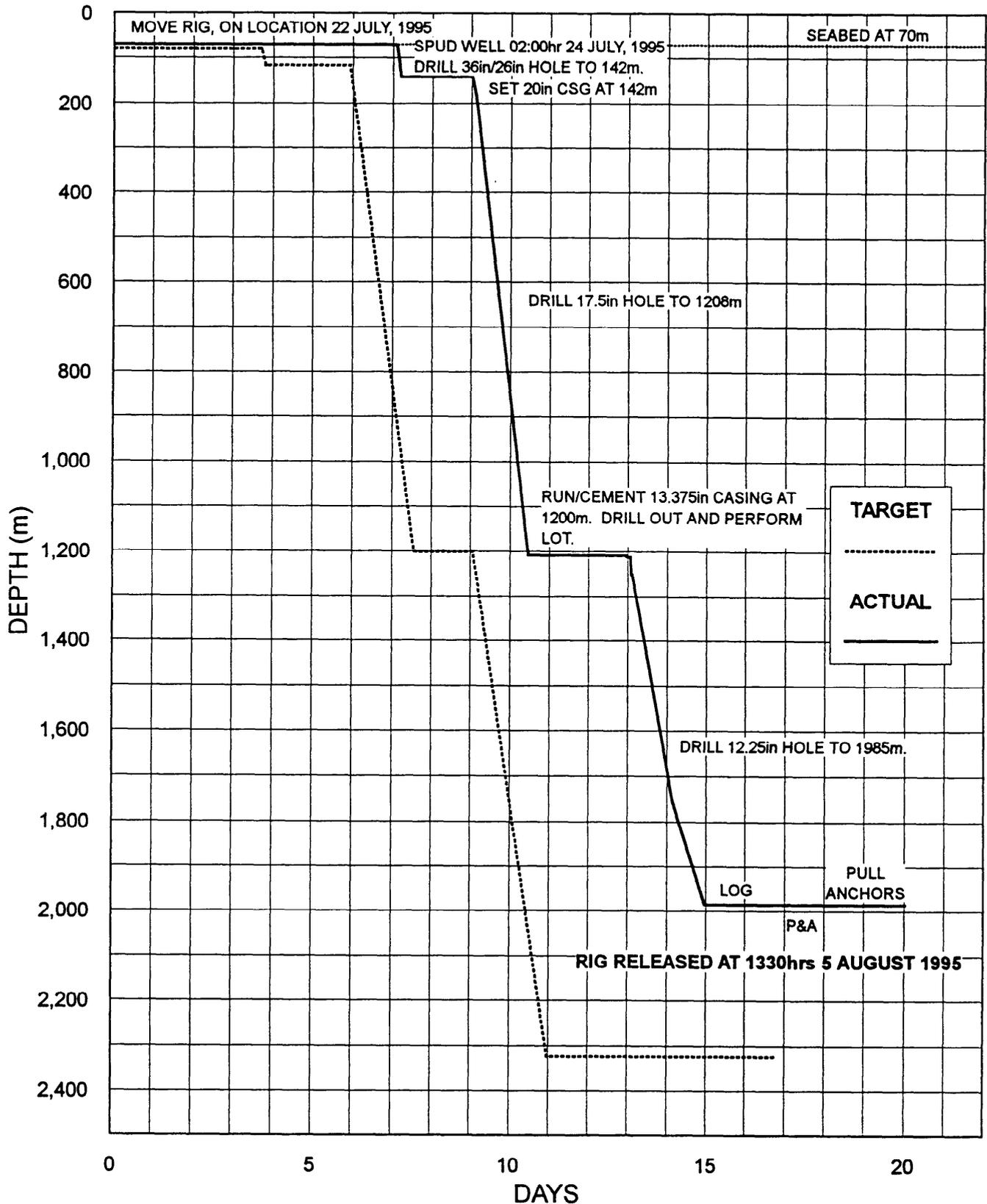
1.3 ABANDONMENT SCHEMATIC



FINAL DRILLING REPORT - CONAN-1



1.4 TIME vs DEPTH



2.0 OPERATIONAL SUMMARY

The semi-submersible MODU Ocean Bounty was released to Conan-1 at 2330hrs 16th June 1995 and towed from ESSO's Smiler-1, arriving on the Conan-1 location at 1600hrs, 22nd July 1995.

Conan-1 was spudded at 0200hrs, 24th July 1995. The 36in hole was drilled from 95m to 142m. The 20in/30in casing was run and cemented at 142m. The BOPs were then run and pressure tested.

The 17.5in hole was drilled to section TD of 1208m using a KCL/PHPA system with full returns. The 13.375in casing was run and cemented at 1200m.

Following the drilling of the shoetrack and 12.25in hole to 1211m with a PDC bit/motor, an LOT was conducted to 1.99 SG EMW.

The PDC/Motor combination drilled at 54.9m/hr average ROP until a trip was made at 1757m for poor ROP. The motor was laid down and an ATM GT09 was picked up. This bit drilled until a revised total depth of 1985m was reached. The planned total depth of 2325m was not realised as the Otway Group was encountered some 300m shallower than anticipated. The 12.25in hole section was logged and the well was abandoned.

The rig was released to Champion-1 at 1330hrs, 5th August 1995.

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
16/07/95	1	0.00	23:30	24:00	0.50	RIG MOVE TO CONAN-1.
17/07/95	2		00:00	06:00	6.00	LAT 37DEG 50.5SEC SOUTH LONG 148DEG 58.5SEC EAST AV SPEED LAST 6HRS : 4.7KTS COURSE 232DEG DIST RUN 30NM.TO GO 263NM.
			06:00	12:00	6.00	LAT 39DEG 05MIN SOUTH LONG 147DEG 32MIN EAST AV SPEED LAST 6HRS : 4.1KTS COURSE 232DEG DIST RUN 54NM.TO GO 239NM.
			12:00	18:00	6.00	LAT 39DEG 20.4MIN SOUTH LONG 147DEG 07.5MIN EAST AV. SPEED LAST 6HRS : 4.6KTS. COURSE 232DEG DIST RUN 82NM. TO GO 211NM.
			18:00	24:00	6.00	LAT 39DEG 27.5MIN SOUTH LONG 146DEG 53.5MIN EAST AV. SPEED LAST 6HRS : 2.1KTS COURSE 232DEG DIST. RUN 94NM. TO GO 199NM.
18/07/95	3		00:00	06:00	6.00	LAT 39 DEG 35.5 MIN SOUTH LONG 146 DEG 38 MIN EAST AVE SPEED LAST 6 HRS : 2.43 KTS COURSE 283 DEG DIST RUN 109 NM TO GO 184 NM
			06:00	12:00	6.00	LAT 39 DEG 34.5 MIN SOUTH LONG 146 DEG 32.0 MIN EAST AVE SPEED LAST 6 HRS : 0.8 KTS DIST RUN 113.8 NM TO GO 180.6 NM
			12:00	18:00	6.00	LAT 39 DEG 34.2 MIN SOUTH LONG 146 DEG 28.7 MIN EAST AVE SPEED LAST 6 HRS : 0.4 KTS DIST RUN 116.2 NM TO GO 178.2 NM
			18:00	24:00	6.00	LAT 39 DEG 32.5 MIN SOUTH LONG 146 DEG 22.4 MIN EAST AVE SPEED LAST 6 HRS : 0.9 KTS DIST RUN 121.6 NM TO GO 172.8 NM
19/07/95	4		00:00	06:00	6.00	LAT 39 DEG 30.6 MIN SOUTH LONG 146 DEG 12.4 MIN EAST AVE. SPEED LAST 6 HRS : 1.3KTS COURSE 283 DEG DIST. RUN 124.3 NM. TO GO 170.1 NM.
			06:00	12:00	6.00	LAT 39 DEG 29.0 MIN SOUTH LONG 146 DEG 03.5 MIN EAST AVE. SPEED LAST 6 HRS : 1.15 KTS COURSE 283 DEG DIST. RUN 136.5 NM TO GO 157.9 NM
			12:00	18:00	6.00	LAT 39 DEG 27.3 MIN SOUTH LONG 145 DEG 51.5 MIN EAST AVE SPEED LAST 6 HRS : 1.6 KTS COURSE 283 DEG DIST RUN 146.1 NM TO GO 148.3 NM
			18:00	24:00	6.00	LAT 39 DEG 24.0 MIN SOUTH LONG 145 DEG 37.0 MIN EAST AVE SPEED LAST 6 HRS : 1.9 KTS COURSE 283 DEG DIST RUN 157.6 NM TO GO 136.8 NM

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
20/07/95	5	0.00	00:00	06:00	6.00	LAT 39 DEG 21.5 MIN SOUTH LONG 145 DEG 20.0 MIN EAST AVE SPEED LAST 6 HRS : 2.1 KTS COURSE 283 DEG DIST RUN 170.7 NM TO GO 123.7 NM
			06:00	12:00	6.00	LAT 39 DEG 16.5 MIN SOUTH LONG 144 DEG 57.0 MIN EAST AVE SPEED LAST 6 HRS : 3.2 KTS COURSE 283 DEG DIST RUN 190.1 NM TO GO 104.3 NM
			12:00	18:00	6.00	LAT 39 DEG 11.7 MIN SOUTH LONG 144 DEG 34.7 MIN EAST AVE SPEED LAST 6 HRS : 3.25 KTS COURSE 283 DEG DIST RUN 208.2 NM TO GO 86.2 NM
			18:00	24:00	6.00	LAT 39 DEG 06.0 MIN SOUTH LONG 144 DEG 02.0 MIN EAST AVE SPEED LAST 6 HRS : 4.36 KTS COURSE 283 DEG DIST RUN 234.4 NM TO GO 60.0 NM
21/07/95	6	00:00	00:00	06:00	6.00	LAT 39 DEG 00.8 MIN SOUTH LONG 143 DEG 35.6 MIN EAST AVE SPEED LAST 6 HRS : 3.4 KTS COURSE 283 DEG DIST RUN 255 NM TO GO 39.4 NM
			06:00	12:00	6.00	LAT 38 DEG 55.0 MIN SOUTH LONG 143 DEG 06.2 MIN EAST AVE SPEED LAST 6 HRS : 3.6 KTS COURSE 288 DEG DIST RUN 276 NM TO GO 16 NM
			12:00	15:30	3.50	TOWING BRIDLE PARTED AT 15 23 HR LAT 38 DEG 15 MINS SOUTH LONG 142 DEG 54 MINS EAST APPROX 200 M OF CHAIN DRAGGING ON SEABED MANOUVERING UNDER OWN POWER.
			15:30	17:00	1.50	WALKED BACK No. 6 ANCHOR, PAID OUT 1000m, ANCHOR HELD
			17:00	18:00	1.00	PASSED No. 3 PENNANT TO LADY DAWN, WALKED OUT No. 3 ANCHOR TO 50m.
			18:00	21:30	3.50	BALLASTED DOWN TO 70ft. ATTEMPTED TO UNLOAD BONAVISTA IN ORDER TO RUN ANCHOR, HEAVY SEAS. BONAVISTA UNABLE TO APPROACH RIG.
			21:30	24:00	2.50	WAITED ON BONAVISTA TO UNLOAD LAT 53 DEG 53.3 MINS SOUTH LONG 142 DEG 54.4 MINS EAST APPROXIMATELY 2 NM NORTH OF LOCATION.
			22/07/95	7	00:00	09:00
		09:00	10:30	1.50	UNLOADED BONAVISTA, PEPAED TO PASS PENNANT	
		10:30	12:00	1.50	PASSED No.2 PENNANT AND PAID OUT 100ft OF CHAIN, HAULED IN ON No. 6 ANCHOR	
		12:00	13:00	1.00	No. 6 ANCHOR HUNG OFF AT 100ft, RIG RUNNING IN TO LOCATION.	
		13:00	16:00	3.00	No. 7 ANCHOR INADVERTANTLY LET GO 350ft OUT. HAULED IN No. 7 ANCHOR TO 190ft. ANCHOR ON BOTTOM AT 16:00hrs.	
		16:00	18:00	2.00	PASSED No.3 PENNANT TO LADY DAWN AND RAN No.3	

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations			
22/07/95	7	0.00				ANCHOR.			
			18:00	18:30	0.50	PARTED LADY DAWN WORK WIRE ON No.3 ANCHOR			
			18:30	21:00	2.50	RAN ANCHOR No.2. WALKED BACK No.2 PENNANT. PASSED No.6 PENNANT TO BONAVIDA. RAN No.6 ANCHOR.			
			21:00	22:00	1.00	RECOVERED No.6 PENNANT, PASSED NO.8 PENNANT TO BONAVIDA. No.3 PENNANT TO RIG. PASSED No.4 PENNANT TO LADY DAWN. RAN No.4 AND No.8 ANCHORS.			
			22:00	22:30	0.50	NO.4 ANCHOR CHAIN PARTED, LADY DAWN RECOVERED SAME.			
			22:30	23:30	1.00	PASSED No.1 PENNANT TO BONAVIDA, RAN No.1 ANCHOR.			
			23:30	24:00	0.50	NO.1 ANCHOR FOULED. UNFOUL SAME.			
			23/07/95	8		00:00	01:00	1.00	RAN ANCHOR No.1 4800 FT OUT, ANCHOR ON BOTTOM.
						01:00	07:00	6.00	DEBALLASTED RIG TO 33ft AND RECOVERED BOTH ENDS OF PARTED ANCHOR CHAIN (ANCHOR No.4) CHAIN PARTED AT 1009 FT, AT A PREVIOUSLY INSTALLED KATALINK.
						07:00	08:30	1.50	PASSED KENTER LINK TO LADY DAWN. PASSED SLING THROUGH GYPSY AND ONTO LADY DAWN TUGGER. PAID OUT No.4 CHAIN AND SECURED SAME ON LADY DAWN.
08:30	10:00	1.50				COMMENCED HEAVING IN No.4 ANCHOR. PASSED GRAPPLE TO MAERSK BONAVIDA AND USED GRAPPLE TO RUN ANCHOR No.2.			
10:00	10:30	0.50				RAN ANCHOR No.4 4700ft OUT, ANCHOR ON BOTTOM. MAERSK BONAVIDA RAN ANCHOR No.2			
10:30	11:30	1.00				RAN ANCHOR No.5 4750ft OUT, ANCHOR ON BOTTOM.			
11:30	12:00	0.50				RUN ANCHOR #2. 4730 FT OUT, ANCHOR ON BOTTOM.			
12:00	12:30	0.50				ALL PENANTS NOW CHASED BACK AND SECURE.			
12:30	20:00	7.50				CROSS TENSIONED AND SOAKED ANCHORS TO 250kips. PRETENSIONED ANCHORS TO 400 KIPS. SLACKED OFF TO OPERATING TENSION OF 250kips. COMMENCED MIXING SPUD MUD. CONTINUED TO M/U BHA AND DRILLPIPE.			
	20:00	22:30				2.50	COMPLETED CROSS TENSIONING SATISFACTORILY. RIGGED UP AND RAN 30in CONDUCTOR PIPE. WEATHER CONDITIONS WORSENING, CONDUCTOR PIPE MOVING IN MOONPOOL. UNABLE TO LAND IN PGB. WEATHER AT 2230hrs: WIND 30 KTS GUSTS 35 KTS. COMBINED SEA AND SWELL 15 FT (5m).		
	22:30	23:30	1.00	LAI D OUT 30in CONDUCTOR PIPE.					
	23:30	24:00	0.50	P/U DRILLPIPE AND RACK IN DERRICK. UNABLE TO SPUD WELL AS ROV CANNOT LAUNCH.					
24/07/95	9	0.92	00:00	01:00	1.00	LAI D OUT 30in FROM MOONPOOL, UNABLE TO LAND ON PGB DUE TO HEAVY SEAS.			
			01:00	02:00	1.00	MADE UP BHA AND RIH TO SPUD. TAGGED SEABED AT 95m.			
			02:00	04:30	2.50	SPUDED WELL AT 02:00 HRS WITH 5kips WOB, 500gpm AND 60rpm. DRILLED AHEAD FROM 95m TO 142m, PUMPING 50bbl HI VIS SWEEPS EVERY 5m. OBSERVED WITH ROV FOR DEPTH MARKERS. CORRELATED DEPTH WITH ROV OBSERVATIONS AND TALLY.			
			04:30	05:30	1.00	CIRCULATED TWICE THE HOLE VOLUME TO CLEAN AND CONDITION THE HOLE. PUMPED 150bbl			

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
24/07/95	9	0.92				PREHYDRATED BENTONITE.
			05:30	06:30	1.00	STRAPPED OUT OF HOLE.
			06:30	09:30	3.00	PICKED UP AND MADE UP NEW DRILL PIPE. RACKED BACK 11 STDS.
			09:30	12:00	2.50	RIGGED UP TO RUN 30in CASING. HELD JSA, PICKED UP 30in CASING JOINTS AND STABBED INTO PGB IN MOONPOOL.
			12:00	13:00	1.00	BROKE OUT 30in RUNNING TOOL AND LAID OUT 30in RUNNING GEAR.
			13:00	17:00	4.00	RIGGED UP TO RUN 20in CASING, MADE UP BORE PROTECTOR IN WELLHEAD. RAN 20in CASING, CHECKED FLOAT, AND MADE UP INTO 30in CASING IN PGB.
			17:00	18:00	1.00	RAN 30in/20in CASING AND PGB ON HWDP. ROV ASSISTED STAB IN.
			18:00	18:30	0.50	OBSERVED BULLSEYES WITH ROV, BOTH 0.75° PORT FORWARD. RIGGED UP SURFACE LINES.
			18:30	20:30	2.00	CIRCULATED 50bbbls SEAWATER. PRESSURE TESTED LINES TO 2000 psi. MIXED AND PUMPED 285bbbls OF 15.9ppg SLURRY. DISPLACED WITH 16bbbls SEA WATER.
			20:30	21:30	1.00	CHECKED FOR BACKFLOW. CHECKED BULLSEYES WITH ROV, BOTH 0.75° PORT FORWARD. RELEASED RUNNING TOOL AND POOH WITH LANDING STRING AND STINGER.
			21:30	22:30	1.00	RIGGED UP TO RUN BOP. HELD JSA. MADE UP RISER DOUBLE AND STOOD BACK.
			22:30	24:00	1.50	MOVED BOP AND LMRP TO SPIDER BEAMS AND NIPPLED UP BOP.

NOTE: FINAL WELL LOCATION CONFIRMED AT:

LAT 38 deg 52 mins 14.95 secs SOUTH
LONG 142 deg 46 mins 52.22 secs EAST

THIS IS 9.9 m ON A BEARING OF 231.2 deg FROM PROPOSED LOCATION.

25/07/95	10	1.92	00:00	03:00	3.00	CONTINUED TO NIPPLE UP BOP AND LMRP ON SPIDER BEAMS. FUNCTION TESTED BOP ON BOTH PODS. NIPPLED UP POD HOSES & LINES. MADE UP RISER TO LMRP.
			03:00	12:00	9.00	RAN BOPS. PRESSURE TESTED CHOKE AND KILL LINES TO 500psi FOR 3mins AND 3500psi FOR 5mins. NIPPLED UP SLIP JOINT AND CONNECTED CHOKE AND KILL GOOSENECKS. LANDED BOP AT 09:45hrs WITH ROV OBSERVING. TOOK 50kips OVERPULL. PRESSURE TESTED THE 20in CASING AGAINST THE SHEAR RAMS TO 500psi FOR 5mins AND 1000psi FOR 10mins. STROKED OPEN THE SLIP JOINT AND NIPPLED UP THE WASH RING AND SLIP JOINT HOSES. LAID DOWN HANDLING JOINT.
			12:00	14:30	2.50	HELD JSA MEETING AND INSTALLED THE DIVERTER
			14:30	15:00	0.50	RIGGED DOWN BOP HANDLING EQUIPMENT.
			15:00	18:00	3.00	PICKED UP AND RACKED BACK 16 STANDS OF DRILL PIPE.

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
25/07/95	10	1.92	18:00	22:00	4.00	BROKE OUT 26in BIT AND 36in HOLE OPENER. MADE UP 17.5in BHA, PICKED UP 2 x 9.5in DRILL COLLARS. LAID OUT 17.5in ROLLER REAMER. RACKED BACK 8 STANDS OF 8in DRILL COLLARS.
			22:00	22:30	0.50	TAGGED CEMENT AT 132m. LAID OUT 1 SINGLE OF 8 in DRILL COLLARS.
			22:30	24:00	1.50	DRILLED CEMENT FROM 132m, SHOE AND RATOLE TO 142m. PUMPED HI VIS GEL PREMIX SPACER AT SHOE AND BEGAN DISPLACING TO KCL POLYMER SYSTEM.
26/07/95	11	2.92	00:00	01:00	1.00	DRILLED 17.5in. HOLE SECTION FROM 142m TO 190m.
			01:00	01:30	0.50	CIRCULATED TO CLEAN AND CONDITION PRIOR TO TRIP. FLOW CHECK
			01:30	02:30	1.00	TRIPPED OUT OF THE HOLE TO PICK UP 8in DC. RAN 4 MORE 8in. DC AND JARS. RIH
			02:30	24:00	21.50	DRILLED AHEAD FROM 190m TO 887m. WITH 30 - 45kips WOB, 90 - 140 RPM 4-6kft/lbs 1200 GPM, 3200psi SPP. WIPING THE HOLE AT CONNECTIONS. FLOW CHECKED DRILLING BREAK AT 887m, NEGATIVE.
27/07/95	12	3.92	00:00	10:30	10.50	CONTINUED TO DRILL 17.5in HOLE FROM 887m TO 1208m, WIPING EACH STAND BEFORE CONNECTIONS.
			10:30	12:30	2.00	CIRCULATED HOLE CLEAN, FLUSHED RISER ANNULUS, WHILE MAKING UP CEMENT HEAD. SPOTTED 190 bbl PILL OF 7% KCL MUD ACROSS THE SHERBROOK CLAYSTONE.
			12:30	13:00	0.50	TAKE TOTCO SURVEY-MISRUN.
			13:00	18:00	5.00	FLOW CHECKED, PUMPED SLUG AND POOH STRAPPING OUT, TO RUN 13.375in CASING. 10-30 kips DRAG OFF BOTTOM TO 10644m. TIGHT SPOTS AT; 680m AT 30kips, 50kips AT 595m, 30kips AT 571m, 50kips AT 506m, 40kips AT 425 m. WIPED EACH TIGHT SPOT UNTIL SLICK. FLOW CHECK AT HWDP AND DC, BOTH NEGATIVE.
			18:00	19:30	1.50	RETRIEVED BORE PROTECTOR AND JETTED WELLHEAD. CIRCULATED RISER VOLUME AND SET INDEX REFERENCE MARKER. POOH AND LAY OUT BORE PROTECTOR- ZERO WEAR.
			19:30	20:30	1.00	SADE UP LANDING JOINT TO RUNNING TOOL AND SSR PLUG HEAD AND RACKED BACK.
			20:30	21:00	0.50	RIGGED UP TO RUN 13.375in CASING. HELD JSA.
			21:00	21:30	0.50	PICKED UP SHOE, INTERMEDIATE JOINT, AND FLOAT JOINT. FLOAT JOINT NOT MAKING UP TO INTER JOINT, SUSPECT THAT THE BOX OF THE INTER JOINT MAY BE TO BLAME (POSSIBLY OVALISED)
			21:30	24:00	2.50	LAID OUT INTER JOINT AND FLOAT JOINT, PICK UP NEW INTER JOINT AND MAKE UP. PICK UP FLOAT JOINT AND MAKE UP.
			28/07/95	13	4.92	00:00
00:30	02:30	2.00				GENERATOR FAILURE CAUSED BY FLASH OVER BETWEEN MOTOR A AND C ELECTRICIAN CHECKED AND CLEANED BOTH MOTORS.
02:30	09:30	7.00				CONTINUED TO RUN CASING. STOPPED AT THE SHOE TO CHANGE BAILS, 500t ELEVATORS AND SLIPS CONTINUED TO RUN CASING
09:30	10:30	1.00				RIGGED DOWN 500t ELEVATORS AND SLIPS. MADE UP HANGER JOINT AND RAN IN ON LANDING STRING.

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations			
28/07/95	13	4.92	10:30	14:00	3.50	UNABLE TO PASS 1130m. RACKED BACK STAND OF 8in DC AND WASH DOWN WITH 10bpm 100psi TO 400psi. LANDED OUT AND CONFIRM WITH INDEX LINE. SHOE AT 1200m RKB.			
			14:00	14:30	0.50	CIRCULATED 100bbl, PRESSURE TESTED CEMENT LINES TO 4000psi.			
			14:30	16:00	1.50	PUMPED 50bbl DRILLWATER SPACER. MIXED AND PUMPED 130bbl OF 15.8ppg CEMENT.			
			16:00	17:00	1.00	DISPLACED CEMENT WITH THE RIG PUMPS. BUMPED PLUG AND HELD AT 1500psi FOR 10min. BLED BACK AND CHECKED FOR BACKFLOW, NEGATIVE. RIGGED DOWN CEMENT HOSE.			
			17:00	18:00	1.00	SET PACK OFF WITH 5 TURNS TO THE RIGHT. PRESSURE TESTED SEAL ASSEMBLY TO 3750psi.			
			18:00	19:30	1.50	PRESSURE TESTED BOP ON BLUE POD: UPPER PIPE RAMS 500psi 3500psi MIDDLE PIPE RAMS 500psi 3500psi LOWER PIPE RAMS 500psi 3500psi UPPER ANNULAR 500psi 3500psi LOWER ANNULAR 500psi 3500psi FAILSAFE VALVES 500psi 3500psi FUNCTION TEST ON YELLOW POD FROM DRILLERS CONSOLE.			
			19:30	21:30	2.00	PICKED UP FROM SEAL ASSEMBLY, WITH 30kips OVERPULL, RUNNING TOOL NOT DISENGAGED. RAN IN WITH JETTING TOOL AND JETTED THE HANGER RE-LANDED THE SEAL ASSEMBLY, CLOSED THE LOWER PIPE RAMS AND PRESSURE TESTED TO 3750psi. PICKED UP ON THE SEAL ASSEMBLY WITH 0kips OVERPULL. POOH WITH THE LANDING STRING.			
			21:30	22:00	0.50	RIG DOWN 500t BAILS.			
			22:00	24:00	2.00	DRAWWORKS FAILED AFTER A FLASH OVER BETWEEN MOTOR A AND B. RIG ELECTRICIAN CHECKING AND CLEANING THE MOTORS.			
			29/07/95	14	5.92	00:00	01:00	1.00	CONINUED TO REPAIR DRAWWORKS MOTORS. CHANGED OUT PUMP LINERS FROM 6-1/2 in. TO 6 in. SERVICED TOP DRIVE AND BLOCKS.
						01:00	02:00	1.00	FINISHED POOH WITH RUNNING TOOL AND LAID DOWN.
						02:00	02:30	0.50	RAN IN AND SET WEAR BUSHING
						02:30	03:00	0.50	SHEARED OUT WITH 20 kips OVERPULL, POOH. LAID OUT RUNNING TOOL.
03:00	03:30	0.50				LAID DOWN AND SERVICED CEMENT HEAD.			
03:30	04:30	1.00				PRESSURE TESTED IBOP. 500/3500 psi.			
04:30	06:30	2.00				PICKED UP 30 JOINTS OF DRILL PIPE.			
06:30	07:00	0.50				RACKED BACK 11 STANDS OF DRILL PIPE.			
07:00	10:00	3.00				LAID OUT 17.5in. BIT, 5 JOINTS OF 9.5in DC, 1 JOINT OF 8in. DC, 2 17.5in STRING ROLLER REAMERS.			
10:00	12:00	2.00				MADE UP AND SURFACE TESTED MWD AND MOTOR.			
12:00	18:30	6.50				MADE UP BHA, LOAD MWD. RIH HWDP AND TESTED MWD AT DRILL PIPE AND AFTER 30 STANDS OF DRILL PIPE. PICKED UP AND RAN 90 JOINTS OF 5 in DRILL PIPE.			
18:30	20:00	1.50				SLIPPED AND CUT 148 FT OF DRILL LINE.			
20:00	22:30	2.50				BROKE CIRCULATION, TAGGED CEMENT AT 1174m. DRILLED THROUGH FLOAT AT 21:45hr, DRILLED OUT SHOE AT 22:30hr, TAG BOTTOM AT 1208m.			

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
29/07/95	14	5.92				DISPLACE TO MUD.
			22:30	23:00	0.50	DRILLED 12.25in HOLE FROM 1208m TO 1211m.
			23:00	23:30	0.50	CIRCULATED TO CLEAN AND CONDITION THE MUD.
30/07/95	15	6.92	23:30	24:00	0.50	STOOD BACK 1 STAND OF DRILL PIPE AND PULLED INTO THE SHOE. RIG UP FOR LOT
			00:00	01:00	1.00	PERFORMED LOT TO 1.99SG, 1.13SG AT 1490psi.
			01:00	01:30	0.50	DRILLED AHEAD FROM 1210m TO 1250m. WOB 0 TO 10kips, FR 950gpm, TRQ 5 TO 20kft/lbs SPP 2800psi.
			01:30	02:00	0.50	LOSING MUD AT SHAKERS, CHANGED SCREENS TO 145 MESH.
			02:00	14:30	12.50	DRILLED AHEAD FROM 1251m TO 1757m. FLOW CHECKED DRILLING BREAK AT 1736m, NEGATIVE. WOB 5 TO 15kips, FR 900 TO 1000gpm, SPP 2800 TO 4000psi TRQ 5 TO 25kft/lbs. AVERAGE ROP 55m/hr WITH CONNECTIONS. BIT STOPPED DRILLING AT 1757m. POOH TO CHANGE BIT.
			14:30	15:00	0.50	CIRCULATED BOTTOMS UP AND FLOW CHECKED.
31/07/95	16	7.92	15:00	21:00	6.00	SLUGGED THE PIPE AND FLOW CHECKED. POOH, TIGHT SPOTS FROM 1630m TO 1200m WITH 50/60kips DRAG. WORKED THROUGH THESE AND WIPED UNTIL SLICK. FLOW CHECKED AT BHA. LAID OUT BIT & PDM, DOWNLOADED DPR MWD TOOL. BIT GRADED 3 4 AT SURFACE BY HTC, NOSE BEGINNING TO RING OUT.
			21:00	24:00	3.00	MADE UP NEW BIT AND NEAR BIT ROLLER REAMER AND RIH, CHECKED MWD AT HWDP AND CONTINUED TO RIH.
			00:00	00:30	0.50	CONTINUED TO RIH TO 1220m AND BROKE CIRCULATION.
			00:30	01:00	0.50	SERVICE TOP DRIVE AND BLOCKS.
			01:00	02:00	1.00	CONTINUED TO RIH TO 1700m, TOOK 70kips WEIGHT
1/08/95	17	8.92	02:00	03:00	1.00	WASHED DOWN FROM 1700m TO 1757m, COMPLETING FE MWD LOG.
			03:00	22:30	19.50	DRILLED 12.25in HOLE FROM 1757m TO 1985m. VARYING THE DRILLING PARAMETERS TO OPTIMISE ROP. WOB 35-55kips, FR 900-980gpm, SPP 3000-3700psi. TRQ 5-15ft/lb. AVERAGE ROP 8-12m/hr. FLOW CHECKED ON CONNECTIONS. FLOW CHECKED DRILLING BREAK AT 1811m, BOTH NEGATIVE. REACHED A TOTAL DEPTH OF 1985m AT 22:30hr, ON THE INTERPRETATION OF FE AND MUD LOGS THAT THE OTWAY GROUP AND THE UNCONFORMITY HAD BEEN DRILLED. NO SHOWS
			22:30	23:30	1.00	CIRCULATED BOTTOMS UP, FLOW CHECK, SLUGGED THE PIPE.
			23:30	24:00	0.50	TRIPPED OUT OF THE HOLE. TIGHT HOLE FROM 1863m, 80kips OVERPULL.
			00:00	01:30	1.50	CONTINUED TO WASH OUT OF THE HOLE FROM 1863m TO 1720m, TIGHT HOLE FROM 1863m TO 1600m. MAXIMUM OVERPULL 85kips.
			01:30	02:30	1.00	FLOW CHECKED, RIH 1985m. TOOK WEIGHT AT 1962m WASHED DOWN.
1/08/95	17	8.92	02:30	03:30	1.00	CIRCULATED BOTTOMS UP, FLOW CHECKED, NEGATIVE.
			03:30	09:30	6.00	POOH. FLOW CHECKED AT HWDP, NEGATIVE. LAID OUT MWD, BIT AND 2 ROLLER REAMERS.

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations
1/08/95	17	8.92	09:30	10:00	0.50	RIGGED UP TO RUN ELECTIRC LOGS.
			10:00	11:00	1.00	RIGGED UP TO RUN, SDT-MSFL-DLT-GR-AMS, RUN No.1.
			11:00	16:30	5.50	RAN No.1, HOLD UP DEPTH 1960m. TOOL STRING ON SURFACE AT 15:40hr, RIGGED DOWN TOOLS.
			16:30	24:00	7.50	MADE UP; AND RAN No.2, VSP-CSAT, RAN IN WITH TOOL SRING AT 17:05hr, MONITOR WELL ON TRIP TANK.
2/08/95	18	9.92	00:00	01:00	1.00	RIGGED DOWN RUN No.2 TOOLS AND RIGGED UP TO RUN No.3 FMI,LDT,CNT,GR,BTA,DTC,DTA,AMS.
			01:00	04:30	3.50	RAN RUN No.3.
			04:30	06:00	1.50	RIGGED DOWN RUN No.3, RIGGED UP RUN No.4 CST, 30 SHOTS.
			06:00	10:30	4.50	RAN RUN No.4.
			10:30	11:00	0.50	RIGGED DOWN RUN No.4, RECOVERED 29 SHOTS, 1 EMPTY.
			11:00	14:30	3.50	MADE UP CEMENT SUB AND RAN IN TO 1730m.
			14:30	15:00	0.50	RIGGED UP CEMENT LINES AND CIRCULATED 100bbl WITH THE RIG PUMPS.
			15:00	16:00	1.00	PRESSURE TESTED LINES TO 2000psi AND MIXED AND PUMPED 10bbl OF DRILL WATER, 37bbl OF CEMENT SLURRY AT 1.9SG. PLUG No.1 SET FROM 1730m TO 1649m.
			16:00	17:00	1.00	POOH TO 1230m.
			17:00	17:30	0.50	REVERSE CIRCULATED 70bbl, NO CEMENT RETURNS.
			17:30	18:30	1.00	PRESSURE TESTED LINES TO 2000psi. PUMPED 10bbl OF DRILL WATER AND 50bbl CEMENT SLURRY AT 1.9SG. PLUG No.2 SET FROM 1230m TO 1140m.
			18:30	19:30	1.00	PULLED BACK 4 STANDS TO 1100m. CIRCULATE WELL TO 1.2SG MUD WITH CORROSION INHIBITOR.
			19:30	24:00	4.50	WAITED ON CEMENT. SERVICED TDS. MADE UP 13.275in. CASING CUTTER ASSEMBLY. MADE UP 20in. AGE PACKER, PICK UP 3 JOINTS OF 9.5in. DC AND 17.5in. ROLLER REAMER, RACK BACK.
			3/08/95	19	10.92	00:00
03:30	04:00	0.50				RIH AND TAGGED CEMENT PLUG AT 1136m WITH 10kips. PRESSURE TESTED PLUG TO 2000psi FOR 10min.
04:00	06:00	2.00				RIH AND RETRIEVED WEARBUSHING WITH 60kips OVERPULL
06:00	07:00	1.00				POOH AND LAID DOWN WEARBUSHING AND RUNNING TOOL.
07:00	08:00	1.00				RIH WITH 13.375in. CASING CUTTER ASSEMBLY.
08:00	08:30	0.50				CUT 13.375in. CASING AT 140.5m.
08:30	09:30	1.00				PULLED 13.275in CASING AND HANGER FREE, WITH 90kips OVERPULL. POOH.
09:30	11:30	2.00				UNABLE TO RELEASE SPEAR FROM CASING. CUT HANGER AND FREED SPEAR.
11:30	13:30	2.00				RACKED BACK THE REMAINING CUTTER ASSEMBLY. LAID OUT THE 13.375in CASING AND HANDLING TOOLS.
13:30	15:00	1.50				MADE UP AND SET 20in AGE PACKER AT 139m.
15:00	16:30	1.50				RIGGED UP SURFACE LINES AND TESTED TO 2000psi. PUMPED 10bbl OF SEAWATER. MIXED AND PUMPED 35bbl OF 1.9SG CEMENT SLURRY. PULLED BACK TO 109m AND REVERSE CIRCULATED.
16:30	17:00	0.50				POOH, FLUSHED THROUGH THE RISER AND BOP.

Final Drilling Report

2.1 DAILY OPERATIONS

Date	Day No.	Days from Spud	From	To	Hours	Daily Operations																																																		
3/08/95	19	10.92	17:00	17:30	0.50	HELD JSA FOR PULLING BOP.																																																		
			17:30	18:00	0.50	RIGGED UP TO PULL RISER AND BOP.																																																		
			18:00	19:30	1.50	NIPPLED DOWN DIVERTER, POOH TO SURFACE AND LAID OUT.																																																		
			19:30	24:00	4.50	MADE UP RISER HANDLING JOINT, NIPPLED DOWN SLIP JOINT, JUMPED ROV, UNLATCHED BOP AT 21:00hr. NIPPLED DOWN RISER TENSIONER LINES, CHOKE AND KILL LINES, HOSE SADDLES. PULLED SLIP JOINT.																																																		
4/08/95	20	11.92	00:00	04:00	4.00	LAID OUT SLIP JOINT. PULLED BOP AND LANDED ON SKID BEAMS AT 01:45hr																																																		
			04:00	04:30	0.50	LAID OUT RISER DOUBLE.																																																		
			04:30	05:00	0.50	RIGGED DOWN BOP HANDLING GEAR AND CLEARED UP RIG FLOOR																																																		
			05:00	08:00	3.00	MADE UP 20in. AND 30in. CASING CUT/PULL ASSEMBLY. INSTALLED GUIDE ROPES AND LANDED OUT.																																																		
			08:00	13:30	5.50	CUT 20in AND 30in CASING AT 98.5m. ATTEMPTED TO PULL CASING WITH 280kips OVERPULL AT 11:30hr, NO SUCESS, CONTINUED TO CUT THE CASINGS.																																																		
			13:30	14:00	0.50	ATTEMPTED TO PULL CASING. 280kips OVERPULL. NO SUCESS.																																																		
			14:00	16:30	2.50	CONTINUED CUTTING 20in AND 30in CASING.																																																		
			16:30	18:00	1.50	PULLED ON 20in AND 30in CASING. CASING WAS FREED WITH 120kips OVERPULL. PULLED CASING TO SURFACE AND SECURED IN MOON POOL.																																																		
5/08/95	21	12.92	00:00	13:30	13.50	PULLED ANCHORS AS FOLLOWS: <table border="1"> <thead> <tr> <th>BOAT</th> <th>ANCHOR</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>LADY DAWN</td> <td>4</td> <td>18:05</td> <td>18:35</td> <td>21:10</td> <td>21:13</td> </tr> <tr> <td>LADY DAWN</td> <td>5</td> <td>21:32</td> <td>21:37</td> <td></td> <td></td> </tr> </tbody> </table>	BOAT	ANCHOR	A	B	C	D	LADY DAWN	4	18:05	18:35	21:10	21:13	LADY DAWN	5	21:32	21:37																																		
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			LADY DAWN	4	18:05	18:35	21:10	21:13																																																
			LADY DAWN	5	21:32	21:37																																																		
								ANCHOR WINCH No.5 HAD DIFFICULTIES. COMMENCED HEAVING ANCHOR No.5 AT 22:04hr. STILL HEAVING ANCHOR No.5 AT 00:00hr.																																																
								PULLED ANCHORS AS FOLLOWS: <table border="1"> <thead> <tr> <th>BOAT</th> <th>ANCHOR</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>LADY DAWN</td> <td>5</td> <td></td> <td></td> <td>00:24</td> <td>00:25</td> </tr> <tr> <td>LADY DAWN</td> <td>1</td> <td>00:40</td> <td>01:19</td> <td>02:45</td> <td>02:47</td> </tr> <tr> <td>LADY DAWN</td> <td>8</td> <td>02:57</td> <td>03:30</td> <td>05:42</td> <td>05:50</td> </tr> <tr> <td>BONAVISTA</td> <td>7</td> <td>03:07</td> <td>05:55</td> <td>07:50</td> <td>07:57</td> </tr> <tr> <td>LADY DAWN</td> <td>3</td> <td>06:04</td> <td>06:55</td> <td>09:28</td> <td></td> </tr> <tr> <td>BONAVISTA</td> <td>2</td> <td>08:22</td> <td>09:52</td> <td>11:32</td> <td></td> </tr> <tr> <td>RIG</td> <td>6</td> <td></td> <td>11:36</td> <td>13:30</td> <td></td> </tr> </tbody> </table>	BOAT	ANCHOR	A	B	C	D	LADY DAWN	5			00:24	00:25	LADY DAWN	1	00:40	01:19	02:45	02:47	LADY DAWN	8	02:57	03:30	05:42	05:50	BONAVISTA	7	03:07	05:55	07:50	07:57	LADY DAWN	3	06:04	06:55	09:28		BONAVISTA	2	08:22	09:52	11:32		RIG	6		11:36	13:30	
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					NB: PROBLEM WITH WINCHES 7 AND 8, COULD ONLY HAUL ONE ANCHOR AT A TIME.																																																			
					BEFORE PULLING ANCHOR 2, LADY DAWN WAS SET WITH TOW WIRE, HEADING INTO THE WIND TO HOLD RIG.																																																			
					TOW COMMENCED AT 13:30hr.																																																			

FINAL DRILLING REPORT - CONAN-1

3.0 MUD SUMMARY BY HOLE SECTION



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		
36	70-142	SEAWATER + HI-VIS + PREHYDRATED GEL	1.03	1.05		150										
17.5	142-1208	KCl PHPA POLYMER	1.06	1.11	40	46	11	14	11	18	1	4	2	11	3.5	5.4 - 7.2
12.25	1208-1985	KCl PHPA POLYMER	1.13	1.20	48	60	12	15	2	23	4	5	8	10		4.8 - 5

Final Drilling Report

3.1 MUD PROPERTIES RECORD

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 10	API WL (ml/30min)	MBT (lb/bbl)	pH	%Solid	%H2O	HGS	LGS	%Sand	Ca+ (mg/L)	Cl- (mg/L)	K+ (mg/L)	% KCl
23/07/95	SPUD MUD				1.05	150																
24/07/95	PREHYDRATED GEL	36.00	142		1.03	150																
25/07/95	KCI PHPA POLY.	17.50	142		1.06	46	12	18	4	1 2	7.2	5.0	9.5	5.0	95		2.90		480	40000	21	
26/07/95	KCI PHPA POLY.		887	41	1.11	44	14	16	6	4 11	5.4	2.5	9.4	8.0	92		5.80	0.25	320	41000	17	3.5
27/07/95	KCI PHPA POLY.		1208		1.09	40	11	11	4	2 3	5.6	2.5	8.9	6.0	94		3.00	0.25	680	38500	17	
28/07/95	KCI PHPA POLY.	12.25	1208		1.13	60	12	21	6	4 9	4.8	2.5	9.5	8.5	91.5		3.70		280	60000	2	
29/07/95	KCI PHPA POLY.		1208		1.13	58	12	20	6	4 8	5		9.3	8.5	91.5		3.60		240	60500	37	
30/07/95	KCI PHPA POLY.		1757	60	1.18	60	14	20	7	4 10	5	2.5	8.4	10.0	90	1.60	4.00	0.50	480	56000	7	
31/07/95	KCI PHPA POLY.		1985	62	1.20	48	14	2	6	4 9	4.8	5.0	9.0	11.0	89	1.80	4.90	0.50	320	55000	7	
1/08/95	KCI PHPA POLY.		1985	61	1.20	48	15	23	7	4 9	4.8	5.0	9.0	10.0	89	1.60	4.00	0.50	320	56000	36	
2/08/95	KCI PHPA POLY.		1985		1.20	49	14	22	6	5 10	4.8	5.0	9.0	10.5	89.5	2.30	3.90	0.50	320	55000	7	
3/08/95	KCI PHPA POLY.		1985		1.20	48	14	22		4 10	4.8	5.0	9.0	10.5	89.5			0.50	320	55000	7	
5/08/95			1985																			

3.1 MATERIALS CONSUMPTION TOTAL

PRODUCT	SIZE	QUANTITY
BARACARB 110	25.00 KG	15
BARACIDE	25.00 KG	9
BARACOR 129	25.00 KG	26
BARITE, BULK	100.00 LB	1318
BENTONITE (Blk)	100.00 LB	414
CAL CHLORIDE	25.00 KG	28
CAUSTIC SODA dr	25.00 KG	7
DEXTRID LT	25.00 KG	36
EZ MUD DP	25.00 KG	99
KWIKSEAL (M)	40.00 KG	15
LIME	25.00 KG	6
PAC-R	25.00 KG	44
PAC-R	50.00 LB	34
POT CHLOR.	1.00 MT	79
POT HYDROX. sx	25.00 KG	48
SODA ASH	25.00 KG	60
SODA BICARB.	25.00 KG	15
XCD POLYMER	25.00 KG	100

3.2 MATERIALS CONSUMPTION

36in / 26in HOLE SECTION

PRODUCT	SIZE	QUANTITY
BENTONITE (Blk)	100.00 LB	414
CAL CHLORIDE	25.00 KG	28
CAUSTIC SODA dr	25.00 KG	5
LIME	25.00 KG	6
SODA ASH	25.00 KG	5

3.2 MATERIALS CONSUMPTION

17.5in HOLE SECTION

PRODUCT	SIZE	QUANTITY
BARACARB 110	25.00 KG	15
CAUSTIC SODA dr	25.00 KG	2
DEXTRID LT	25.00 KG	35
EZ MUD DP	25.00 KG	70
KWIKSEAL (M)	40.00 KG	15
PAC-R	25.00 KG	24
PAC-R	50.00 LB	34
POT CHLOR.	1.00 MT	47
POT HYDROX. sx	25.00 KG	18
SODA ASH	25.00 KG	45
XCD POLYMER	25.00 KG	59

Final Drilling Report

3.2 MATERIALS CONSUMPTION

12.25in HOLE SECTION

PRODUCT	SIZE	QUANTITY
BARACIDE	25.00 KG	9
BARACOR 129	25.00 KG	26
BARITE, BULK	100.00 LB	1318
DEXTRID LT	25.00 KG	1
EZ MUD DP	25.00 KG	29
PAC-R	25.00 KG	20
POT CHLOR.	1.00 MT	32
POT HYDROX. sx	25.00 KG	30
SODA ASH	25.00 KG	10
SODA BICARB.	25.00 KG	15
XCD POLYMER	25.00 KG	41

Final Drilling Report

4.0 BIT SUMMARY

Bit No	Run No	New/Used	Size	Bit Type	Jets					Depth	Total Metres	Total Hours	ROP (m/hr)	WOB (kips)	RPM (min/max)	Pump gpm / psi	IADC Bit Grading	
			Make	Serial No.	TFA					In / Out							Comments	
1	1	U	26	S3SJ	28	28	28	-	-	-	95	47.0	2.00	23.50	0.0 / 5.0	/ 60	/	1.1.NO.A.0.I.NO.TD
			SMITH	622044	1.8					142								
2	2	N	17.5	MAX-GT03	18	22	22	-	-	-	142	1066.0	34.00	31.35	0.0 / 40.0	50 / 140	1200 / 3500	1.1.WT.A.E.I.BT.TD
			HUGHES	W86BC	0.99					1,208								
3	3	N	12.25	AG526	16	16	16	16	16	-	1,208	549.0	10.00	54.90	5.0 / 12.0	150 / 250	455.9 / 3150	3.4.WT.GN.X.3.BT.PR
			HUGHES	0120078	0.98					1,757								
4	4	N	12.25	ATM GT09	18	18	18	-	-	-	1,757	228.0	20.00	11.40	5.0 / 50.0	75 / 140	240 / 3600	2.2.WT.A.E.1.EC.TD
			HUGHES	C16CB	0.75					1,985								

Final Drilling Report

4.1 BHA SUMMARY

BHA Name : 1. SPUD ASSY

Depth In: 95 m.

Depth Out: 142 m.

Bit Used : 1

Purpose : SPUD/OPEN HOLE

Joints	BHA Item	O.D.	Length
1	BIT	26.000	0.54
1	HOLE OPENER	36.000	1.88
1	FLOAT SUB	9.275	0.90
2	DRILL COLLAR	9.500	18.45
1	ROLLER REAMER	17.500	2.51
1	DRILL COLLAR	9.500	9.32
1	CROSS OVER	8.000	0.68
5	DRILL COLLAR	7.815	44.92
1	CROSS OVER	8.750	0.92

Total BHA Length : 80.12

BHA Name : 2. 17.5in BHA

Depth In: 142 m.

Depth Out: 1208 m.

Bit Used : 2

Purpose : DRILL OUT SHOE TO TD

Joints	BHA Item	O.D.	Length
	BIT	17.500	0.43
1	FLOAT SUB	7.375	1.33
2	DRILL COLLAR	9.500	30.43
1	STRING ROLLER REAMER	17.500	2.51
2	DRILL COLLAR	9.500	17.97
1	STRING ROLLER REAMER	17.500	2.64
2	DRILL COLLAR	9.500	17.97
1	CROSS OVER	7.185	0.68
9	DRILL COLLAR	8.000	71.93
1	JARS	8.000	9.72
2	DRILL COLLAR	8.000	17.83
1	CROSS OVER	8.750	0.92
15	HWDP	5.000	137.53

Total BHA Length : 311.89

BHA Name : 3. 12.25in PDC/PDM

Depth In: 1208 m.

Depth Out: 1757 m.

Bit Used : 3

Purpose : DRILL TO TD

Joints	BHA Item	O.D.	Length
	BIT	12.250	0.43
1	MACH 1XL PDM MUD MOTOR	9.500	10.79
1	ROLLER REAMER	12.250	8.27
1	NON MAG. DRILL COLLAR	8.000	0.39
1	MWD TOOL	8.250	12.23
8	DRILL COLLAR	8.000	63.20
1	JARS	8.000	9.72
3	DRILL COLLAR	8.000	26.87
1	CROSS OVER	8.000	0.74
15	HWDP	5.000	139.53

Total BHA Length : 272.17

Final Drilling Report

4.1 BHA SUMMARY

BHA Name : 4. 12.25in ROTARY

Depth In: 1757 m.

Depth Out: 1985 m.

Bit Used : 4

Purpose : ROTARY DRILL TO RESV

Joints	BHA Item	O.D.	Length
	BIT	12.250	0.30
1	NEAR BIT ROLLER REAMER	12.250	2.39
1	NON MAG. DRILL COLLAR	8.000	0.39
1	MWD TOOL	8.255	12.23
1	STRING ROLLER REAMER	12.250	2.27
11	DRILL COLLAR	8.000	99.03
1	JARS	8.000	9.72
3	DRILL COLLAR	8.000	26.80
1	CROSS OVER	8.000	0.74
15	HWDP	5.000	137.53
Total BHA Length :			291.40

4.2 DEVIATION SURVEYS (ORIG DRILLING)

Depth	Angle	Azimuth	Method	Missrun
254.0	0.30	0.0	MWD	
1132.0	0.60	0.0	MWD	
1214.0	0.90	250.0	MWD	
1506.0	0.30	261.2	MWD	
1736.0	0.40	339.6	MWD	
1914.0	0.20	26.6	MWD	
1976.0	0.10	9.8	MWD	

5.0 CASING REPORT - 13.375in INTERMEDIATE CASING

			<u>CASING FLANGE / WELLHEAD</u>		
Hole Size	: 17.5 in	Total Depth	: 1208 m	Manufacturer	: DRILQUIP
Weight in Slips	: 81000 lb	Casing Shoe at	: 1200.6 m	Model	: SS-10-C
R.T. to Wellhead	: 94 m	Top of Casing	: 95.33 m	Size	: 18.75 in
		Liner Overlap	: m	Rating	: psi

PIPE INFORMATION

Description	Manufacturer	Size	Weight	Grade	Cnd	Threads	Joints	Length	Interval
CASING HANGER		13.375	68	K-55		BTC	1	2.77	98.10 _ 95.33
CASING		13.375	68	K-55		BTC	89	1065.9	1164.01 _ 98.10
FLOAT JOINT		13.375	68	K-55		BTC	1	12.25	1176.26 _ 1164.01
INTERMEDIATE JOINT		13.375	68	K-55		BTC	1	11.9	1188.16 _ 1176.26
SHOE JOINT		13.375	68	K-55		BTC	1	12.44	1200.60 _ 1188.16

ACCESSORIES INFORMATION

Item	Manufacturer	Number	Spacing	Interval	How Fixed
CENTRALIZER	WEATHERFORD	2		1176.22 _ 1200	SCREWED
FLOAT SHOE	VETCO	1		1195 _ 1200	WELDED

HOLE / RUNNING CONDITIONS

Mud Type	: KCI PHPA POLY.	Avg. Make Up Torque	: ft lb	Avg. Drag	: lb
Density	: 1.13 SG	RPM	:	Max. Drag	: lb
Viscosity	: 60	Avg. Torque Rot.	: ft lb	Volume Lost	: 0 bbl
PV / YP	: 60 / 12	Max. Torque Rot.	: ft lb		

Remarks : UNABLE TO MAKE UP FLOAT JOINT TO INTERJOINT, SUSPECT THAT THE INTERJOINT WAS OUT OF ROUND. LAID DOWN INTERJOINT AND FLOAT JOINT. PICKED UP NEW INTERJOINT AND ORIGINAL FLOAT JOINT. MADE UP SAME ALL OK. INCURRED 3.5 HOURS NPT. INCURRED A FURTHER 2.5 NPT AFTER DRAWWORKS MOTOR FAILURE

5.1 CEMENTING REPORT - 20in CASING

Stage Number	001 OF 001
Slurry Number	001 OF 001
Slurry Type	TAIL SLURRY
Slurry Class	G
Slurry Description	G NEAT
Amount (sacks)	1390
Volume (bbl)	285
Yield (ft ³ /sx)	1.15
Excess (%)	200
From / To (m)	0 / 142
Density	1.9
Thickening Time (hrs)	4.39
Temp. (°C)	17
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	SEAWATER
Comp. Strength (psi)	50
Time (hrs)	4.2
Temp (°C)	17
Comp. Strength 2. (psi)	500
Time (hrs)	14.7
Temp (°C)	17
BHST (°C)	
BHCT (°C)	

Additives 28 sacks of 1 % CACL2 ACCELERATOR

Final Drilling Report

5.1 CEMENTING REPORT - 13.375in CASING

Stage Number	001 OF 001
Slurry Number	001 OF 001
Slurry Type	TAIL SLURRY
Slurry Class	G
Slurry Description	ADELAIDE BIGHTON
Amount (sacks)	
Volume (bbl)	130
Yield (ft ³ /sx)	1.15
Excess (%)	30
From / To (m)	0 /
Density	1.9
Thickening Time (hrs)	3.12
Temp. (°C)	75
Free Water (%)	
Temp. (°C)	75
Fluid Loss (cc)	
Temp. (°C)	75
Water Used (gal/sack)	5
Water Source	DRILL WATER
Comp. Strength (psi)	50
Time (hrs)	1.5
Temp (°C)	75
Comp. Strength 2. (psi)	500
Time (hrs)	4.5
Temp (°C)	75
BHST (°C)	70
BHCT (°C)	72

Additives	.3 g/10bl D AIR 2 DEFOAMER
	4 g/10bl HR6-L RETARDER

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.1

Date : 2/08/95 Report No. : 18 Plug Type : ABANDONMENT
Cementer : HALLIBURTON Total Stages : 01
Supervisor : ALAN HATFIELD

STAGE NUMBER : 001 of 001 **Cemented Interval** : 1670 - 1730 m.

Mixing Method :
Density : Displacement Fluid : MUD Top Plug : No
Measured By : DENSIOM Fluid Density : 1.20 SG Bottom Plug : No
Start Mix Cement : 15:00 hrs Fluid Volume : bbl Bump Plug : No
Start Slurry Disp. : 15:15 hrs Displac't Avg. Rate : 5 bpm
Start Fluid Disp. : 15:45 hrs Displac't Max. Rate : 6 bpm Returns : Y
End Pumping : 16:00 hrs Total Mud Lost : 0 bbl
End Pumping Date : 2/08/95

CEMENTING MUD SYSTEM

Type : KCI PHPA POLY. Gels (10 sec) : 5 Circ. Prior to Cementing : 0.50 hrs
Density : 1.20 S.G. Gels (10 min) : 10 Mud Circ. Rate : 140 gpm
Viscosity : 49 s/qt Mud Circ. Press : psi
PV / YP : 14 / 22

CEMENT LOGS / CASING TESTING

CBL Run : No Top of Cement : 1670.0 m. Casing Pressure Test : psi
CET Run : No Top of Cement Determined by : EST Pressure Held For : min
Bond Quality : Hours Prior to Log : Shoetrack Cement : N/A
BHT Run : No

6.0 CEMENTING REPORT - ABANDONMENT PLUG No.3

Date : 3/08/95 **Report No.** : 19 **Plug Type** : ABANDONMENT
Cementer : HALLIBURTON **Total Stages** : 01
Supervisor : ALAN HATFIELD

STAGE NUMBER : 001 of 001 **Cemented Interval** : 109 - 139 m.

Mixing Method : RECIRC
Density : **Displacement Fluid** : SEAWATER **Top Plug** : No
Measured By : DENSIOM **Fluid Density** : 1.05 SG **Bottom Plug** : No
Start Mix Cement : 15:00 hrs **Fluid Volume** : bbl **Bump Plug** : No
Start Slurry Disp. : 15:15 hrs **Displac't Avg. Rate** : 5 bpm
Start Fluid Disp. : 15:30 hrs **Displac't Max. Rate** : 6 bpm **Returns** : Y
End Pumping : 15:45 hrs **Total Mud**
End Pumping Date : 3/08/95 **Lost** : 0 bbl

CEMENTING MUD SYSTEM

Type : KCl PHPA POLY. **Gels (10 sec)** : 4 **Circ. Prior to**
Density : 1.20 S.G. **Gels (10 min)** : 10 **Cementing** : hrs
Viscosity : 48 s/qt **Mud Circ. Rate** : gpm
PV / YP : 14 / 22 **Mud Circ. Press** : psi

CEMENT LOGS / CASING TESTING

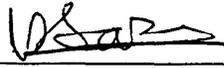
CBL Run : No **Top of Cement** : 109.00 m. **Casing Pressure Test** : psi
CET Run : No **Top of Cement**
Bond Quality : **Determined by** : REVERSE CIRC @ 109 **Pressure Held**
Hours Prior to Log : **For** : min
BHT Run : No **Shoetrack**
Cement : N/A

Final Drilling Report

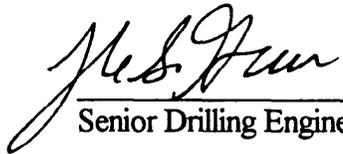
7.0 WEATHER DATA

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)
17/07/95	2	30	250	11	8		6	10	220	6	7	250		1	1	1010
18/07/95	3	40	250	10	8	WINDY	4	10	270	3	7	250		1	1	1004
19/07/95	4	40	225	10	8	WINDY	4	10	225	3	8	225		2	2	1020
20/07/95	5	30	225	10	8		4	10	225	2	8	225		2	1.5	1022
21/07/95	6	35	30	10	15	OVERCAST & WINDY	2.5	10	270	3	6	30		2	2	
22/07/95	7	30	20	10	15	SUNNY AND WARM	3	20	270	3	6	20		1	1	1004
23/07/95	8	30	225	10	15	DRIZZLE	8	12	225	3	8	225		2	1.5	1019
24/07/95	9	30	225	10	15	WINDY	8	14	225	8	8	225		1	1	1024
25/07/95	10	18	360	10	15	FINE	2.5	10	225	1.2	4	360	0.5	0.8	0.8	24
26/07/95	11	20	25	10	15	FINE	2	9	225	0.8	4	25	0.3	0.6	0.6	1018
27/07/95	12	18	300	11	15	DRIZZLE/FINE	2	7	225	2	4	300	0.3	0.8	0.5	1011
28/07/95	13	30	225	10	15	DRIZZLE	3.3	10	225	3	6	225	1	1.5	1	1014
29/07/95	14	30	225	10	15	FINE	5.3	18	225	5.1	18	225	1	1.5	1	1018
30/07/95	15	35	360	9	15	FINE/DRIZZLE	4	10	315	3.1	7	360	1	1.5	1	1018
31/07/95	16	35	360	10	15	FINE	12	14	225	3.3	7	360	1	1.5	1	1015
1/08/95	17	35	250	11	15	DRIZZLE	4.3	14	225	2.6	6	250	1	2	1.5	1015
2/08/95	18	40	300	9	15	OVERCAST,RAIN	20	16	225	5	11	300	2.6	2.5	2	1019
3/08/95	19	28	225	10	15		6.6	16	225	2.6	10	225	2.3	2.5	2	1025
4/08/95	20	28	225	11	15	FINE	5.3	16	225	3.3	8	220		2.5	2	1030
5/08/95	21	40	200	10	15	SHOWERS	16	16	225	12	14	270		3	3.5	2000

8.0 APPROVALS

Compiled By: 
Technical Assistant

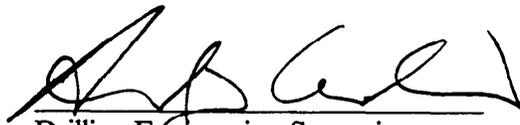
10-11-95
Date

Reviewed By: 
Senior Drilling Engineer

10/11/95
Date


Drilling Superintendent

12/11/95
Date

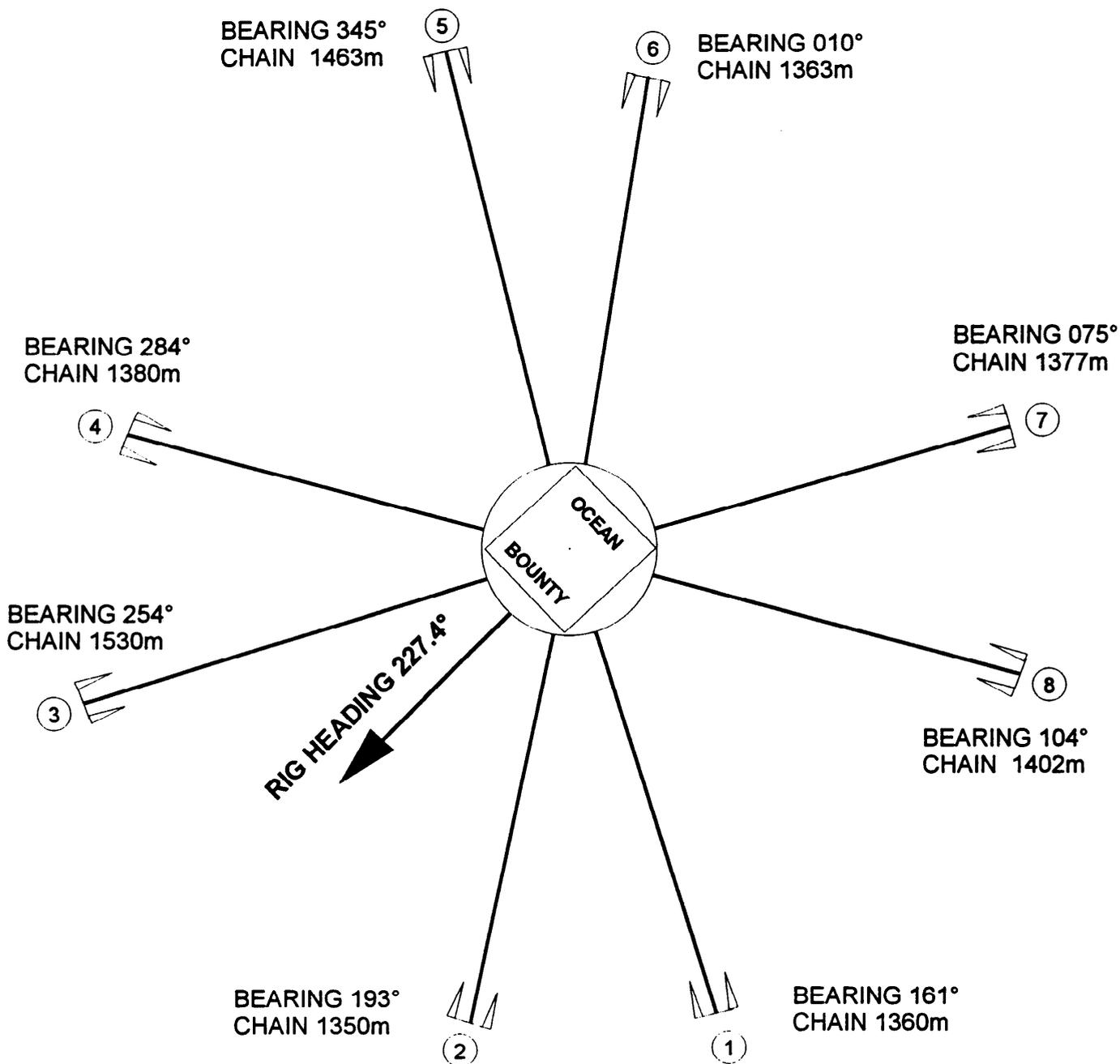
Approved By: 
Drilling Engineering Supervisor

10/11/95.
Date

FINAL DRILLING REPORT - CONAN-1



7.1 MOORING DIAGRAM



6.0 CEMENTING REPORT - ABANDONMENT PLUG No.3

Stage Number	001
Slurry Number	001
Slurry Type	LEAD SLURRY
Slurry Class	G
Slurry Description	ACCELERATED
Amount (sacks)	171
Volume (bbl)	35
Yield (ft ³ /sx)	1.15
Excess (%)	0
From / To (m)	109 / 139
Density	1.9
Thickening Time (hrs)	3
Temp. (°C)	20
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)	20
BHCT (°C)	20

Additives 161 lb of 1 % bwoc CACL2

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)	244
Volume (bbl)	50
Yield (ft ³ /sx)	1.15
Excess (%)	40
From / To (m)	1136 / 1230
Density	1.9
Thickening Time (hrs)	2.33
Temp. (°C)	57
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	DRILLWATER
Comp. Strength (psi)	500
Time (hrs)	3.4
Temp (°C)	75
Comp. Strength 2 (psi)	4000
Time (hrs)	24
Temp (°C)	75
BHST (°C)	75
BHCT (°C)	57

Additives

10 gal of 2 g/10bl HR6-L

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)	181
Volume (bbl)	37
Yield (ft ³ /sx)	1.15
Excess (%)	10
From / To (m)	1670 / 1730
Density	1.9
Thickening Time (hrs)	122
Temp. (°C)	57
Free Water (%)	
Temp. (°C)	
Fluid Loss (cc)	
Temp. (°C)	
Water Used (gal/sack)	5
Water Source	DRILLWATER
Comp. Strength (psi)	500
Time (hrs)	2.8
Temp (°C)	75
Comp. Strength 2 (psi)	2764
Time (hrs)	24
Temp (°C)	75
BHST (°C)	75
BHCT (°C)	57

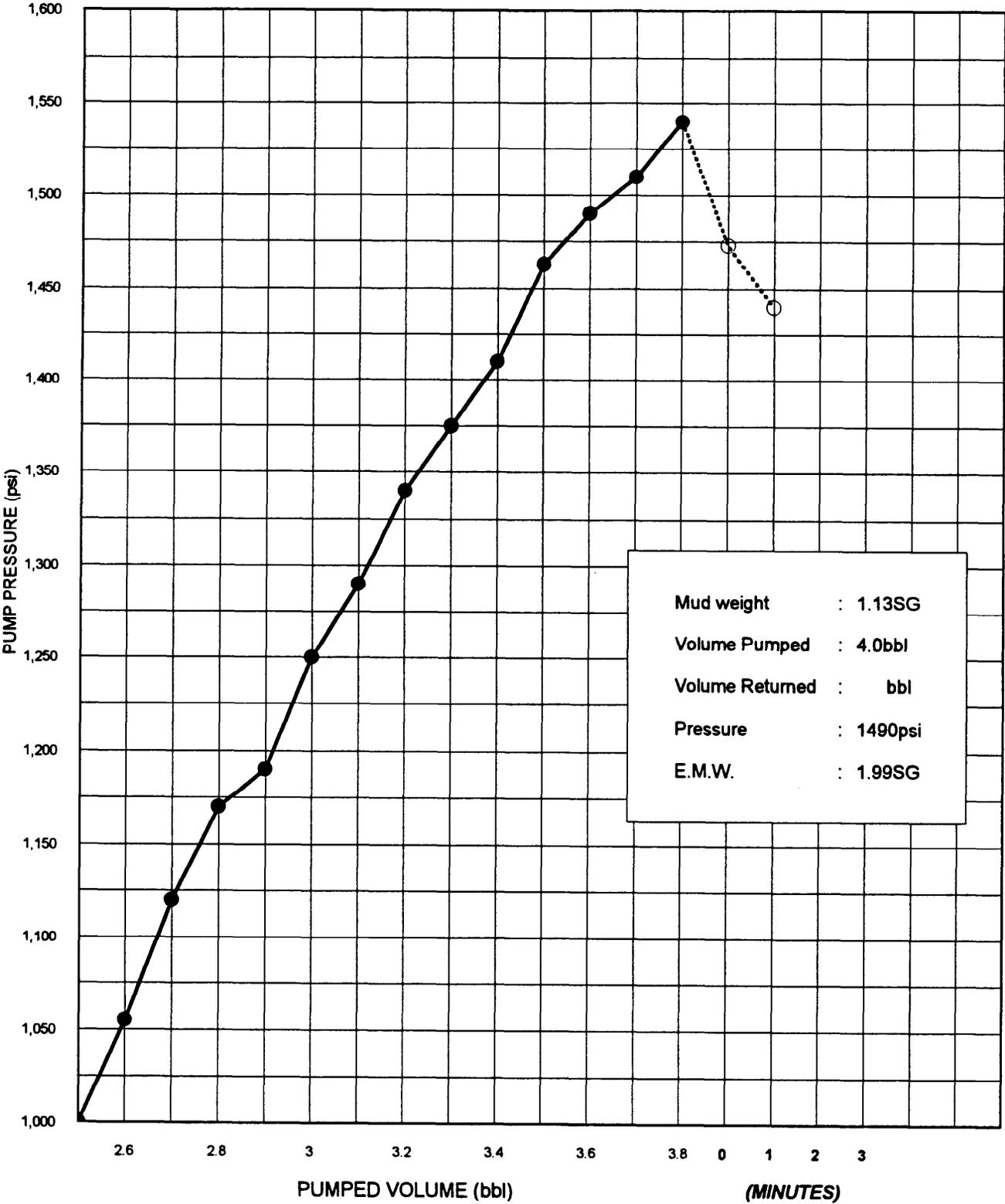
Additives

12 gal of 3 g/10bl HR6-L

FINAL DRILLING REPORT - CONAN-1

5.2 LEAK OFF TEST DIAGRAM - 13.375in CASING

MEASURED DEPTH: 1211m
CASING DIAMETER: 13.375in, 68lb/ft
SHOE DEPTH: 1200m



Final Drilling Report

5.1 CEMENTING REPORT - 13.375in CASING

Date : 27/07/95 Report No. : 2 Job Type : PRIMARY
Cementer : HALLIBURTON Total Stages : 01
Supervisor : ALAN HATFIELD Cemented Interval : 0 - m.

STAGE NUMBER : 001 of 001

Mixing Method : FLY

Density Displacement Fluid : SEAWATER Top Plug : Yes
Measured By : DENSIOMETR Fluid Density : 1.13 SG Bottom Plug : Yes
Start Mix Cement : 14:35 hrs Fluid Volume : 263 bbl Bump Plug : Yes
Start Slurry Disp. : 15:02 hrs Displac't Avg. Rate : 6 bpm
Start Fluid Disp. : 15:52 hrs Displac't Max. Rate : 8 bpm Returns : FULL
End Pumping : 15:36 hrs Total Mud
End Pumping Date : 27/07/95 Lost : 0 bbl

CEMENTING MUD SYSTEM

Type : KCl PHPA POLY. Gels (10 sec) : 4 Circ. Prior to
Density : 1.13 SG Gels (10 min) : 9 Cementing : 1.00 hrs
Viscosity : 60 s/qt Mud Circ. Rate : 420 gpm
PV / YP : 60 / 12 Mud Circ. Press : 300 psi

CEMENT LOGS / CASING TESTING

CBL Run : No Top of Cement : m. Casing Pressure Test : 1500 psi
CET Run : No Top of Cement Pressure Held
Bond Quality : Determined by : For : 0.6 min
Hours Prior to Log : Shoetrack
BHT Run : No Cement : Yes

Remarks :

Final Drilling Report

5.1 CEMENTING REPORT - 20in CASING

Date : 24/07/95 Report No. : 1 Job Type : PRIMARY
Cementer : HALLIBURTON Total Stages : 01
Supervisor : ALAN HATFIELD Cemented Interval : 0 - 142m.

STAGE NUMBER : 001 of 001

Mixing Method :
Density Displacement Fluid : MUD Top Plug : No
Measured By : DENSIOMETR Fluid Density : 1.05 SG Bottom Plug : No
Start Mix Cement : 18:55 hrs Fluid Volume : 17 bbl Bump Plug : No
Start Slurry Disp. : 19:19 hrs Displac't Avg. Rate : bpm
Start Fluid Disp. : 20:08 hrs Displac't Max. Rate : bpm Returns : TO SEABE
End Pumping : 20:12 hrs Total Mud
End Pumping Date : 24/07/95 Lost : 0 bbl

CEMENTING MUD SYSTEM

Type : SPUD MUD Gels (10 sec) :
Density : 1.05 SG Gels (10 min) : Circ. Prior to
Viscosity : 150 s/qt Mud Circ. Rate : 1000 gpm
PV / YP : / Mud Circ. Press : 750 psi

CEMENT LOGS / CASING TESTING

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

Remarks :

5.0 CASING REPORT - 20in COMBINATION 30"/20" STRUCTURAL

				<u>CASING FLANGE / WELLHEAD</u>	
Hole Size	: 36 in	Total Depth	: 142 m	Manufacturer	: DRILQUIP
Weight in Slips	: 13000 lb	Casing Shoe at	: 140.62 m	Model	: SS-10-C
R.T. to Wellhead	: 94 m	Top of Casing	: 95 m	Size	: 18.75 in
		Liner Overlap	: m	Rating	: 10000 psi

PIPE INFORMATION

Description	Manufacturer	Size	Weight	Grade	Cnd	Threads	Joints	Length	Interval
WELLHEAD		18.75					1	0.96	95.96 _ 95.00
PUP JOINT		20	94			HD-90	1	6.74	102.70 _ 95.96
CROSS OVER		20	94			RL-4S	1	12.36	115.06 _ 102.70
INTERMEDIATE JOINT		20	94			RL-4S	1	12.4	127.46 _ 115.06
FLOAT SHOE JOINT		20	94			RL-4S	1	13.16	140.62 _ 127.46

ACCESSORIES INFORMATION

Item	Manufacturer	Number	Spacing	Interval	How Fixed
30" HOUSING JT	HUNG OFF PGB & RUN WITH 20"	1		0 _ 11.77	
30" CONE RDCER		1		11.77 _ 23.14	

HOLE / RUNNING CONDITIONS

Mud Type	: SPUD MUD	Avg. Make Up Torque	: ft lb	Avg. Drag	: lb
Density	: 1.05 SG	RPM	:	Max. Drag	: lb
Viscosity	: 150	Avg. Torque Rot.	: ft lb	Volume Lost	: 0 bbl
PV / YP	: /	Max. Torque Rot.	: ft lb		

Remarks : 30in/20in COMBINATION CASING STRING. 30in HUNG OFF IN PGB AND 20in CASING STRING RUN INTERNALY.

3

3 SAMPLES, SIDEWALL CORES, CONVENTIONAL CORES

3.1 Cuttings

COLLECTION INTERVAL(mRT)	TREATMENT
150 - 1985 (TD)	- 1 set unwashed - 7 sets washed & dried

Cuttings Descriptions - Appendix 1.

3.2 Sidewall Cores/Mechanical Sidewall Cores

Suite	Run	Bullets	Depth From (mRT)	Depth To (mRT)	No. Attempted	No. Lost	No. Rec.
1	4	30	1950.0	1539.0	30	1	29

Sidewall core descriptions - Appendix 2.

No mechanical sidewall cores were taken for Conan-1.

3.3 Conventional Cores

No conventional cores were cut for Conan-1.

3.4 Palynology

No. of Samples	Sample Type	Collection Interval (mRT)
14	Cuttings	1250 - 1965
17	Sidewall cores	1539 - 1875

Palynological analysis was completed by Roger Morgan of Morgan Palaeo Associates.

Palynological Basic Data and Range Charts have been incorporated in the Palynological Interpretive Report which is contained in the Conan-1 Well Completion Report, Interpretive Volume.

3.5 Micropalaeontology

No micropalaeontological analysis was performed for Conan-1.

3.6 Geochemistry

Vitrinite reflectance analysis was performed on 6 sidewall cores (1575.5-1892.0mRT) by Geotechnical Services Pty. Ltd.

Geochemical Basic Data - Appendix 3.

4

4 LOGGING AND SURVEYS

4.1 Mudlogging/Measurement While Drilling

Mudlogging was provided by Halliburton Australia Pty. Ltd. Measurement While Drilling was provided by Baker Hughes Inteq.

Interval

Mudlogging: 150 - 1985 mRT (T.D)

Measurement While Drilling: 1208 - 1985 mRT

End of Well Report (Mudlogging) - Appendix 4.

Final Well Report (MWD) - Appendix 5.

4.2 Wireline Logs

Logging was completed by Schlumberger.

Suite No.	Run No.	Log Type	Interval (mRT)	Date
1	1	AS-MSFL-GR-DLL-AMS	1957 - 95	01-08-95
1	2	CSI-VSP	1955 - 600	01-08-95
1	3	FMI (IMAGES)	1949 - 1675	02-08-95
1	3	LDL-CNL-GR-AMS	1950 - 1539	02-08-95
1	4	CST-GR	1950 - 1539	02-08-95

4.3 Processed Logs

Suite No.	Run No.	Log Type	Interval (mRT)	Date
1	1	MSD	1949 - 1675	02-08-95

4.4 Velocity Survey

A VSP survey was run by Schlumberger.

Well Seismic Processing Report - Volume 2.

4.5 Site Survey

An analogue site survey was performed by Fugro Survey Pty. Ltd.

Analogue Site Survey Report - Volume 2.

4.6 Rig Location Survey

Survey was conducted by Racal Survey Australia Limited.

Rig Positioning Report - Appendix 6.

5

5 FORMATION TESTING

5.1 RFT/MDT

No RFT/MDTs were run for Conan-1.

5.2 DST

No drillstem tests were run for Conan-1.

6

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- 6 APPENDICES**
- 6.1 APPENDIX 1 Cuttings Lithological Descriptions**
 - 6.2 APPENDIX 2 Sidewall Core Descriptions**
 - 6.3 APPENDIX 3 Geochemical Basic Data**
 - 6.4 APPENDIX 4 End of Well Report (Mudlogging)**
 - 6.5 APPENDIX 5 Final Well Report (MWD)**
 - 6.6 APPENDIX 6 Rig Positioning Report**

1

6.1 APPENDIX 1 Cuttings Lithological Descriptions

CUTTINGS DESCRIPTION SHEETS



Well: CONAN-1
 Permit: VIC/P31
 Hole Section: 17 1/2"
 Geologist(s): S. Horan/K. Haak

Australia Division
 BHP Petroleum

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 1
150		SAMPLES DUMPED WHILE DISPLACING TO MUD.	
160		SAMPLES DUMPED WHILE DISPLACING TO MUD.	
170	100	CALCARENITE: off white, light grey to light olive grey, friable, fine to medium grained, subangular to angular, moderately sorted, weak to moderate calcareous cement/matrix, trace argillaceous matrix, trace micrite, trace to rare glauconite nodules, rare to minor fossil fragments.	
180	100	CALCARENITE: as above, generally light olive grey.	
190	100	CALCARENITE: as above.	
200	100	CALCARENITE: as above.	
210	100	CALCARENITE: as above.	
220	100	CALCARENITE: as above.	
230	100	CALCARENITE: as above- light olive grey to olive grey, friable, fine to medium grained, subangular to angular, moderately sorted, weak to moderate calcareous cement/matrix, trace to minor argillaceous matrix, trace micrite, trace glauconite nodules, rare fossil fragments.	
240	100	CALCARENITE: as above.	
250	100	CALCARENITE: as above, but very fine to fine grained, becoming slightly more argillaceous, or possibly marl stringers.	
260	90 10	CALCARENITE: as above. MARL: olive grey, soft to firm, blocky, commonly silty, rare fine carbonate grains, trace glauconite nodules. MARL DISPERSING THROUGHOUT SAMPLE.	
270	100	CALCARENITE: light to medium olive grey, soft to friable, very fine to fine grained, subangular, moderately sorted, common to abundant argillaceous/calcareous matrix, grades to silty marl, rare to minor weak calcareous cement, trace glauconite nodules, rare fossil fragments.	
280	90 10	CALCARENITE: as above. MARL: as above.	
290	80 20	CALCARENITE: as above. MARL: as above.	
300	50 50	CALCARENITE: as above. MARL: as above.	
310	90 10	MARL: light to medium olive grey, blocky to amorphous, firm to soft, commonly dispersive, minor silty to locally arenaceous, trace to rare very fine calcareous grains, trace glauconite nodules. CALCARENITE: as above.	
320	100	MARL: as above.	

CUTTINGS DESCRIPTIONS

Page 2

Well: CONAN-1

Depth (mRT)	Lithology (%)	
330	100	MARL: as above.
40	100	MARL: generally as above, becoming soft to minor firm, increasingly dispersive, becoming less silty/arenaceous.
350	100	MARL: as above.
360	80 20 Tr	MARL: light to medium olive grey, blocky to amorphous, firm to soft, commonly dispersive, minor silty to locally arenaceous, trace to rare very fine calcareous grains, trace glauconite nodules. CALCARENITE: light brown, light grey, friable to moderately hard, very fine to fine, rare to minor silty, subangular, moderately to well sorted, common moderate calcareous cement, rare to minor light brown argillaceous matrix, rare glauconite. Pyrite:
370	60 40	MARL: as above. CALCARENITE: as above.
380	70 30	MARL: as above CALCARENITE: as above
390	80 20	MARL: as above CALCARENITE: as above
400	90 10	MARL: as above CALCARENITE: as above
410	70 30	MARL: as above CALCARENITE: as above
420	90 10	MARL: as above CALCARENITE: clear to light brown, commonly light grey, loose, fine grained, subangular to trace subrounded, well sorted, common calcareous cemented aggregates, trace fossil fragments, forams, trace glauconite.
430	90 10	MARL: light grey to light olive/grey, soft to dispersive, trace calcisiltite, trace glauconite. CALCARENITE: as above.
440	90 10	MARL: as above CALCARENITE: as above
450	70 30	MARL: as above CALCARENITE: as above, abundant fossil fragments, common forams.
460	100 tr	MARL: as above CALCARENITE: as above.
470	100 tr	MARL: as above CALCARENITE: as above
480	80 20	MARL: as above CALCARENITE: as above
490	90 10	MARL: as above CALCARENITE: as above
500	90 10	MARL: as above CALCARENITE: as above
510	90 10	MARL: light grey to light olive grey, dispersive to commonly soft, trace calcisiltite, trace calcareous cement, trace glauconite. CALCARENITE: as above, rare fossil fragments.
520	90 10	MARL: as above, trace light brown. CALCARENITE: as above

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 3
530	100 tr	MARL: as above CALCARENITE: as above.	
540	100 tr	MARL: as above CALCARENITE: as above	
550	100 tr	MARL: as above CALCARENITE: as above	
560	90 10	MARL: as above CALCARENITE: clear to off white, loose, fine grained, angular to sundrounded, well sorted, abundant fossil fragments including forams, common calcite cemented aggregates	
570	90 10	MARL: as above, common calcisiltite CALCARENITE: commonly yellow/brown, hard, cacite cemented aggragates, common fossil fragments.	
580	90 10	MARL: light grey to light brownish grey, trace light greenish gray, soft to predominatly dispersive, common calcisiltite, common terrigenous silt, trace glauconite grains, trace lithics CALCARENITE: as above.	
590	80 20	MARL: as above, abundant calcisiltite., common silt CALCARENITE; as above.	
600	90 10	MARL: light grey to light greenish grey, trace light brownish grey, as above CALCARENITE: as above	
610	90 10	MARL: as above CALCARENITE: as above rare fossil fragments.	
620	90 10	MARL: as above CALCARENITE: as above	
630	100 tr	MARL: predominatly soft to minor firm to hard caclite cemented aggrgates, as above CALCARENITE:	
640	90 10	MARL: as above CALCARENITE: as above	
650	100 tr	MARL: as above, abubdantly silty/calcisiltite in places, trace forams, trace glauconite CALCARENITE : as above	
660	100 tr	MARL: as above CALCARENITE: as above	
670	70 30	MARL: light to medium grey, commonly light green, as above CALCARENITE: clear to light brown/yellow, loose, common fine grained cemented aggregates, moderately sorted, abundant fossil fragments, common forams, trace glauconite.	
680	90 10	MARL: as above CALCARENITE: as above	
690	80 20	MARL: light grey to light olive grey, trace white, soft to dispersive, abundant calciciltite/silt, trace forams, trace lithics, trace glauconite. CALCARENITE: as above	
700	80 20	MARL: as above, minor hard blocky calcite cemented aggregates. CALCARENITE: as above, minor hard cemented aggregates.	
710	90 10	MARL: abundant calcisiltite/silt, as above CALCARENITE: as above	
720	90 10	MARL: as above, trace lithics. CALCARENITE: as above.	
730	90 10	MARL: as above. CALCARENITE: as above.	

