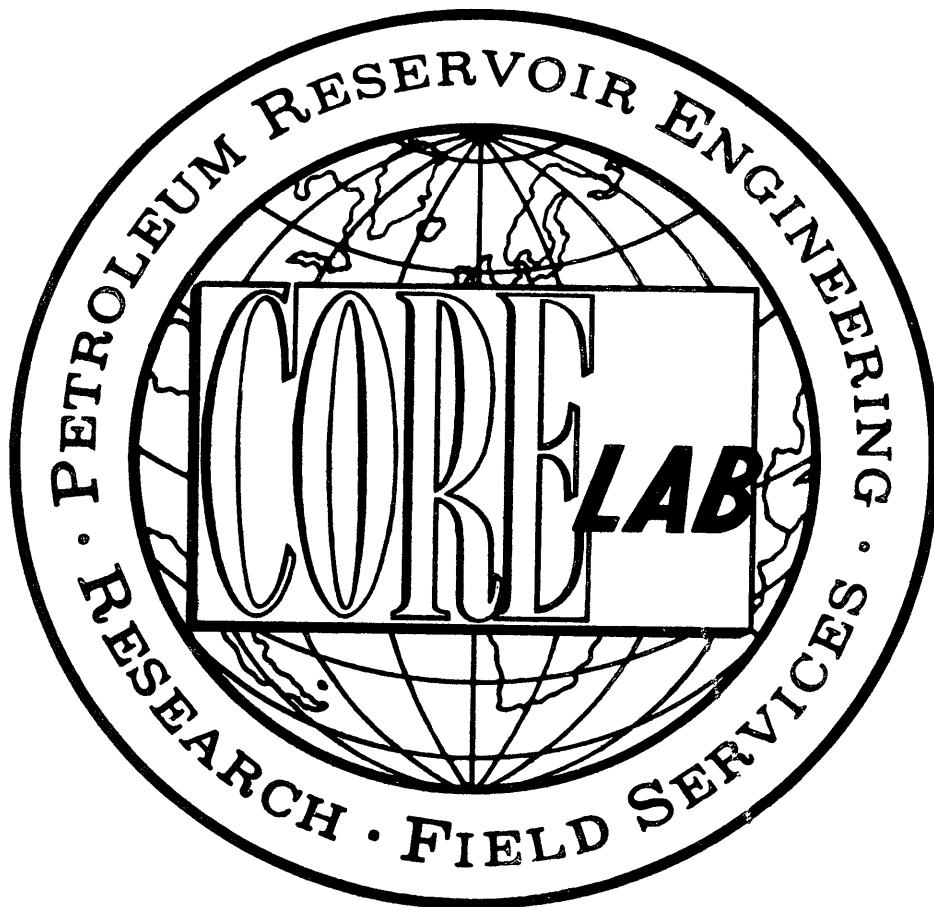


ATTACHMENT TO WCR VOL 2 OF
KAHAWAI-1 (PE902654)



OIL and GAS DIVISION

IES WELL REPORT

ESSO AUSTRALIA PTY. LTD.

KAHAWAI No. 1

30 SEP 1982

W776

CORE LABORATORIES AUSTRALIA (QLD.) LTD.

Petroleum Reservoir Engineering
AUSTRALIA

BRISBANE OFFICE:
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PINKENBA, Q. 4008.
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AUSTRALIA.

CABLE ADDRESS: CORELAB BRISBANE
TELEX No: COREBN AA42513
TELEPHONE: 260 1722
260 1723

15-7-82

Atten: Mr. K. Kuttan
Geology Department
ESSO HOUSE
127 Kent St.
Sydney
N.S.W. 2001

Dear Sir,

Core Laboratories Intermediate Extended Service Well Logging Unit FL 802 was in use during the drilling of KAHAWAI No. 1 from surface to a total depth of 2320 metres.

Please find enclosed the IES well report, appended drilling parameter logs and the Corelab grapholog for your reference.

We appreciated being of assistance during the drilling operations and look forward to continuing our association on future wells.

If you require clarification of this report, please do not hesitate to contact us.

Yours very truly,
CORE LABORATORIES AUSTRALIA Ltd.

A. DODSON
Unit Supervisor

Signed by  in A. Dodson's absence

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1. INTRODUCTION

KAHAWAI No.1 was drilled by ESSO Australia Ltd. in the Bass Strait, Australia.

Well co-ordinates were:

Latitude : 38^o 10' 20.85" S
Longitude : 148^o 22' 8.17" E

The well was drilled by South Seas Drilling Company's semi-submersible rig "Southern Cross", and monitored by Core Laboratories Intermediate Extended Service Field Laboratory 802.

KAHAWAI No.1 was spudded on 26 May 1982 and reached a total depth of 2320 metres on 11 June 1982, a total drilling time of 17 days. The main objective of the well was to assess the hydrocarbon potential of an erosional high beneath the Tuna-Flounder channel. The secondary objective was to delineate the western extent of the Tuna M - 1.2 reservoir.

Elevations were:

Kelly bushings to mean sea level : 21 metres
Water depth : 61 metres
Kelly bushings to mud line : 82 metres

All depths used in this report and accompanying logs refer to depth below rotary kelly bushings (RKB).

Core Laboratories personnel involved in the logging of KAHAWAI No.1 were as follows :

A. Dodson	-	Unit Supervisor
G. Munn	-	Pressure Engineer
B. Giftson	-	Logging Crew Chief
B. Paulet	-	Well Logger
M. Kinder	-	Well Logger
B. Martin	-	Well Logger
M. Robinson	-	Sample Catcher
A. McCausland	-	Sample Catcher
P. Denton	-	Sample Catcher
A. Bock	-	Sample Catcher

2. CORE LABORATORIES EQUIPMENT

Core Laboratories Field Laboratory 802 monitoring equipment includes the following :

A. MUD LOGGING

1. T.H.M. total gas detector and recorder
2. Hot wire total gas detector and recorder
3. F.I.D. (Flame Ionization Detector) chromatograph and recorder
4. Gas trap and support equipment for the above
5. Rate of Penetration recorder and digital display
6. Pit volume totalizer, display and recorder
7. Digital depth counter
7. Two integrated pump stroke counters, with digital display
9. Ultra-violet fluoroscope
10. Binocular microscope

B. INTERMEDIATE EXTENDED SERVICE PACKAGE

1. Hewlett Packard 9825T desktop computer and 3497A data acquisition unit
2. Hewlett Packard 9872B plotter
3. Hewlett Packard 2631A printer
4. Two Hewlett Packard 2621P visual display units, (one located in the client's office)
5. Hookload/weight on bit transducer and recorder
6. Rotary speed tachogenerator and recorder
7. Standpipe pump pressure transducer and recorder
8. Mud flow out sensor and recorder
9. Mud temperature sensors and recorder (in and out)
10. Mud conductivity sensors and recorder (in and out)
11. Rotary torque sensor and recorder
12. Shale density apparatus
13. Hydrogen sulphide gas detector
14. Carbon dioxide gas detector

3. CORE LABORATORIES MONITORING EQUIPMENT

DEPTH

Depth registered every 0.2 metres and rate of penetration calculated each metre (or every 0.2 m while coring). ROP displayed on digital panel and chart.

WEIGHT ON BIT

A Tyco 0-1000 psi, solid state pressure transducer is connected to the rig's deadline anchor. The weight on bit is calculated in the Rig Functions panel, and displayed (with hookload) on a digital meter and recorder chart.

ROTARY SPEED

This is a DC generator for which 1 volt = 100 rpm, and which is belt-driven from the rotary drive shaft. The value is displayed on digital meter and recorder chart.

PUMP PRESSURE

This is a Tyco 0-5000 psi transducer mounted on the standpipe manifold. The pressure is displayed on digital panel meter and recorder chart.

PIT VOLUME

Six individual pits can be displayed on the meter. The pit volume total is calculated in the PVT panel and displayed on a digital meter. The sensors are vertical floats driving potentiometers accurate to +/- 1 barrel. Each sensor is equipped with a wave compensating device. In addition a sensor is fitted to the rig's trip tank, so that hole fill-up during trips may be closely monitored. A recorder chart displays the levels of the active pits, the pit volume total, and the trip tank.

PUMP STROKES

These are the limit switch type, counting individual strokes. The Pulse Data Box can monitor one or two pumps individually or integrate the total number of strokes from both pumps. The pump rate per minute is displayed on recorder chart.

ROTARY TORQUE

An American aerospace Controls bi-directional current sensor is clamped over the power cable of the rotary table motor. Torque is displayed on digital panel meter and recorder chart.

MUD TEMPERATURE

This is a platinum probe resistance thermometer, calibrated 0-100 deg. C. Temperature in and out is displayed on recorder chart and digital meter.

MUD CONDUCTIVITY

A Balsbaugh electrode-less conductivity sensor measures the current in a closed loop of solution coupling a pair of toroidal transformer coils.

The conductivity in and out is displayed on analog and digital meters, and recorder chart.

All the sensors are 5 to 24 v DC powered with the exception of the air driven gas trap. Along with monitoring and maintaining the above equipment, Core Lab furnished and operated certain other items.

CUTTINGS

Microscopic and ultra-violet inspection of cuttings samples at predetermined intervals. Dry samples were washed, dried and boxed. Wet samples were washed, sacked and boxed. Geochemical samples were canned and boxed.

GAS

1. Flame Ionization Total Hydrocarbon gas detector.

The T.H.M. accurately determines hydrocarbon concentrations up to 100% saturation.

2. Flame Ionization Detector chromatograph.

The F.I.D. is capable of accurate determination of hydrocarbon concentration from C1 to C6+.

3. Hot wire gas detector (Wheatstone Bridge type)

A back up system for total gas detection.

SHALE DENSITY

Manual determination of shale density in an accurately calibrated variable density column.

4. INTERMEDIATE EXTENDED SERVICE INTRODUCTION

The Core Laboratories Intermediate Extended Service Package includes sensors, recorders and computer facilities useful in the drilling operation; for the detection of abnormal formation pressure; and the optimization of drilling.

Presented graphically on Core Laboratories I.E.S. logs (discussed individually in the following section of this report) are the various functions necessary for well control, abnormal formation pressure detection and drilling optimization.

Other available services include electric log interpretation programs for the wellsite geologist, hydraulics (synthesis and analysis), well kill, cost per foot, bit nozzle selection, swab and surge created by pipe movement and bit performance programmes for the wellsite drilling engineer.

Core Laboratories I.E.S. logs include the following :

I.E.S. PRESSURE LOG

Information plotted on this log includes formation pore pressure, mud weight in and formation fracture pressure. This is plotted on linear graph paper at a vertical scale of 1:5000. The formation pore pressure and fracture pressure gradients are based on all available information. This is a conclusion log, therefore the information may be modified by results from formation drill stem tests, data from adjacent wells, kicks, and formation breakdown tests.

CORELAB DRILL DATA PLOT

This plot, which is drawn while drilling is in progress, is the primary tool by which formation overpressure is detected. Drawn on a 1:5000 scale it is particularly useful in that five plots are drawn side by side, and thus any trend can be readily recognised.

The main plot is that of the corrected 'd' exponent, which is presented on a logarithmic scale. The 'd' exponent was first developed by Jordan and Shirley in 1966 to assist in interpreting rate of penetration data by normalizing for rotary speed and weight on bit per inch of bit diameter.

The modified 'dc' exponent was proposed by Rhem and McClendon to compensate for increases in mud weight. This involves multiplying the standard 'd' exponent value by the inverse ratio of the mud weight. A multiple of 9 ppg was used for convenience to return the magnitude of the 'dc' to a comparable value of it's uncorrected state. In this case, a multiplier of 10 ppg was used. The equation for 'dc' is therefore :

$$\text{"dc"} = \frac{\text{Log} \left(\frac{\text{ROP}}{\text{RPM} \times 60} \right) \times 10}{\text{Log} \left(\frac{\text{WOB} \times 12}{\text{Bit diam} \times 1000} \right) \text{MDI}}$$

Deviations from the normal "dcs" trend may be interpreted as being due to a change in formation pore pressure. An equation derived by Eaton is used in an attempt to evaluate pore pressure from deviations in the "dcs" plot. This method of overpressure detection can be fairly accurate for homogeneous shales, but where the sand/silt/shale ratio varies a great deal, inaccuracies often occur.

The other main plots are a logarithmic rate of penetration, which complements the 'dcs' plot and a linear plot of total mud gas.

Shale densities are also plotted on a linear scale in order to show up a decreasing density trend, and hence a possible transition into abnormally pressured shales. The points are determined by measuring the density of air dried shale samples in an accurately calibrated density solution.

An interpreted lithology column is also included on the log, as is a plot of mud density in, to assist in interpretation. All relevant information, such as casing points, bit runs, etc. are also included.

I.E.S. GEO-PLOT LOG

This is plotted by the computer while drilling is in progress. At a later date this plot can be re-run on different scales to suit the client. The data is stored on magnetic tape during the drilling operations. Functions plotted on this log are : rate of penetration, corrected "d" exponent, breakeven analysis, formation pore pressure, mud density in and formation fracture pressure. Two Geo-plots are included in this report, at scales of 1:2000 and 1:5000.

I.E.S. FLOWLINE TEMPERATURE, FLOWLINE TEMPERATURE END TO END PLOTS

Flowline temperature and end to end plot of flowline temperature are the two main plots relating to the temperature of the returning drilling fluid. These are plotted on a vertical scale of 1:5000. The use of these plots as an indicator of the presence of over-pressure takes secondary role to the I.E.S. drill log. Continuous observation of flowline temperature may indicate an increase in geothermal gradient. Factors affecting temperature are noted on the log, such as new bit runs, changes in the circulation rates, circulating cuttings out and the addition of water and chemicals to the active mud system. Since the goal of the end-to-end plot is to provide a representation of the geothermal gradient, all surface changes which would cause artificial changes in the flowline temperature are disregarded.

ELECTRIC LOG PLOT

A plot of shale resistivity (ohm-metres squared/metre), sonic travel time (microseconds per foot), bulk density (gm./cc) and neutron porosity (%), is made, using data supplied by Schlumberger. Two-cycle semilog paper is used, with a vertical scale of 1:10,000. As far as possible only clean shale points are selected and plotted. The relatively compressed vertical scale makes deviations from the normal compaction trend easier to identify.

PROGRESS LOG

This is the traditional presentation of footage against elapsed time in days. It shows actual drilling time from spud to total depth.

DATA RECORDING

Data is recorded on tape while drilling both as raw input numbers and computer calculated numbers. This data can be accessed later for use in interpretative programs or to review data. Comprehensive data lists are included in this report.

MUD DATA SHEETS

These are a record of the mud properties while drilling and are derived from the mud engineer's daily report.

DRILLING PARAMETER PLOT

The drilling parameter plot shows : rate of penetration, weight on bit, rotary speed, pump pressure, hydraulic horsepower, impact force and jet velocity. This plot is drawn by the computer and is designed to aid the drilling engineer in drilling optimization. The scale chosen here is 1:5000.

HYDRAULIC ANALYSES

During drilling, routine hydraulic analyses are calculated by the computer, and these are made available to the drilling engineer. This report includes a sample hydraulics for each 100 m.

GAS COMPOSITION ANALYSIS

For each significant gas show, the chromatograph results are analysed using two techniques:-

1. Log plot
2. Triangulation plot

Both plots are included in this report.

GRAPHOLOG

This is plotted on the industry standard form on a vertical scale of 1:500. Rate of penetration is plotted in metres per hour, together with mud gas chromatography results. Total gas is also plotted, and a percentage lithology log is drawn. A lithology description is presented in an abbreviated form. All relevant drilling data is included, as is bit and mud data.

MISCELLANEOUS

Various data collected from this well are also included in this report for reference. These include formation leak off test data, and R.F.T. and well test data where appropriate.

5. RIG INFORMATION SHEET



RIG INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.WELL KAHAWAI No. 1

OWNER	SOUTH SEAS DRILLING COMPANY
NAME AND NUMBER	SOUTHERN CROSS (N ^o 107)
TYPE	SEMI-SUBMERSIBLE , TWIN HULLED.
DERRICK, DRILL FLOOR & SUBSTRUCTURE	DERRICK: LEE C MOORE, 152' HIGH X 40' AT BASE. LOAD CAPACITY OF 1 000 000 lbs
DRAWWORKS	OILWELL E-2000 DRIVEN BY 2 GE 752 ELECTRIC MOTORS.
CROWN BLOCK	LEE C MOORE 27458 C. CAPACITY 500 SHORT TONS.
TRAVELING BLOCK	OILWELL A 500
SWIVEL	OILWELL PC 425
ELEVATORS	BYRON JACKSON MODEL GG CAPACITY 350 TON
KELLY & KELLY SPINNER	DRILLCO 5 $\frac{1}{4}$ " x 50' HEX KELLY
ROTARY TABLE	OILWELL A 37 $\frac{1}{2}$ SINGLE ELECTRIC MOTOR
ROTARY SLIPS	VARCO DCS-L
MUD PUMPS	TWO OILWELL A 1700PT. RATED AT 1600HP
MUD SYSTEM	FOUR MUD TANKS HAVING A TOTAL CAPACITY OF 1200 BBL, AND ONE PILL TANK HAVING A CAPACITY OF 105 BBL. TWO MUD HOPPERS POWERED BY 2 MISSION 6x8" CENTRIFUGAL BY TWO 100 HP ELECTRIC MOTORS. DESANDER : 1 DEMCO 4 CONE 12" MODEL N ^o 124 DESILTER : 1 DEMCO 4"-16H 16 CONE DEGASSER : 1 SWACO MODEL N ^o 36 SHALE SHAKERS : 2 BRANDT DUAL UNIT TANDEM - GHI DUAL UNIT.
BLOW OUT PREVENTORS	THREE SHAFFER L.W.S. 18 $\frac{3}{4}$ " - 10 000 psi TWO HYDRIL G.L. 18 $\frac{3}{4}$ " - 5000 psi
WELL CONTROL EQUIP.	FOUR VALV CON ACCUMULATORS. 2" - 10 000psi CHOKES: 2 C.I.W. ABJ H2 2 1/16" - 10 000 psi, 1 SWACO SUPER CHOKE
TUBULAR DRILLING EQUIPMENT	DC : 6 $\frac{1}{4}$ " x 2 13/16" (4" IF TJ) 8 " x 2 13/16" (6 5/8" H9D TJ) 9 $\frac{3}{4}$ " x 3" (7 5/8" H9D YJ) HWDP : 5" 50lb/ft GRADE G (6 $\frac{1}{2}$ " OD 4 $\frac{1}{2}$ " IF TJ) DP : 5" 19 $\frac{1}{2}$ lb/ft GRADE G&E (6 3/8" OD 4 $\frac{1}{2}$ " IF TJ)
CEMENTING UNIT	HALLIBURTON HT-400 UNIT
MONITORING EQUIPMENT	MARTIN DECKER : MUD VOLUME TOTALIZER 6 CHANNEL DRILLING RECORDER 4 PRESSURE GAUGES FLOWSHOW INDICATOR
POWER SUPPLY	2 EMD MD 18 DIESEL ENGINES RATED AT 1950 HP EACH 1 EMD MD 12 DIESEL ENGINE RATED AT 1500 HP
DIRECTIONAL EQUIP.	-
MISCELLANEOUS (E.G. RISER, COMPENSATION SYSTEM, PIPE RACKER, DP EQUIPMENT) RISER: REGAN FC-7 TELESCOPIC 21" ID. PLUS FLOW DIVERTOR. CASING POWER TONGS: ECKEL 13 3/8" (20 000 ft lbs), 20" (35 000 ft lbs) CMT BULK TANKS: 3x1570cu ft. RISER TENSIONER: 6 WESTERN GEAR, 50'SROKE, 80 000lbs. MUD BULK TANKS: 3x1570cu ft. GUIDE LINE TENSIONERS : 4 WESTERN GEAR 16 000 lbs, 40'SROKE	

6. WELL INFORMATION SHEET



WELL INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
 WELL KAHAWAI No. 1

Sheet No. 1

WELL NAME	KAHAWAI No. 1										
OPERATOR	ESSO AUSTRALIA LTD.										
PARTNERS	B.H.P.										
RIG	OWNER	SOUTH SEAS DRILLING COMPANY									
	NAME OR NUMBER	SOUTHERN CROSS									
	TYPE	SEMI - SUBMERSIBLE									
LOCATION	LATITUDE (X)	38° 10' 20.85" S				LONGITUDE (Y)	148° 22' 8.17" E				
	FIELD	GIPPSLAND BASIN				AREA	BASS STRAIT				
	COUNTY	-				STATE	VICTORIA				
	COUNTRY	AUSTRALIA									
	DESCRIPTION										
DATUM POINTS	Ground Elevation	-				RKB to Ground Level	-				
	Mean Water Depth	61 METRES				RKB to Water Level	21 METRES				
DATES	SPUD	26 MAY 1982				TOTAL DEPTH	11 JUNE 1982				
HOLE SIZES	Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged		
	82	216	26"	1	0	26 MAY 82	26 MAY 82	20 ⁷ / ₈ "	No		
	216	806	17 ¹ / ₂ "	1	0	28 MAY 82	29 MAY 82	13 ⁷ / ₈ "	Yes		
	806	2320	12 ¹ / ₄ "	7	0	31 MAY 82	11 JUNE 82	-	Yes		
DRILLING FLUID	Depth From	Depth To	Weights		Type						
	82	216	8.6	TO	Sea water, Returns to sea bed						
	216	2320	8.6	TO 10.0	SEAWATER GEL						
				TO							
				TO							
				TO							
				TO							
WIRELINE LOGGING	Depth From	Depth To	Hole Size	Date Run	Logs Run						
			17 ¹ / ₂ "	30 MAY 82	DIL-BHC-GR-CAL (UNCOMPENSATED SONIC)						
	1881	970	12 ¹ / ₄ "	12 JUNE 82	DLL-MSFL-GR-SP (1881-970m)						
	2315	1820	12 ¹ / ₄ "	13 JUNE 82	DLL-MSFL-GR-SP (2315-1820m)						
	2319	790	12 ¹ / ₄ "	13 JUNE 82	LDL-CNL-GR						
	2313	790	12 ¹ / ₄ "	13 JUNE 82	BHC-GR-SP						
	500	2315	12 ¹ / ₄ "	13 JUNE 82	VELOCITY SURVEY (12 runs)						
RISER, CASING & LINER	Depth From	Depth To	OD "	ID "	Weight	Grade	Threads	Date Run	Cement	Stages	Excess
	2	82	23"	21"			RISER				
	82	199	20 ⁷ / ₈ "	19.124	94	X-52	JV BOX	26 MAY 82	'N'	1	
	82	791	13 ⁷ / ₈ "	12.615	54.5	K-55	BUTT	31 MAY 82	'N'	1	



WELL INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
 WELL KAHAWAI No.1

Sheet No. 2

WELL NAME											
OPERATOR											
PARTNERS											
RIG	OWNER										
	NAME OR NUMBER										
	TYPE										
LOCATION	LATITUDE (X)						LONGITUDE (Y)				
	FIELD						AREA				
	COUNTY						STATE				
	COUNTRY										
	DESCRIPTION										
DATUM POINTS	Ground Elevation						RKB to Ground Level				
	Mean Water Depth						RKB to Water Level				
DATES	SPUD						TOTAL DEPTH				
HOLE SIZES	Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged		
DRILLING FLUID	Depth From	Depth To	Weights		Type						
			TO								
			TO								
			TO								
			TO								
			TO								
			TO								
			TO								
WIRELINE LOGGING	Depth From	Depth To	Hole Size	Date Run	Logs Run						
			12 1/4"	13 JUNE 82	R.F.T. No.1						
			12 1/4"	14 JUNE 82	R.F.T. No.1, No.2, No.3.						
			12 1/4"	15 JUNE 82	CST X 3 runs						
RISER, CASING & LINER	Depth From	Depth To	OD	ID	Weight	Grade	Threads	Date Run	Cement	Stages	Excess

7. WELL HISTORY

WELL HISTORY KAHAWAI No.1.

- 23/5/82 Commenced tow to KAHAWAI No.1 location, at 22:00 hrs.
- 24/5/82 Towed to KAHAWAI No.1 location.
- 25/5/82 Towed to KAHAWAI No.1 location. Dropped first anchor at 10:16 hrs. Ran anchors and pretensioned to 200000 Klbs. Ran the T.G.B. ; landed at 24:00 hrs.
Final position: $38^{\circ} 10' 20.85''$ S.
 $148^{\circ} 22' 8.17''$ E.
R.K.B. to M.L. 82m;- Water depth 61m.
- 26/5/82 Made up the 26" hole B.H.A. and spudded in at 03:30 hrs. Drilled from 82.5m to 216m with RR No.1 + 26" H.O. Returns to seabed. Flushed the hole at 216m with hi-vis mud, and dropped the D.S. tool. P.O.O.H. to H.W.D.P. and retrieved the survey tool: 216m, $\frac{3}{4}^{\circ}$. P.O.O.H. Moved the P.G.B. to the spider beams and ran the 20" casing.
- 27/5/82 Made up the stinger and landed the P.G.B. Rigged up the cement unit and cement lines, but could not circulate. P.O.O.H, made up a B.H.A and R.I.H. drilled out the 20" shoe. P.O.O.H. made up the stinger and ran in. Checked for returns with the T.V. Pumped cement and displaced with 18bbl sea water. W.O.C for 5 hrs, and P.O.O.H. Prepared to run the B.O.P.
- 28/5/82. Ran the L.M.R. and B.O.P. Nipped up and set the wear bushing. Ran the riser alignment tool. Made up the B.H.A and function tested the diverter. Ran in the hole with RR 1 ($17\frac{1}{2}''$). Drilled the cement and washed to 216m. Drilled to 348m spotting Hi-vis pills as required. B.G. was around 30 ppm. C.G. was detected at 318, 329 and 339m.
- 29/5/82 Drilled from 348m to 806m with 4u B.G. Circulated out at 806m. The shakers were clean. Gas fell to under 1u after B/U. Dropped the survey tool, pumped a slug and started to P.O.O.H. The lithology whilst drilling had been gumbo but little drag had been found on connections. When pulling out tight hole was found between 793m and 544m, maximum O/P was 100Klbs. The calcilutite was hygroscopic, so it seems likely the clay particles swelled causing drag. Before P.O.O.H. a carbide test was dropped, it indicated a hole volume of 860 bbl at 806m (+ riser) ; indicating an in-guage hole. Comparing this 860 bbl figure with the volume obtained using the caliper tool on 30/5/82.
- 30/5/82 P.O.O.H. to 19m (20" shoe) recovered the D.S. tool: 806m, $\frac{1}{4}^{\circ}$, R.I.H. and found $1\frac{1}{2}$ m fill. Circulated for $1\frac{1}{4}$ hrs. W.T.G. was 70u. Pumped a slug and P.O.O.H. with very little drag. Rigged up wireline tools and ran wireline logs Run No. 1 : BHC-GR-CAL-DIL. The sonic tool gave trouble and was re-run. the caliper tool gave a measured hole volume of 99.1 c.m, or 623bbl. This gives a calculated hole volume of:-
Riser vol 109 bbl
20" csg vol 156bbl
 $17\frac{1}{2}$ hole vol 623bbl
888bbl- this compares with
an implied volume of 860 bbl from the carbide measurement.
The volume from 791m to 333m (prop T.O.C) was 70.2 c.m or 441 bbl.
Made up the running tool and 13.375" hanger. Made up the B.H.A. and ran in, 2m of fill was found. C.O. and found 10u T.G. Pumped a slug and P.O.O.H. (strapping out)

- 31/5/82 Continued to P.O.O.H., recoverde the wear bushing, rigged up and ran the 13 375" casing. Landed the string and rigged up the cement line. Started to circulate but found the head leaking. Repaired the head. Teated the cement lines and circulated with the cementing unit;- maximum gas was 10u. Cemented and bumped the plug with 1500p.s.i. Rigged down the cement lines, released the running tool and P.O.O.H. Washed inside the B.O.P. and set the seal assembly. Tested the B.O.P. -"OK". Set the wear bushing, made up the B.H.A. and R.I.H.- tagged the cement at 766m. Drilled through the cement plug.
- 1/6/82 Continued to drill the cement, and drilled from 806m to 812m with bit No.3, X3A, 12 $\frac{1}{4}$ ". At 812m a P.I.T. was carried out. After initial problems a presure of 600 p.s.i. was held for 5 min, with no leak off, giving a P.I.T. of 13.5 p.p.g. E.M.W. Drilled ahead to 1131m where the flow line had to be cleaned out as it was blocked with gumbo. The riser was flushed, drilled ahead to 1150m. B.G. was around 6u.
- 2/6/82 Drilled ahead to 1394m. The flow line unblocked at 1182m, and 1251m due to gumbo blockage. At 1395m a drilling break occured. The R.O.P. increased from around 15 m/hr to 80 m/hr. B.U were C.O. The maximum gas observed was 52u. A minor quantity of sand stone was found but no fluorecence was detected. A further 2m was drilled to 1396m B.U were C.O. and 150u of gas was detected. A greater percentage of sandstone was found, but no fluorecence was detected. It was decided to cut a core, the survey tool was dropped;- misrun.
- 3/6/82 P.O.O.H. and run in with core bbl. B/U were then circulated and the maximum gas was 56 units. After spacing out and dropping the ball core No.1 was cut from 1396.4 to 1410.0m .Maximum gas while coring was 18 units @1397m and the interval 1400.6-1410m was not C.O. After P.O.O.H. (spin out chain) and retrieving the core, recovery was found to be 6.37m out of 13.6m cut, (48%). The bottom section showed good flu. in SST @ 1402.97m. After servicing core bbl., M/U core bbl. and RIH, picking up 3 more DC. 5m of fill were found after RIH. B/U were again circulated (Maximum gas :44 units) and core No.2 was cut from 1410 to 1418.0m. Maximum gas while coring was 12 units from 1413m and the interval from 1417-1418.0m were not CO., P.O.O.H. was commenced (chaining out).
- 4/6/82 Complete P.O.O.H. with Core No.2. Upon retrieval of the core, recovery was found to be nil out of 8m cut. The bit condition was found to be 100% worn. After laying down 30 singles of pipe (6"), BHA was made up and 30 singles of "E" pipe were picked up. RIH stopped at the casing shoe to fill the pipe then continued, reaming the cored interval 1396-1418m, before drilling 12 $\frac{1}{4}$ " hole ahead to 1426m. B/U were circulated after a drilling break at this depth (Max. gas observed was 38 units). Drilling continued to 1482m and B/U were again circulated, max. gas this time was 95 units. At 1545.2, B/U were circulated once more (Max. gas 15.0 units) and it was decided to cut core No.3 . A survey was drooped ($\frac{1}{4}$ ⁰, 70⁰NW) and P.O.O.H. laying down 32 singles of "6" pipe. (Tight hole was found from 1469-1464m). BCO was 5-3- $\frac{1}{8}$. The core bbl. was made up and RIH commenced
- 5/6/82 RIH continued, picking up 32 singles of "E" pipe and after spacing out and circulating B/U (max gas was 14 units) core No.3 was cut from 1545.2 to 1558.2M Maximum gas while coring was 13.7 units, from 1548.8M. The interval 1553.6 to 1558.2 was not C.O. After P.O.O.H to retrieve the core; recovery was found to be 10.95M out of 13M cut (84%). After a rig service, R.I.H to shoe and break circulation to fill pipe before completing R.I.H. Reamed the cored interval, then continued to drill 12 $\frac{1}{4}$ " hole.
- 6/6/82 Drilling continued to 1632M where a drilling break was flow checked (NO Flow). After circulating B/U (maximum gas 2.4 units) the well was drilled ahead to 1671M. Generator problems then forced circulation with only one pump, drilling stoped but the string was kept rotating.

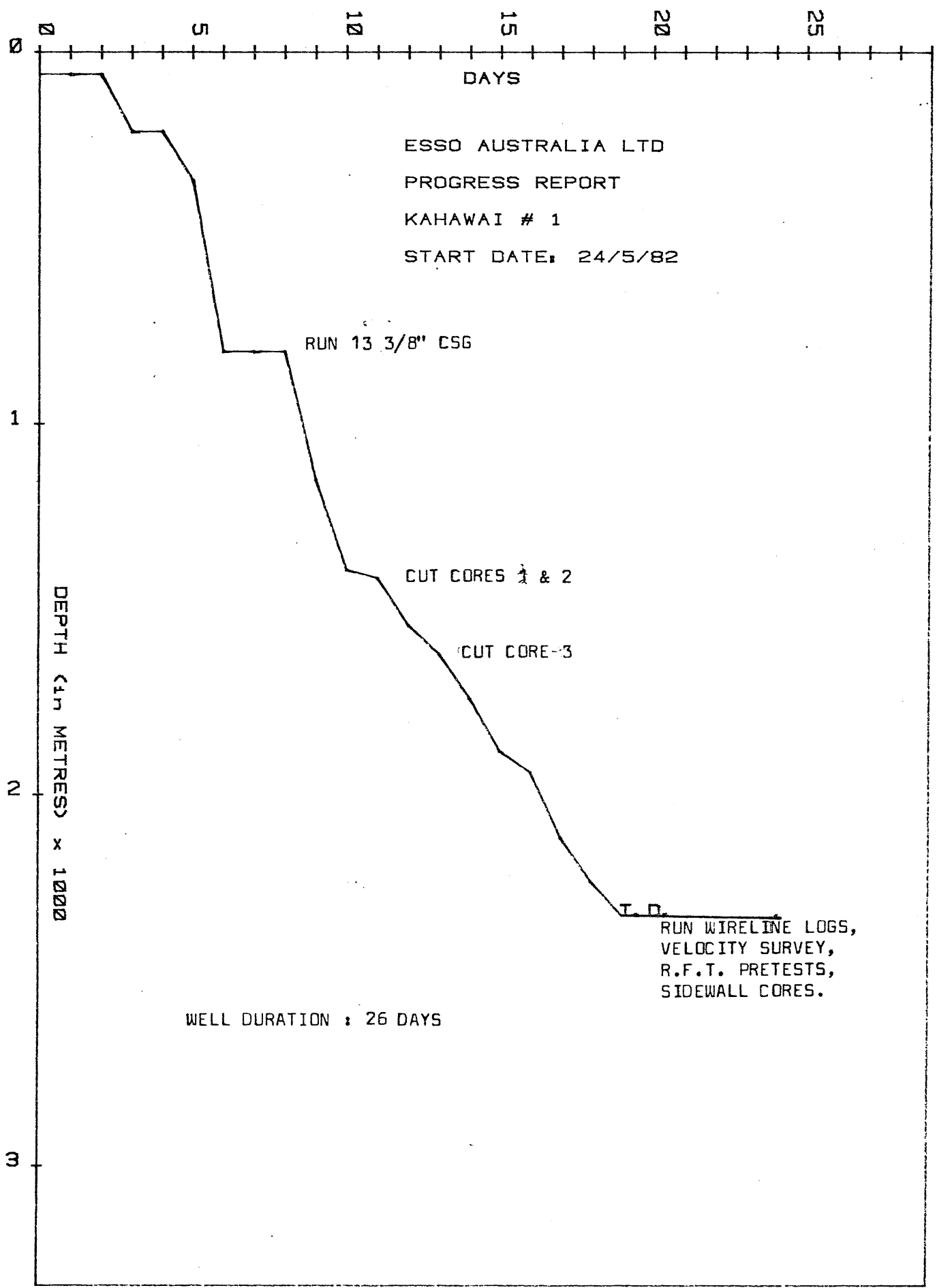
Drilling then proceeded to 1738M where reduced R.O.P resulted in the decision to change the bit. B/U were circulated and a survey dropped prior to P.O.O.H (laying down 10 singles of 6" drill pipe). The survey upon retrieval was 1⁰N, 89⁰E. After R.I.H B/U were circulated (max gas was 21u). Drilling continued.

- 7/6/82 Drilled 12 $\frac{1}{4}$ " hole to 1840M where a drilling break at 11.8 to 22M/hr was C.O maximum gas observed at B/U was 1.3 units. Drilling continued with decreasing R.O.P and high torque problems.
- 8/6/82 Drilled 12 $\frac{1}{4}$ " hole to 1884M, where it was decided to change the bit due to low R.O.P and recurring high torque problems. P.O.O.H to the shoe. 12 singles of 6" drill pipe were₁laid down and the drill line was slipped and cut. P.O.O.H. The B.C.O was 6-4- $\frac{1}{8}$. Ran into the hole with W.B.R.T this however was hung up 30M into the riser. After washing to the well head, the wear bushing was finally retrieved.R.I.H with the B.O.P test plug, tested the B.O.P. P.O.O.H with the test plug, set the wear bushing and made up a new B.H.A, M/U and R.I.H to the shoe, the pipe was filled and the drill string hung off for service to the rig. Reaming was necessary at 1778M. Trip gas was 10.0 units. Resumed drilling, reaching 1940M by midnight. Observed gas peaks of 5.4-31-9.5 units at 1916M and 4.4-51-7.0 units at 1924M, due to coal.
- 9/6/82 Drilled ahead to 1950M, where a short rig service was necessary before drilling ahead. A gas peak of 44.5 units was observed at 2082M and regions of high torque experienced at 2103 and 2114M.
- 10/6/82 A 12 stand wiper trip was deemed necessary at 2115M up to 1754M. As drilling resumed T.G was 11-34-12 units. A gas peak of 3-68-7 units was observed at 2220M, due to coal. Experienced intermittent and erratic torque from 2161M onwards.
- 11/6/82 Drilling continued to 2256M where a 6 stand wiper trip was conducted, no drag encountered. Upon returning to the bottom, T.G was 2-4-1.6 units. Drilled ahead to T.D of 2320M, reached at 22:45hrs, P.O.O.H commenced without C.O.
- 12/6/82 P.O.O.H to shoe, R.I.H tagging bridges at 2060M and 2147M which necessitated P/U the kelly and washing through each tight spot, 7M of fill were encountered, Circulated B/U to recover samples still in the annulus, T.G was 1.0/ 3.5/1.2 u A survey was then dropped and P.O.O.H commenced. The survey when retrieved was 3⁰N, 79⁰E. Schlumberger was then R/U but entering the hole the tool tagged a bridge at 1860M and reached only as far as 1881M. The interval 1881-970M was logged. (DLL-MSFL-GR-SP). Schlumberger then rigged down. R.I.H for a wiper trip, encountering tight hole at 1886 and 2060M, 7M of fill was found on bottom. A 70bbl hi-vis pill was pumped, B/U for the trip was 2.1-7.8-4.8 units, with a trace of CO₂ present during the circulation, peaking at 19% from 1860M. P.O.O.H using pipespinner until casing shoe was reached.
- 13/6/82 Schlumberger were rigged up and the following logs run:
DDL-MSFL-GR-SP (2315-1820m)
LDL-CNL-GR (2319-790m)
BHC-GR-SP (2313-790m)
Ran velocity survey taking readings between 500 and 2315m prior to running RFT No.1 .
- 14/6/82 Continued running RFT No.1 taking 24 pretests between 1394.5 and 2302m. The sampler then malfunctioned necessitating POOH to change probes and service the RFT tool. It was then decided to make a wiper trip, to maintain favourable hole condition, and RIH, 2m of fill were encountered. Circulating B/U trip gas 3/14.1/1.7 units. POOH then commenced using the pipespinner and once out Schlumberger ran RFT No.2, filling the 6 gallon chamber and 1 gallon segregator chamber @ 1403m, RFT No.3 was then run and sampled the formation @ 1393.5m.

- 15/6/82 Completing RFT No. 3, CST No's 1,2,and 3 were run. Recovering CST No.1, 51 shoes were taken but the failure of 18 shoes on run No.2 resulted in the decision to run CST No.3 with 30 additional shoes to be taken. Rigging down Schlumberger and after slipping and cutting the drill line RIH then commenced and cement plug No.1 was set from 2320 to 2220m using 230 SX of class "N" cement and 1.4% HR-6L in 31 bbls of mix water. POOH to 1960m and circulating, plug No.2 was then set from 1960-1860 using 250 SX of "N" cement and 1% HR6L in 31 bbls of mix water. Pulling back to 1800m procedure was then to W.O.C. and circulate. Slurry Wt of cement was 15.6 ppg.
- 16/6/82 While WOC, 33 more joints of drill pipe were layed down. POOH to 1450m the third plug was set from 1450m to 1335m using 323SX of class "N" cement mixed with 40 bbls of mix water. POOH 1300m and circulating the hole clean. POOH continued to 840-740m. Pulling back to 690m the hole was circulated clean and then more pipe layed down. Rigged up Schlumberger and 13/8" 6R-JB-CCL. Tested shear rams and cement plug No.4 to 1000psi. Schlumberger ran in and set a 13/8" EZSV bridge plug @335m. After M/U and running the perforating gun between 158 and 159m (3 runs were required before ag injection rate could be established), Schlumberger ran and set a 13/8" EZSV retainer @ 149m and R/D. M/U stinger and RIH, then sting into retainer, and squeeze 310 SX and soot 100 SX on top of retainer. POOH to 104m and reverse circulate. POOH
- 17/6/82 Displaced the riser. Layed down D.P. and recoveree the L.M.R. & B.O.P. Deballasted and ran the shot can, shot the charge at 20:20 hrs. Ballasted the rig down.
- 18/6/82 Jumped divers and hooked the slings to the guide base. Recovered the T.G.B. & P.G.B. Started to recover the anchors.
- 19/6/82 Recovered the anchors. Recovery was complete at 12:00 hrs.

WELL DURATION : 22:00 hrs 23 MAY '82 - - - 12:00 hrs 19 JUNE '82
: 26 DAYS 14 hrs.

8. PROGRESS REPORT



ESSO AUSTRALIA LTD
PROGRESS REPORT
KAHAWAI # 1
START DATE: 24/5/82

RUN 13 3/8" CSG

CUT CORES 1 & 2

CUT CORE-3

T. D.
RUN WIRELINE LOGS,
VELOCITY SURVEY,
R.F.T. PRETESTS,
SIDEWALL CORES.

WELL DURATION : 26 DAYS

9. BIT RECORD

BIT SIZE inches

BIT COST A dollars

JET SIZE Thirty seconds of an inch

DEPTHS Metres

HOLE MADE Metres

DRILLING TIME Hours

AVERAGE ROP Metres/hour

AVERAGE COST/METRE A dollars

BIT CONDITION Teeth

Bearings

Gauge inches



COMPANY ESSO AUSTRALIA LTD.
WELL KAHAWAI No. 1

BIT RECORD

Sheet No. 1

S/N

KX 290

HT 840

KX 290

KK 311

81E 1106

81E 1106

901 UA

81ED 0720

KP 671

EF 207

XA 671

Bit No.	Make	Type	IADC Code	Size	Jets	Depth In	Hole Made	Drilling Time	On Bottom Hours	Turns	Condition T B G	Remarks
RR1	HTC	OC93AJ	111	26 17 $\frac{1}{2}$	28 28 28 20 20 20	82	134	10 $\frac{1}{4}$	6.98	25	1-1-I	OUT FOR 20" CSG.
2	HTC	HTC J7	316	12 $\frac{1}{4}$	20 20 20	199	0	3 $\frac{3}{4}$	-	-	-	DRILLED OUT 20" SHOE.
RR1	HTC	OC93AJ	111	17 $\frac{1}{2}$	20 20 20	216	590	20 $\frac{3}{4}$	22.11	152	3-4-I	OUT FOR 13 $\frac{3}{8}$ " CSG.
3	HTC	X3A	114	12 $\frac{1}{4}$	16 16 16	806	5 90	32	19.41	15.8	3-3-I	OUT FOR CORE No. 1.
C1	CHRIST	C22	4	8 $\frac{15}{32}$	13 13 13 TFA EQUIV	1396	14	2 $\frac{1}{4}$	2.19	10	10% WN	CUT CORE No.1 6.31M RECOVERED
RR C1	CHRIST	C22	4	8 $\frac{15}{32}$	13 13 13 TFA EQUIV	1410	8	4 $\frac{1}{4}$	4.65	21	100% WN	CUT CORE No.2 NO RECOVERY.
4	HTC	X3A	114	12 $\frac{1}{4}$	15 15 14	141.8	127.2	8 $\frac{1}{4}$	4.83	37	5-3- $\frac{1}{8}$	OUT FOR CORE No.3.
C2	CHRIST	C22 FD	4	8 $\frac{15}{32}$	13 13 13 TFA EQUIV	1545.2	13	5	4.94	28	15% WN	CUT CORE No.3 10.6M RECOVERED
5	HTC	X06	135	12 $\frac{1}{4}$	15 15 14	1558.2	180	19 $\frac{1}{4}$	15.37	115	7-4-I	REPLACED AFTER LOW R.O.P.
6	HTC	J03	136	12 $\frac{1}{4}$	14 14 13	1738	146	25 $\frac{1}{4}$	20.44	102	6-4- $\frac{1}{8}$	REPLACED AFTER LOW R.O.P, TORQUE
7	HTC	J22	517	12 $\frac{1}{4}$	13 13 14	1884	437.2	75 $\frac{1}{4}$	63.8	232	4-4- $\frac{1}{8}$	T.D.



COMPANY ESSO AUSTRALIA LTD.
WELL KAHAWAI No. 1

BIT RECORD

Sheet No. 1

S/NI	Bit No.	Make	Type	IADC Code	Size	Cost	Jets	Depth In $\frac{m}{m}$	Depth Out $\frac{m}{m}$	Hole Made $\frac{m}{m}$	Drilling Time	On Bottom Hours	Turns K	Average ROP	Average Cost/ $\frac{m}{m}$	Condition T B G
KX 290	RR 1	HTC	DCS3AJ	111	26 17 $\frac{1}{2}$	6350	28 28 28 20 20 20	82	216	134	10 $\frac{1}{4}$	6.98	25	19.2	345.82	1-1-I
HT 840	2	HTC	HTC J7	316	12 $\frac{1}{4}$	1440	20 20 20	199	216	0	3 $\frac{3}{4}$	-	-	-	-	-
KX 290	RR1	HTC	DCS3AJ	111	17 $\frac{1}{2}$	2450	20 20 20	216	806	590	20 $\frac{3}{4}$	22.11	152	39	171.95	3-4-I
KK 311	3	HTC	X3A	114	12 $\frac{1}{4}$	1400	16 16 16	806	1396.4	590	32	19.41	158	30.4	205.1	3-3-I
81E1106	C1	CHRIST	C22	4	8.47	15000	13 13 13 TFA EQUIV	1396	1410	14	2 $\frac{1}{4}$	2.19	10	6.2	3963	10%WN
81E1106	C1RR	CHRIST	C22	4	8.47	15000	13 13 13 TFA EQUIV	1410	1418	8	5 $\frac{1}{4}$	4.65	21	3.4	3051	100%WN
901 UA	4	HTC	X3A	114	12 $\frac{1}{4}$	1400	15 15 14	1418	1545	127.2	8 $\frac{1}{4}$	4.83	37	26.3	432	5-3- $\frac{1}{8}$
81E0720	C2	CHRIST	C22 FD	4	8.47	15000	13 13 13 TFA EQUIV	1545	1558	13	5	4.94	28	2.6	5355	15%WN
KP671	5	HTC	XD6	135	12 $\frac{1}{4}$	2256	15 15 14	1558	1738	180	19 $\frac{1}{4}$	15.37	115	11.7	604	7-4-I
EF207	6	HTC	JD3	136	12 $\frac{1}{4}$	2348	14 14 13	1738	1884	146	25 $\frac{1}{4}$	20.44	102	7.1	923	6-4- $\frac{1}{8}$
XA671	7	HTC	J22	517	12 $\frac{1}{4}$	6788	13 13 14	1884	2320	437	75 $\frac{1}{4}$	63.8	232	6.8	803	4-4- $\frac{1}{8}$

10. MUD INFORMATION SHEETS

DEPTH Metres

MUD WEIGHT Pounds per gallon

FUNNEL VISCOSITY A.P.I. seconds

PLASTIC VISCOSITY. . . Centipoise

YIELD POINT. Pounds/100 square feet

GEL : Initial/10 min . Pounds/100 square feet

FILTRATE A.P.I. cc

CAKE THICKNESS Thirty seconds of an inch

SALINITY : Ca/Cl . . . ppm

SOLIDS/SAND/OIL. . . . Percentage



MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
 WELL KAHAWAI No.1

Sheet No. 1

DEPTH	-			800	806	806	1131
DATE	26/5/82	27/5/82	28/5/82	29/5/82	30/5/82	31/5/82	1/6/82
TIME	-			20:00	-	-	23:00
WEIGHT	8.7			9.2	9.3	9.4+	9.7
FUNNEL VISCOSITY	100+			39	38	38	43
PV/YP				5/25	5/26	5/27	8/23
N/K							
GEL: INITIAL/10 MIN							
pH				8.5	8.5	8.5+	10.5
FILTRATE: API/API HTHP							10/-
CAKE							
SALINITY							
SAND							
SOLIDS							
OIL							

REMARKS: S/W GEL RUN 20" S/W GEL RUN 13 ³/₈" DRILL DRILL
 SPUD MUD CSG CSG CMT 12 1/4" HOLE

DEPTH	1376	1419	1540	1593	1707	1847	1909
DATE	2/6/82	3/6/82	4/6/82	5/6/82	6/6/82	7/6/82	8/6/82
TIME	18:00	19:30	17:00	21:00	10:45	21:00	20:30
WEIGHT	10.1+	10.0+	10.1	10.1	10.1	10.0	10.0
FUNNEL VISCOSITY	45	45	43	50	51	45	46
PV/YP	12/16	11/21	10/15	14/17	14/19	14/19	13/17
N/K							
GEL: INITIAL/10 MIN	7/17	6/16	3/24	4/25	4/24	5/25	4/25
pH	10.5	10.5	10.5	10.4	10.2	10.5	10.3
FILTRATE: API/API HTHP	6/15	6.3/14	7.6/15	6.9/14.2	6.6/13.4	6.9/13.4	7.4/13.8
CAKE	2	2	2	1	1	1	1
SALINITY C1	22.0K	22.0K	18.0K	18.0K	19.0K	19.0K	20.0K
SAND	3/4	1/4	Trace	0.2	0.2	0.2	Trace
SOLIDS	6	9.5	8	8	9	8	8
OIL	--	-	-	-	-	-	-
SALINITY Ca ppm	120	120	200	80	100	60	60
NITRATES ppm	-	80	60	10	20	Trace	20

REMARKS: DRILL 12 1/4 " HOLE →



MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

WELL KAHAWAI No.1

Sheet No. 2

DEPTH	2103	2159	2312	2320	2320	2320	
DATE	9/6/82	10/6/82	11/6/82	12/6/82	13/6/82	14/6/82	
TIME	21:30	09:45	20:30	19:00	20:30	14:00	
WEIGHT	10.0	10.0	10.0	10.0	10.1	10.1	
FUNNEL VISCOSITY	43	46	46	49	60	55	
PV/YP	13/17	14/19	14/17	14/18	14/18	15/19	
N/K							
GEL: INITIAL/10 MIN	4/28	7/34	5/28	5/30	4/26	5/32	
pH	10.0	10.2	10.3	10.2	10.2	10.0	
FILTRATE: API/API HTHP	7.2/14.0	7.6/14.4	7.6/14.6	7.6/-	7.5/14.6	7.4/14.6	
CAKE	1	1	1	1	1	1	
SALINITY Cl	21.0K	21.0K	21.1K	21.0K	21.0K	21.0K	
SAND	0.2	Tr	Tr	Tr	Tr	Tr	
SOLIDS	9	9	9	9	9	10	
OIL	Tr	Tr	Tr	Tr	Tr	Tr	
SALINITY Ca ppm	120	40	20	40	40	40	
NITRATES ppm	77	66	60	60	60	55	

REMARKS:

← DRILL 12½" HOLE →

DEPTH							
DATE							
TIME							
WEIGHT							
FUNNEL VISCOSITY							
PV/YP							
N/K							
GEL: INITIAL/10 MIN							
pH							
FILTRATE: API/API HTHP							
CAKE							
SALINITY							
SAND							
SOLIDS							
OIL							

REMARKS:

11. LITHOLOGICAL SUMMARY

LITHOLOGICAL SUMMARY

At the time of printing the depths of the formation tops were not available.

The main objective of the well was to assess the hydrocarbon potential of reservoir sandstone in the Latrobe Formation.

GIPPSLAND LIMESTONE

The top of the formation consisted of carbonate material being mostly shell fragments with some fossils. Below, the limestone encountered was a calcilutite. It was light gray to medium gray, mostly soft, with shell fragments and abundant fossils, including foraminifera, bryozoa and corals. Gumbo was occasionally encountered. Occasional appearance of clear to opaque sandstone being fine to medium grained, sub-angular to sub-round and predominantly unconsolidated.

LAKES ENTRANCE FORMATION

Siltstone was encountered throughout the formation. This was medium to dark gray, occasionally pale brown, mostly blocky, some sub-fissile, slightly carbonaceous in part. A light gray, soft material was also observed and classified as marl. Traces of glauconite were detected in the siltstone below 1300 metres.

GURNARD FORMATION

This was comprised of siltstone and sandstone. The siltstone was medium to dark gray, soft to firm, blocky to sub-fissile, calcareous and slightly carbonaceous, with traces of glauconite. The sandstone was tan to brown, soft, medium to coarse grained, glauconitic, with a silty brown matrix.

LATROBE FORMATION

This formation consisted of interbedded sandstone, siltstone and coal. Sandstone was clear to frosted, coarse grained, sub-round, moderately well sorted, loose, with traces of mica and pyrite. Siltstone was predominantly brown, occasionally shades of gray, blocky to sub-fissile, firm to moderately hard, often very carbonaceous and occasionally micaceous. Coal was black, moderately hard, occasionally hard, brittle and mostly vitreous.

Maximum gas was 193 units and was attributed to coal. However an RFT at 1403 metres recovered a dark golden-brown, petrol smelling hydrocarbon fluid (ie. see RFT data in this report).

Three cores were cut, but only two were recovered, these being between the depths of 1400 metres and 1420 metres. A full core description may be found on the tail sheet of the grapholog.

12. OVERBURDEN GRADIENT CALCULATIONS

DEPTHmetres

BULK DENSITYgm/cc

OVERBURDEN PRESSURE INCREMENT .psi

CUMULATIVE OVERBURDEN PRESSURE .psi

OVERBURDEN PRESSURE GRADIENT . .psi/ft

OVERBURDEN EQUIVILANT DENSITY .Pounds per gallon

BULK DENSITY TAKEN FROM AVERAGED F.D.C. LOG, OR FROM SONIC LOG
FOR SECTIONS WHERE THE F.D.C.LOG IS NOT AVAILABLE.



OVERBURDEN AND STRESS RATIO WORK SHEET

COMPANY ESSO AUSTRALIA L.T.D.
 WELL KAHAWAI No. 1

Sheet No. 1

DEPTH		Average Bulk Density gm/cc	Overburden Pressure Increment psi	Cumulative Overburden Pressure psi	Overburden Pressure Gradient psi/FT	Overburden Equivalent Density ppg EMW	Fracture Equivalent Density	Pore Pressure Equivalent Density	Stress Ratio
From m	To m								
0	82	1.02	36.22	36.22	0.422	8.49			
82	800	2.00	621.79	658	0.823	15.82			
800	820	2.27	19.66	677.66	0.826	15.89			
820	850	2.16	28.06	705.72	0.830	15.97			
850	875	2.15	23.27	728.99	0.833	16.02			
875	900	2.21	23.92	759.92	0.837	16.09			
900	925	2.22	24.03	776.95	0.840	16.15			
925	950	2.28	24.68	801.63	0.844	16.23			
950	975	2.25	24.36	825.99	0.847	16.29			
975	1000	2.28	24.68	850.67	0.851	16.36			
1000	1025	2.25	24.36	875.02	0.854	16.42			
1025	1050	2.25	24.36	899.38	0.857	16.47			
1050	1075	2.26	24.46	923.84	0.859	16.53			
1075	1100	2.21	23.92	947.77	0.862	16.57			
1100	1125	2.16	23.38	971.15	0.863	16.60			
1125	1150	2.17	23.49	994.64	0.865	16.63			
1150	1175	2.29	24.79	1019.43	0.868	16.68			
1175	1200	2.30	24.90	1044.33	0.870	16.74			
1200	1225	2.34	25.33	1069.66	0.873	16.79			
1225	1250	2.34	25.33	1094.99	0.876	16.85			
1250	1275	2.31	25.01	1119.99	0.878	16.89			
1275	1300	2.26	24.46	1144.46	0.880	16.93			
1300	1325	2.19	23.71	1168.16	0.882	16.95			
1325	1350	2.27	24.57	1192.74	0.884	16.99			
1350	1375	2.30	24.90	1217.63	0.886	17.03			
1375	1400	2.40	25.98	1243.61	0.888	17.08			
1400	1425	2.29	24.79	1268.40	0.890	17.12			
1425	1450	2.28	24.68	1293.09	0.892	17.15			
1450	1475	2.31	25.01	1318.09	0.894	17.19			
1475	1500	2.24	24.25	1342.34	0.895	17.21			
1500	1525	2.21	22.95	1365.29	0.895	17.22			
1525	1550	2.26	24.46	1389.75	0.897	17.24			
1550	1575	2.29	24.79	1414.54	0.898	17.27			



OVERBURDEN AND STRESS RATIO WORK SHEET

COMPANY ESSO AUSTRALIA LTD
 WELL KAHAWAI No. 1

Sheet No. 2

DEPTH		Average Bulk Density gm/cc	Overburden Pressure Increment psi	Cumulative Overburden Pressure psi	Overburden Pressure Gradient psi/FT	Overburden Equivalent Density ppg EMW	Fracture Equivalent Density	Pore Pressure Equivalent Density	Stress Ratio
From M	To M								
1575	1600	2.35	25.44	1439.98	0.900	17.31			
1600	1625	2.23	24.14	1464.12	0.901	17.33			
1625	1650	2.25	24.36	1488.48	0.902	17.35			
1650	1675	2.36	25.55	1514.02	0.904	17.38			
1675	1700	2.34	25.33	1539.35	0.906	17.41			
1700	1725	2.30	24.90	1564.25	0.907	17.44			
1725	1750	2.35	25.44	1589.69	0.908	17.47			
1750	1775	2.35	25.44	1615.13	0.910	17.50			
1775	1800	2.41	26.09	1641.22	0.912	17.53			
1800	1825	2.42	26.20	1667.41	0.914	17.57			
1825	1850	2.39	25.87	1693.29	0.915	17.60			
1850	1875	2.35	25.44	1718.72	0.917	17.63			
1875	1900	2.20	23.82	1742.54	0.917	17.64			
1900	1925	2.32	25.11	1767.65	0.918	17.66			
1925	1950	2.36	25.55	1793.20	0.920	17.68			
1950	1975	2.42	26.20	1819.40	0.921	17.72			
1975	2000	2.41	26.09	1845.48	0.923	17.75			
2000	2025	2.42	26.20	1871.68	0.924	17.77			
2025	2050	2.31	25.01	1896.69	0.925	17.79			
2050	2075	2.38	25.76	1922.45	0.926	17.82			
2075	2100	2.46	26.63	1949.08	0.928	17.85			
2100	2125	2.50	27.06	1976.14	0.930	17.88			
2125	2150	2.48	26.85	2002.99	0.932	17.92			
2150	2175	2.46	26.63	2029.62	0.933	17.95			
2175	2200	2.45	26.52	2056.14	0.935	17.97			
2200	2225	2.36	25.55	2081.69	0.936	17.99			
2225	2250	2.50	27.06	2108.75	0.937	18.02			
2250	2275	2.45	26.52	2135.27	0.939	18.05			
2275	2300	2.47	26.74	2162.01	0.940	18.08			
2300	2320	2.39	20.70	2182.71	0.941	18.09			

0

1

2

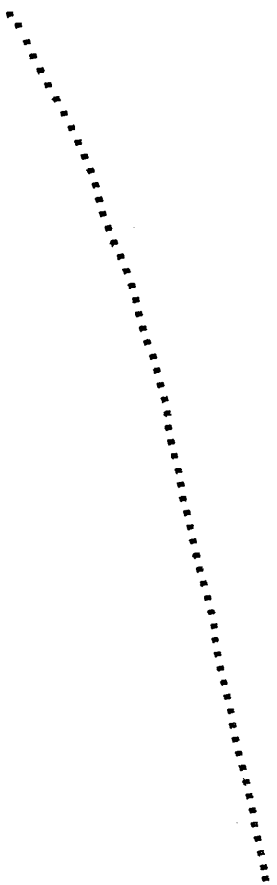
3

DEPTH (IN METRES) x 1000

ESSO AUSTRALIA LTD.
KAHAWAI # 1
OVERBURDEN GRADIENT

PSI/FT.

.5 .6 .7 .8 .9 1.0



13. R.F.T. DATA

CORE LABORATORIES INTERNATIONAL

PORE PRESSURE DATA SHEET

DATA FROM: R.F.T. RESULTS.

COMPANY : ESSO AUSTRALIA LTD.

WELL : KAHAWAI NO.1

DEPTH (FROM RKB)	DEPTH (FROM MSL)	PORE PRESSURE	PORE PRESSURE GRADIENT E.M.W.(MSL)	PORE PRESSURE GRADIENT
M	M	PSI	PPG	PSI/FT
1394.0	1373.0	2023	8.64	0.449
1403.0	1382.0	2020	8.57	0.446
1408.0	1387.0	2026	8.56	0.445
1414.0	1393.0	2034	8.56	0.445
1767.5	1746.5	2543	8.54	0.444
1861.0	1840.0	2669	8.50	0.442
1903.5	1882.5	2714	8.45	0.439
1928.0	1907.0	2766	8.50	0.442
1964.0	1943.0	2824	8.52	0.443
2070.0	2049.0	2972	8.50	0.442
2126.5	2105.5	2976	8.29	0.431
2154.0	2133.0	2938	8.07	0.420
2185.5	2164.5	2979	8.07	0.420
2226.0	2205.0	3036	8.07	0.420
2259.0	2238.0	3087	8.09	0.420
2302.0	2281.0	3310	8.51	0.442
1393.5	1372.5	2028	8.66	0.450
1404.0	1383.0	2021	8.57	0.445
1405.0	1384.0	2021	8.56	0.445
1435.0	1414.0	2058	8.53	0.444
1393.0	1372.0	2019	8.63	0.449

14. ESTIMATED B.H.T.

CORE LAB

ESTIMATION OF B.H.T. AT 2320 m FOR KAHAWAI No.1

STRAIGHT LINE LEAST SQUARES BEST FIT

1/TIME ON A LINEAR SCALE AGAINST TEMPERATURE ON A LINEAR SCALE
(WHERE TIME IS THE HOURS ELAPSED SINCE CIRCULATION STOPPED)

ENTERED DATA: (FROM WIRELINE LOGS)

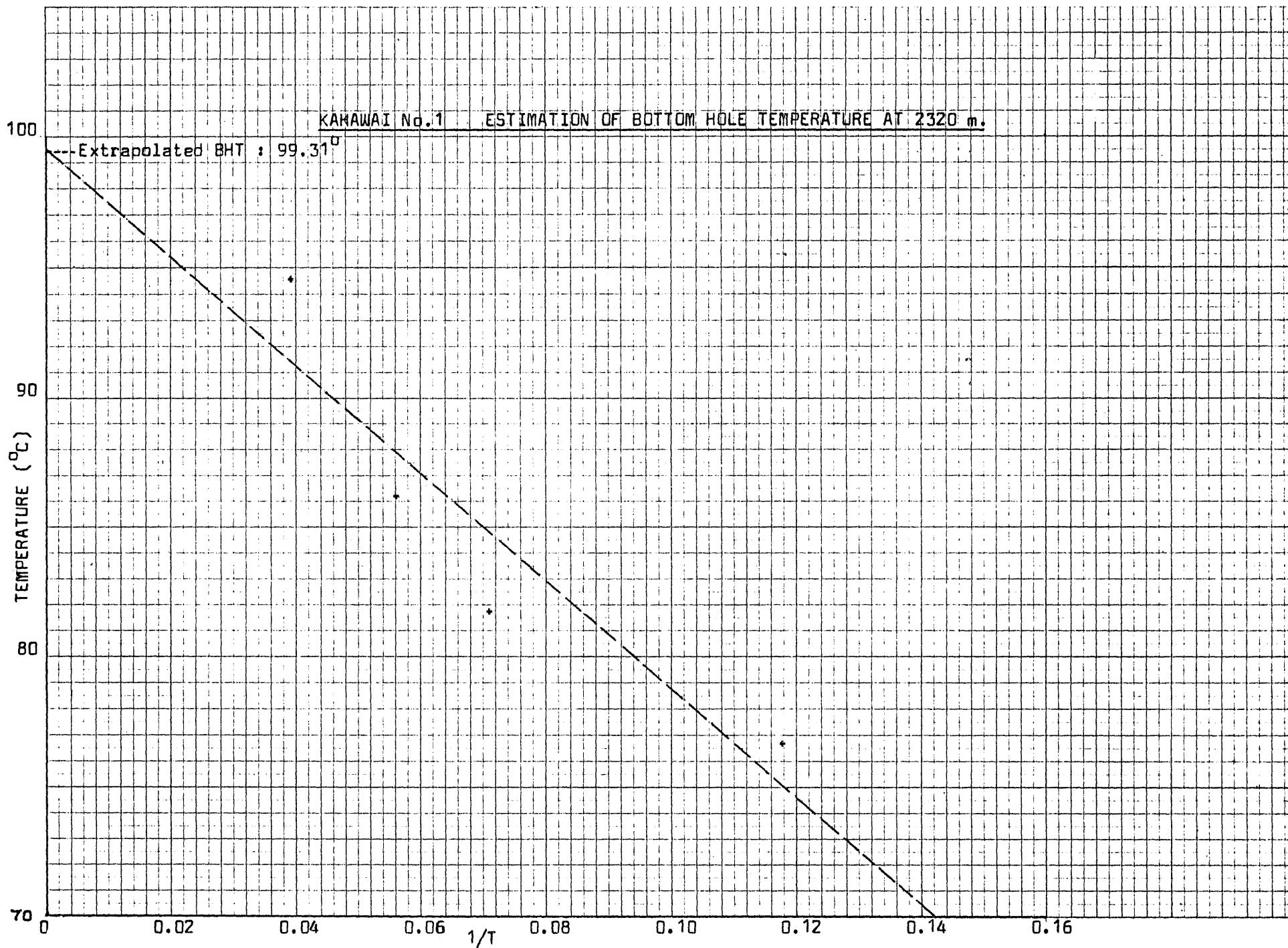
<u>DATA SET #</u>	<u>1/TIME</u>	<u>TEMPERATURE (°C)</u>	<u>TIME (HRS)</u>
1	0.118	76.67	8.5
2	0.071	81.67	14.0
3	0.056	86.11	18.0
4	0.039	94.44	25.5

COEFFICIENT & CONSTANT:

$Y = m.X + c$ where $m = -2.0539040E 02$ and $c = 9.9305218E 01$

INTERPOLATED DATA:

<u>1/TIME</u>	<u>TEMPERATURE</u>
0.000	99.31



15. SIDEWALL CORE GAS ANALYSIS

16. GAS COMPOSITION ANALYSIS

The composition of entrained reservoir gas in the mud is significant in determining the origin and the value of a show. Two graphical methods are employed for processing the mud gas chromatography results. These techniques however are empirical and by no means definitive.

LOG PLOT

The ratios of C1/C2, C1/C3, C1/C4, C1/C5 and C1/C6 are plotted on three-cycle log paper for each hydrocarbon show. The plots can be evaluated by the following criteria :

1. Productive dry gas zones may show only C1, but abnormally high shows of C1 are usually indicative of saltwater.
2. A ratio of C1/C2 between approximately 2 and 15 indicates oil and between 15 and 65, gas. If the C1/C2 ratio is below about 2, or above about 65, the zone is probably non-productive.

The actual values of the gas/oil/water limits will vary from area to area.
3. If the C1/C2 ratio is low in the oil section and the C1/C4 ratio is high in the gas section, the zone is probably non-productive.
4. If any ratio (with the exception of C1/C5, if oil is used in the mud) is lower than the preceding ratio, the zone is probably non-productive.
5. The ratios may not be definitive for low permeability zones; however, steep ratio plots may indicate a tight zone.

TRIANGULATION PLOT

The triangular diagram is obtained by tracing lines on three scales at 120 degrees to each other, corresponding respectively to the ratios of C2, C3 and normal C4 to the total gas (C1 to nC4). The scales are arranged in such a way that if the apex of the triangle is upward, a gas zone is indicated, while if the apex points downward, an oil zone is suggested.

A large triangle plot represents dry gas or low GOR oil, while small triangles represent wet gases or high GOR oils. The homothetic centre of the plot should fall inside the top part of the triangle, otherwise the heavier hydrocarbon is abnormal and may indicate a dead show, (or coal gas).

GAS COMPOSITION PLOTS

- 1396.0m : This plot was taken from drill gas readings taken while drilling with bit No. 3. A drilling break occurred between 1394m and 1396m. A gas peak of 150u was recorded from 1396m. Bit No. 3 was pulled at 1396m, and core No. 1 was cut from 1396.4m. The plot indicates a wet gas zone at 1396.0m, with probable fair to good permeability.
- 1397.0m : This plot was taken from gas readings taken while drilling core No. 1. The plot indicates wet gas. When the core was recovered no fluorescence was observed from 1397m.
- 1397.4m : This plot is again from a zone cut during core No. 1. The plot indicates a wet gas reservoir fluid.
- 1397.8m : This plot was taken from gas readings taken while cutting core No. 1. The plot indicates gas; - slightly dryer than at 1397.0m and 1397.4m. The lithology at this depth was a fine sandstone : dark grey/black, firm to hard, micaceous, carbonaceous. The sandstone showed no fluorescence.
- 1410.0m : This plot was taken from gas readings taken while cutting core No. 2. (The gas from the interval cut by core No. 1 was not fully circulated out.) This plot indicates a reservoir fluid of very wet gas or high G.O.R. oil. It may indicate a possible gas/oil contact.
- 1411.0m : As above this plot indicates a reservoir fluid of very wet gas or high G.O.R. oil.
- 1412.0m : As above this plot indicates a reservoir fluid of very wet gas or high G.O.R. oil.
- 1413.0m : This plot, - taken while cutting core No. 2 as above, indicates a reservoir fluid of wet gas, or possibly high G.O.R. oil. The plot indicates a slightly dryer fluid than that indicated from 1410.0 to 1412.0m.