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 4
740	90 10	MARL: as above. CALCARENITE: as above.	
750	80 20	MARL: light grey to light olive grey, rare grey green, blocky to amorphous, soft to dispersive, minor firm, trace moderately hard and cemented, minor calcisiltite/silt, rare forams, trace glauconite. CALCARENITE: clear to light brown/yellow, loose, common fine grained cemented aggregates, moderately sorted, abundant fossil fragments, common forams.	
760	90 10	MARL: as above. CALCARENITE: as above.	
770	50 50	MARL: as above, trace yellow/brown. CALCARENITE: clear to light brown/yellow, loose, common fine grained cemented aggregates, moderately sorted, abundant fossil fragments, common forams, trace glauconite.	
780	80 20	MARL: generally light grey to light olive grey, rare olive grey to grey green, blocky, soft to firm, rarely moderately hard, trace silty, rare forams, trace glauconite. CALCARENITE: as above.	
790	90 10	MARL: as above. CALCARENITE: as above.	
800	80 20	MARL: as above, with increasing medium grey. CALCARENITE: as above.	
810	90 10	MARL: light to medium grey, trace olive grey, blocky to subblocky, soft to firm, trace dispersive, trace moderately hard, trace fossil fragments, trace glauconite. CALCARENITE: as above.	
820	90 10	MARL: as above. CALCARENITE: as above.	
830	90 10	MARL: generally as above but pale to light grey, medium grey. CALCARENITE: as above.	
840	90 10	MARL: as above. CALCARENITE: as above.	
850	100	MARL: as above.	
860	80 20	MARL: light grey, off white, yellow, medium grey, blocky to amorphous, soft to firm, minor dispersive, trace moderately hard, minor calcareous cement, trace disseminated glauconite. CALCARENITE: clear to light brown/yellow, friable to moderately hard, common fine to medium grained cemented aggregates, moderately sorted, rare fossil fragments and forams, trace glauconite. SLOWER ROP. COARSE FRAGMENTS OF HARD CEMENTED/RECRYSTALLISED MARL AT SCALPING SHAKERS. INCREASED PERCENT MODERATELY HARD CALCARENITE.	
870	20 80	MARL: as above. SANDSTONE: translucent brown, Fe stained, medium to minor coarse, rare very coarse to granule sized quartz grains, loose to friable, rarely moderately hard, subangular to subrounded, moderate to poorly sorted, minor weak to moderate calcareous cement, rare calcareous matrix, trace lithics, good inferred porosity, fair visual porosity, no shows.	
880	100	SANDSTONE: as above, predominantly medium to coarse, minor very coarse to granule sized grains, loose, rare calcareous cement, good inferred porosity, no shows.	
890	100	SANDSTONE: translucent brown, clear, loose, rare aggregates, medium to coarse, minor very coarse to granule sized grains, trace calcareous cement/matrix, good inferred porosity, no shows. CLAY MATRIX WASHING OUT OF SAMPLES.	
900	100	SANDSTONE: as above, becoming increasingly clear to translucent,	

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 5
910	100	SANDSTONE: clear to translucent, medium to coarse, minor very coarse, loose, good inferred porosity, no shows.	
920	100	SANDSTONE: clear to translucent, opaque, loose, fine to very coarse, rare granules, subangular to subrounded, poorly sorted, trace clay matrix, trace lithics and mica flakes, good inferred porosity, no shows.	
930	100	SANDSTONE: as above.	
940	100	SANDSTONE: as above.	
950	100	SANDSTONE: as above.	
960	100	SANDSTONE: clear to translucent, opaque, loose, minor aggregates, fine to coarse, rare very coarse to granule sized grains, subangular to subrounded, moderate to poorly sorted, rare siliceous cement/quartz overgrowths, trace pyrite cement, rare to minor brown argillaceous matrix, trace mica flakes, good inferred porosity, no shows. BROWN TO DARK BROWN ARGILLACEOUS MATRIX WASHING OUT OF SAMPLES.	
970	100	SANDSTONE: as above.	
980	100	SANDSTONE: clear to translucent, opaque, loose to moderately hard, abundant aggregates, fine to coarse, rare very coarse to granule sized grains, subangular to subrounded, moderate to poorly sorted, common moderate to strong calcareous cement, rare siliceous cement/quartz overgrowths, trace pyrite cement, rare to minor brown argillaceous matrix, trace mica flakes, good inferred porosity, fair visual porosity, no shows.	
990	100	SANDSTONE: clear to translucent, loose to minor moderately hard, medium to coarse grained, rare very coarse to granule, subangular to subrounded, moderately sorted, minor moderate to strong calcareous cement, minor brown argillaceous matrix, trace pyritic cement, rare lithics, trace pyrite nodules, fair visual porosity, good inferred porosity, no shows.	
1000	100	SANDSTONE: as above, common aggregates with moderate to strong calcareous cement.	
1010	70 30	SANDSTONE: as above. CLAYSTONE: brown to dark brown, blocky to amorphous, soft to firm, dispersive, minor sticky, arenaceous with minor to common medium grained sand, trace disseminated pyrite, trace mica flakes, trace very fine carbonaceous specks.	
1020	100	SANDSTONE: clear to translucent, loose, minor friable, fine to coarse, predominantly medium, subangular to subrounded, moderately sorted, minor moderate to strong calcareous cement, minor to common argillaceous matrix, trace pyrite nodules, trace mica flakes, good inferred porosity, no shows.	
1030	70 30	SANDSTONE: as above. CLAYSTONE: as above. CLAYSTONE DISPERSING THROUGHOUT SAMPLE.	
1040	80 20	SANDSTONE: as above. CLAYSTONE: as above.	
1050	80 20	SANDSTONE: as above. CLAYSTONE: as above.	
1060	20 80	SANDSTONE: as above. CLAYSTONE: as above.	
070	20 80	SANDSTONE: as above. CLAYSTONE: grey, dark grey, grey brown, blocky to amorphous, soft to firm, dispersive, minor sticky, common silty, rare to minor grained sand, trace disseminated pyrite, trace mica flakes, trace very fine carbonaceous specks. NOTE: change of colour in claystone from grey brown to predominately grey.	
1080	10 90	SANDSTONE: as above. CLAYSTONE: as above, abundant silt.	

CUTTINGS DESCRIPTIONS

Well: CONAN-1

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Depth (mRT)	Lithology (%)	
1090	10 90	SANDSTONE: as above. CLAYSTONE: as above, abundant silt
1100	100 tr	CLAYSTONE: as above, abundant silt. SANDSTONE: as above, trace pyrite cemented.
1110	100 tr	CLAYSTONE: as above, grading to silty claystone. SANDSTONE: as above
1120	100 tr	CLAYSTONE: as above SANDSTONE: as above
1130	100 tr	CLAYSTONE: as above, grading to silty claystone, trace mica. SANDSTONE: as above.
1140	90 10	CLAYSTONE: as above SANDSTONE: clear to transparent, loose, fine grained, subrounded to commonly subangular, well sorted, rare pyrite cemented, trace glauconite, trace mica, poor to good inferred porosity. Note sandstone change.
1150	80 20	CLAYSTONE: as above SANDSTONE: as above.
1160	70 30	CLAYSTONE: medium to commonly dark grey, soft to dispersive, abundant silt, minor fine grained arenaceous grains, trace carbonaceous material, trace glauconite, trace micromicaeous. SANDSTONE: as above, 5% pyrite cemented, trace siliceous cement.
1170	70 30	CLAYSTONE: as above SANDSTONE: as above, 5% pyrite cemented, trace brown/red coarse grains
1180	90 10	CLAYSTONE: as above SANDSTONE: as above, 1% pyrite cemented.
1190	90 10	CLAYSTONE: as above SANDSTONE: as above, 1% pyrite cemented,
1200	90 10	CLAYSTONE: as above, trace light greenish grey, trace fossil fragments SANDSTONE: as above, tr pyrite cemented, minor siliceous cement.
1207	100 tr	CLAYSTONE: as above SANDSTONE: trace siliceous cemented redy/brown quartz grains.
		T.D. 1207mRT in 17 1/2" hole at 10:20 27-07-95, circulated bottoms up.

CUTTINGS DESCRIPTION SHEETS



Well: CONAN-1
 Permit: VIC/P31
 Hole Section: 12 1/4"
 Geologist(s): S. Horan/K. Haak

Australia Division
 BHP Petroleum

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 1
1210	80 20	CLAYSTONE: medium grey to rare dark grey, rare grey brown, blocky, soft to firm, minor fine to medium grained sand grains, trace carbonaceous material. SANDSTONE: clear to translucent, loose, rare friable to moderately hard, medium, rare fine and coarse, subangular to subrounded, moderately sorted, trace calcareous cement, trace pyrite cement, good inferred porosity, fair to poor visual porosity, no shows.	
1220	100	CLAYSTONE: medium grey, soft, dispersive, amorphous, minor blocky, rare fine to medium quartz grains, trace very fine carbonaceous specks, trace glauconite.	
1230	90 10	CLAYSTONE: as above, slightly silty, rare fine to medium sand grains, rare disseminated and nodular glauconite, trace nodular pyrite, trace very fine carbonaceous specks. SANDSTONE: as above.	
1240	100 tr	CLAYSTONE: as above. SANDSTONE: as above, trace grey, hard, fine to medium, subangular to subrounded, moderately sorted, strong calcareous cement, trace pyritic cement, rare light brown argillaceous matrix, trace lithics, poor visual porosity, no shows.	
1250	100	CLAYSTONE: medium to medium dark grey, soft, dispersive, amorphous, trace silty, trace to locally minor very fine sand grains, rare glauconite, trace very fine mica flakes, trace lithics, trace disseminated pyrite.	
1260	100	CLAYSTONE: as above.	
1270	100	CLAYSTONE: as above.	
1280	100 TR	CLAYSTONE: as above. SANDSTONE: light grey, friable, fine to medium, subangular, moderately sorted, minor weak calcareous cement, poor visual porosity, no shows.	
1290	100	CLAYSTONE: medium grey to olive grey, soft to minor firm, dispersive, amorphous, rarely blocky, trace fine sand grains, trace very fine carbonaceous specks, trace glauconite and disseminated pyrite.	
1300	100	CLAYSTONE: as above.	
1310	100	CLAYSTONE: as above, slightly silty.	
1320	100	CLAYSTONE: as above.	
1330	100	CLAYSTONE: as above.	
1340	100	CLAYSTONE: as above.	
350	100	CLAYSTONE: as above, medium grey to olive grey, soft to minor firm, dispersive, amorphous, rarely blocky, slightly silty, trace very fine carbonaceous specks, trace glauconite and disseminated pyrite.	
1360	100	CLAYSTONE: as above.	
1370	100	CLAYSTONE: as above.	
1380	100	CLAYSTONE: as above.	

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 2
1390	100	CLAYSTONE: as above.	
1400	100	CLAYSTONE: as above.	
1410	100	CLAYSTONE: medium grey to grey brown, olive grey, soft to firm, minor dispersive, blocky to amorphous, locally slightly silty, trace glauconite, trace carbonaceous specks, trace disseminated pyrite.	
1420	100	CLAYSTONE: as above.	
1430	100	CLAYSTONE: as above.	
1440	100	CLAYSTONE: as above, rare glauconite, trace disseminated pyrite.	
1450	100 TR	CLAYSTONE: as above, rare glauconite. SANDSTONE: transparent, loose, fine grained, subangular to predominatly subrounded, well sorted, good inferred porosity, no show.	
1460	100 TR	CLAYSTONE: as above, trace inoceramus fragments. SANDSTONE: as above	
1470	100	CLAYSTONE: as above, rare glauconite, no inoceramus.	
1480	100	CLAYSTONE: as above, trace disseminated pyrite.	
1490	100	CLAYSTONE: as above.	
1500	100 TR	CLAYSTONE: medium grey to grey brown, olive grey, predominatly soft to minor firm, minor dispersive, common silt, trace to rare glauconite, trace carbonaceous specks, trace disseminated to frambridal pyrite. SANDSTONE: white to very light grey, transparent quartz grains, friable to loose, very fine to fine grained, subrounded to subangular, well sorted, abundant white calcite cement, nil to poor visual porosity, no fluoro.	
1510	100 TR	CLAYSTONE: as above. SANDSTONE: as above.	
1520	100	CLAYSTONE: as above, rare glauconite, trace inoceramus, one gastropod shell. claystone cuttings becoming firmer.	
1530	100 TR	CLAYSTONE: as above. SANDSTONE: as above.	
1540	100	CLAYSTONE: as above.	
1550	100	CLAYSTONE: as above, trace glauconite.	
1560	100	CLAYSTONE: as above, trace glauconite.	
1570	100	CLAYSTONE: as above, trace glauconite.	
1580	100	CLAYSTONE: as above, trace glauconite.	
1590	100	CLAYSTONE: as above, trace glauconite.	
1600	100	CLAYSTONE: as above, trace glauconite.	
1610	100	CLAYSTONE: as above, trace glauconite.	
1620	100	CLAYSTONE: as above, no glauconite.	
1630	100	CLAYSTONE: medium grey to brownish grey, commonly olive gray, soft to commonly firm, rarely dispersive, commonly subblocky, common silt, common carbonaceous specks, trace glauconite grains.	
1640	100	CLAYSTONE: as above, trace glauconite, trace calcite crystals, trace dolomite.	
1650	100	CLAYSTONE: as above.	

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 3
1660	100	CLAYSTONE: as above, trace glauconite.	
70	100	CLAYSTONE: as above, trace glauconite.	
1680	100	CLAYSTONE: as above, trace glauconite.	
1690	100	CLAYSTONE: as above, trace glauconite.	
1700	100	CLAYSTONE: as above, trace glauconite, rare firm calcite crystals.	
1710	100	CLAYSTONE: as above, trace glauconite, common silt, rare to minor carbonaceous material.	
1715	90 10	SPOT SAMPLE - SLOW ROPs AT 1712-1714 CLAYSTONE: as above, trace disseminated pyrite, common carbonaceous material. SANDSTONE: transparent, loose, coarse to very coarse, subrounded, well sorted, trace quartz overgrowths, good inferred porosity, no show.	
1720	95 5	CLAYSTONE: as above. SANDSTONE: as above.	
1730	70 30	CLAYSTONE: medium grey to brownish grey, commonly light brownish grey, soft to dispersive, common to abundant siltstone, commonly carbonaceous, grades to carbonaceous claystone in places, trace calcareous. SANDSTONE: transparent to predominatly translucent, loose, trace hard cemented aggregates, fine to predominantly coarse grained, minor very coarse to granule sized, subangular to commonly subrounded, common quartz cement, common calcite cement, trace medium brown dolomite cement, common pale white argillaceous matrix, poor inferred porosity, poor visual porosity, no show. CUTTINGS COMING FROM TOP SHAKER HAVE GRANULE TO PEBBLE SUBROUNDED TO PREDOMINATLY SUBANGULAR GRAINS. IN COARSE FRACTION THERE ARE LARGE CHIPS OF FIRM TO HARD MEDIUM GREY TO BROWNISH BLACK CLAYSTONE - PRESUMABLY THIS IS THE 'REAL' ROCK LITHOLOGY BEFORE THE BIT BREAKS IT DOWN.	
1735	50 50	SPOT SAMPLE CLAYSTONE: as above. SANDSTONE: predominatly fine to medium grained, commonly coarse to very coarse grained, as above, no show.	
1740	50 50	CLAYSTONE: as above. SANDSTONE: as above.	
1745	30 70	SPOT SAMPLE CLAYSTONE: medium grey to brownish grey, commonly light brownish grey, soft to dispersive, common to abundant siltstone, commonly carbonaceous, trace calcareous. SANDSTONE: translucent to transparent, trace moderate pink and moderate yellow, loose, trace aggregates, fine to very coarse grained, predominatly coarse to very coarse, subangular, commonly angular and subrounded, moderately sorted, minor siliceous cement, trace to minor pale white argillaceous matrix, good inferred porosity, no show.	
1750	60 40	CLAYSTONE: as above, common carbonaceous specks, grade to carbonaceous claystone in places. SANDSTONE: as above.	
1755	50 50	SPOT SAMPLE CLAYSTONE: as above, common carbonaceous claystone, trace frambriodal pyrite. SANDSTONE: as above, common pale white argillaceous matrix, trace glauconite.	
1757	50 50	SPOT SAMPLE CLAYSTONE: as above. SANDSTONE: as above. POOH BIT#3 DUE TO SLOW ROP.	

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 4
1760	20 70 10	<p>SANDSTONE: clear to translucent, milky to opaque, loose, trace friable, fine to granular, predominantly coarse to very coarse, subangular to subrounded, occasionally angular, bit fractured grains ?, trace weak to moderate siliceous cement, trace pyritic cement, fair inferred porosity, no shows.</p> <p>CLAYSTONE: medium, grey brown, soft to firm, minor moderately hard, amorphous, minor to common blocky to subfissile, commonly silty, grades to siltstone, trace micromicaceous, trace to rare glauconite, trace very fine carbonaceous specks, trace disseminated pyrite.</p> <p>SILTSTONE: dark grey, grey brown, firm to moderately hard, subblocky to rarely fissile, trace micromicaceous, trace to rare glauconite, trace very fine carbonaceous specks, trace lithics, trace disseminated pyrite.</p>	
1765	20 70 10	<p>SANDSTONE: as above, trace friable fine grained aggregates, minor weak to moderate calcareous cement, minor light brown argillaceous matrix, trace glauconite, poor visual porosity, no shows.</p> <p>CLAYSTONE: as above.</p> <p>SILTSTONE: as above.</p>	
1770	100	<p>CLAYSTONE: as above.</p> <p>UNWASHED SAMPLES CONTAINS:</p> <p>SANDSTONE: white, off white to light brown, friable to moderately hard, fine grained, subangular to subrounded, moderately to well sorted, common moderately strong calcareous cement, minor to common pale brown argillaceous matrix, trace lithics, trace carbonaceous material, poor visual porosity, no shows.</p> <p>SILTSTONE: as above.</p> <p>CLAYSTONE: as above.</p>	
1775	90 10	<p>CLAYSTONE: as above, rare very fine sand grains, trace nodular pyrite.</p> <p>SANDSTONE: off white to light grey, friable, very fine to fine grained, locally silty, subangular to subrounded, moderately sorted, minor weak calcareous cement, common to locally abundant off white to light grey argillaceous matrix, grades to siltstone, trace lithics, trace carbonaceous material, trace very fine mica flakes, poor visual porosity, no shows.</p>	
1780	90 10	<p>CLAYSTONE: as above.</p> <p>SANDSTONE: as above.</p>	
1785	100	<p>CLAYSTONE: medium grey, soft, rarely firm, dispersive, amorphous, minor blocky, rarely silty, trace very fine carbonaceous specks, trace glauconite, trace pyrite nodules.</p>	
1790	100	<p>CLAYSTONE: as above, minor silty.</p>	
1795	100	<p>CLAYSTONE: as above, minor silt, minor carbonaceous specks.</p>	
1800	100	<p>CLAYSTONE: as above, abundant silt, grading to silty claystone, common carbonaceous specks, grading to carbonaceous silty claystone in places, trace black coal clasts, brittle, argillaceous.</p>	
1805	100	<p>CLAYSTONE: light to medium grey, light brownish grey, predominately dispersive, minor firm to moderately hard, abundant silt, grades to silty claystone, common carbonaceous specks, trace disseminated pyrite, trace glauconite grains, trace very fine mica flakes.</p>	
1810	30 70	<p>CLAYSTONE: as above</p> <p>ARGILLACEOUS SANDSTONE: light grey to pinkish grey, commonly light brownish grey with translucent quartz grains, friable to firm, commonly loose, fine grained, commonly medium to coarse, subrounded to subangular, poorly sorted, abundant light grey to pinkish grey to light brownish grey argillaceous matrix, trace calcite cement, common lithics, trace disseminated pyrite, nil to poor visual porosity, no show.</p>	
1815	20 80	<p>CLAYSTONE: as above</p> <p>ARGILLACEOUS SANDSTONE: as above, predominately fine to medium grained, no show</p>	
1820	10 90	<p>CLAYSTONE: as above</p> <p>ARGILLACEOUS SANDSTONE: as above, no show</p>	
1825	50 50	<p>CLAYSTONE: as above</p> <p>ARGILLACEOUS SANDSTONE: as above, no show</p>	

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 5
1830	80 20	CLAYSTONE: as above, common carbonaceous material, trace glauconite pellets. ARGILLACEOUS SANDSTONE: as above, no show	
1835	40 60	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: as above, trace grayish yellow quartz grains, trace moderate red, trace lithics, no show	
1840	40 60	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: as above, no show	
1845	10 90	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: white to pinkish grey, trace greyish yellow, trace moderate red, translucent to transparent quartz grains, loose to commonly firm to hard, fine to very coarse grained, predominatly medium to coarse grained, predominatly subangular, commonly angular and subrounded, poorly sorted, quartzose, abundant white to pinkish grey argillaceous matrix, common calcite cement, trace to rare lithics, minor carbonaceous specks, trace feldspar, trace glauconite pellets, poor inferred porosity, no show,	
1850	10 90	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: as above, no show.	
1855	10 90	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: as above, no show.	
1860	10 90	CLAYSTONE: medium grey to brownish grey, firm, commonly soft, sbblocky to blocky, common silt, common carbonaceous specks, trace glauconite pellets, trace frambridal pyrite, trace calcareous. ARGILLACEOUS SANDSTONE: as above, no show	
65	10 90	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: as above, trace moderate green , no show.	
1870	10 90	CLAYSTONE: as above, rare to minor glauconite pellets, ARGILLACEOUS SANDSTONE: as above, no show	
1875	20 80	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: as above, common pale green argillaceous matrix, no show.	
1880	10 90	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: as above, no pale green argillaceous matrix, no show	
1885	20 80	CLAYSTONE: as above ARGILLACEOUS SANDSTONE: as above, common lithics trace mica flakes, no show.	
1890	20 80	CLAYSTONE: as above ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: very light grey to light greenish grey, minor pinkish grey, trace greyish yellow, trace moderate red, loose, fine to coarse grained, predominantly medium grained, poorly sorted, abundant -40% lithics, abundant - 40% quartz, abundant white to very light grey, trace calcite cement, trace mica flakes, poor inferred porosity, no show.	
1895	10 90	CLAYSTONE: as above ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, no show.	
1900	TR 100	CLAYSTONE: as above ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, trace feldspar, no show.	
905	TR 100	CLAYSTONE: as above ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above , brownish black, no show	
1910	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, no show.	
1915	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, no show.	

Depth (mRT)	Lithology (%)	CUTTINGS DESCRIPTIONS	
		Well: CONAN-1	Page 6
1920	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: very light grey to light greenish grey, medium to dark grey, brownish black, trace greyish yellow, trace moderate red, trace dark greenish grey, fine to very coarse grained, predominatly coarse grained, poorly sorted, abundant to 50% lithics, abundant to 30% quartz, abundant very light grey argillaceous matrix, trace calcite cement, trace feldspar, trace mica flakes, trace carbonaceous fragments, poor inferred porosity, no show.	
1925	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, no show.	
1930	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, no show.	
1935	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, no show.	
1940	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, no show.	
1945	90 10	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, predominantly medium, no show. SILTSTONE: grey brown to dark grey brown, dark brown, firm to minor moderately hard, subblocky, nil to locally minor glauconite nodules, trace lithics, trace disseminated pyrite.	
1950	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: translucent, minor transparent, light grey to medium grey, rare dark grey, rare light green, trace moderate red, medium to very coarse, predominantly coarse, abundant to 60% quartz, abundant to 30% lithics, abundant very light grey argillaceous matrix, trace weak to moderate calcareous cement, trace feldspar, trace mica flakes, poor inferred porosity, (matrix supported), no shows.	
1955	90 10	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, no show. CLAYSTONE: varicoloured, light grey, light grey green, light brown, trace medium to dark brown, soft to firm, subblocky, trace silty, trace carbonaceous specks.	
1960	20 80	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: light grey, light grey green, trace dark grey and moderate red, friable to rare moderate hard, very fine to medium grained, predominantly fine to medium, grades locally to arenaceous siltstone, abundant light grey to light brown argillaceous matrix, trace weak calcareous cement, minor to locally abundant lithics, trace carbonaceous material, poor visual porosity, no shows. CLAYSTONE: light grey, medium to dark brown, light brown, rare light grey green, soft to minor moderately hard, subblocky, rare to minor silty, grades locally to siltstone, trace carbonaceous specks, trace disseminated pyrite.	
1965	10 90	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above, trace grey green to green, no show. CLAYSTONE: as above, generally light grey, light brown, light green grey, trace medium brown, soft to firm, trace moderately hard, trace silty, trace carbonaceous material and glauconite nodules.	
1970	10 90	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above. CLAYSTONE: as above.	
1975	60 40	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: light grey, light grey green, trace dark grey and moderate red, friable to rare moderate hard, fine to medium grained, minor coarse to very coarse, abundant light grey to light grey green argillaceous matrix, trace weak calcareous cement, minor to locally abundant lithics, trace carbonaceous material, poor visual porosity, no shows. CLAYSTONE: as above.	
1980	90 10	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above. CLAYSTONE: as above.	
1985 TD.	100	ARGILLACEOUS QUARTZ/LITHIC SANDSTONE: as above. TD REACHED AT 22:30 HRS 31/07/95.	

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6.2 APPENDIX 2 Sidewall Core Descriptions

SIDEWALL CORE DESCRIPTION SHEET



Well: CONAN-1
 Permit: VIC P31
 Geologist(s): S.HORAN
 Logging Suite No: 1

Date: 2-8-95

Page: 1 of 4

Core No.	Depth (mRT)	Recovery (mm)	
1	1950		LOST
2	1947	20	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: light greenish grey to greenish grey, commonly light grey, trace light brown, trace moderate red, friable, fine to predominatly medium grained, subrounded to subangular, poorly sorted, 50% varicoloured lithics, trace mica flakes, trace feldspar grains, 30% translucent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous specks, mm scale carbonaceous laminations, nil to poor visual porosity.
3	1942	30	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: light greenish grey to greenish grey, commonly light grey, commonly medium grey, trace light brown, friable, fine to predominatly medium grained, subangular to subrounded, trace angular, poorly sorted, 50% varicoloured lithics, trace mica flakes, trace feldspar, 30% translucent to transparent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous matrix, nil to poor visual porosity.
	1936	35	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: light greenish grey to greenish grey, commonly to abundant light to medium grey, trace light brown, trace greyish yellow, trace moderate red, friable, fine to predominatly medium grained, subrounded to subangular, poorly sorted, 50% varicoloured lithic grains, trace mica flakes, trace feldspar, 30% translucent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous specks, nil to poor visual porosity.
5	1925	40	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: light greenish grey to greenish grey, commonly to abundant light to medium grey, trace light brown, trace greyish yellow, trace moderate red, friable, fine to predominatly medium grained, subrounded to subangular, poorly sorted, 40% varicoloured lithic grains, trace mica flakes, trace feldspar, 40% translucent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous specks, nil to poor visual porosity.
6	1917	35	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: light greenish grey to greenish grey, commonly to abundant light to medium grey, trace light brown, trace greyish yellow, trace moderate red, friable, fine to coarse grained, predominatly medium to coarse grained, subrounded to predominatly subangular, poorly sorted, 40% varicoloured lithic grains, trace mica flakes, trace feldspar, 40% translucent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous specks, nil to poor visual porosity.

SIDEWALL CORE DESCRIPTION SHEET



Well: CONAN-1
 Permit: VIC P31
 Geologist(s): S.HORAN
 Logging Suite No:1

Date: 2-8-95

Page: 2 of 4

Core No.	Depth (mRT)	Recovery (mm)	
7	1897	25	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: light greenish grey to greenish grey, commonly to abundant light to medium grey, trace light brown, trace greyish yellow, trace moderate red, friable, fine to coarse grained, predominately medium grained, subrounded to predominately subangular, poorly sorted, 40% varicoloured lithic grains, trace mica flakes, trace feldspar, 40% translucent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous specks, nil to poor visual porosity.
8	1892	35	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: light greenish grey to greenish grey, commonly to abundant light to medium grey, trace light brown, trace greyish yellow, trace moderate red, friable, fine to coarse grained, predominately medium to coarse grained, subrounded to predominately subangular, poorly sorted, 40% varicoloured lithic grains, trace mica flakes, trace feldspar, 40% translucent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous specks, nil to poor visual porosity.
9	1875	35	CLAYSTONE: very light to light grey, firm, trace fine grained sand, trace silt, rare carbonaceous specks, trace mica flakes, non calcareous.
10	1872	20	CLAYSTONE: light to medium grey, firm, trace fine grained sand, trace silt, trace carbonaceous specks, trace mica flakes, non calcareous.
11	1867	20	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: light greenish grey to greenish grey, commonly to abundant light to medium grey, trace light brown, trace greyish yellow, trace moderate red, friable, fine to medium grained, subrounded to subangular, poorly sorted, 40% varicoloured lithic grains, trace mica flakes, trace feldspar, 40% translucent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous specks, trace disseminated pyrite, nil to poor visual porosity.
12	1861	25	ARGILLACEOUS LITHIC/QUARTZ SANDSTONE: white to very light grey, trace light brown, trace greyish yellow, trace moderate red, friable, fine to medium grained, subrounded to subangular, poorly sorted, 30% varicoloured lithic grains, trace mica flakes, trace feldspar, 50% translucent quartz grains, abundant light grey to white argillaceous matrix, trace calcite matrix, trace carbonaceous specks, trace disseminated pyrite, nil to poor visual porosity.
13	1852	20	ARGILLACEOUS QUARTZ /LITHIC SANDSTONE: white to very light grey, friable, fine to coarse grained, predominately medium to coarse grained, subangular to subrounded, poorly sorted, 50% translucent to transparent quartz, 30% varicoloured lithics, abundant white to very light grey argillaceous matrix, trace calcite matrix, minor carbonaceous material, rare pyrite cement, nil to poor visual porosity.
14	1829	20	CLAYSTONE: very light grey to light grey, firm, common carbonaceous specks, trace carbonaceous laminations, trace fine sand grains, trace silt, non calcareous.

SIDEWALL CORE DESCRIPTION SHEET

Well: CONAN-1
 Permit: VIC P31
 Geologist(s): S.HORAN
 Logging Suite No: 1

Date: 2-8-95

Core No.	Depth (mRT)	Recovery (mm)	
15	1824	20	CLAYSTONE: medium to dark grey, firm, abundant carbonaceous laminations and specks, trace silt, trace micromicaeous
16	1805	20	SILTSTONE: light grey to light brownish grey, firm, common carbonaceous specks, abundant argillaceous material, trace micromicaeous, trace fine grained sand laminations, non calcareous.
17	1795	30	CLAYSTONE: medium grey, firm, common carbonaceous laminations and specks, trace silt to fine grained sand laminations, non calcareous.
18	1785	40	CLAYSTONE: medium grey to brownish grey, firm, common carbonaceous specks, minor glauconite, minor silt to very fine sand grains, rarely calcareous.
19	1775	30	ARGILLACEOUS SANDSTONE: white to medium light grey, firm, quartzose, fine to rarely medium grained, subangular to subrounded, poorly sorted, abundant white argillaceous matrix, common calcareous cement, common lithics, trace feldspar, rare carbonaceous specks, trace glauconite, poor visual porosity.
20	1767	25	SANDSTONE: white to light grey, friable, fine grained, subrounded to subangular, poorly to moderately sorted, common argillaceous and carbonaceous mm scale laminations, trace glauconite, trace lithics, poor to moderate visual porosity.
21	1759	20	SANDSTONE: very light grey with translucent to transparent quartz grains, friable, medium to very coarse grained, commonly granules, predominatly very coarse, subangular, moderately to well sorted, subangular, trace siliceous cement, trace pyrite cement, good visual porosity.
22	1740	30	SANDSTONE; very light grey to white with translucent to transparent quartz grains, friable, medium to coarse grained, predominatly medium grained, subangular to subrounded, moderately sorted, common white argillaceous matrix, trace calcite matrix, moderate visual porosity.
23	1719	20	SANDSTONE: very light grey with translucent to transparent quartz grains, trace grayish yellow, friable, medium to very coarse grained, trace granules, predominatly very coarse, subangular to rarely subrounded, moderately to well sorted, trace argillaceous matrix, trace calcite cement, goog inferred porosity.
24	1715	25	SANDY CLAYSTONE: medium grey with traslucent to transparent quartz grains, firm, abundant fine to medium grained sand, trace carbonaceous specks, trace calcareous.
25	1704	40	CLAYSTONE: medium to dark grey, firm, rare glauconite grains, trace silty, trace frambridal pyrite, trace micrmicaeous, trace calcareous.
26	1678	20	CLAYSTONE: medium to dark grey, firm to soft, trace silty, trace carbonaceous specks, trace glauconite, trace micromicaeous, trace calcareous.
27	1649	25	CLAYSTONE: medium grey, firm, trace silty, trace micrmicaeous, trace carbonaceous specks, trace calcareous.

SIDEWALL CORE DESCRIPTION SHEET

Well: CONAN-1
Permit: VIC P31
Geologist(s): S.HORAN
Logging Suite No: 1

Date: 2-8-95

Page: 4 of 4

Core No.	Depth (mRT)	Recovery (mm)	
28	1601.5	40	CLAYSTONE: medium to dark grey, minor silt, trace carbonaceous specks, trace glauconite, trace micromicaeous, trace calcareous, trace frambriodal pyrite.
29	1575.5	45	CLAYSTONE: medium to dark grey, minor silt, trace micromicaeous, trace calcite cement, minor pyrite cement.
30	1539	30	CLAYSTONE: medium to dark grey, minor silt, trace micromicaeous, trace pyrite cement, trace micromicaeous.



**SIDEWALL CORE
FLUORESCENCE EVALUATION**

Well: CONAN-1
Permit: VIC/P31
Geologist(s): S.HORAN
Logging Suite No: 1

Date: 2-8-95

Page: 1 of 2

Core No.	Depth (mRT)	Recovery (mm)	Lithology	
1	1950		LOST	
2	1947		SANDSTONE	No direct,no cut,no crush cut, no residual ring
3	1942		SANDSTONE	No direct, no cut,no crush cut,no residual ring
4	1936		SANDSTONE	No direct, no cut, no crush cut,no residual ring
5	1925		SANDSTONE	No direct, no cut, no crush cut,no residual ring
6	1917		SANDSTONE	No direct, no cut, no crush cut,no residual ring
7	1897		SANDSTONE	No direct, no cut, no crush cut,no residual ring
8	1892		SANDSTONE	No direct, no cut, no crush cut,no residual ring
9	1875		CLAYSTONE	No direct, no cut, no crush cut,no residual ring
10	1872		SANDSTONE	No direct, no cut, no crush cut,no residual ring
	1867		SANDSTONE	No direct, no cut, no crush cut,no residual ring
12	1861		SANDSTONE	No direct, no cut, no crush cut,no residual ring
13	1852		SANDSTONE	No direct,no cut,no crush cut, no residual ring.
14	1829		CLAYSTONE	No direct,no cut,weak dull white crush cut, thin dull white residual ring.
15	1824		CLAYSTONE	No direct,no cut, weak dull white crush cut, thick bright white residual ring.
16	1805		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.
17	1795		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.
18	1785		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.
19	1775		SANDSTONE	No direct,no cut,no crush cut, no residual ring.
20	1767		SANDSTONE	No direct,no cut,no crush cut, no residual ring.
21	1759		SANDSTONE	No direct,no cut,no crush cut, no residual ring.
22	1740		SANDSTONE	No direct,no cut,no crush cut, no residual ring.
23	1719		SANDSTONE	No direct,no cut,no crush cut, no residual ring.
24	1715		CLAYSTONE	No direct, no cut, no crush cut, thin dull yellowy/white residual ring.
25	1704		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.



**SIDEWALL CORE
FLUORESCENCE EVALUATION**

Well: CONAN-1
Permit: VIC/P31
Geologist(s): S.HORAN
Logging Suite No: 1

Date: 2-8-95

Page: 2 of 2

Cor No.	Depth (mRT)	Recovery (mm)	Lithology	
26	1678		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.
27	1649		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.
28	1601.5		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.
29	1575.5		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.
30	1539		CLAYSTONE	No direct,no cut,no crush cut, no residual ring.

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6.3 APPENDIX 3 Geochemical Basic Data

GEOTECH JOB 2216, COMAN-1

KK/ref. No.	Depth(m) Type	Rvmax	Range	N	Description Including Liptinite (Exinite) Fluorescence
T1753	1575.5 SWC 29	0.46	0.30-0.58	25	Sparse sporinite, yellow to orange, sparse resinite, yellow to orange, rare cutinite yellow to orange. (Siltstone. Dom abundant, I>V>L. Inertinite abundant, vitrinite common, liptinite sparse. Some large inertinite and vitrinite phytoclasts present. Mineral fluorescence pervasive moderate orange. Pyrite abundant.)
T1754	1649.0 SWC 27	0.48	0.33-0.63	26	Sparse sporinite, greenish yellow to orange, sparse liptodetrinite yellow to orange. (Siltstone. Dom abundant, I>L>V. Inertinite abundant, liptinite sparse, vitrinite sparse. Some large inertinite phytoclasts present. Mineral fluorescence pervasive, moderate orange. Pyrite common.)
T1755	1715.0 SWC 24	0.52	0.36-0.68	27	Sparse sporinite, yellow to orange, sparse liptodetrinite yellow to orange. (Siltstone. Dom abundant, I>V>L. Inertinite and vitrinite abundant, liptinite sparse. Some large inertinite and vitrinite phytoclasts present. Some of the wood structures are pyritised. Mineral fluorescence pervasive, moderate orange. Pyrite abundant.)
T1756	1775.0 SWC 19	0.50	0.34-0.71	31	Sparse resinite, yellowish orange, rare cutinite and sporinite yellow to orange. (Siltstone. Dom major, I>V>L. Inertinite and vitrinite abundant, liptinite sparse. Some large inertinite and vitrinite phytoclasts present. The large inertinite clasts occur as semifusinite and macrinite. Mineral fluorescence pervasive, moderate orange. Pyrite abundant.)
T1757	1852.0 SWC 13	0.53	0.37-0.74	28	Rare sporinite, orange to dull orange, rare cutinite, non-fluorescing. (Argillaceous sandstone. Dom abundant, I>V>L. Inertinite abundant, vitrinite common, liptinite rare. Some large inertinite and vitrinite phytoclasts present. From some of the large vitrinite clasts it is apparent that the low part of the reflectance range is derived from tissue having an unusually low reflectance, probably forming part of the bark. This low reflecting tissue does not show fluorescence and does not contain suberin. Some low reflecting material within coaly clasts has an appearance similar to that of bituminite. Cutinite is present, and has a reflectance of 0.44%. Mineral fluorescence patchy, moderate to weak orange from matrix, absent from sand grains. Sideritic carbonate abundant, sparse dolomite rhombs. Pyrite sparse.)
T1758	1892.0 SWC 8	0.57	0.49-0.70	8	Rare liptodetrinite, orange. (Argillaceous lithic sandstone. Dom sparse I>V>L. Inertinite sparse, vitrinite and liptinite rare. Mineral fluorescence patchy weak to moderate orange in the matrix, generally absent from sand sized grains. Iron oxides sparse, some secondary after pyrite. Pyrite rare.)

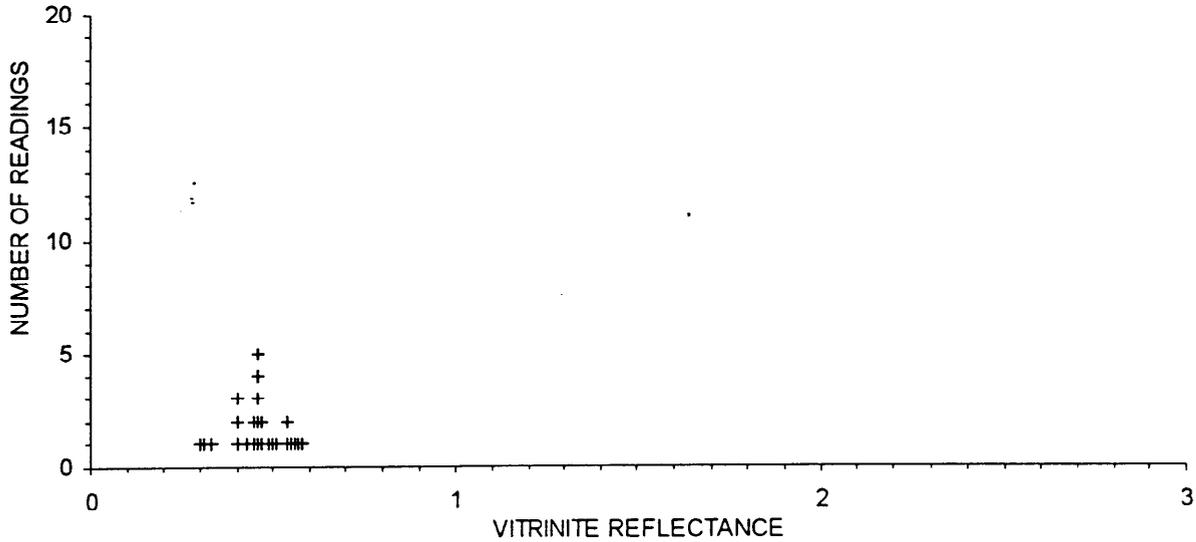
WELL: CONAN 1
 SAMPLE ID: 1575.5 METRES

CLIENT: BHP PETROLEUM
 DATE: NOVEMBER 1995

SAMPLE TYPE: SWC

(Total No. of Readings=25) 0.30 0.31 0.33 0.40 0.40 0.40 0.43 0.45 0.45 0.46 0.46 0.46 0.46 0.47 0.47 0.49
 0.50 0.51 0.54 0.54 0.55 0.56 0.57 0.58

VITRINITE REFLECTANCE							MACERAL IDENTIFICATION				
POPULATION	No. of	Mean	Min	Max	STD	Comments	%	%	%	%	
Number	%	Ro (%)	Ro (%)	Ro (%)	Dev (%)		Alginite	Exinite	Vitrinite	Inertinite	
1	100.0	25	0.46	0.30	0.58	0.08	INDIGENOUS (+)	0.00	6.78	25.42	67.80

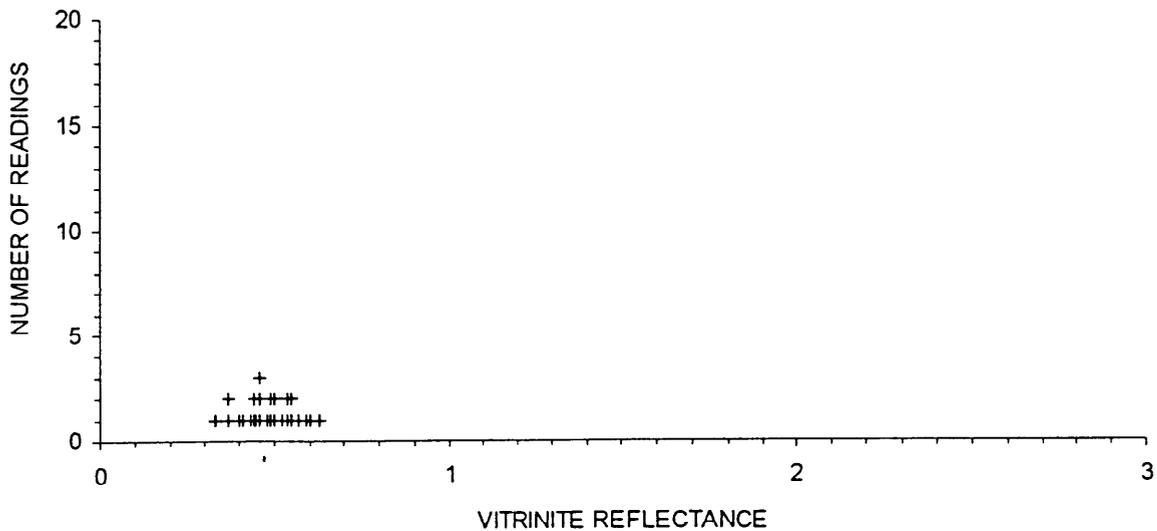


SAMPLE ID: 1649 METRES

SAMPLE TYPE: SWC

(Total No. of Readings=26) 0.33 0.37 0.37 0.40 0.41 0.43 0.44 0.44 0.45 0.46 0.46 0.46 0.48 0.49 0.49 0.50 0.50
 0.52 0.54 0.54 0.55 0.55 0.57 0.59 0.60 0.63

VITRINITE REFLECTANCE							MACERAL IDENTIFICATION				
POPULATION	No. of	Mean	Min	Max	STD	Comments	%	%	%	%	
Number	%	Ro (%)	Ro (%)	Ro (%)	Dev (%)		Alginite	Exinite	Vitrinite	Inertinite	
1	100.0	26	0.48	0.33	0.63	0.08	INDIGENOUS (+)	0.00	14.81	11.11	74.07



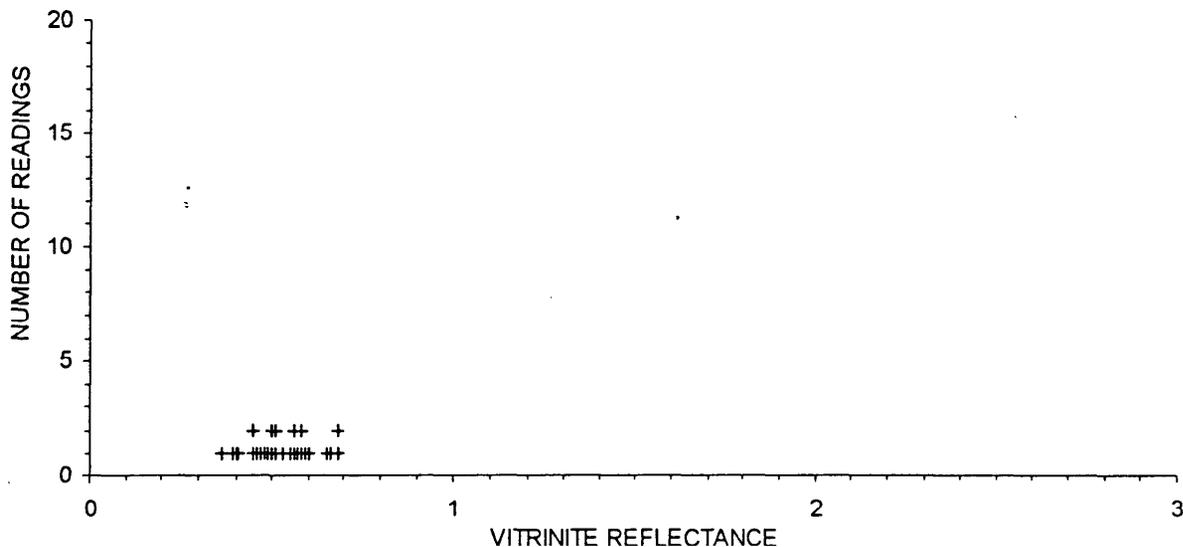
WELL: CONAN 1
 SAMPLE ID: 1715 METRES

CLIENT: BHP PETROLEUM
 DATE: NOVEMBER 1995

SAMPLE TYPE: SWC

(Total No. of Readings=27) 0.36 0.39 0.40 0.41 0.45 0.45 0.46 0.47 0.48 0.49 0.50 0.50 0.51 0.51 0.53 0.55 0.56
 0.56 0.57 0.58 0.58 0.59 0.60 0.65 0.66 0.68 0.68

VITRINITE REFLECTANCE							MACERAL IDENTIFICATION				
POPULATION	No. of	Mean	Min	Max	STD	Comments	%	%	%	%	
Number	%	Ro (%)	Ro (%)	Ro (%)	Dev (%)		Alginite	Exinite	Vitrinite	Inertinite	
1	100.0	27	0.52	0.36	0.68	0.09	INDIGENOUS (+)	0.00	1.71	21.37	76.92

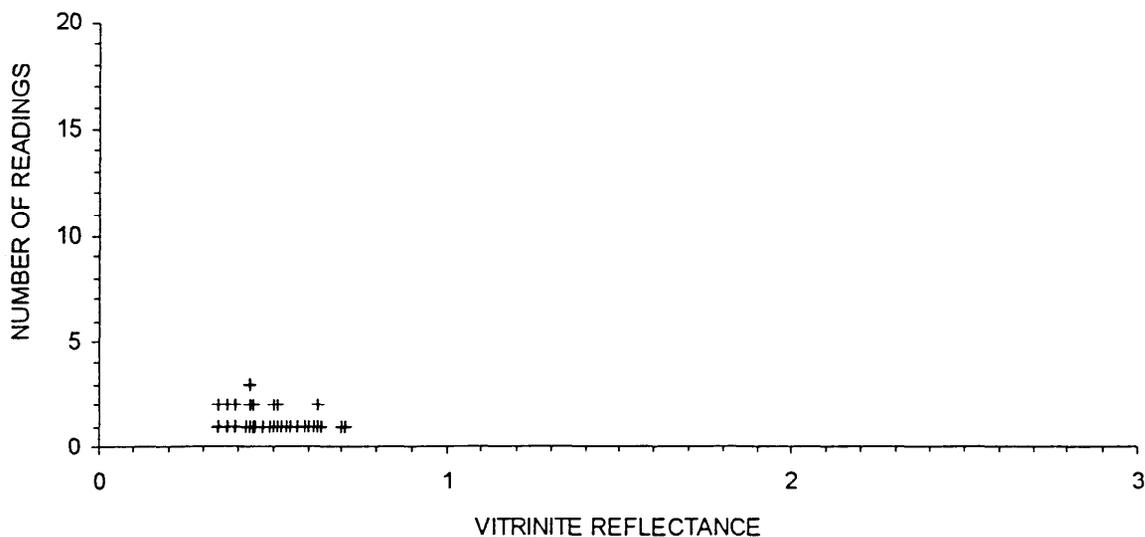


SAMPLE ID: 1775 METRES

SAMPLE TYPE: SWC

(Total No. of Readings=31) 0.34 0.34 0.37 0.37 0.39 0.39 0.42 0.43 0.43 0.43 0.44 0.44 0.45 0.47 0.49 0.50 0.50
 0.51 0.51 0.52 0.54 0.55 0.57 0.59 0.60 0.62 0.63 0.63 0.64 0.70 0.71

VITRINITE REFLECTANCE							MACERAL IDENTIFICATION				
POPULATION	No. of	Mean	Min	Max	STD	Comments	%	%	%	%	
Number	%	Ro (%)	Ro (%)	Ro (%)	Dev (%)		Alginite	Exinite	Vitrinite	Inertinite	
1	100.0	31	0.50	0.34	0.71	0.10	INDIGENOUS (+)	0.00	1.96	19.61	78.43



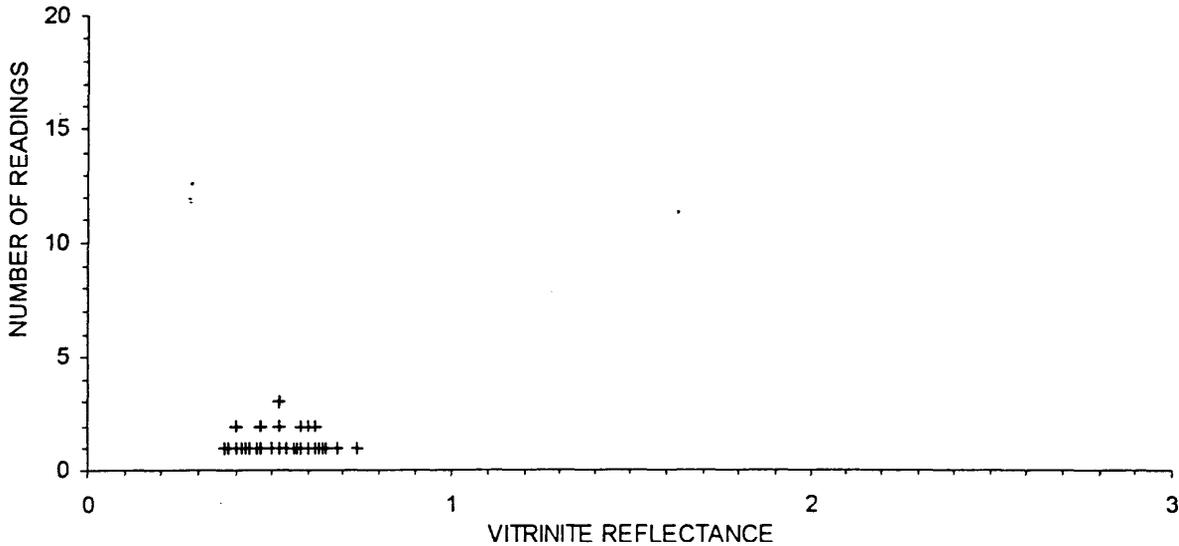
WELL: CONAN 1
 SAMPLE ID: 1852 METRES

CLIENT: BHP PETROLEUM
 DATE: NOVEMBER 1995

SAMPLE TYPE: SWC

(Total No. of Readings=28) 0.37 0.38 0.40 0.40 0.42 0.43 0.44 0.46 0.47 0.47 0.50 0.52 0.52 0.52 0.54 0.56 0.57
 0.58 0.58 0.60 0.60 0.62 0.62 0.63 0.64 0.65 0.68 0.74

VITRINITE REFLECTANCE							MACERAL IDENTIFICATION				
POPULATION	No. of	Mean	Min	Max	STD	Comments	%	%	%	%	
Number	%	Ro (%)	Ro (%)	Ro (%)	Dev (%)		Alginite	Exinite	Vitrinite	Inertinite	
1	100.0	28	0.53	0.37	0.74	0.10	INDIGENOUS (+)	0.00	0.00	33.33	66.67

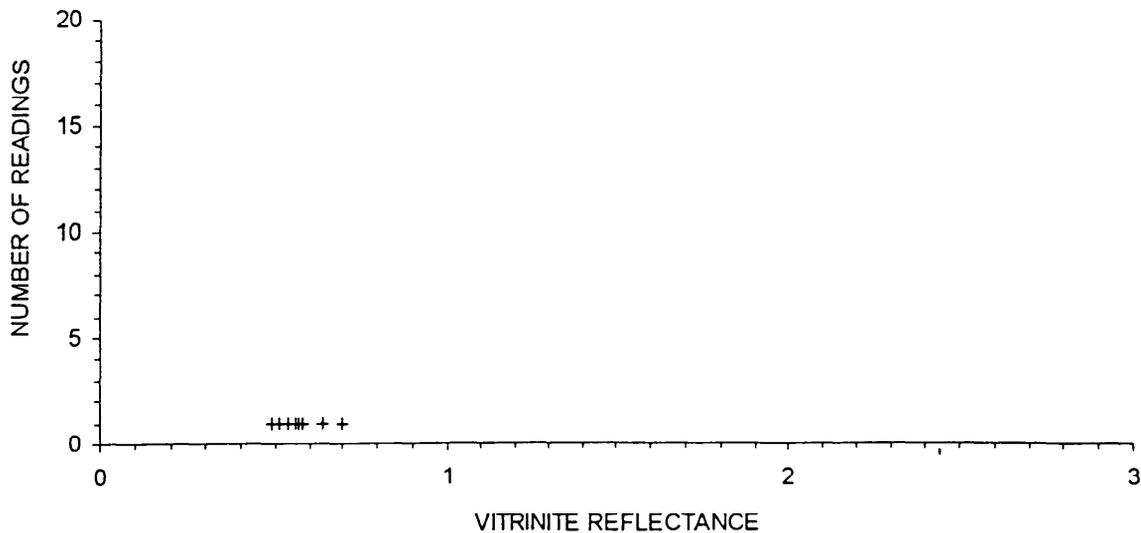


SAMPLE ID: 1892 METRES

SAMPLE TYPE: SWC

(Total No. of Readings=8) 0.49 0.51 0.54 0.56 0.57 0.58 0.64 0.70

VITRINITE REFLECTANCE							MACERAL IDENTIFICATION				
POPULATION	No. of	Mean	Min	Max	STD	Comments	%	%	%	%	
Number	%	Ro (%)	Ro (%)	Ro (%)	Dev (%)		Alginite	Exinite	Vitrinite	Inertinite	
1	100.0	8	0.57	0.49	0.70	0.07	INDIGENOUS (+)	0.00	0.00	0.00	100.00



4

6.4 APPENDIX 4 End of Well Report (Mudlogging)

END OF WELL REPORT

COMPILED FOR

BHP PETROLEUM

CONAN-1

Drilled

JULY / AUGUST, 1995



The Future Is Working Together.

SURFACE DATA LOGGING
HALLIBURTON ENERGY SERVICES
53-55 BANNISTER ROAD
CANNING VALE
WA 6155
TELEPHONE 61 9 455 5200
FACSIMILE 61 9 455 5300

END OF WELL REPORT

COMPILED FOR

BHP PETROLEUM

CONAN-1

Drilled

JULY / AUGUST, 1995

***SURFACE DATA LOGGING
HALLIBURTON ENERGY SERVICES
53-55 BANNISTER ROAD
CANNING VALE
WA 6155
TELEPHONE 61 9 455 5200
FACSIMILE 61 9 455 5300***

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- 1.1 Well Summary
 - 1.2 Personnel and Surface Data Logging Service
 - 1.3 Well Summary Plots and Tables
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- 2.1 Formation Evaluation Summary
 - 2.2 Gas Ratio Interpretation
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SECTION 1 INTRODUCTION

- 1.1 WELL SUMMARY
- 1.2 LOGGING PERSONNEL AND SERVICE
- 1.3 WELL SUMMARY PLOTS AND TABLES

1.1 CONAN-1 SUMMARY DATA SHEET
VERTICAL WELL

WELL:	Conan-1
DESIGNATION:	Exploration Well
OPERATOR:	BHP Petroleum Pty Ltd.
PERMIT:	VIC/P31
DRILLING RIG/CONTRACTOR	Ocean Bounty - Diamond Offshore
AIR GAP:	25m
WATER DEPTH:	70m
GEOGRAPHIC LOCATION July 1995:	Lat 38° 52' 14.95" South, Long 142° 46' 52.22" East Northing :5 696 042.00 mN Easting : 654 528.74 mE DATUM: AGD 84 CM 141°E
SEISMIC REFERENCE:	Seismic Line OH94 246. SP 1147
RIG TOLERANCE:	A circle of 30m radius, centred on the shotpoint.
OBJECTIVE TOLERANCE:	A circle of 150m radius, centred at 1868m
OFFSET WELLS:	Minerva-1, 23km NE; La Bella-1, 17km SW.
PRIMARY OBJECTIVE:	Late Cretaceous Ship Wreck Group sequences
SPUD:	02:00 , 24-07-95
TOTAL DEPTH:	22:30 , 31-07-95 at 1985 m [TVD 1985 m]
WELL STATUS:	Plugged and Abandoned

1.2 PERSONNEL AND SUMMARY OF SERVICES

PERSONNEL

For the well, the Halliburton Australia crew of SDL9000 Unit 182 comprised the following :-

Data/Pressure Engineers	Logging Geologists
Chris White	Tim Geddes
Andrew James	Shaun Watson
David Trend	Rhys Jones

SURFACE DATA LOGGING SERVICE

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.

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.

In addition to microscopic examination of drilled cuttings, samples were subjected to the following tests: Fluoroscope examination, Calcimetry and Bulk Density (where and as required).

1. 3 WELL SUMMARY TABLES AND PLOTS

Prognosed Formation Tops

Prognosed Geology

Sampling Program

Well Profile

Condensed Lithology

Depth and Days from Spud Table

Well Progress

Bit Rotating Hours Plot

Drilling Data Plot

Drilling Data and Wireline Plot

Drilling Cost Plot

PROGNOSED FORMATION TOPS

FORMATION	EXPECTED LITHOLOGY	MD RT DEPTH	Predicted Fluid
HEYTESBURY GROUP	Bioclastic Calcarenites / Marls	Seabed to 583m	
NIRRANDA GROUP	Calcareous Claystones & Marls	583m	
WANGERRIP MEGASEQUENCE	Sandstones, Claystones	905m	
SHERBROOK GROUP	Claystones	1214m	
MINERVA FORMATION	Sandstones with Claystone partings	1868m	Oil/Gas
LA BELLA FORMATION	Argillaceous Sandstones with interbeds of Claystone, Siltstone and Coal	2103m	Oil/Gas
TD		2325m	

PROGNOSED GEOLOGICAL SUMMARY

Nearest wells	Approximately 23km SW of Minerva-1 and 17km NE of La Bella-1.
Test Design	NW-SE trending horst-like Closure
Age	Late Cretaceous
Structure	Largest of a series of Culminations, formed by NW-SE transverse faulting.
Prospect	Horst-like structure, of tilted fault blocks.
Boundaries	on SW, down to basin fault, NE, antithetic fault.
Closure	220m vertical closure, 12km NW-SE, 3-5km NE-SW (dip).
Formation	Shipwreck Group sequences
Minerva Fm	fine -medium-coarse grain quartz sandstone, moderate to poorly sorted, minor claystone and coals, porosity 15-20%, possibly a lower sequence of silty claystone with interbedded fine-medium grain, moderately to well sorted sandstones.
La Bella Fm	medium to coarse grained quartz Sandstone, poorly to moderately sorted, argillaceous, common to trace lithic fragments, interbedded grey firm, silty claystones. The sandstones becoming finer with depth and increasing claystones and siltstones.
GWC (estimated)	filled to spill case- closure to base of Minerva Fm
Geothermal Gradient	Anticipated at 2.5°C/100m, BHT to be approximately 105°C.
Hazards	No shallow gas is anticipated H2S risk is considered low. CO2 is expected to be low, RFT data from nearby wells indicated 10-13% CO2. Pore pressure is expected to be normal to 2100m at 1.03sg. Expected pore pressure below this depth is 1.15sg in the La Belle Fm..

SAMPLE PROGRAM

DEPTH (m)	INTERVAL (m)	COMMENT
117m to 1210m	10m	-
1760m to 2325m(TD)	5m	-

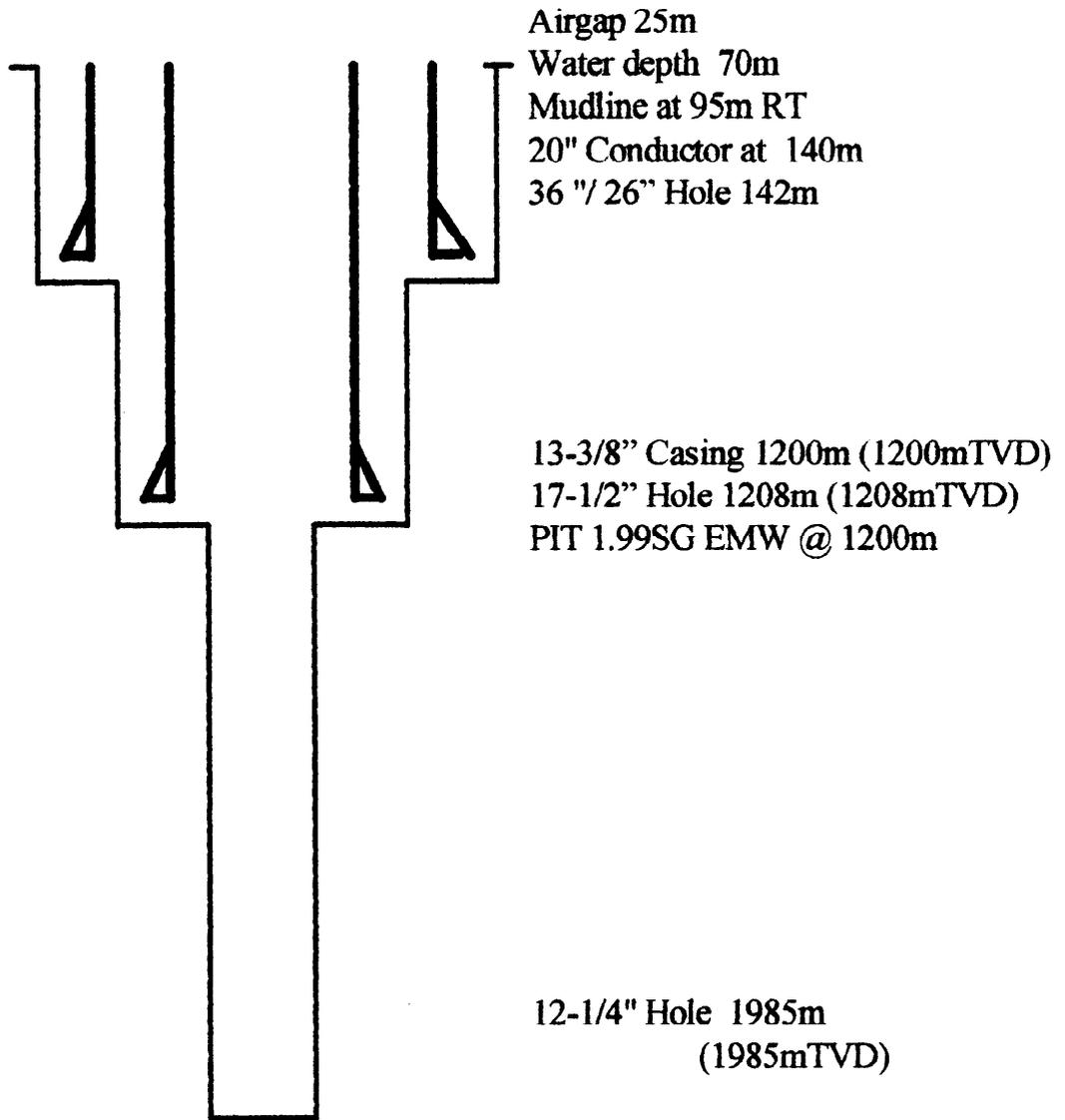
N.B 5m sampling intervals were set at Wellsite Geologists' discretion & ROP constraints.

DISTRIBUTION	Unwashed Cuttings	Washed and Dried cuttings
BHP Petroleum, Melbourne, BHPP Core Store, c/ Kestrel Management Aust. Mt Waverly	1 (set A)	3 (set B,C, D)
Petrocraft Samples, attn Geolo.Opns. Coordinator, BHPP Melbourne.		1 (set E)
Parker & Parsley Aust. Ltd.		1 (set F)
AGSO, Canberra BRS Core and Cuttings Laboratory, Fyshwick		1 (set G, min 100gm)
VIC DAEM, Melbourne, VicDAEM Core Laboratory, Port Mellbourne		1 (set H, min 100gm)
TOTAL	1	7

SAMPLES SENT for distribution from

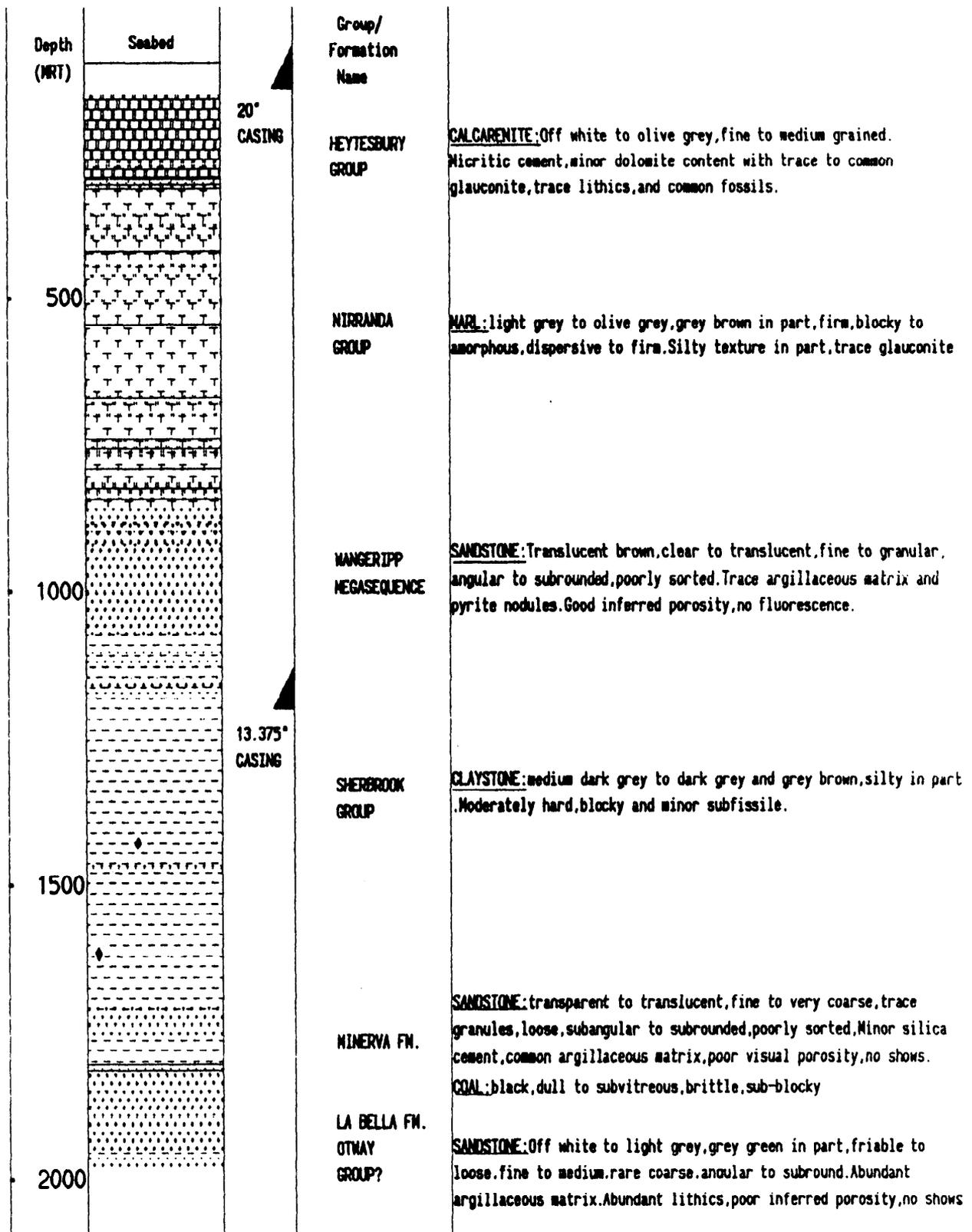
BHP Petroleum Core Store,
c/- Kestrel Management (Australia)
Unit 58, Slough Estate
170 Forster Road.
MT. WAVERLY VIC. 3149
Telephone (03) 544 3399

WELL PROFILE



NB Diagrammatic Only Not to scale

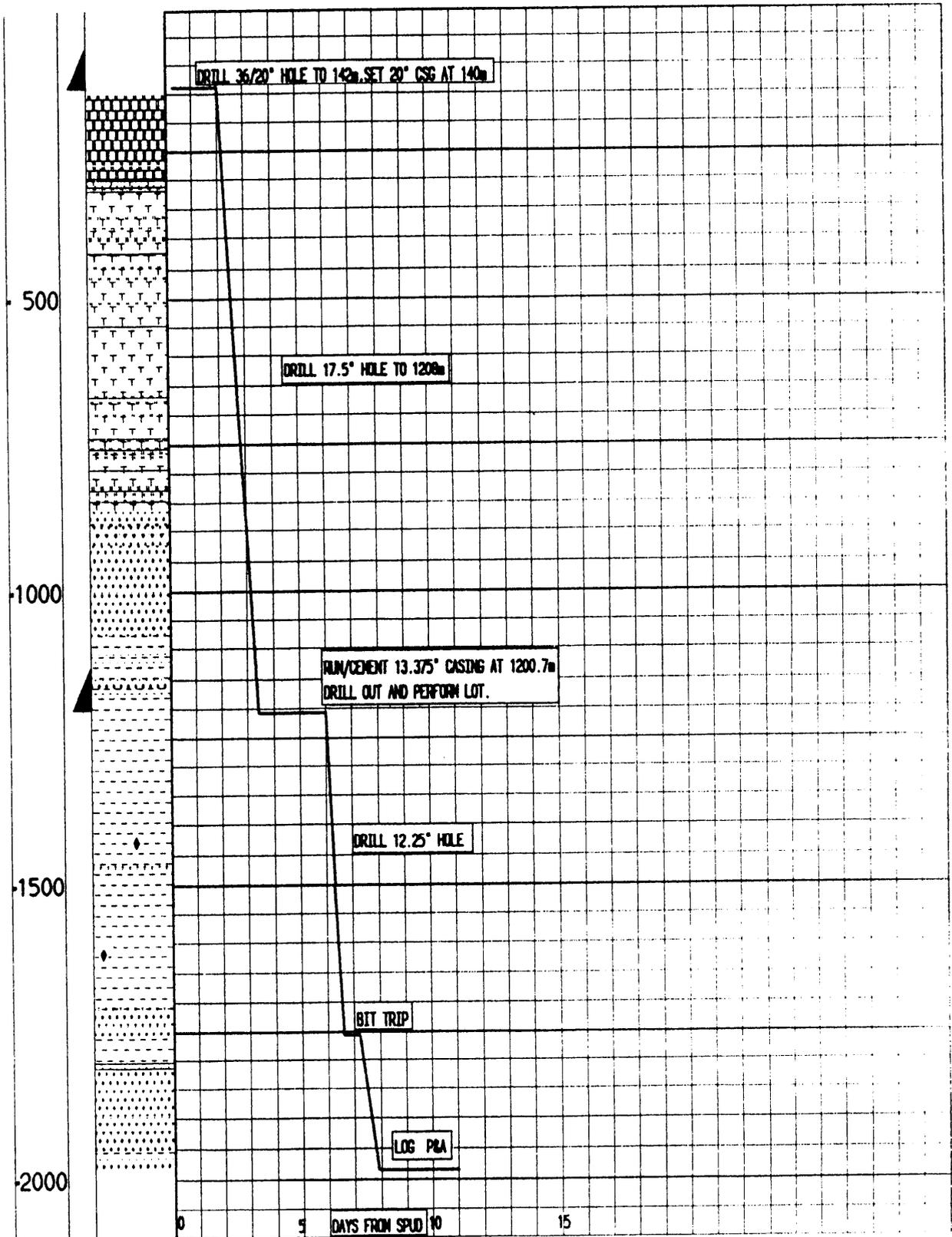
CONAN - 1 ACTUAL CONDENSED LITHOLOGY



DRILLING DEPTH AND DAYS FROM SPUD TABLE

DATE	DEPTH 24:00 HRS (m)	DAYS FROM SPUD
23-7-95	ANCHORING	0
24-7-95	142	1
25-7-95	142	2
26-7-95	887	3
27-7-95	1208	4
28-7-95	1208	5
29-7-95	1211	6
30-7-95	1757	7
31-7-95	1985	8
1-8-95	Run E-logs	9
2-8-95	Wait on plugs	10
3-8-95	Pull BOP's and riser	11

CONAN - 1 ACTUAL WELL PROGRESS





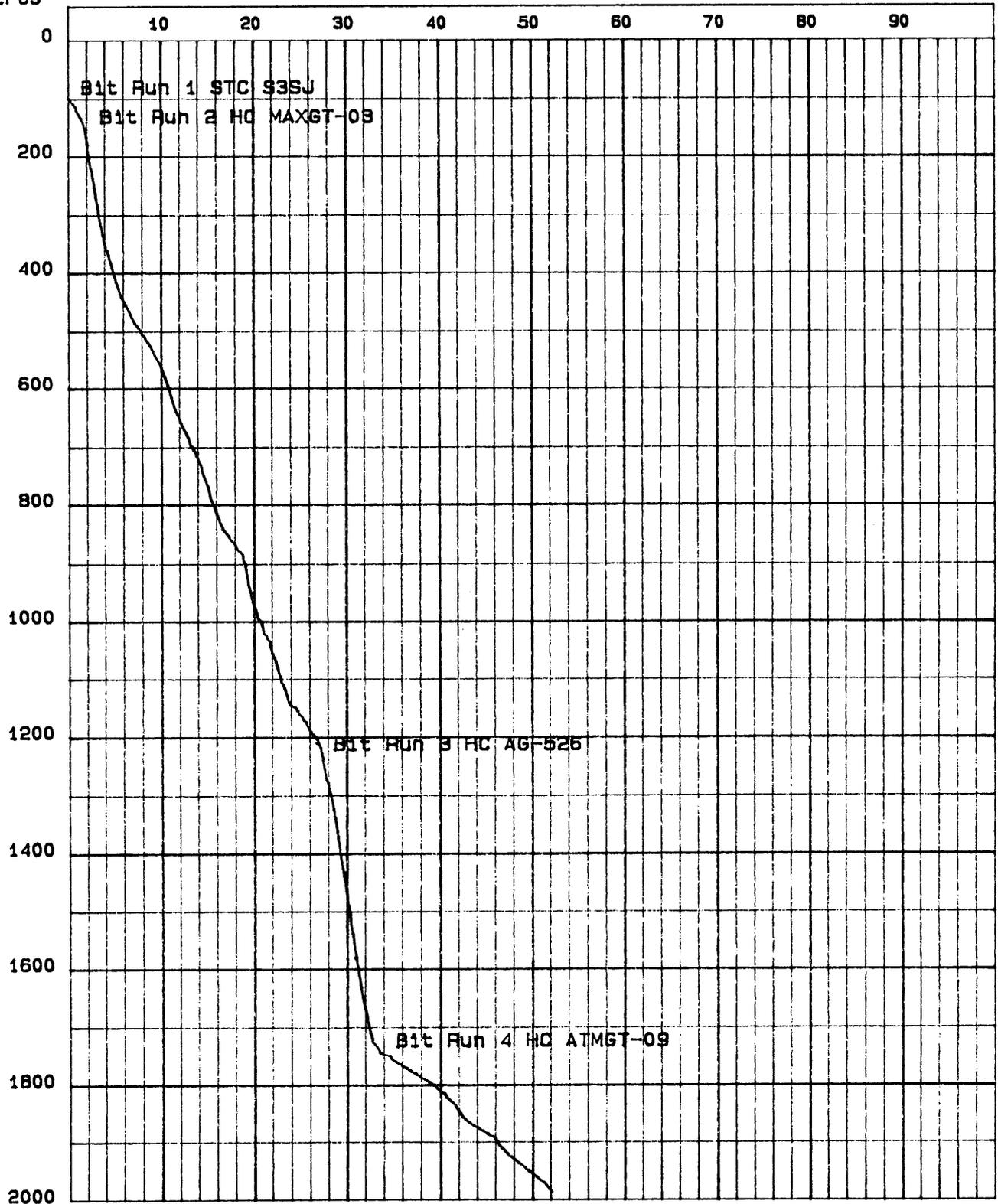
ROTATING HOURS PLOT

MEASURED
DEPTH
Metres

Operator: BHP PETROLEUM

Well number: CONAN-1

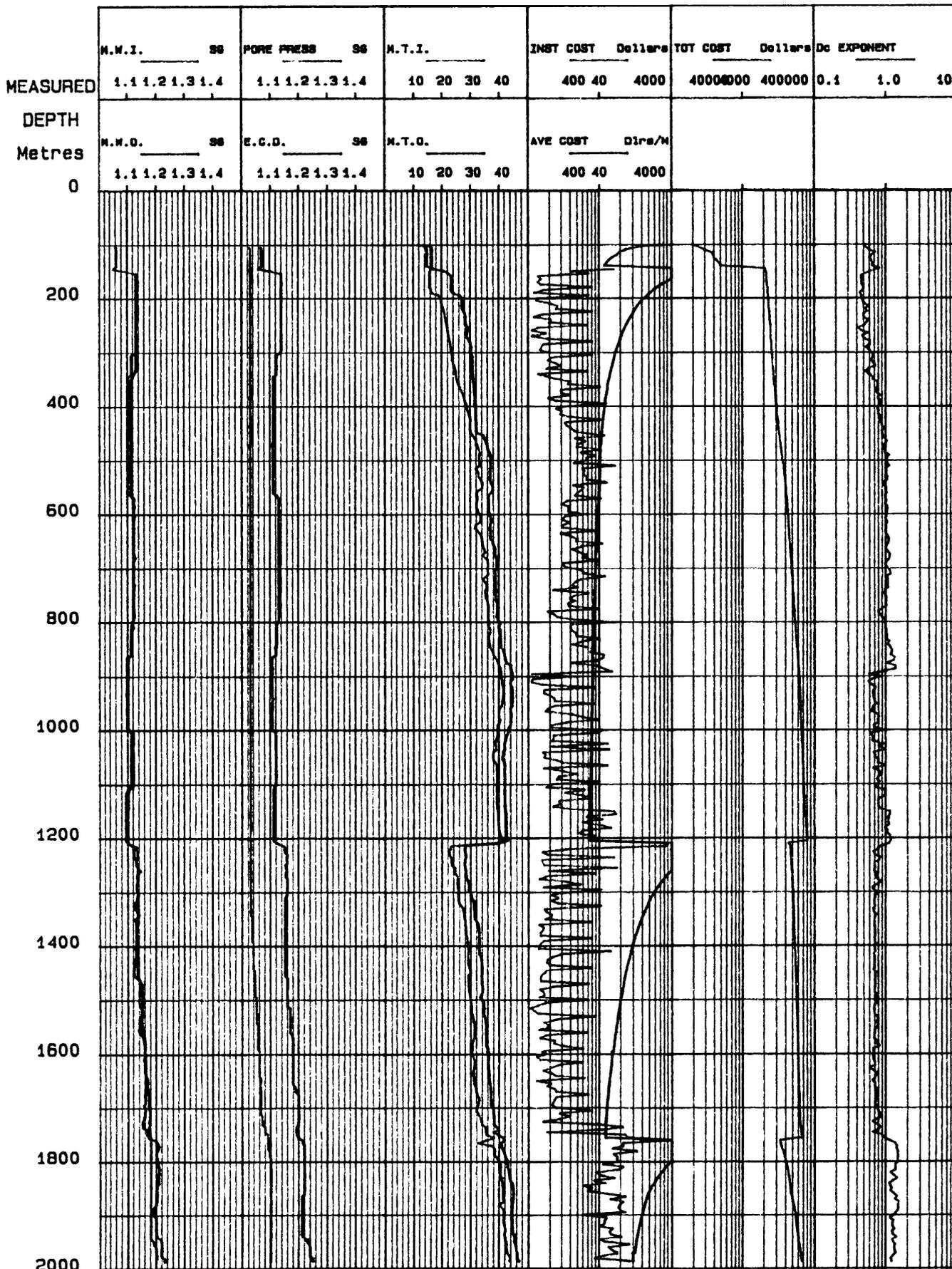
ROTATING HOURS



DEPTH SCALE = 1 : 10000

DRILLING COST PLOT

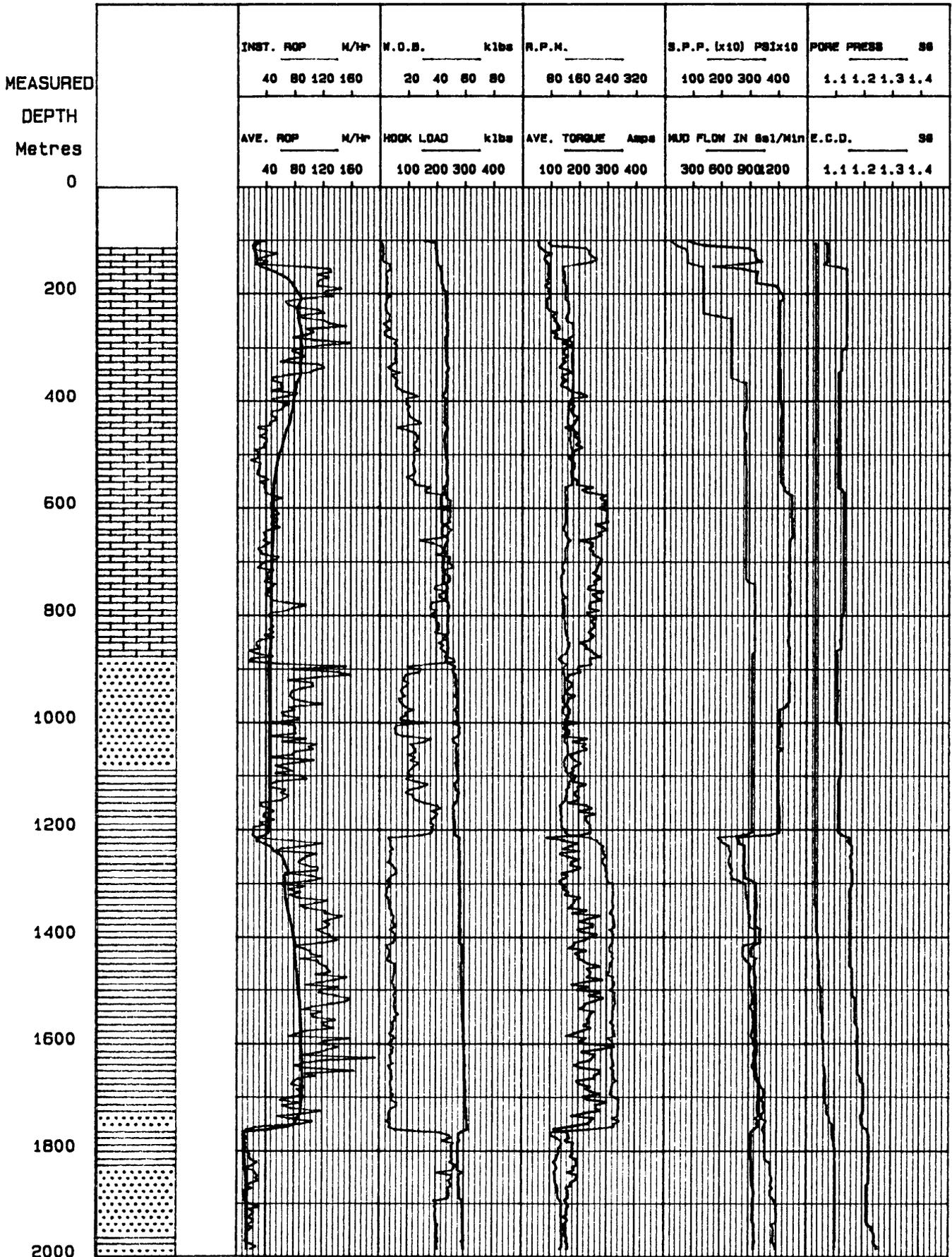
Well No: CONAN-1
 Operator: BHP PETROLEUM



DEPTH SCALE = 1 : 10000

DRILLING DATA PLOT

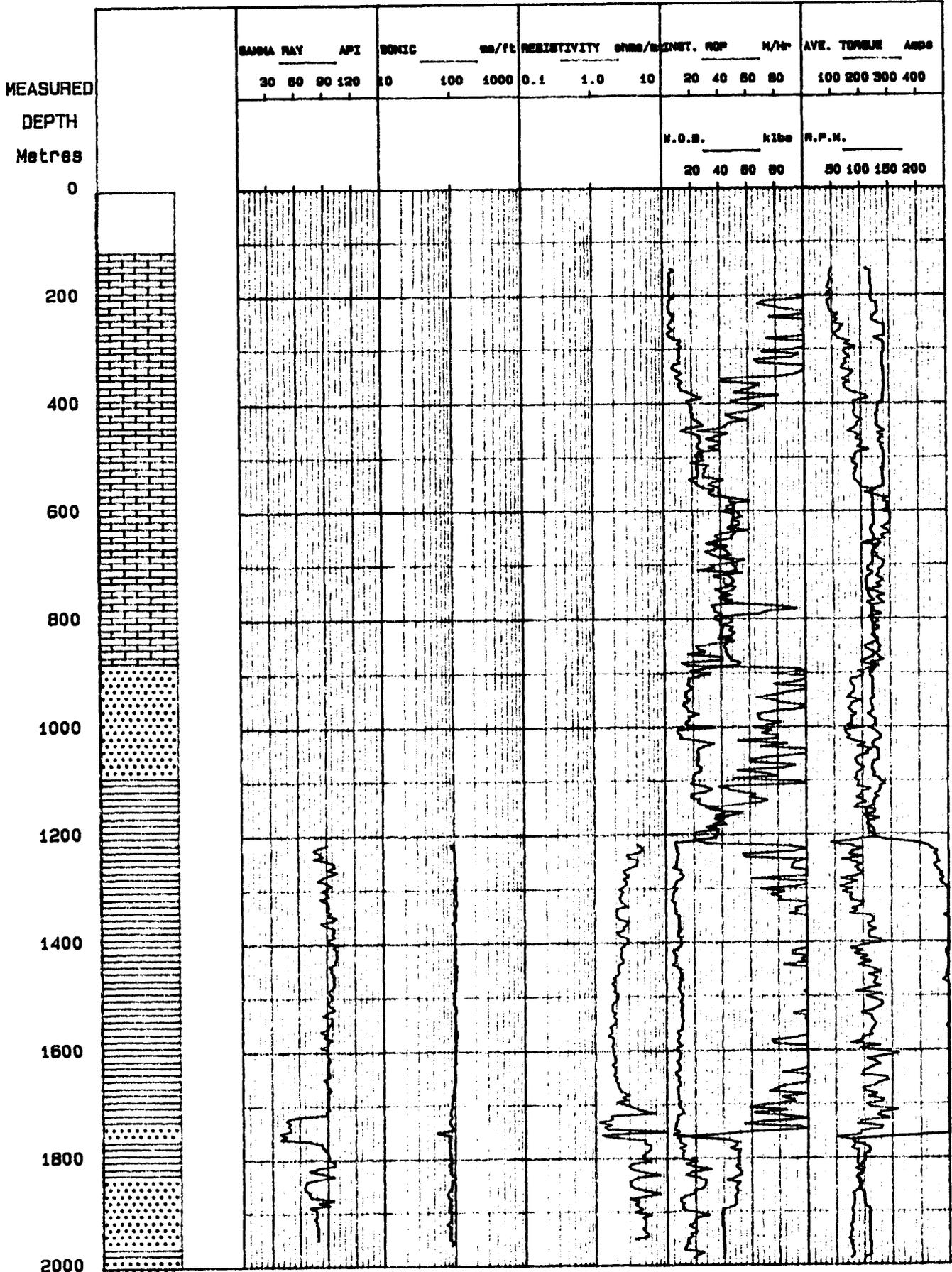
Well No: CONAN-1
 Operator: BHP PETROLEUM



DEPTH SCALE = 1 : 10000

E-LOG & DRILLING DATA PLOT

Well No: CONAN-1
 Operator: BHP PETROLEUM



E-LOG TOOLS COULD NOT PASS BELOW 1960M

DEPTH SCALE = 1 : 10000

SECTION 2 GEOLOGY

2.1 FORMATION EVALUATION SUMMARY

2.2 GAS RATIO ANALYSIS

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.