1414.0m : This plot indicates a reservoir fluid of wet gas or high G.O.R. oil.

1415.0m : This plot, taken from an interval cut by core No. 2, indicates a reservoir fluid of very wet gas or high G.O.R. oil. The plot being on the border point of oil and gas.

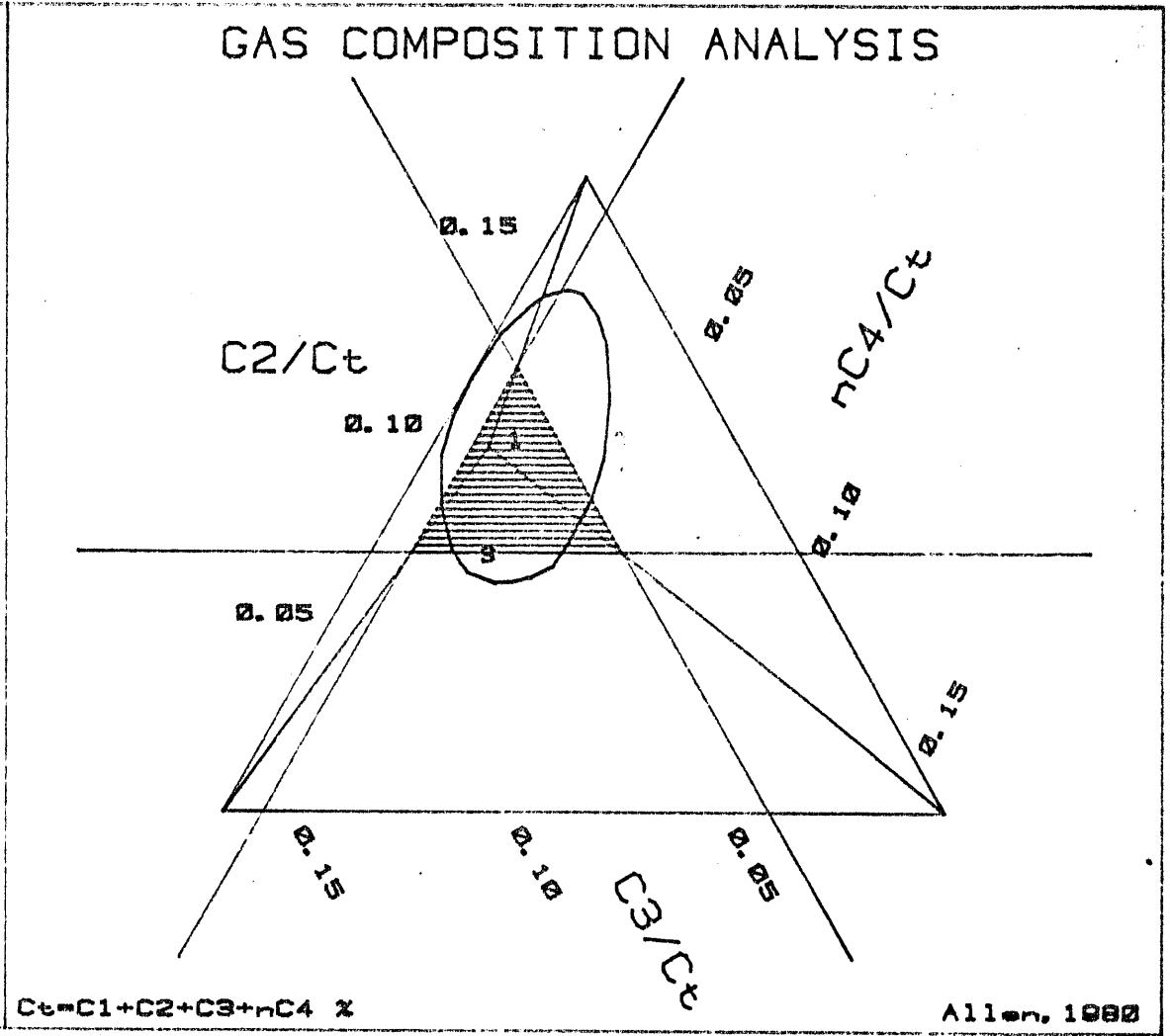
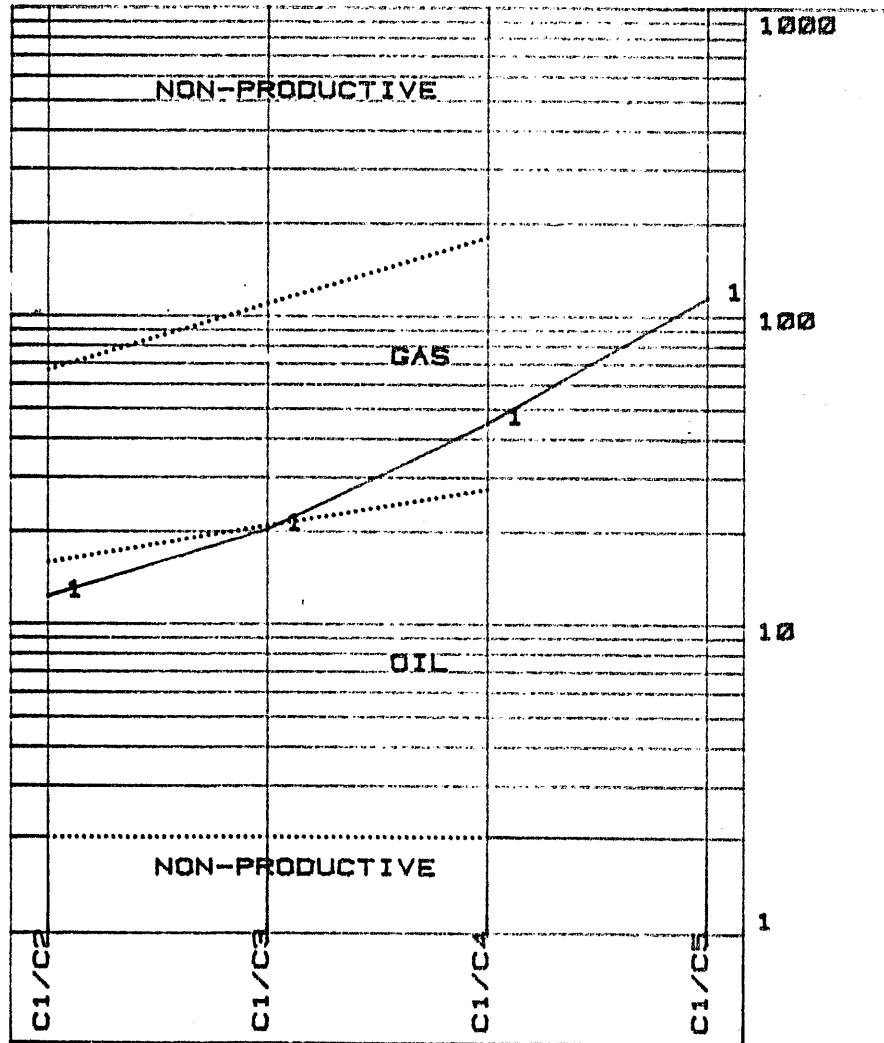
1416.0m : This plot indicates a reservoir fluid of wet gas. Surprisingly the fluid is indicated as being 'drier' than that indicated at 1410.0 to 1415.0m.

1417.6m : This plot - taken from the last gas readings taken while cutting core NO. 2, indicates a reservoir fluid of wet gas; - as at 1416.0m. (The gas from the interval cut by core No. 2 was not fully circulated out whilst the core was being cut.)

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

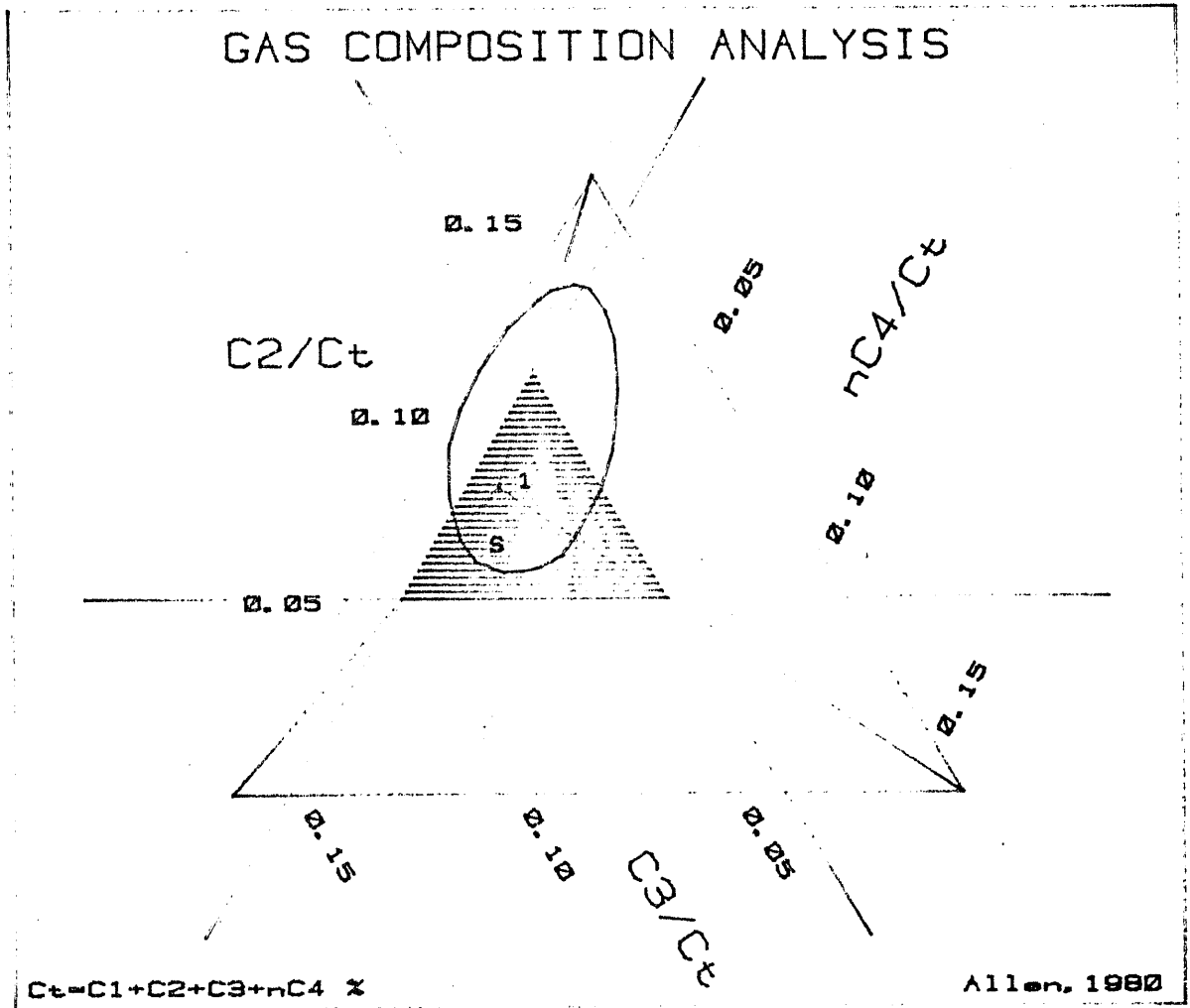
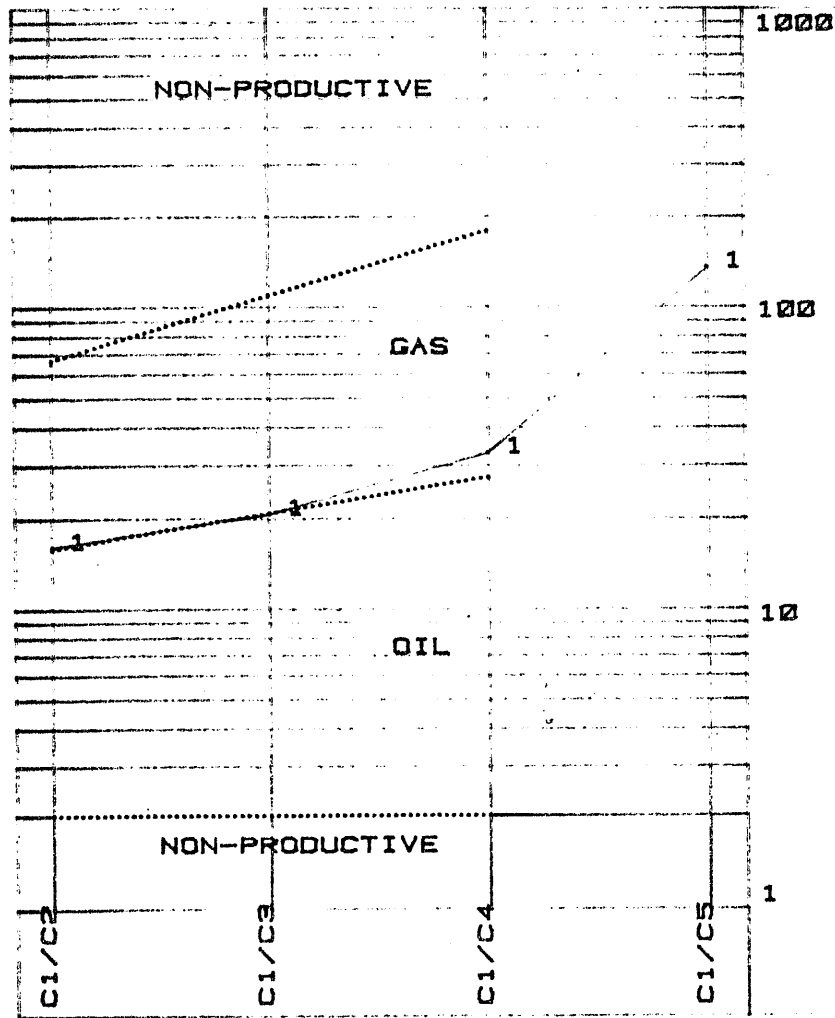


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1398	5.400	0.440	0.285	0.000	0.000	0.047	0.010	6.185	12	20	45	115

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

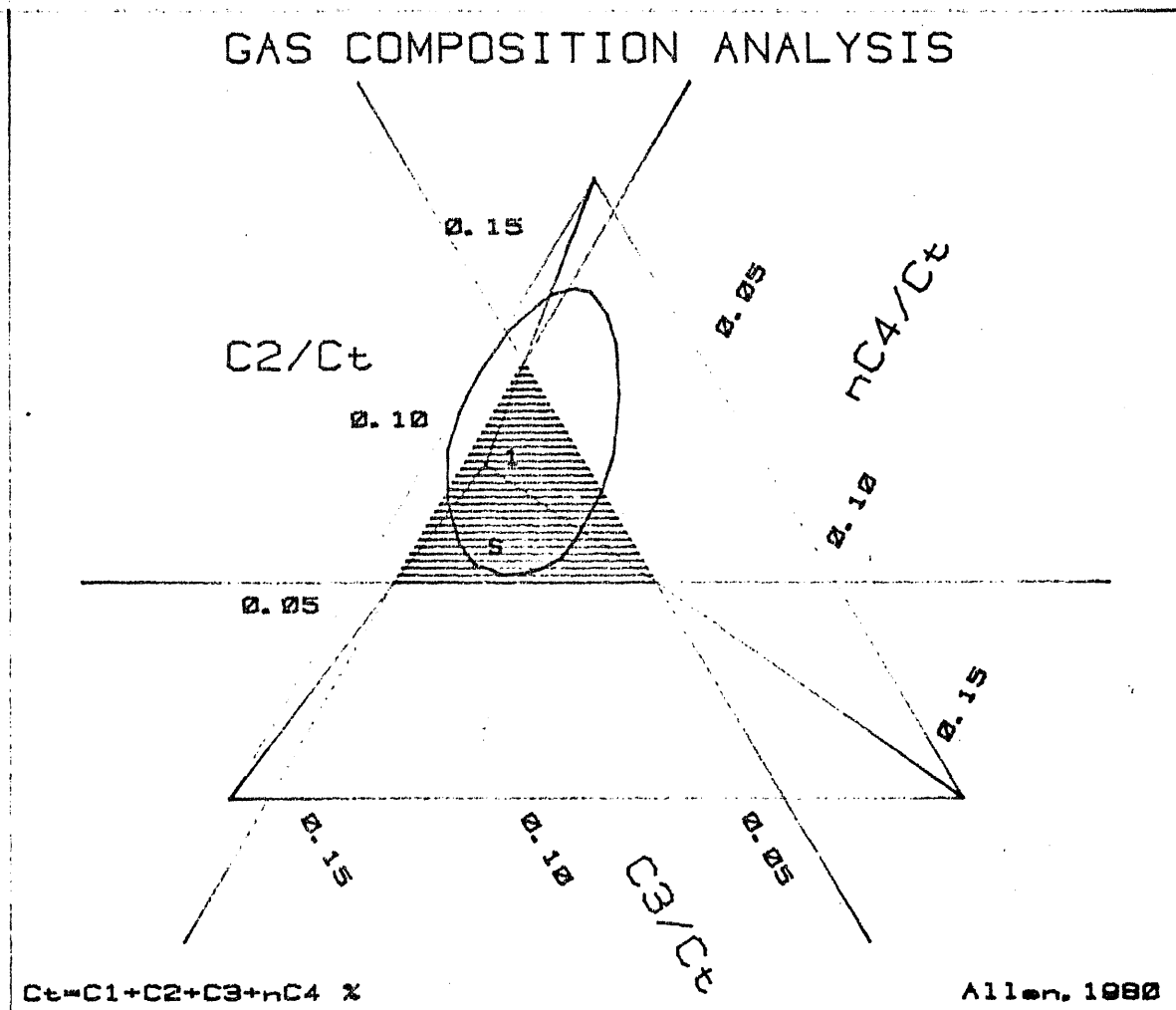
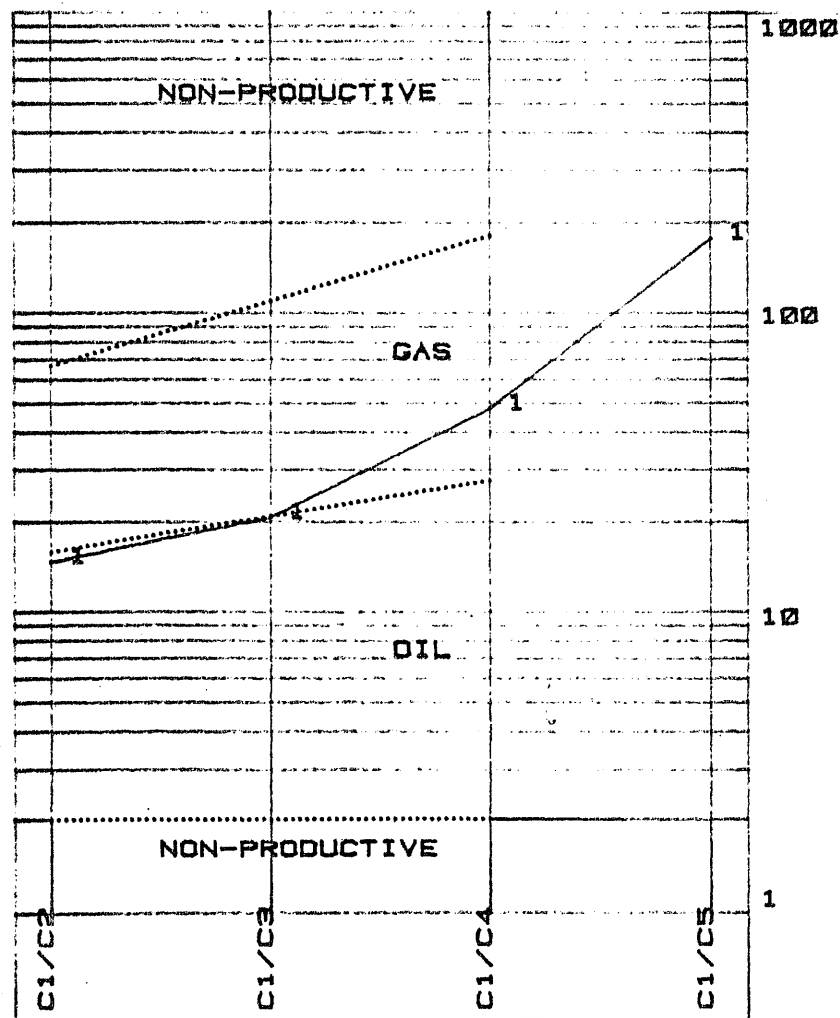


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1397	0.810	0.038	0.029	0.009	0.009	0.005	0.001	0.887	16	21	33	136

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

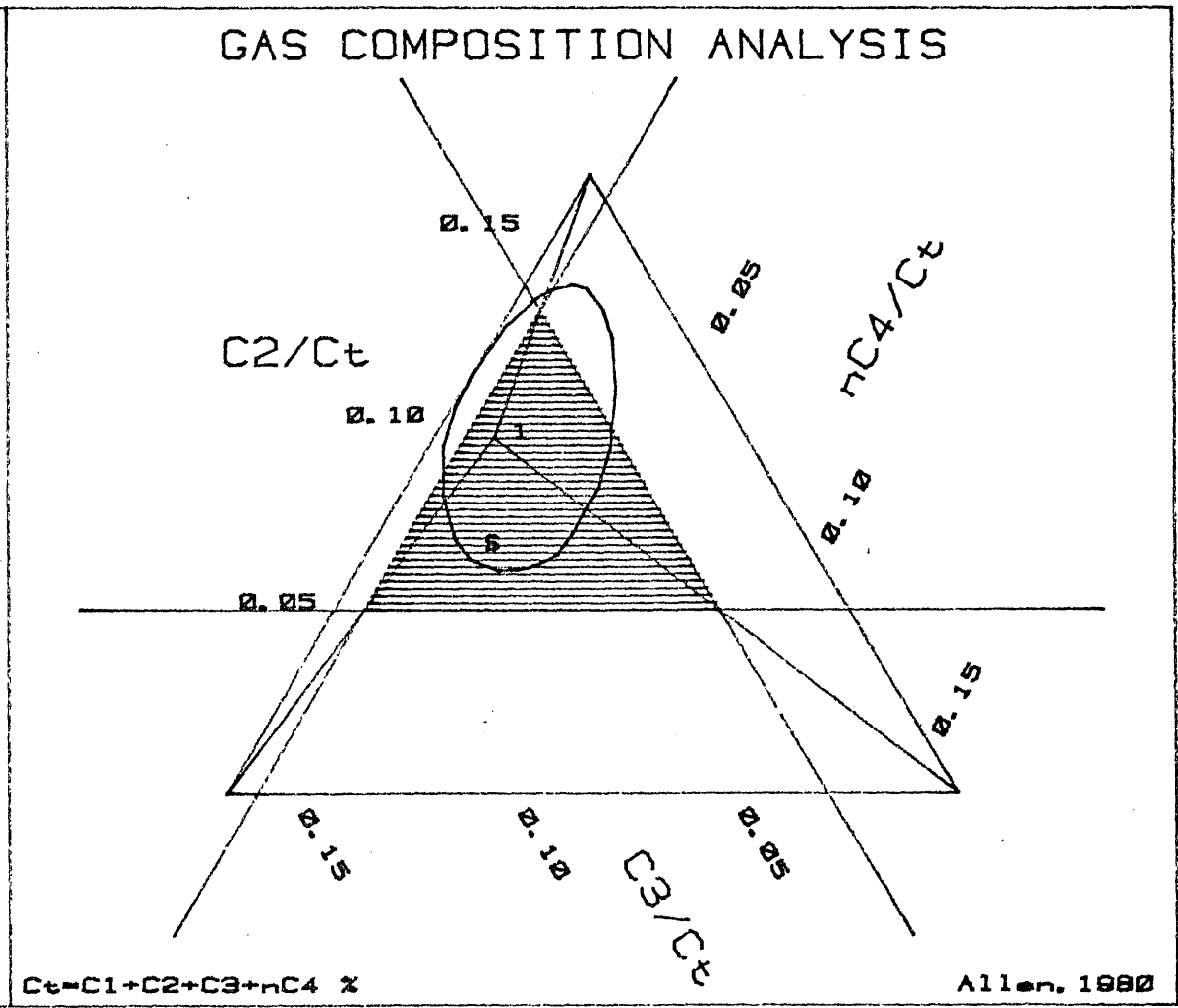
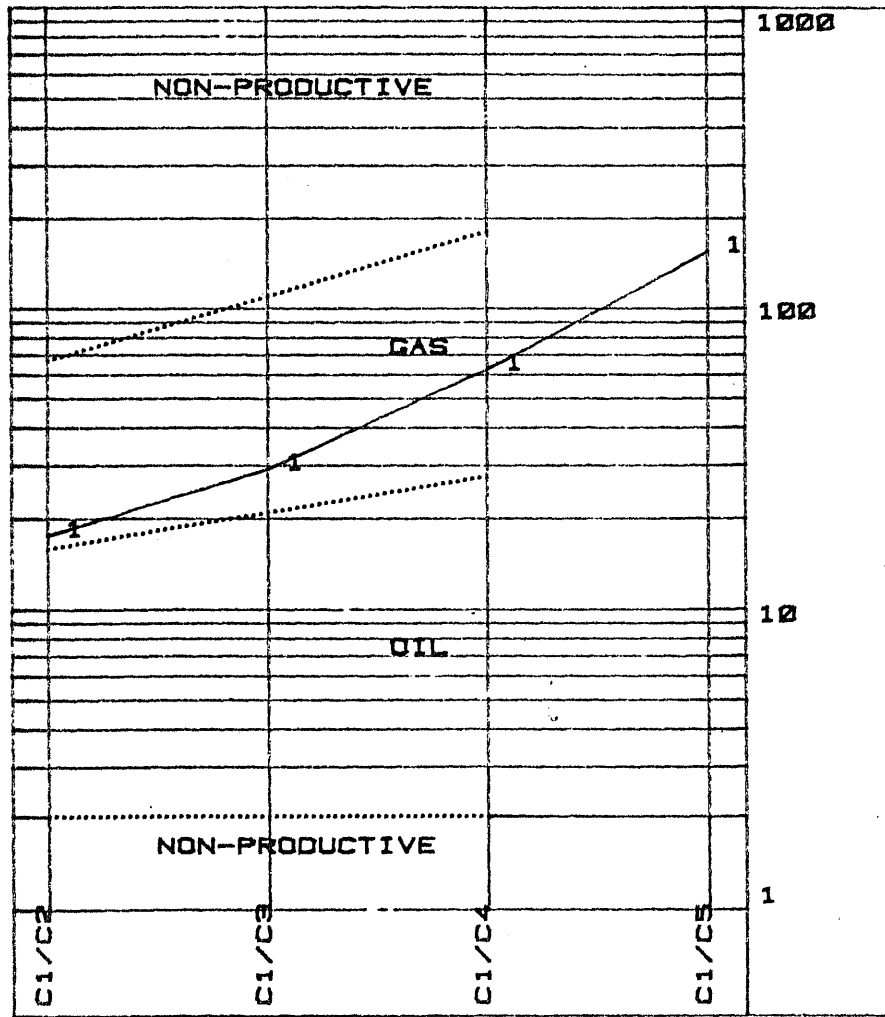


NO. DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1 1367.4	0.407	0.028	0.020	0.004	0.004	0.002	0.001	0.458	15	21	48	177

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

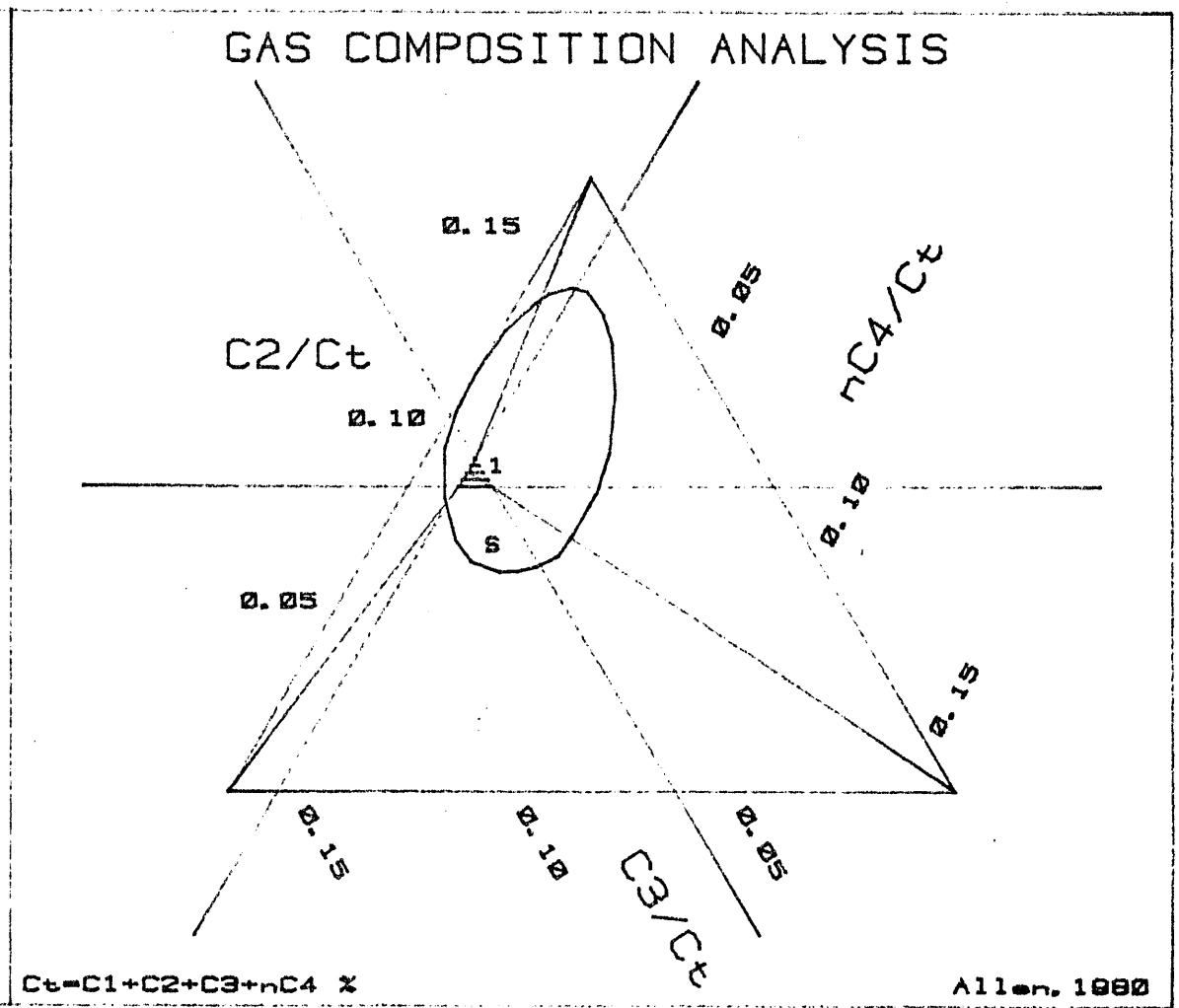
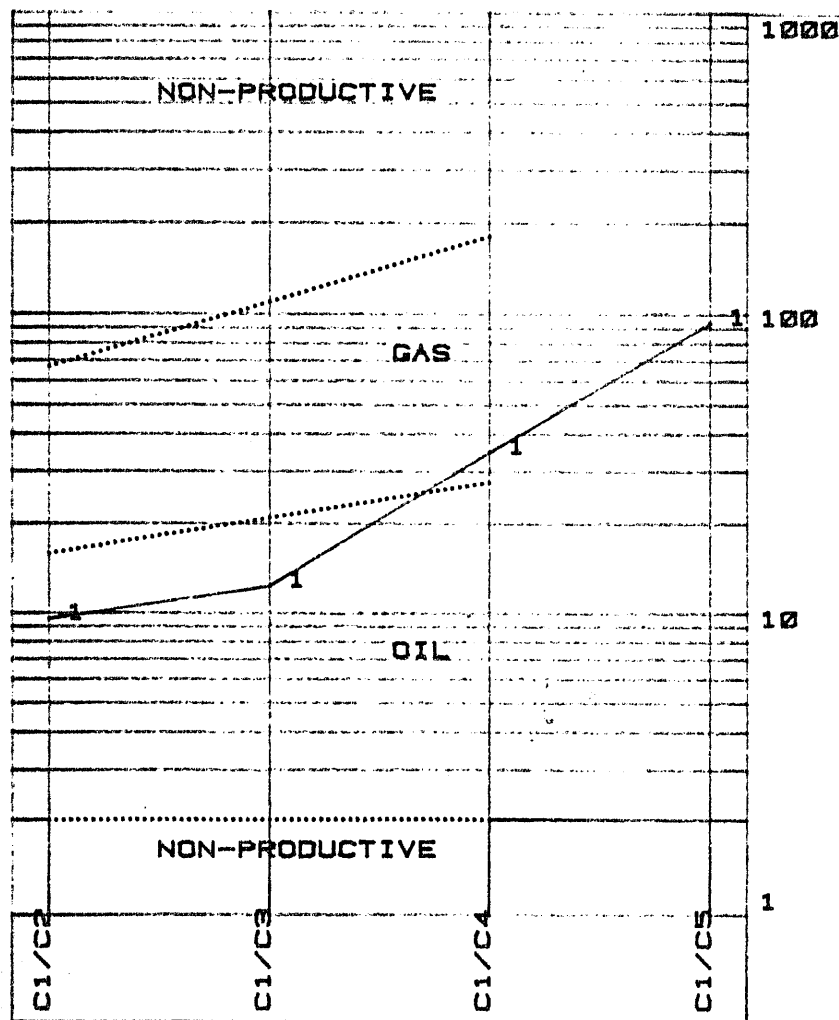


NO.	DEPTH	C1	C2	C3	1C4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1397.9	0.356	0.020	0.012	0.003	0.003	0.002	0.001	0.391	18	29	82	155