95m - 142m - Returns to seafloor

142m - 295m CALCARENITE (HEYTESBURY GROUP)					Drilling Parameters: WOB: 20 KLBS RPM: 125 TRQ: 105 AMPS SPP: 3100 PSI MFI: 1130 gal/min							
Lithology	Lithological Description	ROP m/hr			GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
		Ave.	Max.	Min.								
CALCARENITE	Off white to light olive grey and medium grey in part, fine to medium grained, moderately sorted. Grains were sub-angular to angular. The lithology had micritic cement and minor dolomite content with trace argillaceous matrix. Accessory components included trace to common Glauconite, trace lithics, and common fossils.	87.2	257 @ 289m	15.4 @ 151	No gas detected							

2.3. FORMATION EVALUATION SUMMARY

295m - 868m MARL and INTERBEDDED CALCARENITE (HEYTESBURY GROUP and NIRRANDA GROUP)					Drilling Parameters: WOB: 32 KLBS RPM: 125 TRQ: 220 AMPS SPP: 3100 PSI MFI: 1150-1260 gal/min							
Lithology	Lithological Description	ROP m/hr			GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
		Ave.	Max.	Min.								
MARL	Light grey to olive grey, occasionally medium grey to brown grey and brown grey. Blocky to amorphous, and commonly dispersive to firm, becoming hard in part with depth. The marl was moderately argillaceous, occasionally silty in texture, with trace calcareous cement. Accessory components included very fine calcareous grains, trace Glauconite, occasional lithics and trace fossils.	38	189 @ 341m	12.4 @ 868m	Background	0.001	0.0015	0.003	0.0001	0	0	0
					Max @ 612m	0.002	0.0004	0	0	0	0	0
					Min @ 812m	0	0	0	0	0	0	0
CALCARENITE	Initially light brown to medium grey, becoming brown to yellowy brown with depth. The Calcarenite was predominantly firm to moderately hard, occasionally loose. Fine to medium grained cemented aggregates, moderately well sorted and sub-angular. Common calcareous cement with trace light brown argillaceous matrix. Trace lithics, trace Glauconite, and fossils ranging from trace to common: Foraminifera, Bryozoa and Echinoderms.											



2. FORMATION EVALUATION SUMMARY

868m - 1080m SANDSTONE (WANGERRIP MEGASEQUENCE)					Drilling Parameters: WOB: 22 KLBS RPM: 119 TRQ: 182 AMPS SPP: 3073 PSI MFI: 1224 gal/min							
Lithology	Lithological Description	ROP m/hr			GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
		Ave.	Max.	Min.								
SANDSTONE	Initially translucent brown, yellow brown, very friable with occasional hard stringers. Medium to very coarse, with trace granules, the Sandstone became clear to translucent, and fine to medium with depth. It was poorly sorted, grains ranging from angular to sub-rounded, with both trace calcareous and minor siliceous cements. Pyrite was also present as a cement below 1150m. Trace brown argillaceous matrix. Initially there was an abundance of iron oxide stained grains. Accessory components included trace Pyrite nodules, trace lithics, trace Mica flakes and rare Quartz overgrowths. Inferred porosity in the friable sand was good to excellent. No fluorescence observed.	44.9	171.4 @ 961m	5.1 @ 1024m	Background	0.001	0.0004	0	0	0	0	0
					Max @ 1063.8m	0.299	0.2848	0.0011	0	0	0	0
					Min @ multiple places	0	0	0	0	0	0	0



2.1 FORMATION EVALUATION SUMMARY

1718 m - 1818m SANDSTONE, CLAYSTONE, and minor COAL (MINERVA FORMATION)					Drilling Parameters: WOB: 32 KLBS RPM: 162 TRQ: 188 AMPS SPP: 3535 PSI MFI: 940 gal/min							
Lithology	Lithological Description	ROP m/hr			GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
		Ave.	Max.	Min.								
SANDSTONE	Transparent to translucent, fine to very coarse ,occasional granules, predominantly loose with some hard aggregates, subangular to sub rounded and poorly sorted. Minor silica cement with trace quartz overgrowths, trace Dolomitic cement. Common white argillaceous matrix. Good inferred porosity, poor visual porosity. No fluorescence observed.	11.9	156.5 @ 1747m	1.9 @ 1749m	Background	0.04	0.032	0.0009	0.0002	0	0	0
					Max @ 1802.7m	0.680	0.536	0.0131	0.0027	0.0001	0	0
					Min @ 1763.4m	0.011	0.01	0	0	0	0	0
CLAYSTONE	1. Medium dark to dark grey, moderately hard , minor hard, blocky to sub fissile, trace micromicaceous material. 2. Medium dark grey, grey brown in part, moderately hard, amorphous to blocky, commonly with a silty and rare arenaceous matrix. Trace to locally common carbonaceous material. Grades in part to Silty Claystone.											
COAL	Black, sub-vitreous to dull, brittle, with a sub blocky structure.											

2.3 FORMATION EVALUATION SUMMARY

1818 m - 1985 m SANDSTONE with minor INTERBEDDED CLAYSTONE (LA BELLA FORMATION and OTWAY GROUP)					Drilling Parameters: WOB: 40-50 KLBS RPM: 80-110 TRQ: 163 AMPS SPP: 3850 PSI MFI: 940 gal/min							
Lithology	Lithological Description	ROP m/hr			GAS	Total %	C1 %	C2 %	C3 %	iC4 %	nC4 %	C5 %
		Ave.	Max.	Min.								
SANDSTONE	Off white to light grey, grey green, loose to friable, rare aggregates, fine to medium, rare coarse, becoming predominantly fine, angular to sub round and moderately sorted. Trace silica and calcareous cement , with common to very abundant very light grey argillaceous matrix. Common to abundant multi-coloured lithics, trace nodular pyrite and trace glauconite. Poor inferred porosity, no fluorescence.	14	49.3 @ 1975m	4.3 @ 1930m	Background	0.113	0.111	0.0017	0.0004	0	0	0
					Max @ 1852m	0.426	0.4151	0.0078	0.0012	0.0003	0	0
					Min @ 1888m	0.011	0.01	0	0	0	0	0
CLAYSTONE	Medium dark grey, occasionally brown, rarely light grey - green, firm to moderately hard, sub blocky, and silty in part. Accessory materials included trace carbonaceous specks, Mica flakes, disseminated pyrite, and glauconite nodules. Graded in part to Siltstone.											

2.2 GAS RATIO LOG INTERPRETATION AND PLOTS

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.

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/high 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 high 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 further evaluation.

Gas Ratio Log Interpretation Summary:

The Gas Ratio Log is a plot of ratios of chromatographic gas data and normalised Total Gas from the flowline mud stream, integrated with the Penetration Rate (ROP) and, 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 during post electric 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) and, character ratio (Ch).

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 vertices. 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:-

$$\frac{C_2}{[C_2+C_3]}, \frac{C_3}{[C_3+nC_4]}, \frac{nC_4}{[C_2+nC_4]}$$

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. 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 C_2/C_{tot} , C_3/C_{tot} and nC_4/C_{tot} , where C_{tot} 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 C_2 , C_3 or nC_4 apex. The three lines will form a triangle whose way up will indicate whether the C_n/C_{tot} ratios represent oil or gas.

GAS RATIO PLOT

This plot is based ratios of C_1/C_2 , C_1/C_3 , C_1/C_4 and C_1/C_5 .

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. $C_1/C_4 < C_1/C_3$, suggests that the formation is likely to be non productive or water bearing.

Generally speaking an extremely steep slope, eg. C_1/C_2 low in the oil zone and C_1/C_4 high in the gas zone, would suggest a very tight formation.

CONAN-1 WELL RESULTS

Gas Ratio Log Interpretation

From the Gas Ratio Log, it can be interpreted that there is no producible interval.

Gas Ratio Plots

After examination of the gas ratio log the gas peak with the most obvious potential was chosen for gas ratio plotting (excluding obvious coal peaks) to demonstrate the form of the plots. It was not considered likely that any potential producible zones would be highlighted. This is borne out as the plots in the following pages reveal.

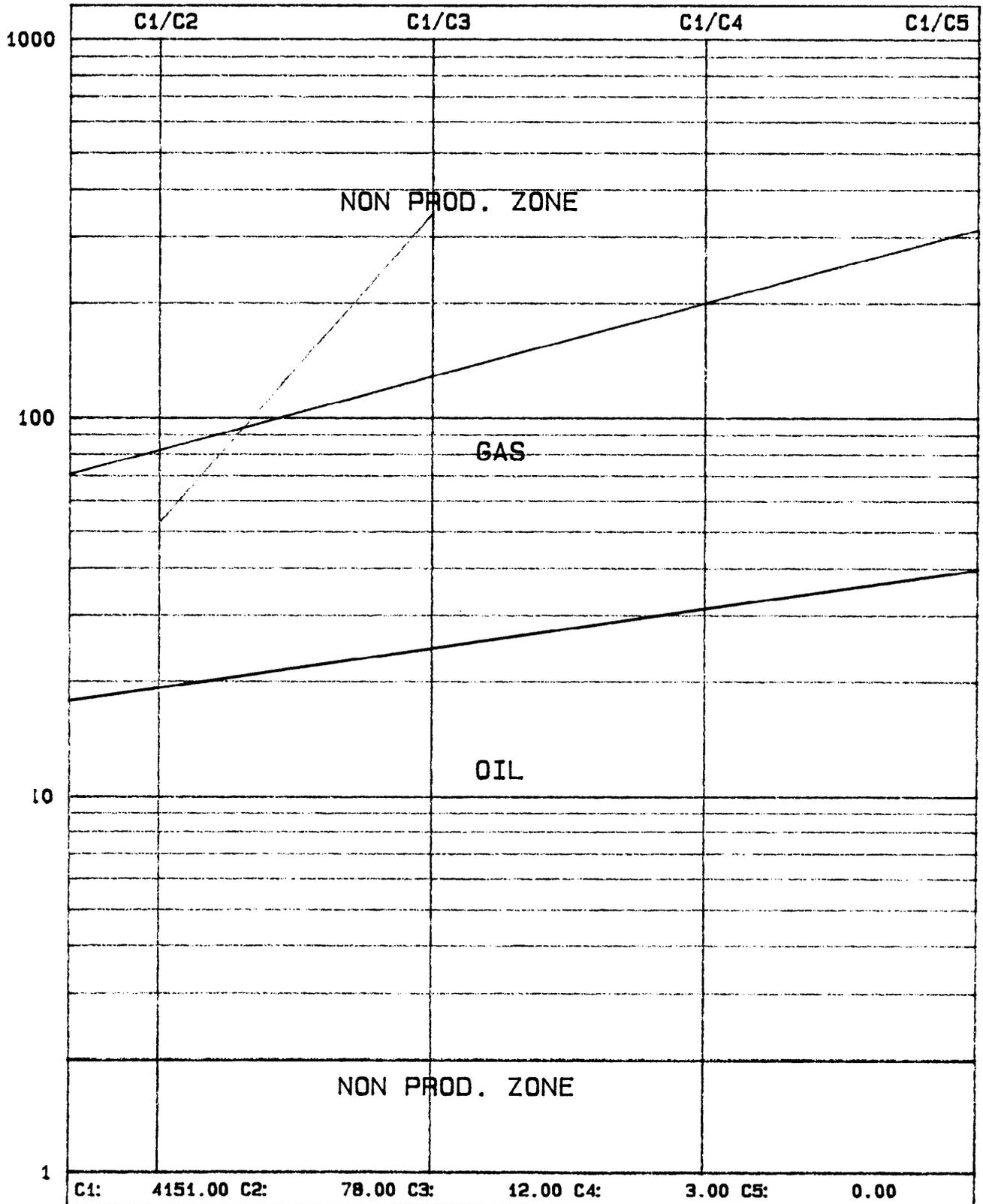


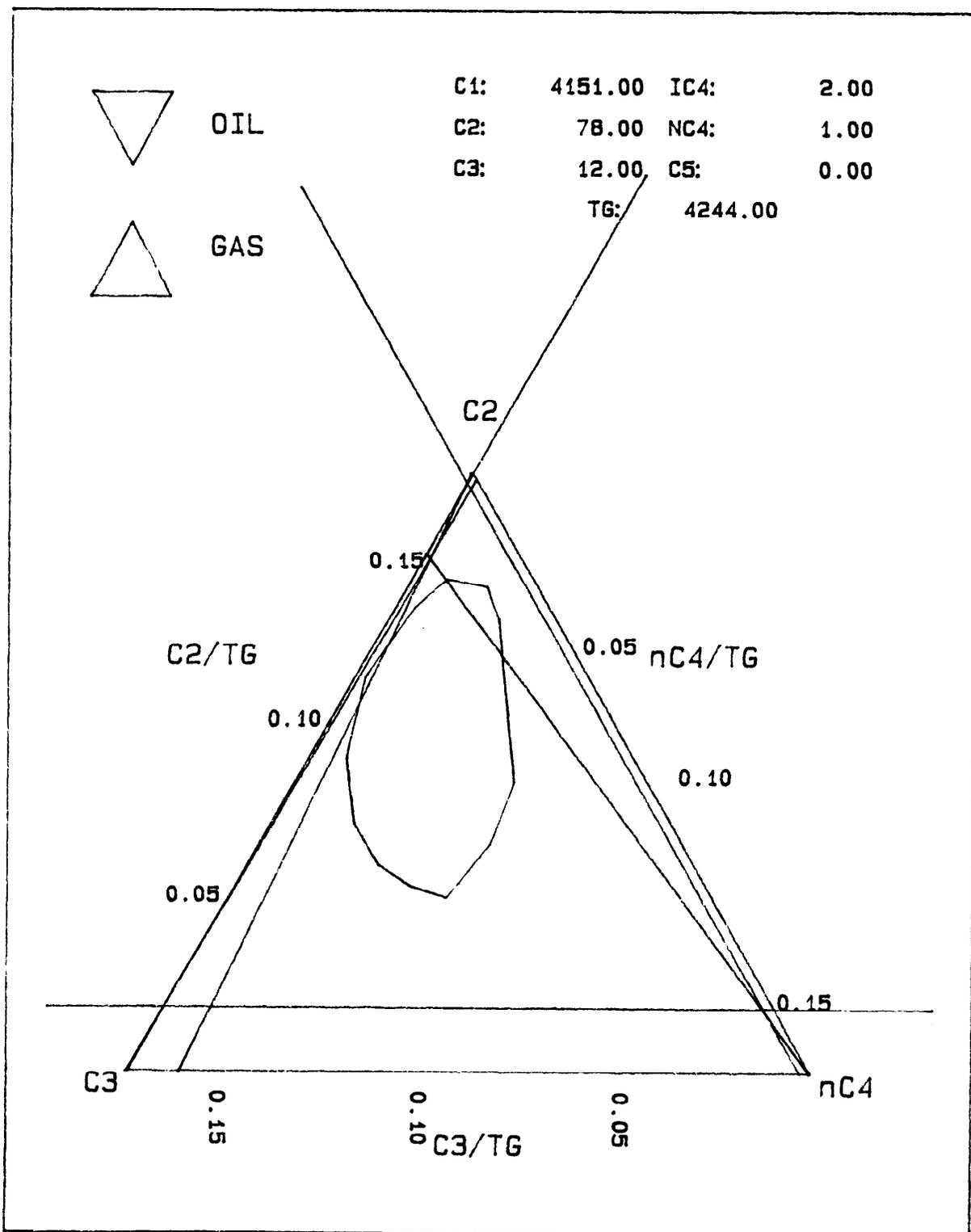
GAS RATIO PLOT

Operator: BHP PETROLEUM

Well number: CONAN-1

Sample depth: 1857



GAS CROSS-PLOT
Operator: BHP PETROLEUM
Well number: CONAN-1
Sample depth: 1857


SECTION 3 FORMATION PRESSURE ANALYSIS

3.1 PORE PRESSURE ANALYSIS AND DISCUSSION

3.2 OTHER DATA

3.3 DATA PLOTS

3.1 PRESSURE ANALYSIS AND DISCUSSION

Depth Interval - 26/36" hole & 17-1/2" hole sections 95m to 1208m	
Lithology: No returns to 142m. Calcarenite, calcilutite, marl, bioclastic in top sections from 142m - 850m, sandstone 850 - 1080m, claystone 1080 -1208m	
Observations	Remarks
Corrected Drilling Exponent. Scattering of Dxc was observed in the upper section to 513m. From 513m a normal trend was established in the marls to 718m and a few cutbacks were also recorded. From 718m the Dxc becomes erratic to about 1150m where it approaches the normal compaction trend.	Dxc trend shows a general increase with depth, despite its erratic nature to 513m, due to variations in mineralogy of the formation and the degree of compaction of the sediments. At this point a normal compaction trend (NCT) is established down to the top of the Wangerrip Fmn sands at 868m. From 868m -1177m an erratic trend occurs and from 1177m-1200m the Dxc returns to the NCT. Dxc is generally of little use in pore pressure analysis in limestones, however a normal trend is established.
Background Gas First gas returns was recorded from 550m. Average background from 1025m was 0.001%, rising sharply from 1042m to a maximum of 0.2% by 1091m and back to 0.02% at 1146m to 1208m. A maximum peak of 0.29% at 1064m. Connection Gas Peaks None detected.	Initial gas from 550m dropped off to trace levels at 630m. Gas sharply increased from 1042m, steadily decreased to earlier levels at about 1146m. 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.
Flowline Temperature Flowline temperature generally increased with depth. Mud temperature out (MTO) 29°-41°C. ΔT was variable in top hole 5°C to 1.5°C at 1208m. Local variations throughout the section due to constant additions to mud system.	The trend overall suggests a normal pore pressure regime. Delta mud temperature's occasional cutbacks or increases over part of this interval are related to the cooling of the active system due to frequent additions of mud while drilling this interval.
Cuttings No bulk density measurement was performed in this predominantly carbonate lithology. No abnormal cuttings were observed in the samples.	Parameter does not indicate overpressure.
Other Data No wiper trip was performed at 1208m. 10-30kips drag was experienced pulling back to 1064m, with further tight spots at 595m, 506m, 471m, and 425m which took 30-50 Klbs overpull. Wiped each spot until slick. Suspect bit or BHA balled up. Hole fill okay with an extra 20bbbls lost to the hole, probably seepage into friable Wangerrip Formation. Roller reamers packed with sticky marl.	
Conclusions A Dxc NCT is established from 513m-868m. 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).	

Depth Interval 12-1/4" hole section 1208m -1800m	
Lithology: claystone. -1208-1800m.	
Observations	Remarks
<p> Corrected Drilling Exponent. has shifted from the NCT as previously defined. The Dxc initially is very erratic but does show a straight to slightly decreasing trend from 1300m-1650m and becomes erratic below this depth. From 1757m the Dxc indicates a normal pore pressure regime to 1800m. </p>	<p> Throughout the Sherbrook Group claystones the Dxc should have been a good pore pressure indicator. From 1300m the Dxc exhibits a slightly decreasing trend, offset from the NCT due to the use of a PDC bit to 1757m and possibly the change in holesize from 17-1/2" to 12-1/4" at 1200m. A rockbit drilled from 1757m and the Dxc becomes very erratic. Eaton Overlay interpretation suggests a maximum of 1.06+sg formation pressure from 1300m to 1800m and thereafter pore pressures increase to 1.10sg EMW. </p>
<p> Background Gas from 1208m-1344m was 0.04%. From 1344m -1722m gas rose to 0.18-0.2%. From 1722m background gas dropped sharply back to 0.04% reducing to 0.015% by 1757m. From 1757m-1800m the gas levels sharply increased from 0.015% -0.10% by 1800. </p> <p> Connection Gas Peaks none detected. </p>	<p> General Gas levels increased with depth unless mud weight increased- ie gas level generally proportional to mud weight. From 1770m the background gas levels increased sharply indicating the formation pore pressure is increasing with depth from this point. </p>
<p> Flowline Temperature Flowline temperature over this interval shows a gradually increasing trend of 2°C/100m. with depth to 1700m. From 1700 prior to POH at 1757m MTO and ΔT increased by 6°C over 57m. </p>	<p> Flowline temperature trend here suggests a normal pore pressure regime, gradient averages 2-3°C/100m. Depending on additions to the mud system. Immediately prior to POH at 1757m, MTO & ΔT show a potential overpressured zone below this "insulating" section. (Blanket effect). </p>
<p> Cuttings density increased from 2.0-2.3sg through the Sherbrook Group claystones. No density analysis performed over the sandstone and interbedded intervals. </p>	<p> Minor cavings seen in the cuttings were not considered to be related to abnormal pore pressure. </p>
<p> Other Data Mudweight had been raised from 1.13-1.18sg by 1738m. Wireline data: Both the sonic and resistivity trends are indicating a pore pressure increase from approx 1600m to 1750m. Both then indicate a slight reduction in normal pore pressure down to 1800m. Overpull on trip at 1757m of 50-60Klbs from 1630-1200m. </p>	
<p> Conclusions Normal pore pressure regime from above parameters to approximately 1340m. From 1340m-1710m pore pressure increases with depth from 1.03sg to 1.06+ From 1710m - 1800m the pore pressure gradient increases to an estimated 1.10sg EMW </p>	

<p>Depth Interval - 12-1/4" section continued. 1800m- 1985m</p>	
<p>Lithology: predominantly sandstone 1800-1955m, claystone 1955-1970m, sandstone 1970-1985m</p>	
<p>Observations</p>	<p>Remarks</p>
<p>Corrected Drilling Exponent. Very erratic from 1800-1955m and subsequently the Dxc trends back towards the previously established NCT. From 1955m the Dxc again becomes very erratic.</p>	<p>The Dxc suggests a pore pressure of 1.10sg continuing down to 1955m the Eaton overlay shows it may return to normal to 1975m. From 1975m the trace is erratic and the pore pressure regime is assumed to be no greater than the above maximum of 1.10sg EMW.</p>
<p>Background Gas from 1800m the gas levels increase from 0.1% -0.2%. with a maximum peak of 0.68% recorded at 1802m. Levels were erratic from 1802m due to interbedded sandstones and minor claystones but were in the range 0.15%-0.3% down to 1861m. From 1861-1900m gas dropped to an average 0.02%. From 1900-1949m gas increased to 0.12% and dropped to between 0.07%-0.10% from 1949m to 1985m (TD).</p>	<p>The pore pressure probably does not increase through this section to 1985m. MW increased from 1.18sg to 1.20sg, from 1938m suppressing general background from 1940m-1985m.</p>
<p>Connection gas peaks None detected.</p>	
<p>Flowline Temperature MTO gradually increases with depth at 2-3°C/100m from 1800m to 1985m (TD)</p>	<p>Flowline temperature trend and ΔT here suggested no further increase in formation pore pressure.</p>
<p>Some flat and occasionally splintery cuttings (rarely blocky) were seen at the shakers and were sourced from approx. 1860m.</p>	<p>Cavings seen in the cuttings were considered to be related to abnormal pore pressures and or hole instability.</p>
<p>Other Data Sonic data suggests pore pressure decreases back towards normal from 1755m. This, however, does not agree with other data, and 1.10+sg is a reasonable assertion.</p>	
<p>Conclusions Abnormal pressure regime from above parameters, of up to 1.1+ sg EMW maximum by 1800m.</p>	

3.2 OTHER DATA

Leak Off data

LOT of 1.99sg Equivalent Mud Weight at 1200.6m

Conan-1 Horner Plot

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

Bottom hole Temperature Calculated from ELOG data

DEPTH M	MAX TEMP F	MAX TEMP C	DELTA TIME	CIRC TIME	HORNER VALUE
1960	158	70	8.50	1.50	1.176
1953	174	79	11.50	1.50	1.130+

3.3 DATA PLOTS

Formation Pressure Profile
Raw Dxc Plot
Dxc With Eaton Overlays
Sonic Data Plot
Resistivity Data Plot
Migrated Flowline Temperature Plot
Horner Plot

Note: Pressure plots use 5m averaged data points

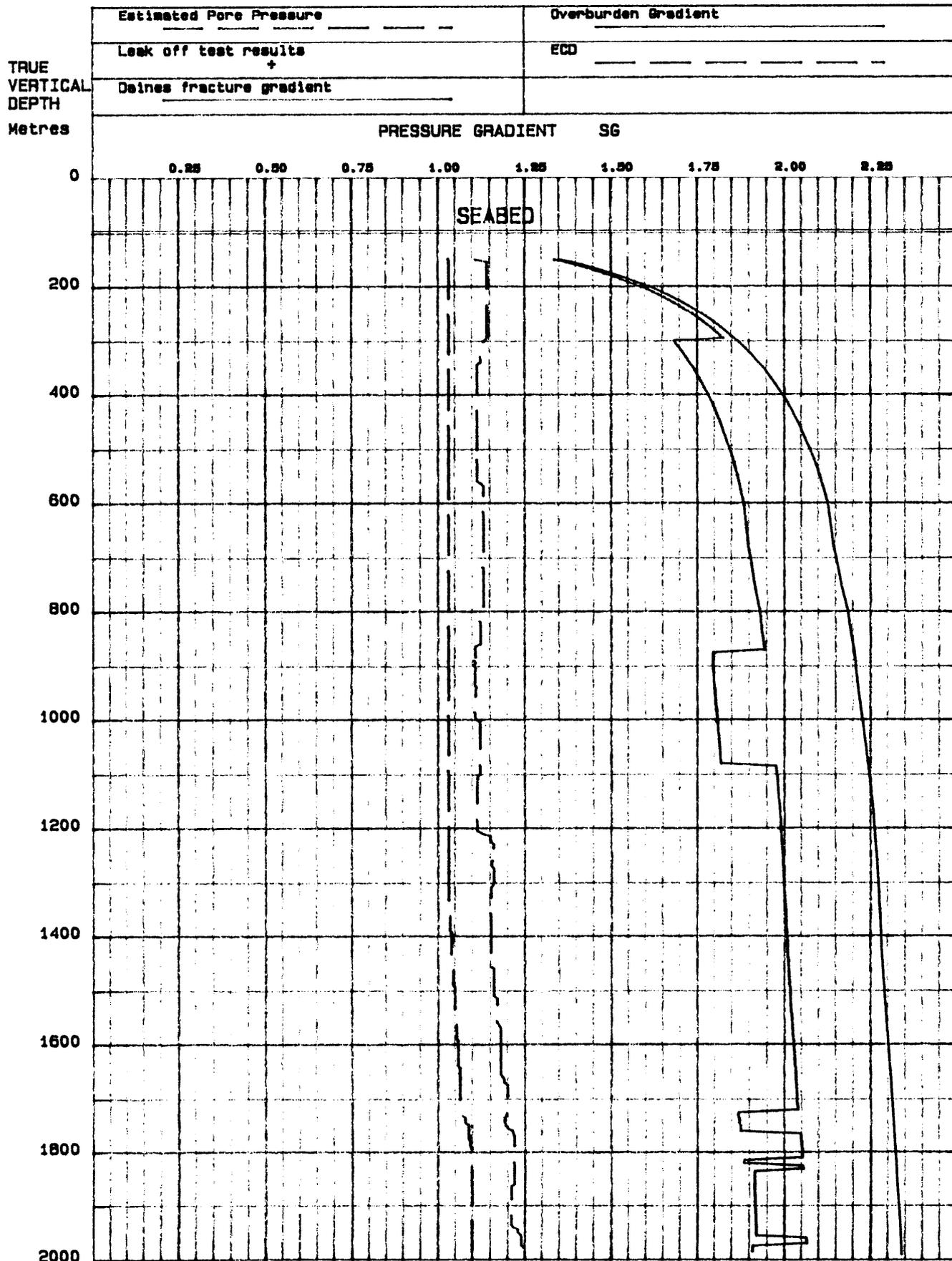
Dxc plots against TVD with Eaton Overlay has a shifted Dxc plot for certain bitruns, depending on the bit type.

PRESSURE GRADIENT vs DEPTH PLOT



Operator: BHP PETROLEUM

Well number: CONAN-1



DEPTH SCALE = 1 : 10000



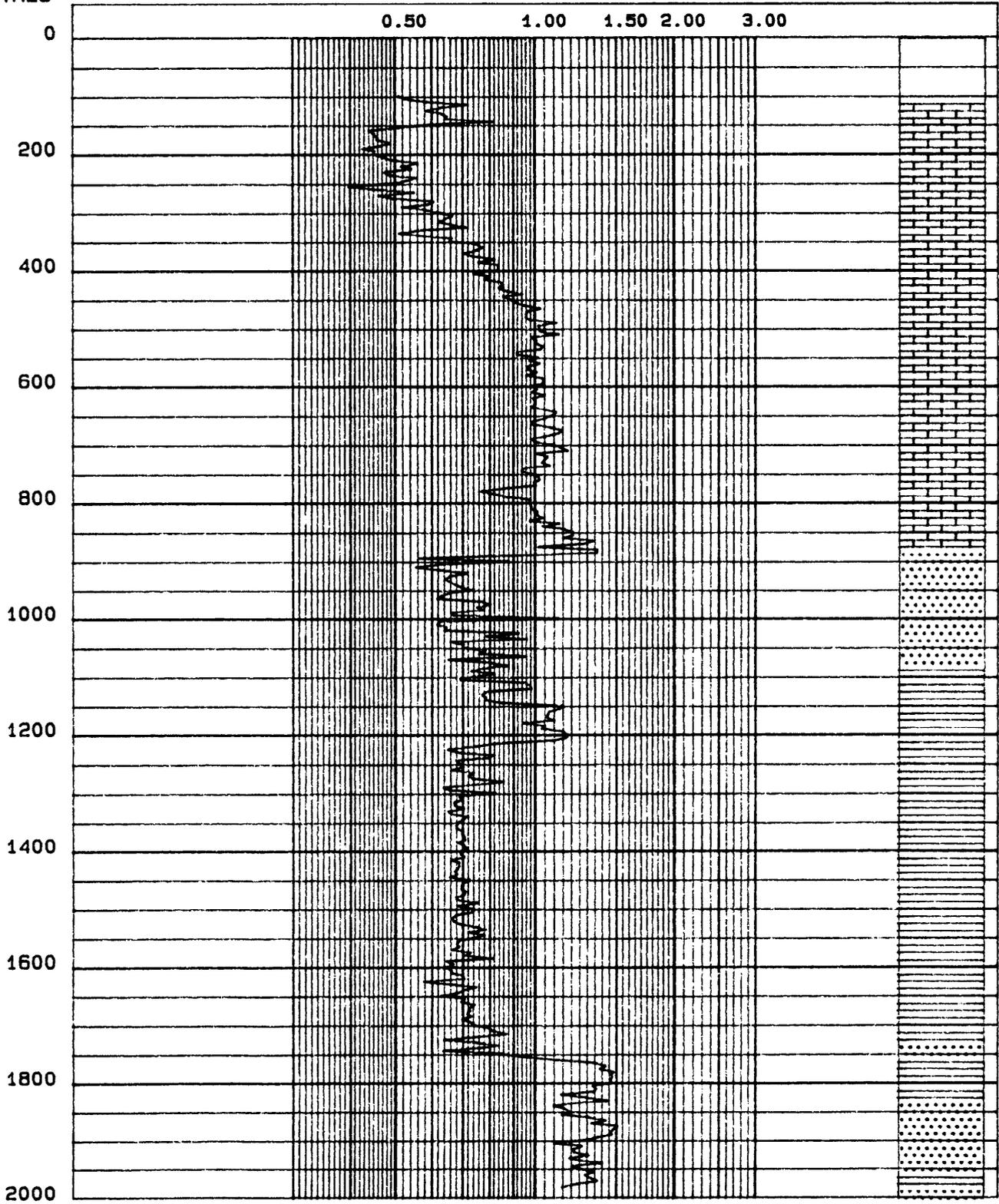
DC EXPONENT PLOT

Operator: BHP PETROLEUM

Well number: CONAN-1

MEASURED
DEPTH
METRES

DC EXPONENT



DEPTH SCALE = 1 : 10000



DELTA T SONIC PLOT

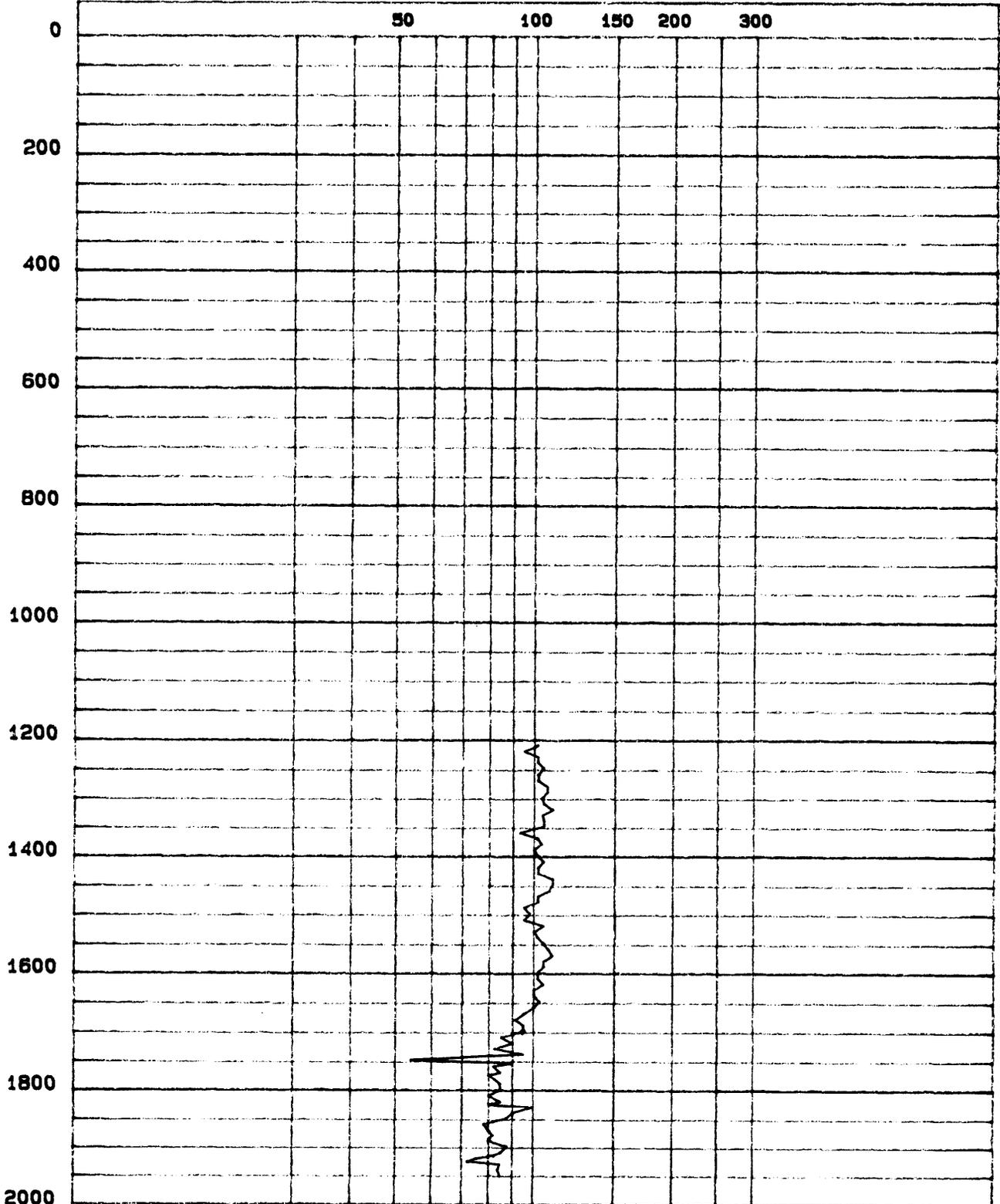
Operator: BHP PETROLEUM

Well number: CONAN-1

MEASURED
DEPTH

METRES

DELTA T SONIC Ms/Ft



DEPTH SCALE = 1 : 10000



RESISTIVITY PLOT

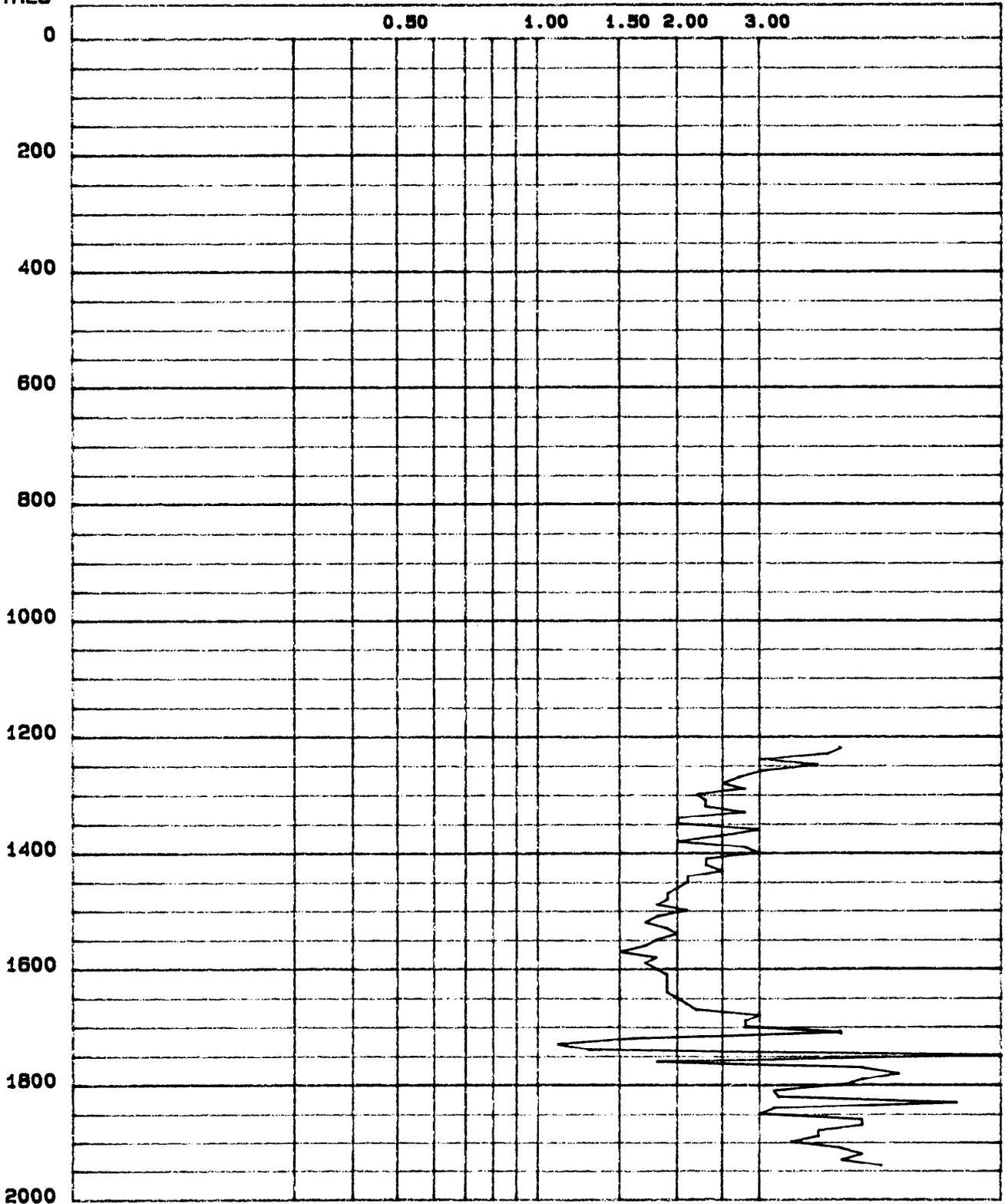
Operator: BHP PETROLEUM

Well number: CONAN-1

MEASURED
DEPTH

METRES

RESISTIVITY Ohms/mt

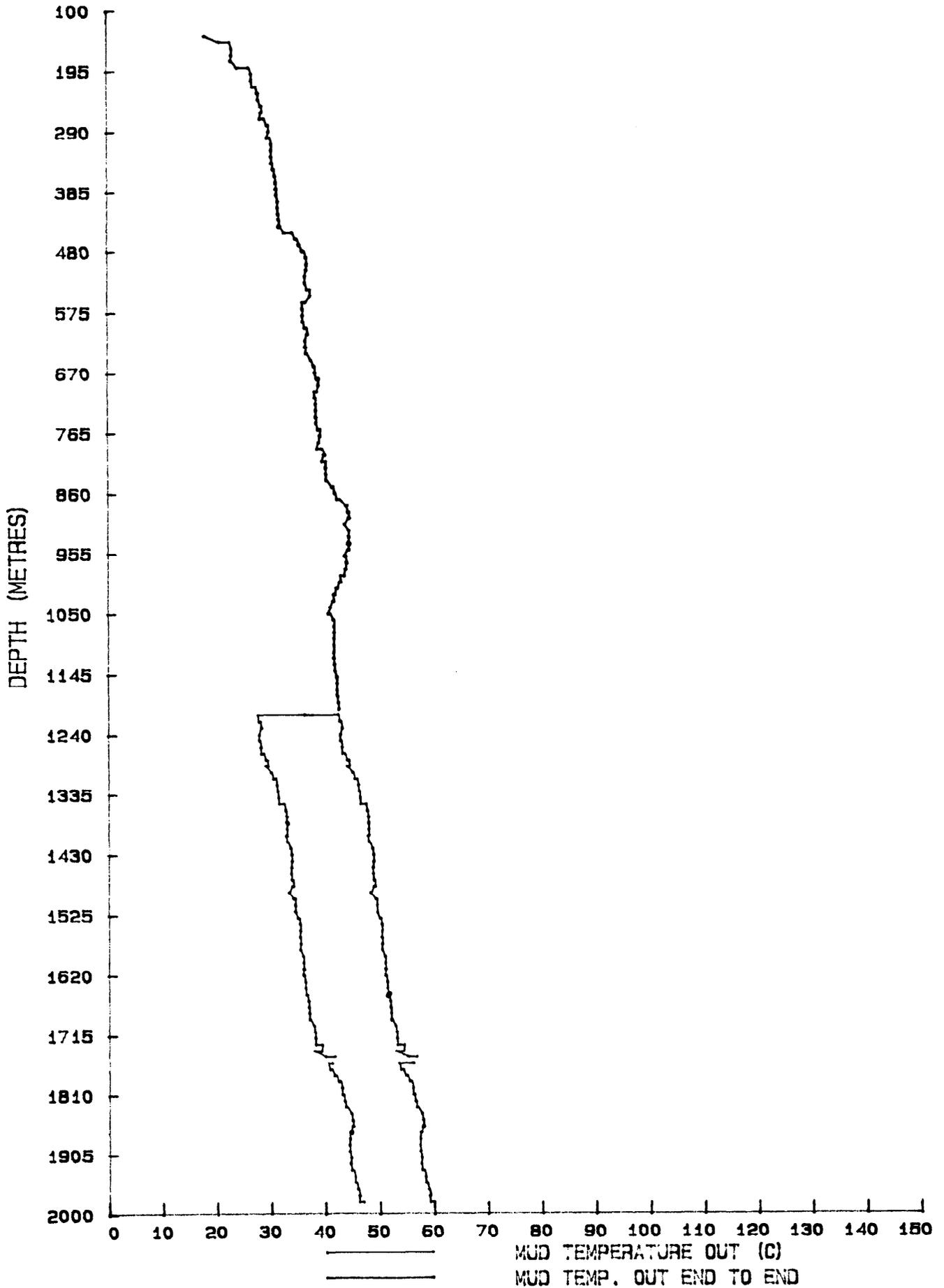


DEPTH SCALE = 1 : 10000

HALLIBURTON FLOWLINE TEMPERATURE PLOT.

Operator: BHP PETROLEUM

Well No: CONAN-1

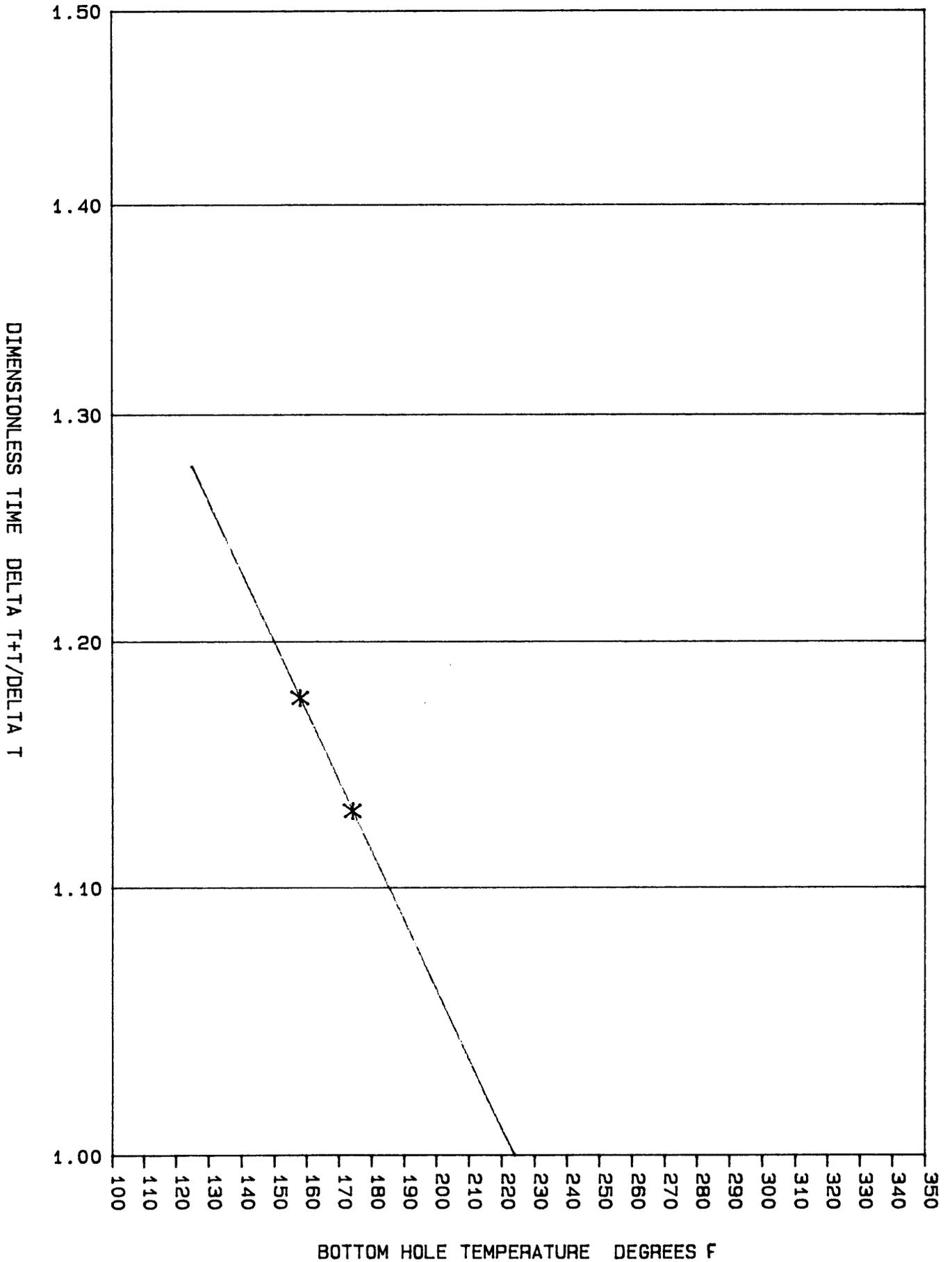


HALLIBURTON

HORNER TEMPERATURE PLOT

Operator : BHP PETROLEUM

Well number : CONAN-1



SECTION 4 DRILLING AND ENGINEERING DATA

4.1 DRILLING SUMMARY

4.2 BIT RECORD

4.3 BOTTOM HOLE ASSEMBLIES

4.4 MUD DATA RECORD

4.5 SURVEY DATA

4.6 TRIP REPORTS

4.7 SUMMARY HYDRAULICS LISTINGS

4.1 DRILLING SUMMARY

For other information outlined below refer to Drilling and Engineering Data or to the BHPP Drilling Supervisor's daily reports. SECTION 5 contains an Abbreviations listing.

The data acquisition service commenced from drilling out the 20" casing shoe at 140m

All depths quoted in this section are Measured Depth below the Rotary Table.

Bottom Hole Assembly data is summarised, and listed in the Drilling Discussion Section.

Bit performance can be seen in the Drilling Data Plot, the Drilling Cost Plot and Drilling Parameter Log.

Data in ASCII format is included with this report on 3.5" HD DS diskette.

Representative hydraulics printouts for each of the Bit runs have been provided in section 4.8. 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.

The following is a drilling summary of the 17-1/2" and 12-1/4" hole sections based on bit runs.

26" Hole Section. 90-142m (TD)

Bit Run 1 (90m to 142m) **RR 1 26" STC S3SJ Rockbit**, jets 3x28 and 36" Hole Opener .

Objective of Bit Run was drill to a total depth of 142m, the 20"/30" Casing Point.

BHA 1: 26" Bit, 36" Hole Opener, Float Sub, 2 x 9-1/2" DC, 17-1/2" String Roller Reamer, 1 x 9-1/2" DC, X/O, 5 x 8" DCs, X/O.

Progress 47m in 2.5 rotating hours, average penetration rate (ROP) of 27.5 m/hr, 20.1 Krevs.

WEAR: 0-0-BC-A-O-1-BC-TD.

HOLE PROBLEMS: No hole drilling problems encountered.

The well was spudded at 02:00 hours on 24 July 1995. Mud line at 95m. Spudded well with 5 kips WOB, 500 gpm and 60 rpm - drilled to 142m. Swept hole with 50bbls HiVis Pill every 5m. Circulate twice hole volume to clean and condition - pumped 150bbls pre-hydrated Bentonite spotted on bottom at TD.

The 20"/30" casing combination was run with the shoe set at 140m and cemented as per BHP Petroleum specifications:

Mix and pump 285 bbls (650sx) G grade cement with 40gallons of HRGL and 2.5gallons of D-AIR 2, average slurry density 1.91sg. Displaced with 16 bbls seawater, good returns to seafloor observed with ROV.

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

17-1/2" Hole Section -142m to 1208m (TD)

Bit Run 2 (142-190m) Bit 2, HUGHES MAX-GT03 Rockbit, jets 22,22,18

Objective of Bit Run was to drill the 17 1/2" section to 190m, pull back and pick up additional BHA.

BHA 2: 17-1/2" Bit, Float Sub, 2 x 9-1/2" DCs, 17-1/2" String Roller Reamer, 9-1/2" DC, 17-1/2" String Roller Reamer, 2 x 9-1/2" DCs, X/O, 8 x 8" DCs, X/O.

Reason for POOH: Pull back to pick up more 8" DC's and Jars and HWDP.

Progress: 48m

Wear: Not graded

Hole Problems: None

Bit Run 2 (190-1208m) Bit 2, HUGHES CHRISTENSEN MAX-GT03 Rockbit, jets 22,22,18

Objective of Bit Run was to drill the 17 1/2" section in Conan-1 to the 13-3/8" casing point.

BHA 3: 17-1/2" Bit, Float Sub, 2 x 9-1/2" DCs, 17-1/2" String Roller Reamer, 9-1/2" DC, 17-1/2" String Roller Reamer, 2 x 9-1/2" DCs, X/O, 9 x 8" DCs, 8" Dailey Jars, 3 x 8" DCs, X/O, 15 x HWDP.

Reason for POOH: Drilled to 13-3/8" Casing point at 1208m.

Progress: Made 1018m in 25.75 Rotating hours, average ROP 42.1 m/hr, 177.3 Krevs.

Wear: 1-1-WT-A-E-I-BT-TD

Hole Problems: 10-30 kips drag when POH at 1208m to 1044m. Tight spots at 680m - 30 kips, 595m - 50 kips, 571m - 30 kips, 50 kips - 506m, 40 kips at 425m. Wiped each tight spot until slick.

Tagged the top of cement at 132m. Drilled cement from 132m, 20" shoe and rathole to 142m. Pumped Hi Vis gel Premix Spacer at shoe and displaced to KCl Polymer mud system. Drilled to 190m, cleaned and conditioned hole prior to trip out to pick up further 8" DCs and Jars. RIH. Drilled from 190m to 1208m wiping each stand before connections. POH (problems as described above) and performed FCs at HWDP and DCs - static.

RIH to retrieve Wear Bushing, POH. RIH to jet wellhead, POH. Rig up to run 13-3/8" CSG. Picked up Shoe joint, Inter joint, and Float joint. Float joint not making up to Inter joint, L/O Inter joint and Float joint. Pick up new Inter joint and M/U to Float joint. Continue to RIH 13-3/8" CSG. Generator failure caused by Flashover between motor A and C. Electrician cleaned and checked both motors. Continued to run CSG. Rigged down 500 ton elevators. Made up Hanger joint and RIH on landing string. Could not get pass 1130m. Washed down with 10 bpm at 100-400 psi. Landed out CSG at 1200.6m.

Pumped 50 bbl Drillwater Spacer, mixed and pumped 130 bbls (650 sx) of 1.90sg cement slurry. Displaced with 534 bbls drillwater with rig pumps as per BHPP instructions. Set seal assembly and pressure test to 3750 psi. POH with landing string.

12-1/4" Hole Section -1208m to 1985m (TD)

Bit Run 3 (1208-1757m) Bit 3 HUGHES CHRISTENSEN AG-526, PDC Bit, Jets 5x16, Mud Motor & MWD

Objective Of Bit Run: Drill to 12-1/4" hole TD.

BHA 4 12-14" Bit, 9-1/2" Mud Motor, X/O, 12-1/4" String Roller Reamer, Non Magnetic Sub, 8-1/4" MWD collar, 8 x 8" DCs, 1 x Dailey Jars, 3 x 8" DCs, X/O, 15 x HWDP.

Reason for POOH: Poor penetration rate. Bit stopped drilling in the coarse to very coarse grained Minerva Formation Sands which were partly pyritised and showed minor siliceous and dolomitic cement.

Progress: Made 549m in 8.6 Rotating hours, average ROP 64.4m/hr, 123.6 Krevs.

Wear: 3-2-WT-GN-X-3-BT-PR

Hole Problems: Intermittent drag - 50 to 60 kips 1630 to 1200m - wiped until slick.

RIH and tagged TOC at 1174m, drilled cement, Float, 13-3/8" shoe, and cleaned out rathole to 1208m. Displaced to KCl/polymer mud system. Drilled to 1211m and pulled back inside the shoe to perform a LOT. Performed LOT to 1.99sg EMW with 1.13sg mudweight and 1490psi. Drilled ahead to 1251m - losing mud at shakers. Change screens to 145s. Drill ahead to 1736m and flow checked - static. Bit stopped drilling at 1757m. Circulated bottoms up and flow checked - POH.

Bit Run 4 (1757-1985m TD) Bit 4 HUGHES CHISTENSEN ATM-GT09, Rockbit, Jets 3x18, MWD.

Objective Of Bit Run: Drill 12-1/4" section to TD.

BHA 5: 12-1/4" Bit, Near Bit Roller Reamer, Non Magnetic Sub, 8-1/4" MWD collar, 12-1/4" String Roller Reamer, Non Magnetic Sub, 11x 8" DCs, 1 x Dailey Jars, 3 x 8" DCs, X/O, 15 x HWDP.

Reason for POOH: Drilled to 12-1/4" TD.

Progress: 228m in 17.3 Rotating hours, average ROP 13.2 m/hr, 101.8 Krevs.

Wear: 2-2-WT-A-E-1/16,BT/ER-TD

Hole Problems: Washed and reamed tight spots (max 85kips overpull) from 1863 to 1600m - Wiper trip at TD. RIH - took weight at 1962m - washed to bottom. POH slick.

RIH - Took 70kips weight at 1700m, washed down to 1757m completing MWD tool check. Drilled ahead (flow checks on connections) - flow checked drilling break at 1811m - static. Total Depth of 1985m reached at 22:30 on 31/07/95 upon interpretation of penetration of Otway Group - no shows. Circulated bottoms up - slugged pipe, wiper trip as above.

Rig up and run wireline logs.

4.2 BIT RECORD

WELL No. CONAN-1		PUMPS 1,2,3 OIL WELL A1700 FT. 6.5" LINER = 5.01g/stk (97%eff) 26" & 17.5" Hole Sections 6.0" LINER = 4.65g/stk (97%eff) 12.25" Hole section
OPERATOR: BHP PETROLEUM		
LOCATION: OTWAY BASIN RIG: OCEAN BOUNTY		

BHA	RUN	BIT	MAKE	TYPE	SIZE	JETS/ TFA	SERIAL	DEPTH IN (M)	MTRS ON BIT	HRS O BTM	ROP M/Hr	TOTAL DRILL HRS	WOB klbs	RPM	KREV S	GPM	SPP	GRADING	MUD MTR	OTHER
1	1	RR1	STC	S3SJ	26/36	3x28	622044	90	47	2.3	27.5	2.3	5	190	20.5	840	740	0-0-BC-A-0-1-BC-TD	NO	-
2	-	-	HC	MAXGT-03	17.5	22,22,18	C56CD	142	(48)	(1.0)	-	2.9	1-5	120	5.5	1008	1350	NOT GRADED	NO	-
3	2	2	HC	MAXGT-03	17.5	22,22,18	C56CD	190	1018	25.75	42.1	28.65	5-45	110	179.4	1200	3100	1-1-WT-A-E-I-BT-TD	NO	-
4	3	3	HC	AG-526	12.25	5x16	0120078	1208	549	8.6	64.4	37.35	5-10	250	123.6	975	3545	3-2-WT-GN-X-3-BT-PR	YES	MWD
5	4	4	HC	ATM-GT09	12.25	3x18	C16CB	1757	228	17.3	13.2	54.65	40-50	110	101.8	975	3961	2-2-WT-A-E-I/16-BT/ER-TD	NO	MWD

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

4.3 BOTTOM HOLE ASSEMBLIES

BHA No. 1, 24 JULY 95

Bit No. RR1 26" STC S3SJ, s/n 622044, Jets 3x28 (Drill from spud at 95m to 142m)

Description	Length	Total Length	I.D.	O.D.
Bit - 26"	0.54	0.54		26.00
Hole Opener - 36"	1.88	2.42	2-7/8	36.00
Float Sub	0.9	3.32	3.00	9-1/2
9.5" DC	9.32	12.64	2-15/16	9-1/2
9.5" DC	9.13	21.77	3.00	9-1/2
Roller Reamer 17-1/2"	2.51	24.28	3-1/16	17-1/2
9.5" DC	9.32	33.60	3.00	9-3/8
X/O	0.68	34.28	3.00	7-15/16
8" DC	8.58	42.86	2-15/16	7-7/8
8" DC	8.74	51.60	3-1/16	7-15/16
8" DC	9.01	60.61	2-7/8	7-13/16
8" DC	9.13	69.74	3-1/8	7-7/8
8" DC	9.46	79.20	2-13/16	8-1/16
X/O	0.92	80.12	2-7/8	8-3/4
	total	80.12		

Total BHA Weight - 40Klbs

Weight Below Jars - No Jars.

BHA No. 2, 25 JULY 95

BIT No. 2 HC MAX-GT03, 17.5", s/n C56CD, Jets 22,22,18 (Drill from 142m to 190m)

Description	Length	Total Length	I.D.	O.D.
Bit - 17-1/2"	0.43	0.43		17-1/2
Float Sub	0.90	1.33	3.00	9-3/8
9.5" DC	9.32	10.65	2-15/16	9-3/8
9.5" DC	9.13	19.78	3.00	9-3/8
Roller Reamer 17-1/2"	2.51	22.29	3-1/16	17-1/2
9.5" DC	9.32	31.61	3.00	9-9/16
Roller Reamer 17-1/2"	2.64	34.25	3-3/16	17-1/2
9.5" DC	9.33	43.58	3.00	9-1/2
9.5" DC	8.64	52.22	3-1/16	9-3/8
X/O	0.68	52.92	3.00	7-15/16
8" DC	8.58	61.48	2-15/16	7-7/8
8" DC	8.74	70.22	3-1/16	7-15/16
8" DC	9.01	79.23	2-7/8	7-13/16
8" DC	9.13	88.36	3-1/8	7-7/8
8" DC	9.46	97.82	2-13/16	8-1/16
8" DC	8.99	106.81	3-1/8	7-7/8
8" DC	8.92	115.73	3.00	7-7/8
8" DC	8.82	124.55	3-3/16	7-13/16
X/O	0.92	125.47	2-7/8	8-3/4
	total	125.47		

Total BHA Weight - 55Klbs

Weight Below Jars - No Jars

BHA No. 3 , 26 JULY 95

Bit No. 2 HC MAX-GT03, s/n C56CD, 17.5", Jets 22,22,18 (Drill from 190m to 1208m)

Description	Length	Total Length	I.D.	O.D.
Bit - 17-1/2"	0.43	0.43		17-1/2
Float Sub	0.90	1.33	3.00	9-3/8
9.5" DC	9.32	10.65	2-15/16	9-3/8
9.5" DC	9.13	19.78	3.00	9-3/8
Roller Reamer 17-1/2"	2.51	22.29	3-1/16	17-1/2
9.5" DC	9.32	31.61	3.00	9-9/16
Roller Reamer 17-1/2"	2.64	34.25	3-3/16	17-1/2
9.5" DC	9.33	43.58	3.00	9-1/2
9.5" DC	8.64	52.22	3-1/16	9-3/8
X/O	0.68	52.92	3.00	7-15/16
8" DC	8.58	61.48	2-15/16	7-7/8
8" DC	8.74	70.22	3-1/16	7-15/16
8" DC	9.01	79.23	2-7/8	7-13/16
8" DC	9.13	88.36	3-1/8	7-7/8
8" DC	9.46	97.82	3-3/16	8-1/16
8" DC	8.99	106.81	3-1/8	7-7/8
8" DC	8.92	115.73	3.00	7-7/8
8" DC	8.82	124.55	3-3/16	7-13/16
8" DC	8.86	133.41	3-3/16	7-7/8
8" JARS	9.72	143.13	8.00	3.00
8" DC	9.06	152.19	2-3/4	7-7/8
8" DC	8.86	161.17	2-15/16	7-7/8
8" DC	8.86	170.02	3-3/16	7-13/16
X/O	0.92	170.94	2-7/8	8-3/4
15 x HWDP	137.53	308.47	3.00	5.00
	total	308.47		

Total BHA Weight - 70Klbs Weight Below Jars - 40Klbs

BHA No. 4 , 28 JULY 95

BIT No.3 HC AG 526, s/n 0120078, 12.25", Jets 5 x 16, (1208m to 1757m)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.53	0.53		12-1/4
9.5" Motor	10.79	11.32	-	9-1/2
X/O	0.98	12.30	2-3/4	7-5/8
Roller Reamer 12-1/4"	2.27	14.57	3-1/16	12-1/4
Non Magnetic Sub	0.39	14.96	2-3/4	8.00
8-1/4" MWD	12.23	27.19		8-1/4
8" DC	8.74	35.93	3-1/16	7-15/16
8" DC	9.01	44.94	2-7/8	7-13/16
8" DC	9.13	54.07	3-1/8	7-7/8
8" DC	9.46	63.53	3-3/16	8-1/16
8" DC	8.99	72.52	3-1/8	7-7/8
8" DC	8.92	81.44	3.00	7-7/8
8" DC	8.82	90.26	3-3/16	7-13/16
8" DC	8.86	99.12	3-3/16	7-7/8
8" JARS	9.72	108.84	8.00	3.00
8" DC	9.06	117.90	2-3/4	7-7/8
8" DC	8.86	126.88	2-15/16	7-7/8
8" DC	8.86	135.73	3-3/16	7-13/16
X/O	0.74	136.47	2-7/8	8-3/4
15 x HWDP	137.53	274.00	3.00	5.00
	total	274.00		

Total BHA Weight - 70Klbs Weight Below Jars - 40Klbs

BHA No. 5 , 30 JULY 95

BIT No.4 HC ATM-GT09, s/n C16CB, 12.25", Jets 5 x 16, (1757m to 1985m - TD)

Description	Length	Total Length	I.D.	O.D.
Bit - 12-1/4"	0.30	0.30		12-1/4
Near Bit Roller Reamer 12-1/4"	2.39	2.69	3.00	12-1/4
Non Magnetic Sub	0.39	3.08	2-3/4	8.00
8-1/4" MWD	12.23	15.31	-	8-1/4
Roller Reamer 12-1/4"	2.27	17.58	3.00	12-1/4
8" DC	8.74	26.32	3-1/16	7-15/16
8" DC	9.01	35.33	2-7/8	7-13/16
8" DC	9.13	44.46	3-1/8	7-7/8
8" DC	9.46	53.92	3-3/16	8-1/16
8" DC	8.99	62.91	3-1/8	7-7/8
8" DC	8.92	71.83	3.00	7-7/8
8" DC	8.82	80.65	3-3/16	7-13/16
8" DC	8.86	89.51	3-3/16	7-7/8
8" DC	9.38	98.89	3.00	7-7/8
8" DC	8.96	107.85	3-3/16	7-13/16
8" DC	8.76	116.61	3-3/16	7-7/8
8" JARS	9.72	126.33	8.00	3.00
8" DC	9.06	135.39	2-3/4	7-7/8
8" DC	8.98	144.37	2-15/16	7-7/8
8" DC	8.85	153.22	3-3/16	7-13/16
X/O	0.74	153.96	2-7/8	8-3/4
15 x HWDP	137.53	291.49	3.00	5.00
	total	291.49		

Total BHA Weight - 80Klbs Weight Below Jars - 50Klbs

4.4 MUD RECORD

Mud Company- Baker Hughes Inteq

Mud Type- Seawater mud to 142m with HiVis sweeps; PHPA / 5-8% KCl Polymer mud to 1985m (TD).

Page 1 of 1

Date	24-7-95	25-7-95	26-7-95	27-7-95	28-7-95	29-7-95	30-7-95	31-7-95	1-8-95	2-8-95
Depth m	95	142	800	1208	1208	1208	1757	1938	1985	1985
Weight SG	1.03	1.06	1.12	1.09	1.13	1.13	1.18	1.20	1.20	1.20
Funnel Visc. sec/qt	150+	46	54	40	60	58	53	50	48	49
Plastic Visc. cP		12	15	11	12	12	16	15	14	14
Yield Point lb/100 ft ²		18	15	11	21	20	19	24	22	22
Gels 10s/10m lb/100 ft ²		1/2	4/9	2/3	4/9	4/8	5/10	4/10	4/10	5/10
API Filtrate ml/30min		7.2	4.8	5.6	4.8	5.0	4.8	4.8	4.4	4.8
API/HPHT Filter Cake 32nd ins		1	1	1	1	1	1	1	1	1
Solids %Vol		5.0	8.0	6.0	8.5	8.5	10.0	11.0	10.5	10.5
Water Content %Vol		95.0	92.0	94.0	91.5	91.5	90.0	89.0	89.5	89.5
Sand %Vol		-	0.5	0.25	tr	tr	1.0	0.5	0.5	0.5
Methylene Blue cap. ppb		5.0	2.5	2.5	2.5	tr	5.0	5.0	5.0	5.0
pH metre		9.5	9	8.90	9.50	9.30	8.8	9.0	9.0	9.0
Alk. Mud pm ml		-	1	0.05	0.80	0.80	0.50	0.40	0.40	0.40
Alk. Filtrate, P/Mf ml		0.2/0.5	0.4/0.9	0.05/0.4	0.4/0.9	0.4/0.95	0.20/0.70	0.1/0.5	0.1/0.5	0.1/0.5
Chlorides mg/Lx10 ³		40	40	38.5	60	60.5	58	55	56	55
Total Hardness mg/L		600	600	700	280	320	560	360	400	400
Calcium mg/L		480	480	680	200	240	480	320	320	320
PHPA Excess ppb		-	0.95	0.90	1.00	1.00	1.00	1.00	1.00	1.00
KCl %Wt Soln.		4.00	3.60	3.20	7.20	7.10	6.80	7.00	7.00	7.00
Potassium Ion Conc. X1000		20.94	18.85	16.76	37.70	37.18	35.60	36.65	36.65	36.65
Brine Phase Correction Factor		1.03	1.03	1.03	1.05	1.05	1.05	1.05	1.05	1.05
Brine Phase SG		1.05	1.05	1.05	1.07	1.07	1.07	1.07	1.07	1.07
Liquid Content (% Vol + %Salt)		98.21	95.11	9.04	96.34	96.38	94.58	93.27	93.88	93.80
Average SG Solids		1.35	2.49	2.47	2.60	2.60	3.07	3.03	3.21	3.19
Sulfite mg/l		-	100	-	-	-	-	80	80	80

4.5 SURVEY DATA

The following is a complete survey listing as provided by BHI at the end of the well. These results are considered provisional until verification after submission to the BHI office.

DEPTH m	COURSE LENGTH m	INCLINATION deg	AZIMUTH deg	TVD m	VERTICAL SECTION m	N/S m	E/W m	DOGLEG SEV deg/30m
0.0	0	0.0	0.0	0.00	0.00	0.00N	0.00E	TIE IN
254.0	254	0.3	0.0	254.00	0.66	0.66N	0.00E	0.04
1132.0	878	0.6	0.0	1131.97	7.56	7.56N	0.00E	0.01
1214.4	82	0.9	250.6	1214.37	7.78	7.78N	0.61W	0.45
1506.4	292	0.3	261.2	1506.35	6.90	6.90N	3.53W	0.06
1736.0	229	0.4	339.6	1735.95	7.56	7.56N	4.40W	0.06
1914.0	178	0.2	25.6	1913.94	8.42	8.42N	4.48W	0.05
1976.0	62	0.1	9.8	1975.94	8.57	8.57N	4.43W	0.05

4.6 TRIP REPORTS

Trip Analysis Report

Date: 27-07-95	Trip Analysis Report	Rig: OCEAN BOUNTY	Report/Trip No. 1
Depth: 1208m	Well: CONAN 1	Hole Size: 12.25"	Last Casing: 140m
Reason for trip:	Reached 13 3/8" casing point.		
Hookload:	300klbs		
Overpull:	10-30 klbs drag back to 1064m. Tight spots at 595m, 471m, 506m, 425m - 30-50klbs overpull, wiped each spot until slick		
Trip speed	5 hours in total		
Swab/Surge:	None recognised		
Torque:	Not excessive		
Reaming:	None		
Mud Volumes:	Theoretical hole fill = 66 bbls Actual hole fill = 86 bbls Inferred seepage losses probably in friable Wangeripp Sandstone		
Gas:	No wiper trip		
Hole Condition:	Good		
Other			

Trip Analysis Report

Date: 30-07-95	Trip Analysis Report	Rig: OCEAN BOUNTY	Report/Trip No. 2
Depth: 1757m	Well: CONAN 1	Hole Size: 12.25"	Last Casing: 1200m
Reason for trip:	Poor rate of penetration, POH for bit trip		
Hookload:	315 kibs		
Overpull:	Tight spots from 1630m to 1200 m, with 50-60 kibs drag		
Trip speed	6 Hours total		
Swab/Surge:	None recognised		
Torque:	Not Excessive		
Reaming:	None		
Mud Volumes:	Total hole fill volume from active mud system: 83bbbls; good hole fill Theoretical volume: 74.2 bbls		
Gas:	Trip Gas peak of 0.85%		
Hole Condition:	Slick to 1630m, tight spots through to 13 3/8" casing at 1200m		
Other			

Trip Analysis Report

Date: 1-08-95	Trip Analysis Report	Rig: OCEAN BOUNTY	Report/Trip No. 3
Depth: 1985m	Well: CONAN 1	Hole Size: 12.25"	Last Casing: 1200m
Reason for trip:	Reached total depth of 1985m, and additional wiper trip		
Hookload:	335klbs		
Overpull:	Tight hole from 1863m to 1600m, up to 80 klbs overpull while backreaming		
Trip speed	10 hours total including 14 stand wiper trip		
Swab/Surge:	None recognised		
Torque:	Not excessive		
Reaming:	Washed down through lower Claystone section of the Otway Group		
Mud Volumes:	Total hole fill volume from active mud system: 82.1bbbls; good hole fill Theoretical volume: 80.2 bbls		
Gas:	Maximum of 0.105% Total Gas circulated bottoms up following wiper trip		
Hole Condition:	Good following wiper trip		
Other	Overpull encountered -see above: Some sub-fissile Claystones, probably being "pressure cavings" from approx 1860m, circulated while drilling		

4.7 HYDRAULICS

HALLIBURTON

DRILLING HYDRAULICS PROGRAM

BIT NO.2 HUGHES MAXGT-03

DRILLED DEPTH 1208. mt

TRUE DEPTH 1208. mt

MUD PROPERTIES

Mud weight	1.10 SG	Actual standpipe pressure	3075 psi
PV/YP	12./ 11.	Pump rate	246 spm
Theta 300/600	23./ 35.	Flow rate	1233.6 gpm
N	0.61	Hydrostatic head	1888.4 psi
K	0.53	Pore pressure	1768.2 psi
R Laminar	2640.64	Estimated overbalance	120.2 psi
R Turbulent	3440.64	M.A.A.S.P	2469.0 psi
E.C.D.	1.10 SG	Equivalent B.H.P	4357.41 psi
E.C.D. SHOE	1.10 SG		

BIT HYDRAULICS

PRESSURE LOSSES

Total flow area (Nozzles)	0.991 sq.ins	Total annular pressure loss	4.4 psi
Nozzle velocity	128.2 m /sec	Drill string pressure loss	2125.9 psi
Hydraulic Impact	2463.3 lbs.wt.	Surface equipment press. loss	147.1 psi
Bit hydraulic power	941.5 HP	Bit pressure loss	1308.1 psi
Total hydraulic horsepower	2580.7 HP	Total system pressure loss	3585.5 psi
Theor. % HHP at bit	36.5		
Actual % HHP at bit	42.5		

LAG TIME

VELOCITIES

Annular volume	1086. bbls	Max. annular velocity	42.7 m /min
Lag time of mud in mins.	37.0 mins	Min. annular velocity	25.3 m /min
Lag time of mud in strokes	9097. strks	Ave. annular velocity	32.7 m /min
Lag time of cuttings	45.3 mins	Ave. cuttings slip velocity	6.0 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
17-1/2"BIT,9-1/2"DC OPEN HOLE	9.50 17.50	42.7	73.0	0.4	1625.7	6.5	Laminar
8"DC'S OPEN HOLE	8.00 17.50	38.0	67.8	0.7	1537.3	6.3	Laminar
HWDP OPEN HOLE	5.25 17.50	33.1	60.7	0.5	1474.8	6.0	Laminar
DRILL PIPE OPEN HOLE	5.13 17.50	32.9	60.5	2.5	1474.3	6.0	Laminar
DRILL PIPE CASING	5.13 19.12	27.2	57.3	0.1	1214.3	5.7	Laminar
DRILL PIPE MARINE RISER	5.13 19.75	25.3	56.2	0.2	1132.1	5.6	Laminar

Critical Velocities Turbulent Reynolds No.

HALLIBURTON

DRILLING HYDRAULICS PROGRAM

BIT NO.3 HUGHES AG-526

DRILLED DEPTH 1757. mt

TRUE DEPTH 1757. mt

MUD PROPERTIES

Mud weight 1.18 SG
 PV/YP 15./ 23.
 Theta 300/600 38./ 53.
 N 0.48
 K 1.91
 R Laminar 2812.79
 R Turbulent 3612.79
 E.C.D. 1.20 SG
 E.C.D. SHOE 1.20 SG

Actual standpipe pressure 3550 psi
 Pump rate 235 spm
 Flow rate 1003.8 gpm
 Hydrostatic head 2946.3 psi
 Pore pressure 2571.8 psi
 Estimated overbalance 374.5 psi
 M.A.A.S.P 1262.6 psi
 Equivalent B.H.P 4208.91 psi

BIT HYDRAULICS

Total flow area (Nozzles) 0.982 sq.ins
 Nozzle velocity 105.3 m /sec
 Hydraulic Impact 1765.9 lbs.wt.
 Bit hydraulic power 554.3 HP
 Total hydraulic horsepower 2331.0 HP
 Theor. % HHP at bit 23.8
 Actual % HHP at bit 26.7

PRESSURE LOSSES

Total annular pressure loss 48.1 psi
 Drill string pressure loss 2878.0 psi
 Surface equipment press. loss 107.6 psi
 Bit pressure loss 946.6 psi
 Total system pressure loss 3980.3 psi

LAG TIME

Annular volume 762. bbls
 Lag time of mud in mins. 31.9 mins
 Lag time of mud in strokes 7488. strks
 Lag time of cuttings 35.3 mins

VELOCITIES

Max. annular velocity 125.4 m /min
 Min. annular velocity 20.6 m /min
 Ave. annular velocity 55.1 m /min
 Ave. cuttings slip velocity 5.0 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
12.25"BIT / MOTOR / X/O OPEN HOLE	9.50 12.25	125.4	168.2	1.8	2310.5	6.7	Laminar
R/R / 8"DC / JARS / X/O OPEN HOLE	8.00 12.25	87.1	146.6	8.1	1637.4	5.8	Laminar
HWDP OPEN HOLE	5.25 12.25	61.2	125.3	3.6	1216.3	5.0	Laminar
DRILL PIPE OPEN HOLE	5.13 12.25	60.6	124.6	7.2	1207.5	5.0	Laminar
DRILL PIPE CASING	5.13 12.41	58.7	123.7	26.9	1163.6	5.0	Laminar
DRILL PIPE MARINE RISER	5.13 19.75	20.6	99.3	0.5	331.0	3.7	Laminar

Critical Velocities Turbulent Reynolds No.

H A L L I B U R T O N

DRILLING HYDRAULICS PROGRAM

BIT NO.4 HUGHES ATMGT-09

DRILLED DEPTH 1985. mt

TRUE DEPTH 1985. mt

MUD PROPERTIES

Mud weight 1.20 SG
 PV/YP 48./ 14.
 Theta 300/600 62./110.
 N 0.83
 K 0.36
 R Laminar 2337.44
 R Turbulent 3137.44
 E.C.D. 1.21 SG
 E.C.D. SHOE 1.21 SG

Actual standpipe pressure 3950 psi
 Pump rate 221 spm
 Flow rate 944.0 gpm
 Hydrostatic head 3385.1 psi
 Pore pressure 2905.5 psi
 Estimated overbalance 479.6 psi
 M.A.A.S.P 1347.9 psi
 Equivalent B.H.P 4732.98 psi

BIT HYDRAULICS

Total flow area (Nozzles) 0.746 sq.ins
 Nozzle velocity 130.4 m /sec
 Hydraulic Impact 2091.4 lbs.wt.
 Bit hydraulic power 813.1 HP
 Total hydraulic horsepower 2519.6 HP
 Theor .% HHP at bit 32.3
 Actual % HHP at bit 37.4

PRESSURE LOSSES

Total annular pressure loss 39.5 psi
 Drill string pressure loss 2961.5 psi
 Surface equipment press. loss 97.6 psi
 Bit pressure loss 1476.3 psi
 Total system pressure loss 4574.9 psi

LAG TIME

Annular volume 850. bbls
 Lag time of mud in mins. 37.8 mins
 Lag time of mud in strokes 8362. strks
 Lag time of cuttings 43.0 mins

VELOCITIES

Max. annular velocity 81.9 m /min
 Min. annular velocity 19.4 m /min
 Ave. annular velocity 52.5 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
BIT/8"DCS	8.00	81.9	149.2	9.5	1553.2	5.7	Laminar
OPEN HOLE	12.25						
HWDP	5.25	57.6	105.0	2.6	1550.6	5.5	Laminar
OPEN HOLE	12.25						
DRILL PIPE	5.13	57.0	103.7	8.8	1553.9	5.5	Laminar
OPEN HOLE	12.25						
DRILL PIPE	5.13	55.2	102.1	18.4	1525.5	5.4	Laminar
CASING	12.41						
DRILL PIPE	5.13	19.4	62.5	0.2	794.9	4.9	Laminar
MARINE RISER	19.75						

Critical Velocities Turbulent Reynolds No.

SECTION 5 INCLUSIONS AND APPENDICES

5.1 LOG ENCLOSURES AND FORMATS

5.2 DATA DISK CONTENTS

5.3 BIT RUN DRILLING DATA LISTING

5.4 ABBREVIATIONS

5.5 SERVICES

5.6 PRESSURE ANALYSIS SERVICE

5.7 SAMPLE MANIFEST

LOG ENCLOSURES FOR CONAN-1

FORMATION EVALUATION LOG
 PRESSURE EVALUATION LOG
 GAS RATIO EVALUATION LOG
 DRILLING PARAMETER LOG

LOG FORMATS

All depths being measured below the rotary table. Any relevant hole information is presented on the logs where appropriate

FORMATION EVALUATION LOG

Scale 1:500 from 50m to 1985m (TD)

The Log is divided into 7 tracks:

Track (1) ROP m/hr, range 1-100 from right to left, this track is logarithmic
 WOB Klbs, 1-100 from right to left.

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

GAS RATIO LOG FORMAT

Scale 1:500m from 1300m to 1985m (TD)

Log Format, six tracks left to right:

Track (1) Penetration Rate (m/hr), Strokes per minute.

Track (2) Depth.

Track (3) Interpreted Lithology.

Track (4) Lagged Total Gas, Normalised Gas Trend (%), Chromatographic breakdown (%).

Track (5) Wetness and Balance ratios.

Track (6) Character Ratio, Survey data.

PRESSURE EVALUATION LOG

The Log is plotted at a scale of 1:2500 from 0m to 1985m (TD).
It is divided into eight tracks which :

- Track (1) Dxc Exponent, Bit Data, Drilling Parameters(WOB, RPM, GPM, PP)
- Track (2) Measured Depth, and True Vertical Depth, sing 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).

DRILLING PARAMETER LOG

The Log is plotted at 1:500 from 50m to 1985m (TD)
The Drilling Parameter Log is divided into 9 tracks

- Track (1) Weight On Bit 0-100 kilopounds 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

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 Conan-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 (Klb) RPM - Revs per minute TRQ - Torque (Amps) SPM - Strokes per minute SPP - Standpipe pressure (psi) MFI - Mud flow in (g/min) Ave ROP - (m/hr) Rothrs - Rotating hours Krevs - Total bit Revs (,000)
DXCFPG.ASC	MD - m bdf Dxc - Drilling Exponent Corrected FPG - Formation Pressure Gradient (sg) FGE - 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.

Bit Run 2 - HC - MAXGT-03
143 to 1208 m

143.0	143.0	23.6	24.0	11	88	104	0.3	0.05	100	1330	499	1415	1.03	1.05	15.4	19.4	0.85	1.0	143	143
144.0	144.0	28.6	24.0	11	101	103	0.4	0.08	100	1332	502	1401	1.03	1.05	15.4	20.8	0.85	1.0	144	144
145.0	145.0	22.8	23.6	9	89	68	0.7	0.13	100	1342	503	1355	1.03	1.05	15.4	20.8	0.83	1.0	145	145
146.0	146.0	75.0	28.5	8	116	116	0.9	0.14	100	1342	499	1315	1.03	1.05	15.4	20.8	0.63	1.0	146	146
147.0	147.0	100.0	33.2	5	116	112	0.9	0.15	100	1342	503	1305	1.03	1.05	15.4	21.0	0.54	1.0	147	147
148.0	148.0	90.0	37.1	3	118	84	1.0	0.16	100	1342	504	1297	1.12	1.14	15.4	20.8	0.48	1.0	148	148
149.0	149.0	112.5	41.0	6	118	82	1.0	0.17	100	1342	504	1292	1.12	1.14	15.4	20.8	0.49	1.0	149	149
150.0	150.0	200.0	45.6	4	83	89	1.0	0.18	100	1343	500	1283	1.12	1.14	15.4	20.7	0.32	1.0	150	150
151.0	151.0	15.4	37.4	23	117	93	1.1	0.24	149	1342	747	1250	1.12	1.14	15.4	21.4	1.09	1.0	151	151
152.0	152.0	112.5	40.1	1	116	90	1.3	0.25	194	1343	973	1264	1.12	1.14	15.4	23.3	0.36	1.0	152	152
153.0	153.0	189.5	43.2	3	116	100	1.3	0.25	195	1343	975	1260	1.12	1.14	15.4	23.3	0.36	1.0	153	153
154.0	154.0	133.3	45.8	2	116	92	1.3	0.26	194	1343	977	1245	1.12	1.14	15.4	23.2	0.40	1.0	154	154
155.0	155.0	150.0	48.3	5	117	84	1.4	0.27	195	1342	973	1243	1.12	1.14	15.4	23.2	0.43	1.0	155	155

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
155.0	155.0	150.0	48.3	5	117	84	1.4	0.27	195	1342	973	1243	1.12	1.14	15.4	23.2	0.43	1.0	155	155
156.0	156.0	100.0	50.2	2	117	83	1.4	0.28	194	1343	977	1236	1.12	1.14	15.4	23.2	0.45	1.0	156	156
157.0	157.0	144.0	52.5	3	116	88	1.5	0.29	205	1343	1033	1233	1.12	1.14	15.4	23.2	0.41	1.0	157	157
158.0	158.0	92.3	53.9	4	116	101	1.5	0.30	192	1343	963	1222	1.12	1.14	15.4	23.2	0.49	1.0	158	158
159.0	159.0	171.4	56.2	5	116	93	1.6	0.30	192	1343	965	1218	1.12	1.14	15.4	23.2	0.40	1.0	159	159
160.0	160.0	105.9	57.7	3	117	79	1.6	0.31	191	1342	967	1210	1.12	1.14	15.4	23.2	0.44	1.0	160	160
161.0	161.0	97.3	59.0	3	116	88	1.7	0.32	192	1343	963	1200	1.12	1.14	15.4	23.2	0.46	1.0	161	161
162.0	162.0	109.1	60.4	3	116	87	1.7	0.33	192	1342	967	1192	1.12	1.14	15.4	23.2	0.45	1.0	162	162
163.0	163.0	116.1	61.8	4	116	89	1.9	0.34	192	1342	967	1188	1.12	1.14	15.4	23.2	0.45	1.0	163	163
164.0	164.0	124.1	63.2	4	116	89	1.9	0.35	192	1342	967	1177	1.12	1.14	15.4	23.2	0.45	1.0	164	164
165.0	165.0	116.1	64.5	4	116	90	2.0	0.36	192	1343	963	1173	1.12	1.14	15.4	23.2	0.46	1.0	165	165
166.0	166.0	144.0	66.0	5	117	92	2.0	0.36	192	1343	965	1165	1.12	1.14	15.4	23.2	0.43	1.0	166	166
167.0	167.0	100.0	66.9	5	116	101	2.1	0.37	192	1343	964	1155	1.12	1.14	15.4	23.2	0.50	1.0	167	167
168.0	168.0	150.0	68.4	5	116	95	2.1	0.38	191	1343	966	1155	1.12	1.14	15.4	23.2	0.43	1.0	168	168
169.0	169.0	128.6	69.6	5	116	89	2.1	0.39	192	1343	967	1146	1.12	1.14	15.4	23.2	0.45	1.0	169	169
170.0	170.0	133.3	70.8	4	116	84	2.2	0.40	192	1342	963	1142	1.12	1.14	15.4	23.2	0.44	1.0	170	170
171.0	171.0	138.5	72.0	4	117	75	2.2	0.40	192	1343	966	1139	1.12	1.14	15.4	23.2	0.43	1.0	171	171
172.0	172.0	105.9	72.8	4	116	87	2.4	0.41	192	1342	964	1127	1.12	1.14	15.4	23.2	0.46	1.0	172	172
173.0	173.0	90.0	73.2	3	117	84	2.4	0.42	192	1342	967	1120	1.12	1.14	15.4	23.2	0.46	1.0	173	173
174.0	174.0	102.9	73.9	5	116	92	2.5	0.43	192	1342	965	1110	1.12	1.14	15.4	23.1	0.49	1.0	174	174
175.0	175.0	180.0	75.2	4	116	94	2.5	0.44	192	1343	963	1104	1.12	1.14	15.4	23.1	0.39	1.0	175	175
176.0	176.0	102.9	75.8	5	116	97	2.6	0.45	192	1342	966	1103	1.12	1.14	15.4	23.1	0.48	1.0	176	176
177.0	177.0	112.5	76.5	6	116	95	2.6	0.46	192	1342	964	1098	1.12	1.14	15.4	23.0	0.49	1.0	177	177
178.0	178.0	102.9	77.1	7	117	91	2.7	0.47	192	1342	967	1097	1.12	1.14	15.4	22.9	0.51	1.0	178	178
179.0	179.0	54.5	76.2	3	121	75	2.8	0.49	188	1342	943	1108	1.12	1.14	15.7	23.0	0.55	1.0	179	179
180.0	180.0	156.5	77.3	5	120	69	2.8	0.49	223	1342	1118	1123	1.12	1.14	16.1	22.9	0.42	1.0	180	180
181.0	181.0	85.7	77.5	4	120	70	2.9	0.50	223	1342	1118	1108	1.12	1.14	16.1	22.8	0.50	1.0	181	181
182.0	182.0	76.6	77.5	4	120	68	3.0	0.52	239	1342	1201	1099	1.12	1.14	16.1	22.9	0.51	1.0	182	182
183.0	183.0	112.5	78.1	3	119	84	3.0	0.53	235	1342	1207	1097	1.12	1.14	16.2	23.2	0.44	1.0	183	183
184.0	184.0	128.6	78.8	4	119	94	3.1	0.53	239	1342	1211	1092	1.12	1.14	16.2	23.4	0.43	1.0	184	184
185.0	185.0	189.5	79.9	4	119	89	3.1	0.54	239	1342	1199	1088	1.12	1.14	16.3	23.5	0.38	1.0	185	185
186.0	186.0	116.1	80.4	3	119	92	3.3	0.55	239	1342	1211	1091	1.12	1.14	16.4	23.6	0.43	1.0	186	186
187.0	187.0	156.5	81.3	4	118	102	3.3	0.55	239	1343	1212	1092	1.12	1.14	16.4	23.8	0.41	1.0	187	187
188.0	188.0	112.5	81.8	4	119	96	3.3	0.56	239	1342	1211	1093	1.12	1.14	16.5	23.9	0.47	1.0	188	188
189.0	189.0	156.5	82.7	4	119	83	3.4	0.57	239	1342	1201	1096	1.12	1.14	16.6	24.0	0.41	1.0	189	189
190.0	190.0	163.6	83.5	3	119	113	3.4	0.57	239	1343	1206	1094	1.12	1.14	16.6	25.8	0.38	1.0	190	190
191.0	191.0	120.0	84.0	3	118	89	3.4	0.58	241	1334	1203	1064	1.12	1.14	19.4	26.1	0.44	1.0	191	191
192.0	192.0	120.0	84.5	3	118	90	3.4	0.59	242	1334	1208	1065	1.12	1.14	19.3	26.3	0.44	1.0	192	192
193.0	193.0	51.4	83.5	4	118	77	3.6	0.61	242	1334	1213	1064	1.12	1.14	19.3	26.6	0.58	1.0	193	193
194.0	194.0	156.5	84.2	4	118	74	3.6	0.62	248	1337	1246	1080	1.12	1.14	19.5	26.7	0.42	1.0	194	194
195.0	195.0	76.6	84.1	3	117	80	3.6	0.63	248	1337	1252	1069	1.12	1.14	19.5	26.8	0.49	1.0	195	195
196.0	196.0	95.5	85.2	4	117	88	3.7	0.63	249	1337	1256	1057	1.12	1.14	19.5	26.8	0.49	1.0	196	196
197.0	197.0	100.0	85.5	1	117	90	3.7	0.64	250	1337	1244	1050	1.12	1.14	19.5	26.9	0.41	1.0	197	197
198.0	198.0	180.0	86.3	5	117	108	3.9	0.65	250	1337	1256	1043	1.12	1.14	19.5	27.0	0.40	1.0	198	198
199.0	199.0	144.0	86.9	7	117	107	3.9	0.66	250	1337	1257	1043	1.12	1.14	19.5	27.0	0.46	1.0	199	199
200.0	200.0	156.5	87.5	6	116	107	3.9	0.66	250	1337	1256	1039	1.12	1.14	19.5	27.0	0.44	1.0	200	200
201.0	201.0	150.0	88.2	6	117	88	4.0	0.67	250	1337	1246	1034	1.12	1.14	19.6	27.0	0.44	1.0	201	201
202.0	202.0	124.1	88.6	6	117	101	4.0	0.68	250	1337	1251	1033	1.12	1.14	19.6	27.0	0.48	1.0	202	202
203.0	203.0	124.1	89.0	7	116	91	4.1	0.69	250	1337	1248	1029	1.12	1.14	19.6	27.0	0.49	1.0	203	203
204.0	204.0	109.1	89.3	6	117	93	4.1	0.69	250	1337	1253	1026	1.12	1.14	19.6	27.0	0.50	1.0	204	204

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT FIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
204.0	204.0	109.1	89.3	6	117	93	4.1	0.69	250	1337	1253	1026	1.12	1.14	19.6	27.0	0.50	1.0	204	204
205.0	205.0	144.0	89.8	6	117	86	4.2	0.70	250	1337	1258	1026	1.12	1.14	19.7	27.0	0.45	1.0	205	205
206.0	206.0	73.5	89.5	4	117	87	4.2	0.71	250	1337	1245	1023	1.12	1.14	19.7	27.0	0.52	1.0	206	206
207.0	207.0	85.7	89.4	5	118	80	4.3	0.73	248	1337	1254	1024	1.12	1.14	19.7	27.0	0.51	1.0	207	207
208.0	208.0	67.9	89.0	2	117	91	4.5	0.74	251	1337	1249	1032	1.12	1.14	19.8	27.0	0.50	1.0	208	208
209.0	209.0	81.8	88.9	2	118	76	4.6	0.75	248	1337	1256	1052	1.12	1.14	19.9	27.0	0.46	1.0	209	209
210.0	210.0	45.6	87.7	5	125	77	4.7	0.78	248	1337	1250	1069	1.12	1.14	20.0	26.9	0.63	1.0	210	210
211.0	211.0	70.6	87.4	3	128	83	4.8	0.79	245	1337	1245	1083	1.12	1.14	20.1	26.8	0.53	1.0	211	211
212.0	212.0	67.9	87.0	7	129	90	5.0	0.80	235	1337	1165	1094	1.12	1.14	20.2	26.8	0.60	1.0	212	212
213.0	213.0	75.0	86.8	2	128	86	5.0	0.82	232	1337	1171	1100	1.12	1.14	20.2	26.8	0.48	1.0	213	213
214.0	214.0	67.9	86.5	4	128	80	5.1	0.83	233	1337	1210	1107	1.12	1.14	20.3	26.9	0.55	1.0	214	214
215.0	215.0	52.9	85.7	2	128	74	5.2	0.85	240	1337	1214	1114	1.12	1.14	20.4	27.0	0.53	1.0	215	215
216.0	216.0	87.8	85.8	2	129	68	5.4	0.86	240	1337	1217	1119	1.12	1.14	20.4	27.2	0.47	1.0	216	216
217.0	217.0	66.7	85.4	2	127	91	5.5	0.88	241	1337	1209	1125	1.12	1.14	20.4	27.3	0.51	1.0	217	217
218.0	218.0	80.0	85.4	3	127	105	5.5	0.89	242	1337	1217	1126	1.12	1.14	20.4	27.2	0.51	1.0	218	218
219.0	219.0	67.9	85.1	3	127	93	5.6	0.90	240	1337	1217	1124	1.12	1.14	20.5	27.0	0.54	1.0	219	219
220.0	220.0	83.7	85.1	4	127	88	5.8	0.92	242	1337	1217	1123	1.12	1.14	20.5	27.0	0.52	1.0	220	220
221.0	221.0	83.7	85.0	6	128	86	5.9	0.93	241	1337	1210	1123	1.12	1.14	20.6	27.3	0.55	1.0	221	221
222.0	222.0	22.4	82.2	3	128	82	6.0	0.97	241	1337	1213	1133	1.12	1.14	20.7	27.7	0.69	1.0	222	222
223.0	223.0	83.7	82.2	3	130	84	6.1	0.99	242	1337	1212	1136	1.12	1.14	20.9	27.9	0.50	1.0	223	223
224.0	224.0	124.1	82.5	4	129	88	6.1	0.99	242	1337	1215	1120	1.12	1.14	20.9	28.0	0.45	1.0	224	224
225.0	225.0	124.1	82.9	4	129	102	6.2	1.00	241	1337	1218	1123	1.12	1.14	20.9	28.0	0.46	1.0	225	225
226.0	226.0	124.1	83.2	3	130	85	6.2	1.01	242	1337	1210	1124	1.12	1.14	20.9	28.0	0.43	1.0	226	226
227.0	227.0	128.6	83.5	4	129	98	6.4	1.02	242	1337	1216	1127	1.12	1.14	20.9	28.1	0.46	1.0	227	227
228.0	228.0	124.1	83.9	4	130	83	6.4	1.03	242	1337	1212	1129	1.12	1.14	20.9	28.1	0.47	1.0	228	228
229.0	229.0	69.2	83.7	4	129	99	6.5	1.04	241	1337	1217	1134	1.12	1.14	21.0	28.1	0.54	1.0	229	229
230.0	230.0	171.4	84.1	4	128	108	6.5	1.05	241	1337	1213	1136	1.12	1.14	21.0	28.1	0.42	1.0	230	230
231.0	231.0	138.5	84.5	5	128	130	6.6	1.05	241	1337	1209	1143	1.12	1.14	21.0	28.2	0.46	1.0	231	231
232.0	232.0	133.3	84.9	6	128	133	6.6	1.06	242	1337	1215	1146	1.12	1.14	21.1	28.2	0.47	1.0	232	232
233.0	233.0	81.8	84.8	6	124	115	6.8	1.07	242	1337	1212	1151	1.12	1.14	21.1	28.2	0.55	1.0	233	233
234.0	234.0	82.7	85.6	5	120	107	6.8	1.08	241	1337	1218	1154	1.12	1.14	21.1	28.3	0.53	1.0	234	234
235.0	235.0	116.1	85.8	7	121	104	6.8	1.08	242	1337	1216	1164	1.12	1.14	21.2	28.3	0.51	1.0	235	235
236.0	236.0	50.7	85.2	4	122	84	6.9	1.10	241	1337	1212	1169	1.12	1.14	21.2	28.4	0.60	1.0	236	236
237.0	237.0	90.0	85.2	10	120	126	7.1	1.11	242	1956	1218	1174	1.12	1.14	21.3	28.3	0.59	1.0	237	237
238.0	238.0	80.0	85.2	6	121	91	7.1	1.13	241	2327	1217	1171	1.12	1.14	21.3	28.3	0.56	1.0	238	238
239.0	239.0	92.3	85.2	5	118	108	7.2	1.14	241	2327	1212	1168	1.12	1.14	21.4	28.1	0.52	1.0	239	239
240.0	240.0	61.0	84.9	7	118	110	7.3	1.15	242	2327	1213	1166	1.12	1.14	21.4	27.8	0.61	1.0	240	240
241.0	241.0	83.7	84.9	4	118	102	7.5	1.17	241	2327	1216	1163	1.12	1.14	21.5	27.8	0.51	1.0	241	241
242.0	242.0	83.7	84.9	5	118	109	7.5	1.18	242	2327	1214	1164	1.12	1.14	21.5	28.0	0.53	1.0	242	242
243.0	243.0	144.0	85.2	6	118	123	7.6	1.19	242	2329	1216	1164	1.12	1.14	21.5	28.2	0.45	1.0	243	243
244.0	244.0	92.3	85.3	6	118	120	7.6	1.20	241	2329	1216	1160	1.12	1.14	21.6	28.4	0.53	1.0	244	244
245.0	245.0	120.0	85.5	7	118	123	7.7	1.20	242	2324	1217	1156	1.12	1.14	21.6	28.5	0.49	1.0	245	245
246.0	246.0	163.6	85.9	6	117	129	7.7	1.21	242	2324	1215	1153	1.12	1.14	21.6	28.5	0.43	1.0	246	246
247.0	247.0	97.3	86.0	6	118	111	7.8	1.22	241	2321	1217	1154	1.12	1.14	21.6	28.6	0.51	1.0	247	247
248.0	248.0	163.6	86.4	5	119	98	7.8	1.23	241	2321	1212	1156	1.12	1.14	21.7	28.6	0.42	1.0	248	248
249.0	249.0	59.0	86.0	6	140	93	8.0	1.24	242	2322	1212	1157	1.12	1.14	21.7	28.6	0.62	1.0	249	249
250.0	250.0	163.6	86.4	0	140	90	8.0	1.25	242	2326	1214	1190	1.12	1.14	21.9	28.8	0.29	1.0	250	250
251.0	251.0	116.1	86.6	0	140	105	8.1	1.26	242	2326	1213	1178	1.12	1.14	21.9	28.8	0.33	1.0	251	251
252.0	252.0	128.6	86.9	1	140	141	8.1	1.27	242	2327	1212	1172	1.12	1.14	21.8	28.8	0.40	1.0	252	252
253.0	253.0	87.8	86.9	3	140	150	8.2	1.28	242	2326	1214	1163	1.12	1.14	21.8	28.8	0.51	1.0	253	253

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
253.0	253.0	87.8	86.9	3	140	150	8.2	1.28	242	2326	1214	1163	1.12	1.14	21.8	28.8	0.51	1.0	253	253
254.0	254.0	150.0	87.2	4	141	118	8.2	1.28	242	2327	1217	1157	1.12	1.14	21.9	28.8	0.44	1.0	254	254
255.0	255.0	156.5	87.5	5	140	151	8.2	1.29	242	2327	1215	1152	1.12	1.14	21.9	28.9	0.45	1.0	255	255
256.0	256.0	144.0	87.8	4	140	132	8.4	1.30	241	2327	1213	1153	1.12	1.14	21.9	28.9	0.44	1.0	256	256
257.0	257.0	144.0	88.1	5	141	126	8.4	1.30	241	2324	1215	1153	1.12	1.14	21.9	28.9	0.47	1.0	257	257
258.0	258.0	163.6	88.5	5	141	120	8.4	1.31	242	2324	1215	1148	1.12	1.14	22.0	28.9	0.44	1.0	258	258
259.0	259.0	150.0	88.8	3	141	112	8.6	1.32	241	2325	1211	1149	1.12	1.14	22.0	28.9	0.43	1.0	259	259
260.0	260.0	105.9	88.9	5	140	146	8.6	1.33	241	2326	1217	1150	1.12	1.14	22.0	28.9	0.52	1.0	260	260
261.0	261.0	109.1	89.1	14	141	131	8.7	1.34	242	2326	1215	1150	1.12	1.14	22.1	28.9	0.62	1.0	261	261
262.0	262.0	69.2	88.9	5	141	123	8.7	1.35	242	2327	1209	1151	1.12	1.14	22.1	28.8	0.59	1.0	262	262
263.0	263.0	85.7	88.8	4	142	84	8.9	1.36	242	2327	1214	1154	1.12	1.14	22.2	28.6	0.52	1.0	263	263
264.0	264.0	112.5	89.0	4	141	146	8.9	1.37	241	2327	1218	1154	1.12	1.14	22.2	28.3	0.48	1.0	264	264
265.0	265.0	112.5	89.1	2	141	132	9.1	1.38	242	2327	1216	1155	1.12	1.14	22.2	28.3	0.46	1.0	265	265
266.0	266.0	92.3	89.2	2	142	84	9.1	1.39	242	2324	1209	1152	1.12	1.14	22.3	28.2	0.46	1.0	266	266
267.0	267.0	112.2	89.8	2	142	87	9.1	1.39	241	2327	1214	1151	1.12	1.14	22.3	28.5	0.45	1.0	267	267
268.0	268.0	97.1	90.3	2	142	87	9.1	1.40	242	2326	1214	1150	1.12	1.14	22.3	28.2	0.46	1.0	268	268
269.0	269.0	116.1	90.4	3	141	123	9.2	1.40	242	2326	1212	1149	1.12	1.14	22.3	28.3	0.46	1.0	269	269
270.0	270.0	112.5	90.6	2	140	140	9.2	1.41	241	2326	1212	1150	1.12	1.14	22.4	28.7	0.46	1.0	270	270
271.0	271.0	55.4	90.1	2	142	89	9.4	1.43	242	2327	1216	1148	1.12	1.14	22.4	29.1	0.54	1.0	271	271
272.0	272.0	102.9	90.2	4	141	134	9.4	1.44	242	2327	1217	1150	1.12	1.14	22.5	29.3	0.50	1.0	272	272
273.0	273.0	87.8	90.2	3	142	89	9.6	1.45	242	2327	1218	1150	1.12	1.14	22.5	29.3	0.50	1.0	273	273
274.0	274.0	120.0	90.4	4	141	149	9.6	1.46	241	2327	1209	1148	1.12	1.14	22.6	29.4	0.47	1.0	274	274
275.0	275.0	133.3	90.6	7	142	91	9.6	1.47	242	2327	1218	1151	1.12	1.14	22.6	29.4	0.51	1.0	275	275
276.0	276.0	49.3	90.0	5	142	92	9.8	1.49	242	2327	1212	1149	1.12	1.14	22.6	29.4	0.63	1.0	276	276
277.0	277.0	20.1	87.8	8	141	138	9.9	1.54	241	2327	1216	1162	1.12	1.14	22.9	29.6	0.84	1.0	277	277
278.0	278.0	72.0	87.6	6	113	101	10.0	1.55	241	2327	1217	1153	1.12	1.14	22.9	29.9	0.55	1.0	278	278
279.0	279.0	105.9	87.7	6	111	131	10.0	1.56	242	2327	1217	1136	1.12	1.14	22.9	29.9	0.50	1.0	279	279
280.0	280.0	116.1	87.9	8	110	149	10.2	1.57	242	2327	1212	1129	1.12	1.14	22.8	30.0	0.50	1.0	280	280
281.0	281.0	100.0	88.0	11	122	156	10.2	1.58	242	2327	1217	1119	1.12	1.14	22.9	30.0	0.58	1.0	281	281
282.0	282.0	128.6	88.2	12	140	148	10.3	1.59	241	2327	1209	1115	1.12	1.14	22.9	30.0	0.57	1.0	282	282
283.0	283.0	90.0	88.2	13	140	155	10.3	1.60	242	2327	1209	1111	1.12	1.14	22.9	30.1	0.64	1.0	283	283
284.0	284.0	102.9	88.3	13	139	187	10.4	1.61	241	2327	1211	1111	1.12	1.14	22.9	30.1	0.62	1.0	284	284
285.0	285.0	118.1	88.7	10	140	142	10.4	1.61	242	2327	1209	1107	1.12	1.14	23.0	30.1	0.56	1.0	285	285
286.0	286.0	129.1	89.0	9	140	141	10.4	1.62	242	2327	1216	1109	1.12	1.14	23.0	30.1	0.54	1.0	286	286
287.0	287.0	171.4	89.3	9	141	134	10.6	1.62	242	2327	1210	1109	1.12	1.14	23.0	30.2	0.49	1.0	287	287
288.0	288.0	109.1	89.4	10	140	141	10.6	1.63	241	2327	1218	1108	1.12	1.14	23.0	30.2	0.58	1.0	288	288
289.0	289.0	257.1	89.8	9	140	135	10.6	1.64	242	2327	1218	1112	1.12	1.14	23.1	30.2	0.41	1.0	289	289
290.0	290.0	124.1	90.0	9	139	160	10.7	1.64	241	2327	1216	1109	1.12	1.14	23.1	30.2	0.54	1.0	290	290

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
290.0	290.0	124.1	90.0	9	139	160	10.7	1.64	241	2327	1216	1109	1.12	1.14	23.1	30.2	0.54	1.0	290	290
291.0	291.0	105.9	90.1	11	140	153	10.7	1.65	241	2327	1217	1107	1.12	1.14	23.1	30.2	0.59	1.0	291	291
292.0	292.0	133.3	90.3	12	139	182	10.9	1.66	241	2327	1218	1106	1.12	1.14	23.1	30.2	0.56	1.0	292	292
293.0	293.0	120.0	90.4	13	139	193	10.9	1.67	241	2327	1218	1106	1.12	1.14	23.1	30.2	0.58	1.0	293	293
294.0	294.0	100.0	90.5	13	139	183	11.0	1.68	242	2327	1215	1106	1.12	1.14	23.2	30.1	0.63	1.0	294	294
295.0	295.0	76.6	90.4	14	139	192	11.2	1.69	241	2327	1215	1104	1.12	1.14	23.2	29.8	0.68	1.0	295	295
296.0	296.0	138.5	90.6	9	141	133	11.2	1.70	242	2327	1214	1106	1.12	1.14	23.2	29.6	0.53	1.0	296	296
297.0	297.0	83.7	90.5	9	140	161	11.3	1.71	242	2327	1215	1105	1.12	1.14	23.3	29.5	0.61	1.0	297	297
298.0	298.0	67.9	90.3	9	140	133	11.3	1.73	242	2327	1209	1105	1.12	1.14	23.3	29.4	0.66	1.0	298	298
299.0	299.0	80.0	90.3	9	141	133	11.5	1.74	242	2327	1210	1105	1.12	1.14	23.3	29.8	0.62	1.0	299	299
300.0	300.0	87.8	90.2	9	140	144	11.6	1.75	242	2327	1217	1105	1.12	1.14	23.4	30.2	0.61	1.0	300	300
301.0	301.0	67.9	90.1	11	140	149	11.8	1.77	242	2327	1214	1104	1.12	1.14	23.4	30.3	0.68	1.0	301	301
302.0	302.0	83.7	90.0	11	140	156	11.8	1.78	242	2327	1217	1105	1.12	1.14	23.4	30.3	0.64	1.0	302	302
303.0	303.0	65.5	89.8	11	141	134	11.9	1.79	242	2327	1216	1103	1.12	1.14	23.5	30.3	0.69	1.0	303	303
304.0	304.0	69.2	89.6	10	139	138	12.0	1.81	242	2327	1211	1108	1.12	1.14	23.5	30.3	0.65	1.0	304	304
305.0	305.0	62.1	89.4	11	137	120	12.2	1.82	242	2327	1216	1108	1.12	1.14	23.7	30.6	0.68	1.0	305	305
306.0	306.0	59.0	89.1	10	136	150	12.3	1.84	241	2327	1218	1072	1.12	1.14	23.6	30.6	0.69	1.0	306	306
307.0	307.0	109.1	89.2	13	135	165	12.3	1.85	241	2327	1216	1049	1.12	1.14	23.5	30.7	0.60	1.0	307	307
308.0	308.0	105.9	89.3	9	137	135	12.4	1.86	242	2327	1213	1033	1.12	1.14	23.4	30.7	0.57	1.0	308	308
309.0	309.0	90.0	89.3	9	136	140	12.4	1.87	242	2327	1218	1023	1.12	1.14	23.4	30.6	0.60	1.0	309	309
310.0	310.0	116.1	89.4	10	136	149	12.6	1.88	242	2327	1211	1016	1.12	1.14	23.4	30.6	0.56	1.0	310	310
311.0	311.0	109.1	89.5	10	136	153	12.6	1.89	242	2327	1217	1012	1.12	1.14	23.4	30.6	0.57	1.0	311	311
312.0	312.0	100.0	89.6	10	136	158	12.7	1.90	241	2327	1209	1009	1.12	1.14	23.4	30.6	0.59	1.0	312	312
313.0	313.0	76.6	89.5	10	136	162	12.9	1.91	242	2327	1218	1007	1.12	1.14	23.5	30.6	0.64	1.0	313	313
314.0	314.0	66.7	89.3	12	135	171	13.0	1.93	242	2327	1215	1007	1.12	1.14	23.6	30.6	0.68	1.0	314	314
315.0	315.0	97.3	89.4	11	136	151	13.0	1.94	242	2327	1213	1007	1.12	1.14	23.7	30.6	0.61	1.0	315	315
316.0	316.0	78.3	89.3	11	136	153	13.1	1.95	241	2327	1209	1009	1.12	1.14	23.8	30.6	0.64	1.0	316	316
317.0	317.0	54.5	89.0	10	136	140	13.3	1.97	242	2327	1213	1007	1.12	1.14	23.9	30.7	0.70	1.0	317	317
318.0	318.0	67.9	88.8	8	137	133	13.4	1.98	241	2327	1218	1007	1.12	1.14	24.0	30.7	0.63	1.0	318	318
319.0	319.0	63.2	88.6	9	137	128	13.6	2.00	242	2327	1209	1005	1.12	1.14	24.0	30.7	0.66	1.0	319	319
320.0	320.0	58.1	88.3	10	136	150	13.7	2.01	241	2327	1213	1007	1.12	1.14	24.1	30.7	0.68	1.0	320	320
321.0	321.0	64.3	88.2	11	136	144	13.8	2.03	242	2327	1215	1008	1.12	1.14	24.2	30.7	0.69	1.0	321	321
322.0	322.0	51.4	87.8	7	137	125	14.0	2.05	242	2327	1212	1024	1.12	1.14	24.3	30.6	0.67	1.0	322	322
323.0	323.0	72.0	87.7	12	136	167	14.1	2.06	241	2327	1217	1034	1.12	1.14	24.3	30.6	0.67	1.0	323	323
324.0	324.0	46.8	87.3	15	136	167	14.3	2.09	241	2327	1216	1042	1.12	1.14	24.4	30.6	0.79	1.0	324	324
325.0	325.0	102.9	87.4	10	137	136	14.3	2.10	241	2327	1213	1050	1.12	1.14	24.4	30.5	0.58	1.0	325	325
326.0	326.0	92.3	87.4	7	137	124	14.4	2.11	242	2327	1214	1055	1.12	1.14	24.5	30.6	0.56	1.0	326	326
327.0	327.0	48.6	87.0	9	136	148	14.6	2.13	241	2327	1216	1064	1.12	1.14	24.5	30.6	0.70	1.0	327	327
328.0	328.0	189.5	87.3	6	137	144	14.6	2.13	241	2327	1216	1072	1.12	1.14	24.6	30.6	0.43	1.0	328	328
329.0	329.0	144.0	87.4	5	137	126	14.7	2.14	242	2327	1218	1072	1.12	1.14	24.6	30.6	0.46	1.0	329	329
330.0	330.0	150.0	87.6	4	137	119	14.7	2.15	241	2327	1215	1075	1.12	1.14	24.6	30.6	0.44	1.0	330	330
331.0	331.0	81.8	87.6	5	137	139	14.9	2.16	242	2327	1213	1079	1.12	1.14	24.6	30.6	0.55	1.0	331	331
332.0	332.0	120.0	87.7	6	138	114	14.9	2.17	242	2327	1216	1082	1.12	1.14	24.7	30.6	0.51	1.0	332	332
333.0	333.0	73.5	87.6	4	141	144	15.0	2.18	241	2327	1210	1102	1.12	1.14	24.7	30.7	0.55	1.0	333	333
334.0	334.0	180.0	87.9	6	141	123	15.0	2.19	244	2327	1219	1150	1.12	1.14	24.9	30.7	0.44	1.0	334	334
335.0	335.0	116.1	88.0	6	141	134	15.1	2.19	243	2327	1223	1142	1.12	1.14	24.8	30.8	0.52	1.0	335	335
336.0	336.0	92.3	88.0	6	140	149	15.1	2.20	243	2327	1226	1135	1.12	1.14	24.8	30.8	0.55	1.0	336	336
337.0	337.0	89.5	88.3	7	140	168	15.3	2.21	243	2327	1218	1129	1.12	1.14	24.8	30.8	0.57	1.0	337	337
338.0	338.0	112.5	88.4	9	139	174	15.3	2.22	243	2327	1227	1130	1.12	1.14	24.8	30.8	0.56	1.0	338	338
339.0	339.0	120.0	88.5	12	139	175	15.4	2.23	244	2327	1227	1133	1.12	1.14	24.8	30.8	0.58	1.0	339	339

DEPTH METRE	DEPTH FVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
339.0	339.0	120.0	88.5	12	139	175	15.4	2.23	244	2327	1227	1133	1.12	1.14	24.8	30.8	0.58	1.0	339	339
340.0	340.0	75.0	88.5	13	139	190	15.4	2.24	244	2327	1227	1135	1.12	1.14	24.8	30.8	0.68	1.0	340	340
341.0	341.0	189.5	88.7	14	139	181	15.5	2.24	244	2327	1219	1139	1.12	1.14	24.9	30.8	0.51	1.0	341	341
342.0	342.0	97.3	88.7	11	139	183	15.5	2.25	244	2327	1223	1136	1.12	1.14	24.9	30.8	0.61	1.0	342	342
343.0	343.0	69.2	88.6	17	139	199	15.7	2.27	244	2327	1221	1135	1.12	1.14	24.9	30.8	0.73	1.0	343	343
344.0	344.0	73.5	88.5	12	140	138	15.7	2.28	246	2327	1225	1135	1.12	1.14	25.0	30.9	0.68	1.0	344	344
345.0	345.0	38.3	88.0	9	141	112	16.0	2.31	244	2327	1228	1132	1.12	1.14	25.0	30.9	0.75	1.0	345	345
346.0	346.0	44.4	87.5	10	141	140	16.1	2.33	245	2327	1219	1131	1.12	1.14	25.1	30.9	0.74	1.0	346	346
347.0	347.0	81.8	87.5	4	140	141	16.3	2.34	245	2327	1225	1131	1.12	1.14	25.1	30.9	0.54	1.0	347	347
348.0	348.0	112.5	87.6	7	140	159	16.3	2.35	245	2327	1222	1134	1.12	1.14	25.2	30.9	0.53	1.0	348	348
349.0	349.0	81.8	87.6	8	141	148	16.5	2.36	245	2327	1227	1133	1.12	1.14	25.2	31.0	0.61	1.0	349	349
350.0	350.0	90.0	87.6	11	140	172	16.5	2.38	244	2327	1222	1134	1.12	1.14	25.2	31.0	0.63	1.0	350	350
351.0	351.0	42.9	87.1	10	141	145	16.7	2.40	244	2327	1218	1135	1.12	1.14	25.2	31.1	0.75	1.0	351	351
352.0	352.0	46.8	86.8	12	140	146	16.9	2.42	244	2327	1225	1132	1.12	1.14	25.3	31.1	0.76	1.0	352	352
353.0	353.0	35.6	86.2	9	141	120	17.0	2.45	244	2327	1221	1130	1.12	1.14	25.3	31.1	0.77	1.0	353	353
354.0	354.0	28.6	85.4	6	142	103	17.4	2.48	244	2327	1228	1127	1.12	1.14	25.4	31.2	0.76	1.0	354	354
355.0	355.0	48.0	85.1	9	140	156	17.6	2.50	244	2327	1226	1125	1.12	1.14	25.5	31.2	0.71	1.0	355	355
356.0	356.0	42.4	84.7	8	140	146	17.8	2.53	244	2327	1221	1123	1.12	1.14	25.6	31.3	0.73	1.0	356	356
357.0	357.0	53.7	84.5	12	140	158	18.0	2.55	244	2507	1228	1123	1.12	1.14	25.7	31.3	0.73	1.0	357	357
358.0	358.0	50.7	84.2	13	140	158	18.1	2.57	244	2867	1227	1123	1.12	1.14	25.8	31.3	0.76	1.0	358	358
359.0	359.0	40.4	83.8	15	140	154	18.3	2.59	244	2867	1221	1122	1.12	1.14	25.9	31.2	0.83	1.0	359	359
360.0	360.0	24.5	82.9	14	140	149	18.6	2.63	244	2867	1222	1120	1.12	1.14	26.0	31.2	0.91	1.0	360	360
361.0	361.0	56.3	82.7	10	141	135	18.7	2.65	244	2867	1225	1119	1.12	1.14	26.2	31.3	0.70	1.0	361	361
362.0	362.0	41.9	82.3	10	141	127	19.0	2.67	243	2867	1223	1120	1.12	1.14	26.3	31.3	0.75	1.0	362	362
363.0	363.0	133.3	82.5	9	141	129	19.0	2.68	243	2867	1226	1128	1.12	1.14	26.4	31.4	0.53	1.0	363	363
364.0	364.0	45.6	82.2	11	138	149	19.1	2.70	241	2867	1226	1200	1.12	1.14	26.4	31.3	0.74	1.0	364	364
365.0	365.0	64.3	82.1	9	139	139	19.3	2.72	242	2867	1227	1192	1.12	1.14	26.5	31.3	0.67	1.0	365	365
366.0	366.0	56.3	81.9	12	138	149	19.4	2.74	242	2867	1224	1185	1.12	1.14	26.6	31.3	0.72	1.0	366	366
367.0	367.0	63.2	81.8	11	139	141	19.5	2.75	243	2867	1227	1183	1.12	1.14	26.6	31.3	0.69	1.0	367	367
368.0	368.0	56.3	81.6	8	140	107	19.7	2.77	244	2867	1221	1180	1.12	1.14	26.7	31.3	0.67	1.0	368	368
369.0	369.0	59.0	81.5	10	139	133	19.8	2.79	245	2867	1222	1180	1.12	1.14	26.8	31.3	0.69	1.0	369	369
370.0	370.0	83.7	81.5	12	138	179	20.0	2.80	245	2867	1223	1182	1.12	1.14	26.9	31.3	0.65	1.0	370	370
371.0	371.0	78.3	81.5	15	137	176	20.0	2.81	245	2867	1223	1184	1.12	1.14	26.9	31.4	0.69	1.0	371	371
372.0	372.0	37.9	81.1	15	138	154	20.3	2.84	245	2867	1221	1185	1.12	1.14	27.0	31.4	0.83	1.0	372	372
373.0	373.0	62.1	81.0	11	139	141	20.4	2.85	244	2867	1224	1181	1.12	1.14	27.1	31.5	0.69	1.0	373	373
374.0	374.0	48.0	80.7	10	139	140	20.6	2.87	244	2867	1227	1174	1.12	1.14	27.2	31.5	0.72	1.0	374	374
375.0	375.0	53.7	80.5	11	138	155	20.7	2.89	244	2867	1225	1170	1.12	1.14	27.3	31.5	0.71	1.0	375	375
376.0	376.0	35.0	80.1	14	138	180	21.0	2.92	244	2867	1222	1173	1.12	1.14	27.4	31.5	0.83	1.0	376	376
377.0	377.0	36.0	79.7	16	138	177	21.1	2.95	244	2867	1224	1182	1.12	1.14	27.5	31.5	0.86	1.0	377	377
378.0	378.0	41.9	79.4	15	138	160	21.4	2.97	244	2867	1225	1177	1.12	1.14	27.6	31.5	0.82	1.0	378	378
379.0	379.0	66.7	79.3	20	138	179	21.6	2.99	243	2867	1221	1169	1.12	1.14	27.7	31.5	0.77	1.0	379	379
380.0	380.0	69.0	79.4	21	137	190	21.6	3.00	244	2867	1227	1168	1.12	1.14	27.7	31.5	0.77	1.0	380	380
381.0	381.0	90.0	79.4	21	137	209	21.7	3.01	243	2867	1224	1169	1.12	1.14	27.7	31.5	0.72	1.0	381	381
382.0	382.0	80.0	79.4	22	137	218	21.7	3.02	244	2867	1218	1170	1.12	1.14	27.8	31.5	0.74	1.0	382	382
383.0	383.0	92.3	79.5	22	136	220	21.9	3.03	244	2867	1224	1169	1.12	1.14	27.8	31.5	0.72	1.0	383	383
384.0	384.0	83.7	79.5	21	137	194	22.0	3.04	244	2867	1228	1166	1.12	1.14	27.9	31.5	0.72	1.0	384	384
385.0	385.0	64.3	79.4	22	136	218	22.0	3.06	243	2867	1226	1167	1.12	1.14	27.9	31.5	0.79	1.0	385	385
386.0	386.0	67.9	79.4	23	136	230	22.2	3.07	244	2867	1218	1168	1.12	1.14	27.9	31.5	0.79	1.0	386	386
387.0	387.0	60.0	79.3	27	136	221	22.3	3.09	244	2867	1223	1168	1.12	1.14	28.0	31.4	0.85	1.0	387	387
388.0	388.0	80.0	79.3	28	136	252	22.5	3.10	244	2867	1223	1171	1.12	1.14	28.0	31.4	0.79	1.0	388	388

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
388.0	388.0	80.0	79.3	28	136	252	22.5	3.10	244	2867	1223	1171	1.12	1.14	28.0	31.4	0.79	1.0	388	388
389.0	389.0	62.1	79.2	27	137	213	22.6	3.12	244	2867	1221	1170	1.12	1.14	28.1	31.4	0.84	1.0	389	389
390.0	390.0	35.6	78.8	23	137	197	22.7	3.15	245	2867	1221	1169	1.12	1.14	28.2	31.4	0.93	1.0	390	390
391.0	391.0	46.2	78.6	22	138	176	23.0	3.17	244	2867	1226	1167	1.12	1.14	28.2	31.4	0.86	1.0	391	391
392.0	392.0	53.7	78.4	15	139	149	23.1	3.19	243	2867	1227	1184	1.12	1.14	28.4	31.5	0.76	1.0	392	392
393.0	393.0	31.3	77.9	10	139	147	23.4	3.22	243	2867	1227	1213	1.12	1.14	28.6	31.6	0.81	1.0	393	393
394.0	394.0	75.0	77.9	16	138	182	23.4	3.23	243	2867	1218	1192	1.12	1.14	28.6	31.6	0.70	1.0	394	394
395.0	395.0	31.6	77.5	17	132	199	23.7	3.27	243	2867	1227	1179	1.12	1.14	28.6	31.7	0.89	1.0	395	395
396.0	396.0	72.0	77.5	19	130	192	23.8	3.28	244	2867	1221	1155	1.12	1.14	28.6	31.7	0.73	1.0	396	396
397.0	397.0	28.6	76.9	19	128	170	24.1	3.31	244	2867	1226	1141	1.12	1.14	28.6	31.7	0.92	1.0	397	397
398.0	398.0	47.1	77.0	19	127	181	24.1	3.32	246	2867	1227	1128	1.12	1.14	28.6	31.8	0.81	1.0	398	398
399.0	399.0	75.0	77.0	17	129	160	24.2	3.34	246	2867	1233	1122	1.12	1.14	28.6	31.8	0.70	1.0	399	399
400.0	400.0	59.0	76.9	16	129	162	24.4	3.35	246	2867	1237	1110	1.12	1.14	28.6	31.8	0.75	1.0	400	400
401.0	401.0	87.8	77.0	18	127	187	24.5	3.37	247	2867	1225	1101	1.12	1.14	28.6	31.8	0.68	1.0	401	401
402.0	402.0	90.0	77.0	19	127	191	24.5	3.38	247	2867	1237	1096	1.12	1.14	28.7	31.8	0.68	1.0	402	402
403.0	403.0	65.5	77.0	17	129	155	24.6	3.39	247	2867	1238	1090	1.12	1.14	28.7	31.8	0.73	1.0	403	403
404.0	404.0	57.1	76.9	15	129	155	24.8	3.41	247	2867	1237	1084	1.12	1.14	28.8	31.8	0.74	1.0	404	404
405.0	405.0	51.4	76.7	21	127	187	24.9	3.43	248	2867	1227	1083	1.12	1.14	28.8	31.8	0.82	1.0	405	405
406.0	406.0	66.7	76.7	20	127	178	25.0	3.44	249	2867	1237	1080	1.12	1.14	28.9	31.8	0.75	1.0	406	406
407.0	407.0	65.5	76.6	21	127	191	25.2	3.46	249	2867	1245	1080	1.12	1.14	29.0	31.8	0.76	1.0	407	407
408.0	408.0	94.7	76.7	20	128	174	25.3	3.47	249	2867	1250	1080	1.12	1.14	29.0	31.8	0.68	1.0	408	408
409.0	409.0	35.3	76.3	20	128	176	25.4	3.50	249	2867	1235	1079	1.12	1.14	29.1	31.8	0.89	1.0	409	409
410.0	410.0	62.1	76.3	16	128	165	25.5	3.51	249	2867	1250	1078	1.12	1.14	29.2	31.8	0.74	1.0	410	410
411.0	411.0	59.0	76.2	17	128	174	25.7	3.53	249	2867	1251	1076	1.12	1.14	29.3	31.8	0.75	1.0	411	411
412.0	412.0	63.2	76.1	17	128	172	25.8	3.55	249	2867	1250	1075	1.12	1.14	29.3	31.8	0.74	1.0	412	412
413.0	413.0	50.7	76.0	20	128	176	25.9	3.57	248	2796	1238	1074	1.12	1.14	29.4	31.8	0.82	1.0	413	413
414.0	414.0	67.9	76.0	20	128	170	26.1	3.58	249	2777	1244	1073	1.12	1.14	29.5	31.8	0.75	1.0	414	414
415.0	415.0	52.2	75.8	17	129	159	26.2	3.60	249	2777	1241	1071	1.12	1.14	29.5	31.8	0.78	1.0	415	415
416.0	416.0	67.9	75.8	18	128	175	26.3	3.61	248	2777	1247	1070	1.12	1.14	29.6	31.8	0.73	1.0	416	416
417.0	417.0	46.2	75.6	21	127	182	26.5	3.64	248	2777	1253	1067	1.12	1.14	29.7	31.8	0.84	1.0	417	417
418.0	418.0	48.0	75.5	19	128	175	26.7	3.66	248	2777	1237	1065	1.12	1.14	29.8	31.9	0.81	1.0	418	418
419.0	419.0	23.4	74.9	21	122	167	27.0	3.70	247	2777	1248	1063	1.12	1.14	29.9	31.9	0.97	1.0	419	419
420.0	420.0	33.6	74.5	23	119	175	27.2	3.73	247	2777	1242	1061	1.12	1.14	30.0	31.9	0.91	1.0	420	420
421.0	421.0	42.9	74.3	15	126	187	27.3	3.75	246	2777	1250	1063	1.12	1.14	30.1	31.9	0.79	1.0	421	421
422.0	422.0	53.7	74.2	21	125	163	27.4	3.77	240	2777	1218	1107	1.12	1.14	30.3	31.9	0.80	1.0	422	422
423.0	423.0	40.9	74.0	18	128	176	27.6	3.80	241	2777	1228	1073	1.12	1.14	30.2	32.0	0.84	1.0	423	423
424.0	424.0	57.1	73.9	22	127	200	27.7	3.81	241	2777	1235	1037	1.12	1.14	30.0	32.0	0.80	1.0	424	424
425.0	425.0	46.2	73.8	20	128	176	28.0	3.84	242	2777	1215	1004	1.12	1.14	29.1	32.0	0.83	1.0	425	425
426.0	426.0	47.4	73.6	18	128	177	28.1	3.86	242	2777	1235	966	1.12	1.14	29.6	32.0	0.81	1.0	426	426
427.0	427.0	63.2	73.6	23	126	213	28.2	3.87	242	2777	1236	946	1.12	1.14	29.9	32.0	0.79	1.0	427	427
428.0	428.0	55.4	73.5	24	124	218	28.4	3.89	241	2777	1235	939	1.12	1.14	28.9	32.0	0.82	1.0	428	428
429.0	429.0	52.2	73.4	23	124	204	28.5	3.91	241	2777	1219	937	1.12	1.14	29.9	32.0	0.82	1.0	429	429
430.0	430.0	78.3	73.4	23	125	196	28.5	3.92	242	2777	1226	937	1.12	1.14	30.0	32.0	0.74	1.0	430	430
431.0	431.0	38.7	73.2	25	125	186	28.8	3.95	241	2777	1223	934	1.12	1.14	29.9	32.0	0.91	1.0	431	431
432.0	432.0	51.4	73.1	25	126	182	28.9	3.97	242	2777	1231	931	1.12	1.14	29.1	32.0	0.85	1.0	432	432
433.0	433.0	45.6	72.9	24	126	174	29.0	3.99	243	2777	1239	933	1.12	1.14	29.5	32.0	0.87	1.0	433	433
434.0	434.0	41.9	72.8	26	125	193	29.2	4.01	243	2777	1217	939	1.12	1.14	29.3	32.0	0.90	1.0	434	434
435.0	435.0	50.0	72.6	27	125	185	29.4	4.03	243	2777	1233	946	1.12	1.14	29.7	32.0	0.87	1.0	435	435
436.0	436.0	41.9	72.5	29	126	182	29.6	4.06	243	2777	1224	948	1.12	1.14	30.1	32.0	0.93	1.0	436	436
437.0	437.0	51.4	72.4	30	125	184	29.7	4.08	243	2777	1235	945	1.12	1.14	29.0	32.0	0.89	1.0	437	437

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
437.0	437.0	51.4	72.4	30	125	184	29.7	4.08	243	2777	1235	945	1.12	1.14	29.0	32.0	0.89	1.0	437	437
438.0	438.0	43.9	72.2	27	125	180	29.8	4.10	242	2777	1225	940	1.12	1.14	29.7	32.0	0.90	1.0	438	438
439.0	439.0	30.0	71.9	27	125	184	30.1	4.13	243	2777	1216	936	1.12	1.14	29.8	32.0	0.99	1.0	439	439
440.0	440.0	49.3	71.8	22	125	194	30.2	4.15	244	2777	1231	934	1.12	1.14	29.8	32.0	0.83	1.0	440	440
441.0	441.0	59.0	71.7	23	125	198	30.4	4.17	244	2777	1222	932	1.12	1.14	29.9	32.0	0.80	1.0	441	441
442.0	442.0	61.0	71.7	24	125	188	30.5	4.19	244	2777	1238	935	1.12	1.14	29.9	32.1	0.80	1.0	442	442
443.0	443.0	25.4	71.2	14	134	151	30.9	4.23	244	2777	1234	932	1.12	1.14	30.0	32.1	0.89	1.0	443	443
444.0	444.0	23.8	70.8	9	141	147	31.2	4.27	244	2777	1223	925	1.12	1.14	30.1	32.1	0.84	1.0	444	444
445.0	445.0	28.3	70.4	12	141	161	31.4	4.30	243	2777	1239	925	1.12	1.14	30.2	32.1	0.85	1.0	445	445
446.0	446.0	25.9	70.0	10	141	134	31.7	4.34	244	2777	1235	920	1.12	1.14	30.3	32.1	0.83	1.0	446	446
447.0	447.0	35.0	69.8	10	141	150	32.0	4.37	244	2777	1222	916	1.12	1.14	30.3	32.1	0.79	1.0	447	447
448.0	448.0	15.7	69.0	12	141	143	32.6	4.43	244	2777	1225	913	1.12	1.14	30.4	32.3	0.97	1.0	448	448
449.0	449.0	31.0	68.7	14	141	155	32.9	4.47	243	2777	1232	910	1.12	1.14	30.4	33.9	0.86	1.0	449	449
450.0	450.0	14.3	67.9	15	139	171	33.1	4.54	243	2777	1227	916	1.12	1.14	30.3	34.5	1.02	1.0	450	450
451.0	451.0	24.5	67.5	15	136	162	33.4	4.58	243	2777	1233	907	1.12	1.14	30.6	34.3	0.92	1.0	451	451
452.0	452.0	75.0	67.5	23	125	204	33.5	4.59	243	2777	1233	889	1.12	1.14	30.7	34.4	0.75	1.0	452	452
453.0	453.0	26.9	67.2	22	127	185	33.7	4.63	243	2777	1237	892	1.12	1.14	30.9	34.5	0.96	1.0	453	453
454.0	454.0	61.0	67.2	21	126	182	33.9	4.64	243	2777	1230	886	1.12	1.14	31.1	34.6	0.78	1.0	454	454
455.0	455.0	40.4	67.0	21	126	182	34.1	4.67	243	2857	1235	883	1.12	1.14	31.2	34.7	0.86	1.0	455	455
456.0	456.0	45.0	66.9	27	129	202	34.3	4.69	242	2857	1222	885	1.12	1.14	31.3	34.8	0.90	1.0	456	456
457.0	457.0	40.9	66.8	24	139	201	34.4	4.72	241	2857	1224	882	1.12	1.14	31.4	34.9	0.91	1.0	457	457
458.0	458.0	29.3	66.5	26	139	184	34.7	4.75	241	2857	1227	880	1.12	1.14	31.5	35.0	1.00	1.0	458	458
459.0	459.0	35.3	66.3	24	138	185	35.0	4.78	241	2857	1226	878	1.12	1.14	31.6	35.1	0.95	1.0	459	459
460.0	460.0	33.6	66.1	25	138	182	35.2	4.81	241	2857	1222	876	1.12	1.14	31.7	35.1	0.96	1.0	460	460
461.0	461.0	50.7	66.1	24	137	182	35.4	4.83	240	2857	1229	875	1.12	1.14	31.8	35.1	0.86	1.0	461	461
462.0	462.0	29.5	65.8	26	131	174	35.6	4.86	240	2857	1236	875	1.12	1.14	31.8	35.2	0.99	1.0	462	462
463.0	463.0	19.3	65.3	27	131	180	36.0	4.91	240	2857	1231	876	1.12	1.14	31.9	35.4	1.10	1.0	463	463
464.0	464.0	18.3	64.8	26	130	192	36.4	4.97	240	2857	1226	902	1.12	1.14	32.0	35.6	1.09	1.0	464	464
465.0	465.0	32.7	64.6	24	131	171	36.7	5.00	240	2857	1230	923	1.12	1.14	32.1	35.7	0.95	1.0	465	465
466.0	466.0	27.3	64.3	26	130	193	37.0	5.04	241	2857	1231	942	1.12	1.14	32.1	35.7	1.01	1.0	466	466
467.0	467.0	30.3	64.1	27	129	199	37.2	5.07	243	2857	1225	958	1.12	1.14	32.2	35.8	0.99	1.0	467	467
468.0	468.0	75.0	64.2	26	129	203	37.4	5.08	245	2857	1227	970	1.12	1.14	32.3	35.8	0.77	1.0	468	468
469.0	469.0	33.3	64.0	25	129	217	37.5	5.11	246	2857	1229	981	1.12	1.14	32.3	35.8	0.95	1.0	469	469
470.0	470.0	32.7	63.8	24	129	198	37.8	5.14	247	2857	1233	996	1.12	1.14	32.4	35.8	0.94	1.0	470	470
471.0	471.0	39.1	63.7	25	129	209	38.0	5.17	248	2857	1240	1012	1.12	1.14	32.5	35.8	0.92	1.0	471	471
472.0	472.0	60.0	63.7	24	136	210	38.2	5.18	249	2857	1246	1027	1.12	1.14	32.6	35.9	0.83	1.0	472	472
473.0	473.0	20.8	63.3	24	140	188	38.4	5.23	250	2857	1230	1047	1.12	1.14	32.7	35.3	1.06	1.0	473	473
474.0	474.0	46.2	63.2	25	139	203	38.7	5.25	252	2857	1246	1066	1.12	1.14	32.8	35.6	0.90	1.0	474	474
475.0	475.0	30.8	63.0	20	140	178	39.0	5.29	252	2857	1247	1066	1.12	1.14	32.9	35.5	0.94	1.0	475	475
476.0	476.0	36.4	62.9	23	139	207	39.2	5.31	252	2857	1246	1065	1.12	1.14	33.0	36.1	0.93	1.0	476	476
477.0	477.0	46.8	62.8	24	139	196	39.3	5.34	251	2857	1233	1063	1.12	1.14	33.0	36.3	0.88	1.0	477	477
478.0	478.0	35.6	62.6	25	139	202	39.6	5.36	250	2857	1239	1062	1.12	1.14	33.1	36.4	0.95	1.0	478	478
479.0	479.0	26.5	62.4	20	119	154	39.9	5.40	247	2857	1236	1063	1.12	1.14	33.3	36.5	0.93	1.0	479	479
480.0	480.0	16.3	61.9	22	131	157	40.3	5.46	240	2857	1219	1037	1.12	1.14	33.4	36.5	1.08	1.0	480	480
481.0	481.0	37.9	61.8	24	137	224	40.6	5.49	240	2857	1231	1030	1.12	1.14	33.3	36.6	0.93	1.0	481	481
482.0	482.0	34.6	61.6	26	137	223	40.8	5.52	238	2857	1239	1028	1.12	1.14	33.1	36.6	0.96	1.0	482	482
483.0	483.0	45.6	61.6	24	137	220	41.0	5.54	238	2857	1215	1027	1.12	1.14	33.2	36.7	0.89	1.0	483	483
484.0	484.0	44.4	61.5	25	137	225	41.1	5.56	238	2857	1239	1027	1.12	1.14	33.1	36.7	0.90	1.0	484	484
485.0	485.0	30.5	61.3	32	136	236	41.4	5.60	238	2857	1241	1025	1.12	1.14	33.1	36.8	1.04	1.0	485	485
486.0	486.0	12.6	60.6	25	140	112	42.1	5.67	238	2857	1240	1023	1.12	1.14	32.9	36.9	1.18	1.0	486	486

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	RCD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
486.0	486.0	12.6	60.6	25	140	112	42.1	5.67	238	2857	1240	1023	1.12	1.14	32.9	36.9	1.18	1.0	486	486
487.0	487.0	29.8	60.4	23	138	212	42.4	5.71	238	2857	1220	1021	1.12	1.14	32.8	36.9	0.97	1.0	487	487
488.0	488.0	26.1	60.2	26	138	201	42.7	5.75	239	2857	1229	1018	1.12	1.14	32.7	36.9	1.03	1.0	488	488
489.0	489.0	13.0	59.6	28	139	168	43.3	5.82	240	2857	1224	1015	1.12	1.14	32.6	37.0	1.21	1.0	489	489
490.0	490.0	38.3	59.5	29	137	203	43.6	5.85	241	2857	1234	1011	1.12	1.14	32.6	37.0	0.97	1.0	490	490
491.0	491.0	18.3	59.1	17	140	149	44.0	5.90	241	2857	1244	1009	1.12	1.14	32.7	37.0	1.01	1.0	491	491
492.0	492.0	34.3	59.0	23	138	187	44.3	5.93	241	2857	1218	1005	1.12	1.14	32.7	37.0	0.94	1.0	492	492
493.0	493.0	19.8	58.7	24	139	181	44.5	5.98	241	2857	1236	1005	1.12	1.14	32.8	37.0	1.08	1.0	493	493
494.0	494.0	32.4	58.5	21	139	165	44.8	6.01	241	2857	1226	1004	1.12	1.14	32.9	37.0	0.93	1.0	494	494
495.0	495.0	29.3	58.4	23	138	183	45.1	6.05	241	2857	1239	1002	1.12	1.14	33.0	37.0	0.97	1.0	495	495
496.0	496.0	40.4	58.3	24	138	185	45.4	6.07	241	2857	1227	1001	1.12	1.14	33.0	37.0	0.91	1.0	496	496
497.0	497.0	16.7	57.9	22	139	178	45.8	6.13	242	2857	1217	998	1.12	1.14	33.1	37.0	1.09	1.0	497	497
498.0	498.0	30.0	57.7	23	139	180	46.1	6.17	242	2857	1234	997	1.12	1.14	33.1	37.0	0.97	1.0	498	498
499.0	499.0	24.8	57.5	24	139	180	46.4	6.21	242	2857	1224	996	1.12	1.14	33.1	37.0	1.02	1.0	499	499
500.0	500.0	18.8	57.2	23	139	163	46.8	6.26	243	2857	1242	992	1.12	1.14	33.1	37.0	1.07	1.0	500	500
501.0	501.0	38.3	57.1	24	139	169	47.1	6.29	243	2854	1221	991	1.12	1.14	33.1	37.0	0.93	1.0	501	501
502.0	502.0	31.2	57.3	25	139	166	47.1	6.29	243	2852	1225	990	1.12	1.14	33.1	37.0	0.98	1.0	502	502
503.0	503.0	29.1	57.4	22	139	146	47.1	6.29	244	2854	1228	989	1.12	1.14	33.1	37.0	0.97	1.0	503	503
504.0	504.0	21.7	57.1	23	139	171	47.5	6.34	243	2853	1220	987	1.12	1.14	33.1	37.0	1.04	1.0	504	504
505.0	505.0	20.7	56.9	23	139	178	48.0	6.38	243	2853	1228	984	1.12	1.14	33.1	37.0	1.05	1.0	505	505
506.0	506.0	15.5	56.4	24	139	170	48.4	6.45	243	2852	1228	979	1.12	1.14	33.0	37.0	1.13	1.0	506	506
507.0	507.0	15.7	56.0	23	139	176	48.9	6.51	243	2858	1228	974	1.12	1.14	33.0	37.0	1.12	1.0	507	507
508.0	508.0	19.3	55.8	25	139	171	49.4	6.56	244	2860	1221	962	1.12	1.14	32.9	37.0	1.09	1.0	508	508
509.0	509.0	14.9	55.3	21	139	165	49.6	6.63	244	2858	1224	958	1.12	1.14	31.9	37.0	1.09	1.0	509	509
510.0	510.0	28.1	55.2	19	137	168	49.8	6.67	245	2860	1223	909	1.12	1.14	31.4	36.9	0.94	1.0	510	510
511.0	511.0	51.4	55.2	24	136	192	50.0	6.69	246	2860	1226	886	1.12	1.14	31.4	36.9	0.85	1.0	511	511
512.0	512.0	24.7	55.0	23	137	185	50.3	6.73	244	2860	1229	869	1.12	1.14	31.5	36.9	1.00	1.0	512	512
513.0	513.0	24.8	54.8	23	137	179	50.6	6.77	246	2860	1227	859	1.12	1.14	31.6	36.9	1.01	1.0	513	513
514.0	514.0	30.5	54.7	24	137	188	50.9	6.80	246	2860	1232	855	1.12	1.14	31.8	36.8	0.97	1.0	514	514
515.0	515.0	23.4	54.5	23	137	178	51.2	6.84	246	2860	1236	853	1.12	1.14	32.0	36.8	1.02	1.0	515	515
516.0	516.0	20.7	54.3	23	137	187	51.7	6.89	244	2882	1225	858	1.12	1.14	32.2	36.7	1.06	1.0	516	516
517.0	517.0	45.6	54.2	23	137	182	51.8	6.91	245	2875	1236	858	1.12	1.14	32.3	36.7	0.88	1.0	517	517
518.0	518.0	23.5	54.1	23	137	173	52.1	6.96	244	2873	1237	858	1.12	1.14	32.4	36.7	1.02	1.0	518	518
519.0	519.0	34.6	54.0	22	136	193	52.2	6.99	245	2872	1236	857	1.12	1.14	32.5	36.7	0.93	1.0	519	519
520.0	520.0	22.6	53.8	23	137	164	52.6	7.03	246	2874	1227	856	1.12	1.14	32.6	36.7	1.03	1.0	520	520
521.0	521.0	28.6	53.7	21	137	170	52.9	7.06	244	2875	1231	856	1.12	1.14	32.8	36.7	0.96	1.0	521	521
522.0	522.0	24.7	53.5	25	136	189	53.2	7.10	246	2877	1229	852	1.12	1.14	33.0	36.7	1.03	1.0	522	522
523.0	523.0	31.0	53.4	25	136	193	53.5	7.14	245	2877	1234	835	1.12	1.14	33.0	36.7	0.98	1.0	523	523
524.0	524.0	43.4	53.4	24	137	185	53.7	7.16	246	2877	1238	816	1.12	1.14	32.9	36.7	0.89	1.0	524	524
525.0	525.0	16.4	53.0	25	137	163	54.1	7.22	245	2877	1226	796	1.12	1.14	32.7	36.7	1.12	1.0	525	525
526.0	526.0	29.5	52.9	23	137	168	54.4	7.25	244	2879	1235	787	1.12	1.14	32.6	36.7	0.97	1.0	526	526
527.0	527.0	24.7	52.8	23	137	172	54.7	7.30	245	2880	1230	783	1.12	1.14	32.9	36.7	1.02	1.0	527	527
528.0	528.0	36.0	52.7	26	137	170	54.9	7.32	244	2879	1236	780	1.12	1.14	32.9	36.7	0.95	1.0	528	528
529.0	529.0	27.3	52.6	24	137	177	55.2	7.36	246	2880	1230	780	1.12	1.14	32.9	36.9	1.00	1.0	529	529
530.0	530.0	22.0	52.4	22	137	168	55.5	7.41	246	2880	1226	777	1.12	1.14	33.1	36.5	1.03	1.0	530	530
531.0	531.0	27.1	52.3	24	137	168	55.8	7.44	244	2880	1234	776	1.12	1.14	33.3	36.5	1.00	1.0	531	531
532.0	532.0	33.0	52.2	23	137	176	56.1	7.47	246	2880	1229	777	1.12	1.14	33.5	36.4	0.94	1.0	532	532
533.0	533.0	23.1	52.0	23	137	178	56.4	7.52	246	2880	1237	776	1.12	1.14	33.6	36.7	1.02	1.0	533	533
534.0	534.0	26.9	51.9	22	137	176	56.7	7.55	244	2880	1235	780	1.12	1.14	33.7	36.8	0.98	1.0	534	534
535.0	535.0	30.5	51.8	24	137	179	57.0	7.59	245	2880	1229	804	1.12	1.14	33.8	36.9	0.97	1.0	535	535

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
535.0	535.0	30.5	51.8	24	137	179	57.0	7.59	245	2880	1229	804	1.12	1.14	33.8	36.9	0.97	1.0	535	535
536.0	536.0	22.5	51.6	22	137	161	57.3	7.63	246	2879	1238	825	1.12	1.14	33.9	36.9	1.02	1.0	536	536
537.0	537.0	45.6	51.6	9	138	181	57.5	7.65	245	2875	1236	857	1.12	1.14	34.0	37.0	0.73	1.0	537	537
538.0	538.0	56.3	51.6	10	139	160	57.6	7.67	246	2857	1229	1005	1.12	1.14	34.2	37.2	0.70	1.0	538	538
539.0	539.0	23.2	51.5	23	138	197	57.9	7.71	246	2857	1230	1005	1.12	1.14	34.2	37.4	1.03	1.0	539	539
540.0	540.0	64.3	51.5	23	138	190	58.1	7.73	246	2855	1234	1001	1.12	1.14	34.2	37.3	0.80	1.0	540	540
541.0	541.0	29.0	51.4	22	138	179	58.3	7.76	245	2856	1232	1017	1.12	1.14	34.1	37.4	0.96	1.0	541	541
542.0	542.0	35.6	51.3	19	138	187	58.5	7.79	246	2857	1235	1044	1.12	1.14	34.1	37.6	0.90	1.0	542	542
543.0	543.0	38.3	51.3	22	139	191	58.7	7.82	244	2857	1235	1061	1.12	1.14	34.1	37.7	0.91	1.0	543	543
544.0	544.0	48.0	51.3	22	139	195	58.9	7.84	245	2857	1237	1072	1.12	1.14	34.1	37.8	0.86	1.0	544	544
545.0	545.0	18.7	51.1	25	139	195	59.3	7.89	245	2857	1233	1095	1.12	1.14	34.0	37.8	1.10	1.0	545	545
546.0	546.0	37.5	51.0	23	139	197	59.5	7.92	245	2857	1236	1118	1.12	1.14	34.0	37.7	0.93	1.0	546	546
547.0	547.0	31.9	50.9	23	139	204	59.9	7.95	244	2857	1229	1123	1.12	1.14	34.0	37.7	0.96	1.0	547	547
548.0	548.0	20.9	50.8	26	139	193	60.1	8.00	245	2857	1230	1129	1.12	1.14	33.9	37.7	1.08	1.0	548	548
549.0	549.0	45.6	50.8	23	139	187	60.3	8.02	246	2857	1232	1130	1.12	1.14	33.6	37.7	0.88	1.0	549	549
550.0	550.0	22.2	50.6	22	139	184	60.6	8.06	246	2857	1231	1126	1.12	1.14	33.1	37.7	1.02	1.0	550	550
551.0	551.0	75.0	50.6	22	139	180	60.8	8.08	247	2857	1229	1128	1.12	1.14	32.7	37.7	0.76	1.0	551	551
552.0	552.0	20.7	50.5	23	139	181	61.3	8.13	249	2857	1265	1124	1.12	1.14	32.4	37.7	1.06	1.0	552	552
553.0	553.0	33.0	50.4	22	139	182	61.4	8.16	250	2857	1269	1118	1.12	1.14	32.1	37.7	0.94	1.0	553	553
554.0	554.0	42.9	50.4	31	125	225	61.7	8.18	252	2857	1272	1117	1.12	1.14	32.0	37.7	0.94	1.0	554	554
555.0	555.0	24.0	50.2	36	119	223	61.9	8.22	252	2857	1264	1113	1.12	1.14	31.9	37.6	1.10	1.0	555	555
556.0	556.0	38.3	50.2	35	117	260	62.2	8.25	252	2857	1272	1112	1.12	1.14	31.9	37.6	0.97	1.0	556	556
557.0	557.0	40.0	50.2	33	118	249	62.3	8.27	252	2857	1272	1117	1.12	1.14	31.9	37.6	0.96	1.0	557	557
558.0	558.0	42.9	50.1	32	117	248	62.4	8.30	253	2857	1272	1117	1.12	1.14	31.9	36.4	0.93	1.0	558	558
559.0	559.0	35.0	50.1	39	116	263	62.6	8.32	253	2857	1265	1115	1.12	1.14	32.0	36.2	1.03	1.0	559	559
560.0	560.0	43.9	50.1	35	119	222	62.8	8.35	254	2857	1268	1113	1.12	1.14	32.0	36.1	0.94	1.0	560	560
561.0	561.0	36.0	50.0	32	120	206	62.9	8.38	254	2857	1267	1116	1.12	1.14	32.0	36.5	0.97	1.0	561	561
562.0	562.0	27.7	49.9	29	121	188	63.2	8.41	253	2857	1270	1111	1.12	1.14	32.1	36.1	1.01	1.0	562	562
563.0	563.0	45.0	49.9	27	120	204	63.3	8.43	253	2857	1273	1106	1.12	1.14	32.1	36.1	0.89	1.0	563	563
564.0	564.0	42.4	49.9	32	118	226	63.5	8.46	253	2857	1265	1106	1.12	1.14	32.2	36.1	0.94	1.0	564	564
565.0	565.0	41.4	49.9	37	118	231	63.6	8.48	253	2857	1271	1106	1.12	1.14	32.2	36.1	0.98	1.0	565	565
566.0	566.0	34.0	49.8	35	119	223	63.9	8.51	254	2857	1267	1101	1.12	1.14	32.2	36.1	1.01	1.0	566	566
567.0	567.0	41.4	49.8	15	119	221	64.0	8.53	258	2857	1272	1107	1.12	1.14	32.4	36.0	0.79	1.0	567	567
568.0	568.0	32.7	49.7	26	116	205	64.2	8.57	266	2857	1341	1101	1.12	1.14	32.6	36.0	0.94	1.0	568	568
569.0	569.0	40.0	49.7	45	120	277	64.3	8.59	266	2857	1347	1051	1.12	1.14	32.3	36.1	1.04	1.0	569	569
570.0	570.0	54.5	49.7	47	118	303	64.5	8.61	266	2857	1351	1042	1.12	1.14	32.1	36.3	0.97	1.0	570	570
571.0	571.0	43.9	49.7	47	119	299	64.6	8.63	266	2857	1339	1044	1.12	1.14	32.0	36.4	1.03	1.0	571	571
572.0	572.0	52.9	49.7	44	120	286	64.7	8.65	267	2857	1351	1037	1.12	1.14	31.8	36.4	0.97	1.0	572	572
573.0	573.0	53.7	49.7	48	119	296	64.9	8.67	266	2857	1352	1039	1.12	1.14	31.7	36.4	0.98	1.0	573	573
574.0	574.0	41.4	49.7	47	119	294	65.0	8.69	267	2857	1351	1036	1.12	1.14	31.7	36.4	1.04	1.0	574	574
575.0	575.0	49.3	49.7	46	120	276	65.1	8.71	268	2857	1341	1038	1.12	1.14	31.8	36.4	0.99	1.0	575	575
576.0	576.0	78.3	49.7	44	121	259	65.3	8.73	268	2857	1346	1037	1.12	1.14	31.8	36.4	0.87	1.0	576	576
577.0	577.0	65.5	49.8	45	120	279	65.4	8.74	268	2857	1343	1035	1.12	1.14	31.8	36.4	0.92	1.0	577	577
578.0	578.0	66.7	49.8	46	120	277	65.5	8.76	268	2857	1348	1034	1.12	1.14	31.9	36.3	0.92	1.0	578	578
579.0	579.0	44.4	49.8	49	120	280	65.6	8.78	268	2857	1353	1035	1.12	1.14	31.9	36.3	1.04	1.0	579	579
580.0	580.0	50.0	49.8	47	120	273	65.8	8.80	269	2857	1340	1037	1.12	1.14	31.9	36.3	1.00	1.0	580	580
581.0	581.0	39.1	49.7	49	118	311	65.9	8.82	269	2857	1349	1036	1.12	1.14	32.0	36.3	1.07	1.0	581	581
582.0	582.0	72.0	49.8	51	118	309	66.0	8.84	269	2857	1344	1038	1.12	1.14	32.0	36.3	0.92	1.0	582	582
583.0	583.0	33.3	49.7	50	120	288	66.3	8.87	270	2857	1351	1037	1.12	1.14	32.1	36.3	1.12	1.0	583	583
584.0	584.0	50.0	49.7	50	119	292	66.4	8.89	268	2857	1345	1039	1.12	1.14	32.1	36.3	1.01	1.0	584	584