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1



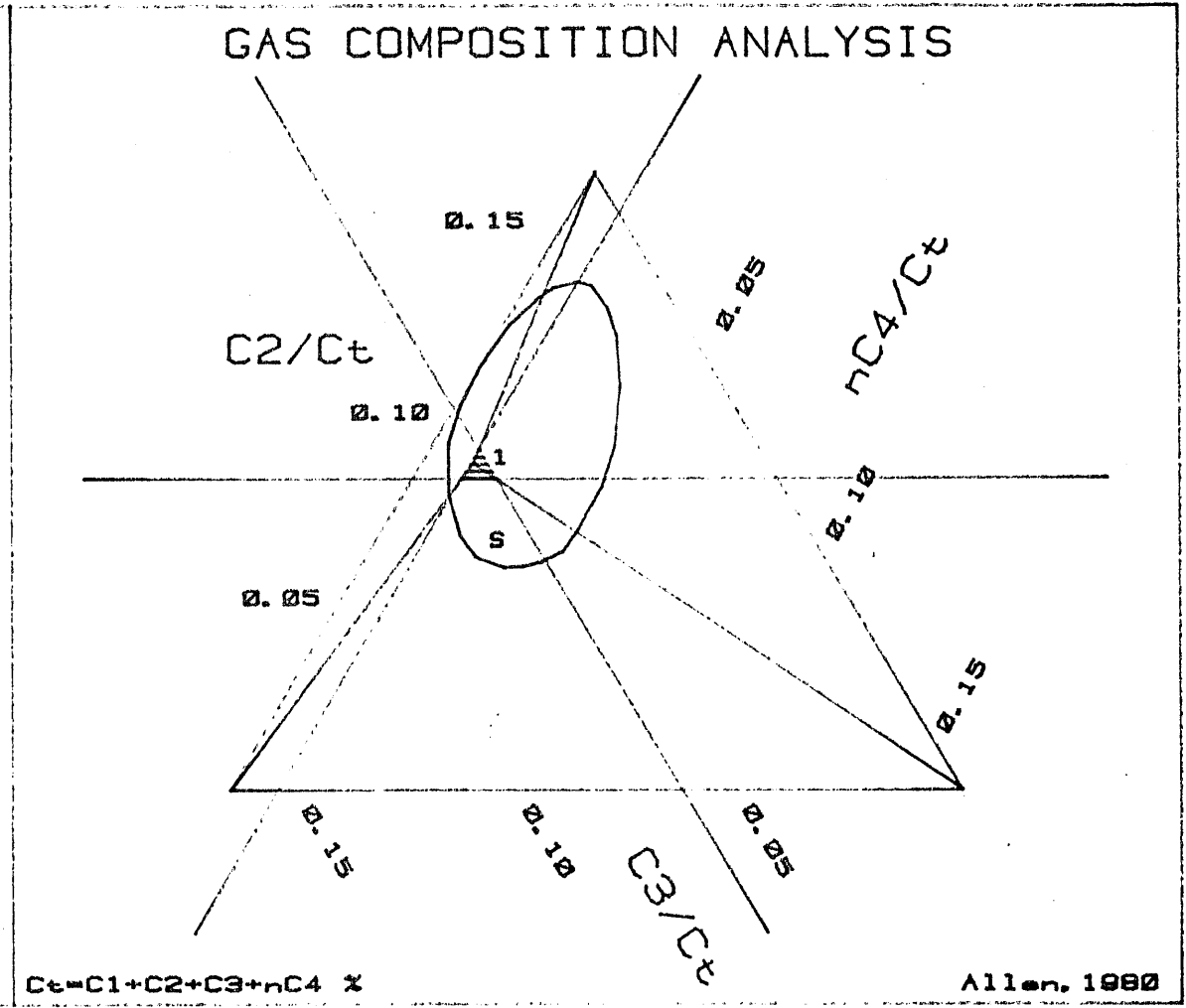
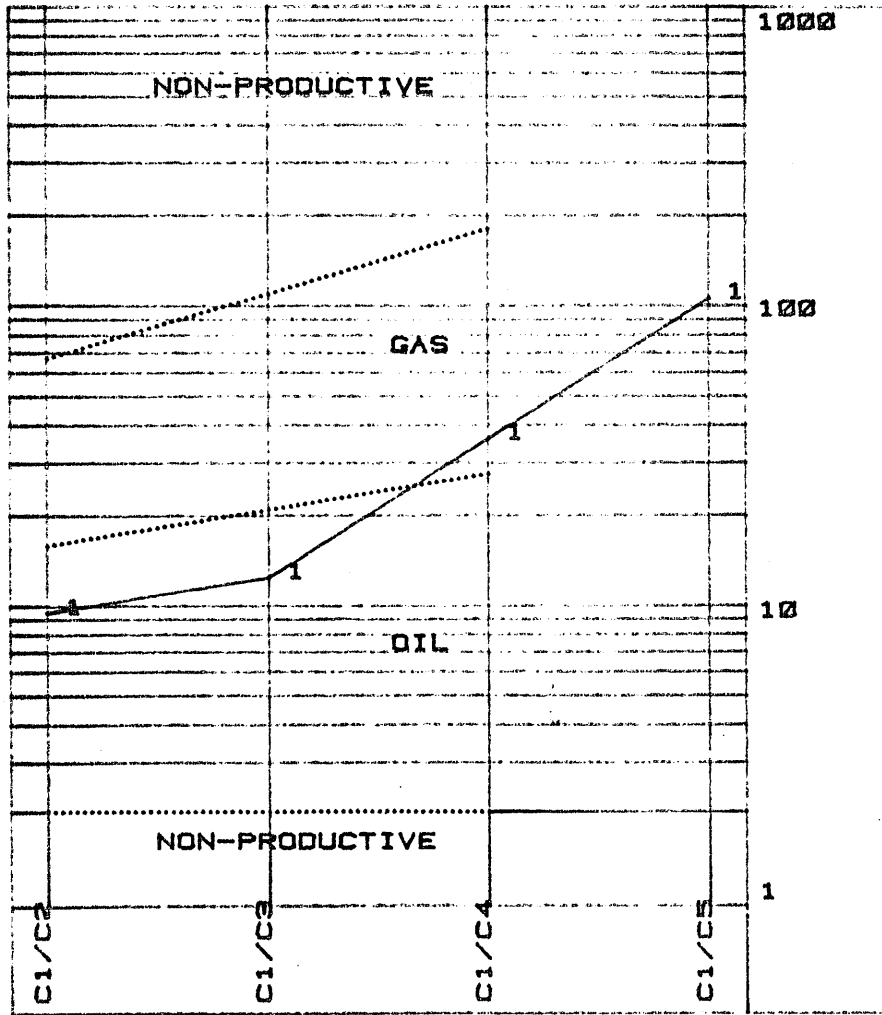
NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1410	0.420	0.044	0.034	0.006	0.006	0.005	0.003	0.504	10	12	35	93

Allen, 1980

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

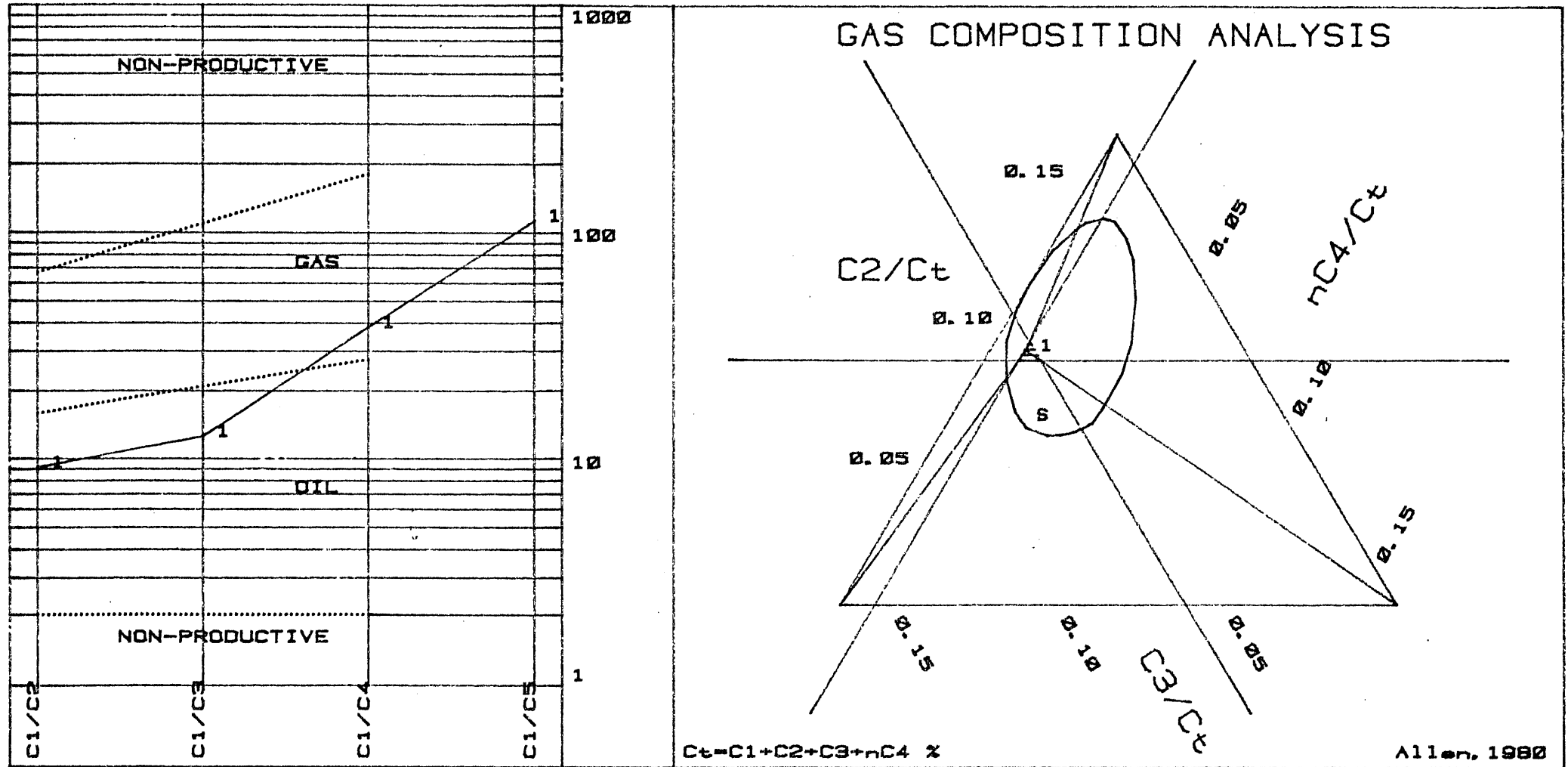


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1411	0.360	0.038	0.020	0.005	0.005	0.003	0.002	0.432	9	12	36	106

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

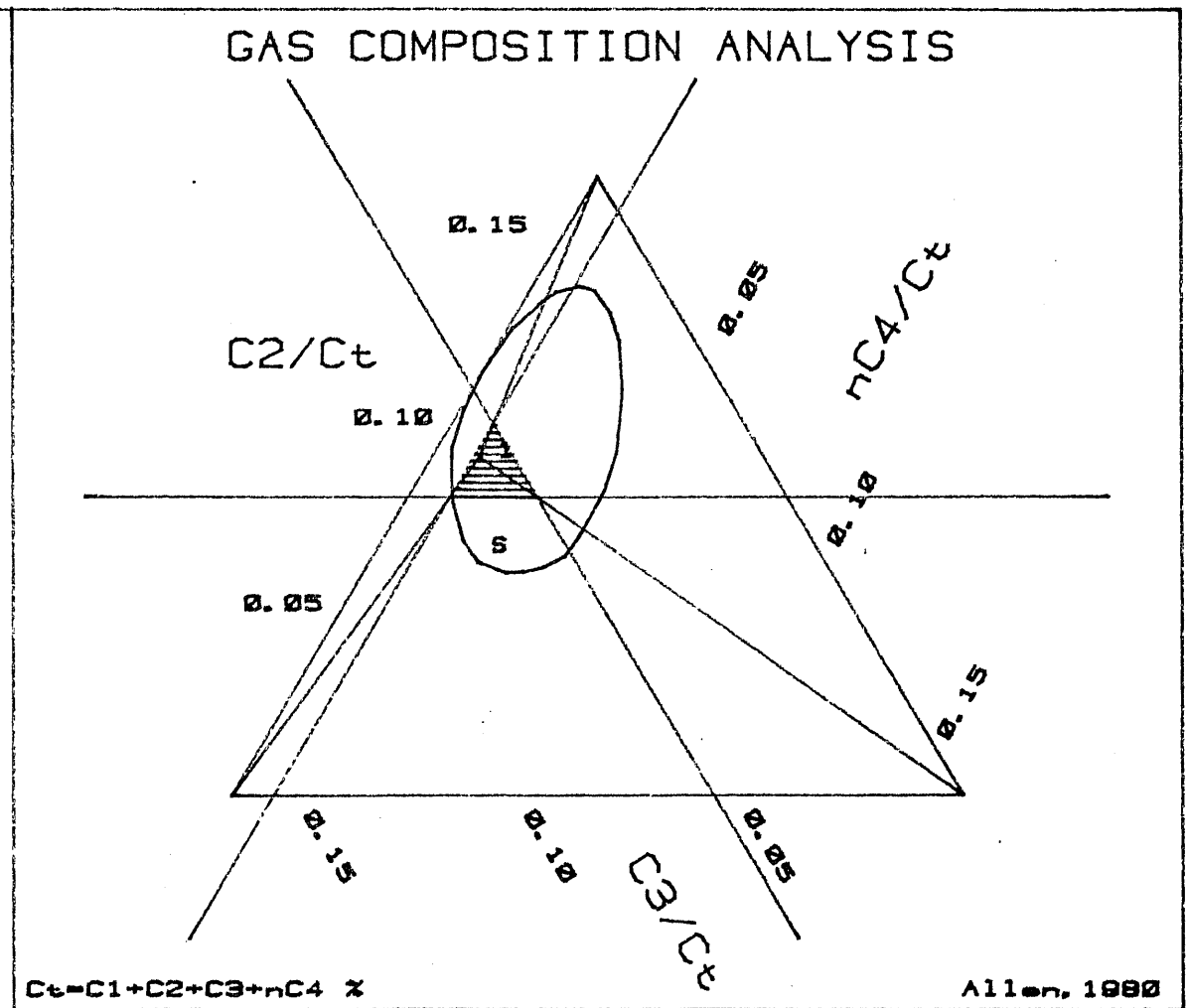
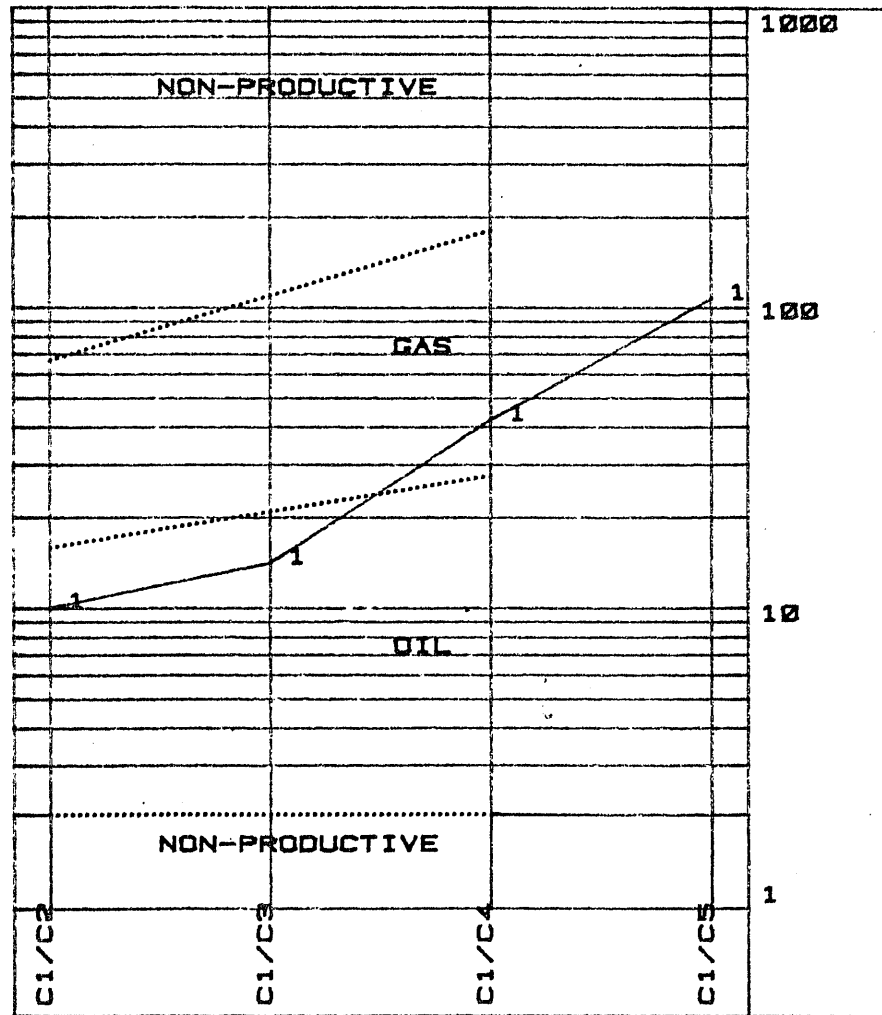


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1412	0.384	0.042	0.031	0.005	0.005	0.003	0.002	0.462	9	13	38	113

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

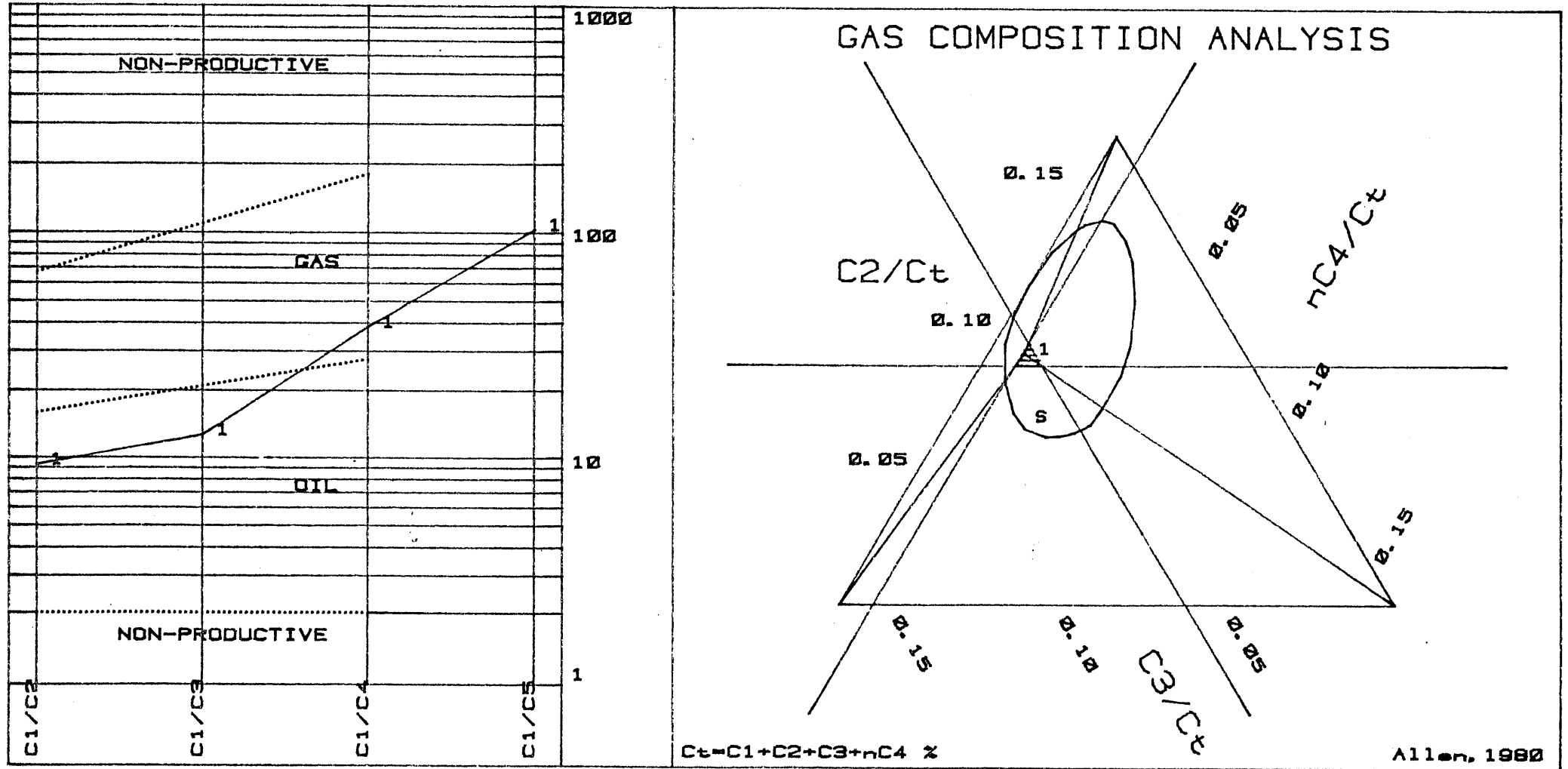


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 x	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1413	0.493	0.049	0.034	0.006	0.006	0.005	0.004	0.571	10	14	42	107

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

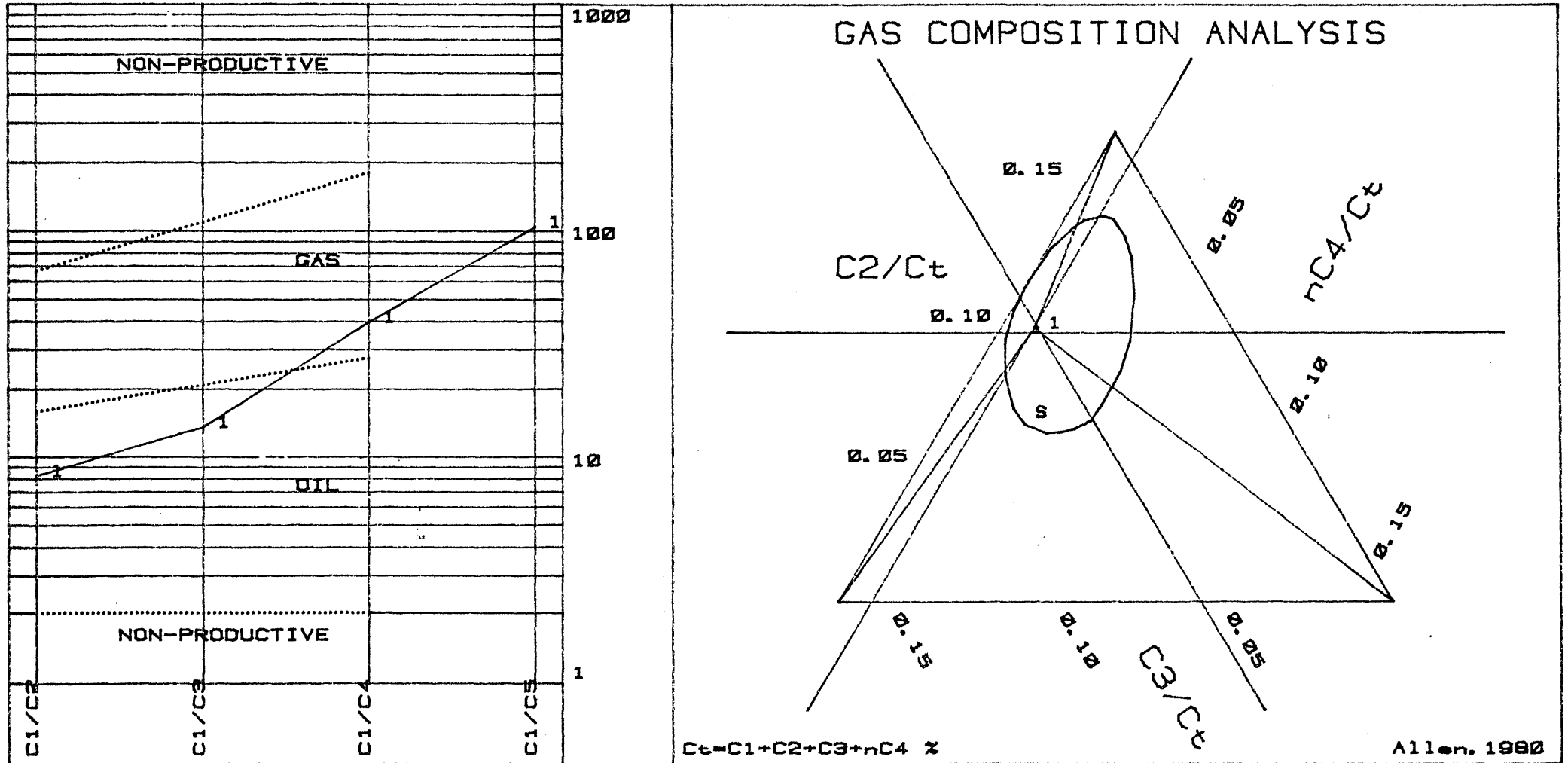


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1414	0.392	0.042	0.031	0.005	0.005	0.004	0.002	0.470	9	13	38	103

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

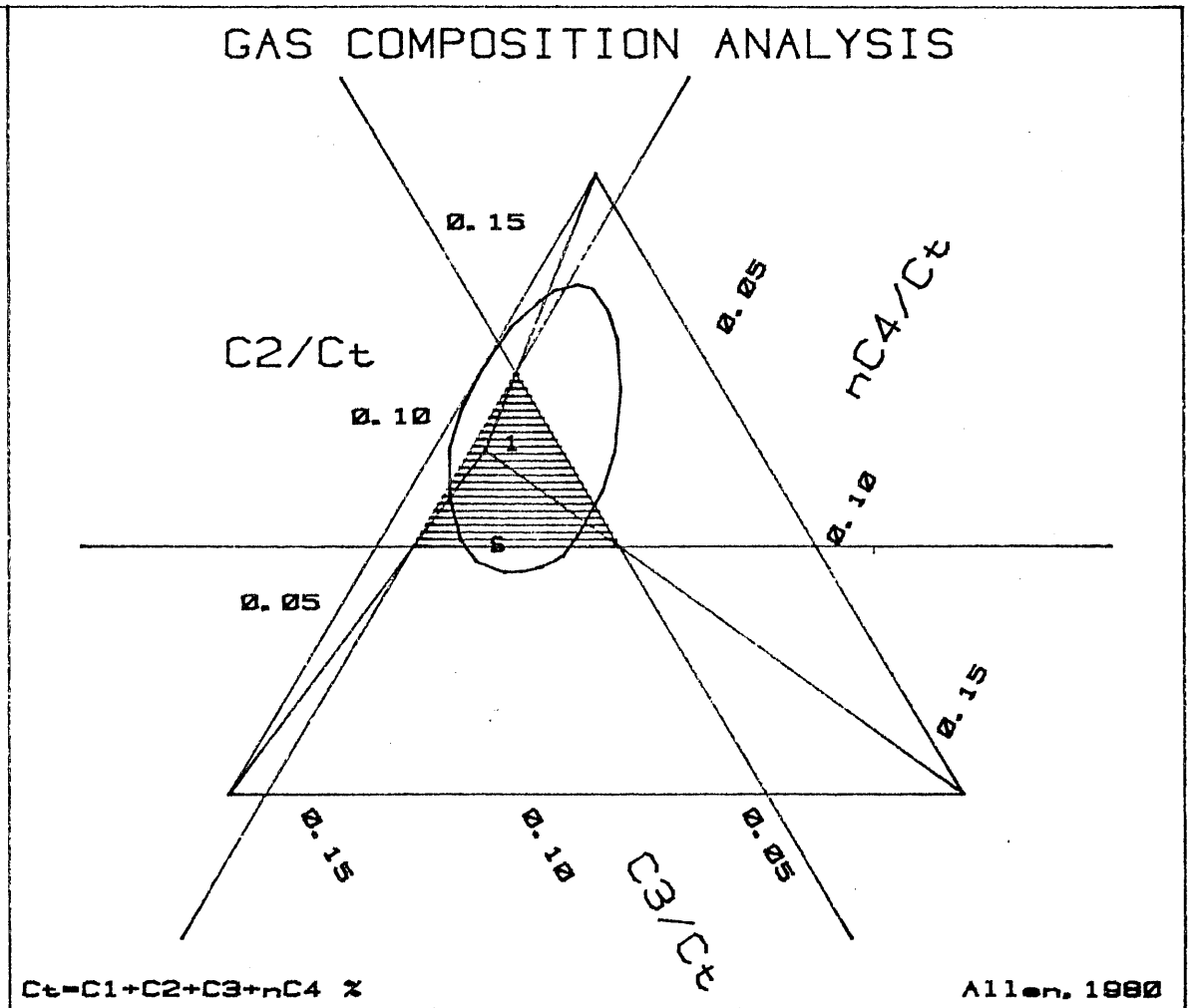
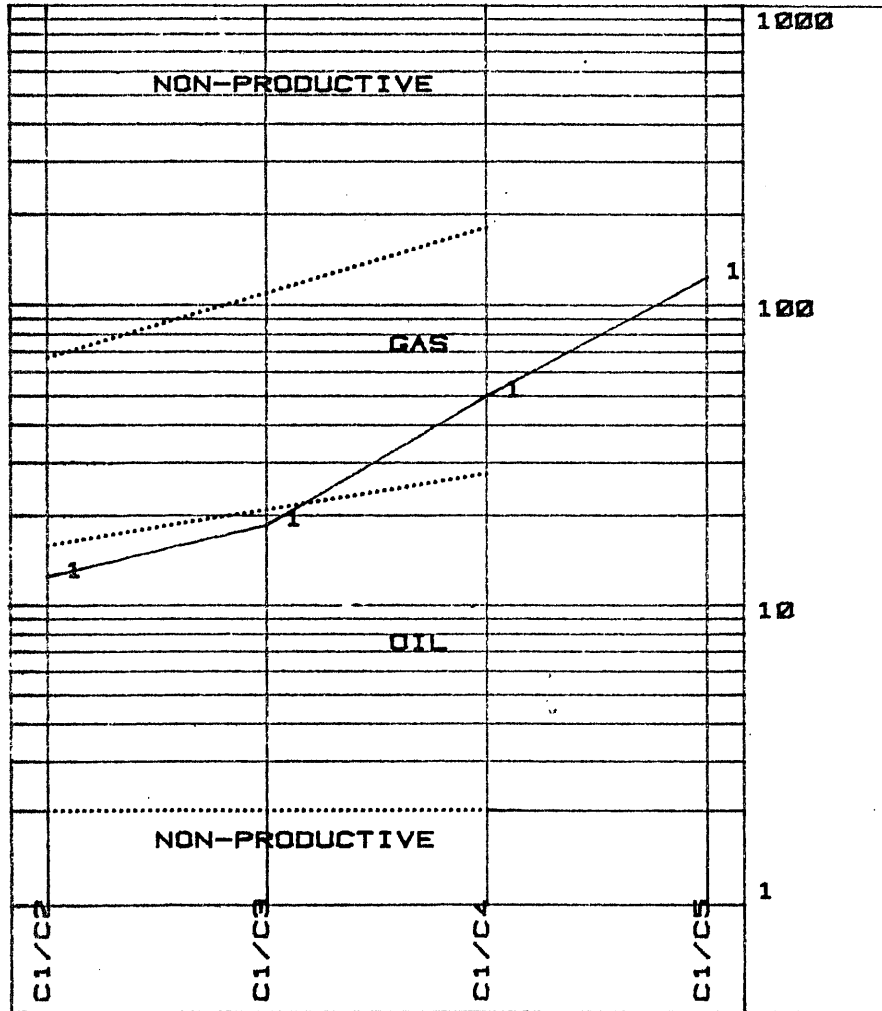


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1415	0.302	0.037	0.022	0.004	0.004	0.003	0.003	0.365	8	14	40	104

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

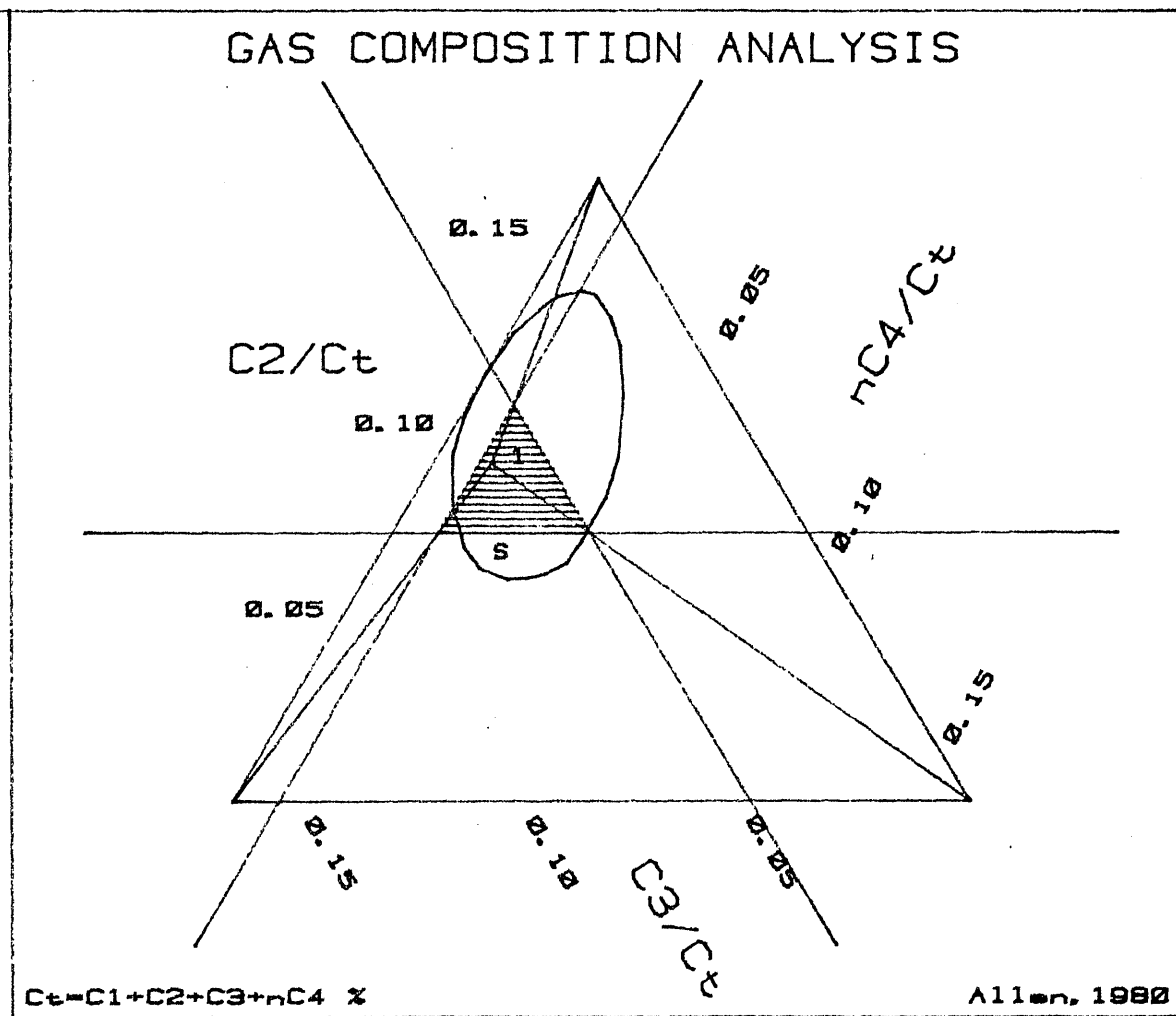
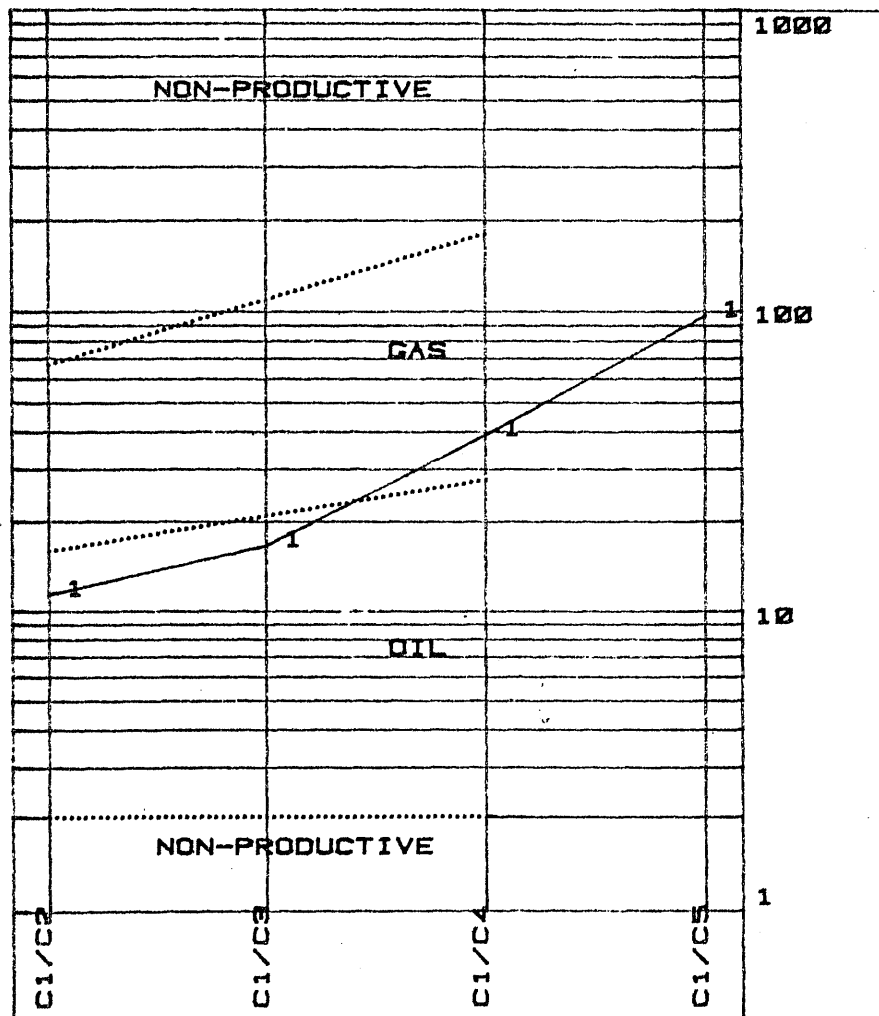


NO. DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1 1416	0.294	0.023	0.015	0.003	0.003	0.002	0.002	0.325	17	19	50	124

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: KAHAWAI # 1

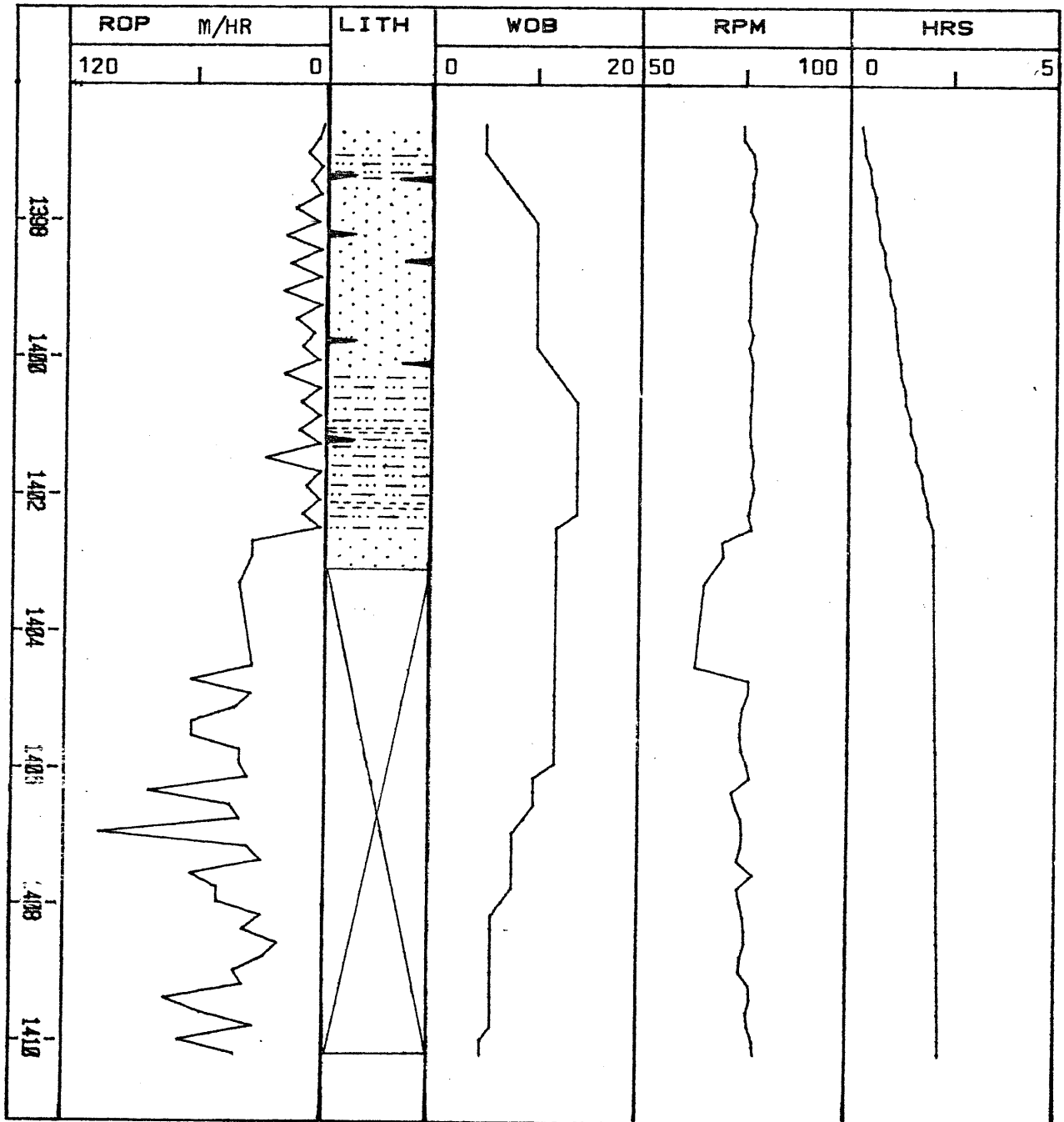


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1417.8	0.222	0.020	0.013	0.003	0.003	0.002	0.001	0.258	11	17	39	97

17. CORE - O - GRAPHS

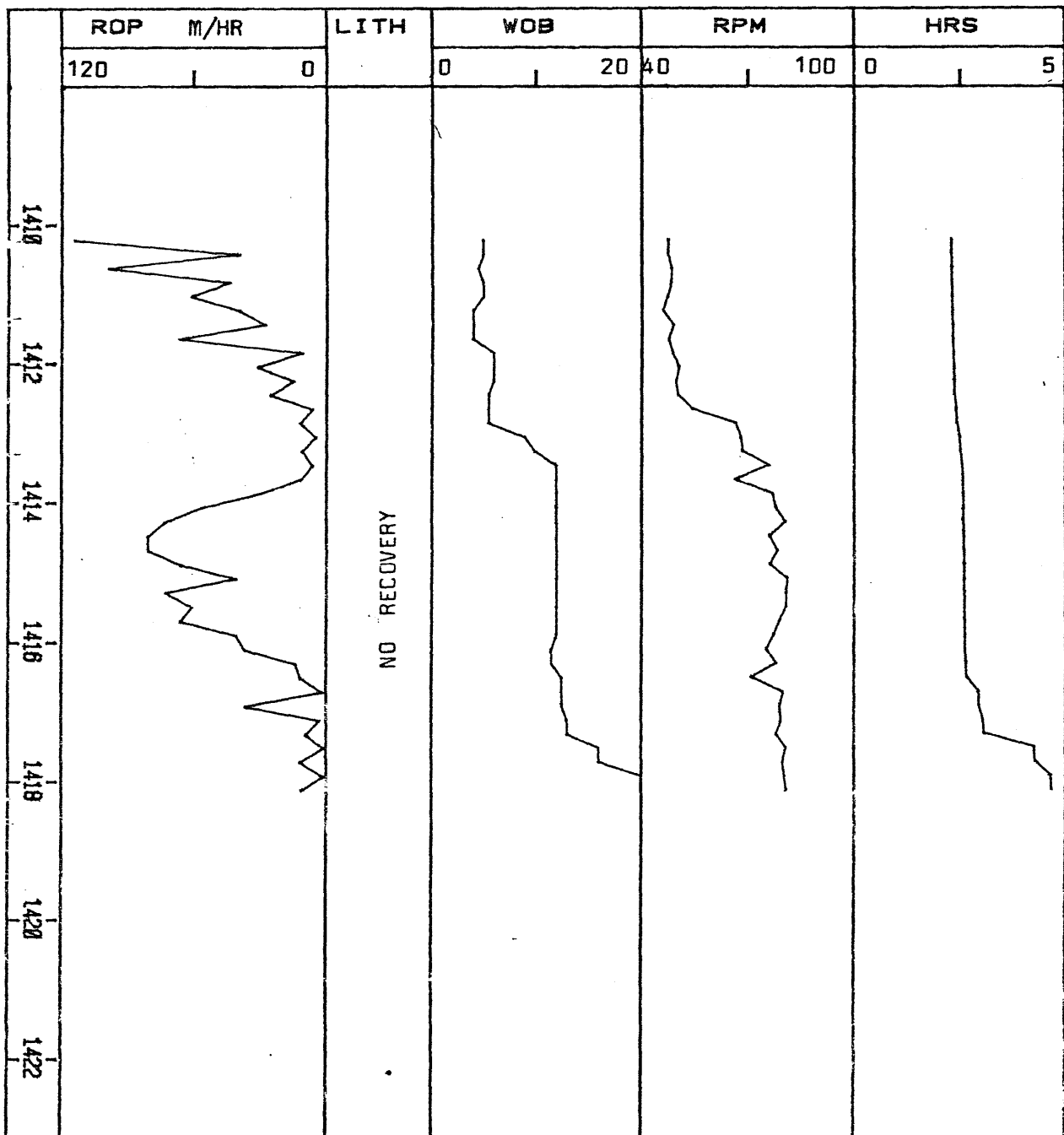
CORE-O-GRAPH

CLIENT: ESSO AUSTRALIA LTD.
WELL: KAHAWAI NO 1
CORE NO.: 1
INTERVAL CORED FROM: 1396.4 metres TO 1410 metres
CUT: 13.6 metres **RECOVERED:** 6.37 metres (47%)
FORMATION: LATROBE GROUP
BIT MAKE & TYPE: CHRISTENSEN C-22
CORE BARREL SIZE: 8.75in. x 4.00in. x 19.88m.
BIT SIZE: 8.468 " **MUD WT.:** 10.1 ppg



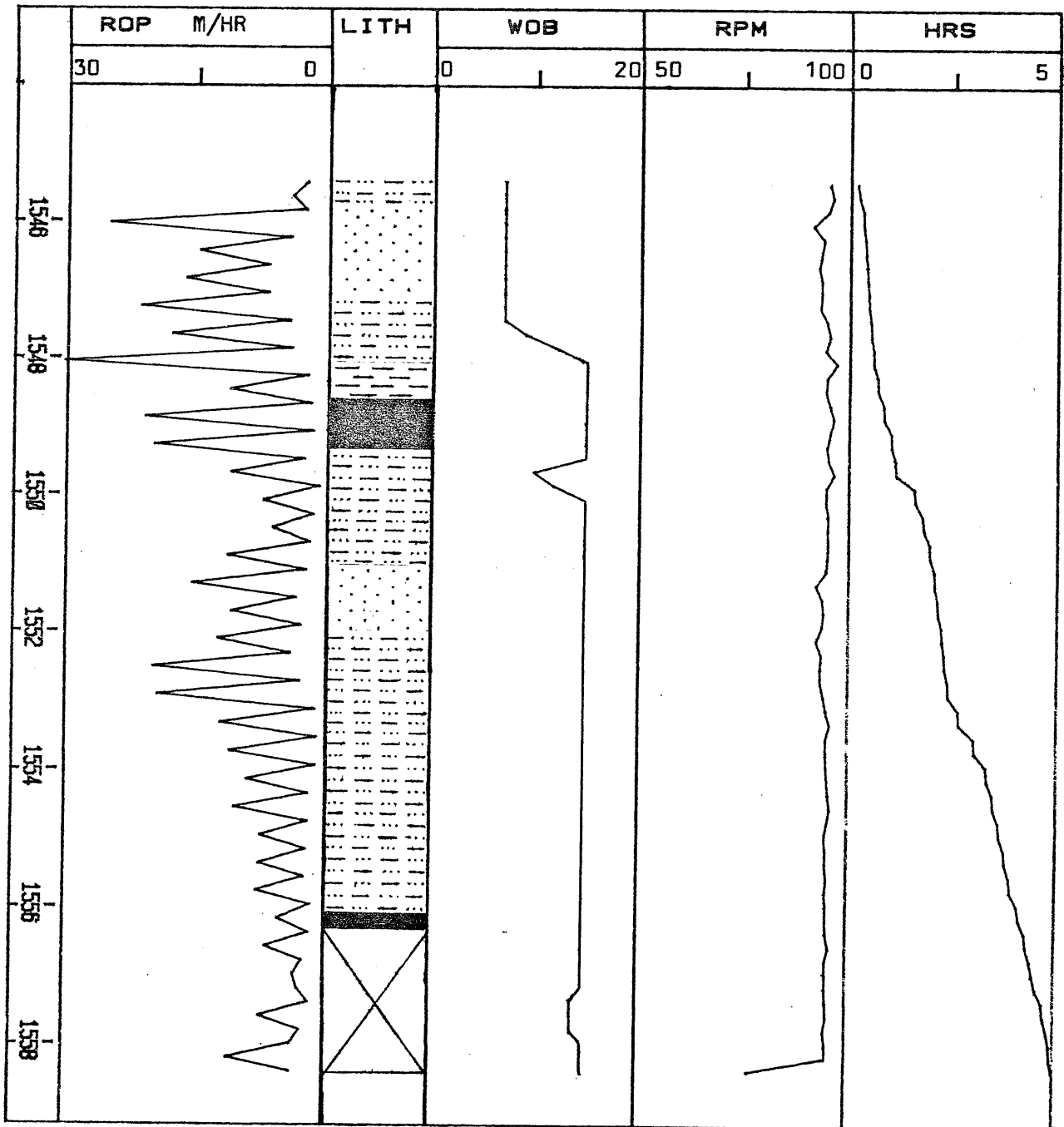
CORE-O-GRAPH

CLIENT: ESSO AUSTRALIA LTD.
 WELL: KAHAWAI NO. 1
 CORE NO.: 2
 INTERVAL CORED FROM: 1410 metres TO 1418 metres
 CUT: 8 metres
 RECOVERED: Nil (0%)
 FORMATION: LATROBE GROUP
 BIT MAKE & TYPE: CHRISTENSEN C-22
 CORE BARREL SIZE: 8.75in. x 4.00in. x 19.68m.
 BIT SIZE: 8.468 " MUD WT.: 10.1 ppg



CORE-O-GRAPH

CLIENT: ESSO AUSTRALIA LTD.
WELL: KAHAWAI NO. 1
CORE NO.: 3
INTERVAL CORED FROM: 1545.2 metres TO 1558.2 metres
CUT: 13 metres **RECOVERED:** 10.95 metres (84%)
FORMATION: LATROBE GROUP
BIT MAKE & TYPE: CHRISTENSEN C-22
CORE BARREL SIZE: 8.75in. x 4.00in. x 10.66m.
BIT SIZE: 8.468 " **MUD WT.:** 10.1 ppg



18. PORE PRESSURE SUMMARY & P.I.T. DATA

PORE PRESSURE AND FRACTURE GRADIENT SUMMARY

KAHAWAI No. 1 was drilled in the Gippsland Basin region of the Bass Strait. It was correctly thought that this basin is normally pressured and abnormal pressure was therefore not expected. Core Laboratories unit FL 802 monitored and calculated various parameters associated with pressure detection.

The DRILL DATA PLOT shows the d'c exponent trend. As can be seen from the plot a normal trend does not develop until around 700m. At this depth the calcarenite becomes more consolidated, and is no longer drilled by extrusion. Between 700m and 1380m a good trend is followed; - though the trend is a slight reversal to the normal pore pressure trend. This is due to the lithology; - the cleaner siltstone being easier to drill than the high clay content siltstone found shallower. This trend is normal for the Gippsland Basin Gippsland Limestone and Lakes Entrance formations. Between 1380m and 2320m the d'c exponent trend is completely scattered due to the predominance of sandstone in this section. No pressure interpretations can be made from the trend.

As can be seen from the plot the background gas varied between 1 u and 10 u., with peaks occurring at 1400m and 1490m to 1530m. The B.G. does not indicate an increase in the pore pressure. The mud density was increased from 8.7 p.p.g. to 10.0 p.p.g. before the Latrobe Group was penetrated; - to maintain a safety margin in the event of a gas cap in the target zone.

The TEMPERATURE PLOT does not indicate an increase in the pore pressure. An offset and a change in the geothermal gradient occurs at 630m; - this is due to a small sandstone bed. The estimated B.H.T. at 2320m was 99° C. The average geothermal gradient was 3.50 °C/100m. This value compares with 2.90°C/100m for TARWHINE No. 1, 3.50°C/100m for BREAM No. 4A, and 3.50 °C/100m for PALMER No. 1.

The PRESSURE PLOT shows the conclusions on the pore pressure for KAHAWAI No. 1. The quantitative data for this plot is from the results of the R.F.T. runs.

The fracture gradient on the PRESSURE PLOT is derived from the one P.I.T. carried out at the 13 3/8 " shoe. As such it is a conservative estimate of the gradient, however in the absence of further data it is the best that can be obtained. The shape of the curve is derived from the gradient for the U.S. Gulf Coast area, and offset to match the KAHAWAI No. 1 data. (overburden gradient and P.I.T. data)

19. COMPUTER DATA LISTINGS

Data is read by the computer while drilling is in progress, using the on-line Drill program and is stored on the tape at 10, 1, or 0.2m intervals. This data is then available at a later date for use in other programs (for example, KICK, SURGE, COST, OPTBIT and HYDRL).

The data can also be accessed by the REPORT program, which allows the operator to list both raw and calculated data in various formats. Either detailed data or data averaged over any particular depth interval, may be listed.

In addition, the data may be plotted in various formats, at any scale the operator desires.

The following data lists have been made for this well :

- a. Bit record & Bit initialization data
- b. Hydraulic analyses
- c. Data list A
- d. Data list B
- e. Data list C
- f. Data list D

COMPUTER PLOTS

Using the REPORT program, the following plots have been drawn for this well :

GEO PLOT - 1:5000 SCALE - 2m average

Since all the data is stored on tape, further data lists or plots are available at any time on request.

BIT RECORD

BIT SIZE Inches

BIT COST A dollars

JET SIZE Thirty seconds of an inch

DEPTHS Metres

BIT RUN (HOLE MADE). . Metres

TOTAL HOURS. Hours (the time the bit was actually drilling)

AVERAGE ROP. Metres/hour

CUMULATIVE COST/METRE. A dollars

BIT CONDITION : Teeth

Bearings

Gauge Inches

WELL: KAHAWAI # 1

BIT RECORD

BIT IADC		SIZE	COST	NOZZLES			DEPTH	DEPTH	BIT RUN	TOTAL	TRIP		CCOST	TOTAL	CONDITION		
No.	CODE MAKE & TYPE			IN	OUT		HOURS	AROP		TIME	URNS	T		B	G		
1	111 HTC OSC3AJ&26"HO	26.000	6350.00	25	25	25	82.0	216.0	134.0	6.98	19.2	1.8	354.82	25127	1	1	1.000
1	111 HTC OSC 3AJ	17.500	2450.00	20	20	20	216.0	806.0	590.0	22.11	39.0	3.9	171.95	152470	3	4	0.000
3	114 HTC X3A	12.250	1400.00	16	16	16	806.0	1396.4	590.4	19.41	30.4	6.1	205.10	157940	3	3	0.000
3	4 CHRISTENSEN C-22	8.468	15000.00	13	13	13	1396.4	1410.0	13.6	2.19	6.2	6.1	3962.99	9932	0	0	0.010
3	4 CHRISTENSEN C-22	8.468	15000.00	13	13	13	1410.0	1418.0	8.0	4.65	3.4	6.2	3051.31	21110	0	0	0.100
4	114 HTC X3A	12.250	1400.00	15	15	14	1418.0	1545.2	127.2	4.83	26.3	6.6	432.62	36851	5	3	0.125
4	4 CHRISTENSEN C-22	8.468	15000.00	13	13	13	1545.2	1558.2	13.0	4.94	2.6	6.7	5354.99	28102	0	0	0.015
5	135 HTC XDG	12.250	2256.00	15	15	14	1558.2	1738.0	179.8	15.37	11.7	7.3	604.14	115209	7	4	0.000
6	136 HTC JD3	12.250	2348.00	14	14	13	1738.0	1884.0	146.0	20.44	7.1	7.8	923.63	102192	6	4	0.125
7	517 HTC J22	12.250	6788.00	13	13	14	1884.0	2320.0	436.0	63.81	6.8	9.4	803.42	231890	4	4	0.125

BIT NUMBER: 1 IADC CODE 111 HTC OSC3AJ&26"HO

STARTING DEPTH.....	82.0		
BIT COST, RIG COST/HOUR.....	6350.00	4692.00	
TRIP TIME.....	1.8		
BIT DIAMETER.....	26.000		
NOZZLES.....	25	25	25
HW DRILL COLLAR LENGTH, OD, ID....	29.00	9.750	3.000
DRILL COLLAR LENGTH, OD, ID.....	33.86	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	27.12	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	0.00	0.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.0	2.00	
FINISHING DEPTH.....	216.0		
CUMULATIVE HOURS, TURNS.....	6.98	25127	
BIT CONDITION OUT.....	T 1	B 1	G 1.000

BIT NUMBER: 1 IADC CODE 111 HTC OSC 3AJ

STARTING DEPTH.....	216.0		
BIT COST, RIG COST/HOUR.....	2450.00	4692.00	
TRIP TIME.....	3.9		
PREVIOUS HOLE MADE.....	134.0		
PREVIOUS HOURS, TURNS.....	6.98	25127	
BIT DIAMETER.....	17.500		
NOZZLES.....	20	20	20
HW DRILL COLLAR LENGTH, OD, ID....	28.77	9.750	3.000
DRILL COLLAR LENGTH, OD, ID.....	69.36	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.76	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	199.00	19.124	
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.10	
FINISHING DEPTH.....	806.0		
CUMULATIVE HOURS, TURNS.....	22.11	152470	
BIT CONDITION OUT.....	T 3	B 4	G 0.000

BIT NUMBER: 3 IADC CODE 114 HTC X3A

STARTING DEPTH.....	806.0		
BIT COST, RIG COST/HOUR.....	1400.00	4692.00	
TRIP TIME.....	6.1		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	16
DRILL COLLAR LENGTH, OD, ID.....	117.90	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.70	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.615	
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.7	2.35	
FINISHING DEPTH.....	1396.4		
CUMULATIVE HOURS, TURNS.....	19.41	157940	
BIT CONDITION OUT.....	T 3	B 3	G 0.000

BIT NUMBER: 3 IADC CODE 4 CHRISTENSEN C-22

STARTING DEPTH.....	1396.4		
BIT COST, RIG COST/HOUR.....	15000.00	4692.00	
TRIP TIME.....	6.1		
BIT DIAMETER.....	8.468		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	138.43	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.70	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1396.00	791.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	0.3	2.65	
FINISHING DEPTH.....	1410.0		
CUMULATIVE HOURS, TURNS.....	2.19	9932	
BIT CONDITION OUT.....	T 0	B 0	G 0.010

BIT NUMBER: 3 IADC CODE 4 CHRISTENSEN C-22

STARTING DEPTH.....	1410.0		
BIT COST, RIG COST/HOUR.....	15000.00	4692.00	
TRIP TIME.....	6.2		
PREVIOUS HOLE MADE.....	13.6		
PREVIOUS HOURS, TURNS.....	2.27	9964	
BIT DIAMETER.....	8.468		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	116.52	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.70	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1396.00	806.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	0.3	2.65	
FINISHING DEPTH.....	1418.0		
CUMULATIVE HOURS, TURNS.....	4.65	21110	
BIT CONDITION OUT.....	T 0	B 0	G 0.100

BIT NUMBER: 4 IADC CODE 114 HTC X3A

STARTING DEPTH.....	1418.0		
BIT COST, RIG COST/HOUR.....	1400.00	4692.00	
TRIP TIME.....	6.6		
BIT DIAMETER.....	12.250		
NOZZLES.....	15	15	14
DRILL COLLAR LENGTH, OD, ID.....	117.84	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.70	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.615	
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.7	2.35	
FINISHING DEPTH.....	1545.2		
CUMULATIVE HOURS, TURNS.....	4.83	36851	
BIT CONDITION OUT.....	T 5	B 3	G 0.125

BIT NUMBER: 4 IADC CODE 4 CHRISTENSEN C-22

STARTING DEPTH.....	1545.2		
BIT COST, RIG COST/HOUR.....	15000.00	4692.00	
TRIP TIME.....	6.7		
BIT DIAMETER.....	8.468		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	136.79	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.70	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1545.20	791.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	0.3	2.65	
FINISHING DEPTH.....	1558.2		
CUMULATIVE HOURS, TURNS.....	4.94	28102	
BIT CONDITION OUT.....	T 0	B 0	G 0.015

BIT NUMBER: 5 IADC CODE 135 HTC XDG

STARTING DEPTH.....	1558.2		
BIT COST, RIG COST/HOUR.....	2256.00	4692.00	
TRIP TIME.....	7.3		
BIT DIAMETER.....	12.250		
NOZZLES.....	15	15	14
DRILL COLLAR LENGTH, OD, ID.....	117.84	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.76	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.615	
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.7	2.35	
FINISHING DEPTH.....	1738.0		
CUMULATIVE HOURS, TURNS.....	15.37	115209	
BIT CONDITION OUT.....	T 7	B 4	G 0.000

BIT NUMBER: 6 IADC CODE 136 HTC JD3

STARTING DEPTH.....	1738.0		
BIT COST, RIG COST/HOUR.....	2348.00	4692.00	
TRIP TIME.....	7.8		
BIT DIAMETER.....	12.250		
NOZZLES.....	14	14	13
DRILL COLLAR LENGTH, OD, ID.....	117.84	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.76	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.615	
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.7	2.35	
FINISHING DEPTH.....	1884.0		
CUMULATIVE HOURS, TURNS.....	20.44	102192	
BIT CONDITION OUT.....	T 6	B 4	G 0.125

BIT NUMBER: 7 IADC CODE 517 HTC J22

STARTING DEPTH.....	1884.0		
BIT COST, RIG COST/HOUR.....	6788.00	4692.00	
TRIP TIME.....	9.4		
BIT DIAMETER.....	12.250		
NOZZLES.....	13	13	14
DRILL COLLAR LENGTH, OD, ID.....	146.47	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.76	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.615	
RISER LENGTH, ID.....	78.50	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2320.0		
CUMULATIVE HOURS, TURNS.....	63.81	231890	
BIT CONDITION OUT.....	T 4	B 4	G 0.125

HYDRAULIC ANALYSIS

Data listed from data tape every 100m for each bit run.

DEPTH. Metres

FLOW RATE. Rate of mud flow into the well,
in gallons per minute

ANNULAR VOLUMES. Barrels, Barrels/metre

ANNULAR VELOCITIES Metres/minute

CRITICAL VELOCITIES. The annular velocity above which
the flow becomes turbulent

SLIP VELOCITY. The rate of slip of cuttings in the
annulus under laminar flow

ASCEND VELOCITY. The rate of ascent of cuttings in the
annulus under laminar flow

PRESSURE UNITS Pounds per square inch

HHP. Hydraulic horsepower at the bit

IMPACT FORCE The impact force at the bit,
in foot pound per second squared

JET VELOCITY The velocity of mud through the bit
nozzles, in metres per second

DENSITY UNITS. Pounds per gallon

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 200.0 AND TVD 200.0

SPM 1 98 SPM 2 99 FLOW RATE 988

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	54	13	19	LAMINAR	0	12	0.0
DC/OH	1.950	66	12	19	LAMINAR	0	12	0.0
HWDP/OH	2.074	56	11	18	LAMINAR	0	11	0.0
DP/OH	2.074	228	11	18	LAMINAR	0	11	0.0
TOTAL VOLUME		404			TOTAL PRESSURE DROP			0.0

LAG: 17.2 MINUTES 1688 STROKES #1 AND 1708 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	374.1	HHP	216	IMPACT FORCE	970
% SURFACE PRESSURE	30.9	HHP/sqin	0.41	JET VELOCITY	67

PRESSURE BREAKDOWN:

SURFACE	64.8		
STRING	250.3		
BIT	374.1		
ANNULUS	0.0		
TOTAL	689.1	PUMP PRESSURE	1210.0 % DIFFERENCE 43.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.60	HYDROSTATIC PRESSURE 293.4
CIRCULATING:	ECD 8.60	CIRCULATING PRESSURE 293.5
PULLING OUT:	TRIP MARGIN 0.00	ESTIMATED SWAB 0.1
	EFFECTIVE MUD WEIGHT 8.60	BOTTOM HOLE PRESSURE 293.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 99 SPM 2 100 FLOW RATE 995

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	19	35	20	TURBULENT			0.1
DC/OH	0.772	56	31	18	TURBULENT			0.1
DC/CSG	0.961	16	25	16	TURBULENT			0.0
HWDP/CSG	1.085	89	22	14	TURBULENT			0.0
DP/CSG	1.085	23	22	14	TURBULENT			0.0
DP/RIS	1.325	104	18	14	TURBULENT			0.0

TOTAL VOLUME 308 TOTAL PRESSURE DROP 0.3

LAG: 13.0 MINUTES 1287 STROKES #1 AND 1300 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	924.9	HHP	537	IMPACT FORCE	1535
% SURFACE PRESSURE	48.7	HHP/sqin	2.23	JET VELOCITY	105

PRESSURE BREAKDOWN:

SURFACE	75.3		
STRING	595.5		
BIT	924.9		
ANNULUS	0.3		
TOTAL	1596.0	PUMP PRESSURE	1900.0 % DIFFERENCE 16.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.60	HYDROSTATIC PRESSURE 440.1
CIRCULATING:	ECD 8.61	CIRCULATING PRESSURE 440.4
PULLING OUT:	TRIP MARGIN 0.01	ESTIMATED SWAB 0.5
	EFFECTIVE MUD WEIGHT 8.59	BOTTOM HOLE PRESSURE 439.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 98 SPM 2 98 FLOW RATE 979

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	19	35	19	TURBULENT			0.1
DC/OH	0.772	69	30	17	TURBULENT			0.1
HWDP/OH	0.896	73	26	15	TURBULENT			0.1
DP/OH	0.896	1	26	15	TURBULENT			0.0
DP/CSG	1.085	131	21	14	TURBULENT			0.1
DP/RIS	1.325	104	18	13	TURBULENT			0.0

TOTAL VOLUME 397 TOTAL PRESSURE DROP 0.4

LAG: 17.0 MINUTES 1672 STROKES #1 AND 1667 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	917.3	HHP	524	IMPACT FORCE	1523
% SURFACE PRESSURE	45.9	HHP/sqin	2.18	JET VELOCITY	104

PRESSURE BREAKDOWN:

SURFACE	74.5		
STRING	632.7		
BIT	917.3		
ANNULUS	0.4		
TOTAL	1624.9	PUMP PRESSURE	2000.0
		% DIFFERENCE	18.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.80	HYDROSTATIC PRESSURE 600.5
CIRCULATING:	ECD	8.81	CIRCULATING PRESSURE 600.9
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB 0.7
	EFFECTIVE MUD WEIGHT	8.79	BOTTOM HOLE PRESSURE 599.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 97 SPM 2 99 FLOW RATE 981

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	19	35	28	TURBULENT			0.1
DC/OH	0.772	69	30	26	TURBULENT			0.1
HWDP/OH	0.896	73	26	23	TURBULENT			0.1
DP/OH	0.896	91	26	23	TURBULENT			0.1
DP/CSG	1.085	131	22	22	LAMINAR	0	21	0.1
DP/RIS	1.325	104	18	21	LAMINAR	0	17	0.0
TOTAL VOLUME		487			TOTAL PRESSURE DROP		0.5	

LAG: 20.8 MINUTES 2029 STROKES #1 AND 2064 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 963.0 HHP 551 IMPACT FORCE 1599
% SURFACE PRESSURE 45.9 HHP/sqin 2.29 JET VELOCITY 104

PRESSURE BREAKDOWN:

SURFACE 77.5
STRING 702.7
BIT 963.0
ANNULUS 0.5
TOTAL 1743.7 PUMP PRESSURE 2100.0 % DIFFERENCE 17.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.20	HYDROSTATIC PRESSURE 784.7
CIRCULATING:	ECD 9.21	CIRCULATING PRESSURE 785.2
PULLING OUT:	TRIP MARGIN 0.01	ESTIMATED SWAB 0.9
	EFFECTIVE MUD WEIGHT 9.19	BOTTOM HOLE PRESSURE 783.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 100 SPM 2 100 FLOW RATE 999

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	19	35	28	TURBULENT			0.1
DC/OH	0.772	69	31	26	TURBULENT			0.1
HWDP/OH	0.896	73	27	23	TURBULENT			0.1
DP/OH	0.896	180	27	23	TURBULENT			0.2
DP/CSG	1.085	131	22	22	TURBULENT			0.1
DP/RIS	1.325	104	18	21	LAMINAR	0	18	0.0
TOTAL VOLUME		577			TOTAL PRESSURE DROP			0.6

LAG: 24.2 MINUTES 2424 STROKES #1 AND 2421 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 997.8 HHP 581 IMPACT FORCE 1656
% SURFACE PRESSURE 45.4 HHP/sqin 2.42 JET VELOCITY 106

PRESSURE BREAKDOWN:

SURFACE 80.0
STRING 771.7
BIT 997.8
ANNULUS 0.6
TOTAL 1850.1 PUMP PRESSURE 2200.0 % DIFFERENCE 15.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.20	HYDROSTATIC PRESSURE 941.7
CIRCULATING: ECD	9.21	CIRCULATING PRESSURE 942.2
PULLING OUT: TRIP MARGIN	0.01	ESTIMATED SWAB 1.1
EFFECTIVE MUD WEIGHT	9.19	BOTTOM HOLE PRESSURE 940.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 101 SPM 2 100 FLOW RATE 1004