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
584.0	584.0	50.0	49.7	50	119	292	66.4	8.89	268	2857	1345	1039	1.12	1.14	32.1	36.3	1.01	1.0	584	584
585.0	585.0	45.0	49.7	50	120	278	66.5	8.91	268	2856	1340	1041	1.12	1.14	32.2	36.2	1.04	1.0	585	585
586.0	586.0	43.4	49.7	49	119	290	66.7	8.93	268	2856	1348	1040	1.12	1.14	32.2	36.3	1.04	1.0	586	586
587.0	587.0	47.4	49.7	48	119	290	66.8	8.95	268	2856	1343	1039	1.12	1.14	32.2	36.3	1.02	1.0	587	587
588.0	588.0	43.9	49.7	49	120	284	67.1	8.98	268	2857	1352	1038	1.12	1.14	32.3	36.2	1.04	1.0	588	588
589.0	589.0	46.8	49.7	49	119	288	67.2	9.00	268	2857	1350	1033	1.12	1.14	32.3	36.3	1.02	1.0	589	589
590.0	590.0	40.0	49.6	50	119	288	67.3	9.02	267	2857	1343	1031	1.12	1.14	32.4	36.1	1.07	1.0	590	590
591.0	591.0	58.1	49.7	50	119	294	67.4	9.04	267	2857	1353	1028	1.12	1.14	32.4	36.3	0.98	1.0	591	591
592.0	592.0	45.6	49.7	49	119	300	67.6	9.06	268	2857	1351	1023	1.12	1.14	32.5	36.4	1.03	1.0	592	592
593.0	593.0	43.9	49.6	49	120	285	67.8	9.09	267	2857	1343	1020	1.12	1.14	32.6	36.3	1.04	1.0	593	593
594.0	594.0	45.6	49.6	48	119	299	67.9	9.11	267	2857	1345	1019	1.12	1.14	32.7	36.5	1.02	1.0	594	594
595.0	595.0	34.0	49.6	48	120	265	68.2	9.14	267	2857	1349	1023	1.12	1.14	32.8	36.6	1.11	1.0	595	595
596.0	596.0	61.0	49.6	35	121	250	68.3	9.15	266	2857	1346	1039	1.12	1.14	33.0	36.7	0.87	1.0	596	596
597.0	597.0	47.6	49.7	39	121	291	68.3	9.16	260	2857	1332	1096	1.12	1.14	33.5	36.6	0.95	1.0	597	597
598.0	598.0	33.3	49.6	25	118	269	68.4	9.19	263	2857	1338	1078	1.12	1.14	33.5	36.6	0.93	1.0	598	598
599.0	599.0	51.4	49.6	45	116	278	68.5	9.21	264	2857	1342	1035	1.12	1.14	33.5	36.6	0.97	1.0	599	599
600.0	600.0	61.0	49.7	49	122	279	68.7	9.22	264	2857	1330	1001	1.12	1.14	33.5	36.7	0.96	1.0	600	600
601.0	601.0	50.7	49.7	48	121	297	68.8	9.24	264	2857	1342	967	1.12	1.14	33.4	36.9	1.00	1.0	601	601
602.0	602.0	48.6	49.7	52	120	310	68.9	9.26	264	2857	1343	931	1.12	1.14	33.4	37.0	1.03	1.0	602	602
603.0	603.0	58.1	49.7	51	121	310	69.0	9.28	264	2857	1342	897	1.12	1.14	33.4	37.0	0.98	1.0	603	603
604.0	604.0	47.4	49.7	49	120	308	69.2	9.30	265	2857	1332	871	1.12	1.14	33.3	37.1	1.03	1.0	604	604
605.0	605.0	61.0	49.7	48	121	294	69.3	9.32	265	2857	1337	856	1.12	1.14	33.3	37.1	0.95	1.0	605	605
606.0	606.0	45.0	49.7	50	119	322	69.4	9.34	265	2857	1334	858	1.12	1.14	33.3	37.2	1.04	1.0	606	606
607.0	607.0	73.5	49.7	49	120	309	69.6	9.35	265	2857	1339	862	1.12	1.14	33.4	37.2	0.91	1.0	607	607
608.0	608.0	59.0	49.7	48	122	274	69.7	9.37	265	2857	1344	869	1.12	1.14	33.4	37.2	0.96	1.0	608	608
609.0	609.0	50.0	49.7	48	122	289	69.8	9.39	265	2857	1331	876	1.12	1.14	33.4	37.2	1.01	1.0	609	609
610.0	610.0	47.4	49.7	48	121	299	70.0	9.41	264	2857	1340	882	1.12	1.14	33.5	37.2	1.02	1.0	610	610
611.0	611.0	51.4	49.7	48	121	305	70.1	9.43	264	2857	1335	889	1.12	1.14	33.5	37.2	1.00	1.0	611	611
612.0	612.0	56.3	49.7	50	121	292	70.2	9.45	264	2857	1342	894	1.12	1.14	33.3	37.2	0.99	1.0	612	612
613.0	613.0	33.3	49.7	53	121	297	70.5	9.48	264	2857	1336	907	1.12	1.14	32.7	37.2	1.14	1.0	613	613
614.0	614.0	40.9	49.7	48	122	295	70.6	9.50	266	2857	1343	915	1.12	1.14	32.0	36.8	1.06	1.0	614	614
615.0	615.0	58.1	49.7	49	121	302	70.7	9.52	266	2857	1352	915	1.12	1.14	31.7	36.6	0.97	1.0	615	615
616.0	616.0	63.2	49.7	48	121	288	70.9	9.54	266	2857	1359	920	1.12	1.14	31.5	36.6	0.95	1.0	616	616
617.0	617.0	50.7	49.7	49	121	296	71.0	9.56	268	2857	1340	924	1.12	1.14	31.3	36.6	1.01	1.0	617	617
618.0	618.0	52.2	49.7	46	122	284	71.1	9.58	268	2857	1359	930	1.12	1.14	31.1	36.7	0.98	1.0	618	618
619.0	619.0	52.2	49.7	46	121	303	71.2	9.59	269	2856	1360	936	1.12	1.14	31.0	36.7	0.99	1.0	619	619
620.0	620.0	50.0	49.7	47	121	302	71.4	9.61	269	2857	1360	937	1.12	1.14	31.0	36.8	1.00	1.0	620	620
621.0	621.0	54.5	49.7	50	120	311	71.5	9.63	269	2857	1344	938	1.12	1.14	31.0	36.8	0.99	1.0	621	621
622.0	622.0	48.0	49.7	49	121	303	71.6	9.65	270	2857	1351	945	1.12	1.14	31.1	36.8	1.02	1.0	622	622
623.0	623.0	60.0	49.7	49	121	304	71.8	9.67	269	2857	1347	951	1.12	1.14	31.2	36.8	0.96	1.0	623	623
624.0	624.0	53.7	49.7	49	122	293	71.9	9.69	268	2857	1355	953	1.12	1.14	31.3	36.8	0.99	1.0	624	624
625.0	625.0	46.8	49.7	40	122	227	72.1	9.71	268	2857	1363	962	1.12	1.14	31.5	36.8	0.97	1.0	625	625
626.0	626.0	42.9	49.7	38	116	240	72.1	9.73	273	2857	1342	1051	1.12	1.14	32.3	36.8	0.97	1.0	626	626
627.0	627.0	48.0	49.7	45	115	268	72.4	9.75	273	2857	1357	1059	1.12	1.14	32.5	36.8	0.98	1.0	627	627
628.0	628.0	35.3	49.7	47	114	287	72.5	9.78	272	2857	1349	1079	1.12	1.14	32.7	36.8	1.08	1.0	628	628
629.0	629.0	57.1	49.7	45	115	260	72.6	9.80	272	2857	1359	1098	1.12	1.14	32.9	36.8	0.94	1.0	629	629
630.0	630.0	39.5	49.8	48	114	279	72.6	9.81	272	2857	1350	1110	1.12	1.14	32.9	36.8	1.05	1.0	630	630
631.0	631.0	33.0	49.7	49	114	283	72.9	9.84	272	2857	1341	1124	1.12	1.14	33.1	36.8	1.10	1.0	631	631
632.0	632.0	83.7	49.8	45	115	272	73.0	9.85	272	2857	1355	1140	1.12	1.14	33.2	36.8	0.84	1.0	632	632
633.0	633.0	43.4	49.7	48	113	296	73.1	9.87	272	2857	1347	1136	1.12	1.14	33.3	36.9	1.03	1.0	633	633

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
633.0	633.0	43.4	49.7	48	113	296	73.1	9.87	272	2857	1347	1136	1.12	1.14	33.3	36.9	1.03	1.0	633	633
634.0	634.0	92.3	49.8	49	113	295	73.2	9.88	272	2857	1362	1135	1.12	1.14	33.3	36.9	0.83	1.0	634	634
635.0	635.0	43.4	49.8	49	113	300	73.3	9.91	270	2857	1358	1143	1.12	1.14	33.4	36.9	1.03	1.0	635	635
636.0	636.0	41.9	49.8	51	113	304	73.4	9.93	269	2857	1347	1142	1.12	1.14	33.6	36.9	1.05	1.0	636	636
637.0	637.0	35.3	49.7	49	115	282	73.7	9.96	270	2857	1363	1133	1.12	1.14	33.7	36.9	1.09	1.0	637	637
638.0	638.0	41.9	49.7	49	119	298	73.8	9.98	270	2857	1359	1129	1.12	1.14	33.8	36.9	1.06	1.0	638	638
639.0	639.0	50.0	49.7	51	119	307	74.1	10.00	270	2857	1347	1126	1.12	1.14	33.8	36.9	1.02	1.0	639	639
640.0	640.0	33.0	49.6	51	120	287	74.2	10.03	270	2857	1349	1117	1.12	1.14	33.9	36.9	1.13	1.0	640	640
641.0	641.0	42.9	49.6	48	121	261	74.4	10.06	268	2857	1356	1101	1.12	1.14	34.0	36.9	1.05	1.0	641	641
642.0	642.0	25.0	49.5	48	120	278	74.7	10.10	268	2857	1352	1086	1.12	1.14	34.0	36.9	1.18	1.0	642	642
643.0	643.0	37.9	49.5	48	122	255	74.9	10.12	268	2857	1357	1079	1.12	1.14	34.0	37.0	1.08	1.0	643	643
644.0	644.0	36.7	49.5	45	122	259	75.1	10.15	267	2857	1357	1075	1.12	1.14	34.0	37.1	1.07	1.0	644	644
645.0	645.0	36.7	49.4	47	120	274	75.2	10.18	267	2880	1361	1077	1.12	1.14	34.0	37.2	1.08	1.0	645	645
646.0	646.0	29.5	49.4	47	120	282	75.5	10.21	266	2849	1355	1075	1.12	1.14	34.0	37.4	1.14	1.0	646	646
647.0	647.0	37.9	49.3	48	120	285	75.6	10.24	266	2848	1360	1071	1.12	1.14	34.1	37.8	1.08	1.0	647	647
648.0	648.0	34.0	49.3	46	121	272	75.8	10.27	267	2848	1347	1068	1.12	1.14	34.1	37.9	1.09	1.0	648	648
649.0	649.0	50.0	49.3	46	121	271	76.0	10.29	266	2849	1349	1070	1.12	1.14	34.1	37.9	1.00	1.0	649	649
650.0	650.0	40.9	49.3	47	119	295	76.1	10.31	266	2858	1352	1070	1.12	1.14	34.1	37.9	1.05	1.0	650	650
651.0	651.0	36.4	49.2	46	121	265	76.3	10.34	266	2857	1351	1068	1.12	1.14	34.2	37.9	1.08	1.0	651	651
652.0	652.0	35.6	49.2	46	123	223	76.5	10.37	266	2857	1347	1066	1.12	1.14	34.3	37.9	1.09	1.0	652	652
653.0	653.0	48.6	49.2	47	130	278	76.5	10.39	265	2857	1354	1062	1.12	1.14	34.3	36.9	1.02	1.0	653	653
654.0	654.0	37.1	49.2	25	134	220	76.7	10.41	251	2858	1302	1050	1.12	1.14	34.4	38.1	0.93	1.0	654	654
655.0	655.0	33.0	49.1	23	135	211	76.9	10.44	255	2858	1319	989	1.12	1.14	34.3	38.3	0.95	1.0	655	655
656.0	656.0	19.8	49.0	22	136	184	77.3	10.49	258	2857	1331	934	1.12	1.14	34.2	38.3	1.05	1.0	656	656
657.0	657.0	55.4	49.0	26	136	189	77.5	10.51	250	2857	1295	928	1.12	1.14	34.3	38.4	0.85	1.0	657	657
658.0	658.0	39.6	49.0	28	139	193	77.7	10.54	258	2857	1332	925	1.12	1.14	34.3	38.4	0.95	1.0	658	658
659.0	659.0	27.7	48.9	37	127	227	77.8	10.57	258	2857	1334	925	1.12	1.14	34.4	38.4	1.09	1.0	659	659
660.0	660.0	31.0	48.8	33	127	217	78.2	10.61	258	2857	1332	924	1.12	1.14	34.6	38.5	1.04	1.0	660	660
661.0	661.0	37.5	48.8	34	126	237	78.3	10.63	251	2857	1302	919	1.12	1.14	34.7	38.5	0.99	1.0	661	661
662.0	662.0	37.5	48.8	35	124	267	78.5	10.66	254	2857	1316	917	1.12	1.14	34.8	38.5	1.00	1.0	662	662
663.0	663.0	46.2	48.8	37	125	251	78.7	10.68	253	2857	1309	917	1.12	1.14	34.8	38.5	0.96	1.0	663	663
664.0	664.0	69.2	48.8	42	124	271	78.7	10.70	256	2857	1324	920	1.12	1.14	34.9	38.5	0.90	1.0	664	664
665.0	665.0	33.6	48.8	44	125	267	79.0	10.72	259	2857	1339	924	1.12	1.14	35.0	38.6	1.09	1.0	665	665
666.0	666.0	63.2	48.8	41	125	263	79.1	10.74	251	2857	1299	924	1.12	1.14	35.0	38.6	0.91	1.0	666	666
667.0	667.0	26.3	48.7	43	125	237	79.3	10.78	257	2857	1327	926	1.12	1.14	35.1	38.6	1.15	1.0	667	667
668.0	668.0	34.3	48.7	41	127	233	79.6	10.81	253	2857	1312	925	1.12	1.14	35.1	38.6	1.07	1.0	668	668
669.0	669.0	25.5	48.6	41	118	231	79.8	10.85	258	2857	1332	926	1.12	1.14	35.2	38.6	1.13	1.0	669	669
670.0	670.0	29.3	48.5	42	119	231	80.1	10.88	254	2857	1313	925	1.12	1.14	34.7	38.6	1.10	1.0	670	670
671.0	671.0	29.0	48.5	43	118	237	80.3	10.92	250	2857	1298	920	1.12	1.14	34.0	38.6	1.11	1.0	671	671
672.0	672.0	34.0	48.4	44	118	250	80.6	10.95	256	2856	1324	922	1.12	1.14	33.5	38.0	1.07	1.0	672	672
673.0	673.0	15.2	48.2	47	119	222	81.0	11.01	253	2856	1308	915	1.12	1.14	33.6	38.2	1.31	1.0	673	673
674.0	674.0	31.0	48.2	42	118	237	81.3	11.04	259	2855	1336	915	1.12	1.14	34.2	38.5	1.08	1.0	674	674
675.0	675.0	35.0	48.1	46	117	262	81.4	11.07	257	2856	1329	909	1.12	1.14	34.5	38.6	1.08	1.0	675	675
676.0	676.0	30.3	48.1	42	119	226	81.6	11.10	253	2856	1309	903	1.12	1.14	34.8	38.8	1.09	1.0	676	676
677.0	677.0	24.0	48.0	47	117	251	82.0	11.15	259	2855	1338	903	1.12	1.14	35.1	38.9	1.18	1.0	677	677
678.0	678.0	53.7	48.0	46	116	271	82.1	11.17	258	2855	1332	904	1.12	1.14	35.4	38.9	0.97	1.0	678	678
679.0	679.0	21.6	47.9	49	118	242	82.4	11.21	253	2855	1308	903	1.12	1.14	35.6	39.0	1.23	1.0	679	679
680.0	680.0	40.9	47.9	47	117	270	82.6	11.24	254	2855	1313	899	1.12	1.14	35.7	39.1	1.04	1.0	680	680
681.0	681.0	37.1	47.9	45	117	251	82.7	11.26	257	2855	1326	905	1.12	1.14	35.9	39.1	1.06	1.0	681	681
682.0	682.0	42.9	47.8	40	118	239	82.9	11.29	255	2857	1318	914	1.12	1.14	35.9	39.0	0.99	1.0	682	682

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
682.0	682.0	42.9	47.8	40	118	239	82.9	11.29	255	2857	1318	914	1.12	1.14	35.9	39.0	0.99	1.0	682	682
683.0	683.0	25.2	47.8	31	117	268	83.2	11.33	257	2857	1327	933	1.12	1.14	36.1	39.3	1.05	1.0	683	683
684.0	684.0	24.8	47.7	29	127	218	83.3	11.37	257	2857	1328	975	1.12	1.14	36.1	39.4	1.05	1.0	684	684
685.0	685.0	62.1	47.7	46	119	269	83.5	11.38	258	2857	1334	989	1.12	1.14	36.1	39.4	0.93	1.0	685	685
686.0	686.0	67.9	47.7	49	119	260	83.6	11.40	256	2857	1323	992	1.12	1.14	36.1	39.4	0.93	1.0	686	686
687.0	687.0	46.2	47.7	53	119	274	83.8	11.42	258	2857	1332	996	1.12	1.14	36.1	39.4	1.05	1.0	687	687
688.0	688.0	54.5	47.7	47	119	266	84.0	11.44	253	2857	1309	1000	1.12	1.14	36.1	39.3	0.98	1.0	688	688
689.0	689.0	56.3	47.8	48	119	274	84.1	11.45	253	2857	1312	1010	1.12	1.14	36.0	39.2	0.97	1.0	689	689
690.0	690.0	61.0	47.8	46	119	275	84.2	11.47	255	2857	1317	1019	1.12	1.14	36.0	39.2	0.94	1.0	690	690
691.0	691.0	59.0	47.8	48	118	285	84.3	11.49	254	2857	1316	1030	1.12	1.14	36.0	39.2	0.96	1.0	691	691
692.0	692.0	52.2	47.8	52	117	299	84.4	11.51	253	2851	1308	1043	1.12	1.14	36.0	39.2	1.01	1.0	692	692
693.0	693.0	51.4	47.8	51	119	275	84.6	11.53	255	2855	1321	1056	1.12	1.14	36.0	39.2	1.01	1.0	693	693
694.0	694.0	41.9	47.8	47	119	268	84.7	11.55	258	2859	1333	1069	1.12	1.14	35.9	39.2	1.04	1.0	694	694
695.0	695.0	39.8	47.8	43	119	270	84.8	11.56	256	2858	1325	1080	1.12	1.14	35.9	39.0	1.03	1.0	695	695
696.0	696.0	39.6	47.8	46	118	290	84.9	11.58	254	2859	1315	1091	1.12	1.14	35.9	39.0	1.05	1.0	696	696
697.0	697.0	59.0	47.8	48	118	300	85.0	11.60	256	2859	1323	1102	1.12	1.14	35.8	39.0	0.95	1.0	697	697
698.0	698.0	22.4	47.7	50	115	261	85.3	11.65	256	2859	1324	1118	1.12	1.14	35.8	39.0	1.22	1.0	698	698
699.0	699.0	25.9	47.7	47	112	236	85.6	11.68	252	2859	1307	1148	1.12	1.14	35.8	38.9	1.15	1.0	699	699
700.0	700.0	19.4	47.5	50	110	265	85.9	11.74	258	2860	1333	1158	1.12	1.14	35.8	38.3	1.25	1.0	700	700
701.0	701.0	48.6	47.5	48	108	291	86.0	11.76	256	2860	1323	1153	1.12	1.14	35.9	38.2	0.98	1.0	701	701
702.0	702.0	37.5	47.5	49	109	286	86.2	11.78	250	2860	1296	1154	1.12	1.14	35.9	38.2	1.06	1.0	702	702
703.0	703.0	31.0	47.5	51	111	239	86.4	11.82	255	2860	1319	1154	1.12	1.14	35.9	38.3	1.13	1.0	703	703
704.0	704.0	23.1	47.4	52	111	252	86.6	11.86	259	2860	1337	1150	1.12	1.14	36.0	38.5	1.22	1.0	704	704
705.0	705.0	34.0	47.4	52	109	280	86.9	11.89	257	2859	1329	1150	1.12	1.14	36.1	38.5	1.11	1.0	705	705
706.0	706.0	20.7	47.3	54	110	263	87.1	11.94	250	2860	1298	1148	1.12	1.14	36.2	38.5	1.26	1.0	706	706
707.0	707.0	22.0	47.2	51	110	262	87.5	11.98	255	2860	1319	1146	1.12	1.14	36.2	38.6	1.22	1.0	707	707
708.0	708.0	29.3	47.1	50	110	255	87.7	12.02	255	2860	1318	1145	1.12	1.14	36.3	38.6	1.13	1.0	708	708
709.0	709.0	29.5	47.1	48	111	256	87.8	12.05	253	2859	1310	1146	1.12	1.14	36.3	38.6	1.12	1.0	709	709
710.0	710.0	16.5	46.9	51	110	250	88.2	12.11	253	2859	1309	1143	1.12	1.14	36.3	38.6	1.30	1.0	710	710
711.0	711.0	62.1	46.9	48	109	275	88.4	12.13	257	2859	1330	1144	1.12	1.14	36.2	38.6	0.92	1.0	711	711
712.0	712.0	40.0	46.9	36	122	265	88.5	12.15	258	2859	1332	1144	1.12	1.14	35.8	38.6	0.98	1.0	712	712
713.0	713.0	57.1	46.9	38	122	242	88.7	12.17	259	2859	1335	1145	1.12	1.14	33.4	38.6	0.92	1.0	713	713
714.0	714.0	72.0	47.0	41	121	261	88.7	12.18	250	2859	1295	1149	1.12	1.14	33.5	38.6	0.87	1.0	714	714
715.0	715.0	44.4	46.9	45	118	244	88.9	12.21	259	2859	1335	1146	1.12	1.14	33.7	38.6	1.01	1.0	715	715
716.0	716.0	17.6	46.8	47	114	239	89.3	12.26	253	2859	1309	1155	1.12	1.14	33.9	38.6	1.26	1.0	716	716
717.0	717.0	52.2	46.8	47	115	268	89.4	12.28	257	2859	1330	1150	1.12	1.14	34.0	38.6	0.97	1.0	717	717
718.0	718.0	21.8	46.7	39	114	223	89.7	12.33	258	2859	1332	1166	1.12	1.14	34.2	38.7	1.14	1.0	718	718
719.0	719.0	61.0	46.7	47	106	265	89.7	12.34	258	2859	1331	1167	1.12	1.14	34.4	38.7	0.91	1.0	719	719
720.0	720.0	21.2	46.6	50	107	247	90.1	12.39	253	2859	1311	1162	1.12	1.14	34.6	38.7	1.22	1.0	720	720
721.0	721.0	42.9	46.6	50	106	269	90.2	12.41	258	2858	1335	1164	1.12	1.14	34.8	38.6	1.03	1.0	721	721
722.0	722.0	53.7	46.7	48	106	269	90.3	12.43	250	2858	1295	1163	1.12	1.14	35.0	38.7	0.95	1.0	722	722
723.0	723.0	41.4	46.6	48	105	282	90.5	12.46	250	2860	1298	1160	1.12	1.14	35.1	38.7	1.02	1.0	723	723
724.0	724.0	50.0	46.6	47	106	273	90.6	12.48	252	2859	1307	1165	1.12	1.14	35.3	38.7	0.97	1.0	724	724
725.0	725.0	28.1	46.6	49	107	258	90.9	12.51	250	2859	1296	1160	1.12	1.14	35.5	38.7	1.13	1.0	725	725
726.0	726.0	56.3	46.6	48	106	277	91.0	12.53	257	2859	1328	1157	1.12	1.14	35.6	38.7	0.94	1.0	726	726
727.0	727.0	40.9	46.6	48	106	270	91.1	12.55	251	2859	1299	1159	1.12	1.14	35.7	38.7	1.03	1.0	727	727
728.0	728.0	48.0	46.6	49	106	276	91.3	12.58	259	2859	1339	1161	1.12	1.14	35.7	38.7	0.98	1.0	728	728
729.0	729.0	42.9	46.6	50	106	282	91.4	12.60	259	2859	1336	1163	1.12	1.14	35.7	38.7	1.02	1.0	729	729
730.0	730.0	21.3	46.5	50	108	243	91.7	12.65	257	2859	1326	1163	1.12	1.14	35.6	38.7	1.22	1.0	730	730
731.0	731.0	37.5	46.5	50	106	269	91.8	12.67	258	2859	1335	1164	1.12	1.14	35.6	38.7	1.06	1.0	731	731

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB		AMPS	BIT	BIT		PSI	GPM	PIT	SG	SG	DEG	DEG		PRS	NOS	NOS
731.0	731.0	37.5	46.5	50	106	269	91.8	12.67	258	2859	1335	1164	1.12	1.14	35.6	38.7	1.06	1.0	731	731
732.0	732.0	50.7	46.5	47	107	258	91.9	12.69	259	2859	1339	1167	1.12	1.14	35.5	38.7	0.96	1.0	732	732
733.0	733.0	30.8	46.4	47	109	226	92.2	12.72	259	2977	1337	1166	1.12	1.14	35.4	38.7	1.10	1.0	733	733
734.0	734.0	43.4	46.4	46	106	265	92.3	12.75	256	3179	1326	1165	1.12	1.14	35.1	38.7	1.00	1.0	734	734
735.0	735.0	55.4	46.5	43	108	231	92.4	12.77	256	3179	1323	1162	1.12	1.14	34.9	38.7	0.92	1.0	735	735
736.0	736.0	51.2	46.5	43	106	269	92.4	12.77	255	3180	1319	1163	1.12	1.14	34.8	38.6	0.93	1.0	736	736
737.0	737.0	41.9	46.6	42	107	263	92.5	12.77	256	3178	1324	1162	1.12	1.14	34.8	38.7	0.98	1.0	737	737
738.0	738.0	72.0	46.6	43	106	272	92.5	12.79	250	3178	1295	1161	1.12	1.14	34.7	38.7	0.85	1.0	738	738
739.0	739.0	40.4	46.6	44	107	266	92.8	12.81	251	3178	1302	1160	1.12	1.14	34.6	38.7	1.01	1.0	739	739
740.0	740.0	46.8	46.6	44	107	261	92.9	12.83	258	3179	1333	1157	1.12	1.14	34.6	38.7	0.97	1.0	740	740
741.0	741.0	53.7	46.6	43	107	247	93.0	12.85	255	3178	1320	1154	1.12	1.14	34.7	38.7	0.93	1.0	741	741
742.0	742.0	54.5	46.6	33	108	249	93.1	12.87	258	3178	1331	1153	1.12	1.14	34.7	38.7	0.85	1.0	742	742
743.0	743.0	49.2	46.7	35	106	202	93.1	12.87	257	3179	1329	1149	1.12	1.14	34.9	38.7	0.89	1.0	743	743
744.0	744.0	35.2	46.8	36	105	207	93.1	12.88	252	3178	1307	1148	1.12	1.14	35.0	38.6	0.98	1.0	744	744
745.0	745.0	47.4	46.8	32	106	183	93.2	12.90	257	3179	1328	1146	1.12	1.14	35.0	38.7	0.88	1.0	745	745
746.0	746.0	25.0	46.7	35	111	206	93.4	12.94	259	3179	1335	1143	1.12	1.14	35.0	38.7	1.07	1.0	746	746
747.0	747.0	45.6	46.7	35	114	214	93.6	12.96	257	3179	1330	1140	1.12	1.14	35.1	38.7	0.93	1.0	747	747
748.0	748.0	35.0	46.7	40	112	269	93.8	12.99	254	3179	1317	1137	1.12	1.14	35.1	38.7	1.03	1.0	748	748
749.0	749.0	49.3	46.7	46	111	283	93.9	13.01	259	3179	1337	1130	1.12	1.14	35.1	38.7	0.97	1.0	749	749
750.0	750.0	51.4	46.7	47	111	286	94.0	13.03	252	3179	1305	1133	1.12	1.14	35.1	38.7	0.97	1.0	750	750
751.0	751.0	46.2	46.7	48	110	296	94.1	13.05	258	3179	1333	1127	1.12	1.14	35.1	38.7	1.00	1.0	751	751
752.0	752.0	42.4	46.7	49	110	300	94.4	13.07	250	3178	1299	1109	1.12	1.14	35.2	38.7	1.03	1.0	752	752
753.0	753.0	40.4	46.7	48	111	279	94.5	13.10	259	3179	1336	1093	1.12	1.14	35.3	38.7	1.04	1.0	753	753
754.0	754.0	39.6	46.6	43	112	261	94.6	13.12	256	3178	1322	1086	1.12	1.14	35.5	38.7	1.02	1.0	754	754
755.0	755.0	42.4	46.6	42	113	248	94.9	13.15	254	3178	1314	1082	1.12	1.14	35.5	38.7	0.99	1.0	755	755
756.0	756.0	30.3	46.6	38	114	228	95.1	13.18	250	3179	1297	1079	1.12	1.14	35.6	38.7	1.05	1.0	756	756
757.0	757.0	50.7	46.6	40	112	264	95.2	13.20	254	3178	1313	1076	1.12	1.14	35.7	38.7	0.93	1.0	757	757
758.0	758.0	32.1	46.6	42	111	239	95.3	13.23	259	3179	1338	1075	1.12	1.14	35.8	39.0	1.06	1.0	758	758
759.0	759.0	36.0	46.5	40	114	249	95.6	13.26	250	3178	1296	1073	1.12	1.14	36.0	39.3	1.02	1.0	759	759
760.0	760.0	43.9	46.5	42	122	266	95.7	13.28	254	3179	1316	1070	1.12	1.14	36.0	39.4	1.00	1.0	760	760
761.0	761.0	44.4	46.5	39	123	240	95.8	13.30	256	3179	1322	1071	1.12	1.14	36.0	39.5	0.98	1.0	761	761
762.0	762.0	45.6	46.5	39	123	236	96.0	13.33	253	3179	1312	1072	1.12	1.14	36.1	39.5	0.98	1.0	762	762
763.0	763.0	45.6	46.5	43	121	279	96.1	13.35	258	3179	1333	1069	1.12	1.14	36.1	39.5	0.99	1.0	763	763
764.0	764.0	56.3	46.5	45	120	290	96.3	13.37	257	3179	1327	1065	1.12	1.14	36.1	39.5	0.96	1.0	764	764
765.0	765.0	48.6	46.5	47	116	280	96.4	13.39	254	3178	1316	1060	1.12	1.14	36.2	39.5	0.99	1.0	765	765
766.0	766.0	40.0	46.5	44	108	252	96.7	13.41	255	3179	1318	1063	1.12	1.14	36.2	39.5	1.01	1.0	766	766
767.0	767.0	46.8	46.5	45	108	269	96.8	13.43	257	3178	1328	1075	1.12	1.14	36.2	39.4	0.97	1.0	767	767
768.0	768.0	45.0	46.5	47	107	287	96.9	13.45	257	3179	1330	1084	1.12	1.14	36.2	39.4	1.00	1.0	768	768
769.0	769.0	46.8	46.5	50	107	292	97.0	13.48	259	3179	1338	1090	1.12	1.14	36.2	39.4	1.00	1.0	769	769
770.0	770.0	40.4	46.5	47	108	276	97.2	13.50	256	3178	1326	1097	1.12	1.14	36.2	39.4	1.02	1.0	770	770
771.0	771.0	48.6	46.5	35	118	257	97.3	13.52	254	3178	1317	1108	1.12	1.14	36.2	39.3	0.92	1.0	771	771
772.0	772.0	58.1	46.6	31	117	218	97.3	13.53	257	3178	1329	1178	1.12	1.14	36.1	39.3	0.85	1.0	772	772
773.0	773.0	97.3	46.6	32	117	225	97.4	13.54	251	3178	1300	1181	1.12	1.14	36.1	39.3	0.73	1.0	773	773
774.0	774.0	97.3	46.6	32	118	214	97.4	13.55	258	3178	1331	1187	1.12	1.14	36.1	39.3	0.74	1.0	774	774
775.0	775.0	97.3	46.7	33	117	220	97.6	13.56	257	3179	1328	1193	1.12	1.14	36.1	39.3	0.74	1.0	775	775
776.0	776.0	90.0	46.7	35	117	230	97.6	13.57	252	3180	1304	1199	1.12	1.14	36.1	39.3	0.77	1.0	776	776
777.0	777.0	116.1	46.8	35	116	252	97.7	13.58	254	3179	1316	1205	1.12	1.14	36.1	39.3	0.70	1.0	777	777
778.0	778.0	109.1	46.8	36	117	231	97.7	13.59	259	3178	1339	1207	1.12	1.14	36.1	39.3	0.73	1.0	778	778
779.0	779.0	66.7	46.8	36	116	244	97.9	13.60	257	3178	1326	1216	1.12	1.14	36.1	39.3	0.85	1.0	779	779
780.0	780.0	87.8	46.9	34	117	239	98.0	13.62	253	3177	1309	1225	1.12	1.14	36.1	39.3	0.77	1.0	780	780

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
780.0	780.0	87.8	46.9	34	117	239	98.0	13.62	253	3177	1309	1225	1.12	1.14	36.1	39.3	0.77	1.0	780	780
781.0	781.0	83.7	46.9	33	117	224	98.0	13.63	255	3178	1321	1230	1.12	1.14	36.1	39.3	0.78	1.0	781	781
782.0	782.0	94.7	46.9	32	118	210	98.1	13.64	256	3179	1323	1237	1.12	1.14	36.1	39.3	0.74	1.0	782	782
783.0	783.0	56.3	46.9	35	116	237	98.2	13.66	254	3179	1315	1244	1.12	1.14	36.1	38.9	0.88	1.0	783	783
784.0	784.0	57.1	47.0	38	115	268	98.3	13.67	250	3178	1295	1254	1.12	1.14	36.1	38.8	0.90	1.0	784	784
785.0	785.0	69.2	47.0	38	115	259	98.5	13.69	250	3178	1295	1264	1.12	1.14	36.1	38.8	0.85	1.0	785	785
786.0	786.0	65.5	47.0	39	115	270	98.6	13.70	259	3178	1337	1271	1.12	1.14	36.2	38.9	0.87	1.0	786	786
787.0	787.0	52.9	47.0	40	115	269	98.7	13.72	254	3178	1316	1281	1.12	1.14	36.2	38.9	0.93	1.0	787	787
788.0	788.0	90.0	47.0	40	114	276	98.7	13.73	253	3178	1310	1290	1.12	1.14	36.2	38.9	0.79	1.0	788	788
789.0	789.0	60.0	47.1	40	115	274	98.8	13.75	258	3178	1331	1298	1.12	1.14	36.2	39.0	0.89	1.0	789	789
790.0	790.0	60.0	47.1	42	116	243	98.9	13.77	256	3178	1326	1297	1.12	1.14	36.3	38.2	0.91	1.0	790	790
791.0	791.0	59.0	47.1	34	118	216	99.1	13.78	259	3178	1338	1294	1.12	1.14	36.3	39.2	0.87	1.0	791	791
792.0	792.0	52.2	47.1	34	117	227	99.2	13.80	255	3178	1318	1294	1.12	1.14	36.3	39.6	0.90	1.0	792	792
793.0	793.0	21.1	47.0	37	118	211	99.6	13.85	254	3179	1316	1294	1.12	1.14	36.5	39.8	1.14	1.0	793	793
794.0	794.0	34.0	47.0	36	116	234	99.7	13.88	251	3179	1302	1289	1.12	1.14	36.6	40.2	1.01	1.0	794	794
795.0	795.0	29.5	46.9	35	117	222	100.0	13.91	256	3179	1322	1285	1.12	1.14	36.6	40.3	1.04	1.0	795	795
796.0	796.0	65.5	47.0	36	116	242	100.1	13.93	252	3178	1307	1282	1.12	1.14	36.7	40.4	0.85	1.0	796	796
797.0	797.0	36.7	46.9	36	117	232	100.2	13.96	250	3178	1299	1280	1.12	1.14	36.7	40.4	0.99	1.0	797	797
798.0	798.0	36.0	46.9	36	117	226	100.5	13.98	250	3178	1297	1274	1.12	1.14	36.8	40.4	1.00	1.0	798	798
799.0	799.0	42.9	46.9	29	117	265	100.6	14.01	254	3179	1316	1266	1.12	1.14	36.7	40.5	0.91	1.0	799	799
800.0	800.0	58.1	46.9	37	114	269	100.7	14.02	253	3179	1311	1248	1.12	1.14	36.2	40.6	0.89	1.0	800	800
801.0	801.0	50.0	46.9	43	113	296	100.8	14.04	257	3178	1330	1244	1.12	1.14	36.2	40.6	0.96	1.0	801	801
802.0	802.0	24.8	46.9	41	115	256	101.1	14.08	254	3178	1313	1238	1.12	1.14	36.2	40.0	1.13	1.0	802	802
803.0	803.0	46.2	46.9	39	117	234	101.2	14.11	254	3179	1317	1235	1.12	1.14	36.3	39.8	0.96	1.0	803	803
804.0	804.0	58.1	46.9	37	119	240	101.3	14.12	251	3178	1303	1234	1.12	1.14	36.3	39.6	0.90	1.0	804	804
805.0	805.0	57.1	46.9	39	118	255	101.4	14.14	256	3178	1323	1234	1.12	1.14	36.4	40.1	0.91	1.0	805	805
806.0	806.0	36.4	46.9	41	119	238	101.7	14.17	251	3178	1302	1231	1.12	1.14	36.4	39.6	1.04	1.0	806	806
807.0	807.0	27.7	46.8	39	120	222	101.9	14.20	253	3178	1309	1227	1.12	1.14	36.5	39.3	1.09	1.0	807	807
808.0	808.0	55.4	46.8	37	119	239	102.1	14.22	253	3178	1312	1225	1.12	1.14	36.6	39.5	0.91	1.0	808	808
809.0	809.0	59.0	46.8	37	119	243	102.2	14.24	254	3178	1316	1224	1.12	1.14	36.7	39.7	0.89	1.0	809	809
810.0	810.0	28.8	46.8	41	119	244	102.4	14.27	254	3178	1313	1220	1.12	1.14	36.8	40.3	1.10	1.0	810	810
811.0	811.0	31.3	46.8	42	119	248	102.7	14.31	251	3179	1303	1218	1.12	1.14	36.9	40.6	1.08	1.0	811	811
812.0	812.0	45.0	46.8	42	118	258	102.8	14.33	252	3178	1308	1217	1.12	1.14	37.0	40.6	0.99	1.0	812	812
813.0	813.0	61.0	46.8	40	119	254	102.9	14.34	251	3178	1302	1216	1.12	1.14	37.0	40.6	0.90	1.0	813	813
814.0	814.0	60.0	46.8	41	119	256	103.1	14.36	252	3178	1307	1215	1.12	1.14	37.1	40.6	0.91	1.0	814	814
815.0	815.0	45.6	46.8	43	118	268	103.2	14.38	252	3178	1306	1208	1.12	1.14	37.1	40.5	0.99	1.0	815	815
816.0	816.0	63.2	46.8	40	118	266	103.3	14.40	250	3177	1296	1195	1.12	1.14	37.1	40.5	0.89	1.0	816	816
817.0	817.0	54.5	46.8	39	119	253	103.4	14.42	258	3177	1334	1187	1.12	1.14	37.0	40.5	0.92	1.0	817	817
818.0	818.0	72.0	46.8	39	118	265	103.5	14.43	259	3178	1339	1184	1.12	1.14	36.8	40.5	0.85	1.0	818	818
819.0	819.0	14.4	46.7	42	120	224	104.0	14.50	251	3178	1303	1182	1.12	1.14	36.5	40.4	1.29	1.0	819	819
820.0	820.0	23.2	46.6	39	120	240	104.3	14.54	251	3178	1303	1183	1.12	1.14	36.2	40.4	1.13	1.0	820	820
821.0	821.0	45.0	46.6	36	120	226	104.4	14.57	253	3179	1311	1183	1.12	1.14	36.1	40.4	0.95	1.0	821	821
822.0	822.0	55.4	46.6	39	119	243	104.5	14.58	254	3177	1316	1179	1.12	1.14	36.1	40.4	0.92	1.0	822	822
823.0	823.0	23.2	46.6	47	118	264	104.9	14.63	255	3178	1321	1176	1.12	1.14	36.1	40.4	1.19	1.0	823	823
824.0	824.0	65.5	46.6	41	120	227	104.9	14.64	251	3178	1300	1177	1.12	1.14	36.2	40.4	0.89	1.0	824	824
825.0	825.0	60.0	46.6	37	120	231	105.1	14.66	255	3179	1317	1179	1.12	1.14	36.3	40.4	0.89	1.0	825	825
826.0	826.0	49.3	46.6	41	119	242	105.2	14.68	258	3178	1334	1175	1.12	1.14	36.4	40.4	0.96	1.0	826	826
827.0	827.0	30.0	46.6	36	122	230	105.5	14.71	257	3178	1327	1161	1.12	1.14	36.5	40.4	1.05	1.0	827	827
828.0	828.0	52.9	46.6	38	123	227	105.6	14.73	253	3178	1311	1110	1.12	1.14	36.3	40.4	0.93	1.0	828	828
829.0	829.0	53.7	46.6	38	123	235	105.7	14.75	257	3178	1328	1092	1.12	1.14	36.4	40.4	0.93	1.0	829	829

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
829.0	829.0	53.7	46.6	38	123	235	105.7	14.75	257	3178	1328	1092	1.12	1.14	36.4	40.4	0.93	1.0	829	829
830.0	830.0	42.9	46.6	40	123	225	105.9	14.77	252	3178	1304	1074	1.12	1.14	36.4	40.4	1.00	1.0	830	830
831.0	831.0	20.1	46.5	45	122	258	106.2	14.82	255	3178	1318	1038	1.12	1.14	36.4	40.4	1.23	1.0	831	831
832.0	832.0	63.2	46.5	44	122	258	106.4	14.84	253	3178	1311	1037	1.12	1.14	36.4	40.4	0.92	1.0	832	832
833.0	833.0	34.0	46.5	51	121	264	106.5	14.87	253	3177	1310	1036	1.12	1.14	36.5	40.4	1.13	1.0	833	833
834.0	834.0	20.3	46.4	50	122	249	106.9	14.92	258	3178	1335	1034	1.12	1.14	36.5	40.4	1.26	1.0	834	834
835.0	835.0	50.0	46.4	45	122	245	107.0	14.94	252	3177	1305	1032	1.12	1.14	36.6	40.4	0.99	1.0	835	835
836.0	836.0	52.9	46.4	43	129	253	107.2	14.96	253	3177	1309	1032	1.12	1.14	36.6	40.4	0.98	1.0	836	836
837.0	837.0	73.5	46.4	42	131	249	107.3	14.97	258	3178	1332	1032	1.12	1.14	36.6	40.4	0.89	1.0	837	837
838.0	838.0	56.3	46.4	42	130	247	107.4	14.99	251	3178	1300	1030	1.12	1.14	36.7	40.4	0.96	1.0	838	838
839.0	839.0	19.1	46.3	47	125	234	107.8	15.04	251	3178	1303	1029	1.12	1.14	36.7	40.4	1.26	1.0	839	839
840.0	840.0	44.4	46.3	46	119	254	107.9	15.06	250	3178	1295	1027	1.12	1.14	36.7	40.5	1.02	1.0	840	840
841.0	841.0	31.3	46.3	46	118	253	108.2	15.09	252	3179	1308	1027	1.12	1.14	36.7	40.5	1.11	1.0	841	841
842.0	842.0	19.7	46.2	46	119	240	108.5	15.15	257	3178	1328	1026	1.12	1.14	36.8	40.5	1.24	1.0	842	842
843.0	843.0	46.8	46.2	42	127	228	108.7	15.17	258	3178	1331	1026	1.12	1.14	36.8	40.5	0.99	1.0	843	843
844.0	844.0	14.6	46.1	42	133	204	109.2	15.23	252	3178	1306	1022	1.12	1.14	36.8	40.7	1.30	1.0	844	844
845.0	845.0	52.9	46.1	40	132	219	109.4	15.25	251	3177	1302	1023	1.12	1.14	36.9	41.2	0.96	1.0	845	845
846.0	846.0	13.3	45.9	42	133	193	109.9	15.33	257	3179	1328	1014	1.12	1.14	37.2	41.4	1.33	1.0	846	846
847.0	847.0	21.7	45.9	41	133	202	110.3	15.38	259	3179	1339	1008	1.12	1.14	37.5	41.5	1.20	1.0	847	847
848.0	848.0	19.6	45.8	42	133	204	110.6	15.43	253	3178	1311	1006	1.12	1.14	37.7	41.5	1.23	1.0	848	848
849.0	849.0	18.8	45.7	39	134	183	111.0	15.48	252	3178	1306	1003	1.12	1.14	37.7	41.6	1.22	1.0	849	849
850.0	850.0	36.7	45.7	44	130	247	111.3	15.51	251	3178	1302	997	1.12	1.14	37.6	41.6	1.08	1.0	850	850
851.0	851.0	36.7	45.6	47	131	236	111.5	15.53	257	3178	1328	996	1.12	1.14	37.7	41.7	1.10	1.0	851	851
852.0	852.0	15.0	45.5	45	133	205	112.0	15.60	250	3178	1296	993	1.12	1.14	37.9	41.7	1.32	1.0	852	852
853.0	853.0	22.6	45.4	42	132	215	112.3	15.64	254	3178	1314	994	1.12	1.14	38.0	41.7	1.20	1.0	853	853
854.0	854.0	19.4	45.4	42	132	217	112.7	15.70	252	3177	1307	1001	1.12	1.14	38.1	41.8	1.23	1.0	854	854
855.0	855.0	25.2	45.3	40	117	191	113.1	15.74	256	3177	1325	1004	1.12	1.14	38.2	41.9	1.12	1.0	855	855
856.0	856.0	64.3	45.3	38	124	227	113.1	15.75	256	3174	1323	990	1.12	1.14	37.9	42.0	0.88	1.0	856	856
857.0	857.0	20.9	45.3	42	130	234	113.4	15.80	257	3174	1329	984	1.12	1.14	38.0	42.0	1.21	1.0	857	857
858.0	858.0	20.6	45.2	45	129	245	113.8	15.85	257	3174	1329	986	1.12	1.14	38.1	42.0	1.24	1.0	858	858
859.0	859.0	24.2	45.1	45	130	236	114.1	15.89	258	3174	1331	990	1.12	1.14	38.2	42.0	1.20	1.0	859	859
860.0	860.0	13.0	45.0	45	130	234	114.8	15.97	259	3174	1339	1007	1.12	1.14	38.3	42.0	1.36	1.0	860	860
861.0	861.0	17.2	44.9	47	126	258	115.2	16.02	255	3174	1318	1028	1.11	1.12	38.5	42.1	1.32	1.0	861	861
862.0	862.0	13.8	44.7	46	119	256	115.6	16.10	252	3173	1304	1057	1.11	1.12	38.6	42.1	1.35	1.0	862	862
863.0	863.0	15.7	44.6	42	120	236	116.0	16.16	256	3173	1326	1097	1.11	1.13	38.8	42.1	1.28	1.0	863	863
864.0	864.0	16.7	44.5	42	119	239	116.5	16.22	252	3173	1304	1134	1.11	1.12	38.9	42.1	1.26	1.0	864	864
865.0	865.0	17.7	44.4	45	119	244	116.9	16.28	250	3079	1296	1169	1.11	1.13	39.2	42.2	1.27	1.0	865	865
866.0	866.0	21.7	44.4	51	116	297	117.1	16.32	251	3072	1303	1199	1.11	1.13	39.3	42.2	1.25	1.0	866	866
867.0	867.0	12.5	44.2	47	121	218	117.8	16.40	259	3073	1336	1227	1.11	1.13	39.3	42.3	1.38	1.0	867	867
868.0	868.0	12.4	44.0	48	121	218	118.3	16.48	258	3072	1332	1229	1.11	1.12	39.4	42.6	1.40	1.0	868	868
869.0	869.0	70.6	44.1	43	117	288	118.4	16.50	256	3072	1323	1229	1.11	1.12	39.5	42.4	0.89	1.0	869	869
870.0	870.0	90.0	44.1	41	105	273	118.5	16.51	253	3072	1308	1230	1.11	1.12	39.5	42.5	0.79	1.0	870	870
871.0	871.0	56.3	44.1	45	105	284	118.6	16.53	252	3072	1305	1228	1.11	1.13	39.5	42.6	0.93	1.0	871	871
872.0	872.0	34.0	44.1	44	99	260	118.7	16.56	255	3072	1321	1227	1.11	1.13	39.5	42.4	1.05	1.0	872	872
873.0	873.0	36.7	44.1	45	106	267	118.9	16.58	255	3072	1318	1225	1.11	1.12	39.5	42.6	1.05	1.0	873	873
874.0	874.0	28.6	44.0	51	108	291	119.1	16.62	258	3072	1333	1224	1.11	1.13	39.6	43.7	1.16	1.0	874	874
875.0	875.0	48.0	44.1	49	102	269	119.2	16.64	253	3072	1310	1224	1.11	1.12	39.7	44.1	0.99	1.0	875	875
876.0	876.0	12.0	43.9	49	104	248	119.8	16.72	253	3072	1312	1221	1.11	1.13	39.9	44.2	1.37	1.0	876	876
877.0	877.0	9.3	43.7	54	102	282	120.5	16.83	252	3072	1306	1218	1.11	1.12	40.1	44.4	1.48	1.0	877	877
878.0	878.0	10.5	43.6	53	92	195	120.9	16.90	259	3074	1338	1208	1.11	1.12	40.4	44.0	1.41	1.0	878	878

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB		AMPS	BIT	BIT		PSI	GPM	PIT	SG	SG	DEG	DEG		PRS	NOS	NOS
878.0	878.0	10.5	43.6	53	92	195	120.9	16.90	259	3074	1338	1208	1.11	1.12	40.4	44.0	1.41	1.0	878	878
879.0	879.0	8.2	43.6	52	93	184	120.9	16.90	255	3073	1320	1207	1.11	1.13	40.4	44.1	1.47	1.0	879	879
880.0	880.0	17.7	43.5	58	91	223	121.2	16.95	257	3072	1326	1203	1.11	1.12	40.5	44.1	1.30	1.0	880	880
881.0	881.0	18.0	43.4	56	98	293	121.5	17.01	250	3072	1298	1198	1.11	1.13	40.6	44.0	1.30	1.0	881	881
882.0	882.0	21.1	43.4	54	99	304	121.8	17.06	251	3072	1303	1193	1.11	1.13	40.6	44.1	1.24	1.0	882	882
883.0	883.0	9.1	43.2	37	124	162	122.5	17.17	254	3072	1313	1189	1.11	1.12	40.7	44.2	1.38	1.0	883	883
884.0	884.0	13.1	43.0	56	131	221	123.2	17.24	256	3072	1326	1184	1.11	1.13	40.8	43.9	1.47	1.0	884	884
885.0	885.0	20.1	43.1	52	129	302	123.2	17.25	254	3072	1314	1183	1.11	1.13	40.8	44.2	1.31	1.0	885	885
886.0	886.0	45.5	43.1	45	130	267	123.2	17.26	253	3072	1310	1179	1.11	1.12	40.9	44.2	1.05	1.0	886	886
887.0	887.0	68.0	43.2	41	133	237	123.3	17.26	251	3072	1301	1173	1.11	1.12	40.9	44.3	0.92	1.0	887	887
888.0	888.0	76.6	43.2	16	117	213	123.3	17.27	257	3072	1330	1160	1.11	1.13	40.7	44.6	0.68	1.0	888	888
889.0	889.0	133.3	43.2	17	115	198	123.3	17.28	254	3073	1314	1148	1.11	1.12	40.4	44.6	0.57	1.0	889	889
890.0	890.0	144.0	43.3	19	116	191	123.4	17.29	254	3073	1314	1147	1.11	1.13	40.4	44.6	0.57	1.0	890	890
891.0	891.0	138.5	43.3	17	116	189	123.4	17.30	257	3072	1328	1144	1.11	1.13	40.5	44.6	0.57	1.0	891	891
892.0	892.0	150.0	43.3	18	116	196	123.6	17.30	255	3071	1319	1143	1.11	1.13	40.5	44.6	0.56	1.0	892	892
893.0	893.0	171.4	43.4	20	115	193	123.6	17.31	256	3072	1323	1144	1.11	1.13	40.5	44.6	0.54	1.0	893	893
894.0	894.0	162.1	43.4	18	117	216	123.6	17.31	257	3073	1329	1143	1.11	1.13	40.5	44.7	0.54	1.0	894	894
895.0	895.0	149.2	43.5	16	118	151	123.7	17.32	259	3071	1336	1142	1.11	1.12	40.5	44.7	0.54	1.0	895	895
896.0	896.0	89.9	43.5	17	117	166	123.7	17.32	257	3071	1329	1143	1.11	1.12	40.5	44.6	0.66	1.0	896	896
897.0	897.0	27.3	43.5	25	118	151	123.9	17.36	252	3072	1307	1140	1.11	1.12	40.5	44.5	0.99	1.0	897	897
898.0	898.0	9.5	43.3	37	111	197	124.6	17.46	257	3072	1328	1137	1.11	1.12	40.6	44.7	1.34	1.0	898	898
899.0	899.0	94.7	43.3	46	104	298	124.7	17.47	259	3072	1335	1135	1.11	1.12	40.8	45.0	0.80	1.0	899	899
900.0	900.0	156.5	43.4	33	113	203	124.7	17.48	256	3072	1325	1135	1.11	1.13	40.9	45.0	0.63	1.0	900	900
901.0	901.0	144.7	43.4	31	112	225	124.7	17.49	259	3073	1338	1133	1.11	1.13	40.9	45.0	0.63	1.0	901	901
902.0	902.0	138.5	43.4	31	112	226	124.8	17.49	256	3073	1326	1134	1.11	1.13	40.9	45.0	0.64	1.0	902	902
903.0	903.0	102.9	43.5	20	113	186	124.8	17.50	253	3073	1312	1134	1.11	1.12	41.0	44.6	0.65	1.0	903	903
904.0	904.0	161.2	43.5	16	114	180	124.9	17.51	250	3072	1298	1133	1.11	1.13	41.0	44.1	0.53	1.0	904	904
905.0	905.0	171.4	43.6	17	115	175	124.9	17.51	259	3073	1338	1133	1.11	1.13	41.0	43.8	0.52	1.0	905	905
906.0	906.0	150.0	43.6	19	117	178	124.9	17.52	250	3072	1297	1133	1.11	1.12	41.0	44.8	0.56	1.0	906	906
907.0	907.0	163.6	43.7	19	118	150	125.1	17.53	256	3073	1323	1131	1.11	1.13	41.0	43.7	0.55	1.0	907	907
908.0	908.0	128.6	43.7	15	118	151	125.1	17.53	253	3073	1309	1131	1.11	1.13	41.1	43.5	0.57	1.0	908	908
909.0	909.0	171.4	43.7	15	118	150	125.1	17.54	252	3073	1304	1130	1.11	1.12	41.1	43.1	0.51	1.0	909	909
910.0	910.0	133.3	43.8	14	118	157	125.2	17.55	253	3072	1309	1130	1.11	1.12	41.1	43.5	0.56	1.0	910	910
911.0	911.0	120.0	43.8	15	119	135	125.2	17.55	259	3072	1338	1128	1.11	1.13	41.2	43.5	0.58	1.0	911	911
912.0	912.0	102.9	43.8	15	119	142	125.3	17.56	250	3073	1296	1128	1.11	1.13	41.2	43.9	0.61	1.0	912	912
913.0	913.0	83.7	43.9	17	119	155	125.3	17.58	254	3072	1314	1127	1.11	1.12	41.2	44.0	0.68	1.0	913	913
914.0	914.0	102.9	43.9	19	117	190	125.5	17.59	252	3072	1305	1125	1.11	1.12	41.3	44.0	0.65	1.0	914	914
915.0	915.0	56.3	43.9	18	119	148	125.6	17.60	255	3073	1320	1125	1.11	1.12	41.3	44.0	0.77	1.0	915	915
916.0	916.0	42.9	43.9	13	119	149	125.7	17.63	253	3073	1310	1118	1.11	1.12	41.4	44.6	0.77	1.0	916	916
917.0	917.0	72.0	43.9	15	120	151	125.8	17.64	259	3074	1336	1086	1.11	1.12	41.5	44.7	0.69	1.0	917	917
918.0	918.0	90.0	44.0	14	119	154	125.8	17.65	253	3073	1312	1076	1.11	1.13	41.5	44.7	0.63	1.0	918	918
919.0	919.0	87.8	44.0	16	117	185	125.9	17.66	250	3074	1296	1067	1.11	1.13	41.5	44.7	0.65	1.0	919	919
920.0	920.0	92.3	44.0	18	117	181	125.9	17.67	256	3072	1326	1054	1.11	1.13	41.5	44.7	0.66	1.0	920	920
921.0	921.0	109.1	44.1	19	116	197	126.1	17.68	258	3074	1333	1045	1.11	1.12	41.5	44.6	0.64	1.0	921	921
922.0	922.0	120.0	44.1	24	117	190	126.1	17.69	258	3072	1333	1034	1.11	1.13	41.5	44.6	0.64	1.0	922	922
923.0	923.0	109.1	44.1	21	118	163	126.2	17.70	254	3072	1313	1030	1.11	1.12	41.5	44.6	0.65	1.0	923	923
924.0	924.0	97.3	44.2	15	119	147	126.2	17.71	258	3073	1333	1023	1.11	1.13	41.4	44.6	0.63	1.0	924	924
925.0	925.0	80.0	44.2	13	119	154	126.4	17.72	254	3073	1313	1013	1.11	1.13	41.4	44.6	0.65	1.0	925	925
926.0	926.0	120.0	44.2	15	118	155	126.4	17.73	258	3074	1332	1004	1.11	1.13	41.4	44.6	0.58	1.0	926	926
927.0	927.0	81.8	44.2	19	116	190	126.5	17.74	252	3074	1308	997	1.11	1.12	41.4	44.6	0.70	1.0	927	927

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
927.0	927.0	81.8	44.2	19	116	190	126.5	17.74	252	3074	1308	997	1.11	1.12	41.4	44.6	0.70	1.0	927	927
928.0	928.0	138.5	44.3	21	115	200	126.5	17.75	252	3071	1305	993	1.11	1.13	41.4	44.6	0.59	1.0	928	928
929.0	929.0	112.5	44.3	18	118	160	126.6	17.76	257	3071	1328	983	1.11	1.12	41.4	44.6	0.62	1.0	929	929
930.0	930.0	90.0	44.3	15	120	142	126.6	17.77	253	3073	1312	978	1.11	1.12	41.4	44.5	0.64	1.0	930	930
931.0	931.0	65.5	44.4	12	118	161	126.8	17.79	256	3073	1323	973	1.11	1.12	41.3	44.6	0.68	1.0	931	931
932.0	932.0	138.5	44.4	15	117	190	126.8	17.79	252	3074	1307	969	1.11	1.12	41.2	44.6	0.56	1.0	932	932
933.0	933.0	92.3	44.4	17	118	169	126.9	17.81	250	3073	1295	968	1.11	1.13	41.2	44.6	0.66	1.0	933	933
934.0	934.0	57.1	44.4	12	119	148	127.0	17.82	256	3072	1324	964	1.11	1.12	41.1	44.6	0.70	1.0	934	934
935.0	935.0	72.0	44.5	13	118	158	127.0	17.84	257	3073	1330	962	1.11	1.13	41.0	44.7	0.66	1.0	935	935
936.0	936.0	50.0	44.5	11	121	112	127.2	17.86	257	3073	1329	961	1.11	1.13	41.0	44.7	0.71	1.0	936	936
937.0	937.0	70.6	44.5	12	118	156	127.4	17.87	254	3072	1316	961	1.11	1.13	41.0	44.7	0.66	1.0	937	937
938.0	938.0	85.7	44.5	16	117	167	127.5	17.88	250	3071	1295	959	1.11	1.13	41.0	44.7	0.66	1.0	938	938
939.0	939.0	97.3	44.5	16	118	167	127.5	17.89	256	3073	1325	955	1.11	1.13	41.0	44.7	0.63	1.0	939	939
940.0	940.0	80.0	44.6	14	118	151	127.6	17.91	250	3072	1296	952	1.11	1.13	40.9	44.7	0.66	1.0	940	940
941.0	941.0	87.8	44.6	15	118	164	127.6	17.92	259	3072	1337	946	1.11	1.13	40.8	44.7	0.65	1.0	941	941
942.0	942.0	81.8	44.6	16	117	180	127.8	17.93	254	3073	1316	944	1.11	1.13	40.9	44.7	0.67	1.0	942	942
943.0	943.0	65.5	44.6	15	119	154	127.9	17.94	253	3073	1310	939	1.11	1.12	40.9	44.7	0.71	1.0	943	943
944.0	944.0	52.9	44.6	13	120	116	128.0	17.96	257	3073	1329	935	1.11	1.13	40.9	44.7	0.73	1.0	944	944
945.0	945.0	35.3	44.6	9	121	104	128.1	17.99	254	3073	1314	927	1.11	1.12	40.9	44.7	0.76	1.0	945	945
946.0	946.0	21.8	44.6	14	115	210	128.3	18.04	257	3073	1329	935	1.11	1.12	40.9	44.7	0.90	1.0	946	946
947.0	947.0	120.0	44.6	19	113	202	128.4	18.05	245	3072	1328	912	1.11	1.13	40.9	44.6	0.61	1.0	947	947
948.0	948.0	100.0	44.6	24	112	223	128.4	18.06	245	3073	1320	905	1.11	1.12	40.9	44.6	0.67	1.0	948	948
949.0	949.0	85.7	44.7	19	113	186	128.5	18.07	245	3074	1321	902	1.11	1.13	40.9	44.5	0.68	1.0	949	949
950.0	950.0	58.1	44.7	13	115	171	128.6	18.08	245	3073	1315	893	1.11	1.13	40.9	44.5	0.70	1.0	950	950
951.0	951.0	78.3	44.7	11	116	150	128.6	18.10	246	3072	1317	890	1.11	1.12	40.9	44.4	0.62	1.0	951	951
952.0	952.0	67.9	44.7	11	115	153	128.8	18.11	247	3074	1332	893	1.11	1.13	40.9	44.3	0.65	1.0	952	952
953.0	953.0	92.3	44.8	12	116	152	128.9	18.12	251	3074	1316	891	1.11	1.13	40.9	44.4	0.61	1.0	953	953
954.0	954.0	87.8	44.8	14	113	183	128.9	18.13	251	3072	1310	881	1.11	1.13	39.5	44.3	0.63	1.0	954	954
955.0	955.0	92.3	44.8	16	114	171	129.0	18.14	251	3074	1334	879	1.11	1.12	39.8	44.1	0.64	1.0	955	955
956.0	956.0	94.7	44.8	13	115	165	129.0	18.16	251	3073	1296	881	1.11	1.13	39.9	43.9	0.60	1.0	956	956
957.0	957.0	109.1	44.9	13	118	159	129.2	18.16	251	3074	1310	874	1.11	1.12	39.9	43.7	0.58	1.0	957	957
958.0	958.0	72.0	44.9	12	116	147	129.2	18.18	251	3073	1333	874	1.11	1.13	39.9	43.5	0.65	1.0	958	958
959.0	959.0	94.7	44.9	12	118	147	129.3	18.19	252	3073	1339	870	1.11	1.12	39.9	43.5	0.61	1.0	959	959
960.0	960.0	144.0	45.0	13	117	166	129.3	18.20	252	3073	1302	867	1.11	1.13	39.9	43.6	0.53	1.0	960	960
961.0	961.0	171.4	45.0	14	118	153	129.3	18.20	252	3071	1300	868	1.11	1.13	39.8	43.7	0.50	1.0	961	961
962.0	962.0	124.1	45.0	11	119	133	129.5	18.21	251	3074	1308	860	1.11	1.12	39.8	43.9	0.54	1.0	962	962
963.0	963.0	109.1	45.1	18	116	163	129.5	18.22	244	3073	1256	862	1.11	1.12	39.7	44.0	0.62	1.0	963	963
964.0	964.0	48.0	45.1	19	117	155	129.6	18.24	243	3073	1271	862	1.11	1.12	39.6	44.1	0.81	1.0	964	964
965.0	965.0	90.0	45.1	14	119	131	129.8	18.25	243	3072	1282	857	1.11	1.13	39.5	44.1	0.63	1.0	965	965
966.0	966.0	26.3	45.1	16	118	151	130.0	18.29	245	3073	1250	853	1.11	1.12	39.6	44.2	0.91	1.0	966	966
967.0	967.0	18.0	45.0	19	118	149	130.4	18.34	245	3073	1282	845	1.11	1.12	39.9	44.3	1.02	1.0	967	967
968.0	968.0	133.3	45.0	20	115	204	130.4	18.35	245	3071	1284	840	1.11	1.13	40.0	44.3	0.59	1.0	968	968
969.0	969.0	90.0	45.0	16	117	164	130.5	18.36	245	3073	1283	840	1.11	1.12	40.0	44.3	0.64	1.0	969	969
970.0	970.0	116.1	45.1	14	119	134	130.5	18.37	245	3071	1256	840	1.11	1.13	40.0	44.2	0.58	1.0	970	970
971.0	971.0	92.2	45.1	10	119	139	130.7	18.38	234	3072	1183	848	1.11	1.13	40.0	44.2	0.59	1.0	971	971
972.0	972.0	7.5	44.8	29	112	154	131.5	18.52	236	3072	1215	859	1.11	1.12	40.1	44.0	1.32	1.0	972	972
973.0	973.0	90.0	44.9	35	104	223	131.6	18.53	236	3071	1238	885	1.11	1.12	40.2	44.1	0.75	1.0	973	973
974.0	974.0	92.3	44.9	27	106	181	131.6	18.54	236	3072	1170	889	1.11	1.13	40.2	44.1	0.71	1.0	974	974
975.0	975.0	44.4	44.9	15	105	186	131.7	18.56	240	3071	1239	967	1.11	1.13	40.4	44.0	0.76	1.0	975	975
976.0	976.0	42.4	44.9	19	101	154	131.9	18.59	243	3071	1244	1035	1.11	1.13	40.4	44.0	0.80	1.0	976	976

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
976.0	976.0	42.4	44.9	19	101	154	131.9	18.59	243	3071	1244	1035	1.11	1.13	40.4	44.0	0.80	1.0	976	976
977.0	977.0	50.0	44.9	20	110	168	132.0	18.61	236	3071	1241	1031	1.11	1.13	40.4	44.0	0.79	1.0	977	977
978.0	978.0	81.8	44.9	16	122	173	132.0	18.62	232	3071	1184	1028	1.11	1.12	40.4	44.0	0.68	1.0	978	978
979.0	979.0	83.7	44.9	14	124	138	132.2	18.63	232	3071	1210	1025	1.11	1.13	40.4	43.9	0.65	1.0	979	979
980.0	980.0	72.0	44.9	12	123	158	132.3	18.64	232	3071	1197	1025	1.11	1.12	40.4	43.9	0.67	1.0	980	980
981.0	981.0	46.2	45.0	17	124	144	132.4	18.66	233	3071	1225	1025	1.11	1.13	40.4	43.8	0.80	1.0	981	981
982.0	982.0	57.1	45.0	18	121	182	132.6	18.68	233	3071	1254	1025	1.11	1.13	40.4	43.8	0.77	1.0	982	982
983.0	983.0	25.5	44.9	21	123	161	132.8	18.72	229	3071	1179	1010	1.11	1.12	39.1	43.8	0.97	1.0	983	983
984.0	984.0	120.0	45.0	16	123	144	132.9	18.73	229	3071	1231	997	1.11	1.12	39.1	43.8	0.60	1.0	984	984
985.0	985.0	85.7	45.0	14	122	165	132.9	18.74	229	3071	1203	989	1.11	1.13	39.2	43.8	0.65	1.0	985	985
986.0	986.0	92.3	45.0	15	122	179	133.1	18.75	229	3071	1240	983	1.11	1.13	39.0	43.8	0.64	1.0	986	986
987.0	987.0	67.9	45.0	13	124	130	133.2	18.77	229	3072	1205	981	1.11	1.12	39.2	43.8	0.68	1.0	987	987
988.0	988.0	81.8	45.0	11	123	155	133.2	18.78	229	3071	1176	979	1.11	1.13	39.2	43.7	0.63	1.0	988	988
989.0	989.0	92.3	45.1	14	122	168	133.4	18.79	228	3071	1225	978	1.11	1.13	39.2	43.6	0.63	1.0	989	989
990.0	990.0	75.0	45.1	16	123	161	133.5	18.80	228	3071	1196	976	1.11	1.12	39.1	43.4	0.70	1.0	990	990
991.0	991.0	124.1	45.1	13	124	148	133.5	18.81	228	3071	1248	974	1.11	1.12	39.1	43.3	0.57	1.0	991	991
992.0	992.0	59.0	45.1	10	124	124	133.6	18.83	228	3071	1236	973	1.11	1.12	39.1	43.1	0.68	1.0	992	992
993.0	993.0	75.0	45.2	14	123	159	133.8	18.84	228	3071	1197	970	1.11	1.13	39.1	43.0	0.67	1.0	993	993
994.0	994.0	81.8	45.2	14	124	145	133.8	18.85	227	3071	1251	967	1.12	1.13	39.2	42.5	0.66	1.0	994	994
995.0	995.0	22.0	45.1	18	124	142	134.2	18.90	227	3071	1240	964	1.11	1.12	39.0	42.9	0.97	1.0	995	995
996.0	996.0	8.8	44.9	32	111	166	134.9	19.01	226	3071	1196	961	1.12	1.13	39.2	43.3	1.31	1.0	996	996
997.0	997.0	9.4	44.7	44	108	204	135.5	19.12	233	3072	1205	956	1.12	1.13	39.1	43.1	1.40	1.0	997	997
998.0	998.0	17.7	44.6	41	102	222	135.8	19.18	232	3073	1230	948	1.12	1.13	39.2	43.1	1.19	1.0	998	998
999.0	999.0	128.6	44.7	33	112	225	135.8	19.18	230	3072	1213	940	1.11	1.12	39.1	43.0	0.67	1.0	999	999
1000.0	1000.0	150.0	44.7	24	112	227	135.8	19.19	229	3072	1232	938	1.11	1.13	39.0	43.0	0.58	1.0	1000	1000
1001.0	1001.0	97.3	44.7	8	122	116	136.0	19.20	229	3072	1233	936	1.12	1.14	39.2	43.0	0.55	1.0	1001	1001
1002.0	1002.0	59.0	44.8	7	121	119	136.1	19.22	229	3073	1245	931	1.12	1.14	39.1	42.9	0.61	1.0	1002	1002
1003.0	1003.0	52.2	44.8	8	121	120	136.2	19.24	232	3072	1223	927	1.12	1.14	39.2	42.8	0.66	1.0	1003	1003
1004.0	1004.0	39.1	44.8	6	119	163	136.4	19.26	234	3072	1240	924	1.12	1.14	39.2	42.7	0.66	1.0	1004	1004
1005.0	1005.0	128.6	44.8	11	118	155	136.4	19.27	235	3071	1197	958	1.12	1.14	39.2	42.6	0.52	1.0	1005	1005
1006.0	1006.0	66.7	44.8	12	117	148	136.4	19.28	232	3072	1203	950	1.12	1.14	39.2	42.5	0.66	1.0	1006	1006
1007.0	1007.0	78.3	44.8	9	119	132	136.6	19.30	235	3071	1212	944	1.12	1.14	39.1	42.5	0.60	1.0	1007	1007
1008.0	1008.0	63.2	44.8	7	129	143	136.7	19.31	235	3072	1210	937	1.12	1.14	39.1	42.4	0.62	1.0	1008	1008
1009.0	1009.0	69.2	44.9	7	132	134	136.9	19.33	235	3071	1195	931	1.12	1.14	39.0	42.3	0.60	1.0	1009	1009
1010.0	1010.0	65.5	44.9	7	132	150	136.9	19.34	232	3071	1220	923	1.12	1.14	38.9	42.2	0.62	1.0	1010	1010
1011.0	1011.0	105.9	44.9	10	132	146	137.0	19.35	233	3072	1241	920	1.12	1.14	38.9	42.2	0.57	1.0	1011	1011
1012.0	1012.0	52.2	44.9	12	131	152	137.2	19.37	233	3072	1227	914	1.12	1.14	38.8	42.1	0.72	1.0	1012	1012
1013.0	1013.0	85.7	44.9	12	131	170	137.2	19.38	234	3071	1208	905	1.12	1.14	38.7	42.1	0.63	1.0	1013	1013
1014.0	1014.0	81.8	45.0	11	131	152	137.4	19.40	235	3072	1222	902	1.12	1.14	38.7	42.1	0.63	1.0	1014	1014
1015.0	1015.0	73.5	45.0	11	132	150	137.4	19.41	232	3071	1225	898	1.12	1.14	38.6	42.1	0.64	1.0	1015	1015
1016.0	1016.0	90.0	45.0	11	132	150	137.5	19.42	234	3072	1193	890	1.12	1.14	38.6	42.0	0.61	1.0	1016	1016
1017.0	1017.0	83.7	45.0	12	130	166	137.5	19.43	233	3072	1243	886	1.12	1.14	38.6	42.0	0.63	1.0	1017	1017
1018.0	1018.0	81.8	45.1	10	131	141	137.7	19.44	235	3071	1223	883	1.12	1.14	38.5	41.9	0.62	1.0	1018	1018
1019.0	1019.0	75.0	45.1	8	132	137	137.7	19.46	233	3072	1173	878	1.12	1.14	38.4	41.9	0.61	1.0	1019	1019
1020.0	1020.0	66.7	45.1	7	133	126	137.9	19.47	232	3072	1216	874	1.12	1.14	38.3	41.9	0.61	1.0	1020	1020
1021.0	1021.0	90.0	45.1	9	132	153	137.9	19.48	234	3072	1250	871	1.12	1.14	38.2	41.8	0.59	1.0	1021	1021
1022.0	1022.0	8.0	44.9	29	123	137	138.9	19.61	233	3073	1235	866	1.12	1.14	38.4	41.5	1.30	1.0	1022	1022
1023.0	1023.0	43.9	44.9	6	125	132	139.0	19.63	235	3073	1176	865	1.12	1.14	38.7	41.3	0.67	1.0	1023	1023
1024.0	1024.0	5.1	44.5	29	109	149	140.3	19.83	235	3073	1215	859	1.12	1.14	38.4	41.7	1.38	1.0	1024	1024
1025.0	1025.0	109.1	44.5	43	118	285	140.3	19.84	233	3073	1215	856	1.12	1.14	38.7	41.7	0.77	1.0	1025	1025

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1025.0	1025.0	109.1	44.5	43	118	285	140.3	19.84	233	3073	1215	856	1.12	1.14	38.7	41.7	0.77	1.0	1025	1025
1026.0	1026.0	138.5	44.5	36	126	188	140.4	19.84	235	3072	1199	853	1.12	1.14	38.7	41.7	0.69	1.0	1026	1026
1027.0	1027.0	72.0	44.6	33	110	246	140.4	19.86	235	3072	1197	855	1.12	1.14	38.8	41.6	0.80	1.0	1027	1027
1028.0	1028.0	116.1	44.6	33	111	236	140.5	19.87	233	3073	1236	856	1.12	1.14	38.8	41.6	0.68	1.0	1028	1028
1029.0	1029.0	48.0	44.6	33	118	190	140.7	19.89	233	3072	1240	856	1.12	1.14	38.9	41.6	0.91	1.0	1029	1029
1030.0	1030.0	59.7	44.6	37	118	176	140.7	19.89	234	3074	1247	854	1.12	1.14	38.9	42.6	0.89	1.0	1030	1030
1031.0	1031.0	156.5	44.7	35	119	166	140.7	19.90	234	3073	1171	856	1.12	1.14	38.9	41.6	0.64	1.0	1031	1031
1032.0	1032.0	7.1	44.4	39	112	174	141.6	20.04	234	3073	1247	849	1.12	1.14	39.0	41.6	1.41	1.0	1032	1032
1033.0	1033.0	13.8	44.3	37	111	171	142.1	20.11	234	3073	1197	830	1.12	1.14	39.0	41.6	1.23	1.0	1033	1033
1034.0	1034.0	67.9	44.3	4	124	193	142.2	20.12	235	3074	1237	820	1.12	1.14	38.4	41.5	0.55	1.0	1034	1034
1035.0	1035.0	92.3	44.3	16	123	204	142.3	20.14	234	3073	1240	810	1.12	1.14	37.8	41.2	0.64	1.0	1035	1035
1036.0	1036.0	150.0	44.4	17	127	206	142.3	20.14	235	3074	1239	803	1.12	1.14	37.7	41.1	0.56	1.0	1036	1036
1037.0	1037.0	85.7	44.4	19	127	213	142.4	20.15	233	3074	1201	800	1.12	1.14	37.6	40.9	0.69	1.0	1037	1037
1038.0	1038.0	109.1	44.4	23	126	237	142.4	20.16	233	3074	1245	799	1.12	1.14	37.6	40.9	0.67	1.0	1038	1038
1039.0	1039.0	124.1	44.5	25	125	251	142.6	20.17	234	3073	1171	798	1.12	1.14	37.5	41.0	0.65	1.0	1039	1039
1040.0	1040.0	97.3	44.5	29	125	248	142.6	20.18	233	3074	1175	799	1.12	1.14	37.5	41.1	0.73	1.0	1040	1040
1041.0	1041.0	105.9	44.5	24	127	219	142.7	20.19	233	3074	1193	800	1.12	1.14	37.5	41.2	0.68	1.0	1041	1041
1042.0	1042.0	69.2	44.5	18	128	189	142.8	20.21	234	3073	1173	794	1.12	1.14	37.5	41.2	0.73	1.0	1042	1042
1043.0	1043.0	116.1	44.6	18	128	181	142.8	20.21	235	3074	1232	775	1.12	1.14	37.5	41.3	0.62	1.0	1043	1043
1044.0	1044.0	105.9	44.6	23	127	212	143.0	20.22	234	3073	1179	773	1.12	1.14	37.5	41.4	0.67	1.0	1044	1044
1045.0	1045.0	128.6	44.6	26	127	252	143.0	20.23	233	3073	1253	772	1.12	1.14	37.5	41.3	0.65	1.0	1045	1045
1046.0	1046.0	100.0	44.7	26	125	241	143.1	20.24	234	3072	1248	769	1.12	1.14	37.5	41.1	0.71	1.0	1046	1046
1047.0	1047.0	116.1	44.7	27	126	249	143.1	20.25	234	3072	1230	769	1.12	1.14	37.5	41.1	0.68	1.0	1047	1047
1048.0	1048.0	100.0	44.7	23	127	206	143.2	20.26	233	3074	1245	770	1.12	1.14	37.6	40.6	0.69	1.0	1048	1048
1049.0	1049.0	83.7	44.7	18	128	184	143.2	20.27	238	3073	1254	770	1.12	1.14	37.6	40.4	0.69	1.0	1049	1049
1050.0	1050.0	102.9	44.8	20	127	198	143.4	20.28	239	3074	1196	769	1.12	1.14	37.7	40.3	0.66	1.0	1050	1050
1051.0	1051.0	112.5	44.8	23	128	197	143.4	20.29	243	3074	1204	771	1.12	1.14	37.8	40.4	0.66	1.0	1051	1051
1052.0	1052.0	54.5	44.8	28	127	196	143.5	20.31	243	3073	1209	768	1.12	1.14	37.8	40.8	0.86	1.0	1052	1052
1053.0	1053.0	40.9	44.8	28	127	205	143.8	20.33	244	3073	1193	764	1.12	1.14	38.0	41.5	0.93	1.0	1053	1053
1054.0	1054.0	80.0	44.8	22	129	171	143.8	20.35	244	3073	1210	764	1.12	1.14	38.2	41.6	0.73	1.0	1054	1054
1055.0	1055.0	87.8	44.9	16	131	140	143.9	20.36	244	3074	1211	766	1.12	1.14	38.3	41.7	0.66	1.0	1055	1055
1056.0	1056.0	85.7	44.9	12	129	163	144.0	20.37	244	3073	1210	767	1.12	1.14	38.5	41.7	0.63	1.0	1056	1056
1057.0	1057.0	100.0	44.9	16	128	188	144.0	20.38	243	3074	1196	769	1.12	1.14	38.6	41.7	0.64	1.0	1057	1057
1058.0	1058.0	80.0	44.9	21	129	174	144.2	20.39	243	3073	1202	766	1.12	1.14	38.7	41.7	0.73	1.0	1058	1058
1059.0	1059.0	22.2	44.9	27	129	166	144.4	20.44	243	3073	1199	761	1.12	1.14	38.9	41.7	1.06	1.0	1059	1059
1060.0	1060.0	15.3	44.8	30	126	159	145.0	20.50	243	3074	1206	747	1.12	1.14	39.2	41.8	1.17	1.0	1060	1060
1061.0	1061.0	11.8	44.6	36	117	198	145.6	20.59	241	3074	1213	738	1.12	1.14	39.3	41.9	1.27	1.0	1061	1061
1062.0	1062.0	112.5	44.7	29	115	180	145.6	20.60	241	3074	1195	741	1.12	1.14	39.3	41.8	0.68	1.0	1062	1062
1063.0	1063.0	54.5	44.7	4	116	173	145.8	20.61	240	3074	1208	762	1.12	1.14	39.1	41.8	0.57	1.0	1063	1063
1064.0	1064.0	22.8	44.6	22	125	153	146.0	20.66	240	3074	1201	783	1.12	1.14	39.1	41.8	1.00	1.0	1064	1064
1065.0	1065.0	102.9	44.7	21	116	195	146.1	20.67	240	3074	1210	793	1.12	1.14	39.1	41.8	0.65	1.0	1065	1065
1066.0	1066.0	112.5	44.7	17	117	170	146.1	20.68	240	3074	1201	795	1.12	1.14	39.2	41.8	0.60	1.0	1066	1066
1067.0	1067.0	109.2	44.7	23	117	178	146.3	20.69	240	3074	1194	798	1.12	1.14	39.0	41.8	0.65	1.0	1067	1067
1068.0	1068.0	100.0	44.7	18	116	186	146.3	20.70	240	3074	1206	798	1.12	1.14	39.2	41.8	0.63	1.0	1068	1068
1069.0	1069.0	116.1	44.8	24	116	201	146.4	20.70	240	3074	1199	803	1.12	1.14	39.2	41.8	0.64	1.0	1069	1069
1070.0	1070.0	24.3	44.7	27	116	184	146.6	20.75	240	3074	1212	803	1.12	1.14	39.2	41.8	1.01	1.0	1070	1070
1071.0	1071.0	138.5	44.8	24	115	210	146.6	20.75	240	3074	1209	807	1.12	1.14	39.1	41.9	0.60	1.0	1071	1071
1072.0	1072.0	112.5	44.8	24	114	209	146.8	20.76	240	3074	1199	811	1.12	1.14	39.1	41.9	0.65	1.0	1072	1072
1073.0	1073.0	56.3	44.8	31	114	227	146.9	20.78	240	3074	1213	818	1.12	1.14	39.1	41.9	0.85	1.0	1073	1073
1074.0	1074.0	56.3	44.8	28	115	202	147.0	20.80	240	3074	1210	830	1.12	1.14	39.1	41.9	0.83	1.0	1074	1074