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	19	36	46	LAMINAR	1	35	0.1
DC/OH	0.772	69	31	43	LAMINAR	0	31	0.2
HWDP/OH	0.896	73	27	40	LAMINAR	0	26	0.1
DP/OH	0.896	270	27	40	LAMINAR	0	26	0.4
DP/CSG	1.085	131	22	39	LAMINAR	0	22	0.1
DP/RIS	1.325	104	18	38	LAMINAR	0	18	0.1
TOTAL VOLUME		666			TOTAL PRESSURE DROP		1.1	
LAG: 27.9 MINUTES		2822 STROKES #1 AND		2776 STROKES #2				

BIT HYDRAULICS:

PRESSURE DROP 1002.2 HHP 587 IMPACT FORCE 1664
 % SURFACE PRESSURE 43.6 HHP/sqin 2.44 JET VELOCITY 106

PRESSURE BREAKDOWN:

SURFACE 80.4
 STRING 821.5
 BIT 1002.2
 ANNULUS 1.1
 TOTAL 1905.2 PUMP PRESSURE 2300.0 % DIFFERENCE 17.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.15	HYDROSTATIC PRESSURE 1092.5
CIRCULATING:	ECD 9.16	CIRCULATING PRESSURE 1093.6
PULLING OUT:	TRIP MARGIN 0.02	ESTIMATED SWAB 2.2
	EFFECTIVE MUD WEIGHT 9.13	BOTTOM HOLE PRESSURE 1090.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 119 SPM 2 100 FLOW RATE 1092

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	19	39	103	LAMINAR	0	38	0.4
DC/OH	0.772	69	34	101	LAMINAR	0	34	0.9
HWDP/OH	0.896	73	29	99	LAMINAR	0	29	0.5
DP/OH	0.896	359	29	99	LAMINAR	0	29	2.6
DP/CSG	1.085	131	24	98	LAMINAR	0	24	0.6
DP/RIS	1.325	104	20	97	LAMINAR	0	20	0.3
TOTAL VOLUME		756			TOTAL PRESSURE DROP		5.3	

LAG: 29.1 MINUTES 3446 STROKES #1 AND 2905 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1193.6 HHP 761 IMPACT FORCE 1982
 % SURFACE PRESSURE 50.8 HHP/sqin 3.16 JET VELOCITY 116

PRESSURE BREAKDOWN:

SURFACE 98.3
 STRING 1061.4
 BIT 1193.6
 ANNULUS 5.3
 TOTAL 2358.7 PUMP PRESSURE 2350.0 % DIFFERENCE 0.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.20	HYDROSTATIC PRESSURE 1255.6
CIRCULATING:	ECD 9.24	CIRCULATING PRESSURE 1260.9
PULLING OUT:	TRIP MARGIN 0.08	ESTIMATED SWAB 10.6
	EFFECTIVE MUD WEIGHT 9.12	BOTTOM HOLE PRESSURE 1245.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 112 SPM 2 0 FLOW RATE 560

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	30	49	99	LAMINAR	0	48	3.0
DC/CSG	0.303	3	44	98	LAMINAR	0	44	0.2
HWDP/CSG	0.427	35	31	93	LAMINAR	0	31	0.8
DP/CSG	0.427	266	31	93	LAMINAR	0	31	6.4
DP/RIS	1.325	104	10	85	LAMINAR	0	10	0.2
TOTAL VOLUME		437			TOTAL PRESSURE DROP		10.6	

LAG: 32.8 MINUTES 3675 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 756.9 HHP 247 IMPACT FORCE 804
 % SURFACE PRESSURE 54.1 HHP/sqin 2.10 JET VELOCITY 93

PRESSURE BREAKDOWN:

SURFACE 29.3
 STRING 342.0
 BIT 756.9
 ANNULUS 10.6
 TOTAL 1138.7 PUMP PRESSURE 1400.0 % DIFFERENCE 18.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.10	HYDROSTATIC PRESSURE 1397.2
CIRCULATING: ECD	9.17	CIRCULATING PRESSURE 1407.9
PULLING OUT: TRIP MARGIN	0.14	ESTIMATED SWAB 21.2
EFFECTIVE MUD WEIGHT	8.96	BOTTOM HOLE PRESSURE 1376.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 82 SPM 2 81 FLOW RATE 815

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	71	99	LAMINAR	0	70	3.7
HWDP/OH	0.398	33	49	93	LAMINAR	0	48	1.1
DP/OH	0.398	4	49	93	LAMINAR	0	48	0.1
DP/CSG	0.427	304	45	92	LAMINAR	0	45	8.5
DP/RIS	1.325	104	15	84	LAMINAR	0	15	0.2
TOTAL VOLUME		477			TOTAL PRESSURE DROP		13.5	

LAG: 24.6 MINUTES 2017 STROKES #1 AND 1992 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1620.7 HHP 770 IMPACT FORCE 1722
 % SURFACE PRESSURE 61.2 HHP/sqin 6.54 JET VELOCITY 135

PRESSURE BREAKDOWN:

SURFACE 58.0
 STRING 711.4
 BIT 1620.7
 ANNULUS 13.5
 TOTAL 2403.6 PUMP PRESSURE 2650.0 % DIFFERENCE 9.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.20	HYDROSTATIC PRESSURE 1569.5
CIRCULATING:	ECD 9.28	CIRCULATING PRESSURE 1583.1
PULLING OUT:	TRIP MARGIN 0.16	ESTIMATED SWAB 27.1
	EFFECTIVE MUD WEIGHT 9.04	BOTTOM HOLE PRESSURE 1542.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1100.0

SPM 1 77 SPM 2 81 FLOW RATE 790

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	69	111	LAMINAR	0	68	4.8
HWDP/OH	0.398	33	47	101	LAMINAR	0	47	1.3
DP/OH	0.398	44	47	101	LAMINAR	0	47	1.7
DP/CSG	0.427	304	44	100	LAMINAR	0	44	10.2
DP/RIS	1.325	104	14	87	LAMINAR	0	14	0.2
TOTAL VOLUME		517			TOTAL PRESSURE DROP		18.3	

LAG: 27.5 MINUTES 2117 STROKES #1 AND 2227 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1572.5 HHP 724 IMPACT FORCE 1671
 % SURFACE PRESSURE 62.9 HHP/sqin 6.15 JET VELOCITY 131

PRESSURE BREAKDOWN:

SURFACE 63.3
 STRING 812.6
 BIT 1572.5
 ANNULUS 18.3
 TOTAL 2466.6 PUMP PRESSURE 2500.0 % DIFFERENCE 1.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.50	HYDROSTATIC PRESSURE 1782.8
CIRCULATING:	ECD 9.60	CIRCULATING PRESSURE 1801.1
PULLING OUT:	TRIP MARGIN 0.19	ESTIMATED SWAB 36.5
	EFFECTIVE MUD WEIGHT 9.31	BOTTOM HOLE PRESSURE 1746.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1200.0

SPM 1 82 SPM 2 82 FLOW RATE 820

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	71	112	LAMINAR	0	71	5.2
HWDP/OH	0.398	33	49	102	LAMINAR	0	49	1.4
DP/OH	0.398	83	49	102	LAMINAR	0	49	3.6
DP/CSG	0.427	304	46	101	LAMINAR	0	46	10.9
DP/RIS	1.325	104	15	88	LAMINAR	0	15	0.2

TOTAL VOLUME 557 TOTAL PRESSURE DROP 21.3

LAG: 28.5 MINUTES 2339 STROKES #1 AND 2339 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1747.7 HHP 836 IMPACT FORCE 1857
 % SURFACE PRESSURE 67.7 HHP/sqin 7.09 JET VELOCITY 136

PRESSURE BREAKDOWN:

SURFACE 70.8
 STRING 950.7
 BIT 1747.7
 ANNULUS 21.3
 TOTAL 2790.4 PUMP PRESSURE 2580.0 % DIFFERENCE 8.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.80	HYDROSTATIC PRESSURE 2006.3
CIRCULATING:	ECD 9.90	CIRCULATING PRESSURE 2027.5
PULLING OUT:	TRIP MARGIN 0.21	ESTIMATED SWAB 42.5
	EFFECTIVE MUD WEIGHT 9.59	BOTTOM HOLE PRESSURE 1963.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1300.0

SPM 1 79 SPM 2 77 FLOW RATE 783

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	68	142	LAMINAR	0	68	7.6
HWDP/OH	0.398	33	47	133	LAMINAR	0	47	2.2
DP/OH	0.398	123	47	133	LAMINAR	0	47	8.4
DP/CSG	0.427	304	44	133	LAMINAR	0	44	17.6
DP/RIS	1.325	104	14	122	LAMINAR	0	14	0.5
TOTAL VOLUME		597	TOTAL PRESSURE DROP					36.2

LAG: 32.0 MINUTES 2542 STROKES #1 AND 2472 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1645.4 HHP 752 IMPACT FORCE 1748
 % SURFACE PRESSURE 56.7 HHP/sqin 6.38 JET VELOCITY 130

PRESSURE BREAKDOWN:

SURFACE 66.9
 STRING 936.3
 BIT 1645.4
 ANNULUS 36.2
 TOTAL 2684.8 PUMP PRESSURE 2900.0 % DIFFERENCE 7.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.10	HYDROSTATIC PRESSURE 2240.0
CIRCULATING:	ECD 10.26	CIRCULATING PRESSURE 2276.2
PULLING OUT:	TRIP MARGIN 0.33	ESTIMATED SWAB 72.3
	EFFECTIVE MUD WEIGHT 9.77	BOTTOM HOLE PRESSURE 2167.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1500.0

SPM 1 76 SPM 2 69 FLOW RATE 728

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	63	126	LAMINAR	0	63	6.1
HWDP/OH	0.398	33	44	115	LAMINAR	0	43	1.7
DP/OH	0.398	203	44	115	LAMINAR	0	43	10.4
DP/CSG	0.427	304	41	115	LAMINAR	0	41	13.2
DP/RIS	1.325	104	13	101	LAMINAR	0	13	0.3
TOTAL VOLUME		676			TOTAL PRESSURE DROP			31.7

LAG: 39.0 MINUTES 2979 STROKES #1 AND 2704 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 2010.6 HHP 854 IMPACT FORCE 1797
 % SURFACE PRESSURE 68.2 HHP/sqin 7.25 JET VELOCITY 143

PRESSURE BREAKDOWN:

SURFACE 59.8
 STRING 906.0
 BIT 2010.6
 ANNULUS 31.7
 TOTAL 3008.1 PUMP PRESSURE 2950.0 % DIFFERENCE 2.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.10	HYDROSTATIC PRESSURE 2584.6
CIRCULATING:	ECD 10.22	CIRCULATING PRESSURE 2616.4
PULLING OUT:	TRIP MARGIN 0.25	ESTIMATED SWAB 63.5
	EFFECTIVE MUD WEIGHT 9.85	BOTTOM HOLE PRESSURE 2521.2

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1600.0

SPM 1 1 SPM 2 105 FLOW RATE 528

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	46	108	LAMINAR	0	46	4.1
HWDP/OH	0.398	33	32	94	LAMINAR	0	31	1.0
DP/OH	0.398	243	32	94	LAMINAR	0	31	7.6
DP/CSG	0.427	304	29	93	LAMINAR	0	29	8.0
DP/RIS	1.325	104	9	76	LAMINAR	0	9	0.2
TOTAL VOLUME		716				TOTAL PRESSURE DROP		20.9

LAG: 56.9 MINUTES 52 STROKES #1 AND 5966 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1057.1 HHP 326 IMPACT FORCE 945
% SURFACE PRESSURE 62.2 HHP/sqin 2.76 JET VELOCITY 104

PRESSURE BREAKDOWN:

SURFACE 35.2
STRING 553.4
BIT 1057.1
ANNULUS 20.9
TOTAL 1666.6 PUMP PRESSURE 1700.0 % DIFFERENCE 2.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.10	HYDROSTATIC PRESSURE 2756.9
CIRCULATING: ECD	10.18	CIRCULATING PRESSURE 2777.8
PULLING OUT: TRIP MARGIN	0.15	ESTIMATED SWAB 41.8
EFFECTIVE MUD WEIGHT	9.95	BOTTOM HOLE PRESSURE 2715.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1700.0

SPM 1 84 SPM 2 68 FLOW RATE 760

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	66	117	LAMINAR	0	66	5.6
HWDP/OH	0.398	33	45	103	LAMINAR	0	45	1.4
DP/OH	0.398	283	45	103	LAMINAR	0	45	12.4
DP/CSG	0.427	304	42	101	LAMINAR	0	42	11.1
DP/RIS	1.325	104	14	85	LAMINAR	0	14	0.2
TOTAL VOLUME		756			TOTAL PRESSURE DROP		30.7	

LAG: 41.8 MINUTES 3492 STROKES #1 AND 2861 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 2187.3 HHP 970 IMPACT FORCE 1955
 % SURFACE PRESSURE 74.1 HHP/sqin 8.23 JET VELOCITY 150

PRESSURE BREAKDOWN:

SURFACE 67.7
 STRING 1103.8
 BIT 2187.3
 ANNULUS 30.7
 TOTAL 3389.5 PUMP PRESSURE 2950.0 % DIFFERENCE 14.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.10	HYDROSTATIC PRESSURE 2929.3
CIRCULATING:	ECD 10.21	CIRCULATING PRESSURE 2959.9
PULLING OUT:	TRIP MARGIN 0.21	ESTIMATED SWAB 61.3
	EFFECTIVE MUD WEIGHT 9.89	BOTTOM HOLE PRESSURE 2867.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1800.0

SPM 1 63 SPM 2 65 FLOW RATE 640

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	56	108	LAMINAR	0	55	4.6
HWDP/OH	0.398	33	38	94	LAMINAR	0	38	1.1
DP/OH	0.398	322	38	94	LAMINAR	0	38	11.2
DP/CSG	0.427	304	36	93	LAMINAR	0	36	8.8
DP/RIS	1.325	104	11	76	LAMINAR	0	11	0.2
TOTAL VOLUME		796			TOTAL PRESSURE DROP		26.0	

LAG: 52.2 MINUTES 3292 STROKES #1 AND 3396 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 2056.3 HHP 767 IMPACT FORCE 1596
 % SURFACE PRESSURE 70.9 HHP/sqin 6.51 JET VELOCITY 145

PRESSURE BREAKDOWN:

SURFACE 49.7
 STRING 838.6
 BIT 2056.3
 ANNU: US 26.0
 TOTAL 2970.5 PUMP PRESSURE 2900.0 % DIFFERENCE 2.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.10	HYDROSTATIC PRESSURE 3101.6
CIRCULATING: ECD	10.18	CIRCULATING PRESSURE 3127.5
PULLING OUT: TRIP MARGIN	0.17	ESTIMATED SWAB 51.9
EFFECTIVE MUD WEIGHT	9.93	BOTTOM HOLE PRESSURE 3049.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1900.0

SPM 1 63 SPM 2 63 FLOW RATE 630

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	55	106	LAMINAR	0	54	5.3
HWDP/OH	0.398	33	38	94	LAMINAR	0	38	1.1
DP/OH	0.398	351	38	94	LAMINAR	0	38	11.9
DP/CSG	0.427	304	35	93	LAMINAR	0	35	8.7
DP/RIS	1.325	104	11	79	LAMINAR	0	11	0.2

TOTAL VOLUME 832 TOTAL PRESSURE DROP 27.2

LAG: 55.5 MINUTES 3496 STROKES #1 AND 3496 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 2177.3 HHP 800 IMPACT FORCE 1609
 % SURFACE PRESSURE 77.1 HHP/sqin 6.79 JET VELOCITY 150

PRESSURE BREAKDOWN:

SURFACE 45.7
 STRING 845.7
 BIT 2177.3
 ANNULUS 27.2
 TOTAL 3095.9 PUMP PRESSURE 2825.0 % DIFFERENCE 9.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.00	HYDROSTATIC PRESSURE 3241.5
CIRCULATING:	ECD 10.08	CIRCULATING PRESSURE 3268.7
PULLING OUT:	TRIP MARGIN 0.17	ESTIMATED SWAB 54.4
	EFFECTIVE MUD WEIGHT 9.83	BOTTOM HOLE PRESSURE 3187.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 2000.0

SPM 1 72 SPM 2 64 FLOW RATE 678

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	59	109	LAMINAR	0	59	5.8
HWDP/OH	0.398	33	41	96	LAMINAR	0	40	1.2
DP/OH	0.398	391	41	96	LAMINAR	0	40	14.3
DP/CSG	0.427	304	38	95	LAMINAR	0	38	9.3
DP/RIS	1.325	104	12	79	LAMINAR	0	12	0.2
TOTAL VOLUME		872				TOTAL PRESSURE DROP		30.8

LAG: 54.0 MINUTES 3899 STROKES #1 AND 3428 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 2527.0 HHP 1000 IMPACT FORCE 1867
 % SURFACE PRESSURE 87.1 HHP/sqin 8.49 JET VELOCITY 162

PRESSURE BREAKDOWN:

SURFACE 54.0
 STRING 1030.9
 BIT 2527.0
 ANNULUS 30.8
 TOTAL 3642.7 PUMP PRESSURE 2900.0 % DIFFERENCE 25.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.00	HYDROSTATIC PRESSURE 3412.1
CIRCULATING:	ECD 10.09	CIRCULATING PRESSURE 3442.9
PULLING OUT:	TRIP MARGIN 0.18	ESTIMATED SWAB 61.6
	EFFECTIVE MUD WEIGHT 9.82	BOTTOM HOLE PRESSURE 3350.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2100.0

SPM 1 65 SPM 2 63 FLOW RATE 640

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	56	109	LAMINAR	0	55	5.7
HWDP/OH	0.398	33	38	96	LAMINAR	0	38	1.2
DP/OH	0.398	431	38	96	LAMINAR	0	38	15.3
DP/CSG	0.427	304	36	95	LAMINAR	0	36	9.0
DP/RIS	1.325	104	12	79	LAMINAR	0	11	0.2
TOTAL VOLUME		912			TOTAL PRESSURE DROP		31.3	

LAG: 59.8 MINUTES 3870 STROKES #1 AND 3793 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 2251.2 HHP 841 IMPACT FORCE 1663
% SURFACE PRESSURE 77.6 HHP/sqin 7.14 JET VELOCITY 152

PRESSURE BREAKDOWN:

SURFACE 48.7
STRING 957.1
BIT 2251.2
ANNULUS 31.3
TOTAL 3288.3 PUMP PRESSURE 2900.0 % DIFFERENCE 13.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.00	HYDROSTATIC PRESSURE 3582.7
CIRCULATING:	ECD 10.09	CIRCULATING PRESSURE 3614.0
PULLING OUT:	TRIP MARGIN 0.17	ESTIMATED SWAB 62.6
	EFFECTIVE MUD WEIGHT 9.83	BOTTOM HOLE PRESSURE 3520.0

CORE LAB

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2200.0

SPM 1 56 SPM 2 66 FLOW RATE 608

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	53	117	LAMINAR	0	53	6.2
HWDP/OH	0.398	33	36	103	LAMINAR	0	36	1.3
DP/OH	0.398	470	36	103	LAMINAR	0	36	18.4
DP/CSG	0.427	304	34	102	LAMINAR	0	34	9.9
DP/RIS	1.325	104	11	85	LAMINAR	0	11	0.2
TOTAL VOLUME		952				TOTAL PRESSURE DROP		35.9

LAG: 65.7 MINUTES 3660 STROKES #1 AND 4337 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 2030.3 HHP 720 IMPACT FORCE 1500
 % SURFACE PRESSURE 75.2 HHP/sqin 6.11 JET VELOCITY 145

PRESSURE BREAKDOWN:

SURFACE 45.0
 STRING 911.1
 BIT 2030.3
 ANNULUS 35.9
 TOTAL 3022.4 PUMP PRESSURE 2700.0 % DIFFERENCE 11.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.00	HYDROSTATIC PRESSURE 3753.3
CIRCULATING: ECD	10.10	CIRCULATING PRESSURE 3789.2
PULLING OUT: TRIP MARGIN	0.19	ESTIMATED SWAB 71.8
EFFECTIVE MUD WEIGHT	9.81	BOTTOM HOLE PRESSURE 3681.4

CORE LAB
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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2300.0

SPM 1 70 SPM 2 65 FLOW RATE 673

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	58	109	LAMINAR	0	58	5.8
HWDP/OH	0.398	33	40	95	LAMINAR	0	40	1.2
DP/OH	0.398	510	40	95	LAMINAR	0	40	18.3
DP/CSG	0.427	304	38	93	LAMINAR	0	37	9.1
DP/RIS	1.325	104	12	77	LAMINAR	0	12	0.2
TOTAL VOLUME		992				TOTAL PRESSURE DROP		34.5

LAG: 61.9 MINUTES 4327 STROKES #1 AND 4005 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 2488.1 HHP 977 IMPACT FORCE 1838
 % SURFACE PRESSURE 80.3 HHP/sqin 8.29 JET VELOCITY 160

PRESSURE BREAKDOWN:

SURFACE 54.0
 STRING 1125.3
 BIT 2488.1
 ANNULUS 34.5
 TOTAL 3702.0 PUMP PRESSURE 3100.0 % DIFFERENCE 19.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	10.00
CIRCULATING:	ECD	10.09
PULLING OUT:	TRIP MARGIN	0.18
	EFFECTIVE MUD WEIGHT	9.82
	HYDROSTATIC PRESSURE	3923.9
	CIRCULATING PRESSURE	3958.4
	ESTIMATED SWAB	69.1
	BOTTOM HOLE PRESSURE	3854.8

COMPUTER DATA LISTING : LIST A

INTERVAL All depth records (data not averaged)

DEPTH. Well depth, in metres

ROP. Rate of penetration, in metres/hour

WOB. Weight on bit, in thousands of pounds

RPM. Rotary speed, in revolutions per minute

MW Mud weight in, in pounds per gallon

"dc" Calculated "d" exponent, corrected
for variations in mud weight in,
using a correction factor of 10 ppg

HOURS. Cumulative bit hours. The number of
hours that the bit has actually been
"on bottom", recorded in decimal hours

TURNS. Cumulative bit turns. The number of turns
made by the bit, while actually "on bottom"

ICOST. Incremental cost per metre, calculated from
the rate of penetration, in A dollars

CCOST. Cumulative cost per metre, calculated from
the drilling time, in A dollars

PP Pore pressure gradient, in equivalent
pounds per gallon. The pressure exerted
by the fluid in the pore spaces of the formation

FG Fracture gradient, in equivalent pounds per
gallon. The pressure required to fracture
the formation, calculated by the DRILL
program using Eaton's equation

It is dependant on the pore pressure, the
overburden gradient and the matrix stress.
This value may be modified by leak-off
information

BIT NUMBER	1	IADC CODE	111	INTERVAL	82.0- 216.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	25 25 25
COST	6350.00	TRIP TIME	1.8	BIT RUN	134.0
TOTAL HOURS	6.98	TOTAL TURNS	25127	CONDITION	T1 B1 G1.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
94.0	16.0	2.0	27	8.6	0.57	0.75	1215	293	1526	8.5	10.9
95.0	17.0	2.0	27	8.6	0.56	0.81	1310	276	1430	8.5	10.9
96.0	60.0	2.0	27	8.6	0.35	0.83	1337	78	1333	8.5	10.9
97.0	19.8	2.0	27	8.6	0.54	0.88	1419	237	1260	8.5	10.9
98.0	17.9	2.0	27	8.6	0.55	0.93	1510	262	1198	8.5	10.9
99.0	20.9	1.8	27	8.6	0.52	0.98	1587	224	1141	8.5	10.9
100.0	20.9	1.0	27	8.6	0.48	1.03	1665	224	1090	8.5	10.9
101.0	21.0	1.0	27	8.6	0.48	1.08	1742	223	1044	8.5	10.9
102.0	20.0	1.0	27	8.6	0.49	1.13	1823	235	1004	8.5	10.9
103.0	3.1	0.5	42	8.6	0.77	1.45	2636	1514	1028	8.5	10.9
104.0	9.1	0.5	41	8.6	0.61	1.56	2906	515	1005	8.5	10.9
106.0	2.8	0.5	41	8.6	0.77	2.26	4634	1648	1058	8.5	10.9
107.0	5.0	0.6	41	8.6	0.71	2.46	5125	936	1053	8.5	11.0
108.0	11.0	1.0	41	8.6	0.64	2.55	5348	426	1029	8.5	11.0
109.0	6.2	1.0	52	8.6	0.76	2.71	5854	760	1019	8.5	11.0
110.0	10.6	1.0	55	8.6	0.69	2.81	6164	444.44	998.78	8.5	11.0
114.0	13.3	1.0	61	8.6	0.67	3.11	7263	353.20	918.08	8.5	11.0
115.0	29.8	1.0	77	8.6	0.58	3.14	7419	157.70	895.04	8.5	11.0
116.0	26.5	1.0	77	8.6	0.60	3.18	7593	177.25	873.93	8.5	11.0
118.0	20.2	2.0	78	8.6	0.71	3.28	8054	232.65	838.30	8.5	11.0
119.0	27.3	0.9	78	8.6	0.59	3.32	8225	172.04	820.30	8.5	11.0
123.0	19.0	0.5	77	8.6	0.60	3.53	9200	246.33	764.30	8.5	11.0
125.0	16.9	0.5	78	8.6	0.61	3.64	9749	276.96	741.63	8.5	11.0
126.0	7.5	0.5	78	8.6	0.73	3.78	10373	625.60	739.00	8.5	11.0
127.0	12.0	0.5	78	8.6	0.66	3.86	10764	392.30	731.29	8.5	11.0
128.0	12.9	0.5	78	8.6	0.65	3.94	11126	362.33	723.27	8.5	11.0
130.0	13.4	3.5	78	8.6	0.85	4.09	11829	351.25	707.77	8.5	11.0
131.0	15.7	4.0	79	8.6	0.84	4.15	12131	298.46	699.42	8.5	11.0
132.0	50.7	4.0	78	8.6	0.62	4.17	12224	92.54	687.28	8.5	11.0
134.0	10.5	1.7	64	8.6	0.77	4.36	12948	445.74	677.99	8.5	11.1
136.0	16.1	2.0	80	8.6	0.75	4.49	13548	291.95	663.69	8.5	11.1
137.0	14.2	2.9	79	8.6	0.81	4.56	13884	331.05	657.64	8.5	11.1
138.0	32.4	3.7	80	8.6	0.69	4.59	14031	144.67	648.48	8.5	11.1
139.0	10.2	3.7	81	8.6	0.91	4.68	14506	460.08	645.18	8.5	11.1
141.0	18.0	3.0	81	8.6	0.78	4.80	15042	260.01	632.12	8.5	11.1
143.0	29.8	3.0	80	8.6	0.69	4.86	15365	157.70	616.57	8.5	11.1
144.0	22.8	3.0	79	8.6	0.73	4.91	15573	205.93	609.94	8.5	11.1
145.0	13.5	3.0	79	8.6	0.83	4.98	15924	346.69	605.76	8.5	11.1
146.0	7.9	4.0	79	8.6	0.96	5.11	16522	594.32	605.59	8.5	11.1
147.0	33.6	4.0	79	8.6	0.69	5.14	16663	139.46	598.41	8.5	11.1
148.0	22.9	4.0	79	8.6	0.76	5.18	16869	204.62	592.45	8.5	11.1
149.0	36.7	4.0	77	8.6	0.67	5.21	16995	127.73	585.51	8.5	11.1
150.0	32.7	4.0	77	8.6	0.70	5.24	17137	143.37	579.01	8.5	11.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
151.0	57.1	4.0	77	8.6	0.59	5.26	17218	82.11	571.81	8.5	11.1
152.0	21.1	4.0	78	8.6	0.78	5.30	17441	222.87	566.82	8.5	11.1
153.0	12.9	4.0	65	8.6	0.83	5.38	17741	362.33	563.94	8.5	11.1
154.0	48.0	4.0	81	8.6	0.63	5.40	17843	97.75	557.47	8.5	11.1
155.0	22.8	4.0	82	8.6	0.77	5.45	18058	205.93	552.65	8.5	11.1
156.0	25.7	4.0	65	8.6	0.71	5.48	18209	182.47	547.65	8.5	11.1
157.0	40.9	4.0	82	8.6	0.67	5.51	18329	114.69	541.88	8.5	11.1
158.0	21.8	4.0	81	8.6	0.78	5.55	18553	215.05	537.58	8.5	11.2
159.0	25.5	4.0	80	8.6	0.75	5.59	18742	183.77	532.98	8.5	11.2
160.0	23.4	4.0	81	8.6	0.77	5.64	18950	200.71	528.72	8.5	11.2
161.0	31.3	4.0	81	8.6	0.71	5.67	19105	149.88	523.93	8.5	11.2
162.0	50.7	4.0	80	8.6	0.62	5.69	19200	92.54	518.53	8.5	11.2
163.0	21.8	4.0	70	8.6	0.75	5.73	19392	215.05	514.79	8.5	11.2
164.0	29.8	4.0	67	8.6	0.69	5.77	19528	157.70	510.43	8.5	11.2
165.0	37.1	4.0	67	8.6	0.65	5.79	19636	126.42	505.81	8.5	11.2
166.0	52.2	4.0	67	8.6	0.58	5.81	19713	89.93	500.86	8.5	11.2
167.0	28.6	4.0	67	8.6	0.70	5.85	19854	164.22	496.90	8.5	11.2
168.0	20.7	4.0	46	8.6	0.68	5.90	19988	226.78	493.75	8.5	11.2
169.0	78.3	4.0	80	8.6	0.54	5.91	20049	59.95	488.77	8.5	11.2
170.0	33.6	4.0	80	8.6	0.70	5.94	20191	139.46	484.80	8.5	11.2
171.0	31.9	4.0	79	8.6	0.71	5.97	20341	147.28	481.01	8.5	11.2
172.0	21.3	4.0	75	8.6	0.77	6.02	20553	220.26	478.11	8.5	11.2
173.0	85.7	4.0	80	8.6	0.52	6.03	20609	54.74	473.46	8.5	11.2
174.0	75.0	4.0	80	8.6	0.55	6.04	20673	62.56	468.99	8.5	11.2
175.0	92.3	4.0	80	8.6	0.51	6.05	20724	50.83	464.49	8.5	11.2
176.0	87.8	4.0	79	8.6	0.52	6.06	20778	53.44	460.12	8.5	11.2
177.0	72.0	4.0	79	8.6	0.55	6.08	20845	65.17	455.96	8.5	11.2
178.0	50.0	4.0	79	8.6	0.62	6.10	20940	93.84	452.19	8.5	11.2
179.0	67.9	4.0	79	8.6	0.56	6.11	21009	69.08	448.24	8.5	11.2
180.0	67.9	4.0	79	8.6	0.57	6.13	21079	69.08	444.37	8.5	11.2
181.0	62.1	4.0	75	8.6	0.57	6.14	21152	75.59	440.65	8.5	11.2
182.0	50.7	4.0	78	8.6	0.62	6.16	21245	92.54	437.17	8.5	11.2
183.0	40.4	4.0	78	8.6	0.66	6.19	21360	116.00	433.99	8.5	11.2
184.0	49.3	4.0	77	8.6	0.62	6.21	21454	95.14	430.66	8.5	11.2
185.0	38.7	4.0	78	8.6	0.67	6.23	21575	121.21	427.66	8.5	11.3
186.0	56.2	4.0	77	8.6	0.60	6.25	21657	83.41	424.35	8.5	11.3
187.0	42.4	4.0	77	8.6	0.65	6.28	21766	110.78	421.36	8.5	11.3
188.0	49.3	4.0	77	8.6	0.62	6.30	21860	95.14	418.29	8.5	11.3
189.0	52.9	4.0	78	8.6	0.61	6.32	21949	88.63	415.21	8.5	11.3
190.0	43.4	4.0	79	8.6	0.65	6.34	22059	108.18	412.36	8.5	11.3
191.0	41.9	4.0	74	8.6	0.64	6.36	22164	112.09	409.61	8.5	11.3
192.0	45.0	4.0	80	8.6	0.64	6.38	22271	104.27	406.83	8.5	11.3
193.0	33.6	4.0	80	8.6	0.70	6.41	22414	139.46	404.42	8.5	11.3
194.0	40.4	4.0	81	8.6	0.66	6.44	22534	116.00	401.85	8.5	11.3
195.0	73.5	4.0	80	8.6	0.55	6.45	22599	63.86	398.86	8.5	11.3
196.0	62.1	4.0	79	8.6	0.58	6.47	22676	75.59	396.02	8.5	11.3
197.0	81.8	4.0	80	8.6	0.53	6.48	22734	57.35	393.08	8.5	11.3
198.0	54.5	4.0	80	8.6	0.61	6.50	22823	86.02	390.43	8.5	11.3
199.0	64.3	4.0	80	8.6	0.58	6.51	22897	72.99	387.72	8.5	11.3
200.0	40.4	4.0	78	8.6	0.66	6.54	23013	116.00	385.41	8.5	11.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
201.0	34.0	4.0	81	8.6	0.70	6.57	23157	138.15	383.34	8.5	11.3
202.0	28.1	4.0	81	8.6	0.73	6.60	23329	166.83	381.53	8.5	11.3
203.0	40.4	4.0	80	8.6	0.66	6.63	23449	116.00	379.34	8.5	11.3
204.0	28.1	4.0	81	8.6	0.73	6.66	23621	166.83	377.59	8.5	11.3
205.0	47.4	4.0	81	8.6	0.64	6.69	23724	99.05	375.33	8.5	11.3
206.0	38.7	4.0	81	8.6	0.67	6.71	23849	121.21	373.28	8.5	11.3
207.0	40.0	4.0	81	8.6	0.67	6.74	23970	117.30	371.23	8.5	11.3
208.0	29.8	4.0	81	8.6	0.72	6.77	24133	157.70	369.54	8.5	11.3
209.0	26.9	4.0	77	8.6	0.73	6.81	24305	174.65	368.00	8.5	11.3
210.0	29.0	4.0	80	8.6	0.72	6.84	24472	161.61	366.39	8.5	11.3
211.0	39.6	4.0	80	8.6	0.67	6.87	24593	118.60	364.47	8.5	11.4
212.0	38.3	4.0	80	8.6	0.67	6.89	24718	122.51	362.61	8.5	11.4
213.0	32.4	4.0	80	8.6	0.70	6.92	24866	144.67	360.95	8.5	11.4
214.0	40.4	4.0	80	8.6	0.66	6.95	24984	116.00	359.09	8.5	11.4
215.0	67.9	4.0	79	8.6	0.57	6.96	25054	69.08	356.91	8.5	11.4
216.0	65.5	4.0	79	8.6	0.57	6.98	25127	71.68	354.78	8.5	11.4

BIT NUMBER	1	IADC CODE	111	INTERVAL	216.0-	806.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20	20 20
COST	2450.00	TRIP TIME	3.9	BIT RUN		590.0
TOTAL HOURS	22.11	TOTAL TURNS	152470	CONDITION	T3 B4 G0.000	