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1074.0	1074.0	56.3	44.8	28	115	202	147.0	20.80	240	3074	1210	830	1.12	1.14	39.1	41.9	0.83	1.0	1074	1074
1075.0	1075.0	52.9	44.8	20	117	167	147.1	20.82	240	3074	1199	842	1.12	1.14	39.2	41.9	0.78	1.0	1075	1075
1076.0	1076.0	75.0	44.8	20	116	192	147.1	20.83	240	3074	1201	856	1.12	1.14	39.0	41.9	0.71	1.0	1076	1076
1077.0	1077.0	81.8	44.9	20	115	196	147.3	20.84	240	3074	1207	863	1.12	1.14	39.2	41.9	0.68	1.0	1077	1077
1078.0	1078.0	36.0	44.9	26	115	204	147.4	20.87	240	3074	1203	873	1.12	1.14	39.1	41.9	0.91	1.0	1078	1078
1079.0	1079.0	13.3	44.7	30	117	180	147.9	20.94	240	3074	1208	904	1.12	1.14	39.2	41.9	1.18	1.0	1079	1079
1080.0	1080.0	47.4	44.7	28	121	187	148.1	20.97	240	3074	1208	933	1.12	1.14	39.1	41.9	0.88	1.0	1080	1080
1081.0	1081.0	59.0	44.8	24	122	172	148.2	20.98	240	3074	1211	943	1.12	1.14	39.0	41.9	0.80	1.0	1081	1081
1082.0	1082.0	78.3	44.8	15	123	178	148.3	21.00	240	3074	1206	952	1.12	1.14	39.2	41.9	0.66	1.0	1082	1082
1083.0	1083.0	97.3	44.8	21	123	167	148.3	21.01	240	3074	1210	960	1.12	1.14	39.1	41.9	0.67	1.0	1083	1083
1084.0	1084.0	58.1	44.8	20	127	166	148.5	21.02	240	3074	1199	967	1.12	1.14	39.2	41.9	0.78	1.0	1084	1084
1085.0	1085.0	63.2	44.8	24	117	200	148.6	21.04	240	3074	1201	976	1.12	1.14	39.2	41.9	0.78	1.0	1085	1085
1086.0	1086.0	39.6	44.8	21	118	170	148.8	21.06	240	3074	1203	986	1.12	1.14	39.1	41.9	0.86	1.0	1086	1086
1087.0	1087.0	92.3	44.8	19	118	165	148.9	21.07	240	3074	1202	998	1.12	1.14	39.2	41.9	0.66	1.0	1087	1087
1088.0	1088.0	85.7	44.9	15	118	178	148.9	21.09	240	3074	1199	1005	1.12	1.14	39.2	41.9	0.64	1.0	1088	1088
1089.0	1089.0	100.0	44.9	18	117	191	149.1	21.10	240	3074	1205	1010	1.12	1.14	39.1	41.9	0.63	1.0	1089	1089
1090.0	1090.0	80.0	44.9	25	118	178	149.1	21.11	240	3074	1210	1017	1.12	1.14	39.1	41.9	0.73	1.0	1090	1090
1091.0	1091.0	72.0	44.9	21	120	138	149.2	21.12	240	3074	1207	1022	1.12	1.14	39.2	41.9	0.73	1.0	1091	1091
1092.0	1092.0	32.7	44.9	14	122	193	149.4	21.15	240	3074	1202	1034	1.12	1.14	39.1	41.9	0.82	1.0	1092	1092
1093.0	1093.0	40.4	44.9	16	140	157	149.5	21.18	240	3074	1206	1062	1.12	1.14	39.1	41.8	0.83	1.0	1093	1093
1094.0	1094.0	34.0	44.9	19	136	166	149.9	21.21	240	3074	1206	1045	1.12	1.14	39.0	41.8	0.90	1.0	1094	1094
1095.0	1095.0	61.0	44.9	25	129	194	150.0	21.22	240	3074	1198	1029	1.12	1.14	38.9	41.8	0.81	1.0	1095	1095
1096.0	1096.0	78.3	44.9	19	129	184	150.0	21.24	240	3074	1211	1019	1.12	1.14	38.9	41.8	0.71	1.0	1096	1096
1097.0	1097.0	87.8	44.9	21	129	196	150.2	21.25	240	3074	1206	1013	1.12	1.14	38.9	41.8	0.70	1.0	1097	1097
1098.0	1098.0	150.0	45.0	23	129	181	150.2	21.25	240	3074	1193	1010	1.12	1.14	38.9	41.8	0.61	1.0	1098	1098
1099.0	1099.0	65.5	45.0	19	135	182	150.3	21.27	240	3074	1204	1006	1.12	1.14	38.8	41.9	0.76	1.0	1099	1099
1100.0	1100.0	92.3	45.0	17	139	191	150.3	21.28	240	3074	1212	1001	1.12	1.14	38.8	41.9	0.68	1.0	1100	1100
1101.0	1101.0	80.0	45.0	17	139	168	150.5	21.29	240	3074	1209	1001	1.12	1.14	38.8	41.9	0.71	1.0	1101	1101
1102.0	1102.0	94.7	45.1	17	139	176	150.6	21.30	240	3074	1194	1000	1.12	1.14	38.8	41.8	0.67	1.0	1102	1102
1103.0	1103.0	116.1	45.1	18	139	189	150.6	21.31	240	3074	1204	1000	1.12	1.14	38.9	41.9	0.64	1.0	1103	1103
1104.0	1104.0	102.9	45.1	17	139	183	150.8	21.32	240	3074	1204	998	1.12	1.14	38.9	41.8	0.66	1.0	1104	1104
1105.0	1105.0	116.1	45.1	18	139	190	150.8	21.33	240	3074	1200	996	1.12	1.14	38.9	41.8	0.63	1.0	1105	1105
1106.0	1106.0	59.0	45.2	19	139	180	150.9	21.35	240	3074	1199	995	1.12	1.14	38.9	41.8	0.79	1.0	1106	1106
1107.0	1107.0	58.1	45.2	20	139	173	151.1	21.37	240	3074	1209	993	1.12	1.14	38.9	41.9	0.80	1.0	1107	1107
1108.0	1108.0	15.5	45.1	29	122	151	151.6	21.43	240	3074	1210	992	1.12	1.14	39.0	41.8	1.15	1.0	1108	1108
1109.0	1109.0	12.5	45.0	39	116	184	152.1	21.51	240	3074	1212	989	1.12	1.14	39.1	41.8	1.29	1.0	1109	1109
1110.0	1110.0	39.1	45.0	31	131	205	152.2	21.52	240	3074	1193	984	1.12	1.14	39.1	41.8	0.97	1.0	1110	1110
1111.0	1111.0	41.9	45.0	32	131	219	152.3	21.54	240	3074	1212	983	1.12	1.14	39.1	41.8	0.96	1.0	1111	1111
1112.0	1112.0	49.3	45.0	34	130	229	152.4	21.56	240	3074	1199	982	1.12	1.14	39.1	41.8	0.93	1.0	1112	1112
1113.0	1113.0	38.7	45.0	36	130	249	152.7	21.59	240	3074	1209	980	1.12	1.14	39.2	41.7	1.00	1.0	1113	1113
1114.0	1114.0	52.9	45.0	32	131	219	152.9	21.61	241	3074	1210	978	1.12	1.14	39.2	41.7	0.90	1.0	1114	1114
1115.0	1115.0	41.4	45.0	30	131	214	153.0	21.63	238	3074	1210	975	1.12	1.14	39.1	41.7	0.94	1.0	1115	1115
1116.0	1116.0	45.6	45.0	31	131	208	153.1	21.65	236	3074	1200	973	1.12	1.14	39.1	41.7	0.93	1.0	1116	1116
1117.0	1117.0	56.3	45.0	24	132	187	153.3	21.67	236	3074	1211	972	1.12	1.14	39.1	41.7	0.83	1.0	1117	1117
1118.0	1118.0	64.3	45.0	26	131	177	153.4	21.69	236	3074	1193	974	1.12	1.14	39.1	41.7	0.82	1.0	1118	1118
1119.0	1119.0	10.5	44.9	29	127	181	154.1	21.78	236	3074	1194	971	1.12	1.14	39.1	41.8	1.25	1.0	1119	1119
1120.0	1120.0	83.7	44.9	29	120	220	154.2	21.79	236	3073	1198	969	1.12	1.14	39.1	41.8	0.75	1.0	1120	1120
1121.0	1121.0	20.0	44.8	25	120	226	154.3	21.84	238	3073	1193	978	1.12	1.14	39.1	41.8	1.04	1.0	1121	1121
1122.0	1122.0	94.7	44.8	17	119	202	154.3	21.85	239	3074	1208	968	1.12	1.14	38.8	41.9	0.64	1.0	1122	1122
1123.0	1123.0	69.2	44.9	17	120	191	154.5	21.87	239	3073	1195	961	1.12	1.14	38.8	41.9	0.70	1.0	1123	1123

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1123.0	1123.0	69.2	44.9	17	120	191	154.5	21.87	239	3073	1195	961	1.12	1.14	38.8	41.9	0.70	1.0	1123	1123
1124.0	1124.0	66.7	44.9	13	121	156	154.6	21.88	238	3074	1213	960	1.12	1.14	38.8	41.9	0.68	1.0	1124	1124
1125.0	1125.0	67.9	44.9	16	120	188	154.7	21.90	239	3074	1212	959	1.12	1.14	38.8	41.9	0.70	1.0	1125	1125
1126.0	1126.0	50.7	44.9	16	124	183	154.9	21.92	239	3073	1207	960	1.12	1.14	38.9	41.9	0.76	1.0	1126	1126
1127.0	1127.0	58.1	44.9	17	127	157	154.9	21.93	239	3074	1211	960	1.12	1.14	38.9	41.9	0.76	1.0	1127	1127
1128.0	1128.0	72.0	44.9	18	125	195	155.0	21.94	238	3073	1213	961	1.12	1.14	38.9	41.9	0.72	1.0	1128	1128
1129.0	1129.0	49.3	44.9	17	126	185	155.1	21.96	238	3074	1212	962	1.12	1.14	38.9	41.9	0.79	1.0	1129	1129
1130.0	1130.0	67.9	45.0	19	128	155	155.3	21.98	238	3074	1207	965	1.12	1.14	39.0	41.9	0.74	1.0	1130	1130
1131.0	1131.0	30.0	44.9	25	122	175	155.5	22.01	239	3074	1206	966	1.12	1.14	39.0	42.0	0.96	1.0	1131	1131
1132.0	1132.0	70.6	45.0	21	120	184	155.5	22.02	239	3074	1204	966	1.12	1.14	39.0	42.0	0.74	1.0	1132	1132
1133.0	1133.0	94.7	45.0	25	118	222	155.7	22.03	238	3074	1206	969	1.12	1.14	39.0	42.0	0.69	1.0	1133	1133
1134.0	1134.0	94.7	45.0	23	119	201	155.7	22.04	239	3074	1193	971	1.12	1.14	39.0	42.0	0.69	1.0	1134	1134
1135.0	1135.0	71.1	45.0	25	119	189	155.8	22.05	238	3074	1196	972	1.12	1.14	39.0	42.0	0.76	1.0	1135	1135
1136.0	1136.0	57.1	45.0	22	120	188	156.0	22.07	239	3074	1210	971	1.12	1.14	39.1	42.0	0.79	1.0	1136	1136
1137.0	1137.0	59.3	45.1	22	118	214	156.0	22.08	238	3074	1204	972	1.12	1.14	39.1	42.0	0.78	1.0	1137	1137
1138.0	1138.0	65.5	45.1	23	119	190	156.1	22.10	238	3074	1210	972	1.12	1.14	39.1	42.0	0.76	1.0	1138	1138
1139.0	1139.0	80.0	45.1	22	118	218	156.2	22.11	239	3074	1209	972	1.12	1.14	39.1	42.0	0.71	1.0	1139	1139
1140.0	1140.0	72.0	45.1	23	117	241	156.2	22.12	238	3074	1198	971	1.12	1.14	39.2	42.0	0.74	1.0	1140	1140
1141.0	1141.0	87.8	45.1	23	120	193	156.4	22.13	239	3074	1208	973	1.12	1.14	39.2	42.0	0.70	1.0	1141	1141
1142.0	1142.0	56.3	45.1	24	121	177	156.5	22.15	239	3074	1212	970	1.12	1.14	39.2	42.0	0.81	1.0	1142	1142
1143.0	1143.0	17.9	45.1	26	120	161	156.9	22.21	238	3074	1209	970	1.12	1.14	39.2	42.1	1.08	1.0	1143	1143
1144.0	1144.0	62.1	45.1	28	115	188	157.0	22.22	239	3074	1203	963	1.12	1.14	39.3	42.1	0.80	1.0	1144	1144
1145.0	1145.0	21.2	45.0	28	115	160	157.3	22.27	239	3074	1212	964	1.12	1.14	39.4	42.1	1.05	1.0	1145	1145
1146.0	1146.0	32.7	45.0	27	112	159	157.5	22.30	238	3074	1197	960	1.12	1.14	39.5	42.1	0.94	1.0	1146	1146
1147.0	1147.0	92.3	45.0	29	110	196	157.5	22.31	238	3074	1210	959	1.12	1.14	39.5	42.2	0.71	1.0	1147	1147
1148.0	1148.0	8.6	44.9	32	112	152	158.3	22.43	240	3074	1195	952	1.12	1.14	39.6	42.3	1.30	1.0	1148	1148
1149.0	1149.0	3.6	44.4	39	106	151	160.0	22.71	242	3074	1212	921	1.12	1.14	39.6	42.6	1.57	1.0	1149	1149
1150.0	1150.0	4.6	44.0	48	105	185	161.3	22.92	243	3074	1205	887	1.12	1.14	39.4	42.4	1.59	1.0	1150	1150
1151.0	1151.0	34.6	44.0	40	99	235	161.5	22.95	243	3073	1202	842	1.12	1.14	39.5	42.4	1.00	1.0	1151	1151
1152.0	1152.0	45.0	44.0	39	99	248	161.6	22.97	243	3074	1213	832	1.12	1.14	39.6	42.5	0.92	1.0	1152	1152
1153.0	1153.0	40.0	44.0	35	101	212	161.8	23.00	244	3074	1220	829	1.12	1.14	39.4	42.5	0.93	1.0	1153	1153
1154.0	1154.0	31.0	43.9	38	106	258	161.9	23.03	244	3074	1226	827	1.12	1.14	39.6	42.5	1.02	1.0	1154	1154
1155.0	1155.0	28.1	43.9	43	109	265	162.1	23.07	245	3073	1210	826	1.12	1.14	39.6	42.4	1.09	1.0	1155	1155
1156.0	1156.0	12.0	43.8	43	113	195	162.7	23.15	245	3074	1226	823	1.12	1.14	39.6	42.3	1.32	1.0	1156	1156
1157.0	1157.0	22.8	43.8	43	107	204	163.0	23.19	246	3074	1227	825	1.12	1.14	39.4	42.3	1.14	1.0	1157	1157
1158.0	1158.0	65.5	43.8	42	103	263	163.0	23.21	245	3074	1226	825	1.12	1.14	39.5	42.3	0.86	1.0	1158	1158
1159.0	1159.0	83.7	43.8	40	101	294	163.1	23.22	245	3074	1213	824	1.12	1.14	39.5	42.3	0.78	1.0	1159	1159
1160.0	1160.0	87.8	43.8	39	105	237	163.2	23.23	245	3074	1219	825	1.12	1.14	39.5	42.3	0.77	1.0	1160	1160
1161.0	1161.0	5.8	43.5	43	110	151	164.3	23.40	245	3074	1216	819	1.12	1.14	39.6	42.3	1.50	1.0	1161	1161
1162.0	1162.0	8.9	43.4	46	107	192	165.0	23.52	244	3074	1222	812	1.12	1.14	39.5	42.3	1.41	1.0	1162	1162
1163.0	1163.0	97.3	43.4	22	106	211	165.1	23.53	243	3074	1229	809	1.12	1.14	39.6	42.3	0.65	1.0	1163	1163
1164.0	1164.0	53.7	43.4	29	106	212	165.2	23.55	243	3074	1212	810	1.12	1.14	39.7	42.3	0.83	1.0	1164	1164
1165.0	1165.0	52.9	43.4	36	105	248	165.4	23.56	243	3074	1224	810	1.12	1.14	39.7	42.3	0.88	1.0	1165	1165
1166.0	1166.0	33.0	43.4	39	104	260	165.5	23.59	243	3074	1217	809	1.12	1.14	39.7	42.3	1.01	1.0	1166	1166
1167.0	1167.0	31.6	43.4	41	104	264	165.7	23.63	243	3074	1226	802	1.12	1.14	39.7	42.3	1.04	1.0	1167	1167
1168.0	1168.0	15.1	43.3	44	110	230	166.1	23.69	244	3074	1218	796	1.12	1.14	39.7	42.3	1.26	1.0	1168	1168
1169.0	1169.0	44.4	43.3	40	109	255	166.2	23.72	244	3074	1211	791	1.12	1.14	39.7	42.3	0.96	1.0	1169	1169
1170.0	1170.0	48.6	43.3	42	107	277	166.3	23.74	243	3074	1223	790	1.12	1.14	39.7	42.3	0.94	1.0	1170	1170
1171.0	1171.0	36.7	43.3	40	108	253	166.6	23.76	243	3074	1216	788	1.12	1.14	39.7	42.4	1.00	1.0	1171	1171
1172.0	1172.0	39.6	43.3	35	111	212	166.7	23.79	243	3074	1228	787	1.12	1.14	39.7	42.4	0.95	1.0	1172	1172

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1172.0	1172.0	39.6	43.3	35	111	212	166.7	23.79	243	3074	1228	787	1.12	1.14	39.7	42.4	0.95	1.0	1172	1172
1173.0	1173.0	43.9	43.3	34	114	218	166.8	23.81	244	3074	1225	788	1.12	1.14	39.8	42.4	0.93	1.0	1173	1173
1174.0	1174.0	4.8	43.0	40	112	154	168.2	24.02	242	3074	1216	786	1.12	1.14	39.8	42.4	1.52	1.0	1174	1174
1175.0	1175.0	76.6	43.0	43	105	257	168.3	24.03	242	3074	1229	814	1.12	1.14	39.8	42.4	0.83	1.0	1175	1175
1176.0	1176.0	21.7	42.9	39	110	157	168.5	24.08	242	3073	1226	813	1.12	1.14	39.8	42.4	1.13	1.0	1176	1176
1177.0	1177.0	85.7	43.0	34	105	249	168.6	24.09	242	3073	1216	812	1.12	1.14	39.8	42.4	0.75	1.0	1177	1177
1178.0	1178.0	42.4	43.0	31	103	239	168.8	24.11	242	3073	1218	823	1.12	1.14	39.8	42.4	0.89	1.0	1178	1178
1179.0	1179.0	27.7	42.9	29	102	210	169.0	24.15	242	3074	1224	952	1.12	1.14	40.2	42.4	0.98	1.0	1179	1179
1180.0	1180.0	38.3	42.9	34	110	236	169.1	24.17	242	3073	1220	939	1.12	1.14	40.2	42.5	0.96	1.0	1180	1180
1181.0	1181.0	22.6	42.9	33	111	219	169.3	24.22	245	3073	1224	921	1.12	1.14	40.1	42.5	1.07	1.0	1181	1181
1182.0	1182.0	28.8	42.9	36	110	233	169.6	24.25	245	3073	1224	915	1.12	1.14	40.0	42.5	1.04	1.0	1182	1182
1183.0	1183.0	30.3	42.9	36	110	235	169.9	24.29	245	3073	1227	912	1.12	1.14	40.0	42.5	1.03	1.0	1183	1183
1184.0	1184.0	32.7	42.9	35	110	231	170.0	24.32	245	3073	1222	909	1.12	1.14	40.0	42.5	1.00	1.0	1184	1184
1185.0	1185.0	30.0	42.8	34	110	226	170.2	24.35	245	3074	1226	911	1.12	1.14	40.0	42.5	1.01	1.0	1185	1185
1186.0	1186.0	25.9	42.8	37	110	236	170.5	24.39	245	3073	1216	919	1.12	1.14	40.1	42.5	1.07	1.0	1186	1186
1187.0	1187.0	25.9	42.8	40	109	255	170.7	24.43	245	3073	1217	918	1.12	1.14	40.2	42.5	1.09	1.0	1187	1187
1188.0	1188.0	56.3	42.8	37	110	227	170.8	24.45	245	3073	1220	916	1.12	1.14	40.3	42.6	0.88	1.0	1188	1188
1189.0	1189.0	44.4	42.8	37	109	256	170.9	24.47	245	3073	1219	915	1.12	1.14	40.3	42.6	0.94	1.0	1189	1189
1190.0	1190.0	24.5	42.8	34	110	224	171.2	24.51	245	3074	1216	913	1.12	1.14	40.4	42.6	1.06	1.0	1190	1190
1191.0	1191.0	25.2	42.7	36	109	248	171.5	24.55	245	3074	1221	908	1.12	1.14	40.4	42.6	1.07	1.0	1191	1191
1192.0	1192.0	19.0	42.7	37	109	251	171.8	24.60	245	3074	1226	903	1.12	1.14	40.5	42.6	1.14	1.0	1192	1192
1193.0	1193.0	23.2	42.6	36	110	242	172.0	24.64	246	3074	1223	898	1.12	1.14	40.6	42.6	1.09	1.0	1193	1193
1194.0	1194.0	14.6	42.6	36	111	219	172.5	24.71	245	3074	1219	895	1.12	1.14	40.7	42.6	1.21	1.0	1194	1194
1195.0	1195.0	22.8	42.5	36	119	233	172.8	24.76	245	3074	1222	891	1.12	1.14	40.8	42.7	1.11	1.0	1195	1195
1196.0	1196.0	20.9	42.5	36	119	260	173.2	24.80	245	3074	1222	893	1.12	1.14	40.8	42.7	1.13	1.0	1196	1196
1197.0	1197.0	23.4	42.5	37	120	248	173.4	24.85	245	3074	1215	893	1.12	1.14	40.9	42.7	1.12	1.0	1197	1197
1198.0	1198.0	17.4	42.4	36	120	236	173.8	24.90	245	3073	1227	889	1.12	1.14	40.9	42.7	1.18	1.0	1198	1198
1199.0	1199.0	18.7	42.4	35	121	228	174.2	24.96	245	3073	1222	885	1.12	1.14	40.9	42.7	1.16	1.0	1199	1199
1200.0	1200.0	17.1	42.3	37	121	233	174.6	25.02	245	3073	1210	881	1.12	1.14	41.0	42.7	1.19	1.0	1200	1200
1201.0	1201.0	21.1	42.3	35	121	221	175.0	25.06	245	3073	1220	876	1.12	1.14	41.0	42.7	1.13	1.0	1201	1201
1202.0	1202.0	22.6	42.2	35	120	241	175.2	25.11	245	3073	1228	872	1.12	1.14	41.1	42.8	1.11	1.0	1202	1202
1203.0	1203.0	24.0	42.2	35	120	245	175.5	25.15	245	3073	1225	868	1.12	1.14	41.1	42.8	1.10	1.0	1203	1203
1204.0	1204.0	19.4	42.1	35	119	260	175.9	25.20	245	3073	1211	866	1.12	1.14	41.1	42.8	1.15	1.0	1204	1204
1205.0	1205.0	17.6	42.1	33	120	243	176.3	25.26	245	3073	1220	870	1.12	1.14	41.1	42.8	1.15	1.0	1205	1205
1206.0	1206.0	19.3	42.0	36	120	236	176.6	25.31	245	3073	1220	867	1.12	1.14	41.3	42.8	1.16	1.0	1206	1206
1207.0	1207.0	20.0	42.1	33	120	243	176.9	25.30	245	3073	1216	870	1.12	1.14	41.1	42.8	1.12	1.0	1207	1207
1208.0	1208.0	19.8	42.1	36	120	236	177.3	25.33	245	3073	1216	867	1.12	1.15	41.3	42.8	1.15	1.0	1208	1208

Bit Run 3 - HC - AG-526
1209 to 1757 m

1209.0	1209.0	21.0	21.0	2	161	78	1.0	0.05	158	1742	678	1522	1.12	1.15	22.3	25.5	0.76	1.0	1209	1209
1210.0	1210.0	25.2	25.0	3	189	78	1.3	0.08	177	1753	758	1392	1.12	1.15	22.2	27.7	0.75	1.0	1210	1210
1211.0	1211.0	24.3	25.0	2	192	99	1.9	0.12	176	1785	755	1351	1.12	1.15	22.2	27.8	0.75	1.0	1211	1211
1212.0	1212.0	40.4	26.7	4	195	97	2.2	0.15	180	1845	773	965	1.12	1.15	22.2	27.2	0.73	1.0	1212	1212
1213.0	1213.0	31.3	27.5	8	193	76	2.6	0.18	178	1944	762	965	1.12	1.15	22.5	27.4	0.88	1.0	1213	1213
1214.0	1214.0	13.6	23.5	7	195	71	3.4	0.26	177	1936	759	968	1.12	1.15	22.7	27.6	1.02	1.0	1214	1214
1215.0	1215.0	37.1	24.8	7	199	84	3.8	0.28	185	1934	792	974	1.12	1.15	22.1	27.8	0.83	1.0	1215	1215
1216.0	1216.0	29.0	25.3	6	196	101	4.2	0.32	184	2004	787	973	1.12	1.15	22.8	27.8	0.86	1.0	1216	1216
1217.0	1217.0	116.1	27.7	7	213	154	4.2	0.33	185	2001	791	973	1.12	1.15	22.8	27.9	0.64	1.0	1217	1217
1218.0	1218.0	87.8	29.7	8	225	181	4.5	0.34	181	2064	777	970	1.12	1.15	22.8	27.9	0.71	1.0	1218	1218
1219.0	1219.0	109.1	31.8	7	220	215	4.5	0.35	181	2086	777	973	1.12	1.15	22.2	27.9	0.66	1.0	1219	1219
1220.0	1220.0	105.9	33.8	7	215	169	4.7	0.36	182	2081	777	972	1.12	1.15	22.5	28.0	0.66	1.0	1220	1220

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1220.0	1220.0	105.9	33.8	7	215	169	4.7	0.36	182	2081	777	972	1.12	1.15	22.5	28.0	0.66	1.0	1220	1220
1221.0	1221.0	144.0	35.9	7	216	134	4.7	0.36	182	2085	777	972	1.12	1.15	22.4	28.0	0.60	1.0	1221	1221
1222.0	1222.0	97.3	37.6	8	217	216	4.9	0.37	182	2092	778	969	1.12	1.15	22.6	28.0	0.68	1.0	1222	1222
1223.0	1223.0	105.9	39.3	8	214	221	4.9	0.38	186	2174	798	970	1.12	1.15	22.9	28.1	0.67	1.0	1223	1223
1224.0	1224.0	144.0	41.1	7	227	224	5.1	0.39	196	2154	838	968	1.12	1.15	22.2	28.2	0.61	1.0	1224	1224
1225.0	1225.0	97.3	42.6	8	224	178	5.1	0.40	197	2322	842	969	1.12	1.16	22.7	28.2	0.69	1.0	1225	1225
1226.0	1226.0	102.9	44.0	7	228	172	5.4	0.41	200	2308	854	972	1.12	1.16	22.4	28.2	0.67	1.0	1226	1226
1227.0	1227.0	97.3	45.3	7	232	135	5.4	0.42	199	2263	852	968	1.12	1.16	22.8	28.3	0.68	1.0	1227	1227
1228.0	1228.0	75.0	46.2	7	228	163	5.6	0.43	199	2318	853	967	1.12	1.16	22.4	28.4	0.73	1.0	1228	1228
1229.0	1229.0	105.9	47.5	8	230	175	5.8	0.44	199	2296	853	967	1.12	1.16	22.2	28.4	0.68	1.0	1229	1229
1230.0	1230.0	62.1	48.0	8	232	146	6.1	0.46	199	2265	853	969	1.12	1.16	22.6	28.4	0.79	1.0	1230	1230
1231.0	1231.0	75.0	48.8	8	230	112	6.1	0.47	200	2267	855	969	1.12	1.16	22.3	28.5	0.74	1.0	1231	1231
1232.0	1232.0	78.3	49.6	8	227	138	6.3	0.48	199	2284	850	969	1.12	1.16	22.9	28.5	0.75	1.0	1232	1232
1233.0	1233.0	52.9	49.7	11	199	102	6.6	0.50	199	2264	852	967	1.12	1.16	23.1	28.4	0.84	1.0	1233	1233
1234.0	1234.0	29.0	48.4	10	222	214	7.1	0.54	193	2341	825	940	1.12	1.16	23.3	27.8	0.97	1.0	1234	1234
1235.0	1235.0	33.0	47.5	5	235	174	7.5	0.57	198	2288	847	934	1.12	1.15	22.8	27.8	0.82	1.0	1235	1235
1236.0	1236.0	58.0	49.0	6	229	126	7.5	0.57	197	2344	841	934	1.12	1.15	23.3	27.8	0.75	1.0	1236	1236
1237.0	1237.0	42.0	50.6	7	225	277	7.5	0.57	195	2422	835	933	1.12	1.16	23.3	27.8	0.84	1.0	1237	1237
1238.0	1238.0	62.0	52.0	8	225	293	7.5	0.58	197	2382	844	927	1.12	1.16	23.3	27.8	0.79	1.0	1238	1238
1239.0	1239.0	59.0	53.5	6	235	133	7.5	0.58	203	2141	870	929	1.12	1.15	22.9	27.8	0.77	1.0	1239	1239
1240.0	1240.0	65.0	55.0	7	236	138	7.5	0.58	198	2366	849	934	1.12	1.16	23.1	27.8	0.76	1.0	1240	1240
1241.0	1241.0	88.0	56.3	7	224	65	7.7	0.59	199	2326	850	932	1.12	1.16	23.0	27.8	0.70	1.0	1241	1241
1242.0	1242.0	111.0	57.6	8	223	247	7.7	0.59	197	2396	845	930	1.12	1.16	23.2	27.8	0.66	1.0	1242	1242
1243.0	1243.0	171.4	58.7	7	231	51	7.7	0.60	199	2310	850	928	1.12	1.16	23.4	27.8	0.59	1.0	1243	1243
1244.0	1244.0	123.0	60.1	9	230	142	7.7	0.60	198	2382	846	927	1.12	1.16	22.9	27.8	0.67	1.0	1244	1244
1245.0	1245.0	99.0	61.4	7	242	116	7.7	0.60	198	2249	849	928	1.12	1.16	23.2	27.8	0.69	1.0	1245	1245
1246.0	1246.0	76.6	61.8	7	232	170	8.0	0.62	197	2346	844	931	1.12	1.15	23.0	27.8	0.72	1.0	1246	1246
1247.0	1247.0	87.8	62.2	7	233	193	8.3	0.63	197	2311	844	928	1.12	1.15	23.3	27.8	0.70	1.0	1247	1247
1248.0	1248.0	94.7	62.8	7	237	174	8.3	0.64	197	2308	842	929	1.12	1.15	23.1	27.9	0.69	1.0	1248	1248
1249.0	1249.0	120.0	63.5	6	240	132	8.5	0.65	200	2236	856	931	1.12	1.15	23.6	27.9	0.64	1.0	1249	1249
1250.0	1250.0	73.5	63.7	6	227	175	8.5	0.66	191	2280	842	928	1.12	1.15	24.3	27.9	0.72	1.0	1250	1250
1251.0	1251.0	116.1	64.4	8	226	216	8.8	0.67	181	2277	846	928	1.12	1.15	24.8	27.9	0.66	1.0	1251	1251
1252.0	1252.0	43.4	63.7	8	226	210	9.0	0.69	185	2232	845	930	1.12	1.15	23.3	28.0	0.85	1.0	1252	1252
1253.0	1253.0	87.8	64.1	6	216	191	9.2	0.70	192	2253	824	930	1.12	1.16	24.9	28.3	0.67	1.0	1253	1253
1254.0	1254.0	128.6	64.8	5	225	202	9.2	0.71	193	2283	828	929	1.12	1.16	25.0	28.3	0.58	1.0	1254	1254
1255.0	1255.0	69.2	64.9	5	224	149	9.4	0.72	196	2239	841	932	1.12	1.16	24.9	28.3	0.70	1.0	1255	1255
1256.0	1256.0	90.0	65.3	5	227	241	9.4	0.74	197	2282	842	928	1.12	1.16	23.6	28.3	0.65	1.0	1256	1256
1257.0	1257.0	95.0	66.4	6	224	177	9.7	0.74	199	2283	851	926	1.12	1.16	24.2	28.3	0.66	1.0	1257	1257
1258.0	1258.0	94.7	66.8	5	224	151	9.7	0.75	200	2209	857	927	1.12	1.16	23.9	28.3	0.63	1.0	1258	1258
1259.0	1259.0	75.0	66.9	4	229	132	9.9	0.76	197	2276	845	924	1.12	1.16	24.5	28.3	0.66	1.0	1259	1259
1260.0	1260.0	87.8	67.2	4	229	148	10.2	0.77	198	2279	846	921	1.12	1.15	25.2	28.4	0.65	1.0	1260	1260
1261.0	1261.0	94.7	67.6	6	232	212	10.2	0.78	196	2361	839	923	1.12	1.16	23.5	28.4	0.68	1.0	1261	1261
1262.0	1262.0	34.6	66.4	9	232	106	10.5	0.81	196	2219	837	952	1.12	1.15	24.7	26.8	0.92	1.0	1262	1262
1263.0	1263.0	138.5	67.1	11	238	151	10.8	0.82	193	2228	825	961	1.12	1.15	24.0	28.2	0.69	1.0	1263	1263
1264.0	1264.0	116.1	67.6	13	226	220	10.8	0.83	193	2436	826	956	1.12	1.15	24.9	28.6	0.74	1.0	1264	1264
1265.0	1265.0	144.0	68.2	10	232	221	10.8	0.84	196	2308	839	943	1.12	1.15	25.3	28.6	0.67	1.0	1265	1265
1266.0	1266.0	133.3	68.8	10	232	230	11.0	0.84	197	2350	842	936	1.12	1.15	25.3	28.5	0.68	1.0	1266	1266
1267.0	1267.0	62.1	68.7	10	236	181	11.3	0.86	198	2364	847	923	1.12	1.15	24.9	28.3	0.83	1.0	1267	1267
1268.0	1268.0	128.6	69.2	10	240	225	11.3	0.87	195	2383	836	908	1.12	1.15	25.0	28.3	0.68	1.0	1268	1268
1269.0	1269.0	97.3	69.5	9	237	164	11.5	0.88	197	2365	844	894	1.12	1.16	25.3	28.3	0.73	1.0	1269	1269

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB		AMPS	BIT	BIT		PSI	GPM	PIT	SG	SG	DEG	DEG		PRS	NOS	NOS
1269.0	1269.0	97.3	69.5	9	237	164	11.5	0.88	197	2365	844	894	1.12	1.16	25.3	28.3	0.73	1.0	1269	1269
1270.0	1270.0	85.7	69.7	11	234	189	11.5	0.89	198	2391	845	884	1.12	1.16	25.4	28.5	0.78	1.0	1270	1270
1271.0	1271.0	102.9	70.1	12	235	133	11.7	0.90	197	2370	844	879	1.12	1.16	24.9	28.6	0.75	1.0	1271	1271
1272.0	1272.0	95.0	71.2	12	237	184	11.7	0.90	202	2374	864	868	1.12	1.16	25.4	28.7	0.78	1.0	1272	1272
1273.0	1273.0	92.3	71.4	11	229	124	12.0	0.91	196	2413	839	866	1.12	1.16	25.5	28.8	0.76	1.0	1273	1273
1274.0	1274.0	180.0	72.1	10	233	260	12.0	0.92	196	2444	841	866	1.12	1.16	25.4	28.9	0.62	1.0	1274	1274
1275.0	1275.0	31.0	70.7	15	236	160	12.5	0.95	198	2351	846	863	1.12	1.16	25.0	29.1	1.05	1.0	1275	1275
1276.0	1276.0	116.1	71.1	12	240	115	12.5	0.96	198	2321	848	863	1.12	1.16	25.2	29.2	0.73	1.0	1276	1276
1277.0	1277.0	61.0	70.9	8	234	196	12.7	0.97	201	2325	860	864	1.12	1.16	25.1	29.2	0.78	1.0	1277	1277
1278.0	1278.0	80.0	71.0	7	241	137	12.9	0.99	198	2302	849	863	1.12	1.16	25.3	29.3	0.73	1.0	1278	1278
1279.0	1279.0	37.9	70.2	12	242	73	13.2	1.01	202	2268	863	863	1.12	1.16	25.5	29.3	0.97	1.0	1279	1279
1280.0	1280.0	8.5	63.7	11	243	91	15.0	1.13	202	2242	864	868	1.12	1.16	25.0	29.4	1.24	1.0	1280	1280
1281.0	1281.0	144.0	64.2	6	235	140	15.0	1.14	199	2373	852	867	1.12	1.16	25.4	29.5	0.59	1.0	1281	1281
1282.0	1282.0	116.1	64.6	7	239	114	15.3	1.15	198	2452	845	868	1.12	1.16	25.2	29.5	0.66	1.0	1282	1282
1283.0	1283.0	112.5	65.0	6	214	161	15.3	1.15	200	2490	854	867	1.12	1.16	25.4	29.6	0.63	1.0	1283	1283
1284.0	1284.0	138.5	65.4	6	245	288	15.3	1.16	196	2365	838	866	1.12	1.16	25.2	29.6	0.61	1.0	1284	1284
1285.0	1285.0	112.5	65.8	7	236	159	15.6	1.17	198	2440	848	866	1.12	1.16	25.0	29.6	0.66	1.0	1285	1285
1286.0	1286.0	144.0	66.3	8	225	186	15.6	1.18	198	2524	848	867	1.12	1.16	25.3	29.6	0.62	1.0	1286	1286
1287.0	1287.0	133.3	66.7	6	249	113	15.6	1.18	199	2229	852	866	1.12	1.16	25.1	29.6	0.62	1.0	1287	1287
1288.0	1288.0	102.9	67.0	4	242	100	15.9	1.19	202	2280	865	865	1.12	1.16	25.5	29.7	0.61	1.0	1288	1288
1289.0	1289.0	92.3	67.2	5	242	162	15.9	1.21	203	2262	867	863	1.12	1.16	25.4	29.7	0.66	1.0	1289	1289
1290.0	1290.0	90.0	67.4	7	236	173	16.2	1.22	200	2352	857	870	1.12	1.16	25.1	29.7	0.70	1.0	1290	1290
1291.0	1291.0	29.8	66.4	5	219	78	16.7	1.25	204	2268	872	863	1.12	1.16	25.5	29.7	0.83	1.0	1291	1291
1292.0	1292.0	57.1	66.3	1	250	133	16.9	1.27	229	2816	980	852	1.12	1.16	25.6	28.9	0.60	1.0	1292	1292
1293.0	1293.0	133.3	66.7	5	246	188	16.9	1.28	226	2974	966	849	1.12	1.16	25.7	28.8	0.60	1.0	1293	1293
1294.0	1294.0	189.5	67.2	6	255	66	16.9	1.28	225	2909	962	846	1.12	1.16	25.7	28.8	0.56	1.0	1294	1294
1295.0	1295.0	51.4	66.9	8	258	121	17.2	1.30	225	2886	965	851	1.12	1.16	25.6	29.1	0.84	1.0	1295	1295
1296.0	1296.0	22.2	65.4	10	258	101	18.0	1.34	228	2845	978	849	1.12	1.16	25.6	29.8	1.03	1.0	1296	1296
1297.0	1297.0	51.4	65.2	6	257	119	18.3	1.36	228	2842	975	849	1.12	1.16	25.5	30.2	0.79	1.0	1297	1297
1298.0	1298.0	55.4	65.1	6	256	133	18.5	1.38	227	2872	969	849	1.12	1.16	25.5	30.2	0.78	1.0	1298	1298
1299.0	1299.0	100.0	65.4	7	253	198	18.8	1.39	228	2850	973	851	1.12	1.16	25.5	30.3	0.69	1.0	1299	1299
1300.0	1300.0	105.9	65.6	6	253	216	18.8	1.40	226	2940	966	849	1.12	1.16	25.4	30.3	0.66	1.0	1300	1300
1301.0	1301.0	133.3	66.0	6	252	100	19.1	1.41	226	2886	968	848	1.12	1.16	25.4	30.3	0.62	1.0	1301	1301
1302.0	1302.0	83.7	66.1	6	255	169	19.1	1.42	225	2933	964	848	1.12	1.16	25.4	30.3	0.70	1.0	1302	1302
1303.0	1303.0	69.2	66.2	6	252	153	19.3	1.44	226	2878	968	849	1.12	1.16	25.4	30.3	0.73	1.0	1303	1303
1304.0	1304.0	67.9	66.2	4	257	110	19.6	1.45	227	2803	973	846	1.12	1.16	25.4	30.4	0.69	1.0	1304	1304
1305.0	1305.0	65.5	66.2	4	259	100	19.9	1.47	226	2846	968	848	1.12	1.14	25.4	29.9	0.70	1.0	1305	1305
1306.0	1306.0	61.0	66.1	5	255	142	20.1	1.48	227	2868	971	846	1.12	1.14	25.5	30.2	0.75	1.0	1306	1306
1307.0	1307.0	63.2	66.1	4	255	112	20.4	1.50	226	2899	966	848	1.12	1.14	25.5	30.5	0.72	1.0	1307	1307
1308.0	1308.0	94.7	66.3	4	252	135	20.4	1.51	227	2879	970	847	1.12	1.14	25.5	30.7	0.64	1.0	1308	1308
1309.0	1309.0	65.5	66.3	4	259	222	20.6	1.52	226	2826	967	843	1.12	1.14	25.6	30.8	0.71	1.0	1309	1309
1310.0	1310.0	87.8	66.4	4	257	178	20.9	1.54	225	2850	964	844	1.12	1.14	25.6	30.9	0.66	1.0	1310	1310
1311.0	1311.0	81.8	66.6	5	253	163	21.2	1.55	226	2928	967	844	1.12	1.14	25.6	30.9	0.70	1.0	1311	1311
1312.0	1312.0	85.7	66.7	5	257	124	21.2	1.56	224	2879	960	841	1.12	1.14	25.7	31.0	0.68	1.0	1312	1312
1313.0	1313.0	94.7	66.9	5	253	204	21.4	1.57	226	2916	968	844	1.12	1.14	25.7	31.1	0.66	1.0	1313	1313
1314.0	1314.0	90.0	67.1	4	258	132	21.7	1.58	227	2877	969	843	1.12	1.14	25.7	31.1	0.65	1.0	1314	1314
1315.0	1315.0	55.4	66.9	3	254	133	21.9	1.60	226	2855	966	842	1.12	1.14	25.8	31.2	0.70	1.0	1315	1315
1316.0	1316.0	97.3	67.1	4	258	125	21.9	1.61	226	2881	966	843	1.12	1.14	25.8	31.2	0.63	1.0	1316	1316
1317.0	1317.0	87.8	67.3	4	255	105	22.2	1.62	226	2887	966	841	1.12	1.14	25.9	31.2	0.66	1.0	1317	1317
1318.0	1318.0	65.5	67.3	3	254	193	22.5	1.64	227	2855	970	841	1.12	1.14	26.0	31.3	0.67	1.0	1318	1318

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1318.0	1318.0	65.5	67.3	3	254	193	22.5	1.64	227	2855	970	841	1.12	1.14	26.0	31.3	0.67	1.0	1318	1318
1319.0	1319.0	59.0	67.2	4	254	180	22.7	1.65	226	2885	966	842	1.12	1.14	26.1	31.4	0.72	1.0	1319	1319
1320.0	1320.0	92.3	67.3	3	256	176	22.7	1.66	227	2854	970	838	1.12	1.14	26.2	31.4	0.62	1.0	1320	1320
1321.0	1321.0	31.6	66.7	6	241	109	23.3	1.70	228	2832	977	838	1.12	1.14	26.5	31.5	0.89	1.0	1321	1321
1322.0	1322.0	100.0	66.9	6	255	288	23.3	1.71	226	2966	967	834	1.12	1.14	27.1	31.2	0.68	1.0	1322	1322
1323.0	1323.0	90.0	67.0	5	256	152	23.6	1.72	229	2868	981	827	1.12	1.14	27.1	31.1	0.68	1.0	1323	1323
1324.0	1324.0	109.1	67.2	6	252	289	23.8	1.73	226	2964	968	827	1.12	1.14	27.1	31.1	0.67	1.0	1324	1324
1325.0	1325.0	189.5	67.6	6	254	164	23.8	1.73	227	2998	969	819	1.12	1.14	27.2	31.1	0.58	1.0	1325	1325
1326.0	1326.0	67.9	67.6	6	253	164	24.1	1.75	228	2960	974	819	1.12	1.14	27.2	31.2	0.75	1.0	1326	1326
1327.0	1327.0	120.0	67.9	6	257	171	24.1	1.75	226	2969	966	813	1.12	1.14	27.2	31.3	0.66	1.0	1327	1327
1328.0	1328.0	156.5	68.2	6	252	203	24.1	1.76	227	2914	971	813	1.12	1.14	27.3	31.3	0.60	1.0	1328	1328
1329.0	1329.0	97.3	68.3	5	249	194	24.4	1.77	227	2994	973	816	1.12	1.14	27.3	31.4	0.67	1.0	1329	1329
1330.0	1330.0	180.0	68.7	5	257	232	24.4	1.78	229	2841	982	815	1.12	1.14	27.3	31.4	0.57	1.0	1330	1330
1331.0	1331.0	87.8	68.8	5	250	162	24.7	1.79	228	2956	974	814	1.12	1.14	27.4	31.4	0.69	1.0	1331	1331
1332.0	1332.0	105.9	69.0	6	249	142	24.7	1.80	228	2996	976	812	1.12	1.14	27.4	31.4	0.66	1.0	1332	1332
1333.0	1333.0	94.7	69.2	6	253	140	24.9	1.81	228	2946	976	811	1.12	1.14	27.4	31.5	0.68	1.0	1333	1333
1334.0	1334.0	78.3	69.2	6	259	218	25.2	1.82	228	2933	975	812	1.12	1.14	27.5	31.5	0.73	1.0	1334	1334
1335.0	1335.0	90.0	69.4	6	250	144	25.2	1.83	229	2992	979	810	1.12	1.14	27.5	31.5	0.70	1.0	1335	1335
1336.0	1336.0	72.0	69.4	7	267	158	25.5	1.85	228	2834	977	810	1.12	1.14	27.5	31.5	0.78	1.0	1336	1336
1337.0	1337.0	102.9	69.6	7	252	195	25.7	1.85	227	2970	971	803	1.12	1.14	27.6	31.5	0.69	1.0	1337	1337
1338.0	1338.0	76.6	69.6	6	255	187	25.7	1.87	229	2981	978	800	1.12	1.14	27.6	31.5	0.74	1.0	1338	1338
1339.0	1339.0	94.7	69.7	6	255	171	26.0	1.88	226	2976	968	801	1.12	1.14	27.6	31.5	0.70	1.0	1339	1339
1340.0	1340.0	120.0	70.0	6	261	167	26.0	1.89	227	2934	971	799	1.12	1.14	27.7	31.5	0.65	1.0	1340	1340
1341.0	1341.0	67.9	69.9	6	257	178	26.3	1.90	228	2866	977	800	1.12	1.14	27.7	31.5	0.76	1.0	1341	1341
1342.0	1342.0	105.9	70.1	6	254	137	26.5	1.91	228	2980	977	800	1.12	1.14	27.7	31.5	0.67	1.0	1342	1342
1343.0	1343.0	55.4	70.0	6	256	140	26.8	1.93	228	2949	976	801	1.12	1.14	27.7	31.6	0.78	1.0	1343	1343
1344.0	1344.0	124.1	70.2	6	253	190	26.8	1.94	228	2966	977	804	1.12	1.14	27.7	31.6	0.65	1.0	1344	1344
1345.0	1345.0	81.8	70.3	6	252	107	27.1	1.95	228	2938	978	808	1.12	1.14	27.8	31.6	0.71	1.0	1345	1345
1346.0	1346.0	80.0	70.3	5	260	205	27.3	1.96	229	2865	980	806	1.12	1.14	27.8	31.5	0.71	1.0	1346	1346
1347.0	1347.0	112.5	70.5	9	245	199	27.3	1.97	224	3081	960	806	1.12	1.14	27.8	32.0	0.71	1.0	1347	1347
1348.0	1348.0	120.0	70.7	10	249	318	27.6	1.98	224	3052	959	806	1.12	1.14	27.9	31.5	0.71	1.0	1348	1348
1349.0	1349.0	225.0	71.1	10	240	302	27.6	1.98	225	3000	961	805	1.12	1.14	27.9	31.5	0.59	1.0	1349	1349
1350.0	1349.4	75.0	71.1	11	212	109	27.8	2.00	228	2955	976	800	1.12	1.14	27.9	31.5	0.79	1.0	1350	1350
1351.0	1351.0	180.0	71.4	7	240	169	27.9	2.00	225	2893	964	824	1.12	1.14	28.0	32.4	0.58	1.0	1351	1351
1352.0	1352.0	120.0	71.6	6	263	155	27.9	2.01	224	2936	957	820	1.12	1.14	28.0	32.5	0.65	1.0	1352	1352
1353.0	1353.0	120.0	71.8	6	258	246	28.1	2.02	226	3018	965	820	1.12	1.14	28.0	32.6	0.66	1.0	1353	1353
1354.0	1354.0	116.1	72.0	9	253	187	28.1	2.03	226	3107	965	824	1.12	1.14	28.0	32.7	0.71	1.0	1354	1354
1355.0	1355.0	180.0	72.3	12	248	417	28.1	2.03	224	3069	958	825	1.12	1.14	28.0	32.8	0.66	1.0	1355	1355
1356.0	1356.0	124.1	72.5	10	262	238	28.5	2.04	224	2998	960	824	1.12	1.14	28.0	32.8	0.72	1.0	1356	1356
1357.0	1357.0	189.5	72.8	10	257	245	28.5	2.05	224	3082	957	826	1.12	1.14	28.0	32.8	0.64	1.0	1357	1357
1358.0	1358.0	163.6	73.1	9	255	209	28.5	2.05	226	3046	965	833	1.12	1.14	28.1	32.8	0.64	1.0	1358	1358
1359.0	1359.0	78.3	73.1	8	257	246	28.7	2.07	225	3038	963	835	1.12	1.14	28.1	32.9	0.76	1.0	1359	1359
1360.0	1360.0	128.6	73.3	8	257	244	28.7	2.07	227	3014	970	840	1.12	1.14	28.1	32.9	0.68	1.0	1360	1360
1361.0	1361.0	76.6	73.3	9	255	203	29.0	2.09	228	2987	974	840	1.12	1.14	28.2	32.9	0.80	1.0	1361	1361
1362.0	1362.0	109.1	73.5	8	257	253	29.3	2.10	226	3022	969	845	1.12	1.14	28.2	32.9	0.71	1.0	1362	1362
1363.0	1363.0	257.1	73.8	9	260	130	29.3	2.10	225	2958	963	846	1.12	1.14	28.2	32.9	0.57	1.0	1363	1363
1364.0	1364.0	85.7	73.9	8	256	307	29.3	2.11	226	3048	967	847	1.12	1.14	28.2	33.0	0.75	1.0	1364	1364
1365.0	1365.0	105.9	74.0	8	259	170	29.6	2.12	226	2996	969	853	1.12	1.14	28.2	33.0	0.72	1.0	1365	1365
1366.0	1366.0	156.5	74.3	7	258	124	29.6	2.13	226	2990	965	851	1.12	1.14	28.2	33.0	0.63	1.0	1366	1366
1367.0	1367.0	87.8	74.4	7	260	217	29.9	2.14	227	2931	971	858	1.12	1.14	28.3	33.0	0.74	1.0	1367	1367

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1367.0	1367.0	87.8	74.4	7	260	217	29.9	2.14	227	2931	971	858	1.12	1.14	28.3	33.0	0.74	1.0	1367	1367
1368.0	1368.0	144.0	74.6	10	260	283	29.9	2.15	227	2912	970	855	1.12	1.14	28.3	33.0	0.68	1.0	1368	1368
1369.0	1369.0	109.1	74.7	9	257	217	30.1	2.15	226	2990	968	861	1.12	1.14	28.3	33.0	0.73	1.0	1369	1369
1370.0	1370.0	138.5	74.9	10	260	262	30.1	2.16	223	2973	954	865	1.12	1.14	28.3	33.1	0.70	1.0	1370	1370
1371.0	1371.0	100.0	75.1	10	256	219	30.4	2.17	224	3025	960	866	1.12	1.14	28.3	33.1	0.76	1.0	1371	1371
1372.0	1372.0	156.5	75.3	10	264	253	30.4	2.18	224	3033	957	869	1.12	1.14	28.3	33.1	0.67	1.0	1372	1372
1373.0	1373.0	124.1	75.5	9	260	266	30.7	2.19	227	3027	971	872	1.12	1.14	28.3	33.1	0.71	1.0	1373	1373
1374.0	1374.0	124.1	75.7	9	256	242	30.7	2.19	226	2976	966	872	1.12	1.14	28.4	33.1	0.71	1.0	1374	1374
1375.0	1375.0	120.0	75.8	10	263	234	30.7	2.20	229	2895	981	878	1.12	1.14	28.4	33.1	0.73	1.0	1375	1375
1376.0	1376.0	120.0	76.0	10	261	275	31.0	2.21	228	2951	975	882	1.12	1.14	28.4	33.1	0.72	1.0	1376	1376
1377.0	1377.0	138.5	76.2	9	255	257	31.0	2.22	227	2975	972	880	1.12	1.14	28.4	33.1	0.67	1.0	1377	1377
1378.0	1378.0	120.0	76.4	9	255	229	31.3	2.23	227	3088	973	883	1.12	1.14	28.4	33.1	0.71	1.0	1378	1378
1379.0	1379.0	124.1	76.5	11	259	242	31.3	2.23	227	3014	971	882	1.12	1.14	28.4	33.1	0.73	1.0	1379	1379
1380.0	1380.0	32.4	75.9	3	217	88	31.6	2.27	241	3019	1029	981	1.12	1.14	28.6	33.1	0.76	1.0	1380	1380
1381.0	1381.0	120.0	76.1	7	246	253	31.9	2.27	239	3359	1021	1004	1.12	1.14	28.7	33.1	0.67	1.0	1381	1381
1382.0	1382.0	156.5	76.3	9	247	143	31.9	2.28	238	3327	1019	1002	1.12	1.14	28.7	33.1	0.64	1.0	1382	1382
1383.0	1383.0	138.5	76.5	7	253	273	32.1	2.29	239	3221	1023	1000	1.12	1.14	28.7	33.1	0.64	1.0	1383	1383
1384.0	1384.0	102.9	76.6	6	259	203	32.1	2.30	238	3180	1019	998	1.12	1.14	28.7	33.1	0.69	1.0	1384	1384
1385.0	1385.0	92.3	76.7	7	252	206	32.4	2.31	237	3229	1013	998	1.12	1.14	28.7	33.1	0.72	1.0	1385	1385
1386.0	1386.0	109.1	76.8	10	255	224	32.4	2.32	235	3221	1005	999	1.12	1.14	28.7	33.1	0.74	1.0	1386	1386
1387.0	1387.0	138.5	77.0	10	254	153	32.7	2.32	236	3186	1011	1001	1.12	1.14	28.7	33.1	0.69	1.0	1387	1387
1388.0	1388.0	92.3	77.1	7	256	190	32.7	2.33	237	3188	1015	1001	1.12	1.14	28.7	33.1	0.73	1.0	1388	1388
1389.0	1389.0	156.5	77.3	9	252	270	32.9	2.34	233	3287	998	1003	1.12	1.14	28.8	33.1	0.66	1.0	1389	1389
1390.0	1390.0	120.0	77.5	12	253	270	32.9	2.35	235	3255	1007	1000	1.12	1.14	28.8	33.1	0.75	1.0	1390	1390
1391.0	1391.0	92.3	77.5	12	254	280	33.2	2.36	234	3292	1000	1007	1.12	1.14	28.8	33.1	0.81	1.0	1391	1391
1392.0	1392.0	180.0	77.8	10	256	208	33.2	2.37	234	3232	1003	1008	1.12	1.14	28.8	33.1	0.65	1.0	1392	1392
1393.0	1393.0	128.6	77.9	9	261	247	33.2	2.37	235	3115	1005	1013	1.12	1.14	28.8	33.1	0.70	1.0	1393	1393
1394.0	1394.0	124.1	78.1	9	257	302	33.5	2.38	237	3244	1012	1014	1.12	1.14	28.9	33.1	0.70	1.0	1394	1394
1395.0	1395.0	120.0	78.2	8	264	274	33.5	2.39	237	3069	1015	1018	1.12	1.14	28.9	33.1	0.69	1.0	1395	1395
1396.0	1396.0	109.1	78.4	10	255	132	33.8	2.40	237	3255	1012	1022	1.12	1.14	28.9	33.1	0.73	1.0	1396	1396
1397.0	1397.0	150.0	78.6	9	252	282	33.8	2.41	235	3238	1007	1025	1.12	1.14	28.9	33.1	0.67	1.0	1397	1397
1398.0	1398.0	156.5	78.8	9	252	283	34.0	2.41	234	3268	1000	1025	1.12	1.14	29.0	33.1	0.66	1.0	1398	1398
1399.0	1399.0	128.6	78.9	11	252	201	34.0	2.42	236	3328	1008	1025	1.12	1.14	29.0	33.1	0.72	1.0	1399	1399
1400.0	1400.0	189.5	79.2	10	259	387	34.0	2.43	234	3199	1000	1025	1.12	1.14	29.0	33.1	0.64	1.0	1400	1400
1401.0	1401.0	92.3	79.2	10	246	150	34.3	2.44	236	3300	1008	1024	1.12	1.14	29.0	33.1	0.77	1.0	1401	1401
1402.0	1402.0	144.0	79.4	10	256	124	34.3	2.44	235	3199	1004	1028	1.12	1.14	29.1	32.8	0.69	1.0	1402	1402
1403.0	1403.0	133.3	79.6	10	259	211	34.5	2.45	238	3138	1018	1029	1.12	1.14	29.1	32.9	0.70	1.0	1403	1403
1404.0	1404.0	138.5	79.7	9	245	223	34.5	2.46	236	3272	1012	1034	1.12	1.14	29.1	32.7	0.68	1.0	1404	1404
1405.0	1405.0	124.1	79.9	9	264	295	34.8	2.47	234	3201	1003	1036	1.12	1.14	29.1	32.8	0.70	1.0	1405	1405
1406.0	1406.0	120.0	80.0	9	254	154	34.8	2.47	237	3285	1013	1046	1.12	1.14	29.1	33.5	0.70	1.0	1406	1406
1407.0	1407.0	128.6	80.2	9	256	143	35.1	2.48	235	3247	1006	1045	1.12	1.14	29.2	33.5	0.70	1.0	1407	1407
1408.0	1408.0	150.0	80.4	8	260	186	35.1	2.49	236	3180	1010	1048	1.12	1.14	29.2	33.6	0.65	1.0	1408	1408
1409.0	1409.0	62.1	80.2	8	229	129	35.3	2.50	240	3103	1025	1062	1.12	1.14	29.2	32.2	0.79	1.0	1409	1409
1410.0	1410.0	50.7	80.0	2	262	140	35.6	2.52	240	3054	1026	1091	1.12	1.14	29.1	32.9	0.69	1.0	1410	1410
1411.0	1411.0	44.4	79.7	1	241	142	35.9	2.55	217	2711	928	1086	1.12	1.14	29.0	32.9	0.64	1.0	1411	1411
1412.0	1412.0	73.5	79.7	3	251	105	36.1	2.56	215	2720	920	1088	1.12	1.14	28.9	33.2	0.64	1.0	1412	1412
1413.0	1413.0	65.5	79.6	5	241	127	36.4	2.58	216	2747	923	1085	1.12	1.14	28.8	33.3	0.74	1.0	1413	1413
1414.0	1414.0	163.6	79.8	7	241	378	36.4	2.58	211	2777	903	1081	1.12	1.14	28.8	33.5	0.61	1.0	1414	1414
1415.0	1415.0	97.3	79.9	5	247	220	36.6	2.59	213	2763	911	1083	1.12	1.14	28.8	33.5	0.67	1.0	1415	1415
1416.0	1416.0	62.1	79.7	5	248	132	36.9	2.61	214	2753	917	1079	1.12	1.14	28.8	33.6	0.75	1.0	1416	1416

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB		AMPS	BIT	BIT		PSI	GPM	PIT	SG	SG	DEG	DEG		PRS	NOS	NOS
1416.0	1416.0	62.1	79.7	5	248	132	36.9	2.61	214	2753	917	1079	1.12	1.14	28.8	33.6	0.75	1.0	1416	1416
1417.0	1417.0	138.5	79.9	5	241	140	36.9	2.62	213	2723	911	1079	1.12	1.14	28.7	33.7	0.59	1.0	1417	1417
1418.0	1418.0	102.9	80.0	5	241	93	37.1	2.63	215	2747	919	1079	1.12	1.14	28.7	33.7	0.65	1.0	1418	1418
1419.0	1419.0	61.0	79.9	7	244	231	37.4	2.64	216	2755	923	1074	1.12	1.14	28.7	33.8	0.79	1.0	1419	1419
1420.0	1420.0	80.0	79.9	5	243	237	37.4	2.65	213	2816	911	1072	1.12	1.14	28.8	33.8	0.70	1.0	1420	1420
1421.0	1421.0	92.3	79.9	7	242	254	37.6	2.67	214	2782	914	1070	1.12	1.14	28.8	33.9	0.71	1.0	1421	1421
1422.0	1422.0	116.1	80.0	6	249	216	37.6	2.67	212	2757	906	1067	1.12	1.14	28.8	33.9	0.66	1.0	1422	1422
1423.0	1423.0	116.1	80.2	7	247	182	37.9	2.68	213	2774	910	1067	1.12	1.14	28.8	33.9	0.68	1.0	1423	1423
1424.0	1424.0	102.9	80.2	7	249	234	37.9	2.69	215	2733	920	1067	1.12	1.14	28.8	33.9	0.69	1.0	1424	1424
1425.0	1425.0	120.0	80.4	6	252	169	38.2	2.70	213	2777	912	1068	1.12	1.14	28.9	33.9	0.65	1.0	1425	1425
1426.0	1426.0	90.0	80.4	6	258	157	38.2	2.71	214	2724	915	1071	1.12	1.14	28.9	33.9	0.70	1.0	1426	1426
1427.0	1427.0	97.3	80.5	5	255	266	38.5	2.72	214	2735	914	1070	1.12	1.14	28.9	33.9	0.68	1.0	1427	1427
1428.0	1428.0	102.9	80.5	6	254	171	38.5	2.73	214	2771	916	1071	1.12	1.14	28.9	34.0	0.69	1.0	1428	1428
1429.0	1429.0	102.9	80.6	7	260	160	38.7	2.74	213	2765	911	1070	1.12	1.14	29.0	34.0	0.70	1.0	1429	1429
1430.0	1430.0	85.7	80.6	5	255	188	39.0	2.75	216	2658	925	1066	1.12	1.14	29.0	34.0	0.70	1.0	1430	1430
1431.0	1431.0	85.7	80.7	5	255	192	39.0	2.76	215	2761	922	1067	1.12	1.14	29.1	34.0	0.68	1.0	1431	1431
1432.0	1432.0	75.0	80.6	5	255	191	39.3	2.78	214	2696	915	1068	1.12	1.14	29.1	34.0	0.71	1.0	1432	1432
1433.0	1433.0	64.3	80.5	6	248	153	39.6	2.79	212	2824	907	1062	1.12	1.14	29.2	34.1	0.77	1.0	1433	1433
1434.0	1434.0	276.9	80.8	6	244	280	39.6	2.80	213	2875	912	1051	1.12	1.14	29.3	34.1	0.50	1.0	1434	1434
1435.0	1435.0	180.0	81.0	6	254	306	39.6	2.80	215	2763	922	1057	1.12	1.14	29.3	34.1	0.58	1.0	1435	1435
1436.0	1436.0	83.7	81.0	5	266	136	39.9	2.81	226	2770	967	1052	1.12	1.14	29.3	34.0	0.71	1.0	1436	1436
1437.0	1437.0	63.2	80.9	2	267	133	40.2	2.83	237	3040	1012	1045	1.12	1.14	29.3	34.0	0.67	1.0	1437	1437
1438.0	1438.0	46.8	80.7	4	242	182	40.5	2.85	238	2968	1018	1034	1.12	1.14	29.4	33.9	0.76	1.0	1438	1438
1439.0	1439.0	65.0	80.9	4	258	214	40.5	2.85	226	2710	965	1048	1.12	1.14	29.8	33.8	0.70	1.0	1439	1439
1440.0	1440.0	156.5	81.1	3	250	237	40.5	2.86	223	2826	953	1045	1.12	1.14	29.8	33.8	0.53	1.0	1440	1440
1441.0	1441.0	81.8	81.1	6	262	193	40.8	2.87	220	2849	942	1037	1.12	1.14	29.7	33.8	0.72	1.0	1441	1441
1442.0	1442.0	150.0	81.3	5	259	221	40.8	2.88	223	2717	955	1032	1.12	1.14	29.7	33.8	0.59	1.0	1442	1442
1443.0	1443.0	73.5	81.2	5	251	210	41.1	2.89	221	2900	948	1022	1.12	1.14	29.7	33.8	0.72	1.0	1443	1443
1444.0	1444.0	102.9	81.3	9	241	222	41.1	2.90	222	3098	951	1015	1.12	1.14	29.7	33.8	0.72	1.0	1444	1444
1445.0	1445.0	150.0	81.5	12	243	247	41.3	2.91	221	3101	946	1008	1.12	1.14	29.7	33.8	0.69	1.0	1445	1445
1446.0	1446.0	144.0	81.6	14	244	338	41.3	2.92	220	3095	942	1006	1.12	1.14	29.7	33.8	0.72	1.0	1446	1446
1447.0	1447.0	100.0	81.7	9	250	162	41.6	2.93	224	2916	960	999	1.12	1.14	29.6	33.8	0.74	1.0	1447	1447
1448.0	1448.0	83.7	81.7	8	250	195	41.6	2.94	224	2959	958	996	1.12	1.14	29.5	33.8	0.75	1.0	1448	1448
1449.0	1449.0	97.3	81.7	9	243	209	41.8	2.95	224	3012	957	990	1.12	1.14	29.2	33.8	0.73	1.0	1449	1449
1450.0	1450.0	133.3	81.9	9	253	296	41.8	2.96	220	2999	942	987	1.12	1.14	29.0	33.8	0.69	1.0	1450	1450
1451.0	1451.0	102.9	81.9	9	245	318	42.1	2.97	221	3083	947	986	1.12	1.14	28.8	33.8	0.73	1.0	1451	1451
1452.0	1452.0	150.0	82.1	10	244	256	42.1	2.97	221	3076	945	983	1.12	1.14	28.8	33.8	0.67	1.0	1452	1452
1453.0	1453.0	124.1	82.2	10	242	236	42.3	2.98	222	3098	949	984	1.12	1.14	28.7	33.8	0.71	1.0	1453	1453
1454.0	1454.0	109.1	82.3	9	247	248	42.3	2.99	223	2996	955	984	1.12	1.14	28.8	33.8	0.72	1.0	1454	1454
1455.0	1455.0	109.1	82.4	9	248	252	42.6	3.00	222	2977	951	983	1.12	1.14	28.9	33.8	0.72	1.0	1455	1455
1456.0	1456.0	124.1	82.5	10	246	232	42.6	3.01	222	3003	952	982	1.12	1.14	28.9	33.8	0.70	1.0	1456	1456
1457.0	1457.0	105.9	82.6	10	246	249	42.8	3.02	221	3069	944	982	1.12	1.14	28.9	33.8	0.74	1.0	1457	1457
1458.0	1458.0	144.0	82.7	11	246	176	42.8	3.02	221	3142	946	983	1.12	1.14	29.0	33.8	0.69	1.0	1458	1458
1459.0	1459.0	150.0	82.9	11	239	223	43.1	3.03	221	3079	945	983	1.12	1.14	29.0	33.8	0.67	1.0	1459	1459
1460.0	1460.0	128.6	83.0	10	245	206	43.1	3.04	222	3032	949	983	1.12	1.14	29.0	33.9	0.71	1.0	1460	1460
1461.0	1461.0	112.5	83.1	9	244	240	43.3	3.05	221	3034	946	984	1.12	1.14	29.0	34.0	0.71	1.0	1461	1461
1462.0	1462.0	92.3	83.1	10	246	246	43.3	3.06	224	3027	957	983	1.12	1.14	29.0	33.8	0.77	1.0	1462	1462
1463.0	1463.0	211.8	83.3	10	246	271	43.6	3.06	225	2923	964	986	1.12	1.14	29.0	34.0	0.60	1.0	1463	1463
1464.0	1464.0	109.1	83.4	9	246	236	43.6	3.07	223	3041	952	984	1.12	1.14	29.0	34.0	0.72	1.0	1464	1464
1465.0	1465.0	138.5	83.5	9	247	248	43.8	3.08	223	3043	955	984	1.12	1.14	29.0	34.0	0.67	1.0	1465	1465

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB		AMPS	BIT	BIT		PSI	GPM	PIT	SG	SG	DEG	DEG		PRS	NOS	NOS
1465.0	1465.0	138.5	83.5	9	247	248	43.8	3.08	223	3043	955	984	1.12	1.14	29.0	34.0	0.67	1.0	1465	1465
1466.0	1466.0	116.1	83.6	8	246	249	43.8	3.09	223	2990	953	984	1.12	1.14	29.0	33.8	0.69	1.0	1466	1466
1467.0	1467.0	128.6	83.7	10	244	221	43.8	3.09	222	3032	950	983	1.12	1.14	29.1	33.9	0.70	1.0	1467	1467
1468.0	1468.0	64.3	83.6	7	192	227	44.2	3.11	227	2858	971	993	1.12	1.14	29.1	33.8	0.73	1.0	1468	1468
1469.0	1469.0	97.3	83.6	13	255	241	44.2	3.12	224	2984	958	1025	1.12	1.14	29.3	34.1	0.81	1.0	1469	1469
1470.0	1470.0	133.3	83.8	12	258	263	44.5	3.13	226	2987	967	1019	1.12	1.14	29.3	34.2	0.73	1.0	1470	1470
1471.0	1471.0	100.0	83.8	6	260	109	44.5	3.14	229	2943	982	1015	1.12	1.14	29.3	34.2	0.69	1.0	1471	1471
1472.0	1472.0	29.0	83.2	11	258	181	45.0	3.17	226	2974	968	1005	1.12	1.14	29.3	34.3	1.03	1.0	1472	1472
1473.0	1473.0	327.3	83.5	7	256	231	45.0	3.18	227	2995	970	996	1.12	1.14	29.2	34.3	0.49	1.0	1473	1473
1474.0	1474.0	180.0	83.6	8	256	347	45.0	3.18	224	3025	960	992	1.12	1.14	29.2	34.3	0.61	1.0	1474	1474
1475.0	1475.0	100.0	83.7	8	253	296	45.3	3.19	225	3045	961	987	1.12	1.14	29.2	34.3	0.73	1.0	1475	1475
1476.0	1476.0	189.5	83.9	9	253	288	45.3	3.20	229	2916	981	982	1.12	1.14	29.2	34.3	0.62	1.0	1476	1476
1477.0	1477.0	133.3	84.0	8	249	269	45.6	3.20	224	3011	956	984	1.12	1.14	29.2	34.3	0.67	1.0	1477	1477
1478.0	1478.0	156.5	84.1	9	250	212	45.6	3.21	224	3117	957	982	1.12	1.14	29.3	34.3	0.65	1.0	1478	1478
1479.0	1479.0	100.0	84.2	9	260	343	45.9	3.22	223	3029	954	984	1.12	1.14	29.3	34.3	0.74	1.0	1479	1479
1480.0	1480.0	116.1	84.2	9	250	164	45.9	3.23	226	3059	967	981	1.12	1.14	29.3	34.3	0.71	1.0	1480	1480
1481.0	1481.0	150.0	84.4	8	255	222	45.9	3.24	225	3005	964	982	1.12	1.14	29.3	34.3	0.65	1.0	1481	1481
1482.0	1482.0	90.0	84.4	7	271	191	46.2	3.25	223	2982	955	981	1.12	1.14	29.4	34.3	0.74	1.0	1482	1482
1483.0	1483.0	109.1	84.5	7	260	349	46.2	3.26	227	2986	972	980	1.12	1.14	29.4	33.5	0.70	1.0	1483	1483
1484.0	1484.0	105.9	84.5	7	262	152	46.5	3.27	224	3050	956	981	1.12	1.14	29.5	33.8	0.70	1.0	1484	1484
1485.0	1485.0	83.7	84.5	11	261	138	46.5	3.28	224	3025	960	981	1.12	1.14	29.5	34.0	0.81	1.0	1485	1485
1486.0	1486.0	99.0	84.8	14	257	162	46.5	3.28	227	2989	971	986	1.12	1.14	29.5	33.4	0.82	1.0	1486	1486
1487.0	1487.0	102.9	84.9	9	260	148	46.8	3.29	227	2963	972	979	1.12	1.14	29.5	34.0	0.75	1.0	1487	1487
1488.0	1488.0	63.2	84.8	6	265	169	47.1	3.30	228	2938	976	978	1.12	1.14	29.6	33.5	0.76	1.0	1488	1488
1489.0	1489.0	124.1	84.9	8	257	246	47.1	3.31	225	3109	964	979	1.12	1.14	29.6	33.3	0.69	1.0	1489	1489
1490.0	1490.0	97.3	84.9	8	260	129	47.4	3.32	223	2955	955	974	1.12	1.14	29.6	33.1	0.74	1.0	1490	1490
1491.0	1491.0	150.0	85.0	8	256	208	47.4	3.33	223	3038	953	976	1.12	1.14	29.6	33.1	0.65	1.0	1491	1491
1492.0	1492.0	116.1	85.1	11	251	319	47.4	3.34	226	3213	965	975	1.12	1.14	29.7	33.1	0.74	1.0	1492	1492
1493.0	1493.0	211.8	85.3	10	259	176	47.7	3.34	224	3080	957	970	1.12	1.14	29.7	33.1	0.61	1.0	1493	1493
1494.0	1494.0	133.3	85.4	11	251	324	47.7	3.35	223	3149	953	975	1.12	1.14	29.7	33.3	0.71	1.0	1494	1494
1495.0	1495.0	133.3	85.5	11	252	286	47.7	3.36	224	3100	957	973	1.12	1.14	29.7	33.5	0.72	1.0	1495	1495
1496.0	1496.0	150.0	85.6	13	256	183	48.0	3.36	224	3091	960	973	1.12	1.14	29.8	33.6	0.72	1.0	1496	1496
1497.0	1497.0	52.9	85.4	9	216	194	48.2	3.38	227	3007	973	992	1.12	1.14	29.9	34.3	0.84	1.0	1497	1497
1498.0	1498.0	112.5	85.5	12	241	196	48.2	3.39	225	3142	961	1012	1.12	1.14	30.1	34.6	0.75	1.0	1498	1498
1499.0	1499.0	128.6	85.6	11	257	101	48.4	3.40	225	3043	962	1007	1.12	1.14	30.1	34.6	0.72	1.0	1499	1499
1500.0	1500.0	124.1	85.7	10	263	357	48.4	3.41	226	3076	969	999	1.12	1.14	30.1	34.6	0.72	1.0	1500	1500
1501.0	1501.0	83.7	85.7	9	258	220	48.7	3.42	227	3136	972	995	1.12	1.14	30.1	34.6	0.77	1.0	1501	1501
1502.0	1502.0	163.6	85.8	10	267	317	48.7	3.43	225	3072	962	987	1.12	1.14	30.1	34.6	0.67	1.0	1502	1502
1503.0	1503.0	75.0	85.8	12	263	224	49.0	3.44	226	3137	967	984	1.12	1.14	30.1	34.6	0.86	1.0	1503	1503
1504.0	1504.0	120.0	85.9	8	258	254	49.2	3.45	228	3073	974	978	1.12	1.14	30.1	34.6	0.69	1.0	1504	1504
1505.0	1505.0	133.3	86.0	9	256	190	49.2	3.45	227	3162	969	972	1.12	1.14	30.1	34.6	0.69	1.0	1505	1505
1506.0	1506.0	120.0	86.1	10	255	210	49.2	3.46	225	3182	964	970	1.12	1.14	30.1	34.7	0.72	1.0	1506	1506
1507.0	1507.0	163.6	86.2	8	265	232	49.5	3.47	227	2989	971	970	1.12	1.14	30.2	34.7	0.64	1.0	1507	1507
1508.0	1508.0	128.6	86.3	8	258	265	49.5	3.48	227	3082	972	958	1.12	1.14	30.2	34.7	0.69	1.0	1508	1508
1509.0	1509.0	144.0	86.4	9	262	267	49.8	3.48	227	3148	972	957	1.12	1.14	30.2	34.7	0.68	1.0	1509	1509
1510.0	1510.0	144.0	86.5	9	263	351	49.8	3.49	225	3207	963	954	1.12	1.14	30.2	34.7	0.68	1.0	1510	1510
1511.0	1511.0	144.0	86.6	11	260	271	49.8	3.50	225	3157	963	952	1.12	1.14	30.2	34.7	0.70	1.0	1511	1511
1512.0	1512.0	163.6	86.8	11	258	263	50.1	3.50	226	3114	967	950	1.12	1.14	30.2	34.7	0.68	1.0	1512	1512
1513.0	1513.0	153.0	87.0	10	257	322	50.1	3.51	225	3095	962	950	1.12	1.14	30.2	34.7	0.68	1.0	1513	1513
1514.0	1514.0	189.5	87.1	12	258	218	50.1	3.51	227	3067	971	950	1.12	1.14	30.2	34.7	0.66	1.0	1514	1514

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB		AMPS	BIT	BIT		PSI	GPM	PIT	SG	SG	DEG	DEG		PRS	NOS	NOS
1514.0	1514.0	189.5	87.1	12	258	218	50.1	3.51	227	3067	971	950	1.12	1.14	30.2	34.7	0.66	1.0	1514	1514
1515.0	1515.0	200.0	87.3	11	257	258	50.1	3.52	225	3147	965	949	1.12	1.14	30.3	34.7	0.63	1.0	1515	1515
1516.0	1516.0	144.0	87.4	10	260	286	50.4	3.52	226	3101	966	947	1.12	1.14	30.3	34.7	0.69	1.0	1516	1516
1517.0	1517.0	156.5	87.5	10	262	255	50.4	3.53	228	3022	974	947	1.12	1.14	30.3	34.7	0.67	1.0	1517	1517
1518.0	1518.0	150.0	87.6	10	265	230	50.4	3.54	226	3059	965	944	1.12	1.14	30.3	34.7	0.68	1.0	1518	1518
1519.0	1519.0	112.5	87.7	9	262	241	50.7	3.55	227	3082	973	947	1.12	1.14	30.3	34.7	0.72	1.0	1519	1519
1520.0	1520.0	138.5	87.8	9	261	234	50.7	3.55	227	3123	973	947	1.12	1.14	30.4	34.7	0.69	1.0	1520	1520
1521.0	1521.0	128.6	87.9	11	265	208	50.9	3.56	228	3065	977	945	1.12	1.14	30.4	34.7	0.73	1.0	1521	1521
1522.0	1522.0	138.5	88.0	9	261	223	50.9	3.57	227	3077	972	945	1.12	1.14	30.4	34.7	0.69	1.0	1522	1522
1523.0	1523.0	138.5	88.1	9	264	234	51.2	3.58	228	3059	976	943	1.12	1.14	30.4	34.7	0.68	1.0	1523	1523
1524.0	1524.0	112.5	88.2	9	261	215	51.2	3.58	228	3137	975	946	1.12	1.14	30.5	34.7	0.73	1.0	1524	1524
1525.0	1525.0	109.1	88.2	9	264	260	51.5	3.59	229	3024	981	946	1.12	1.14	30.5	34.7	0.73	1.0	1525	1525
1526.0	1526.0	75.0	88.2	10	256	168	51.5	3.61	229	3076	981	946	1.12	1.14	30.6	34.9	0.82	1.0	1526	1526
1527.0	1527.0	142.0	88.4	9	259	231	51.7	3.61	231	2944	990	941	1.12	1.14	30.6	35.0	0.67	1.0	1527	1527
1528.0	1528.0	150.0	88.5	7	247	241	51.8	3.62	220	3003	942	922	1.12	1.14	30.8	35.1	0.62	1.0	1528	1528
1529.0	1529.0	43.4	88.2	14	253	170	52.0	3.64	222	2952	950	920	1.12	1.14	30.8	35.1	0.99	1.0	1529	1529
1530.0	1530.0	37.5	87.8	13	262	136	52.6	3.67	230	2967	982	919	1.12	1.14	30.9	35.2	1.02	1.0	1530	1530
1531.0	1531.0	75.0	87.8	11	257	248	52.6	3.68	226	3093	965	917	1.12	1.14	30.9	35.3	0.83	1.0	1531	1531
1532.0	1532.0	90.0	87.8	8	257	173	52.8	3.69	228	3101	976	913	1.12	1.14	30.9	35.4	0.75	1.0	1532	1532
1533.0	1533.0	163.6	87.9	9	255	223	52.8	3.70	225	3130	962	917	1.12	1.14	31.0	35.4	0.64	1.0	1533	1533
1534.0	1534.0	87.8	87.9	10	253	214	53.1	3.71	227	3093	971	915	1.12	1.14	31.0	35.4	0.78	1.0	1534	1534
1535.0	1535.0	163.6	88.0	10	254	278	53.1	3.71	226	3142	968	918	1.12	1.14	31.0	35.4	0.66	1.0	1535	1535
1536.0	1536.0	105.9	88.1	10	252	243	53.3	3.72	226	3110	965	916	1.12	1.14	31.0	35.4	0.75	1.0	1536	1536
1537.0	1537.0	133.3	88.2	11	257	210	53.3	3.73	225	3102	963	917	1.12	1.14	31.0	35.4	0.71	1.0	1537	1537
1538.0	1538.0	97.3	88.2	10	253	247	53.6	3.74	226	3133	965	916	1.12	1.14	31.1	35.4	0.76	1.0	1538	1538
1539.0	1539.0	90.0	88.2	10	250	275	53.8	3.75	225	3147	962	917	1.12	1.14	31.1	35.4	0.78	1.0	1539	1539
1540.0	1540.0	63.2	88.1	14	259	168	54.1	3.77	229	3060	978	916	1.12	1.14	31.1	35.4	0.91	1.0	1540	1540
1541.0	1541.0	133.3	88.2	15	253	236	54.1	3.78	227	3172	970	915	1.12	1.14	31.1	35.5	0.77	1.0	1541	1541
1542.0	1542.0	116.1	88.2	11	257	216	54.1	3.78	226	3109	969	917	1.12	1.14	31.2	35.5	0.75	1.0	1542	1542
1543.0	1543.0	102.9	88.3	12	250	291	54.4	3.79	226	3207	968	917	1.12	1.14	31.2	35.5	0.77	1.0	1543	1543
1544.0	1544.0	100.0	88.3	12	264	274	54.6	3.80	227	3096	969	917	1.12	1.14	31.2	35.5	0.79	1.0	1544	1544
1545.0	1545.0	70.6	88.3	7	261	158	54.6	3.82	230	3043	983	915	1.12	1.14	31.2	35.6	0.77	1.0	1545	1545
1546.0	1546.0	61.0	88.1	13	258	205	54.9	3.84	229	3072	980	913	1.12	1.14	31.3	35.6	0.91	1.0	1546	1546
1547.0	1547.0	144.0	88.2	8	254	251	55.2	3.84	227	3170	970	914	1.12	1.14	31.3	35.6	0.66	1.0	1547	1547
1548.0	1548.0	124.1	88.3	9	253	280	55.2	3.85	226	3175	969	913	1.12	1.14	31.3	35.6	0.70	1.0	1548	1548
1549.0	1549.0	133.3	88.4	10	253	272	55.4	3.86	225	3181	964	912	1.12	1.14	31.3	35.6	0.70	1.0	1549	1549
1550.0	1550.0	138.5	88.5	10	252	209	55.4	3.86	227	3186	969	910	1.12	1.14	31.3	35.6	0.70	1.0	1550	1550
1551.0	1551.0	171.4	88.6	10	254	212	55.4	3.87	227	3229	971	916	1.12	1.14	31.3	35.6	0.65	1.0	1551	1551
1552.0	1552.0	138.5	88.7	9	254	267	55.7	3.88	226	3180	968	917	1.12	1.14	31.3	35.3	0.68	1.0	1552	1552
1553.0	1553.0	144.0	88.8	10	252	256	55.7	3.88	228	3169	974	915	1.12	1.14	31.3	35.4	0.68	1.0	1553	1553
1554.0	1554.0	94.7	88.8	12	256	190	55.9	3.90	228	3044	978	917	1.12	1.14	31.3	35.5	0.80	1.0	1554	1554
1555.0	1555.0	69.2	88.8	9	205	255	56.2	3.91	229	3066	980	915	1.12	1.14	31.3	35.3	0.77	1.0	1555	1555
1556.0	1556.0	128.6	88.8	10	243	254	56.2	3.92	219	3199	938	978	1.12	1.14	31.2	35.5	0.70	1.0	1556	1556
1557.0	1557.0	116.1	88.9	7	258	251	56.4	3.93	227	3154	970	978	1.12	1.14	31.2	35.5	0.68	1.0	1557	1557
1558.0	1558.0	150.0	89.0	6	248	151	56.4	3.93	227	3285	971	975	1.12	1.14	31.2	35.2	0.62	1.0	1558	1558
1559.0	1559.0	124.1	89.1	8	278	262	56.4	3.94	228	2913	974	968	1.12	1.14	31.2	35.3	0.70	1.0	1559	1559
1560.0	1560.0	67.9	89.0	18	251	220	56.7	3.96	226	3204	967	963	1.12	1.14	31.1	35.4	0.94	1.0	1560	1560
1561.0	1561.0	180.0	89.1	12	256	232	56.9	3.96	226	3173	968	955	1.11	1.14	31.1	35.5	0.67	1.0	1561	1561
1562.0	1562.0	100.0	89.1	6	267	227	56.9	3.97	229	3014	979	947	1.11	1.13	31.1	35.5	0.70	1.0	1562	1562
1563.0	1563.0	87.8	89.1	3	258	192	57.2	3.98	229	3088	978	946	1.11	1.13	31.0	35.5	0.63	1.0	1563	1563