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
217.0	360.0	0.1	69	8.6	0.15	6.98	25138	13.03	396.39	8.5	11.4
218.0	327.3	4.0	154	8.6	0.42	6.99	25167	14.34	393.58	8.5	11.4
220.0	288.0	4.0	156	8.6	0.45	6.99	25232	16.29	388.11	8.5	11.4
222.0	412.0	0.5	140	8.6	0.27	7.00	25272	11.39	382.73	8.5	11.4
224.0	320.0	1.0	135	8.6	0.33	7.00	25323	14.66	377.54	8.5	11.4
226.0	290.0	1.0	135	8.6	0.34	7.01	25379	16.18	372.52	8.5	11.4
228.0	380.0	1.0	137	8.6	0.30	7.02	25422	12.35	367.59	8.5	11.4
233.0	288.0	4.0	122	8.6	0.40	7.03	25549	16.29	355.96	8.5	11.4
234.0	105.9	3.0	91	8.6	0.52	7.04	25601	44.31	353.91	8.5	11.4
235.0	200.0	3.0	153	8.6	0.50	7.05	25647	23.46	351.75	8.5	11.4
236.0	400.0	3.0	149	8.6	0.36	7.05	25669	11.73	349.54	8.5	11.4
237.0	225.0	2.0	152	8.6	0.44	7.05	25710	20.85	347.42	8.5	11.4
238.0	211.8	2.0	150	8.6	0.45	7.06	25752	22.16	345.33	8.5	11.5
239.0	240.0	3.0	153	8.6	0.46	7.06	25791	19.55	343.26	8.5	11.5
240.0	120.0	4.0	153	8.6	0.62	7.07	25867	39.10	341.33	8.5	11.5
241.0	450.0	4.0	148	8.6	0.35	7.07	25887	10.43	339.25	8.5	11.5
242.0	327.3	4.0	143	8.6	0.41	7.08	25913	14.34	337.22	8.5	11.5
243.0	300.0	4.0	141	8.6	0.42	7.08	25941	15.64	335.22	8.5	11.5
244.0	150.0	2.0	149	8.6	0.51	7.09	26000	31.28	333.35	8.5	11.5
245.0	276.9	2.0	149	8.6	0.40	7.09	26033	16.94	331.41	8.5	11.5
246.0	150.0	5.0	127	8.6	0.56	7.10	26083	31.28	329.58	8.5	11.5
247.0	46.8	7.0	135	8.6	0.86	7.12	26257	100.36	328.19	8.5	11.5
248.0	156.5	8.0	137	8.6	0.62	7.13	26310	29.98	326.39	8.5	11.5
249.0	189.5	9.0	132	8.6	0.58	7.13	26351	24.76	324.58	8.5	11.5
250.0	102.9	10.0	136	8.6	0.74	7.14	26431	45.62	322.92	8.5	11.5
251.0	128.6	10.0	137	8.6	0.69	7.15	26495	36.49	321.23	8.5	11.5
252.0	189.5	10.0	138	8.6	0.60	7.15	26539	24.76	319.49	8.5	11.5
253.0	150.0	10.0	133	8.6	0.65	7.16	26592	31.28	317.80	8.5	11.5
254.0	61.0	8.0	132	8.6	0.82	7.18	26721	76.90	316.40	8.5	11.5
255.0	102.9	9.0	132	8.6	0.72	7.19	26798	45.62	314.83	8.5	11.5
256.0	50.0	9.0	134	8.6	0.89	7.21	26959	93.84	313.56	8.5	11.5
257.0	109.1	7.0	138	8.6	0.68	7.22	27035	43.01	312.02	8.5	11.5
258.0	144.0	7.0	131	8.6	0.61	7.22	27089	32.58	310.43	8.5	11.5
259.0	100.0	7.0	132	8.6	0.69	7.23	27169	46.92	308.94	8.5	11.5
260.0	120.0	7.0	133	8.6	0.65	7.24	27235	39.10	307.43	8.5	11.5
261.0	116.1	7.0	136	8.6	0.67	7.25	27305	40.40	305.93	8.5	11.5
262.0	112.5	7.0	137	8.6	0.68	7.26	27378	41.71	304.47	8.5	11.5
263.0	90.0	8.0	135	8.6	0.74	7.27	27468	52.13	303.07	8.5	11.5
264.0	327.3	8.0	146	8.6	0.47	7.27	27495	14.34	301.49	8.5	11.5
265.0	138.5	8.0	133	8.6	0.64	7.28	27553	33.89	300.02	8.5	11.5
266.0	81.8	8.0	137	8.6	0.76	7.29	27653	57.35	298.70	8.5	11.6
267.0	128.6	8.0	137	8.6	0.66	7.30	27717	36.49	297.29	8.5	11.6
268.0	171.4	8.0	139	8.6	0.60	7.31	27766	27.37	295.84	8.5	11.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
269.0	180.0	8.0	137	8.6	0.59	7.31	27811	26.07	294.39	8.5	11.6
270.0	156.5	8.0	137	8.6	0.62	7.32	27864	29.98	292.99	8.5	11.6
271.0	225.0	8.0	137	8.6	0.54	7.32	27900	20.85	291.55	8.5	11.6
272.0	171.4	8.0	136	8.6	0.60	7.33	27948	27.37	290.16	8.5	11.6
273.0	97.3	8.0	134	8.6	0.72	7.34	28030	48.22	288.89	8.5	11.6
274.0	156.5	8.0	134	8.6	0.61	7.34	28082	29.98	287.54	8.5	11.6
275.0	55.4	8.0	141	8.6	0.86	7.36	28235	84.72	286.49	8.5	11.6
276.0	189.5	8.0	139	8.6	0.58	7.37	28278	24.76	285.14	8.5	11.6
277.0	180.0	8.0	138	8.6	0.59	7.37	28325	26.07	283.81	8.5	11.6
278.0	37.1	9.0	143	8.6	0.97	7.40	28556	126.42	283.01	8.5	11.6
279.0	144.0	9.0	141	8.6	0.66	7.41	28615	32.58	281.74	8.5	11.6
281.0	118.0	9.0	141	8.6	0.70	7.42	28758	39.75	279.31	8.5	11.6
282.0	124.1	9.0	140	8.6	0.69	7.43	28825	37.80	278.10	8.5	11.6
283.0	257.1	9.0	145	8.6	0.53	7.44	28859	18.25	276.81	8.5	11.6
284.0	300.0	9.0	147	8.6	0.50	7.44	28888	15.64	275.51	8.5	11.6
286.0	194.6	9.0	140	8.6	0.59	7.45	28975	24.11	273.05	8.5	11.6
287.0	156.5	9.0	136	8.6	0.63	7.46	29027	29.98	271.86	8.5	11.6
289.0	109.1	8.0	140	8.6	0.70	7.47	29181	43.01	269.65	8.5	11.6
290.0	124.1	8.0	143	8.6	0.68	7.48	29250	37.80	268.54	8.5	11.6
291.0	80.0	8.0	141	8.6	0.78	7.49	29355	58.65	267.53	8.5	11.6
292.0	60.0	8.0	141	8.6	0.84	7.51	29497	78.20	266.63	8.5	11.6
293.0	109.1	8.0	140	8.6	0.70	7.52	29573	43.01	265.57	8.5	11.6
294.0	100.0	8.0	140	8.6	0.72	7.53	29657	46.92	264.54	8.5	11.7
295.0	150.0	8.0	138	8.6	0.63	7.54	29712	31.28	263.44	8.5	11.7
296.0	171.4	8.0	139	8.6	0.60	7.54	29761	27.37	262.34	8.5	11.7
297.0	124.1	8.0	141	8.6	0.68	7.55	29830	37.80	261.30	8.5	11.7
298.0	144.0	10.0	139	8.6	0.67	7.56	29887	32.58	260.24	8.5	11.7
299.0	138.5	10.0	138	8.6	0.68	7.57	29947	33.89	259.20	8.5	11.7
300.0	144.0	10.0	139	8.6	0.67	7.57	30005	32.58	258.16	8.5	11.7
301.0	109.1	10.0	139	8.6	0.73	7.58	30081	43.01	257.17	8.5	11.7
302.0	128.6	10.0	139	8.6	0.70	7.59	30146	36.49	256.17	8.5	11.7
303.0	163.6	11.0	146	8.6	0.66	7.60	30199	28.67	255.14	8.5	11.7
305.0	150.0	11.0	143	8.6	0.68	7.61	30314	31.28	253.13	8.5	11.7
306.0	124.1	10.0	140	8.6	0.71	7.62	30381	37.80	252.17	8.5	11.7
307.0	138.5	10.0	142	8.6	0.68	7.62	30443	33.89	251.20	8.5	11.7
308.0	124.1	10.0	141	8.6	0.71	7.63	30511	37.80	250.26	8.5	11.7
309.0	78.3	10.0	143	8.6	0.82	7.64	30620	59.95	249.42	8.5	11.7
310.0	150.0	10.0	142	8.6	0.67	7.65	30677	31.28	248.46	8.5	11.7
311.0	100.0	10.0	145	8.6	0.77	7.66	30764	46.92	247.58	8.5	11.7
312.0	138.5	10.0	145	8.7	0.68	7.67	30827	33.89	246.65	8.5	11.7
313.0	109.1	10.0	146	8.7	0.74	7.68	30908	43.01	245.77	8.5	11.7
314.0	97.3	10.0	144	8.7	0.76	7.69	30996	48.22	244.92	8.5	11.7
315.0	73.5	10.0	143	8.7	0.82	7.70	31114	63.86	244.14	8.5	11.7
316.0	83.7	10.0	145	8.7	0.80	7.71	31217	56.04	243.34	8.5	11.7
317.0	66.7	10.0	141	8.7	0.84	7.73	31344	70.38	242.60	8.5	11.7
318.0	73.5	10.0	141	8.7	0.82	7.74	31459	63.86	241.85	8.5	11.7
319.0	50.7	10.0	144	8.7	0.91	7.76	31630	92.54	241.22	8.5	11.7
320.0	58.1	10.0	146	8.7	0.88	7.78	31781	80.81	240.54	8.5	11.7
321.0	87.8	10.0	143	8.7	0.78	7.79	31879	53.44	239.76	8.5	11.7
322.0	94.7	10.0	144	8.7	0.77	7.80	31970	49.53	238.97	8.5	11.7