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1563.0	1563.0	87.8	89.1	3	258	192	57.2	3.98	229	3088	978	946	1.11	1.13	31.0	35.5	0.63	1.0	1563	1563
1564.0	1564.0	171.4	89.3	7	257	205	57.2	3.99	225	3168	965	945	1.11	1.13	31.0	35.5	0.61	1.0	1564	1564
1565.0	1565.0	171.4	89.4	7	259	246	57.2	3.99	224	3151	960	945	1.11	1.13	31.0	35.6	0.61	1.0	1565	1565
1566.0	1566.0	150.0	89.5	8	252	260	57.5	4.00	226	3208	966	944	1.11	1.13	31.0	35.6	0.65	1.0	1566	1566
1567.0	1567.0	156.5	89.6	8	253	215	57.5	4.01	227	3065	969	942	1.11	1.13	31.0	35.6	0.64	1.0	1567	1567
1568.0	1568.0	102.9	89.6	15	246	285	57.7	4.02	226	3174	968	941	1.11	1.13	31.0	35.6	0.82	1.0	1568	1568
1569.0	1569.0	94.7	89.6	7	259	196	57.7	4.03	227	3083	972	938	1.11	1.13	31.0	35.6	0.73	1.0	1569	1569
1570.0	1570.0	97.3	89.7	7	265	191	58.0	4.04	227	3088	973	936	1.11	1.13	30.9	35.6	0.72	1.0	1570	1570
1571.0	1571.0	81.8	89.6	6	259	262	58.3	4.05	228	3042	976	937	1.11	1.13	30.8	35.7	0.74	1.0	1571	1571
1572.0	1572.0	94.7	89.6	6	261	196	58.3	4.06	228	3033	977	939	1.11	1.13	30.8	35.7	0.70	1.0	1572	1572
1573.0	1573.0	37.9	89.3	11	260	151	58.8	4.09	229	3059	982	944	1.11	1.13	30.4	35.3	0.98	1.0	1573	1573
1574.0	1574.0	163.6	89.4	9	257	246	58.8	4.09	224	3174	960	946	1.11	1.13	30.1	35.3	0.66	1.0	1574	1574
1575.0	1575.0	70.6	89.4	7	256	105	59.1	4.11	229	3093	978	949	1.11	1.13	30.1	35.4	0.78	1.0	1575	1575
1576.0	1576.0	76.6	89.3	5	262	186	59.3	4.12	229	3085	979	954	1.11	1.13	30.0	35.5	0.73	1.0	1576	1576
1577.0	1577.0	70.6	89.2	4	265	147	59.3	4.13	230	2977	983	960	1.11	1.13	30.1	35.3	0.72	1.0	1577	1577
1578.0	1578.0	90.0	89.3	5	259	161	59.6	4.15	228	3013	977	965	1.11	1.13	30.2	35.5	0.70	1.0	1578	1578
1579.0	1579.0	100.0	89.3	8	256	305	59.9	4.16	225	3162	961	971	1.11	1.13	30.2	35.5	0.73	1.0	1579	1579
1580.0	1580.0	34.0	88.9	11	261	159	60.2	4.19	231	3002	987	984	1.11	1.13	30.3	35.5	1.00	1.0	1580	1580
1581.0	1581.0	81.8	88.9	9	261	162	60.5	4.20	227	3019	972	1002	1.11	1.13	30.4	34.9	0.79	1.0	1581	1581
1582.0	1582.0	45.6	88.6	11	260	182	60.8	4.22	229	3044	981	1018	1.11	1.13	30.5	35.3	0.94	1.0	1582	1582
1583.0	1583.0	83.7	88.6	9	256	136	60.8	4.23	228	3088	974	1033	1.11	1.13	30.5	35.5	0.78	1.0	1583	1583
1584.0	1584.0	109.1	88.7	8	265	123	61.0	4.24	227	3070	972	1038	1.11	1.13	30.6	35.6	0.72	1.0	1584	1584
1585.0	1585.0	63.2	88.6	6	209	145	61.2	4.26	228	3002	977	1087	1.11	1.13	30.5	35.9	0.75	1.0	1585	1585
1586.0	1586.0	128.6	88.7	10	242	178	61.4	4.26	222	3174	950	1113	1.11	1.13	30.4	36.0	0.70	1.0	1586	1586
1587.0	1587.0	276.9	88.8	9	245	293	61.4	4.27	223	3196	955	1107	1.11	1.13	30.4	36.0	0.55	1.0	1587	1587
1588.0	1588.0	211.8	88.9	9	248	256	61.4	4.27	222	3136	952	1099	1.11	1.13	30.3	36.0	0.60	1.0	1588	1588
1589.0	1589.0	112.5	89.0	11	251	247	61.7	4.28	225	3072	962	1090	1.11	1.13	30.3	36.0	0.75	1.0	1589	1589
1590.0	1590.0	171.4	89.1	10	252	305	61.7	4.29	223	3193	955	1083	1.11	1.13	30.2	36.0	0.65	1.0	1590	1590
1591.0	1591.0	150.0	89.2	9	252	217	61.7	4.29	228	3194	975	1075	1.11	1.13	30.1	36.0	0.66	1.0	1591	1591
1592.0	1592.0	94.7	89.2	7	260	187	61.9	4.30	228	3127	976	1067	1.11	1.13	30.0	36.1	0.73	1.0	1592	1592
1593.0	1593.0	112.5	89.3	6	260	164	61.9	4.31	229	3089	979	1063	1.11	1.13	30.0	36.1	0.68	1.0	1593	1593
1594.0	1594.0	80.0	89.2	7	249	149	62.4	4.33	230	3172	985	1064	1.11	1.13	30.1	36.1	0.75	1.0	1594	1594
1595.0	1595.0	92.3	89.2	5	264	206	62.4	4.34	230	3051	984	1064	1.11	1.13	30.2	36.2	0.68	1.0	1595	1595
1596.0	1596.0	56.3	89.1	4	264	253	62.7	4.35	229	3018	982	1063	1.11	1.13	30.4	36.2	0.74	1.0	1596	1596
1597.0	1597.0	156.5	89.2	5	257	197	62.7	4.36	233	3095	996	1065	1.11	1.13	30.6	36.2	0.60	1.0	1597	1597
1598.0	1598.0	120.0	89.3	6	248	255	62.7	4.37	230	3125	983	1063	1.11	1.13	30.6	36.2	0.66	1.0	1598	1598
1599.0	1599.0	144.0	89.4	8	249	207	63.0	4.38	228	3202	975	1061	1.11	1.13	30.7	36.2	0.66	1.0	1599	1599
1600.0	1600.0	156.5	89.5	10	243	333	63.0	4.38	227	3309	972	1059	1.11	1.13	30.8	36.2	0.67	1.0	1600	1600
1601.0	1601.0	128.6	89.5	10	255	274	63.0	4.39	226	3195	968	1058	1.11	1.13	30.8	36.2	0.71	1.0	1601	1601
1602.0	1602.0	156.5	89.6	11	245	330	63.3	4.40	226	3279	967	1058	1.11	1.13	30.8	36.1	0.68	1.0	1602	1602
1603.0	1603.0	150.0	89.7	11	246	368	63.3	4.40	231	3130	986	1058	1.11	1.13	30.8	36.2	0.69	1.0	1603	1603
1604.0	1604.0	124.1	89.8	8	251	321	63.6	4.41	229	3208	981	1061	1.11	1.13	30.8	36.3	0.68	1.0	1604	1604
1605.0	1605.0	128.6	89.8	9	251	313	63.6	4.42	228	3168	977	1058	1.11	1.13	30.9	36.1	0.69	1.0	1605	1605
1606.0	1606.0	120.0	89.9	9	242	333	63.8	4.43	228	3236	976	1057	1.11	1.13	31.0	36.3	0.70	1.0	1606	1606
1607.0	1607.0	156.5	90.0	9	258	228	63.8	4.43	229	3204	978	1057	1.11	1.13	31.0	36.3	0.66	1.0	1607	1607
1608.0	1608.0	105.9	90.0	8	261	185	63.8	4.44	228	3159	975	1055	1.11	1.13	31.1	36.3	0.72	1.0	1608	1608
1609.0	1609.0	120.0	90.1	7	255	316	64.1	4.45	227	3189	972	1058	1.11	1.13	31.1	36.1	0.68	1.0	1609	1609
1610.0	1610.0	133.3	90.2	9	255	250	64.1	4.46	229	3186	979	1059	1.11	1.13	31.2	36.2	0.69	1.0	1610	1610
1611.0	1611.0	128.6	90.2	10	249	242	64.4	4.47	230	3174	983	1057	1.11	1.13	31.3	36.2	0.70	1.0	1611	1611
1612.0	1612.0	163.6	90.3	9	254	133	64.4	4.47	229	3135	980	1057	1.11	1.13	31.3	36.2	0.65	1.0	1612	1612

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1612.0	1612.0	163.6	90.3	9	254	133	64.4	4.47	229	3135	980	1057	1.11	1.13	31.3	36.2	0.65	1.0	1612	1612
1613.0	1613.0	85.7	90.3	11	252	248	64.6	4.48	227	3180	973	1057	1.11	1.13	31.3	36.3	0.81	1.0	1613	1613
1614.0	1614.0	62.1	90.2	6	248	164	64.8	4.50	228	3042	975	1061	1.11	1.13	31.3	35.6	0.78	1.0	1614	1614
1615.0	1615.0	102.9	90.2	4	249	249	65.0	4.51	227	3108	970	1053	1.11	1.13	31.2	36.1	0.64	1.0	1615	1615
1616.0	1616.0	49.3	90.1	4	259	166	65.3	4.53	229	3008	980	1038	1.11	1.13	31.1	36.2	0.77	1.0	1616	1616
1617.0	1617.0	37.9	89.8	6	253	268	65.5	4.56	225	3219	965	1020	1.11	1.13	30.8	36.3	0.87	1.0	1617	1617
1618.0	1618.0	92.0	89.9	12	230	378	65.5	4.56	226	3233	967	1009	1.11	1.13	30.8	36.3	0.79	1.0	1618	1618
1619.0	1619.0	163.6	90.0	6	261	220	65.8	4.57	227	3078	971	1015	1.11	1.13	30.9	36.3	0.60	1.0	1619	1619
1620.0	1620.0	257.1	90.1	4	260	164	65.8	4.57	225	3148	965	1012	1.11	1.13	30.9	35.0	0.49	1.0	1620	1620
1621.0	1621.0	217.1	90.3	7	242	341	65.8	4.57	224	3320	957	1013	1.11	1.13	30.9	36.3	0.56	1.0	1621	1621
1622.0	1622.0	225.0	90.4	8	257	200	65.8	4.58	227	3055	972	1013	1.11	1.13	30.9	36.3	0.58	1.0	1622	1622
1623.0	1623.0	105.9	90.5	9	245	247	66.1	4.59	223	3226	952	1011	1.11	1.13	30.9	36.4	0.73	1.0	1623	1623
1624.0	1624.0	171.4	90.6	8	259	280	66.1	4.59	223	3187	956	1010	1.11	1.13	31.0	36.4	0.63	1.0	1624	1624
1625.0	1625.0	138.5	90.6	8	259	202	66.4	4.60	224	3158	958	1012	1.11	1.13	30.9	36.4	0.67	1.0	1625	1625
1626.0	1626.0	94.7	90.6	7	258	183	66.4	4.61	226	3116	966	1012	1.11	1.13	30.8	36.4	0.73	1.0	1626	1626
1627.0	1627.0	97.3	90.7	6	252	288	66.6	4.62	225	3133	963	1013	1.11	1.13	30.8	36.5	0.71	1.0	1627	1627
1628.0	1628.0	138.5	90.7	9	247	366	66.6	4.63	224	3207	957	1012	1.11	1.13	30.7	36.5	0.68	1.0	1628	1628
1629.0	1629.0	120.0	90.8	8	258	151	66.9	4.64	226	3131	966	1012	1.11	1.13	30.7	36.5	0.69	1.0	1629	1629
1630.0	1630.0	75.0	90.7	13	259	144	66.9	4.65	227	3141	969	1013	1.11	1.13	30.7	36.5	0.87	1.0	1630	1630
1631.0	1631.0	75.0	90.7	7	259	130	67.2	4.66	228	3101	978	1015	1.11	1.13	30.7	36.5	0.78	1.0	1631	1631
1632.0	1632.0	116.1	90.7	8	260	245	67.4	4.67	225	3123	963	1017	1.11	1.13	30.7	36.5	0.70	1.0	1632	1632
1633.0	1633.0	67.9	90.7	9	251	248	67.4	4.69	226	3096	966	1015	1.11	1.13	30.7	36.5	0.83	1.0	1633	1633
1634.0	1634.0	120.0	90.7	10	254	221	67.7	4.70	226	3183	969	1016	1.11	1.13	30.7	36.5	0.73	1.0	1634	1634
1635.0	1635.0	90.0	90.7	7	259	186	67.7	4.71	229	3019	982	1015	1.11	1.13	30.7	36.5	0.74	1.0	1635	1635
1636.0	1636.0	44.4	90.5	5	262	146	68.3	4.73	229	3061	978	1018	1.11	1.13	30.7	36.5	0.80	1.0	1636	1636
1637.0	1637.0	81.8	90.5	6	261	167	68.3	4.74	227	3140	971	1019	1.11	1.13	30.8	36.4	0.73	1.0	1637	1637
1638.0	1638.0	73.5	90.4	5	258	174	68.5	4.76	227	3110	971	1019	1.11	1.13	30.8	36.4	0.72	1.0	1638	1638
1639.0	1639.0	102.9	90.5	5	258	236	68.8	4.77	226	3054	967	1018	1.11	1.13	30.8	36.5	0.66	1.0	1639	1639
1640.0	1640.0	105.9	90.5	6	253	235	68.8	4.77	225	3148	961	1016	1.11	1.13	30.8	36.4	0.68	1.0	1640	1640
1641.0	1641.0	128.6	90.5	8	247	210	69.1	4.78	225	3224	962	1020	1.11	1.13	30.8	36.5	0.67	1.0	1641	1641
1642.0	1642.0	90.0	90.5	8	252	185	69.1	4.79	227	3082	971	1023	1.11	1.13	30.9	36.5	0.75	1.0	1642	1642
1643.0	1643.0	61.0	90.4	6	228	218	69.4	4.81	229	2992	981	1033	1.11	1.13	31.0	36.5	0.76	1.0	1643	1643
1644.0	1644.0	94.7	90.5	5	261	196	69.4	4.82	230	3177	982	1038	1.11	1.13	31.1	36.4	0.68	1.0	1644	1644
1645.0	1645.0	150.0	90.5	4	272	171	69.7	4.83	228	3094	977	1026	1.11	1.13	31.0	36.5	0.59	1.0	1645	1645
1646.0	1646.0	300.0	90.7	7	265	297	69.7	4.83	226	3299	968	1017	1.11	1.13	31.0	36.5	0.51	1.0	1646	1646
1647.0	1647.0	133.3	90.7	8	250	352	69.7	4.84	227	3183	971	1018	1.11	1.13	31.0	36.5	0.67	1.0	1647	1647
1648.0	1648.0	100.0	90.8	11	253	258	70.0	4.85	228	3180	974	1013	1.11	1.13	31.0	36.6	0.78	1.0	1648	1648
1649.0	1649.0	138.5	90.8	11	249	299	70.0	4.86	225	3294	963	1008	1.11	1.13	31.0	36.6	0.71	1.0	1649	1649
1650.0	1650.0	72.0	90.8	7	258	193	70.2	4.87	229	3118	981	998	1.11	1.13	31.0	36.7	0.77	1.0	1650	1650
1651.0	1651.0	128.6	90.8	5	259	245	70.2	4.88	229	3170	978	987	1.11	1.13	31.1	36.7	0.63	1.0	1651	1651
1652.0	1652.0	57.1	90.7	6	256	298	70.5	4.89	228	3228	975	978	1.11	1.13	31.1	36.8	0.79	1.0	1652	1652
1653.0	1653.0	112.5	90.8	9	256	320	70.8	4.90	228	3245	977	974	1.11	1.13	31.2	36.8	0.73	1.0	1653	1653
1654.0	1654.0	100.0	90.8	10	253	294	70.8	4.91	226	3306	967	971	1.11	1.13	31.3	36.9	0.76	1.0	1654	1654
1655.0	1655.0	94.7	90.8	6	258	281	71.1	4.92	231	3110	987	968	1.11	1.13	31.3	36.9	0.70	1.0	1655	1655
1656.0	1656.0	80.0	90.8	7	254	246	71.3	4.94	228	3225	977	970	1.11	1.13	31.4	36.9	0.75	1.0	1656	1656
1657.0	1657.0	124.1	90.8	9	247	206	71.3	4.94	227	3290	969	969	1.11	1.13	31.5	36.9	0.70	1.0	1657	1657
1658.0	1658.0	163.6	90.9	9	249	324	71.3	4.95	228	3273	974	969	1.11	1.14	31.5	37.0	0.64	1.0	1658	1658
1659.0	1659.0	80.0	90.9	10	260	207	71.6	4.96	229	3147	981	962	1.11	1.14	31.6	37.0	0.81	1.0	1659	1659
1660.0	1660.0	65.5	90.8	9	248	264	72.0	4.98	227	3367	972	959	1.11	1.14	31.7	37.0	0.81	1.0	1660	1660
1661.0	1661.0	128.6	90.9	8	260	271	72.0	4.99	228	3213	977	957	1.11	1.14	31.7	37.0	0.68	1.0	1661	1661

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB	AMPS	BIT	BIT	BIT	PSI	GPM	PIT	SG	SG	DEG	DEG	DEG	PR	PR	NOS	NOS
1661.0	1661.0	128.6	90.9	8	260	271	72.0	4.99	228	3213	977	957	1.11	1.14	31.7	37.0	0.68	1.0	1661	1661
1662.0	1662.0	58.1	90.7	8	259	206	72.3	5.00	234	3243	1002	955	1.11	1.14	31.8	37.0	0.82	1.0	1662	1662
1663.0	1663.0	67.9	90.7	7	276	253	72.6	5.02	235	3184	1004	951	1.11	1.14	31.9	37.1	0.79	1.0	1663	1663
1664.0	1664.0	100.0	90.7	10	255	273	72.6	5.03	232	3241	995	954	1.11	1.14	31.9	37.1	0.75	1.0	1664	1664
1665.0	1665.0	57.1	90.6	8	266	177	72.9	5.05	235	3196	1006	956	1.11	1.14	31.9	37.1	0.83	1.0	1665	1665
1666.0	1666.0	94.7	90.6	8	260	197	73.1	5.06	235	3281	1007	951	1.11	1.14	31.9	37.1	0.73	1.0	1666	1666
1667.0	1667.0	52.2	90.4	4	272	142	73.4	5.08	234	3225	1003	949	1.11	1.14	31.9	37.1	0.74	1.0	1667	1667
1668.0	1668.0	97.3	90.5	8	255	216	73.4	5.09	233	3365	999	948	1.11	1.14	31.9	37.1	0.73	1.0	1668	1668
1669.0	1669.0	85.7	90.4	5	265	213	73.8	5.10	236	3370	1008	951	1.11	1.14	31.8	37.1	0.71	1.0	1669	1669
1670.0	1670.0	57.1	90.3	6	264	194	74.1	5.11	235	3386	1004	952	1.11	1.14	31.9	37.1	0.80	1.0	1670	1670
1671.0	1671.0	90.0	90.3	7	266	228	74.1	5.13	234	3406	1003	953	1.11	1.15	32.0	37.1	0.73	1.0	1671	1671
1672.0	1672.0	100.0	90.3	11	261	230	74.3	5.14	234	3449	1002	952	1.12	1.15	32.0	37.1	0.77	1.0	1672	1672
1673.0	1673.0	58.1	90.2	5	224	118	74.5	5.15	235	3330	1005	972	1.11	1.15	32.4	37.1	0.72	1.0	1673	1673
1674.0	1674.0	66.7	90.2	7	256	229	74.8	5.17	232	3350	991	982	1.12	1.15	32.7	37.1	0.77	1.0	1674	1674
1675.0	1675.0	47.4	90.0	9	252	205	75.0	5.19	232	3410	992	972	1.12	1.15	32.7	37.1	0.88	1.0	1675	1675
1676.0	1676.0	138.5	90.1	8	258	221	75.0	5.20	232	3330	992	962	1.12	1.15	32.8	37.1	0.65	1.0	1676	1676
1677.0	1677.0	46.8	89.9	6	256	168	75.3	5.22	233	3398	996	956	1.12	1.15	32.8	37.1	0.83	1.0	1677	1677
1678.0	1678.0	105.9	89.9	8	232	293	75.6	5.23	233	3494	995	950	1.12	1.15	32.9	37.2	0.69	1.0	1678	1678
1679.0	1679.0	128.6	90.0	8	256	309	75.6	5.23	229	3515	982	949	1.12	1.15	32.9	37.2	0.67	1.0	1679	1679
1680.0	1680.0	72.0	89.9	7	252	228	75.9	5.25	231	3512	989	945	1.12	1.15	32.9	37.2	0.76	1.0	1680	1680
1681.0	1681.0	97.3	89.9	8	251	251	76.1	5.26	231	3545	989	939	1.12	1.15	32.9	37.2	0.72	1.0	1681	1681
1682.0	1682.0	92.3	89.9	8	250	220	76.1	5.27	231	3552	990	934	1.12	1.15	32.9	37.2	0.73	1.0	1682	1682
1683.0	1683.0	62.1	89.9	10	247	223	76.5	5.29	234	3449	999	935	1.12	1.15	32.9	37.2	0.84	1.0	1683	1683
1684.0	1684.0	85.7	89.9	8	251	187	76.7	5.30	233	3513	996	925	1.12	1.15	32.8	37.2	0.75	1.0	1684	1684
1685.0	1685.0	67.9	89.8	5	248	176	76.7	5.31	234	3481	1003	919	1.12	1.15	32.8	37.2	0.73	1.0	1685	1685
1686.0	1686.0	76.6	89.8	5	255	194	77.0	5.33	233	3447	999	913	1.12	1.15	32.7	37.2	0.70	1.0	1686	1686
1687.0	1687.0	83.7	89.7	8	245	230	77.3	5.34	230	3551	983	912	1.12	1.15	32.7	37.2	0.75	1.0	1687	1687
1688.0	1688.0	133.3	89.8	8	241	385	77.3	5.34	232	3535	992	910	1.12	1.15	32.7	37.2	0.66	1.0	1688	1688
1689.0	1689.0	78.3	89.8	10	256	229	77.5	5.36	232	3519	992	910	1.12	1.15	32.6	37.2	0.79	1.0	1689	1689
1690.0	1690.0	80.0	89.8	7	237	304	77.8	5.37	232	3612	992	908	1.12	1.15	32.5	37.2	0.73	1.0	1690	1690
1691.0	1691.0	133.3	89.8	9	247	306	77.8	5.38	230	3575	985	907	1.12	1.15	32.3	37.2	0.67	1.0	1691	1691
1692.0	1692.0	105.9	89.8	9	248	248	78.0	5.39	230	3523	984	911	1.12	1.15	32.3	37.1	0.73	1.0	1692	1692
1693.0	1693.0	65.5	89.8	13	246	262	78.3	5.40	233	3497	997	913	1.11	1.15	32.1	37.0	0.87	1.0	1693	1693
1694.0	1694.0	70.6	89.7	9	252	247	78.3	5.42	234	3489	1002	912	1.12	1.15	32.0	37.8	0.80	1.0	1694	1694
1695.0	1695.0	78.3	89.7	7	253	243	78.5	5.43	231	3447	988	912	1.12	1.15	31.9	37.8	0.75	1.0	1695	1695
1696.0	1696.0	80.0	89.7	10	253	228	78.8	5.44	233	3510	996	911	1.12	1.15	31.8	37.9	0.79	1.0	1696	1696
1697.0	1697.0	90.0	89.7	8	248	212	78.8	5.45	231	3568	987	917	1.12	1.15	31.8	37.9	0.74	1.0	1697	1697
1698.0	1698.0	66.7	89.6	9	265	162	79.1	5.47	235	3370	1005	914	1.12	1.15	31.7	37.9	0.82	1.0	1698	1698
1699.0	1699.0	59.0	89.5	5	281	223	79.4	5.48	234	3466	1003	918	1.11	1.15	31.6	37.9	0.76	1.0	1699	1699
1700.0	1700.0	60.0	89.4	7	274	206	79.6	5.50	234	3493	1000	921	1.11	1.15	31.5	37.9	0.82	1.0	1700	1700
1701.0	1701.0	38.3	89.2	9	280	212	80.2	5.53	235	3393	1004	927	1.12	1.15	31.5	38.0	0.93	1.0	1701	1701
1702.0	1702.0	60.0	89.1	7	259	193	80.4	5.54	233	3407	998	951	1.12	1.15	31.9	38.1	0.80	1.0	1702	1702
1703.0	1703.0	68.0	89.2	7	271	294	80.4	5.55	230	3417	985	971	1.12	1.15	32.2	38.1	0.78	1.0	1703	1703
1704.0	1704.0	66.7	89.2	8	277	250	80.7	5.56	233	3357	996	967	1.11	1.15	32.2	38.1	0.82	1.0	1704	1704
1705.0	1705.0	58.1	89.1	14	280	169	81.0	5.58	234	3389	1001	958	1.12	1.15	32.3	38.1	0.94	1.0	1705	1705
1706.0	1706.0	39.1	88.8	13	268	278	81.2	5.61	230	3537	984	952	1.12	1.15	32.4	38.1	1.01	1.0	1706	1706
1707.0	1707.0	128.6	88.9	10	266	315	81.5	5.61	229	3620	980	948	1.12	1.15	32.4	38.1	0.71	1.0	1707	1707
1708.0	1708.0	133.3	88.9	10	267	403	81.5	5.62	227	3553	970	942	1.12	1.15	32.5	38.2	0.70	1.0	1708	1708
1709.0	1709.0	63.2	88.9	12	275	310	81.8	5.64	229	3499	980	937	1.12	1.15	32.5	38.2	0.89	1.0	1709	1709
1710.0	1710.0	62.1	88.8	9	272	291	82.1	5.65	230	3505	985	933	1.12	1.15	32.6	38.2	0.84	1.0	1710	1710

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1710.0	1710.0	62.1	88.8	9	272	291	82.1	5.65	230	3505	985	933	1.12	1.15	32.6	38.2	0.84	1.0	1710	1710
1711.0	1711.0	40.9	88.6	13	277	176	82.3	5.68	234	3383	1002	928	1.12	1.15	32.7	38.2	1.00	1.0	1711	1711
1712.0	1712.0	25.2	88.1	15	278	171	83.2	5.72	234	3384	1001	923	1.11	1.15	32.9	38.2	1.13	1.0	1712	1712
1713.0	1713.0	97.3	88.2	12	255	361	83.2	5.73	227	3667	973	920	1.12	1.15	33.0	38.2	0.79	1.0	1713	1713
1714.0	1714.0	83.7	88.2	8	271	282	83.5	5.74	231	3514	987	919	1.11	1.15	33.1	38.2	0.76	1.0	1714	1714
1715.0	1715.0	61.0	88.1	8	266	293	83.7	5.76	230	3553	985	916	1.12	1.15	33.2	38.2	0.82	1.0	1715	1715
1716.0	1716.0	54.5	88.0	6	277	180	84.0	5.77	232	3463	993	913	1.12	1.15	33.3	38.3	0.80	1.0	1716	1716
1717.0	1717.0	48.0	87.8	7	278	201	84.3	5.80	234	3423	1000	909	1.12	1.15	33.4	38.3	0.85	1.0	1717	1717
1718.0	1718.0	73.5	87.8	10	263	322	84.6	5.81	230	3563	985	905	1.11	1.15	33.4	38.3	0.83	1.0	1718	1718
1719.0	1719.0	133.3	87.9	6	273	302	84.8	5.82	230	3501	983	905	1.12	1.15	33.5	38.2	0.64	1.0	1719	1719
1720.0	1720.0	116.1	87.9	6	277	229	84.8	5.83	231	3521	989	903	1.12	1.15	33.5	38.3	0.67	1.0	1720	1720
1721.0	1721.0	109.1	87.9	6	253	367	85.1	5.83	229	3691	980	902	1.12	1.15	33.6	38.4	0.67	1.0	1721	1721
1722.0	1722.0	138.5	88.0	9	258	307	85.1	5.84	228	3600	975	898	1.12	1.15	33.6	38.2	0.68	1.0	1722	1722
1723.0	1723.0	116.1	88.0	6	277	203	85.1	5.85	232	3495	991	898	1.12	1.15	33.6	38.4	0.67	1.0	1723	1723
1724.0	1724.0	102.9	88.1	3	275	267	85.4	5.86	234	3460	1002	893	1.12	1.15	33.7	38.4	0.61	1.0	1724	1724
1725.0	1725.0	124.1	88.1	6	266	292	85.4	5.87	230	3515	983	887	1.12	1.15	33.7	38.4	0.65	1.0	1725	1725
1726.0	1726.0	156.5	88.2	7	273	218	85.7	5.87	231	3463	989	887	1.12	1.15	33.7	38.2	0.62	1.0	1726	1726
1727.0	1727.0	65.5	88.1	4	279	191	86.0	5.89	233	3420	997	882	1.12	1.15	33.8	38.3	0.71	1.0	1727	1727
1728.0	1728.0	112.5	88.2	3	274	271	86.0	5.90	231	3513	989	875	1.12	1.15	33.8	38.3	0.60	1.0	1728	1728
1729.0	1729.0	4.7	85.2	9	252	101	89.3	6.11	236	3315	1011	898	1.11	1.14	34.3	38.3	1.32	1.0	1729	1729
1730.0	1730.0	12.5	84.3	9	259	151	90.4	6.19	234	3375	1002	961	1.12	1.14	34.8	38.3	1.16	1.0	1730	1730
1731.0	1731.0	20.9	83.8	3	246	100	91.3	6.24	236	3333	1008	992	1.11	1.14	34.9	39.2	0.83	1.0	1731	1731
1732.0	1732.0	120.0	83.9	3	272	258	91.3	6.25	232	3409	992	1021	1.12	1.14	35.3	39.5	0.59	1.0	1732	1732
1733.0	1733.0	102.9	83.9	3	279	216	91.5	6.26	233	3490	996	1008	1.12	1.14	35.3	39.5	0.61	1.0	1733	1733
1734.0	1734.0	18.5	83.3	11	285	132	92.4	6.31	236	3423	1011	975	1.12	1.14	35.2	39.6	1.14	1.0	1734	1734
1735.0	1735.0	8.8	82.0	8	254	154	94.0	6.43	225	3193	962	965	1.14	1.17	35.2	39.9	1.15	1.0	1735	1735
1736.0	1736.0	75.0	82.0	5	247	210	94.2	6.44	225	3475	961	972	1.15	1.17	35.2	39.9	0.70	1.0	1736	1736
1737.0	1737.0	97.3	82.0	5	248	356	94.2	6.45	224	3425	958	968	1.15	1.17	35.2	39.9	0.66	1.0	1737	1737
1738.0	1738.0	111.0	82.1	6	241	281	94.5	6.45	222	3535	949	962	1.15	1.17	35.2	39.8	0.65	1.0	1738	1738
1739.0	1739.0	69.0	80.5	5	277	250	95.1	6.60	232	3570	995	1004	1.15	1.17	35.2	39.5	0.71	1.0	1739	1739
1740.0	1740.0	120.0	80.5	4	277	219	95.1	6.61	232	3571	991	977	1.15	1.17	35.1	37.8	0.62	1.0	1740	1740
1741.0	1741.0	105.9	80.6	6	276	227	95.4	6.62	232	3608	994	968	1.15	1.17	35.1	37.1	0.66	1.0	1741	1741
1742.0	1742.0	87.8	80.6	5	272	247	95.7	6.63	235	3627	1004	964	1.15	1.17	35.1	37.1	0.69	1.0	1742	1742
1743.0	1743.0	87.8	80.6	4	271	225	95.7	6.64	234	3616	1002	961	1.15	1.17	35.1	37.9	0.65	1.0	1743	1743
1744.0	1744.0	124.1	80.6	4	273	282	95.9	6.65	232	3647	994	961	1.15	1.17	35.2	38.7	0.59	1.0	1744	1744
1745.0	1745.0	124.1	80.7	4	259	306	95.9	6.65	232	3767	992	962	1.15	1.17	35.2	39.0	0.60	1.0	1745	1745
1746.0	1746.0	128.6	80.7	5	274	278	96.2	6.66	233	3649	999	960	1.15	1.17	35.2	39.3	0.61	1.0	1746	1746
1747.0	1747.0	156.5	80.8	5	260	353	96.2	6.67	230	3819	984	960	1.15	1.17	35.2	39.5	0.58	1.0	1747	1747
1748.0	1748.0	14.0	80.1	10	274	115	97.3	6.74	239	3457	1021	960	1.15	1.17	35.3	40.1	1.13	1.0	1748	1748
1749.0	1749.0	1.9	74.3	10	223	94	104.6	7.28	205	2951	876	961	1.15	1.17	36.3	41.5	1.48	1.0	1749	1749
1750.0	1750.0	1.9	69.5	11	257	92	112.4	7.80	234	3429	999	966	1.16	1.18	37.4	40.9	1.53	1.0	1750	1750
1751.0	1751.0	23.5	69.3	4	259	165	112.9	7.84	231	3470	989	969	1.16	1.18	38.3	41.5	0.85	1.0	1751	1751
1752.0	1752.0	31.6	69.1	4	258	172	113.5	7.87	230	3518	986	970	1.16	1.18	38.3	41.6	0.79	1.0	1752	1752
1753.0	1753.0	35.6	69.0	6	251	248	114.0	7.90	229	3603	979	971	1.16	1.18	38.3	41.6	0.83	1.0	1753	1753
1754.0	1754.0	31.3	68.8	4	256	167	114.5	7.93	231	3487	990	971	1.16	1.18	38.3	41.7	0.80	1.0	1754	1754
1755.0	1755.0	37.5	68.7	2	258	159	114.8	7.96	233	3533	997	970	1.16	1.18	38.3	42.8	0.70	1.0	1755	1755
1756.0	1756.0	4.5	67.0	7	264	92	118.4	8.18	235	3456	1005	1038	1.16	1.18	38.8	42.1	1.25	1.0	1756	1756
1757.0	1757.0	2.9	64.4	13	263	109	123.6	8.52	234	3545	1001	1017	1.16	1.18	40.0	44.6	1.49	1.0	1757	1757

Bit Run 4 - HC - ATMGT-09
1758 to 1985 m

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1758.0	1758.0	4.0	4.0	11	65	75	1.0	0.25	194	3162	832	1021	1.16	1.18	28.3	39.0	1.11	1.0	1758	1758
1759.0	1759.0	8.4	5.5	23	74	105	1.4	0.37	210	3585	900	1007	1.16	1.18	29.4	39.9	1.17	1.0	1759	1759
1760.0	1760.0	10.0	6.4	35	79	135	1.9	0.47	211	3540	901	1010	1.16	1.18	30.1	40.1	1.29	1.0	1760	1760
1761.0	1761.0	13.5	7.4	41	78	157	2.3	0.54	215	3530	922	1009	1.16	1.18	31.2	40.3	1.27	1.0	1761	1761
1762.0	1762.0	8.2	7.6	45	77	173	2.8	0.66	215	3531	922	1008	1.16	1.18	32.0	40.4	1.45	1.0	1762	1762
1763.0	1763.0	6.7	7.4	44	77	174	3.5	0.81	215	3525	922	1009	1.16	1.18	32.6	40.5	1.49	1.0	1763	1763
1764.0	1764.0	8.4	7.5	45	78	154	4.1	0.93	215	3533	920	1008	1.16	1.18	35.8	40.6	1.44	1.0	1764	1764
1765.0	1765.0	8.4	7.6	45	78	150	4.6	1.05	215	3542	919	1009	1.18	1.23	36.5	40.7	1.39	1.0	1765	1765
1766.0	1766.0	9.6	7.8	50	78	163	5.1	1.15	214	3543	916	1008	1.18	1.23	36.9	40.7	1.40	1.0	1766	1766
1767.0	1767.0	7.1	7.7	50	78	161	5.7	1.29	214	3551	915	1012	1.18	1.23	37.2	40.8	1.48	1.0	1767	1767
1768.0	1768.0	8.5	7.8	50	78	164	6.3	1.41	213	3548	912	1017	1.18	1.23	37.5	40.9	1.43	1.0	1768	1768
1769.0	1769.0	10.3	8.0	50	81	169	6.7	1.51	213	3552	912	1017	1.18	1.23	37.8	41.0	1.38	1.0	1769	1769
1770.0	1770.0	10.6	8.1	50	92	171	7.2	1.60	213	3552	912	1019	1.18	1.23	38.0	41.0	1.41	1.0	1770	1770
1771.0	1771.0	10.6	8.3	50	92	174	7.7	1.70	213	3573	911	1018	1.18	1.23	38.2	41.1	1.42	1.0	1771	1771
1772.0	1772.0	18.3	8.6	51	93	170	8.0	1.75	213	3556	911	1016	1.18	1.23	38.3	41.1	1.27	1.0	1772	1772
1773.0	1773.0	16.8	8.8	50	94	155	8.4	1.81	213	3554	911	1012	1.18	1.23	38.3	41.2	1.29	1.0	1773	1773
1774.0	1774.0	9.7	8.9	45	109	158	9.1	1.91	213	3538	912	1009	1.18	1.23	38.3	41.3	1.44	1.0	1774	1774
1775.0	1775.0	10.1	8.9	47	109	160	9.7	2.01	213	3534	912	1007	1.18	1.23	38.3	41.5	1.45	1.0	1775	1775
1776.0	1776.0	9.0	8.9	47	109	156	10.4	2.12	214	3525	914	1004	1.18	1.23	38.4	41.6	1.48	1.0	1776	1776
1777.0	1777.0	7.4	8.9	45	109	152	11.3	2.26	214	3506	914	1002	1.18	1.23	38.4	41.5	1.52	1.0	1777	1777
1778.0	1778.0	6.3	8.7	41	110	143	12.3	2.42	214	3519	914	1000	1.18	1.23	38.5	41.7	1.51	1.0	1778	1778
1779.0	1779.0	7.7	8.6	37	104	135	13.1	2.55	214	3527	917	990	1.18	1.23	38.3	41.9	1.39	1.0	1779	1779
1780.0	1780.0	12.8	8.8	52	107	180	13.6	2.62	216	3541	923	961	1.18	1.23	37.9	41.9	1.43	1.0	1780	1780
1781.0	1781.0	10.5	8.8	53	110	180	14.2	2.72	215	3547	922	962	1.18	1.23	37.9	41.9	1.50	1.0	1781	1781
1782.0	1782.0	13.1	8.9	54	110	184	14.7	2.80	215	3544	921	961	1.18	1.23	38.0	42.0	1.44	1.0	1782	1782
1783.0	1783.0	10.5	9.0	50	111	178	15.3	2.89	214	3561	918	961	1.18	1.23	38.2	42.1	1.47	1.0	1783	1783
1784.0	1784.0	13.7	9.1	50	111	180	15.9	2.96	214	3562	917	962	1.18	1.23	38.4	42.2	1.40	1.0	1784	1784
1785.0	1785.0	11.9	9.2	50	111	177	16.4	3.05	214	3561	918	961	1.18	1.23	38.5	42.2	1.43	1.0	1785	1785
1786.0	1786.0	10.8	9.2	50	111	177	17.0	3.14	214	3574	916	961	1.18	1.23	38.7	42.3	1.46	1.0	1786	1786
1787.0	1787.0	9.6	9.2	50	111	177	17.7	3.25	214	3550	916	963	1.18	1.23	38.8	42.4	1.49	1.0	1787	1787
1788.0	1788.0	8.8	9.2	50	101	171	18.4	3.36	214	3558	916	963	1.18	1.23	38.8	42.5	1.49	1.0	1788	1788
1789.0	1789.0	10.9	9.3	49	100	173	18.9	3.45	214	3562	915	963	1.18	1.23	39.0	42.5	1.42	1.0	1789	1789
1790.0	1790.0	10.8	9.3	51	99	178	19.5	3.54	214	3547	916	956	1.18	1.23	39.2	42.6	1.44	1.0	1790	1790
1791.0	1791.0	9.7	9.3	50	100	173	20.1	3.65	214	3564	916	935	1.18	1.23	39.2	42.7	1.46	1.0	1791	1791
1792.0	1792.0	9.5	9.3	51	100	172	20.7	3.75	213	3562	913	938	1.18	1.23	39.4	42.8	1.47	1.0	1792	1792
1793.0	1793.0	13.3	9.4	50	99	176	21.1	3.83	213	3566	913	940	1.18	1.23	39.5	42.8	1.37	1.0	1793	1793
1794.0	1794.0	10.3	9.4	51	99	177	21.7	3.92	213	3563	912	943	1.18	1.23	39.6	42.9	1.45	1.0	1794	1794
1795.0	1795.0	8.6	9.4	52	99	179	22.3	4.04	213	3569	912	941	1.18	1.23	39.7	43.0	1.51	1.0	1795	1795
1796.0	1796.0	9.8	9.4	50	99	174	23.0	4.14	213	3556	912	939	1.18	1.23	39.9	43.1	1.46	1.0	1796	1796
1797.0	1797.0	12.0	9.5	49	99	174	23.4	4.23	213	3559	911	938	1.18	1.23	40.0	43.2	1.39	1.0	1797	1797
1798.0	1798.0	11.4	9.5	51	99	176	24.0	4.31	213	3563	911	935	1.18	1.23	40.1	43.3	1.43	1.0	1798	1798
1799.0	1799.0	8.6	9.5	49	100	166	24.6	4.43	213	3550	910	931	1.18	1.23	40.3	43.0	1.49	1.0	1799	1799
1800.0	1800.0	11.8	9.5	52	99	182	25.2	4.52	212	3558	908	925	1.18	1.23	40.3	43.0	1.43	1.0	1800	1800
1801.0	1801.0	27.0	9.7	48	99	169	25.3	4.53	212	3557	909	925	1.18	1.23	40.4	43.1	1.16	1.0	1801	1801
1802.0	1802.0	22.8	9.8	51	99	185	25.5	4.58	212	3559	909	922	1.18	1.23	40.4	43.0	1.23	1.0	1802	1802
1803.0	1803.0	12.5	9.9	52	99	179	25.9	4.66	212	3544	909	921	1.18	1.23	40.5	43.0	1.41	1.0	1803	1803
1804.0	1804.0	13.2	9.9	49	100	167	26.4	4.73	212	3554	906	918	1.18	1.23	40.6	43.2	1.37	1.0	1804	1804
1805.0	1805.0	30.3	10.1	50	100	162	26.6	4.77	212	3535	907	917	1.18	1.23	40.6	43.2	1.14	1.0	1805	1805
1806.0	1806.0	7.8	10.0	51	100	167	27.3	4.89	212	3546	909	914	1.18	1.23	40.7	43.2	1.53	1.0	1806	1806
1807.0	1807.0	11.8	10.0	50	100	165	27.8	4.98	213	3521	910	911	1.18	1.23	40.8	42.4	1.41	1.0	1807	1807

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB		AMPS	BIT	BIT		PSI	GPM	PIT	SG	SG	DEG	DEG		PRS	NOS	NOS
1807.0	1807.0	11.8	10.0	50	100	165	27.8	4.98	213	3521	910	911	1.18	1.23	40.8	42.4	1.41	1.0	1807	1807
1808.0	1808.0	10.6	10.1	47	81	153	28.3	5.07	214	3546	914	882	1.18	1.23	40.5	42.9	1.36	1.0	1808	1808
1809.0	1809.0	17.1	10.1	51	92	194	28.6	5.13	214	3572	917	857	1.18	1.23	40.3	43.3	1.30	1.0	1809	1809
1810.0	1810.0	17.7	10.2	54	102	190	29.0	5.19	214	3573	916	856	1.18	1.23	40.1	43.3	1.34	1.0	1810	1810
1811.0	1811.0	18.3	10.3	53	103	177	29.3	5.24	215	3578	918	856	1.18	1.23	40.1	43.4	1.32	1.0	1811	1811
1812.0	1812.0	3.3	9.9	52	89	195	29.8	5.55	210	3560	918	896	1.18	1.22	40.3	43.4	1.75	1.0	1812	1812
1813.0	1813.0	26.9	10.0	46	85	193	29.9	5.58	196	3587	920	872	1.18	1.22	40.2	43.5	1.11	1.0	1813	1813
1814.0	1814.0	29.8	10.1	49	88	191	30.1	5.62	196	3606	925	869	1.18	1.22	40.2	43.5	1.11	1.0	1814	1814
1815.0	1815.0	16.7	10.2	43	88	167	30.4	5.68	208	3550	923	865	1.18	1.23	40.1	43.5	1.22	1.0	1815	1815
1816.0	1816.0	26.3	10.3	50	85	195	30.6	5.71	217	3739	929	857	1.18	1.23	40.1	43.5	1.14	1.0	1816	1816
1817.0	1817.0	29.5	10.4	50	85	198	30.8	5.75	217	3742	929	857	1.18	1.23	40.0	43.5	1.11	1.0	1817	1817
1818.0	1818.0	28.8	10.5	51	84	207	30.9	5.78	217	3771	928	857	1.18	1.23	40.0	43.5	1.12	1.0	1818	1818
1819.0	1819.0	36.0	10.7	50	85	191	31.1	5.81	217	3742	929	858	1.18	1.23	40.1	43.6	1.05	1.0	1819	1819
1820.0	1820.0	34.0	10.8	53	84	208	31.2	5.84	217	3790	928	858	1.18	1.23	40.0	43.6	1.09	1.0	1820	1820
1821.0	1821.0	28.6	10.9	53	84	212	31.4	5.88	217	3783	929	858	1.18	1.23	40.0	43.7	1.14	1.0	1821	1821
1822.0	1822.0	16.2	10.9	53	99	186	31.8	5.94	217	3767	929	857	1.18	1.23	40.0	43.7	1.35	1.0	1822	1822
1823.0	1823.0	12.8	11.0	53	99	179	32.2	6.02	217	3752	928	855	1.18	1.23	40.2	43.8	1.42	1.0	1823	1823
1824.0	1824.0	11.5	11.0	53	99	180	32.7	6.10	216	3737	923	854	1.18	1.23	40.4	43.8	1.44	1.0	1824	1824
1825.0	1825.0	16.5	11.0	51	100	179	33.1	6.16	215	3732	922	853	1.18	1.23	40.6	43.9	1.33	1.0	1825	1825
1826.0	1826.0	14.1	11.1	50	100	177	33.5	6.23	215	3724	921	853	1.18	1.23	40.8	43.9	1.37	1.0	1826	1826
1827.0	1827.0	11.2	11.1	53	98	172	34.0	6.32	215	3744	921	854	1.18	1.23	41.0	43.8	1.44	1.0	1827	1827
1828.0	1828.0	7.7	11.0	53	92	170	34.7	6.45	215	3735	922	849	1.18	1.23	41.2	43.3	1.53	1.0	1828	1828
1829.0	1829.0	10.2	11.0	53	92	180	35.2	6.55	216	3733	923	846	1.18	1.23	41.4	43.8	1.45	1.0	1829	1829
1830.0	1830.0	20.1	11.1	52	92	176	35.5	6.60	215	3720	922	844	1.18	1.23	41.4	43.9	1.26	1.0	1830	1830
1831.0	1831.0	20.9	11.1	50	92	172	35.8	6.65	215	3728	922	840	1.18	1.23	40.9	43.9	1.23	1.0	1831	1831
1832.0	1832.0	20.6	11.2	52	91	187	36.0	6.70	215	3725	919	840	1.18	1.23	40.5	44.0	1.25	1.0	1832	1832
1833.0	1833.0	23.1	11.3	51	91	182	36.2	6.74	215	3742	921	842	1.18	1.23	40.6	44.1	1.20	1.0	1833	1833
1834.0	1834.0	27.7	11.4	49	91	192	36.4	6.78	215	3728	920	844	1.18	1.23	40.7	44.1	1.14	1.0	1834	1834
1835.0	1835.0	22.4	11.4	39	67	115	36.6	6.82	215	3746	921	863	1.18	1.23	41.0	44.3	1.03	1.0	1835	1835
1836.0	1836.0	24.7	11.5	35	94	155	36.8	6.86	216	3761	923	870	1.18	1.23	41.7	44.7	1.07	1.0	1836	1836
1837.0	1837.0	19.8	11.6	40	93	167	37.1	6.91	216	3768	923	813	1.18	1.23	40.8	44.7	1.16	1.0	1837	1837
1838.0	1838.0	25.2	11.7	40	92	180	37.2	6.94	215	3793	922	797	1.18	1.23	40.9	44.7	1.10	1.0	1838	1838
1839.0	1839.0	31.2	11.8	44	91	185	37.3	6.94	216	3781	924	795	1.18	1.23	40.9	44.7	1.07	1.0	1839	1839
1840.0	1840.0	34.3	11.9	51	91	205	37.4	6.97	216	3758	923	796	1.18	1.23	40.7	44.8	1.09	1.0	1840	1840
1841.0	1841.0	29.2	12.0	47	91	196	37.5	6.98	215	3759	921	796	1.18	1.22	41.1	44.8	1.12	1.0	1841	1841
1842.0	1842.0	19.9	12.1	52	92	179	37.7	7.03	216	3770	923	795	1.18	1.22	41.2	44.8	1.26	1.0	1842	1842
1843.0	1843.0	39.6	12.2	51	91	207	37.9	7.05	215	3773	922	794	1.18	1.22	41.3	44.9	1.06	1.0	1843	1843
1844.0	1844.0	21.4	12.3	53	92	185	38.2	7.10	216	3768	923	793	1.18	1.22	41.1	44.9	1.25	1.0	1844	1844
1845.0	1845.0	27.1	12.3	53	91	199	38.4	7.14	217	3816	927	792	1.18	1.22	41.4	44.9	1.18	1.0	1845	1845
1846.0	1846.0	29.5	12.4	48	92	190	38.5	7.17	217	3815	929	796	1.18	1.22	41.4	44.9	1.12	1.0	1846	1846
1847.0	1847.0	21.8	12.5	50	91	191	38.7	7.22	217	3814	929	797	1.18	1.22	41.4	44.9	1.22	1.0	1847	1847
1848.0	1848.0	15.6	12.5	52	92	179	39.1	7.28	217	3807	928	798	1.18	1.22	41.1	45.0	1.34	1.0	1848	1848
1849.0	1849.0	33.6	12.6	48	91	193	39.3	7.31	217	3820	928	798	1.18	1.22	41.2	45.0	1.08	1.0	1849	1849
1850.0	1850.0	31.6	12.7	49	92	184	39.5	7.34	217	3804	928	797	1.18	1.22	41.2	45.0	1.11	1.0	1850	1850
1851.0	1851.0	18.1	12.7	48	92	180	39.8	7.40	217	3800	927	797	1.18	1.22	41.3	45.0	1.26	1.0	1851	1851
1852.0	1852.0	24.7	12.8	48	92	185	39.9	7.44	217	3836	927	795	1.18	1.22	41.4	45.1	1.18	1.0	1852	1852
1853.0	1853.0	34.6	12.9	50	91	201	40.1	7.47	217	3810	929	795	1.18	1.22	41.1	45.1	1.09	1.0	1853	1853
1854.0	1854.0	34.6	12.9	45	92	180	40.3	7.50	217	3820	927	794	1.18	1.22	41.3	45.2	1.06	1.0	1854	1854
1855.0	1855.0	13.1	12.9	49	93	168	40.7	7.57	217	3801	927	794	1.18	1.22	41.2	45.2	1.36	1.0	1855	1855
1856.0	1856.0	37.9	13.0	46	92	186	40.8	7.60	216	3812	925	793	1.18	1.22	41.4	45.2	1.04	1.0	1856	1856

DEPTH METRE	DEPTH FVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1856.0	1856.0	37.9	13.0	46	92	186	40.8	7.60	216	3812	925	793	1.18	1.22	41.4	45.2	1.04	1.0	1856	1856
1857.0	1857.0	14.2	13.0	51	94	156	41.2	7.67	217	3776	928	799	1.18	1.22	41.2	45.3	1.36	1.0	1857	1857
1858.0	1858.0	17.4	13.1	50	93	172	41.6	7.73	218	3712	934	798	1.18	1.22	41.1	45.1	1.29	1.0	1858	1858
1859.0	1859.0	8.5	13.0	50	93	160	42.2	7.84	219	3666	939	796	1.18	1.22	41.3	44.6	1.49	1.0	1859	1859
1860.0	1860.0	14.6	13.0	51	98	177	42.6	7.91	219	3704	936	793	1.18	1.22	41.2	44.9	1.36	1.0	1860	1860
1861.0	1861.0	10.3	13.0	50	94	177	43.1	8.01	218	3733	932	791	1.18	1.22	41.4	45.0	1.44	1.0	1861	1861
1862.0	1862.0	14.2	13.0	51	95	184	43.5	8.08	217	3758	929	789	1.18	1.22	41.3	45.1	1.36	1.0	1862	1862
1863.0	1863.0	7.9	12.9	51	102	163	44.3	8.21	217	3762	929	787	1.18	1.22	41.2	45.0	1.55	1.0	1863	1863
1864.0	1863.5	13.8	12.9	47	102	152	44.8	8.28	217	3771	927	784	1.18	1.22	41.4	44.7	1.35	1.0	1864	1864
1865.0	1865.0	49.3	13.0	47	100	102	44.9	8.30	220	3889	941	783	1.18	1.22	41.4	44.6	0.99	1.0	1865	1865
1866.0	1866.0	18.0	13.0	45	99	170	45.2	8.35	220	3912	940	781	1.18	1.22	41.2	44.6	1.25	1.0	1866	1866
1867.0	1867.0	14.4	13.1	48	99	171	45.6	8.42	218	3864	933	784	1.18	1.22	41.2	44.6	1.34	1.0	1867	1867
1868.0	1868.0	7.8	13.0	49	100	159	46.3	8.55	218	3848	934	782	1.18	1.22	41.3	44.7	1.52	1.0	1868	1868
1869.0	1869.0	10.3	12.9	48	100	161	46.9	8.65	223	3673	954	782	1.18	1.24	41.2	44.8	1.42	1.0	1869	1869
1870.0	1870.0	9.4	12.9	48	100	159	47.5	8.76	225	3588	963	786	1.18	1.24	41.3	44.7	1.44	1.0	1870	1870
1871.0	1871.0	8.1	12.8	48	100	162	48.3	8.88	224	3650	957	790	1.18	1.24	41.3	44.6	1.48	1.0	1871	1871
1872.0	1872.0	7.9	12.8	50	100	163	49.0	9.01	222	3731	949	794	1.18	1.24	41.4	44.5	1.50	1.0	1872	1872
1873.0	1873.0	7.7	12.7	48	100	161	49.8	9.14	220	3794	943	798	1.18	1.24	41.1	44.5	1.50	1.0	1873	1873
1874.0	1874.0	9.1	12.7	48	100	159	50.4	9.24	219	3857	936	797	1.18	1.24	41.6	44.4	1.45	1.0	1874	1874
1875.0	1875.0	10.9	12.6	48	100	159	50.9	9.34	218	3876	935	797	1.18	1.24	41.8	44.4	1.40	1.0	1875	1875
1876.0	1876.0	9.4	12.6	49	100	163	51.6	9.44	218	3871	934	798	1.18	1.24	41.3	44.4	1.45	1.0	1876	1876
1877.0	1877.0	8.4	12.5	48	100	159	52.3	9.56	222	3704	950	798	1.18	1.24	38.6	44.3	1.48	1.0	1877	1877
1878.0	1878.0	9.5	12.5	48	100	161	52.9	9.67	224	3649	957	805	1.18	1.24	37.8	44.3	1.44	1.0	1878	1878
1879.0	1879.0	10.1	12.5	49	100	164	53.5	9.77	224	3634	957	814	1.18	1.24	38.7	44.3	1.43	1.0	1879	1879
1880.0	1880.0	9.4	12.5	49	100	159	54.1	9.87	223	3647	954	868	1.18	1.24	39.6	44.3	1.45	1.0	1880	1880
1881.0	1881.0	8.3	12.4	49	100	160	54.8	9.99	222	3680	949	920	1.18	1.24	40.2	44.3	1.48	1.0	1881	1881
1882.0	1882.0	14.3	12.4	48	100	164	55.2	10.06	221	3749	945	971	1.18	1.24	40.6	44.3	1.32	1.0	1882	1882
1883.0	1883.0	9.0	12.4	48	100	162	56.0	10.17	220	3790	941	1005	1.18	1.24	40.9	44.3	1.45	1.0	1883	1883
1884.0	1884.0	10.7	12.4	48	100	159	56.5	10.27	219	3823	938	1007	1.18	1.24	41.2	44.3	1.41	1.0	1884	1884
1885.0	1885.0	11.5	12.4	49	99	166	57.0	10.36	219	3841	937	1015	1.18	1.24	41.3	44.3	1.40	1.0	1885	1885
1886.0	1886.0	8.3	12.3	48	100	152	57.7	10.48	218	3847	934	1013	1.18	1.24	41.5	44.3	1.47	1.0	1886	1886
1887.0	1887.0	8.8	12.3	49	100	164	58.4	10.59	219	3849	935	1003	1.18	1.24	41.6	44.4	1.47	1.0	1887	1887
1888.0	1888.0	14.3	12.3	52	99	169	58.8	10.66	219	3848	936	1002	1.18	1.24	41.6	44.4	1.36	1.0	1888	1888
1889.0	1889.0	6.7	12.2	40	104	145	59.7	10.81	219	3846	936	1003	1.18	1.24	41.7	44.2	1.45	1.0	1889	1889
1890.0	1890.0	12.0	12.2	38	107	152	60.2	10.89	219	3846	935	1003	1.18	1.24	41.7	44.3	1.29	1.0	1890	1890
1891.0	1891.0	14.2	12.2	38	107	151	60.7	10.96	218	3838	934	1002	1.18	1.24	41.7	44.2	1.25	1.0	1891	1891
1892.0	1892.0	8.4	12.2	37	102	137	61.4	11.08	218	3867	932	1002	1.18	1.24	41.8	44.3	1.36	1.0	1892	1892
1893.0	1893.0	9.3	12.2	37	112	148	62.1	11.19	218	3930	932	988	1.18	1.24	41.6	44.4	1.36	1.0	1893	1893
1894.0	1894.0	9.2	12.2	37	111	157	62.1	11.19	218	3977	934	984	1.18	1.24	41.4	44.3	1.37	1.0	1894	1894
1895.0	1895.0	12.4	12.3	44	110	168	62.1	11.19	219	3926	935	987	1.18	1.24	41.4	44.2	1.36	1.0	1895	1895
1896.0	1896.0	8.1	12.4	41	111	155	62.2	11.21	218	3957	934	986	1.18	1.24	41.4	44.4	1.44	1.0	1896	1896
1897.0	1897.0	14.5	12.4	39	111	153	62.7	11.28	218	3946	934	986	1.18	1.24	41.4	44.4	1.27	1.0	1897	1897
1898.0	1898.0	32.1	12.5	37	111	158	62.9	11.31	218	3952	933	985	1.18	1.24	41.4	44.4	1.04	1.0	1898	1898
1899.0	1899.0	25.0	12.5	37	111	153	63.1	11.35	218	3960	933	984	1.18	1.24	41.4	44.4	1.11	1.0	1899	1899
1900.0	1900.0	23.1	12.5	37	111	160	63.5	11.40	218	3942	934	984	1.18	1.24	41.4	44.4	1.13	1.0	1900	1900
1901.0	1901.0	43.4	12.6	37	108	165	63.6	11.42	219	4001	936	994	1.18	1.24	41.4	44.4	0.96	1.0	1901	1901
1902.0	1902.0	37.9	12.7	37	108	162	63.8	11.45	218	3957	933	986	1.18	1.24	41.4	44.5	1.00	1.0	1902	1902
1903.0	1903.0	15.8	12.7	38	108	155	64.1	11.51	218	3956	932	984	1.18	1.24	41.4	44.5	1.23	1.0	1903	1903
1904.0	1904.0	34.3	12.7	39	108	167	64.3	11.54	218	3978	932	985	1.18	1.24	41.3	44.5	1.04	1.0	1904	1904
1905.0	1905.0	18.5	12.8	39	108	157	64.7	11.59	218	3951	933	986	1.18	1.24	41.3	44.6	1.19	1.0	1905	1905

DEPTH	DEPTH	ROP	AVE	WOB	RPM	TORQ	KREV	HRS	SPM	SPP	MFI	TOT	MWI	ECD	MTI	MTO	DCEXP	POR	REC	REC
METRE	TVD	MT/H	ROP	KLB		AMPS	BIT	BIT		PSI	GPM	PIT	SG	SG	DEG	DEG		PRS	NOS	NOS
1905.0	1905.0	18.5	12.8	39	108	157	64.7	11.59	218	3951	933	986	1.18	1.24	41.3	44.6	1.19	1.0	1905	1905
1906.0	1906.0	12.0	12.8	39	108	150	65.2	11.68	218	3951	933	988	1.18	1.24	41.2	44.6	1.31	1.0	1906	1906
1907.0	1907.0	15.3	12.8	40	108	159	65.7	11.74	218	3964	933	990	1.18	1.24	41.2	44.6	1.25	1.0	1907	1907
1908.0	1908.0	14.9	12.8	40	108	153	66.1	11.81	218	3971	932	991	1.18	1.24	41.2	44.6	1.26	1.0	1908	1908
1909.0	1909.0	20.8	12.8	38	108	156	66.4	11.86	218	3964	932	990	1.18	1.24	41.3	44.6	1.16	1.0	1909	1909
1910.0	1910.0	41.4	12.9	37	109	151	66.5	11.88	217	3964	930	989	1.18	1.24	41.3	44.6	0.97	1.0	1910	1910
1911.0	1911.0	17.9	12.9	37	109	148	66.9	11.94	217	3947	930	989	1.18	1.24	41.4	44.7	1.19	1.0	1911	1911
1912.0	1912.0	6.5	12.8	41	109	146	67.9	12.09	217	3956	930	988	1.18	1.24	41.5	44.7	1.49	1.0	1912	1912
1913.0	1913.0	26.5	12.9	39	108	162	68.2	12.13	217	3948	930	988	1.18	1.24	41.6	44.7	1.10	1.0	1913	1913
1914.0	1914.0	22.2	12.9	38	108	160	68.4	12.17	217	3961	930	987	1.18	1.24	41.6	44.7	1.14	1.0	1914	1914
1915.0	1915.0	23.1	12.9	39	108	157	68.8	12.22	217	3960	929	988	1.18	1.24	41.7	44.7	1.14	1.0	1915	1915
1916.0	1916.0	24.3	13.0	38	108	160	69.0	12.26	217	3965	928	988	1.18	1.24	41.7	44.8	1.12	1.0	1916	1916
1917.0	1917.0	12.2	13.0	39	109	146	69.5	12.34	217	3972	930	989	1.18	1.24	41.8	44.3	1.30	1.0	1917	1917
1918.0	1918.0	14.1	13.0	39	108	158	70.0	12.41	217	3973	930	989	1.18	1.24	41.8	43.8	1.27	1.0	1918	1918
1919.0	1919.0	24.7	13.0	37	108	157	70.3	12.45	217	3978	928	988	1.18	1.24	41.9	44.5	1.11	1.0	1919	1919
1920.0	1920.0	16.8	13.0	38	109	150	70.6	12.51	217	3977	929	989	1.18	1.24	41.9	44.6	1.21	1.0	1920	1920
1921.0	1921.0	6.7	13.0	40	109	144	71.6	12.66	217	3964	930	990	1.18	1.24	42.0	44.6	1.48	1.0	1921	1921
1922.0	1922.0	27.7	13.0	36	109	149	71.8	12.70	217	3983	928	992	1.18	1.24	42.0	44.6	1.07	1.0	1922	1922
1923.0	1923.0	15.5	13.0	37	110	137	72.3	12.76	217	3963	930	992	1.18	1.24	42.1	44.7	1.23	1.0	1923	1923
1924.0	1924.0	8.8	13.0	40	109	145	73.0	12.87	217	3968	929	992	1.18	1.24	42.2	44.7	1.41	1.0	1924	1924
1925.0	1925.0	16.9	13.0	37	109	163	73.3	12.93	212	3854	908	991	1.18	1.24	42.1	44.7	1.20	1.0	1925	1925
1926.0	1926.0	18.6	13.0	38	108	163	73.6	12.99	217	3986	930	990	1.18	1.24	42.1	44.7	1.19	1.0	1926	1926
1927.0	1927.0	27.9	13.1	41	109	163	73.8	13.02	218	4004	934	989	1.18	1.24	42.1	44.7	1.11	1.0	1927	1927
1928.0	1928.0	28.8	13.1	39	109	162	74.1	13.06	218	4008	934	986	1.18	1.24	42.0	44.7	1.08	1.0	1928	1928
1929.0	1929.0	20.9	13.1	42	110	147	74.4	13.11	218	4003	934	986	1.18	1.24	41.7	44.8	1.19	1.0	1929	1929
1930.0	1930.0	4.3	13.0	41	110	135	76.0	13.34	220	3929	941	988	1.18	1.24	41.3	45.0	1.61	1.0	1930	1930
1931.0	1931.0	22.6	13.0	39	110	152	76.2	13.38	220	3934	942	988	1.18	1.24	41.3	45.1	1.15	1.0	1931	1931
1932.0	1932.0	27.7	13.0	39	109	158	76.4	13.42	219	3951	939	989	1.18	1.24	41.4	45.1	1.09	1.0	1932	1932
1933.0	1933.0	29.3	13.1	38	109	156	76.6	13.45	219	3951	938	988	1.18	1.24	41.4	45.1	1.08	1.0	1933	1933
1934.0	1934.0	18.8	13.1	39	109	159	77.0	13.51	219	3967	939	989	1.18	1.24	41.5	45.1	1.19	1.0	1934	1934
1935.0	1935.0	6.0	13.0	42	110	140	78.1	13.67	222	3867	948	989	1.18	1.24	41.7	45.2	1.52	1.0	1935	1935
1936.0	1936.0	9.0	13.0	40	110	150	78.8	13.78	225	3738	962	989	1.18	1.24	41.8	45.5	1.40	1.0	1936	1936
1937.0	1937.0	20.0	13.0	40	109	155	79.1	13.83	224	3760	960	981	1.18	1.24	41.9	45.5	1.18	1.0	1937	1937
1938.0	1938.0	17.0	13.0	40	111	137	79.6	13.89	224	3761	959	980	1.18	1.24	42.0	45.5	1.24	1.0	1938	1938
1939.0	1939.0	5.7	12.9	41	110	139	80.7	14.07	223	3801	955	981	1.18	1.24	42.1	45.5	1.53	1.0	1939	1939
1940.0	1940.0	30.3	13.0	38	110	150	80.9	14.10	222	3824	952	980	1.18	1.24	42.2	45.4	1.07	1.0	1940	1940
1941.0	1941.0	19.4	13.0	39	110	151	81.2	14.15	222	3846	949	978	1.18	1.24	42.2	45.4	1.19	1.0	1941	1941
1942.0	1942.0	26.3	13.0	39	110	153	81.5	14.19	221	3878	947	978	1.18	1.24	42.1	45.4	1.11	1.0	1942	1942
1943.0	1943.0	10.9	13.0	42	110	146	82.0	14.28	221	3868	948	982	1.18	1.24	42.1	45.4	1.36	1.0	1943	1943
1944.0	1944.0	17.9	13.0	40	109	157	82.5	14.34	221	3872	947	983	1.18	1.24	42.1	45.4	1.22	1.0	1944	1944
1945.0	1945.0	14.8	13.1	40	110	152	82.9	14.41	221	3868	947	980	1.18	1.24	42.2	45.4	1.27	1.0	1945	1945
1946.0	1946.0	20.2	13.1	38	110	150	83.1	14.46	221	3861	947	980	1.18	1.24	42.3	45.4	1.17	1.0	1946	1946
1947.0	1947.0	16.3	13.1	38	110	147	83.6	14.52	221	3887	947	978	1.18	1.24	42.4	45.5	1.22	1.0	1947	1947
1948.0	1948.0	18.3	13.1	41	110	151	83.9	14.57	221	3883	946	979	1.18	1.24	42.5	45.2	1.22	1.0	1948	1948
1949.0	1949.0	10.1	13.1	40	110	137	84.6	14.67	221	3887	947	983	1.18	1.24	42.6	45.4	1.37	1.0	1949	1949
1950.0	1950.0	5.8	13.0	41	110	138	85.7	14.84	221	3892	946	993	1.18	1.24	42.8	45.6	1.53	1.0	1950	1950
1951.0	1951.0	24.0	13.0	39	109	153	85.9	14.89	221	3894	945	993	1.18	1.24	42.8	45.6	1.14	1.0	1951	1951
1952.0	1952.0	9.4	13.0	38	106	144	86.7	14.99	222	3881	949	999	1.18	1.24	42.7	45.8	1.35	1.0	1952	1952
1953.0	1953.0	12.2	13.0	42	103	156	87.2	15.07	223	3828	955	989	1.18	1.24	42.4	45.8	1.32	1.0	1953	1953
1954.0	1954.0	11.1	13.0	42	111	154	87.7	15.16	223	3833	955	971	1.18	1.24	42.2	45.8	1.36	1.0	1954	1954

DEPTH METRE	DEPTH TVD	ROP MT/H	AVE ROP	WOB KLB	RPM	TORQ AMPS	KREV BIT	HRS BIT	SPM	SPP PSI	MFI GPM	TOT PIT	MWI SG	ECD SG	MTI DEG	MTO DEG	DCEXP	POR PRS	REC NOS	REC NOS
1955.0	1954.0	11.1	13.0	42	111	154	87.7	15.16	223	3833	955	971	1.19	1.24	42.2	45.8	1.36	1.0	1954	1954
1956.0	1955.0	13.6	13.0	40	112	153	88.2	15.24	223	3851	954	964	1.19	1.24	42.1	45.9	1.29	1.0	1955	1955
1957.0	1956.0	20.8	13.0	40	112	151	88.6	15.29	223	3848	955	963	1.20	1.24	42.1	45.9	1.18	1.0	1956	1956
1958.0	1957.0	11.3	13.0	39	112	149	89.1	15.37	223	3842	953	958	1.20	1.24	42.1	45.9	1.32	1.0	1957	1957
1959.0	1958.0	12.2	13.0	39	112	156	89.6	15.46	223	3843	954	954	1.20	1.24	42.2	45.9	1.31	1.0	1958	1958
1960.0	1959.0	14.5	13.0	40	112	147	90.1	15.53	223	3845	955	951	1.20	1.24	42.3	46.0	1.27	1.0	1959	1959
1961.0	1960.0	9.4	13.0	41	112	152	90.7	15.63	223	3830	954	949	1.20	1.24	42.4	46.0	1.40	1.0	1960	1960
1962.0	1961.0	18.3	13.0	40	112	155	91.1	15.69	223	3846	953	949	1.20	1.24	42.5	46.0	1.22	1.0	1961	1961
1963.0	1962.0	9.6	13.0	38	112	153	91.8	15.79	223	3848	953	946	1.20	1.24	42.6	46.0	1.36	1.0	1962	1962
1964.0	1963.0	13.7	13.0	40	111	169	92.3	15.86	223	3831	955	946	1.20	1.24	42.6	46.0	1.29	1.0	1963	1963
1965.0	1964.0	13.2	13.0	43	112	160	92.8	15.94	224	3823	957	944	1.20	1.24	42.7	46.1	1.33	1.0	1964	1964
1966.0	1965.0	8.8	13.0	41	112	154	93.5	16.05	224	3799	960	943	1.20	1.24	42.7	46.2	1.41	1.0	1965	1965
1967.0	1966.0	10.5	12.9	41	112	150	94.2	16.15	224	3793	960	942	1.20	1.24	42.7	46.3	1.37	1.0	1966	1966
1968.0	1967.0	6.9	12.9	41	112	155	95.1	16.29	224	3816	958	938	1.20	1.24	42.8	46.3	1.47	1.0	1967	1967
1969.0	1968.0	12.3	12.9	41	112	156	95.7	16.38	223	3849	954	931	1.20	1.24	42.8	46.4	1.33	1.0	1968	1968
1970.0	1969.0	17.6	12.9	40	112	158	96.0	16.43	222	3874	952	929	1.20	1.24	43.0	46.4	1.23	1.0	1969	1969
1971.0	1970.0	12.4	12.9	40	112	156	96.6	16.51	222	3897	950	926	1.20	1.24	43.1	46.4	1.31	1.0	1970	1970
1972.0	1971.0	23.8	12.9	40	112	157	96.8	16.56	222	3902	950	924	1.20	1.24	43.2	46.5	1.14	1.0	1971	1971
1973.0	1972.0	10.4	12.9	40	112	159	97.5	16.65	221	3914	947	923	1.20	1.24	43.3	46.3	1.36	1.0	1972	1972
1974.0	1973.0	18.0	12.9	38	112	160	97.9	16.71	221	3918	946	918	1.20	1.24	43.5	45.8	1.20	1.0	1973	1973
1975.0	1974.0	27.3	13.0	40	111	171	98.1	16.74	221	3910	946	915	1.20	1.24	43.6	45.8	1.11	1.0	1974	1974
1976.0	1975.0	49.3	13.0	40	111	169	98.2	16.76	221	3933	946	915	1.20	1.25	43.6	45.9	0.95	1.0	1975	1975
1977.0	1976.0	15.1	13.0	40	111	162	98.6	16.83	221	3927	944	914	1.20	1.25	43.7	46.0	1.25	1.0	1976	1976
1978.0	1977.0	35.0	13.0	39	111	161	98.9	16.86	221	3934	947	912	1.20	1.25	43.7	46.1	1.03	1.0	1977	1977
1979.0	1978.0	18.9	13.1	42	111	162	99.2	16.91	221	3935	944	910	1.20	1.25	43.7	46.2	1.21	1.0	1978	1978
1980.0	1979.0	15.3	13.1	40	112	156	99.6	16.98	221	3938	945	910	1.20	1.25	43.7	46.3	1.25	1.0	1979	1979
1981.0	1980.0	19.5	13.1	38	108	158	99.9	17.03	221	3953	945	904	1.20	1.25	43.5	46.6	1.17	1.0	1980	1980
1982.0	1981.0	16.1	13.1	45	110	166	100.3	17.09	221	3949	946	903	1.20	1.25	43.4	46.9	1.28	1.0	1981	1981
1983.0	1982.0	13.5	13.1	45	109	173	100.8	17.16	221	3954	945	904	1.20	1.25	43.3	47.0	1.32	1.0	1982	1982
1984.0	1983.0	25.4	13.1	43	110	170	101.0	17.20	221	3962	945	902	1.20	1.25	43.2	47.1	1.14	1.0	1983	1983
1984.0	1984.0	18.1	13.2	31	86	121	101.4	17.26	221	3960	945	904	1.18	1.24	43.2	47.2	1.07	1.0	1984	1984
1985.0	1985.0	17.5	13.2	31	86	121	101.8	17.30	221	3960	945	904	1.18	1.24	43.2	47.2	1.08	1.0	1985	1985

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	bbl	Barrel

DATA ACQUISITION & OUTPUT SERVICE

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 a 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 data reprint and plotting programs.

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

Time	Total Bit Revs	Standpipe Pressure
Depth	Bit Hours on Bottom	Pump Strokes per Minute
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	Record Number	Average cost per drilled Interval
Bit Pressure Loss		

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
Travelling Block Height Above Rig Floor	Calculated Hole Fill Time
Effective Mud Weight (from swab/surge calculations)	Estimated time at bottom/surface/shoe

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.

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.

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

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

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.

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

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:

$$\text{Formation Pressure} = S - [(S - P_n)' DC \sigma_{DCn}^{1.2}]$$

Where S = overburden gradient (psi/ft)
 P_n = 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:

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

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:

$$\text{Geothermal Gradient} = 100 \frac{T_2 - T_1}{D_2 - D_1}$$

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 (Δt) is dependent on porosity (c.f. the Wyllie equation.). In a normally compacted sequence claystone porosity decreases exponentially with depth. Therefore Δt 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 Poisson's 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

- Poisson's 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 Poisson's Ratio may be determined from Gamma Ray data using the formula:

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

Poisson's 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.



HALLIBURTON AUSTRALIA PTY
LTD

SDL LOGGING-UNIT 182, OCEAN BOUNTY
53-55 BANNISTER RD
CANNING VALE
W.A. 6165.

SUBJECT: SAMPLE MANIFEST
WELL: CONAN-1, VIC/P31
OPERATOR: BHP PETROLEUM
DATE: 7 AUGUST 1995

Samples consigned for distribution to the addresses below:

SETS A,B,C and D

ATTN: Mr J.Phipps BHP Petroleum Core Store
c/- Kestrel Management (Australia)
Unit 58, Slough Estate,
170 Forster Road,
MT WAVERLEY VIC. 3149

SET F

ATTN: Mr J.Pattillo Parker & Parsley Australasia Ltd
Level 9
255 Elizabeth Street
SYDNEY NSW. 2000

SET G

ATTN: Dr P.Williamson BMR Core and Cuttings Laboratory (AGSO)
80 Collie Street
FYSHWICK ACT. 2609

SET H

ATTN: Mr E. Frankell VicDAEM Core Laboratory
196 Turner Street
PORT MELBOURNE VIC. 3207

Petrocraft sample vials were sent to:

SET E

ATTN: Mr J. Phipps Geological Operations Coordinator
BHP Petroleum
120 Collins Street
MELBOURNE VIC 3000

Well data charts were sent to:

ATTN: Mr J. Phipps Geological Operations Coordinator
BHP Petroleum
120 Collins Street
MELBOURNE VIC 3000

SAMPLE MANIFEST-PAGE 2

WASHED AND OVEN DRIED DRILL CUTTINGS (CONTAINED IN 6 CARTONS)

IDENTICAL SETS FOR: BHPP x3 (SETS B,C,D)
 PARKER & PARSLEY x1 (SET F)
 AGSO x1 (SET G)
 VicDAEM x1 (SET H).

10 m SAMPLING INTERVALS FROM 160 m TO 1760 m (1200 m TO 1210 m - 2x5m samples)
5 m SAMPLING INTERVALS FROM 1760 m TO 1985 m (Total Depth)

N.B Sampling Intervals were set at Wellsite Geologists' advice.

1 CARTON CONTAINING FOLLOWING INTERVALS:

SAMPLE BOX 1: 160m - 470m	SAMPLE BOX 6: 1710m - 1880m
SAMPLE BOX 2: 470m - 740m	SAMPLE BOX 7: 1880m - 1985M
SAMPLE BOX 3: 740m - 1080m	
SAMPLE BOX 4: 1080m - 1420m	
SAMPLE BOX 5: 1420m - 1710m	

TOTAL 6 CARTONS

UNWASHED AND AIR DRIED DRILL CUTTINGS (CONTAINED IN 5 CARTONS)

HUBCO SENTRY BAGS
1 SET FOR BHPP (SET A)

CARTON 1: 160m-600m
CARTON 2: 600-1010m
CARTON 3: 1010-1510m
CARTON 4: 1510-1795m
CARTON 5: 1795-1985m

TOTAL 5 CARTONS

PETROCRAFT SAMPLE TRAYS (CONTAINED IN 1 CARTON)

TRAY 1:160-650m	TRAY 4:1640-1950m
TRAY 2:650-1150m	TRAY 5:1950-1985m
TRAY 3:1150-1164m	

TOTAL 1 CARTON

CONFIDENTIAL WELL DATA- DRILLING CHARTS/GAS DRILLING DATA ,ETC

TOTAL 1 CARTON

TOTAL CONSIGNMENT: 13 CARTONS

PE600550

This is an enclosure indicator page.
The enclosure PE600550 is enclosed within the
container PE900643 at this location in this
document.

The enclosure PE600550 has the following characteristics:

ITEM_BARCODE = PE600550
CONTAINER_BARCODE = PE900643
NAME = Conan 1 Drilling Parameter Log WCR Vol
1, Appendix 4
BASIN = Otway
PERMIT = VIC/P31
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Conan 1 Drilling Parameter Log, 1:500
WCR Vol 1, Appendix 4
REMARKS = *
DATE_CREATED = *
DATE_RECEIVED = *
W_NO = W1140
WELL_NAME = CONAN-1
CONTRACTOR = Halliburton
CLIENT_OP_CO = BHP

(Inserted by DNRE - Vic Govt Mines Dept)

PE600552

This is an enclosure indicator page.
The enclosure PE600552 is enclosed within the
container PE900643 at this location in this
document.

The enclosure PE600552 has the following characteristics:

ITEM-BARCODE = PE600552
CONTAINER-BARCODE = PE900643
 NAME = Conan 1, Appendix 4 Gas Ratio Log
 1:500, WCR Vol 1
 BASIN = Otway
 PERMIT = VIC/P31
 TYPE = WELL
 SUBTYPE = WELL-LOG
 DESCRIPTION = Conan 1, Appendix 4 Gas Ratio Log
 1:500, WCR Vol 1
 REMARKS =
 DATE-CREATED = *
 DATE-RECEIVED = *
 W-NO = W1140
 WELL-NAME = CONAN-1
 CONTRACTOR = Halliburton
 CLIENT-OP-CO = BHP

(Inserted by DNRE - Vic Govt Mines Dept)

PE600551

This is an enclosure indicator page.
The enclosure PE600551 is enclosed within the
container PE900643 at this location in this
document.

The enclosure PE600551 has the following characteristics:

ITEM-BARCODE = PE600551
CONTAINER-BARCODE = PE900643
NAME = Conan 1, Appendix 4 Pressure Evaluation
Log 1:2500, WCR Vol 1
BASIN = Otway
PERMIT = VIC/P31
TYPE = WELL
SUBTYPE = WELL-LOG
DESCRIPTION = Conan 1, Appendix 4 Pressure Evaluation
Log 1:2500, WCR Vol 1
REMARKS =
DATE-CREATED = *
DATE-RECEIVED = *
W-NO = W1140
WELL-NAME = CONAN-1
CONTRACTOR = Halliburton
CLIENT-OP-CO = BHP

(Inserted by DNRE - Vic Govt Mines Dept)

PE600553

This is an enclosure indicator page.
The enclosure PE600553 is enclosed within the
container PE900643 at this location in this
document.

The enclosure PE600553 has the following characteristics:

ITEM-BARCODE = PE600553
CONTAINER-BARCODE = PE900643
NAME = Conan 1, Appendix 4 Formation
Evaluation Log 1:500, WCR Vol 1
BASIN = Otway
PERMIT = VIC/P31
TYPE = WELL
SUBTYPE = WELL-LOG
DESCRIPTION = Conan 1, Appendix 4 Formation
Evaluation Log 1:500, WCR Vol 1
REMARKS =
DATE-CREATED = *
DATE-RECEIVED = *
W-NO = W1140
WELL-NAME = CONAN-1
CONTRACTOR = Halliburton
CLIENT-OP-CO = BHP

(Inserted by DNRE - Vic Govt Mines Dept)

5

6.5 APPENDIX 5 Final Well Report (MWD)

The Final Well Report (MWD)

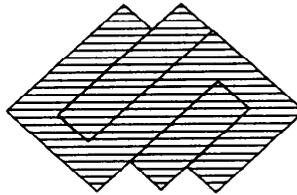
**was not ready at the time this well completion report
was compiled and will be sent at a later date.**

6.6 APPENDIX 6 Rig Positioning Report

POSITIONING REPORT

FOR

BHP PETROLEUM PTY LTD



RIG MOVE OF THE DRILLING RIG

OCEAN BOUNTY

LOCATION : CONAN-1
BLOCK : VIC/P31
DATED : 16th - 25th JULY 1995
REPORT REF : A2412

CONTENTS

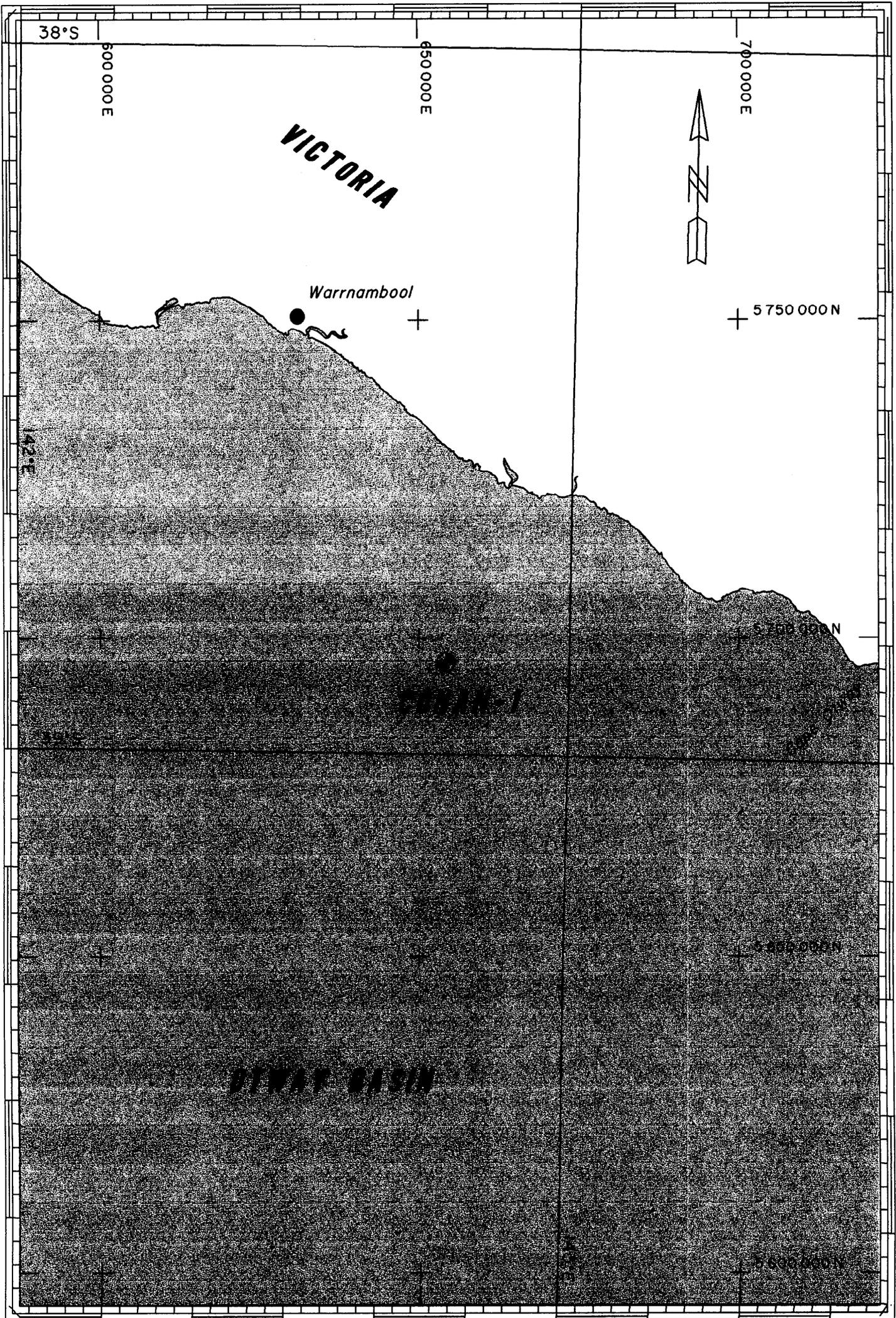
Page No.

Location map
Abstract

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- B - ANCHOR PATTERN DETAILS
- C - DAILY LOG SHEETS
- D - GNS SYSTEM SET-UP PARAMETERS
- E - GNS FINAL FIX PRINTOUTS



LOCATION DIAGRAM

Scale 1:750 000

ABSTRACT

This report details the services provided by Racal Survey Australia Limited (Racal), prior to and during the positioning of the semi-submersible drilling rig Ocean Bounty, over the Conan-1 wellhead in the Otway Basin in the Bass Strait, for BHP Petroleum Limited (BHPP).

Racal personnel L. Kemp (Surveyor), D. Bell (Electronics Engineer) and BHPE representative B. Edmonds arrived on board the Ocean Bounty on the 18th July 1995. Racal equipment was checked and operational on the 19th July, 1995.

Positioning of the Ocean Bounty during the approach to and over the location was provided by Racal's SkyFix Differential GPS (DGPS), interfaced to Racal's multiple reference station software, MultiFix 2, which provided a network solution from up to six DGPS reference station combinations. Racal's LandStar DGPS was utilised as the secondary differential system for onboard positioning of the rig.

The drilling rig Ocean Bounty was positioned over the Conan-1 location on the 22nd of July, 1995.

Conan-1 Well Head location

The co-ordinates of the Conan-1 wellhead, were provided by BHPP as follows

Datum AGD 84

*Latitude : 38° 52' 14.8" South
Longitude : 142° 46' 52.5" East*

AMG Zone 54 C.M. 141° East

*Easting : 654 528.74m
Northing : 5 696 042.00m*

Intended Rig Heading : 225°T

Final Differential GPS Position Conan-1

The final DGPS position of the Ocean Bounty was derived between 0758 and 0904 hours on the 24th of July, 1995. The final DGPS position was as follows:

Datum AGD 84

*Latitude : 38° 52' 14.953" South
Longitude : 142° 46' 52.224" East*

AMG Zone 54 C.M. 141° East

*Easting : 654 520.90m
Northing : 5 696 035.94m*

Final Rig Heading : 227.4°T

The final DGPS position is 9.91 metres on a bearing of 231.19° (T) from the intended location of Conan-1.



1. SUMMARY OF EVENTS

Racal Surveyor L. Kemp departed Perth for Melbourne on the 16th of July, 1995. D. Bell (Racal Engineer) and B. Edmonds (BHPE Representative) arrived in Melbourne on the 17th of July. Transfer to the rig was cancelled on the 17th of July due to lack of space on the Helicopter.

Personnel checked in to BHP at Essendon airport at 0730 on the 18th of July, and the helicopter departed at 0840. The Helicopter arrived onboard the rig at 0950, and new arrivals were given a safety induction. The positioning equipment was located in a container on the main deck but was inaccessible due to other cargo. Because of the severe weather conditions, cranes were not being used and so mobilisation of the positioning equipment was not possible. The container was finally cleared on the 19th of July at 1520, and mobilisation then commenced.

The SkyFix rig portable dish was not assembled due to high wind conditions and the possibility of damage to the equipment. The positioning system was operational by 1830 on the 19th of July. The SkyFix dish was installed on the 20th of July when winds had abated. Signals were not received instantly due to problems with antenna alignment however, the system was, operational by 2000.

On the 21st of July at 1400 the SkyFix dish was removed due to concerns about damage to the unit during periods of strong wind.

The tow wire parted at 1522 and the rig was adrift until 1623 when the anchor #6 was deployed which held the rig in position. The rig's position was constantly monitored and fixes were taken and logged every minute. The #3 pennant was passed to the Anchor Handling Vessel (AHV) Lady Dawn and the anchor was set up for static tow. Ballasting of the rig commenced and continued until 2130 when the rig was at 70' draft. Unloading of the AHV Bonavista commenced at 1015 on the 22nd of July and was then connected to anchor #2 on static tow at 1140. The storm anchor #6, was recovered by 1245 and the tow onto location continued.

The anchor #7 was deployed from the rig at 1612, as it was being towed on the run in towards the location. The rig was over the Conan-1 location by 1635 on the 22nd of July.

Anchor deployment operations continued until 1600 on the 23rd of July when all the anchors had been deployed. Tug tracking and anchor positions were estimated using range and bearing from the rigs radar. The pre-tensioning of anchors was carried out between 1600 and 2045, and all anchors were successfully tensioned.

The final fix observation was started at 0758 on the 24th of July, after a satellite prediction had been carried out. Fixes were observed at 5 sec intervals. The final fix was completed at 0905 and the final position calculated. The demobilisation was delayed until well re-entry had been confirmed. All positioning equipment was demobilised by 2000 on the 24th of July. Personnel returned to Melbourne by helicopter on the 25th of July.



2. GEODETIC PARAMETERS

The location co-ordinates are defined on Australian Geodetic Datum 1984 (AGD 84).

The Global Positioning System (GPS) is referenced to World Geodetic System 1984 (WGS 84).

2.1 DATUMS

Datum	:	AGD 1984
Spheroid	:	Australian National
Semi-major Axis (a)	:	6 378 160.000m
Semi-minor Axis (b)	:	6 356 774.719m
Eccentricity Squared (e^2)	:	0.006 694 542
Flattening (1/f)	:	298.25

Datum	:	WGS-84
Spheroid	:	WGS-84
Semi-major Axis (a)	:	6 378 137.0000m
Semi-minor Axis (b)	:	6 356 752.3142
Eccentricity Squared (e^2)	:	0.006 694 380
Flattening (1/f)	:	298.257 223 563

2.2 PROJECTION

Projection	:	Universal Transverse Mercator
AMG Zone	:	54
Central Meridian (C.M.)	:	141° East
Scale factor on the C.M.	:	0.9996
False Easting	:	500 000m
False Northing	:	10 000 000m
Latitude of Origin	:	0° (Equator)
Unit of Measure	:	International Metre

2.3 DATUM TRANSFORMATION

The following 7-parameter datum transformation was used to convert WGS 84 co-ordinates to AGD 84 co-ordinates:

Dx =	+116.00m
Dy =	+50.47m
Dz =	-141.69m
Rx =	+0.230"
Ry =	+0.390"
Rz =	+0.344"
Scale (K) =	-0.0983

Note: The sign conventions used in Racal software in the datum transformations were derived as follows:

GNS Survey Software:

The convention used is that used by the US Department of Defence and by Higgins (Transformation from WGS 84 to AGD 84 - An Interim Solution), where a positive rotation about the Z axis is an anti-clockwise movement of the X and Y axes (when viewed from the North Pole looking towards the centre of the Earth).

2.4 GEOID/SPHEROID SEPARATION

The computed Geoid/Spheroid (WGS-84) separation (N) for the Conan-1 location is -2.59 metres.



3. FINAL DRILLSTEM POSITION

The final differential GPS position of the drillstem over Conan-1 location was determined using Racal's MultiFix-2, together with SkyFix and LandStar differential links.

Observations were obtained between 0758 and 0904 on the 24th of July, 1995. The final fix analysis in the GNS Rigmov software was used to obtain the DGPS observations and compute the position of the drillstem.

Differential corrections from the SkyFix reference stations in Adelaide (545km), Melbourne (190km) and Sydney (931km) were used in a network solution. Fixes were observed at 5 second intervals.

The final co-ordinates for the Conan-1 well, determined from DGPS observations were as follows:

Constellation	Samples	Satellites
A	29	21, 14, 15, 01
B	107	21, 14, 15, 29, 01, 25
C	74	21, 14, 15, 01, 25
D	75	21, 14, 15, 29, 01, 25
E	332	14, 15, 29, 01, 25
F	22	14, 15, 29, 25

Total number of samples used = 639

The computed antenna position, with constellations given equal weights, was as follows:

Antenna Position

Datum WGS 84

Latitude	:	38° 52' 10.513" South	(s.d. 0.35m)
Longitude	:	142° 46' 55.982" East	(s.d. 0.18m)
Spheroidal Height	:	22.68m	(s.d. 0.64m)

Transforming the above WGS 84 co-ordinates to AGD 84 using the parameters in section 2, gives the following antenna co-ordinates:

Antenna Position

Datum AGD 84

Latitude	:	38° 52' 15.819" South
Longitude	:	142° 46' 51.018" East
Spheroidal Height	:	40.10m



Applying the antenna to datum offsets to the above co-ordinates gives the following drillstem position over the Conan-1 well:

Drillstem Position

Datum AGD 84

Latitude : 38° 52' 14.953" South
Longitude : 142° 46' 52.224" East

AMG Zone 54 C.M. 141° East

Eastings : 654 520.90m
Northings : 5 696 035.94m
Rig Heading : 227.4° (T)

This position is 9.91 metres on a bearing of 231.19° (T) from the intended location of Conan-1.



4. SAFETY

Racal personnel employed on this project were in possession of current identity cards and had completed the Industrial Foundation of Accident Prevention's One Day Basic Sea Survival and Helicopter Simulator Training Course.

No safety incidents/accidents occurred during the project as a result of Racal operators/equipment.



5. DISCUSSION

5.1 EQUIPMENT PERFORMANCE

DGPS

The DGPS rig installation consisted of a Trimble 4000 DL II 9 channel receiver interfaced to a Compaq portable 486/66 computer operating Racal's MultiFix 2 multiple reference station software. The MultiFix 2 software was used on the drilling rig to provide a differentially corrected position to the General Navigation System (GNS) utilising raw data from the Trimble GPS receiver and RTCM 104 messages from of three SkyFix reference stations.

The SkyFix Differential GPS reference stations consist of two Trimble DS 12 channel receivers interfaced to Compaq desktop 386 computers operating Trimble RS4000 reference station software. The reference stations are controlled via modem by the Singapore SkyFix control centre.

The DGPS performance on the rig was reliable, although the signal from the SkyFix dish was difficult to receive when the dish was originally installed, this was due to the incorrect elevation of the dish being set. Some evidence of multipath was observed during rig move operations, when multipath was evident the satellite concerned was disabled. The reception of differential corrections was maintained throughout the rig move as RTCM 104 data was available on the IOR and POR Inmarsat satellite, and from the Optus satellite using LandStar.

The Trimble antenna on board the rig failed following a power interruption on the 20th of July. The antenna was replaced and the system was fully operational.

Navigation System

The drilling rig Ocean Bounty installation consisted of a Compaq portable 486/66 computer operating Racal's General Navigation System (GNS) rig move software version GNS309D. Associated peripheral equipment included printer and a Compaq 486 notebook computer operating Racal's GRREP graphics repeater software.

The navigation system worked well through out the whole project.



5.2 CONCLUSIONS AND RECOMMENDATIONS

All DGPS and positioning equipment worked faultlessly through out the project with the only exception being the failure of a GPS antenna which was caused by a power failure. The faulty unit was replaced by a spare antenna, and shows the necessity for having backup equipment on projects, as equipment breakdown can occur due to factors outside the control of Racal personnel.



6. PERSONNEL AND EQUIPMENT

6.1 PERSONNEL

The following personnel were employed on this project:

For : Racal Survey Australia Limited

L. Kemp	- Surveyor
D. Bell	- Engineer

For : BHP PETROLEUM PTY LTD

B. Edmonds	- BHPE Client Representative
------------	------------------------------



6.2 EQUIPMENT

The following equipment was provided for this project:

2 x Trimble 4000DL II GPS Receivers

2 x SkyFix Decoders

2 x SkyFix Demodulators

1 x Rig Portable Inmarsat Dish

1 x LandStar MKII Receiver

2 x Compaq 486 Desk Top Computers

1 x Compaq 486 Portable Computer

1 x 486 Notebook Computers

1 x V.D.U.

1 x S.G. Brown 1000 Survey Gyro Compass

2 x Thinkjet Printers

plus all associated software (GNS PC R309D MultiFix II V207, RNC 4000,), cables, consumables etc.



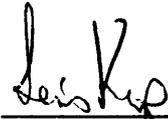
7. DISTRIBUTION

Copies of this report have been distributed as follows:

BHP Petroleum Pty Ltd - Melbourne : 1 copy
Attn: Mr. K. Bauer : 1 unbound copy

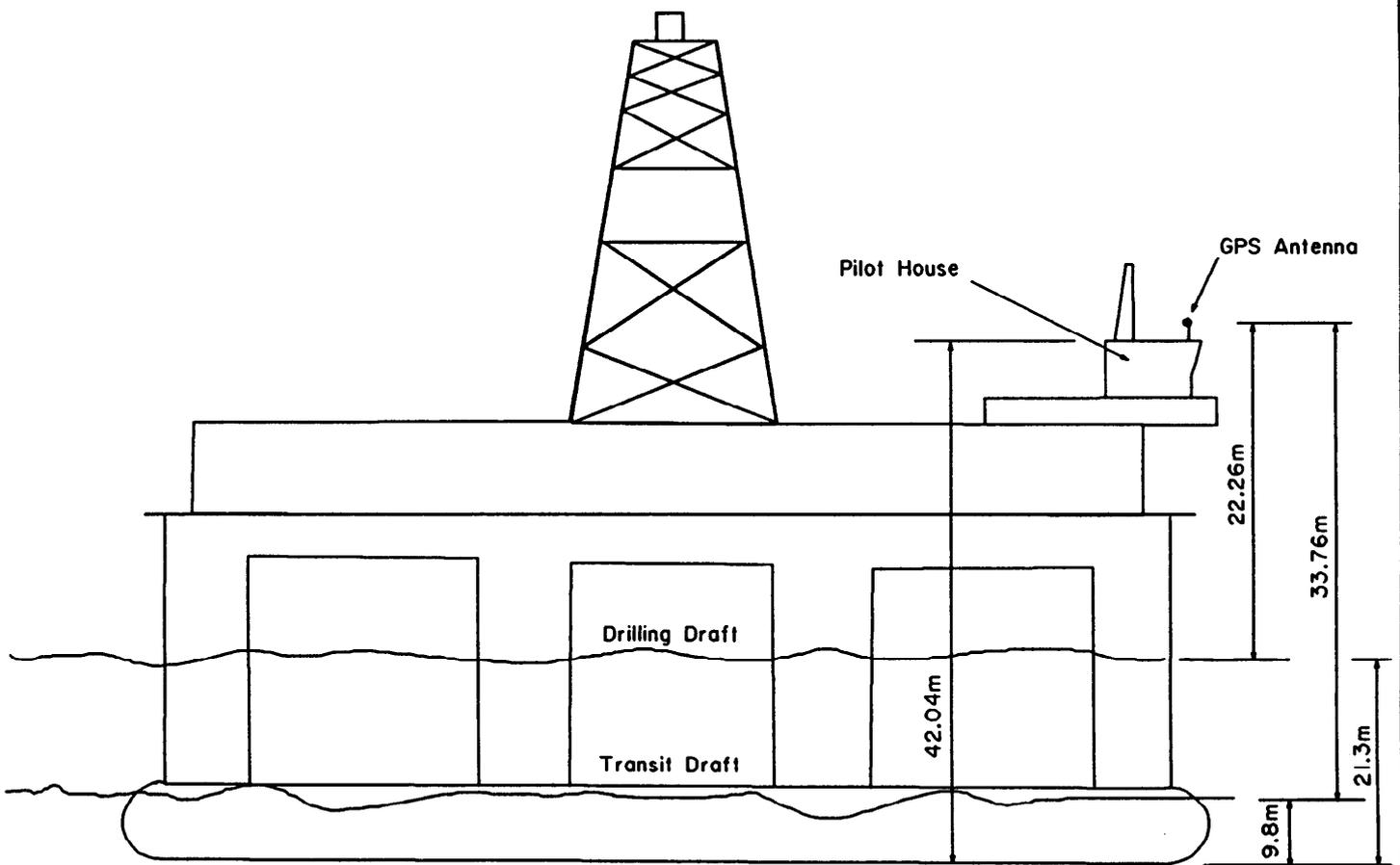
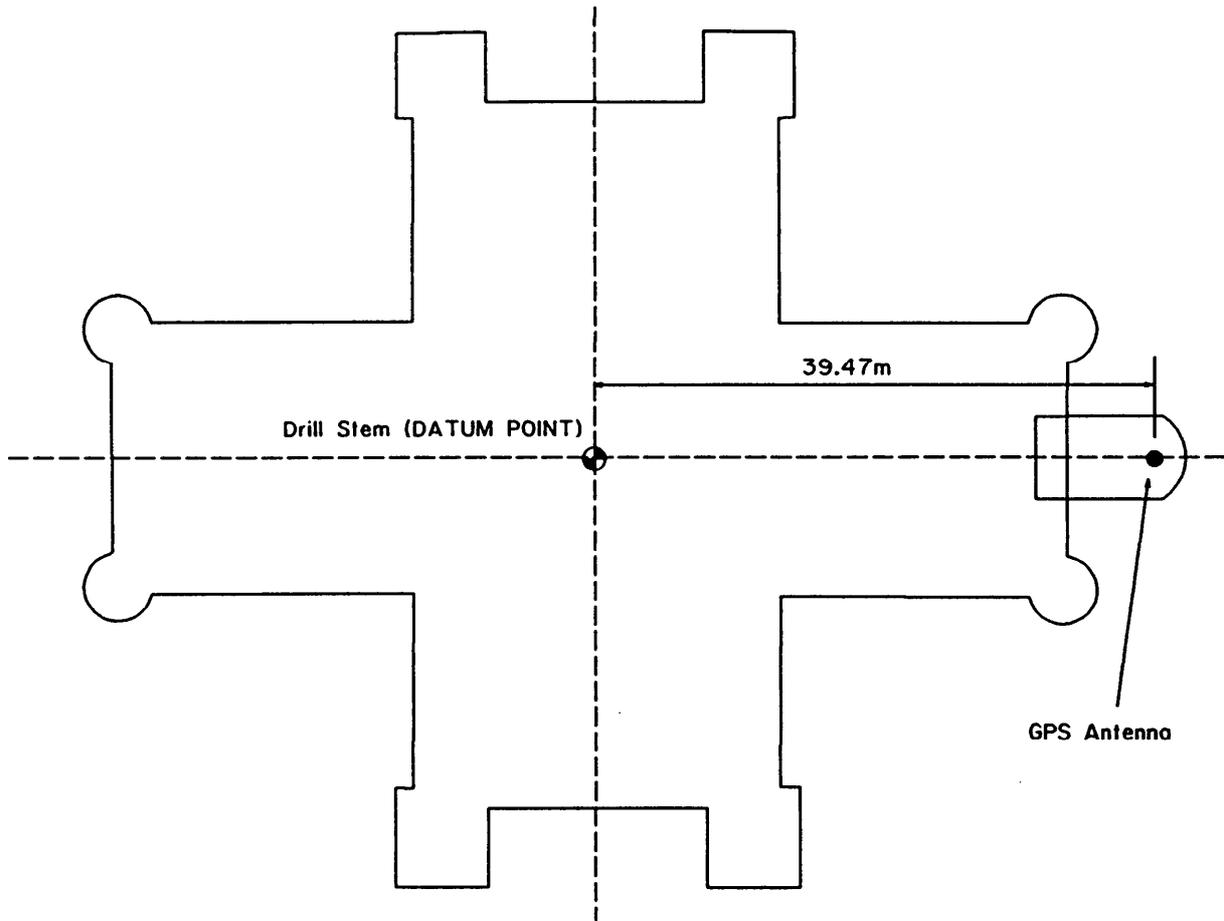
BHP Engineering Pty Ltd - Wollongong : 1 copy
Attn: Petroleum Business Group : 1 disk

Racal Survey - Perth : 1 copy


Lewis Kemp
Surveyor

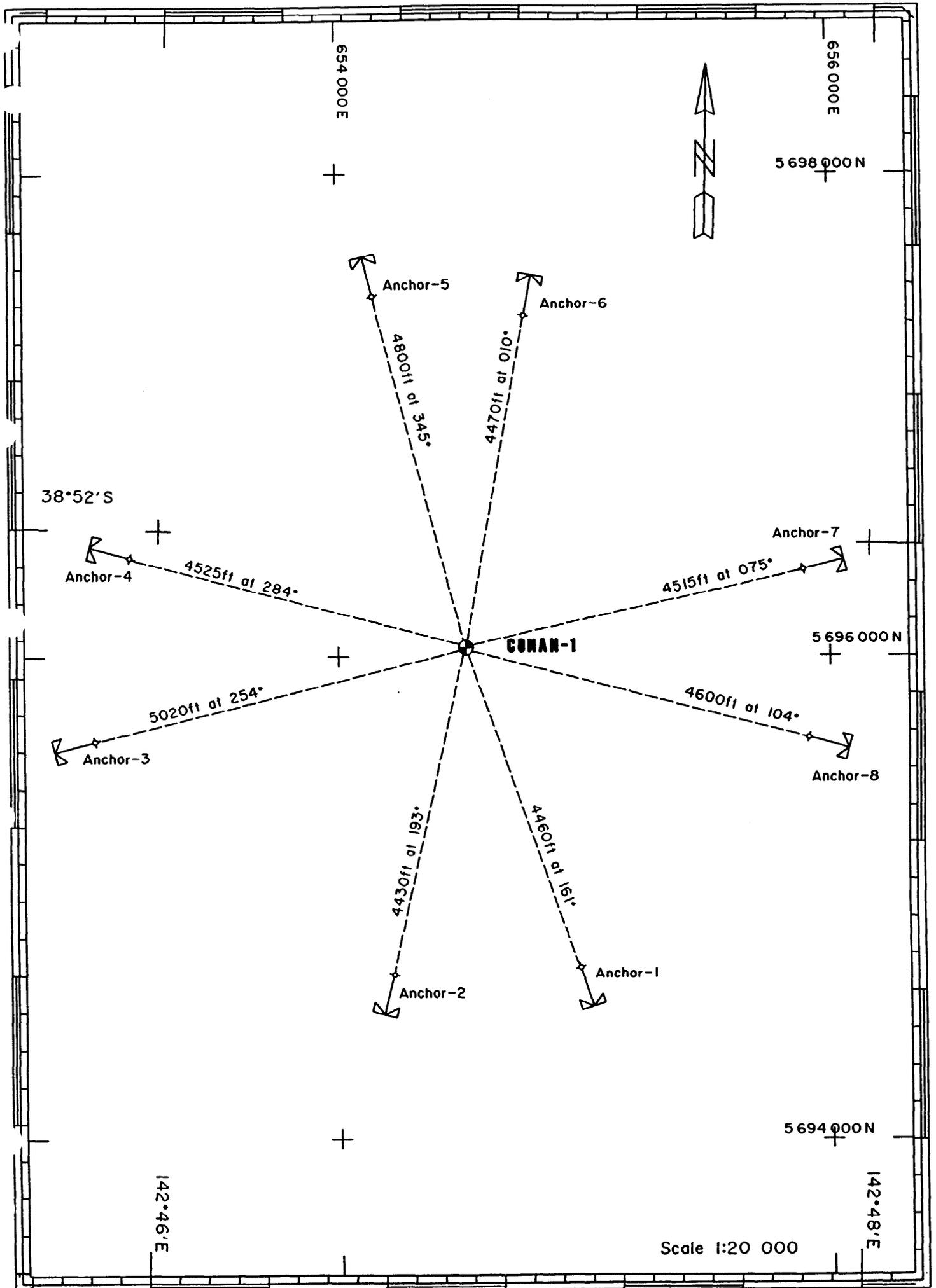

Gareth Jones
Area Surveyor

OCEAN BOUNTY OFFSET DIAGRAM



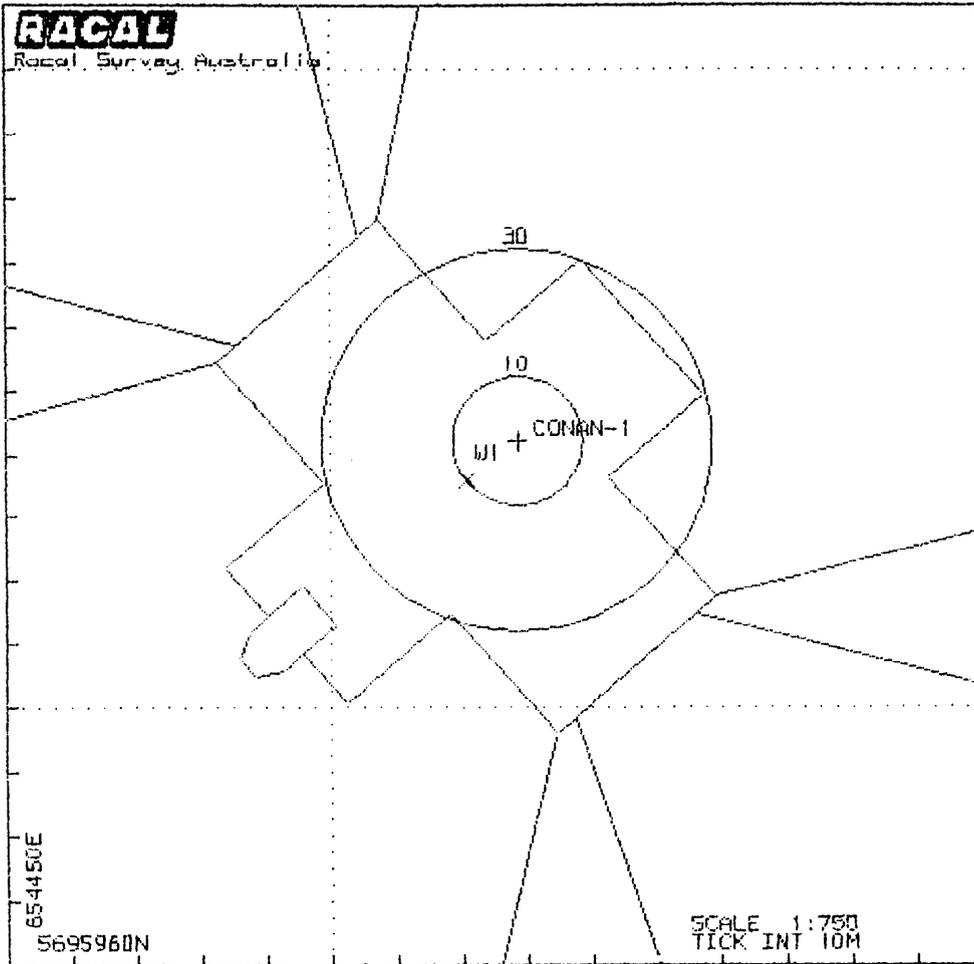
NOT TO SCALE

CONAN-1 ANCHOR PATTERN DETAILS



RACAL

Racal, Survey, Australia



654450E

5695960N

SCALE 1:750
TICK INT 10M

09:19:39 24 Jul 95
OCEAN BOUNTY
DRILL STEM
E 654520.90
N 5695035.94

@ 038 52 14.95S
λ 142 46 52.22E

Hdg 227.4 T

CONAN-1 #1
Wp R 9.9 M
Wp B 51.2 T

#	R(F)	B(G)
W1 - A1	4459	161.1
W2 - A2	4429	193.5
W3 - A3	5022	254.6
W4 - A4	4523	284.9
W5 - A5	4797	345.9
W6 - A6	4468	010.9
W7 - A7	4513	075.6
W8 - A8	4595	104.6

RACAL SURVEY AUSTRALIA LIMITED



DAILY RECORD SHEET

A2412 - 01

WX	SeaState	Swell	WindDir.
0000			
0600			
1200			
1800			

Client : BHP		Job No : A2412		Date : 16/7/95		Vessel : OCEAN BOUNTY		Anchors / Tpdrs		
RACAL Equipment on Board	Op	NonOp	RACAL Equipment on Board	Op	NonOp	RACAL Personnel	Consummables		Laid	Recovered
SKYFIX	✓		STD 12 / VELOCITY PROBE			L. KEMP	ITEM	USED	REMAIN	
SYLEDIS			ECHO SOUNDER (20/25)			D. BELL	SIDESCAN PAPER			
MICROFIX			SIDESCAN (595/531/PINGER)				E/SOUNDER PAPER			
ARGO			BOOMER (DELPH / EPC)				ELICS PAPER			
GNS	✓		SPARKER (DELPH / EPC)				DISKS			
GYRO	✓		CORING (GRAVITY / GRAB)				PRINTER CART.			
TRIMBLE SST'S			THEODOLITE / EDM			CLIENT Personnel	EPC ROLLS			
TELEMETRY			UNDERWATER TRACKING			B. EDMONDS				
SONARDYNE COMPATTS			LANDSTAR	✓						
SONARDYNE PAN										
SONARDYNE (Dunker / Winch / Fish)										

DIARY OF OPERATIONS :

- * 16/7/95 - L. KEMP DEPARTS PERTH FOR MELBOURNE, ARRIVING 1630, ACCOMADATION IN ST KILDA T.L.
- * 17/7/95 - C. BAUER INFORMS L. KEMP, CHECK-IN CANCELLED. D. BELL + B. EDMONDS CHECK INTO ST. KILDA RD TRAVELODGE
- * 18/7/95 - 0730 - CHECK IN TO BHP AT ESSEJON AIRPORT 0840 - HELICOPTER DEPARTS FOR RIG. 0950 - ARRIVE ON BOARD RIG (RIG UNDERWAY TO CONAN-1 LOCATION) 1010 - SAFETY BRIEF GIVEN TO NEW ARRIVALS. START MOBILISATION - SOME EQUIPMENT IN CONTAINER BLOCKED BY '30' RISER. CRANE NOT OPERATING DUE TO STRONG WINDS.
- * 19/7/95 1520 - CONTAINER CLEARED ALLOWING ACCESS TO NAV. EQUIPMENT CONTINUE MOBILISATION 1830 - NAVIGATION FULLY MOBILISED AND OPERATIONAL (SKY FIX DISH NOT SET UP DUE TO STRONG WINDS)
- * 20/7/95 - 1400 - SKYFIX DISH INSTALLED, NO SIGNAL RX CHECK DEMODULATOR, DOWNCONVERTER CABLES. CHANGE DISH LOCATION - ELEVATION NOT SET CORRECTLY 2000 - SKYFIX OK.

Forms are to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Representative, the original being retained on board until the next crew change or at the end of job, whichever is the earlier, when they should be returned to the PERTH office.

Transponders to be listed by type and serial numbers. Following codes to be used: L - Laid, R - Recovered, FR - Failed to Reply, FS - Failed to Surface.

Signature

[Signature]
SURVEYOR/ENGINEER

WHITE	: Commercial Office
BLUE	: Operations
YELLOW	: Clients Representative

Signature

[Signature]
CLIENTS REPRESENTATIVE

RACAL SURVEY AUSTRALIA LIMITED



DAILY RECORD SHEET

A2412-02

WX	SeaState	Swell	WindDir.
0000			
0600			
1200			
1800			

Client : BHP		Job No : A2412		Date : 21/7/95		Vessel : OCEAN BOUNTY		Anchors / Tpdrs		
RACAL Equipment on Board	Op	NonOp	RACAL Equipment on Board	Op	NonOp	RACAL Personnel	Consummables		Laid	Recovered
SKYFIX	✓		STD 12 / VELOCITY PROBE			L. KEMP	ITEM	USED	REMAIN	
SYLEDIS			ECHO SOUNDER (20/25)			D. BELL	SIDESCAN PAPER			
MICROFIX			SIDESCAN (595/531/PINGER)				E/SOUNDER PAPER			
ARGO			BOOMER (DELPH/EPC)				ELICS PAPER			
GNS	✓		SPARKER (DELPH/EPC)				DISKS			
GYRO	✓		CORING (GRAVITY/GRAB)				PRINTER CART.			
TRIMBLE SST'S			THEODOLITE / EDM			CLIENT Personnel	EPC ROLLS			
TELEMETRY			UNDERWATER TRACKING			B. EDMONDS				
SONARDYNE COMPATTS			LANDSTAR	✓						
SONARDYNE PAN										
SONARDYNE (Dunker/Winch/Fish)										

DIARY OF OPERATIONS: (EST) 1400- DISH DISMANTLED DUE TO HIGH WINDS, CLIENT APPROVES USE OF LANDSTAR DURING STRONG WINDS. 1522- TON WIRE PARTED - FIXING EVERY 1 MIN. (START LOGGING AT FIX 34 MOBILE.001) 1555- #6 ± LOWERED TO STOP RIG DRIFTING SOUTH. (FIX 45) 1602- #6 FAILS 1616- LOWERING #6 ± + OTB AT FIX 65. 1623- RIG STOPPED #6 PAYOUT HALTED. 1628- #6 ± SHIPPING LETOUT MORE CHAIN. 1733- #3 PENANT PASSED TO LADY DAWN. 1800- COMMENCED BALLASTING OF RIG. 2130- RIG AT 70 FEET DRAFT WAITING ON WEATHER TO UNLOAD BUONAVISTA BEFORE DEPARTING LOCATION. MEASURE ANTENNA OFFSET TO DRILL STEM, WITH TAPE MEASURE X = 0 Y = 39.47m H = 22.27m (DRILLING) H = 33.87m (TRANSIT) H USED AS HEIGHT ABOVE WGS84 SPH'D.

Forms are to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Representative, the original being retained on board until the next crew change or at the end of job, whichever is the earlier, when they should be returned to the PERTH office.

Transponders to be fitted by type and serial numbers. Following codes to be used: L - Laid, R - Recovered, FR - Failed to Reply, FS - Failed to Surface.

Signature

Feb Kemp

SURVEYOR/ENGINEER

WHITE	: Commercial Office
BLUE	: Operations
YELLOW	: Clients Representative

Signature

W. Edmonds

CLIENTS REPRESENTATIVE

RACAL SURVEY AUSTRALIA LIMITED



DAILY RECORD SHEET

A2412-03

WX	SeaState	Swell	WindDir.
0000			
0600			
1200			
1800			

Client : BHP		Job No : A2412		Date : 22/7/95		Vessel : OCEAN BOUNTY		Anchors / Tides		
RACAL Equipment on Board	Op	NonOp	RACAL Equipment on Board	Op	NonOp	RACAL Personnel		Consummables		
SKYFIX	✓		STD 12 / VELOCITY PROBE			L. KEMP		ITEM	USED	REMAIN
SYLEDIS			ECHO SOUNDER (20/25)			D. BELL		SIDESCAN PAPER		
MICROFIX			SIDESCAN (595/531/PINGER)					E/SOUNDER PAPER		
ARGO			BOOMER (DELPH/EPC)					ELICS PAPER		
GNS	✓		SPARKER (DELPH/EPC)					DISKS		
GYRO	✓		CORING (GRAVITY/GRAB)					PRINTER CART.		
TRIMBLE SST'S			THEODOLITE / EDM			CLIENT Personnel		EPC ROLLS		
TELEMETRY			UNDERWATER TRACKING			B. EDMONDS				
SONARDYNE COMPATTS			LANDSTAR	✓						
SONARDYNE PAN										
SONARDYNE (Dunker/Winch/Fish)										

DIARY OF OPERATIONS: (EST) 1015 - BUONAVISTA UNLOADING DECK CARGO. 1100 - SKYFIX DISH RE-INSTALL. 1140 - BUONAVISTA CONNECTED TO #2 ±. 1155 - START HEAVING IN ON #6 ±. 1230 - GYRO C-O OF -5° ENTERED INTO GNS. THIS FIGURE DERIVED FROM RIGS GYRO. RIGS GYRO REPORTED TO BE WITHIN 1/2° WHEN LAST CALIBRATED. CLIENT APPROVES ASSUMED GYRO C-O. UNABLE TO CARRY OUT GYRO CALIBRATION USING 'SOLAR HOUR ANGLE' DUE TO CLOUD COVER EVERY DAY SINCE JOINING RIG. 1245 - #6 ± OFF THE BOTTOM. RIG STARTS RUN-IN. 1544 - #7 DROPEL BY MISTAKE (FIX 250) ± 7 RECOVERED OK. NO AFFECT ON RIG'S TRACK. 1612 - DROP #7 ± EN-ROUTE TO LOCATION. 1635 - RIG OVER CONAN-1 LOCATION. PREPARE TO RUN ±'S. 1734 - LADY DAWN RUNNING #3 ±. OBSERVE GYRO C-O OF -1° FROM RIGS GYRO. -1° ENTERED INTO GNS. 1751 - #2 PENANT/TOW WIRE PARTS ON BUONAVISTA. 1752 - LADY DAWN LOWERING #3 ±. 1823 - L. DAWN IN BIGHT, RE-RUN. 1844 - #3 ± OTB (RADAR FIX) TRYING MAX TENSION ON #3 TO STRIP BACK. L. DAWN STRIPS BACK SLOWLY. 1919 - RUNNING #6 ± RADAR INTERMITTENT DUE TO SHADOW.

Forms are to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Representative, the original being retained on board until the next crew change or at the end of job, whichever is the earlier, when they should be returned to the PERTH office.

Transponders to be listed by type and serial numbers. Following codes to be used: L - Laid, R - Recovered, FR - Failed to Reply, FS - Failed to Surface.

Signature

[Signature]
SURVEYOR/ENGINEER

WHITE	: Commercial Office
BLUE	: Operations
YELLOW	: Clients Representative

Signature

[Signature]
CLIENTS REPRESENTATIVE

RACAL SURVEY AUSTRALIA LIMITED



DAILY RECORD SHEET

CONT

A242-05

WX	SeaState	Swell	WindDir.
0000	—	—	—
0600	—	—	—
1200	—	—	—
1800	—	—	—

Client : BHP		Job No : A242		Date : 23/7/95		Vessel : OCEAN BOUNTY		Anchors / Tpdrs		
RACAL Equipment on Board	Op	NonOp	RACAL Equipment on Board	Op	NonOp	RACAL Personnel	Consummables		Laid	Recovered
SKYFIX	✓		STD 12 / VELOCITY PROBE			L. KEMP	ITEM	USED	REMAIN	
SYLEDIS			ECHO SOUNDER (20/25)			D. BELL	SIDESCAN PAPER			
MICROFIX			SIDESCAN (595/531/PINGER)				E/SOUNDER PAPER			
ARGO			BOOMER (DELPH / EPC)				ELICS PAPER			
GNS	✓		SPARKER (DELPH / EPC)				DISKS			
GYRO	✓		CORING (GRAVITY / GRAB)				PRINTER CART.			
TRIMBLE SST'S			THEODOLITE / EDM			CLIENT Personnel	EPC ROLLS			
TELEMETRY			UNDERWATER TRACKING			B. EDMONDS				
SONARDYNE COMPATTS			LANDSTAR	✓						
SONARDYNE PAN										
SONARDYNE (Dunker / Winch / Fish)										

DIARY OF OPERATIONS: (EST) 1250 - #2 PENANT PASSED BACK. 1600 - START PRE-TENSIONING ±'S. (RIG BALLASTED DOWN BETWEEN 1300-1600) 2045 - ALL ANCHORS PRE-TENSIONED. AWAIT FINAL FIX UNTIL 36' HAS BEEN DRILLED. RIG APPROX 10M FROM LOCATION.

- * 24/7/95
0730 - GPS PREDICTIONS PRINTED OUT WITH NEW ALMANAC. (INC DERRICK CURTAINS)
0758 - START DGPS FINAL FIX (ADELAIDE 54.5KM, MELBOURNE 190KM, SYDNEY 931 KM)
FIXES OBSERVED AT 5S INTERVALS. 0812 - DIS SV29 HIGH U.VAR. 0905 - END FINAL FIX
CALCULATE FINAL POSITION. DEMOBILISATION DELAYED UNTIL WELL RE-ENTRY IS COMPLETE.
1800 - DEMOBILISE POSITIONING EQUIPMENT
- * 25/7/95 1000 - SURVEY PERSONNEL DEPART RIG FOR ESSEVOON AP. R

Forms are to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Representative, the original being retained on board until the next crew change or at the end of job, whichever is the earlier, when they should be returned to the PERTH office.

Transponders to be listed by type and serial numbers. Following codes to be used: L - Laid, R - Recovered, FR - Failed to Reply, FS - Failed to Surface.

Signature

L. Kemp

SURVEYOR/ENGINEER

WHITE	: Commercial Office
BLUE	: Operations
YELLOW	: Clients Representative

Signature

N. Edmonds

CLIENTS REPRESENTATIVE

Job Number: 2412 Description: OCEAN BOUNTY TO CONAN-1 FOR BAP

Spheroidal Data

Spheroid :- AUSTRAL (84)
Eccentricity ²= 0.006694542
Semi-major axis= 6378160.000 Metres

Projection Parameters UTM/TM

Grid scale const = 0.9996000
Unit Conv. Factor = 1.0000000
False Easting = 500000.00 Metres
False Northing = 10000000.00 Metres
Central Meridian = -141 DEG 00 MIN 00.000 SEC E
Lat of Origin = 00 DEG 00 MIN 00.000 SEC

System Type Definition

A DNARUN
B Not Defined
C Not Defined
D Not Defined

Spheroid Data :- System Type A DNARUN
Name : WGS 84
Semi Axis : 6378137.00 metres
Eccentr² : .00669438
Parameter Shifts :- to AUSTRAL (84) Spheroid
DX : +116.000 in Metres
DY : +50.470 -''-
DZ : -141.690 -''-
Rotation (X) : +.2360 in seconds
(Y) : +.3900 in seconds
(Z) : +.3440 in seconds
Scaling (ppm) : -.0983

Station Data for System Type B : Not Defined
No Station Data

Station Data for System Type C : Not Defined
No Station Data

Station Data for System Type D : Not Defined
No Station Data

Pattern Corrections and Standard Deviations

System A DNARUN	System B Not Defined	System C Not Defined
C-D Corrections :-	No Data	No Data
Latit. +0.000 Secs		
Long. +0.000 Secs		
Height +0.000 M		

Pattern Corrections and Standard Deviations

System D Not Defined
No Data

Mobile System Assignments

<u>Sys</u>	<u>Mobile</u>	<u>System Type</u>	<u>Status</u>
1	OCEAN BOUNTY	DNARUN	OK

Receiver Pattern Codes

Sys 1 OCEAN BOUNTY
DNARUN
Receiver1
OK
Geogs 1

Computation Pattern Codes

Comp 1 OCEAN BOUNTY
 (ON) [TRACKING]
 LOP Patt Code SRC HRB
 1 Geogs 111 1

S=System R=Receiver C=Channel *=Pattern temporarily not used in computation
Antennae/Transducer/Beacon/Target Offsets

System 1 DNRUN
 for OCEAN BOUNTY
 Receiver 1
 X Y Height
 +0.00 +39.47 +33.76
 Receiver 2
 X Y Height
 +0.00 +0.00 +0.00



* WARNING ! Offset for System 1 Receiver 1 outside of OCEAN BOUNTY shape. **

Offset 1=\ Offset 2=/
 Winch Offsets (X,Y)

- 39.3 +12.6
- 39.3 +16.6
- +39.3 +16.6
- +39.3 +12.6
- +39.3 -12.6
- +39.3 -16.6
- 39.3 -16.6
- 39.3 -12.6
- +0.0 +0.0
- +0.0 +0.0
- +0.0 +0.0
- +0.0 +0.0

Laser System

Laser 1 : Not Selected Laser 2 : Not Selected

Laser Stns set-up as 'MOBILE' Stations -
 X,Y based on Local Metric grid (as with Antenna offsets)

#	X	Y	Desc
1	0.00	0.00	DATUM
1	0.00	35.00	RADAR

** WARNING ! Offset outside of vessel shape. **

Receiver Interface Addresses

OCEAN COUNTY:-
Sys 1 ONRAW
Rx 1 : 3201

P = Prioritised Receiver : 2 seconds.

Peripheral Interface Addresses

<u>Inputs</u>	<u>Outputs</u>
SOKKIA 1	Link to TUGNAU
SOKKIA 2	Link to GRREP 3202
Time Sync	Shell QC Output
Fish Depth/Hdg	C-G Output
	ROU Overlay
	Nav. Echo
	Grid Position
	Mobile Position
	USBL Cal. Link
	UIS System
	KF Output
	Uivertech Scanner
	Pseudo Nav String
	PEP-CID Output

Cores Configuration

Digiboard 1: Addresses 3201 - 3208

<u>Addr</u>	<u>Baud</u>	<u>Data Bits</u>	<u>Parity</u>	<u>Stop Bits</u>	<u>Term Char</u>	<u>Term Count</u>
3201	9600	8	NONE	1	10	0
3202	9600	8	NONE	1	10	0
3203	9600	8	NONE	1	10	0
3204	9600	8	NONE	1	10	0
3205	9600	8	NONE	1	10	0
3206	9600	8	NONE	1	10	0
3207	9600	8	NONE	1	10	0
3208	9600	8	NONE	1	10	0

Digiboard 2: Addresses 3301 - 3308

Not Interfaced

Digiboard 3: Addresses 3401 - 3408

Not Interfaced

Digiboard 4: Addresses 3501 - 3508

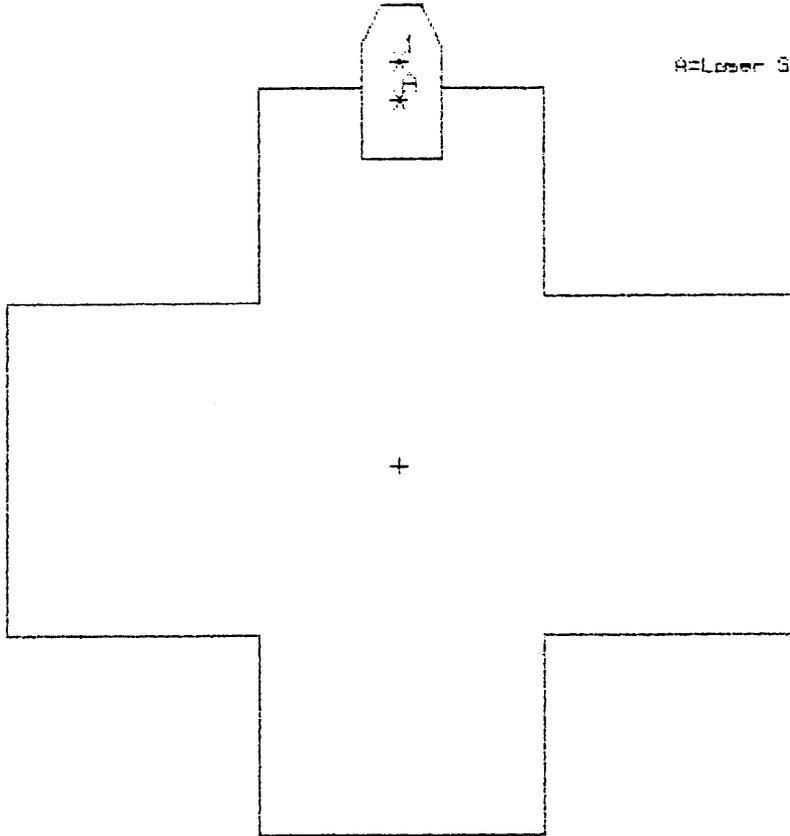
Not Interfaced

Cores Ports 1 and 2 : Addresses 9 and 11

<u>Addr</u>	<u>Baud</u>	<u>Data Bits</u>	<u>Parity</u>	<u>Stop Bits</u>	<u>Term Char</u>	<u>Term Count</u>
9	19200	8	NONE	1	10	0
11	9600	8	NONE	1	10	0

1=Sys1,Recvnt

A=Laser Sta 1 RADAR



Scale:  = 10 grid units

CURRENT OFFSET Posn : DRILL STEM
+0.00 X, +0.00 Y

Waypoint Co-ordinates:

1 CONAN-1	E	654528.74	N	5696042.00
2 3m START	E	661251.99	N	5697816.84
3 No. 7 ANCHOR	E	655891.59	N	5696380.53

Track Guidance Line Data:

Line Description	KP SOL	SOL East,North	EOL East,North
1 TO 3m RUN IN	0.000	824065.00, 5651198.00	661251.99, 5697816.84
2 3m RUN IN TO No.7	0.000	661251.99, 5697816.84	655891.59, 5696380.53
3 No.7 TO CONAN-1	0.000	655891.59, 5696380.53	654528.74, 5696042.00

Anchor Co-ordinates (Drop):

Main anchors:-				First back-up:-		Second back-up:-	
Anchor: 1	E	654977.06	N 5694711.94	Anchor: 1A	Undefined	Anchor: 1B	Undefined
Anchor: 2	E	654219.00	N 5694683.00	Anchor: 2A	Undefined	Anchor: 2B	Undefined
Anchor: 3	E	653006.97	N 5695648.64	Anchor: 3A	Undefined	Anchor: 3B	Undefined
Anchor: 4	E	653153.21	N 5696411.32	Anchor: 4A	Undefined	Anchor: 4B	Undefined
Anchor: 5	E	654149.26	N 5697492.02	Anchor: 5A	Undefined	Anchor: 5B	Undefined
Anchor: 6	E	654765.80	N 5697413.43	Anchor: 6A	Undefined	Anchor: 6B	Undefined
Anchor: 7	E	655892.00	N 5696359.00	Anchor: 7A	Undefined	Anchor: 7B	Undefined
Anchor: 8	E	655911.53	N 5695661.58	Anchor: 8A	Undefined	Anchor: 8B	Undefined
Anchor: 9		Undefined		Anchor: 9A	Undefined	Anchor: 9B	Undefined
Anchor: 10		Undefined		Anchor: 10A	Undefined	Anchor: 10B	Undefined
Anchor: 11		Undefined		Anchor: 11A	Undefined	Anchor: 11B	Undefined
Anchor: 12		Undefined		Anchor: 12A	Undefined	Anchor: 12B	Undefined

Anchor Co-ordinates (Intended):

Main anchors:-				First back-up:-		Second back-up:-	
Anchor: 1	E	654863.00	N 5694826.00	Anchor: 1A	Undefined	Anchor: 1B	Undefined
Anchor: 2	E	654229.00	N 5694824.00	Anchor: 2A	Undefined	Anchor: 2B	Undefined
Anchor: 3	E	653310.00	N 5695742.00	Anchor: 3A	Undefined	Anchor: 3B	Undefined
Anchor: 4	E	653313.00	N 5696376.00	Anchor: 4A	Undefined	Anchor: 4B	Undefined
Anchor: 5	E	654194.00	N 5697257.00	Anchor: 5A	Undefined	Anchor: 5B	Undefined
Anchor: 6	E	654828.00	N 5697259.00	Anchor: 6A	Undefined	Anchor: 6B	Undefined
Anchor: 7	E	655891.00	N 5696380.00	Anchor: 7A	Undefined	Anchor: 7B	Undefined
Anchor: 8	E	655743.00	N 5695707.00	Anchor: 8A	Undefined	Anchor: 8B	Undefined
Anchor: 9		Undefined		Anchor: 9A	Undefined	Anchor: 9B	Undefined
Anchor: 10		Undefined		Anchor: 10A	Undefined	Anchor: 10B	Undefined
Anchor: 11		Undefined		Anchor: 11A	Undefined	Anchor: 11B	Undefined
Anchor: 12		Undefined		Anchor: 12A	Undefined	Anchor: 12B	Undefined

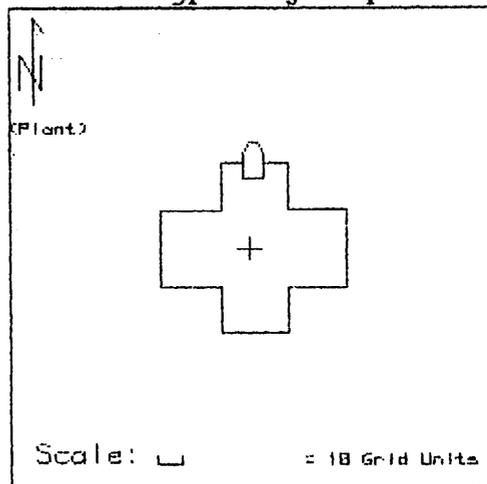
Verified by: *L. Kemp* (sign) L. KEMP. (print) 24 Jul 1995 09:26:51

W. Edwards. BHPE

Mobile name: OCEAN BOUNTY

+4.0, +41.0	-14.2, +16.0
+4.0, +37.0	-14.2, +37.0
+14.2, +37.0	-4.0, +37.0
+14.2, +16.6	-4.0, +30.0
+39.3, +16.6	+4.0, +30.0
+39.3, -16.6	+4.0, +37.0
+14.2, -16.6	+4.0, +41.0
+14.2, -36.2	+2.0, +45.0
-14.2, -36.2	-2.0, +45.0
-14.2, -16.6	-4.0, +41.0
-39.3, -16.6	-4.0, +37.0
-39.3, +16.0	+0.0, +0.0

Mobile type: Rig/Ship



Verified by: _____

19 Jul 1995 19:12:55

(sign)

(print)



PRIMARY COMPUTATION CONSTELLATION SUB FINAL POSITION - DNRUN
 Sub-Final Position A Constellation:(21,14,15,01)
 07:58:15 24 Jul 1995 to 08:01:36 24 Jul 1995
 No samples: 29 1 to 29
 No samples used: Lat/Long 29 Height 29
 P.D.O.P Minimum 3.7 Maximum 3.7
 H.D.O.P Minimum 2.1 Maximum 2.2
 3D error Minimum 1.0m Maximum 1.0m
 2D error Minimum 1.0m Maximum 1.0m
 Latitude 38 DEG 52 MIN 10.490 SEC S (S.D. .89m)
 Longitude 142 DEG 46 MIN 55.997 SEC E (S.D. .35m)
 Height 20.49 m (S.D. .68m)

PRIMARY COMPUTATION CONSTELLATION SUB FINAL POSITION - DNRUN
 Sub-Final Position B Constellation:(21,14,15,29,01,25)
 08:02:12 24 Jul 1995 to 08:12:33 24 Jul 1995
 No samples: 107 30 to 136
 No samples used: Lat/Long 107 Height 107
 P.D.O.P Minimum 2.0 Maximum 2.1
 H.D.O.P Minimum 1.3 Maximum 1.3
 3D error Minimum 1.0m Maximum 1.0m
 2D error Minimum 0.0m Maximum 1.0m
 Latitude 38 DEG 52 MIN 10.521 SEC S (S.D. 1.22m)
 Longitude 142 DEG 46 MIN 55.984 SEC E (S.D. .54m)
 Height 20.66 m (S.D. 1.26m)

PRIMARY COMPUTATION CONSTELLATION SUB FINAL POSITION - DNRUN
 Sub-Final Position C Constellation:(21,14,15,01,25)
 08:13:10 24 Jul 1995 to 08:20:12 24 Jul 1995
 No samples: 74 137 to 210
 No samples used: Lat/Long 74 Height 74
 P.D.O.P Minimum 3.1 Maximum 3.2
 H.D.O.P Minimum 1.9 Maximum 1.9
 3D error Minimum 1.0m Maximum 3.0m
 2D error Minimum 1.0m Maximum 2.0m
 Latitude 38 DEG 52 MIN 10.480 SEC S (S.D. .92m)
 Longitude 142 DEG 46 MIN 55.952 SEC E (S.D. .49m)
 Height 18.92 m (S.D. 1.76m)

PRIMARY COMPUTATION CONSTELLATION SUB FINAL POSITION - DNRUN
 Sub-Final Position E Constellation:(21,14,15,01,25)
 08:13:10 24 Jul 1995 to 08:20:12 24 Jul 1995
 No samples: 74 137 to 210
 No samples used: Lat/Long 74 Height 74
 P.D.O.P Minimum 3.1 Maximum 3.2
 H.D.O.P Minimum 1.9 Maximum 1.9
 3D error Minimum 1.0m Maximum 3.0m
 2D error Minimum 1.0m Maximum 2.0m
 Latitude 38 DEG 52 MIN 10.480 SEC S (S.D. .92m)
 Longitude 142 DEG 46 MIN 55.952 SEC E (S.D. .49m)
 Height 18.92 m (S.D. 1.76m)

PRIMARY COMPUTATION CONSTELLATION SUB FINAL POSITION - DNRUN
 Sub-Final Position D Constellation:(21,14,15,29,01,25)
 08:21:36 24 Jul 1995 to 08:28:40 24 Jul 1995
 No samples: 75 211 to 285
 No samples used: Lat/Long 75 Height 75
 P.D.O.P Minimum 2.0 Maximum 2.0
 H.D.O.P Minimum 1.3 Maximum 1.4
 3D error Minimum 1.0m Maximum 1.0m
 2D error Minimum 0.0m Maximum 0.0m
 Latitude 38 DEG 52 MIN 10.536 SEC S (S.D. .59m)
 Longitude 142 DEG 46 MIN 55.991 SEC E (S.D. .31m)
 Height 22.49 m (S.D. 1.40m)

PRIMARY COMPUTATION CONSTELLATION SUB FINAL POSITION - DNRUN
 Sub-Final Position E Constellation:(14,15,29,01,25)
 08:29:16 24 Jul 1995 to 09:01:27 24 Jul 1995
 No samples: 332 286 to 617
 No samples used: Lat/Long 332 Height 332
 P.D.O.P Minimum 2.6 Maximum 2.7
 H.D.O.P Minimum 1.7 Maximum 1.8
 3D error Minimum 1.0m Maximum 2.0m
 2D error Minimum 0.0m Maximum 1.0m

Latitude 38 DEG 52 MIN 10.543 SEC S (S.D. .92m)
Longitude 142 DEG 46 MIN 55.993 SEC E (S.D. .56m)
Height 24.74 m (S.D. 2.70m)

PRIMARY COMPUTATION CONSTELLATION SUB FINAL POSITION - UNKNOWN

Sub-Final Position F Constellation:(14,15,29,25)
09:02:03 24 Jul 1995 to 09:04:02 24 Jul 1995
No samples: 22 618 to 639
No samples used: Lat/Long 22 Height 22
P.D.O.P Minimum 5.5 Maximum 5.6
H.D.O.P Minimum 2.1 Maximum 2.1
3D error Minimum 2.0m Maximum 2.0m
2D error Minimum 1.0m Maximum 1.0m
Latitude 38 DEG 52 MIN 10.510 SEC S (S.D. .29m)
Longitude 142 DEG 46 MIN 55.976 SEC E (S.D. .34m)
Height 28.78 m (S.D. .55m)

Analysis data stored to file ANAL1

FINAL POSITION ANALYSIS: OCEAN BOUNTY TO CONAN-1 FOR BAP
 GNS v R309 07:58:15 24 Jul 1995 to 09:04:02 24 Jul 1995
 GPS Weighting Option - Constellations given equal weights
 Mean Corrected Gyro...227.4 Gyro Correction... +0.0
 Mean Grid Heading.....228.6 Convergence..... -1.118

Antennae/Transducer/Seacon/Target Offsets

System 1 DNRUM
 for OCEAN BOUNTY
 Receiver 1
 X Y Height
 +0.00 +39.47 +33.76
 Receiver 2
 X Y Height
 +0.00 +0.00 +0.00

```

*****
.   Heading   .
.     ^       .
.    +Y       .
.     \       .
.    -X,.,.,.,+X .
.     .       .
.     .       .
.    -Y       .
*****

```

* WARNING ! Offset for System 1 Receiver 1 outside of OCEAN BOUNTY shape. **

Offset 1=\ Offset 2=/

PRIMARY COMPUTATION - DNRUM

CONSTELLATIONS USED

Const. #	Samples	S.U.s
A	29	21,14,15,01
B	107	21,14,15,29,01,25
C	74	21,14,15,01,25
D	75	21,14,15,29,01,25
E	332	14,15,29,01,25
F	22	14,15,29,25

Total number of samples used = 639

INTENDED FINAL DATUM LOCATION

RUST NAT (84) Spheroid
 Latitude 38 DEG 52 MIN 14.751 SEC S
 Longitude 142 DEG 46 MIN 52.545 SEC E
 UTM/TM
 Eastings 654528.74 Metres
 Northings 5696042.00 Metres

COMPUTED FINAL ANTENNA POSITION

WGS 84 Spheroid
 Latitude 38 DEG 52 MIN 10.513 SEC S (S.D. .35 Metres)
 Longitude 142 DEG 46 MIN 55.982 SEC E (S.D. .18 Metres)
 Height 22.68 Metres (S.D. .64 Metres)

RUST NAT (84) Spheroid
 Latitude 38 DEG 52 MIN 15.819 SEC S
 Longitude 142 DEG 46 MIN 51.010 SEC E
 Height 40.10 Metres
 UTM/TM
 Eastings 654491.31 Metres
 Northings 5696009.82 Metres

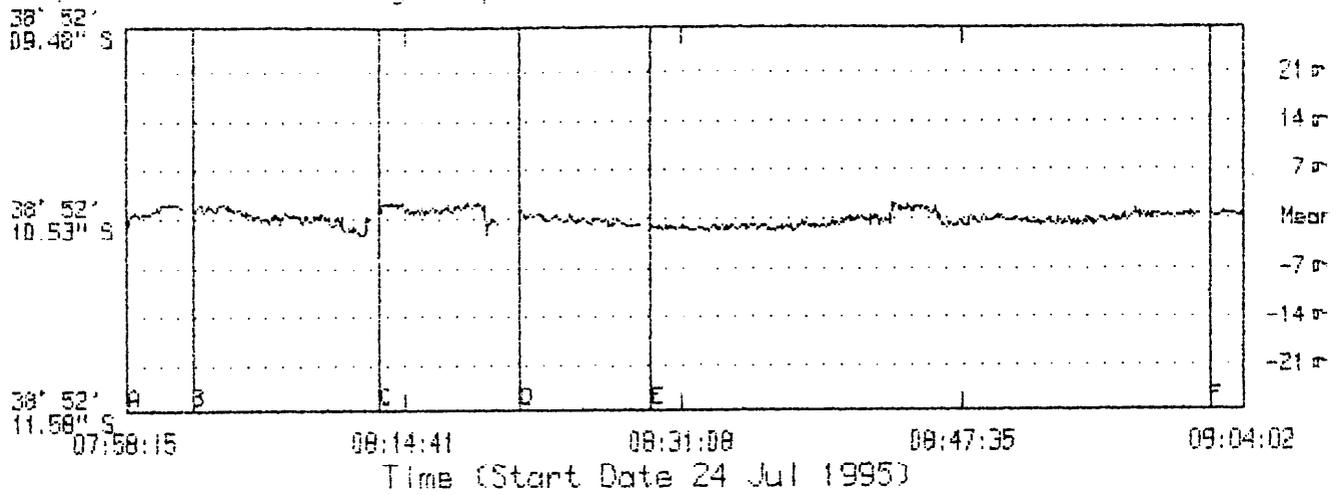
COMPUTED FINAL DATUM POSITION

RUST NAT (84) Spheroid
 Latitude 38 DEG 52 MIN 14.953 SEC S

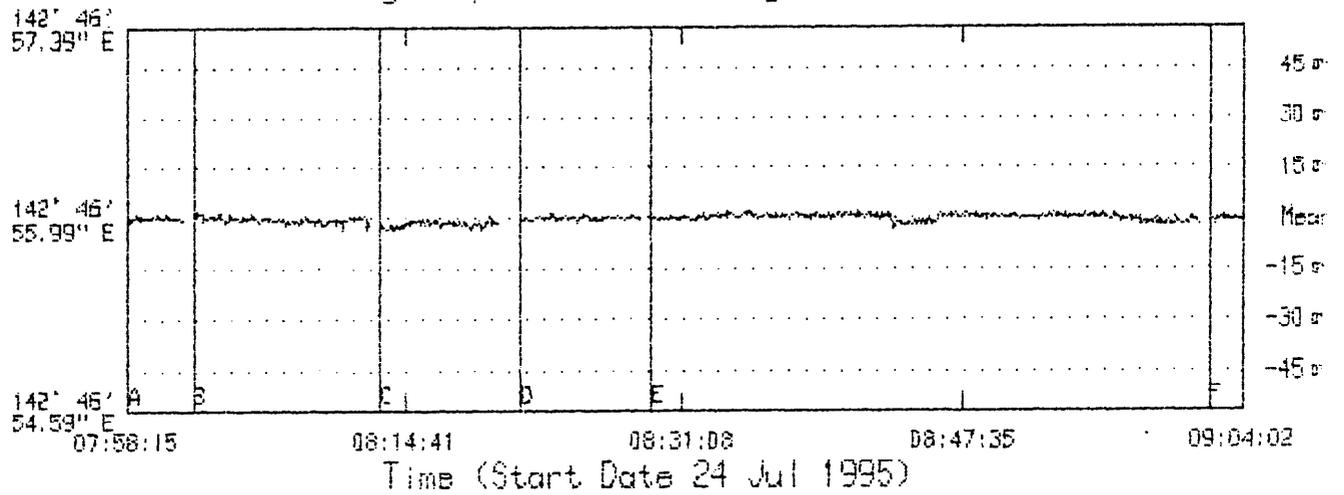
Longitude 142 DEG 46 MIN 52.224 SEC E
UTM/TM
Easting 654520.90 Metres
Northing 5696035.94 Metres

Final Datum Position is 9.91 Metres (spheroidal distance) bearing 231.19 T from the Intended Loc.

Primary Computation GPS Latitude (DNAVN)



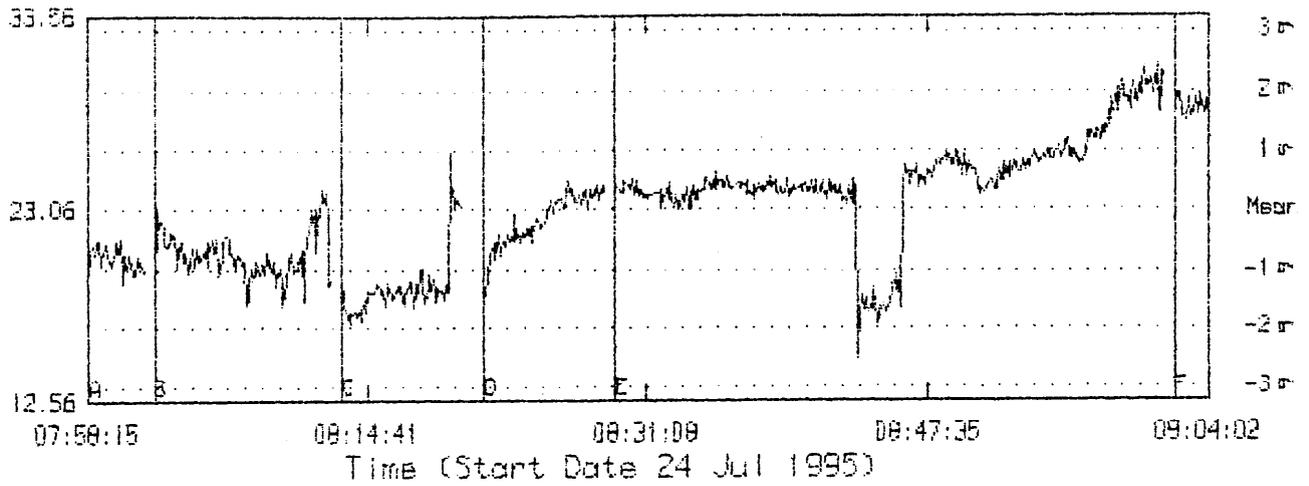
Primary Computation GPS Longitude (DNAVN)



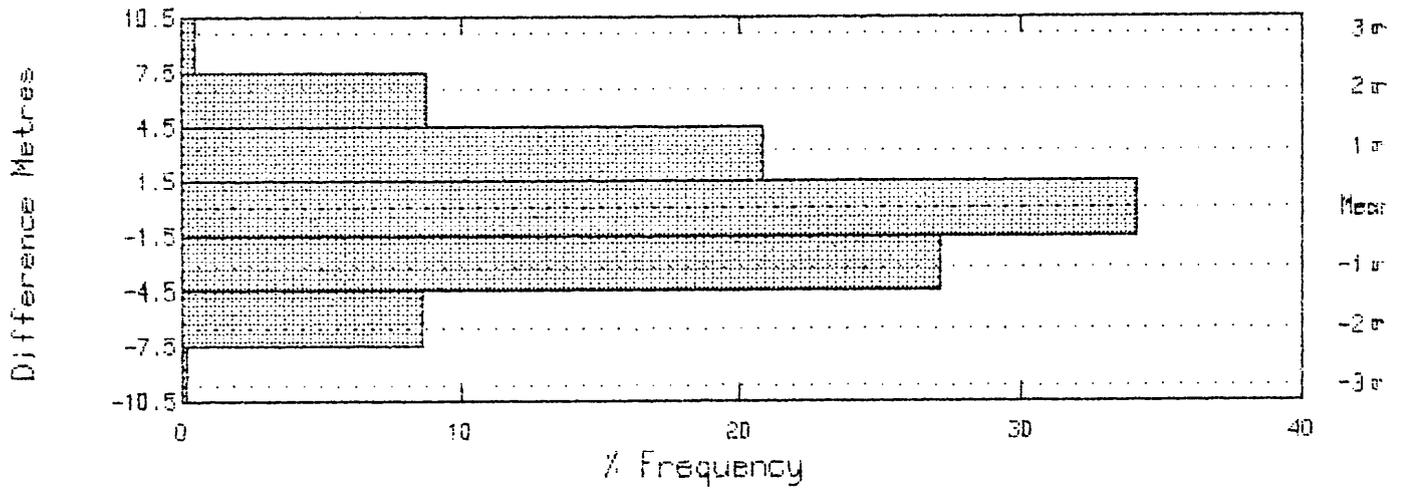
Primary Computation (WGS 84 - DNAVN)

Centred on mean of antenna position (passes 1 to 639).
 Latitude 38 DEG 52 MIN 10.528 SEC S Sd 1.175 Metres
 Longitude 142 DEG 46 MIN 55.986 SEC E Sd .597 Metres

Primary Computation GPS Height (DNAUN)

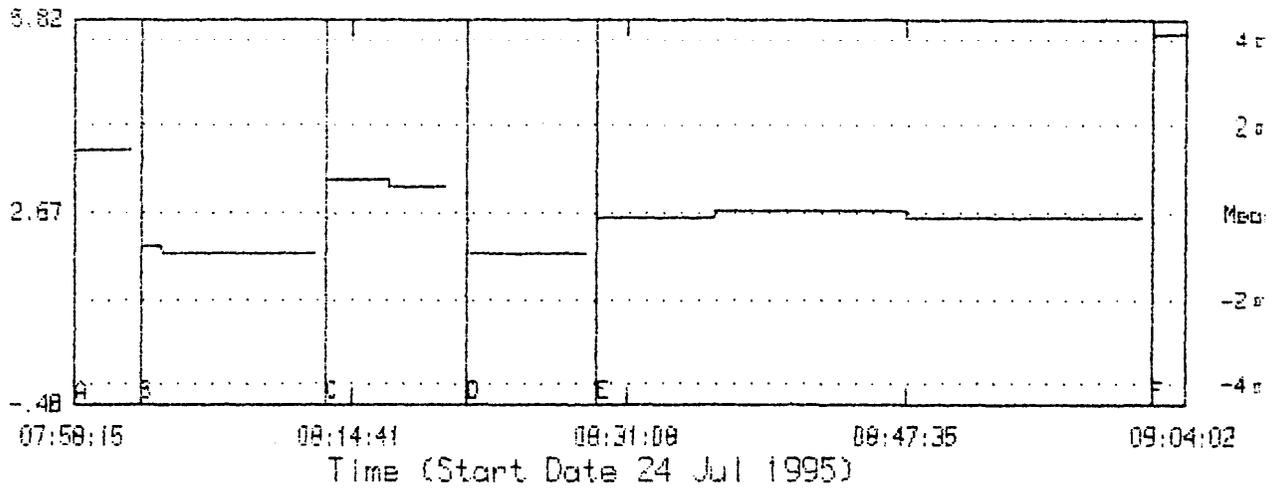


Primary Computation GPS Height (DNAUN)

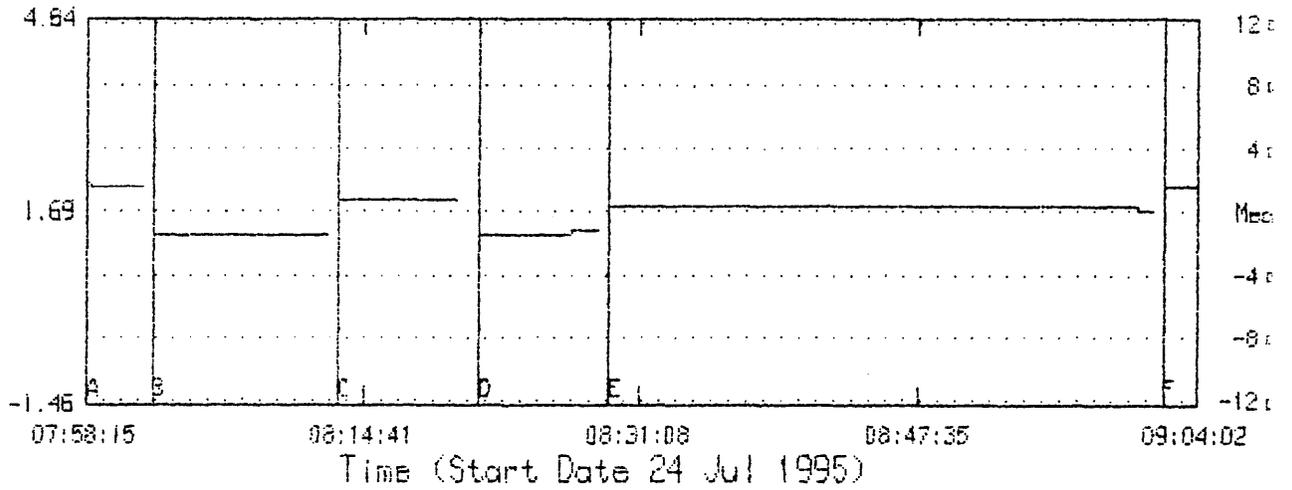


Primary Computation (WGS 84 - DNAUN)
 Centred on mean of antenna position (passes 1 to 639).
 Height +23.06 Sd 3.245 Metres

Primary Computation GPS PDOP (DNAUN)

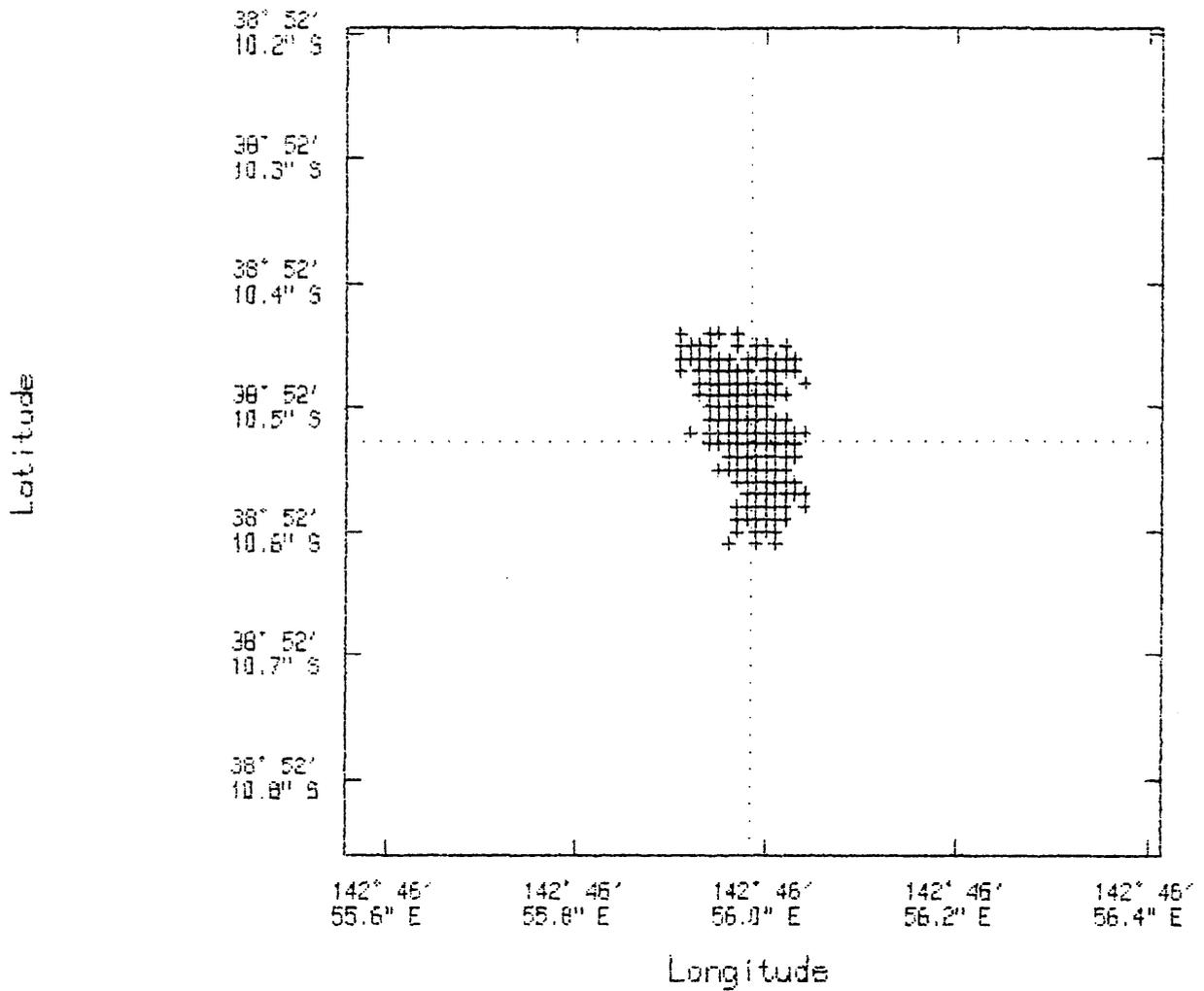


Primary Computation GPS HDOP (DNAUN)



Primary Computation (WGS 84 - DNAUN)
 Centred on mean of antenna position (passes 1 to 639).
 PDOP 2.7 Sd .705
 HDOP 1.7 Sd .258

Primary Computation GPS Scatter Plot (DNAUN)



Centred on mean antenna position (passes 1 to 639).
WGS 84 Spheroid
Latitude 38 DEG 52 MIN 10.528 SEC S
Longitude 142 DEG 46 MIN 55.986 SEC E

ENCLOSURES

**Enclosure 1 Dual Propagation Resistivity, Gamma Ray Logs (Scales 1:200, 1:500
and 1:1000)**

PE600567

This is an enclosure indicator page.
The enclosure PE600567 is enclosed within the
container PE900643 at this location in this
document.

The enclosure PE600567 has the following characteristics:

ITEM_BARCODE = PE600567
CONTAINER_BARCODE = PE900643
NAME = Conan 1 Log Dual Propagation
Resistivity Gamma Ray 1/1000, WCR Vol 1
BASIN =

Otway

PERMIT = VIC/P31
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Conan 1 Log Dual Propagation
Resistivity Gamma Ray 1/1000, WCR Vol 1
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W1140
WELL_NAME = CONAN-1
CONTRACTOR = Baker Hughes
CLIENT_OP_CO = BHP

(Inserted by DNRE - Vic Govt Mines Dept)

PE600566

This is an enclosure indicator page.
The enclosure PE600566 is enclosed within the
container PE900643 at this location in this
document.

The enclosure PE600566 has the following characteristics:

ITEM_BARCODE = PE600566
CONTAINER_BARCODE = PE900643
 NAME = Conan 1 Log Dual Propagation
 Resistivity Gamma Ray 1/500, WCR Vol 1
 BASIN = Otway
 PERMIT = VIC/P31
 TYPE = WELL
 SUBTYPE = WELL_LOG
 DESCRIPTION = Conan 1 Log Dual Propagation
 Resistivity Gamma Ray 1/500, WCR Vol 1
 REMARKS =
 DATE_CREATED =
 DATE_RECEIVED =
 W_NO = W1140
 WELL_NAME = CONAN-1
 CONTRACTOR = Baker Hughes
 CLIENT_OP_CO = BHP

(Inserted by DNRE - Vic Govt Mines Dept)

PE600554

This is an enclosure indicator page.
The enclosure PE600554 is enclosed within the
container PE900643 at this location in this
document.

The enclosure PE600554 has the following characteristics:
ITEM_BARCODE = PE600554
CONTAINER_BARCODE = PE900643
 NAME = Conan 1 Log Dual Propagation
 Resistivity Gamma Ray 1/200, WCR Vol 1
 BASIN = Otway
 PERMIT = VIC/P31
 TYPE = WELL
 SUBTYPE = WELL_LOG
 DESCRIPTION = Conan 1 Log Dual Propagation
 Resistivity Gamma Ray 1/200, WCR Vol 1
 REMARKS =
 DATE_CREATED =
 DATE_RECEIVED =
 W_NO = W1140
 WELL_NAME = CONAN-1
 CONTRACTOR = Baker Hughes
 CLIENT_OP_CO = BHP

(Inserted by DNRE - Vic Govt Mines Dept)