DEPTH	ROP	WOB	RPM	MW	"d" "c	HOURS	TURNS	ICOST	CCOST	PP	FG
323.0	81.8	9.0	141	8.7	0.78	7.81	32074	57.35	238.21	8.5	11.8
324.0	70.6	9.0	144	8.7	0.82	7.83	32196	66.47	237.50	8.5	11.8
325.0	83.7	9.0	139	8.7	0.77	7.84	32296	56.04	236.76	8.5	11.8
326.0	55.4	9.0	139	8.7	0.86	7.86	32447	84.72	236.13	8.5	11.8
327.0	62.1	9.0	144	8.7	0.85	7.87	32585	75.59	235.48	8.5	11.8
328.0	70.6	9.0	146	8.7	0.82	7.89	32709	66.47	234.79	8.5	11.8
329.0	112.5	9.0	144	8.7	0.71	7.90	32786	41.71	234.01	8.5	11.8
330.0	92.3	7.0	138	8.7	0.71	7.91	32876	50.83	233.27	8.5	11.8
331.0	163.6	7.0	143	8.7	0.60	7.91	32928	28.67	232.45	8.5	11.8
332.0	163.6	7.0	141	8.7	0.59	7.92	32980	28.67	231.63	8.5	11.8
333.0	138.5	7.0	141	8.7	0.63	7.93	33041	33.89	230.85	8.5	11.8
334.0	150.0	7.0	140	8.7	0.61	7.93	33097	31.28	230.05	8.5	11.8
335.0	120.0	7.0	143	8.7	0.66	7.94	33169	39.10	229.30	8.5	11.8
336.0	156.5	7.0	141	8.7	0.60	7.95	33223	29.98	228.51	8.5	11.8
337.0	150.0	7.0	139	8.7	0.61	7.96	33278	31.28	227.74	8.5	11.8
338.0	138.5	9.0	141	8.8	0.65	7.96	33340	33.89	226.98	8.5	11.8
339.0	144.0	9.0	140	8.8	0.64	7.97	33398	32.58	226.23	8.5	11.8
340.0	90.0	9.0	145	8.8	0.76	7.98	33495	52.13	225.55	8.5	11.8
341.0	171.4	9.0	146	8.8	0.61	7.99	33546	27.37	224.79	8.5	11.8
342.0	102.9	11.0	146	8.8	0.76	8.00	33631	45.62	224.10	8.5	11.8
343.0	90.0	11.0	144	8.8	0.79	8.01	33727	52.13	223.44	8.5	11.8
344.0	138.5	11.0	144	8.8	0.69	8.01	33790	33.89	222.72	8.5	11.8
345.0	105.9	9.0	145	8.8	0.72	8.02	33871	44.31	222.04	8.5	11.8
346.0	138.5	9.0	140	8.8	0.65	8.03	33932	33.89	221.32	8.5	11.8
347.0	150.0	9.0	144	8.8	0.64	8.04	33989	31.28	220.61	8.5	11.8
348.0	138.5	9.0	145	8.9	0.65	8.04	34052	33.89	219.91	8.5	11.8
349.0	116.1	9.0	142	8.9	0.69	8.05	34126	40.40	219.23	8.5	11.8
350.0	225.0	9.0	147	8.9	0.55	8.06	34165	20.85	218.49	8.5	11.8
351.0	124.1	9.0	140	8.9	0.67	8.07	34232	37.80	217.82	8.5	11.8
352.0	102.9	9.0	143	8.9	0.72	8.08	34316	45.62	217.18	8.5	11.9
353.0	97.3	7.0	138	8.9	0.69	8.09	34401	48.22	216.56	8.5	11.9
354.0	60.0	7.0	145	8.9	0.80	8.10	34546	78.20	216.05	8.5	11.9
355.0	100.0	7.0	146	8.9	0.69	8.11	34633	46.92	215.43	8.5	11.9
356.0	37.5	8.0	142	8.9	0.91	8.14	34861	125.12	215.10	8.5	11.9
357.0	61.0	8.0	142	8.9	0.81	8.16	35000	76.90	214.60	8.5	11.9
358.0	23.2	8.0	93	8.9	0.93	8.20	35240	202.02	214.55	8.5	11.9
359.0	76.6	8.0	143	8.9	0.76	8.21	35352	61.26	214.00	8.5	11.9
360.0	124.1	8.0	144	8.9	0.66	8.22	35422	37.80	213.37	8.5	11.9
361.0	76.6	8.0	138	8.9	0.75	8.23	35530	61.26	212.82	8.5	11.9
362.0	90.0	8.0	143	8.9	0.73	8.24	35625	52.13	212.25	8.5	11.9
363.0	138.5	8.0	140	8.9	0.63	8.25	35686	33.89	211.61	8.5	11.9
364.0	85.7	8.0	136	8.9	0.73	8.26	35781	54.74	211.06	8.5	11.9
365.0	100.0	8.0	141	8.9	0.70	8.27	35866	46.92	210.48	8.5	11.9
366.0	100.0	8.0	129	8.9	0.68	8.28	35943	46.92	209.90	8.5	11.9
367.0	54.5	8.0	138	8.9	0.83	8.30	36095	86.02	209.47	8.5	11.9
368.0	66.7	8.0	140	8.9	0.79	8.32	36221	70.38	208.98	8.5	11.9
369.0	110.8	8.0	143	8.9	0.68	8.33	36298	42.36	208.40	8.5	11.9
370.0	85.7	8.0	138	8.9	0.73	8.34	36395	54.74	207.87	8.5	11.9
371.0	102.9	8.0	138	8.9	0.69	8.35	36476	45.62	207.30	8.5	11.9
372.0	53.7	7.0	144	8.9	0.82	8.37	36636	87.32	206.89	8.5	11.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
373.0	124.1	7.0	144	8.9	0.64	8.37	36706	37.80	206.31	8.5	11.9
374.0	116.1	7.0	146	8.9	0.66	8.38	36781	40.40	205.74	8.5	11.9
375.0	87.8	7.0	145	8.8	0.73	8.39	36880	53.44	205.22	8.5	11.9
376.0	120.0	7.0	144	8.8	0.66	8.40	36952	39.10	204.66	8.5	11.9
377.0	105.9	7.0	145	8.8	0.69	8.41	37034	44.31	204.11	8.5	11.9
378.0	45.6	7.0	126	8.8	0.84	8.43	37200	102.96	203.77	8.5	11.9
379.0	112.5	7.0	145	8.8	0.67	8.44	37278	41.71	203.23	8.5	11.9
380.0	211.8	7.0	145	8.8	0.54	8.45	37319	22.16	202.62	8.5	11.9
381.0	300.0	7.0	146	8.8	0.47	8.45	37348	15.64	201.99	8.5	12.0
382.0	300.0	7.0	143	8.8	0.46	8.45	37377	15.64	201.37	8.5	12.0
383.0	240.0	7.0	146	8.8	0.51	8.46	37413	19.55	200.77	8.5	12.0
384.0	72.0	6.0	145	8.8	0.75	8.47	37534	65.17	200.32	8.5	12.0
385.0	65.5	6.0	144	8.8	0.76	8.49	37666	71.68	199.89	8.5	12.0
386.0	116.1	6.0	143	8.8	0.64	8.50	37740	40.40	199.37	8.5	12.0
387.0	52.9	6.0	144	8.8	0.81	8.51	37904	88.63	199.01	8.5	12.0
389.0	167.4	6.0	136	8.8	0.56	8.53	38001	28.02	197.89	8.5	12.0
390.0	41.9	6.0	148	8.8	0.86	8.55	38213	112.09	197.61	8.5	12.0
391.0	120.0	6.0	146	8.8	0.64	8.56	38286	39.10	197.10	8.5	12.0
392.0	81.8	6.0	147	8.8	0.72	8.57	38394	57.35	196.65	8.5	12.0
393.0	85.7	6.0	147	8.8	0.71	8.58	38497	54.74	196.19	8.5	12.0
394.0	46.2	6.0	144	8.8	0.84	8.60	38684	101.66	195.89	8.5	12.0
395.0	97.3	6.0	147	8.8	0.69	8.61	38774	48.22	195.42	8.5	12.0
396.0	150.0	6.0	147	8.8	0.60	8.62	38833	31.28	194.90	8.5	12.0
397.0	225.0	6.0	143	8.8	0.51	8.63	38872	20.85	194.34	8.5	12.0
398.0	163.6	6.0	144	8.8	0.57	8.63	38924	28.67	193.82	8.5	12.0
399.0	102.9	6.0	105	8.8	0.60	8.64	38985	45.62	193.35	8.5	12.0
400.0	63.2	6.0	143	8.8	0.77	8.66	39121	74.29	192.98	8.5	12.0
401.0	240.0	6.0	143	8.8	0.49	8.66	39157	19.55	192.43	8.5	12.0
402.0	189.5	6.0	143	8.8	0.54	8.67	39202	24.76	191.91	8.5	12.0
403.0	102.9	6.0	129	8.8	0.65	8.68	39278	45.62	191.45	8.5	12.0
404.0	53.7	6.0	137	8.8	0.79	8.69	39430	87.32	191.13	8.5	12.0
405.0	81.8	6.0	129	8.8	0.70	8.71	39525	57.35	190.72	8.5	12.0
406.0	70.6	6.0	135	8.8	0.74	8.72	39640	66.47	190.33	8.5	12.0
407.0	87.8	6.0	124	8.8	0.67	8.73	39725	53.44	189.91	8.5	12.0
408.0	78.3	6.0	149	8.8	0.73	8.75	39839	59.95	189.51	8.5	12.0
409.0	47.4	6.0	142	8.8	0.83	8.77	40018	99.05	189.24	8.5	12.0
410.0	70.6	6.0	141	8.8	0.74	8.78	40138	66.47	188.86	8.5	12.0
411.0	49.3	6.0	142	8.8	0.82	8.80	40310	95.14	188.58	8.5	12.0
412.0	67.9	6.0	140	8.8	0.75	8.82	40434	69.08	188.22	8.5	12.1
413.0	42.9	6.0	144	8.8	0.85	8.84	40635	109.48	187.98	8.5	12.1
414.0	87.8	6.0	143	8.8	0.70	8.85	40733	53.44	187.57	8.5	12.1
415.0	58.1	6.0	142	8.8	0.79	8.87	40879	80.81	187.25	8.5	12.1
416.0	21.4	6.0	77	8.8	0.87	8.91	41096	218.96	187.35	8.5	12.1
417.0	133.3	6.0	142	8.8	0.61	8.92	41159	35.19	186.89	8.5	12.1
418.0	55.4	13.0	142	8.8	0.93	8.94	41313	84.72	186.59	8.5	12.1
419.0	120.0	13.0	138	8.8	0.73	8.95	41382	39.10	186.15	8.5	12.1
420.0	90.0	13.0	139	8.8	0.81	8.96	41475	52.13	185.75	8.5	12.1
421.0	124.1	13.0	139	8.8	0.73	8.97	41542	37.80	185.32	8.5	12.1
422.0	65.5	13.0	141	8.8	0.88	8.98	41672	71.68	184.98	8.5	12.1
423.0	92.3	13.0	144	8.8	0.81	8.99	41765	50.83	184.59	8.5	12.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
424.0	50.0	13.0	140	8.8	0.95	9.01	41934	93.84	184.32	8.5	12.1
425.0	109.1	13.0	143	8.8	0.77	9.02	42012	43.01	183.91	8.5	12.1
426.0	49.3	13.0	117	8.8	0.91	9.04	42155	95.14	183.65	8.5	12.1
427.0	97.3	13.0	144	8.8	0.79	9.05	42243	48.22	183.26	8.5	12.1
428.0	85.7	13.0	141	8.8	0.82	9.06	42342	54.74	182.89	8.5	12.1
429.0	48.6	13.0	143	8.8	0.96	9.09	42518	96.45	182.64	8.5	12.1
430.0	133.3	13.0	143	8.8	0.72	9.09	42582	35.19	182.22	8.5	12.1
431.0	70.6	13.0	142	8.8	0.87	9.11	42703	66.47	181.89	8.5	12.1
432.0	81.8	13.0	143	8.8	0.83	9.12	42808	57.35	181.53	8.5	12.1
433.0	62.1	13.0	143	8.8	0.90	9.14	42946	75.59	181.23	8.5	12.1
434.0	80.0	15.0	139	8.8	0.86	9.15	43051	58.65	180.88	8.5	12.1
435.0	47.4	20.0	132	8.8	1.04	9.17	43218	99.05	180.65	8.5	12.1
436.0	80.0	20.0	141	8.8	0.92	9.18	43323	58.65	180.30	8.5	12.1
437.0	60.0	20.0	142	8.8	1.00	9.20	43465	78.20	180.02	8.5	12.1
438.0	46.8	22.0	142	8.8	1.09	9.22	43647	100.36	179.79	8.5	12.1
439.0	85.7	22.0	142	8.8	0.92	9.23	43746	54.74	179.44	8.5	12.1
440.0	76.6	22.0	140	8.8	0.95	9.24	43856	61.26	179.11	8.5	12.1
441.0	78.3	22.0	132	8.8	0.93	9.26	43957	59.95	178.78	8.5	12.1
442.0	109.1	22.0	132	8.8	0.84	9.27	44030	43.01	178.40	8.5	12.2
443.0	70.6	22.0	134	8.9	0.95	9.28	44144	66.47	178.09	8.5	12.2
444.0	90.0	22.0	137	8.9	0.89	9.29	44235	52.13	177.74	8.5	12.2
445.0	19.7	22.0	97	8.9	1.21	9.34	44532	238.51	177.91	8.5	12.2
446.0	80.0	23.0	134	8.9	0.93	9.35	44632	58.65	177.58	8.5	12.2
447.0	47.4	23.0	144	8.9	1.09	9.38	44815	99.05	177.37	8.5	12.2
448.0	156.5	23.0	138	8.9	0.75	9.38	44868	29.98	176.97	8.5	12.2
449.0	70.6	23.0	140	8.9	0.97	9.40	44987	66.47	176.67	8.5	12.2
450.0	61.0	23.0	142	8.9	1.02	9.41	45126	76.90	176.39	8.5	12.2
451.0	70.6	23.0	140	8.9	0.97	9.43	45246	66.47	176.10	8.5	12.2
452.0	66.7	23.0	139	8.9	0.99	9.44	45370	70.38	175.81	8.5	12.2
453.0	50.7	23.0	142	8.9	1.07	9.46	45539	92.54	175.59	8.5	12.2
454.0	23.4	20.0	76	8.9	1.07	9.50	45733	200.71	175.65	8.5	12.2
455.0	76.6	20.0	135	8.9	0.91	9.52	45839	61.26	175.35	8.5	12.2
456.0	53.7	20.0	135	8.8	1.01	9.54	45990	87.32	175.11	8.5	12.2
457.0	76.6	20.0	126	8.9	0.89	9.55	46089	61.26	174.81	8.5	12.2
458.0	60.0	20.0	133	9.0	0.96	9.57	46222	78.20	174.55	8.5	12.2
459.0	57.1	20.0	136	9.0	0.98	9.58	46365	82.11	174.31	8.5	12.2
460.0	64.3	20.0	137	9.0	0.95	9.60	46493	72.99	174.04	8.5	12.2
461.0	57.1	20.0	142	9.1	0.98	9.62	46642	82.11	173.80	8.5	12.2
462.0	81.8	20.0	138	9.1	0.88	9.63	46743	57.35	173.49	8.5	12.2
463.0	38.3	20.0	141	9.1	1.08	9.65	46965	122.51	173.36	8.5	12.2
464.0	27.7	20.0	111	9.1	1.10	9.69	47205	169.43	173.35	8.5	12.2
465.0	65.5	20.0	140	9.1	0.94	9.71	47333	71.68	173.08	8.5	12.2
466.0	38.3	20.0	144	9.1	1.08	9.73	47559	122.51	172.95	8.5	12.2
467.0	29.0	20.0	144	9.1	1.15	9.77	47856	161.61	172.92	8.5	12.2
468.0	87.8	20.0	143	9.1	0.87	9.78	47954	53.44	172.61	8.5	12.2
469.0	65.5	20.0	144	9.1	0.95	9.79	48086	71.68	172.35	8.5	12.2
470.0	64.3	20.0	145	9.1	0.95	9.81	48221	72.99	172.09	8.5	12.2
471.0	52.9	19.0	145	9.2	0.98	9.83	48386	88.63	171.88	8.5	12.2
472.0	65.5	19.0	143	9.2	0.92	9.84	48517	71.68	171.62	8.5	12.2
473.0	56.2	19.0	141	9.2	0.96	9.86	48667	83.41	171.40	8.5	12.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
474.0	34.6	19.0	127	9.2	1.05	9.89	48887	135.55	171.30	8.5	12.3
475.0	73.5	19.0	127	9.2	0.86	9.90	48990	63.86	171.03	8.5	12.3
476.0	69.2	19.0	114	9.2	0.85	9.92	49089	67.77	170.77	8.5	12.3
477.0	56.2	24.0	121	9.2	0.97	9.94	49218	83.41	170.55	8.5	12.3
478.0	72.0	24.0	123	9.2	0.91	9.95	49320	65.17	170.28	8.5	12.3
479.0	83.7	24.0	124	9.2	0.87	9.96	49409	56.04	169.99	8.5	12.3
480.0	63.2	24.0	119	9.2	0.94	9.98	49522	74.29	169.75	8.5	12.3
481.0	57.1	24.0	119	9.2	0.96	9.99	49646	82.11	169.53	8.5	12.3
482.0	59.0	24.0	132	9.2	0.98	10.01	49781	79.50	169.31	8.5	12.3
483.0	34.3	24.0	128	9.2	1.12	10.04	50004	136.85	169.23	8.5	12.3
484.0	87.8	24.0	110	9.2	0.83	10.05	50079	53.44	168.94	8.5	12.3
485.0	48.6	24.0	118	9.2	1.00	10.07	50225	96.45	168.76	8.5	12.3
486.0	64.3	24.0	119	9.2	0.93	10.09	50336	72.99	168.52	8.5	12.3
487.0	55.4	24.0	108	9.2	0.95	10.11	50453	84.72	168.32	8.5	12.3
488.0	42.4	29.0	119	9.2	1.09	10.13	50622	110.78	168.17	8.5	12.3
489.0	42.9	29.0	132	9.2	1.12	10.15	50806	109.48	168.03	8.5	12.3
490.0	24.3	29.0	119	9.2	1.25	10.19	51099	192.89	168.09	8.5	12.3
491.0	59.0	29.0	111	9.2	0.98	10.21	51212	79.50	167.87	8.5	12.3
492.0	19.1	29.0	103	9.2	1.27	10.26	51534	245.03	168.06	8.5	12.3
493.0	75.0	29.0	130	9.2	0.96	10.28	51638	62.56	167.81	8.5	12.3
494.0	61.0	29.0	114	9.2	0.98	10.29	51751	76.90	167.58	8.5	12.3
495.0	65.5	29.0	101	9.2	0.93	10.31	51843	71.68	167.35	8.5	12.3
496.0	51.4	25.0	106	9.2	0.97	10.33	51967	91.23	167.17	8.5	12.3
497.0	64.3	25.0	121	9.2	0.94	10.34	52079	72.99	166.94	8.5	12.3
498.0	50.7	25.0	126	9.2	1.02	10.36	52228	92.54	166.76	8.5	12.3
499.0	60.0	25.0	123	9.2	0.97	10.38	52351	78.20	166.55	8.5	12.3
500.0	58.1	25.0	120	9.2	0.97	10.40	52475	80.81	166.35	8.5	12.3
501.0	67.9	20.0	118	9.2	0.88	10.41	52580	69.08	166.11	8.5	12.3
502.0	39.1	20.0	83	9.2	0.93	10.44	52708	119.91	166.00	8.5	12.3
503.0	42.9	20.0	126	9.2	1.01	10.46	52884	109.48	165.87	8.5	12.3
504.0	47.4	20.0	130	9.2	0.99	10.48	53048	99.05	165.71	8.5	12.3
505.0	46.2	20.0	132	9.2	1.00	10.50	53220	101.66	165.56	8.5	12.3
506.0	37.1	25.0	137	9.2	1.13	10.53	53441	126.42	165.47	8.5	12.4
507.0	48.6	25.0	135	9.2	1.05	10.55	53608	96.45	165.30	8.5	12.4
508.0	45.0	25.0	134	9.2	1.07	10.57	53787	104.27	165.16	8.5	12.4
509.0	109.1	25.0	128	9.2	0.82	10.58	53857	43.01	164.87	8.5	12.4
510.0	59.0	25.0	134	9.2	1.00	10.60	53993	79.50	164.68	8.5	12.4
511.0	61.0	25.0	130	9.2	0.98	10.62	54121	76.90	164.47	8.5	12.4
512.0	30.5	25.0	124	9.2	1.15	10.65	54364	153.79	164.45	8.5	12.4
513.0	78.3	25.0	121	9.2	0.89	10.66	54457	59.95	164.20	8.5	12.4
514.0	63.2	25.0	124	9.2	0.96	10.68	54575	74.29	164.00	8.5	12.4
515.0	39.1	25.0	130	9.2	1.10	10.70	54775	119.91	163.89	8.5	12.4
516.0	57.1	25.0	126	9.2	0.99	10.72	54907	82.11	163.71	8.5	12.4
517.0	80.0	25.0	134	9.2	0.92	10.73	55007	58.65	163.46	8.5	12.4
518.0	56.2	26.0	137	9.2	1.03	10.75	55154	83.41	163.28	8.5	12.4
519.0	38.7	26.0	139	9.2	1.13	10.78	55368	121.21	163.18	8.5	12.4
520.0	65.5	26.0	139	9.2	0.99	10.79	55495	71.68	162.97	8.5	12.4
521.0	61.0	26.0	121	9.2	0.97	10.81	55614	76.90	162.78	8.5	12.4
522.0	63.2	26.0	126	9.2	0.97	10.82	55734	74.29	162.58	8.5	12.4
523.0	64.3	26.0	119	9.2	0.95	10.84	55845	72.99	162.37	8.5	12.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
524.0	65.5	26.0	131	9.2	0.97	10.85	55965	71.68	162.17	8.5	12.4
525.0	52.2	26.0	133	9.2	1.04	10.87	56118	89.93	162.01	8.5	12.4
526.0	63.2	26.0	137	9.2	0.99	10.89	56248	74.29	161.81	8.5	12.4
527.0	56.2	26.0	129	9.2	1.01	10.91	56386	83.41	161.63	8.5	12.4
528.0	52.3	25.6	130	9.2	1.03	10.93	56536	89.67	161.47	8.5	12.4
529.0	49.0	25.0	125	9.2	1.03	10.95	56689	95.76	161.32	8.5	12.4
530.0	52.0	25.0	125	9.2	1.01	10.97	56833	90.23	161.17	8.5	12.4
531.0	47.0	25.0	125	9.2	1.04	10.99	56992	99.83	161.03	8.5	12.4
532.0	72.0	25.0	125	9.2	0.92	11.00	57097	65.17	160.82	8.5	12.4
533.0	73.0	25.0	125	9.2	0.92	11.02	57199	64.27	160.60	8.5	12.4
534.0	56.0	25.0	125	9.2	0.99	11.03	57333	83.79	160.43	8.5	12.4
535.0	64.0	25.0	125	9.2	0.96	11.05	57450	73.31	160.24	8.5	12.4
536.0	32.0	25.0	125	9.2	1.14	11.08	57685	146.63	160.21	8.5	12.4
537.0	52.0	25.0	125	9.2	1.01	11.10	57829	90.23	160.06	8.5	12.4
538.0	52.0	25.0	125	9.2	1.01	11.12	57973	90.23	159.90	8.5	12.4
539.0	49.0	25.0	125	9.2	1.03	11.14	58126	95.76	159.76	8.5	12.5
540.0	31.0	25.0	125	9.2	1.15	11.17	58368	151.35	159.74	8.5	12.5
541.0	44.0	25.0	125	9.2	1.06	11.19	58539	106.64	159.63	8.5	12.5
542.0	72.0	25.0	125	9.2	0.92	11.21	58643	65.17	159.42	8.5	12.5
544.0	80.0	20.0	146	9.2	0.89	11.23	58861	58.65	158.99	8.5	12.5
545.0	37.5	20.0	145	9.2	1.08	11.26	59093	125.12	158.91	8.5	12.5
546.0	21.6	20.0	145	9.2	1.22	11.31	59498	217.66	159.04	8.5	12.5
547.0	35.6	20.0	146	9.2	1.09	11.33	59743	131.64	158.98	8.5	12.5
548.0	60.0	20.0	145	9.2	0.96	11.35	59887	78.20	158.81	8.5	12.5
549.0	66.7	20.0	145	9.2	0.93	11.37	60018	70.38	158.62	8.5	12.5
550.0	22.6	19.0	140	9.2	1.18	11.41	60390	207.23	158.72	8.5	12.5
551.0	72.0	19.0	143	9.2	0.90	11.42	60509	65.17	158.52	8.5	12.5
552.0	85.7	19.0	143	9.2	0.86	11.44	60609	54.74	158.30	8.5	12.5
553.0	21.8	19.0	145	9.2	1.20	11.48	61009	215.05	158.42	8.5	12.5
554.0	102.9	19.0	141	9.2	0.81	11.49	61091	45.62	158.18	8.5	12.5
555.0	78.3	19.0	143	9.2	0.88	11.50	61201	59.95	157.98	8.5	12.5
556.0	29.0	19.0	143	9.2	1.13	11.54	61497	161.61	157.98	8.5	12.5
557.0	51.4	19.0	142	9.2	0.98	11.56	61663	91.23	157.84	8.5	12.5
558.0	31.0	19.0	144	9.2	1.11	11.59	61941	151.19	157.83	8.5	12.5
559.0	60.0	19.0	145	9.2	0.95	11.61	62086	78.20	157.66	8.5	12.5
560.0	133.3	18.0	144	9.2	0.74	11.61	62151	35.19	157.41	8.5	12.5
561.0	31.0	18.0	148	9.2	1.11	11.65	62438	151.19	157.39	8.5	12.5
562.0	17.0	18.0	148	9.2	1.25	11.70	62962	276.31	157.64	8.5	12.5
563.0	128.6	18.0	142	9.2	0.74	11.71	63028	36.49	157.39	8.5	12.5
564.0	171.4	18.0	144	9.2	0.68	11.72	63078	27.37	157.12	8.5	12.5
565.0	40.9	18.0	146	9.2	1.03	11.74	63292	114.69	157.03	8.5	12.5
566.0	102.9	18.0	142	9.2	0.80	11.75	63375	45.62	156.80	8.5	12.5
567.0	28.3	26.0	147	9.2	1.23	11.79	63686	165.52	156.82	8.5	12.5
568.0	54.5	26.0	110	9.2	0.97	11.81	63807	86.02	156.67	8.5	12.5
569.0	22.6	26.0	118	9.2	1.23	11.85	64119	207.23	156.78	8.5	12.5
570.0	25.0	26.0	135	9.2	1.24	11.89	64443	187.68	156.84	8.5	12.5
571.0	52.9	26.0	146	9.2	1.06	11.91	64609	88.63	156.70	8.5	12.5
572.0	27.9	26.0	145	9.2	1.23	11.95	64919	168.13	156.72	8.5	12.6
573.0	20.2	26.0	147	9.2	1.32	11.99	65357	231.99	156.88	8.5	12.6
574.0	37.9	28.0	146	9.2	1.17	12.02	65589	123.82	156.81	8.5	12.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
575.0	94.7	28.0	145	9.2	0.92	12.03	65681	49.53	156.59	8.5	12.6
576.0	14.1	28.0	147	9.2	1.44	12.10	66307	332.35	156.95	8.5	12.6
577.0	50.7	28.0	145	9.2	1.09	12.12	66479	92.54	156.82	8.5	12.6
578.0	44.4	28.0	146	9.2	1.13	12.14	66676	105.57	156.71	8.5	12.6
579.0	20.8	28.0	144	9.2	1.33	12.19	67091	225.48	156.85	8.5	12.6
580.0	42.9	28.0	143	9.2	1.13	12.22	67290	109.48	156.76	8.5	12.6
581.0	36.7	28.0	140	9.2	1.17	12.24	67519	127.73	156.70	8.5	12.6
582.0	34.6	28.0	140	9.2	1.18	12.27	67762	135.55	156.66	8.5	12.6
583.0	45.6	28.0	141	9.2	1.11	12.29	67948	102.96	156.55	8.5	12.6
584.0	45.0	28.0	142	9.2	1.11	12.32	68137	104.27	156.45	8.5	12.6
585.0	40.9	28.0	141	9.2	1.14	12.34	68344	114.69	156.36	8.5	12.6
586.0	48.0	28.0	142	9.2	1.10	12.36	68522	97.75	156.25	8.5	12.6
587.0	30.5	28.0	142	9.2	1.22	12.39	68801	153.79	156.24	8.5	12.6
588.0	17.8	28.0	141	9.2	1.37	12.45	69277	263.27	156.45	8.5	12.6
589.0	52.9	28.0	140	9.2	1.07	12.47	69435	88.63	156.32	8.5	12.6
590.0	43.4	28.0	142	9.2	1.12	12.49	69631	108.18	156.23	8.5	12.6
591.0	41.4	28.0	141	9.2	1.14	12.52	69835	113.39	156.14	8.5	12.6
592.0	90.0	28.0	132	9.2	0.90	12.53	69923	52.13	155.94	8.5	12.6
593.0	62.1	28.0	140	9.2	1.02	12.54	70058	75.59	155.78	8.5	12.6
594.0	33.6	28.0	142	9.2	1.19	12.57	70311	139.46	155.75	8.5	12.6
595.0	38.3	28.0	142	9.2	1.16	12.60	70533	122.51	155.68	8.5	12.6
596.0	36.0	28.0	144	9.2	1.18	12.63	70774	130.33	155.63	8.5	12.6
597.0	64.3	28.0	139	9.2	1.01	12.64	70904	72.99	155.47	8.5	12.6
598.0	25.5	28.0	132	9.2	1.25	12.68	71213	183.77	155.53	8.5	12.6
599.0	25.5	28.0	145	9.2	1.28	12.72	71553	183.77	155.58	8.5	12.6
600.0	29.0	25.0	144	9.2	1.21	12.76	71851	161.61	155.59	8.5	12.6
601.0	52.2	25.0	143	9.2	1.05	12.77	72015	89.93	155.47	8.5	12.6
602.0	22.0	25.0	143	9.2	1.28	12.82	72406	213.75	155.58	8.5	12.6
603.0	37.1	25.0	143	9.2	1.14	12.85	72637	126.42	155.52	8.5	12.6
604.0	31.6	25.0	143	9.2	1.18	12.88	72909	148.58	155.51	8.5	12.6
605.0	22.6	25.0	144	9.2	1.27	12.92	73289	207.23	155.61	8.5	12.6
606.0	41.9	25.0	143	9.2	1.11	12.95	73495	112.09	155.53	8.5	12.6
607.0	16.2	25.0	141	9.2	1.35	13.01	74016	289.34	155.78	8.5	12.7
608.0	22.5	25.0	144	9.2	1.27	13.05	74399	208.53	155.88	8.5	12.7
609.0	47.4	25.0	140	9.2	1.07	13.07	74577	99.05	155.77	8.5	12.7
610.0	39.6	25.0	142	9.2	1.12	13.10	74793	118.60	155.70	8.5	12.7
611.0	40.9	25.0	140	9.2	1.11	13.12	74999	114.69	155.63	8.5	12.7
612.0	32.1	25.0	142	9.2	1.17	13.16	75263	145.97	155.61	8.5	12.7
615.0	34.0	25.0	140	9.2	1.16	13.24	76004	138.00	155.51	8.5	12.7
617.0	28.8	24.0	147	9.2	1.20	13.31	76616	162.92	155.54	8.5	12.7
618.0	22.4	24.0	145	9.2	1.27	13.36	77006	209.84	155.64	8.5	12.7
619.0	36.7	24.0	144	9.2	1.13	13.38	77240	127.73	155.59	8.5	12.7
620.0	37.9	24.0	142	9.2	1.12	13.41	77464	123.82	155.53	8.5	12.7
621.0	36.4	25.0	142	9.2	1.14	13.44	77699	129.03	155.48	8.5	12.7
622.0	20.1	25.0	145	9.2	1.30	13.49	78132	233.30	155.62	8.5	12.7
623.0	24.8	25.0	146	9.2	1.25	13.53	78484	188.98	155.68	8.5	12.7
624.0	26.9	25.0	145	9.2	1.23	13.57	78808	174.65	155.72	8.5	12.7
625.0	30.8	25.0	146	9.2	1.19	13.60	79093	152.49	155.71	8.5	12.7
626.0	32.4	25.0	147	9.2	1.18	13.63	79364	144.67	155.69	8.5	12.7
627.0	24.2	23.0	141	9.2	1.22	13.67	79714	194.20	155.76	8.5	12.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
628.0	34.6	23.0	144	9.2	1.14	13.70	79964	135.55	155.73	8.5	12.7
629.0	35.3	25.0	145	9.2	1.16	13.73	80211	132.94	155.68	8.5	12.7
630.0	29.0	25.0	146	9.2	1.21	13.76	80513	161.61	155.69	8.5	12.7
631.0	26.9	25.0	147	9.2	1.23	13.80	80841	174.65	155.73	8.5	12.7
632.0	36.4	25.0	146	9.2	1.15	13.83	81083	129.03	155.68	8.5	12.7
633.0	11.9	25.0	148	9.2	1.45	13.91	81828	394.91	156.12	8.5	12.7
634.0	35.3	25.0	145	9.2	1.16	13.94	82075	132.94	156.07	8.5	12.7
635.0	24.8	25.0	145	9.2	1.25	13.98	82426	188.98	156.13	8.5	12.7
636.0	22.6	26.0	141	9.2	1.28	14.02	82799	207.23	156.22	8.5	12.7
637.0	33.0	26.0	149	9.2	1.19	14.05	83070	142.06	156.20	8.5	12.7
638.0	34.3	26.0	146	9.2	1.18	14.08	83326	136.85	156.16	8.5	12.7
639.0	34.0	26.0	144	9.2	1.17	14.11	83580	138.15	156.13	8.5	12.7
640.0	30.0	26.0	145	9.2	1.21	14.15	83869	156.40	156.13	8.5	12.7
641.0	31.3	26.0	144	9.2	1.20	14.18	84144	149.88	156.12	8.5	12.7
642.0	30.0	26.0	142	9.2	1.20	14.21	84428	156.40	156.12	8.5	12.8
643.0	31.0	26.0	143	9.2	1.20	14.24	84705	151.19	156.11	8.5	12.8
644.0	34.0	26.0	141	9.2	1.17	14.27	84955	138.15	156.08	8.5	12.8
645.0	36.0	26.0	139	9.2	1.15	14.30	85186	130.33	156.04	8.5	12.8
646.0	16.2	26.0	128	9.1	1.35	14.36	85661	289.34	156.27	8.5	12.8
647.0	31.3	26.0	141	9.1	1.20	14.39	85931	149.88	156.26	8.5	12.8
648.0	27.9	26.0	137	9.1	1.22	14.43	86226	168.13	156.28	8.5	12.8
649.0	31.9	26.0	140	9.1	1.19	14.46	86490	147.28	156.27	8.5	12.8
650.0	28.3	26.0	138	9.1	1.22	14.50	86783	165.52	156.28	8.5	12.8
651.0	25.9	26.0	137	9.1	1.24	14.54	87100	181.16	156.33	8.5	12.8
652.0	31.9	26.0	143	9.1	1.20	14.57	87370	147.28	156.31	8.5	12.8
653.0	24.3	26.0	144	9.1	1.27	14.61	87726	192.89	156.37	8.5	12.8
654.0	27.9	26.0	143	9.1	1.23	14.64	88034	168.13	156.39	8.5	12.8
655.0	37.5	26.0	144	9.1	1.15	14.67	88264	125.12	156.34	8.5	12.8
656.0	19.9	26.0	141	9.1	1.32	14.72	88691	235.90	156.48	8.5	12.8
657.0	20.3	26.0	144	9.1	1.32	14.77	89115	230.69	156.61	8.5	12.8
658.0	25.5	26.0	143	9.1	1.26	14.81	89450	183.77	156.65	8.5	12.8
659.0	31.9	26.0	144	9.1	1.20	14.84	89721	147.28	156.64	8.5	12.8
660.0	26.1	26.0	144	9.1	1.25	14.88	90052	179.86	156.68	8.5	12.8
661.0	22.6	26.0	145	9.1	1.29	14.92	90436	207.23	156.77	8.5	12.8
662.0	25.2	26.0	144	9.1	1.26	14.96	90780	186.38	156.82	8.5	12.8
663.0	34.6	26.0	144	9.1	1.18	14.99	91030	135.55	156.78	8.5	12.8
664.0	19.8	26.0	145	9.1	1.33	15.04	91470	237.21	156.92	8.5	12.8
665.0	23.8	26.0	143	9.1	1.28	15.08	91830	196.80	156.99	8.5	12.8
666.0	31.9	26.0	140	9.1	1.19	15.12	92094	147.28	156.97	8.5	12.8
667.0	25.9	26.0	141	9.1	1.25	15.15	92421	181.16	157.01	8.5	12.8
668.0	22.5	26.0	143	9.1	1.29	15.20	92802	208.53	157.10	8.5	12.8
669.0	16.1	26.0	146	9.1	1.39	15.26	93347	291.95	157.33	8.5	12.8
670.0	25.7	26.0	146	9.1	1.26	15.30	93689	182.47	157.37	8.5	12.8
671.0	29.5	26.0	146	9.1	1.22	15.33	93986	159.01	157.37	8.5	12.8
672.0	20.2	26.0	147	9.1	1.33	15.38	94422	231.99	157.50	8.5	12.8
673.0	21.8	26.0	147	9.1	1.31	15.43	94827	215.05	157.60	8.5	12.8
674.0	23.1	26.0	147	9.1	1.29	15.47	95209	203.32	157.68	8.5	12.8
675.0	19.6	26.0	141	9.1	1.33	15.52	95642	239.81	157.81	8.5	12.8
676.0	23.2	26.0	144	9.1	1.29	15.57	96015	202.02	157.89	8.5	12.8
677.0	21.1	26.0	145	9.1	1.32	15.61	96429	222.87	158.00	8.5	12.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
678.0	24.2	26.0	145	9.1	1.28	15.66	96789	194.20	158.06	8.5	12.9
679.0	21.2	26.0	145	9.1	1.32	15.70	97201	221.57	158.17	8.5	12.9
680.0	24.7	26.0	144	9.1	1.27	15.74	97551	190.29	158.22	8.5	12.9
681.0	23.4	26.0	144	9.1	1.29	15.79	97921	200.71	158.29	8.5	12.9
682.0	17.8	26.0	145	9.1	1.37	15.84	98410	263.27	158.46	8.5	12.9
683.0	18.0	26.0	146	9.1	1.36	15.90	98897	260.67	158.63	8.5	12.9
684.0	19.8	26.0	145	9.1	1.34	15.95	99337	237.21	158.77	8.5	12.9
685.0	18.5	26.0	144	9.1	1.35	16.00	99804	254.15	158.92	8.5	12.9
686.0	19.8	26.0	144	9.1	1.34	16.05	100241	237.21	159.05	8.5	12.9
687.0	15.2	26.0	145	9.1	1.41	16.12	100816	308.89	159.30	8.5	12.9
688.0	17.0	27.0	146	9.1	1.38	16.18	101330	276.31	159.49	8.5	12.9
689.0	17.8	27.0	146	9.1	1.37	16.23	101821	263.27	159.66	8.5	12.9
690.0	15.1	27.0	146	9.1	1.42	16.30	102402	311.50	159.91	8.5	12.9
691.0	16.8	27.0	146	9.1	1.39	16.36	102920	278.91	160.11	8.5	12.9
692.0	18.5	27.0	146	9.1	1.36	16.41	103394	254.15	160.26	8.5	12.9
693.0	17.8	27.0	146	9.1	1.37	16.47	103886	263.27	160.43	8.5	12.9
694.0	19.6	27.0	143	9.1	1.34	16.52	104324	239.81	160.56	8.5	12.9
695.0	21.7	27.0	139	9.1	1.31	16.57	104710	216.35	160.65	8.5	12.9
696.0	29.8	27.0	139	9.1	1.22	16.60	104991	157.70	160.65	8.5	12.9
697.0	26.7	27.0	142	9.1	1.25	16.64	105311	175.95	160.67	8.5	12.9
698.0	28.3	27.0	144	9.1	1.24	16.67	105614	165.52	160.68	8.5	12.9
699.0	25.0	27.0	143	9.1	1.27	16.71	105958	187.68	160.73	8.5	12.9
700.0	23.5	27.0	145	9.1	1.29	16.76	106327	199.41	160.79	8.5	12.9
701.0	27.7	27.0	143	9.1	1.25	16.79	106637	169.43	160.80	8.5	12.9
702.0	22.0	29.0	144	9.1	1.33	16.84	107029	213.75	160.89	8.5	12.9
703.0	15.5	27.0	146	9.1	1.41	16.90	107595	303.68	161.12	8.5	12.9
704.0	17.4	28.0	141	9.1	1.38	16.96	108081	269.79	161.29	8.5	12.9
705.0	24.5	28.0	142	9.1	1.29	17.00	108428	191.59	161.34	8.5	12.9
706.0	25.5	28.0	140	9.1	1.28	17.04	108758	183.77	161.38	8.5	12.9
707.0	27.5	27.0	142	9.1	1.25	17.08	109068	170.74	161.39	8.5	12.9
708.0	21.8	27.0	142	9.1	1.31	17.12	109458	215.05	161.48	8.5	12.9
709.0	19.1	27.0	143	9.1	1.35	17.17	109906	245.03	161.61	8.5	12.9
710.0	22.9	27.0	143	9.1	1.30	17.22	110279	204.62	161.68	8.5	12.9
711.0	17.9	27.0	143	9.1	1.37	17.27	110758	261.97	161.84	8.5	12.9
712.0	21.8	27.0	144	9.1	1.31	17.32	111153	215.05	161.92	8.5	12.9
713.0	17.6	27.0	138	9.1	1.36	17.38	111622	267.18	162.09	8.5	12.9
714.0	17.2	27.0	144	9.1	1.38	17.43	112124	272.40	162.26	8.5	12.9
715.0	18.9	27.0	144	9.1	1.35	17.49	112580	247.63	162.40	8.5	13.0
716.0	24.3	27.0	143	9.1	1.28	17.53	112931	192.89	162.45	8.5	13.0
717.0	31.6	27.0	144	9.1	1.21	17.56	113205	148.58	162.43	8.5	13.0
718.0	22.0	27.0	143	9.1	1.31	17.61	113597	213.75	162.51	8.5	13.0
719.0	21.6	27.0	143	9.1	1.31	17.65	113995	217.66	162.59	8.5	13.0
720.0	18.9	27.0	142	9.1	1.36	17.70	114447	247.63	162.73	8.5	13.0
721.0	18.7	27.0	141	9.1	1.36	17.76	114901	251.54	162.86	8.5	13.0
722.0	18.8	27.0	139	9.1	1.35	17.81	115348	250.24	163.00	8.5	13.0
723.0	25.5	27.0	135	9.1	1.26	17.85	115666	183.77	163.03	8.5	13.0
724.0	26.5	27.0	133	9.1	1.25	17.89	115967	177.25	163.06	8.5	13.0
725.0	22.9	27.0	130	9.1	1.28	17.93	116307	204.62	163.12	8.5	13.0
726.0	17.4	27.0	142	9.1	1.38	17.99	116796	269.79	163.29	8.5	13.0
727.0	18.8	28.0	144	9.1	1.37	18.04	117256	249.57	163.42	8.5	13.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
728.0	20.8	28.0	146	9.1	1.35	18.09	117677	225.58	163.52	8.5	13.0
729.0	23.2	28.0	146	9.1	1.32	18.13	118054	202.24	163.58	8.5	13.0
730.0	24.3	28.0	146	9.1	1.31	18.18	118415	193.09	163.62	8.5	13.0
731.0	30.5	28.0	146	9.1	1.24	18.21	118702	153.84	163.61	8.5	13.0
732.0	27.3	28.0	146	9.1	1.27	18.24	119023	171.87	163.62	8.5	13.0
733.0	21.2	28.0	146	9.1	1.34	18.29	119436	221.32	163.71	8.5	13.0
734.0	28.6	28.0	146	9.1	1.26	18.33	119742	164.06	163.71	8.5	13.0
735.0	29.3	28.0	146	9.1	1.25	18.36	120041	160.14	163.70	8.5	13.0
736.0	24.3	28.0	146	9.1	1.31	18.40	120402	193.09	163.75	8.5	13.0
737.0	22.5	28.0	146	9.1	1.33	18.45	120791	208.53	163.82	8.5	13.0
738.0	24.5	28.0	146	9.1	1.30	18.49	121149	191.51	163.86	8.5	13.0
739.0	23.8	28.0	146	9.1	1.31	18.53	121517	197.14	163.91	8.5	13.0
740.0	20.5	28.0	146	9.1	1.35	18.58	121944	228.88	164.01	8.5	13.0
741.0	20.5	28.0	146	9.1	1.35	18.63	122371	228.88	164.11	8.5	13.0
742.0	25.1	28.0	146	9.1	1.30	18.67	122720	186.93	164.14	8.5	13.0
743.0	19.3	28.0	146	9.1	1.37	18.72	123174	243.11	164.26	8.5	13.0
744.0	28.3	28.0	146	9.1	1.26	18.75	123484	165.80	164.26	8.5	13.0
745.0	14.0	28.0	146	9.1	1.46	18.83	124110	335.14	164.52	8.5	13.0
746.0	12.6	28.0	146	9.1	1.49	18.90	124805	372.38	164.83	8.5	13.0
747.0	12.9	28.0	146	9.1	1.48	18.98	125484	363.72	165.13	8.5	13.0
748.0	19.3	28.0	146	9.1	1.37	19.03	125938	243.11	165.25	8.5	13.0
749.0	22.5	28.0	146	9.1	1.33	19.08	126327	208.53	165.31	8.5	13.0
750.0	15.2	28.0	146	9.1	1.44	19.14	126903	308.68	165.53	8.5	13.0
751.0	38.7	28.0	135	9.1	1.16	19.17	127113	121.24	165.46	8.5	13.0
752.0	17.5	28.0	135	9.1	1.38	19.23	127576	268.11	165.62	8.5	13.1
753.0	20.0	28.0	135	9.1	1.34	19.28	127981	234.60	165.72	8.5	13.1
754.0	15.3	28.0	138	9.1	1.42	19.34	128522	306.67	165.93	8.5	13.1
755.0	15.1	28.0	138	9.1	1.42	19.41	129070	310.73	166.14	8.5	13.1
756.0	14.4	28.0	138	9.1	1.44	19.48	129645	325.83	166.38	8.5	13.1
757.0	22.1	28.0	146	9.1	1.33	19.52	130042	212.31	166.45	8.5	13.1
758.0	22.1	28.0	146	9.1	1.33	19.57	130438	212.31	166.52	8.5	13.1
759.0	12.0	28.0	146	9.1	1.50	19.65	131168	391.00	166.85	8.5	13.1
760.0	12.6	28.0	146	9.1	1.49	19.73	131863	372.38	167.15	8.5	13.1
761.0	13.4	28.0	146	9.1	1.47	19.81	132517	350.15	167.42	8.5	13.1
762.0	15.8	28.0	146	9.1	1.43	19.87	133071	296.96	167.61	8.5	13.1
763.0	17.9	28.0	146	9.1	1.39	19.93	133561	262.12	167.75	8.5	13.1
764.0	20.5	28.0	146	9.1	1.35	19.97	133988	228.88	167.84	8.5	13.1
765.0	24.8	28.0	146	9.1	1.30	20.01	134341	189.19	167.87	8.5	13.1
766.0	9.4	28.0	146	9.1	1.57	20.12	135273	499.15	168.36	8.5	13.1
767.0	17.0	28.0	144	9.1	1.40	20.18	135781	276.00	168.51	8.5	13.1
768.0	27.0	28.0	144	9.1	1.27	20.22	136101	173.78	168.52	8.5	13.1
769.0	27.5	28.0	144	9.1	1.27	20.25	136416	170.62	168.52	8.5	13.1
770.0	27.5	28.0	144	9.1	1.27	20.29	136730	170.62	168.53	8.5	13.1
771.0	12.2	28.0	144	9.1	1.49	20.37	137438	384.59	168.84	8.5	13.1
772.0	12.9	28.0	144	9.1	1.48	20.45	138108	363.72	169.12	8.5	13.1
773.0	14.3	28.0	144	9.1	1.45	20.52	138712	328.11	169.35	8.5	13.1
774.0	14.9	28.0	144	9.1	1.44	20.59	139292	314.90	169.56	8.5	13.1
775.0	15.7	28.0	144	9.1	1.42	20.65	139842	298.85	169.75	8.5	13.1
776.0	19.0	28.0	144	9.1	1.37	20.70	140297	246.95	169.86	8.5	13.1
777.0	17.3	28.0	144	9.1	1.40	20.76	140796	271.21	170.01	8.5	13.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
778.0	20.0	28.0	144	9.1	1.36	20.81	141228	234.60	170.10	8.5	13.1
779.0	21.6	28.0	144	9.1	1.34	20.86	141628	217.22	170.17	8.5	13.1
780.0	19.4	28.0	144	9.1	1.36	20.91	142073	241.36	170.27	8.5	13.1
781.0	16.7	28.0	144	9.1	1.41	20.97	142590	280.96	170.43	8.5	13.1
782.0	16.7	28.0	144	9.1	1.41	21.03	143107	280.96	170.58	8.5	13.1
783.0	31.0	28.0	144	9.1	1.23	21.06	143386	151.35	170.56	8.5	13.1
784.0	24.7	28.0	144	9.1	1.30	21.10	143736	189.96	170.59	8.5	13.1
785.0	26.3	28.0	144	9.1	1.28	21.14	144064	178.40	170.60	8.5	13.1
786.0	28.5	28.0	143	9.1	1.26	21.17	144366	164.63	170.59	8.5	13.1
787.0	26.7	29.0	143	9.1	1.29	21.21	144687	175.73	170.60	8.5	13.1
788.0	21.2	30.0	143	9.2	1.35	21.26	145092	221.32	170.67	8.5	13.1
789.0	18.8	30.0	144	9.2	1.38	21.31	145551	249.57	170.78	8.5	13.1
790.0	20.6	30.0	145	9.2	1.36	21.36	145973	227.77	170.86	8.5	13.1
791.0	28.5	31.0	144	9.2	1.28	21.39	146277	164.63	170.85	8.5	13.2
792.0	31.5	29.0	147	9.2	1.23	21.43	146557	148.95	170.82	8.5	13.2
793.0	30.3	30.0	144	9.2	1.25	21.46	146842	154.85	170.80	8.5	13.2
794.0	19.0	31.0	144	9.2	1.39	21.51	147297	246.95	170.90	8.5	13.2
795.0	17.0	31.0	145	9.2	1.43	21.57	147808	276.00	171.05	8.5	13.2
796.0	20.9	30.0	148	9.2	1.36	21.62	148235	224.83	171.13	8.5	13.2
797.0	19.0	30.0	149	9.2	1.39	21.67	148704	246.33	171.23	8.5	13.2
798.0	17.9	30.0	145	9.2	1.40	21.73	149190	261.97	171.36	8.5	13.2
799.0	21.1	30.0	129	9.2	1.32	21.77	149558	222.87	171.43	8.5	13.2
800.0	22.9	30.0	125	9.2	1.29	21.82	149885	204.62	171.48	8.5	13.2
801.0	21.8	30.0	149	9.2	1.35	21.86	150294	215.05	171.54	8.5	13.2
802.0	18.8	30.0	149	9.2	1.39	21.92	150769	248.94	171.64	8.5	13.2
803.0	24.3	30.0	146	9.2	1.31	21.96	151129	192.89	171.67	8.5	13.2
804.0	21.7	30.0	147	9.2	1.35	22.00	151535	216.35	171.74	8.5	13.2
805.0	20.2	30.0	150	9.2	1.37	22.05	151980	231.99	171.82	8.5	13.2
806.0	17.9	30.0	146	9.2	1.40	22.11	152470	261.97	171.94	8.5	13.2

BIT NUMBER	3	IADC CODE	114	INTERVAL	806.0- 1396.4
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	6.1	BIT RUN	590.4
TOTAL HOURS	19.41	TOTAL TURNS	157940	CONDITION	T3 B3 G0.000

DEPTH	ROP	WOB	RPM	MW "d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
807.0	65.0	1.0	57	9.1 0.44	0.02	53	72	30093	8.5	13.2
808.0	11.7	9.0	135	9.1 1.24	0.10	745	401	15247	8.5	13.2
809.0	35.0	20.0	135	9.1 1.19	0.13	976	134	10209	8.5	13.2
810.0	28.0	25.0	156	9.1 1.37	0.17	1311	168	7699	8.5	13.2
811.0	35.0	25.0	156	9.1 1.30	0.19	1578	134	6186	8.5	13.2
812.0	40.0	26.0	156	9.1 1.28	0.22	1812	117	5175	8.5	13.2
813.0	34.0	26.0	156	9.1 1.33	0.25	2087	138	4455	8.5	13.2
814.0	49.0	26.0	145	9.1 1.19	0.27	2265	96	3910	8.5	13.2
815.0	27.0	26.0	145	9.1 1.37	0.31	2587	174	3495	8.5	13.2
816.0	9.0	23.0	58	9.1 1.38	0.42	2974	521	3198	8.5	13.2
817.0	28.0	23.0	58	9.1 1.05	0.45	3098	168	2922	8.5	13.2
818.0	29.0	23.0	58	9.1 1.04	0.49	3218	162	2692	8.5	13.2
819.0	32.0	23.0	58	9.1 1.01	0.52	3327	147	2496	8.5	13.2
820.0	22.0	23.0	58	9.1 1.12	0.56	3485	213	2333	8.5	13.2
821.0	33.0	23.0	58	9.1 1.01	0.59	3590	142	2187	8.5	13.2
822.0	30.0	23.0	58	9.1 1.03	0.63	3706	156	2060	8.5	13.2
823.0	25.0	24.0	121	9.1 1.31	0.67	3997	188	1950	8.5	13.2
824.0	28.0	24.0	135	9.1 1.31	0.70	4286	168	1851	8.5	13.2
825.0	28.0	24.0	141	9.1 1.33	0.74	4588	168	1762	8.5	13.2
826.0	25.0	27.0	145	9.1 1.41	0.78	4936	188	1684	8.5	13.2
827.0	28.0	27.0	145	9.1 1.38	0.81	5247	168	1612	8.5	13.2
828.0	32.0	27.0	145	9.1 1.34	0.85	5519	147	1545	8.5	13.2
829.0	33.0	27.0	145	9.1 1.33	0.88	5783	142	1484	8.5	13.2
830.0	24.0	26.0	145	9.1 1.41	0.92	6145	196	1430	8.5	13.2
831.0	37.0	26.0	145	9.1 1.28	0.94	6380	127	1378	8.5	13.3
832.0	32.0	27.0	143	9.1 1.33	0.98	6648	147	1331	8.5	13.3
833.0	35.0	26.0	143	9.1 1.29	1.00	6893	134	1286	8.5	13.3
834.0	38.0	26.0	143	9.1 1.27	1.03	7119	123	1245	8.5	13.3
835.0	42.0	26.0	143	9.1 1.24	1.05	7324	112	1206	8.5	13.3
836.0	24.0	26.0	143	9.1 1.40	1.10	7681	196	1172	8.5	13.3
837.0	25.0	26.0	143	9.1 1.39	1.14	8024	188	1140	8.5	13.3
838.0	27.0	26.0	147	9.1 1.38	1.17	8351	174	1110	8.5	13.3
839.0	32.0	26.0	147	9.1 1.33	1.20	8626	147	1081	8.5	13.3
840.0	33.0	28.0	151	9.1 1.35	1.23	8901	142	1053	8.5	13.3
841.0	33.0	28.0	150	9.1 1.35	1.27	9174	142	1027	8.5	13.3
842.0	33.0	28.0	150	9.1 1.35	1.30	9446	142	1003	8.5	13.3
843.0	33.0	28.0	150	9.1 1.35	1.33	9719	142.18	979.50	8.5	13.3
844.0	24.0	28.0	150	9.1 1.45	1.37	10094	195.50	958.87	8.5	13.3
845.0	30.0	28.0	150	9.1 1.38	1.40	10394	156.40	938.29	8.5	13.3
846.0	34.0	28.0	150	9.1 1.34	1.43	10659	138.00	918.28	8.5	13.3
847.0	37.0	28.0	150	9.1 1.32	1.46	10902	126.81	898.98	8.5	13.3
848.0	36.0	28.0	147	9.1 1.32	1.48	11147	130.33	880.68	8.5	13.3
849.0	34.0	27.0	147	9.1 1.32	1.51	11407	138.00	863.41	8.5	13.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
850.0	32.0	27.0	147	9.1	1.34	1.55	11682	146.63	847.12	8.5	13.3
851.0	32.0	27.0	147	9.1	1.34	1.58	11958	146.63	831.55	8.5	13.3
852.0	31.0	27.0	145	9.1	1.35	1.61	12238	151.35	816.76	8.5	13.3
853.0	29.0	27.0	145	9.1	1.37	1.64	12538	161.79	802.83	8.5	13.3
854.0	31.0	27.0	145	9.1	1.35	1.68	12819	151.35	789.26	8.5	13.3
855.0	41.0	28.0	145	9.1	1.27	1.70	13031	114.44	775.48	8.5	13.3
856.0	47.0	26.0	145	9.1	1.21	1.72	13216	99.83	761.97	8.5	13.3
857.0	36.0	26.0	145	9.1	1.29	1.75	13458	130.33	749.59	8.5	13.3
858.0	16.4	25.0	141	9.1	1.50	1.81	13974	286.10	740.67	8.5	13.3
859.0	15.7	26.0	141	9.1	1.53	1.87	14513	298.85	732.34	8.5	13.3
860.0	29.5	26.0	142	9.1	1.34	1.91	14802	159.05	721.72	8.5	13.3
861.0	39.8	26.0	142	9.1	1.25	1.93	15016	117.89	710.74	8.5	13.3
862.0	39.8	25.0	142	9.1	1.24	1.96	15230	117.89	700.15	8.5	13.3
863.0	41.9	25.0	142	9.1	1.22	1.98	15433	111.98	689.84	8.5	13.3
864.0	36.0	26.0	142	9.1	1.28	2.01	15670	130.33	680.19	8.5	13.3
865.0	38.0	26.0	142	9.1	1.26	2.04	15894	123.47	670.75	8.5	13.3
866.0	33.0	26.0	142	9.1	1.31	2.07	16152	142.18	661.94	8.5	13.3
867.0	43.0	26.0	142	9.1	1.23	2.09	16350	109.12	652.88	8.5	13.3
868.0	39.0	25.0	141	9.1	1.24	2.12	16567	120.31	644.29	8.5	13.3
869.0	33.0	25.0	141	9.1	1.29	2.15	16824	142.18	636.32	8.5	13.3
870.0	37.0	25.0	141	9.1	1.26	2.17	17052	126.81	628.36	8.5	13.3
871.0	36.0	25.0	141	9.1	1.27	2.20	17287	130.33	620.70	8.5	13.3
872.0	34.0	26.0	144	9.1	1.30	2.23	17541	138.00	613.38	8.5	13.4
873.0	49.0	26.0	144	9.1	1.19	2.25	17718	95.76	605.66	8.5	13.4
874.0	44.0	25.0	138	9.1	1.20	2.27	17906	106.64	598.32	8.5	13.4
875.0	49.0	26.0	138	9.1	1.18	2.29	18075	95.76	591.04	8.5	13.4
876.0	44.0	26.0	138	9.1	1.21	2.32	18263	106.64	584.12	8.5	13.4
877.0	40.0	24.0	138	9.1	1.21	2.34	18470	117.30	577.54	8.5	13.4
878.0	31.0	22.0	138	9.1	1.26	2.37	18737	151.35	571.62	8.5	13.4
879.0	37.0	21.0	138	9.1	1.19	2.40	18961	126.81	565.53	8.5	13.4
880.0	47.0	20.0	138	9.1	1.11	2.42	19137	99.83	559.24	8.5	13.4
881.0	40.0	22.0	138	9.1	1.19	2.45	19344	117.30	553.34	8.5	13.4
882.0	36.0	22.0	138	9.1	1.22	2.47	19574	130.33	547.78	8.5	13.4
883.0	38.0	23.0	138	9.1	1.22	2.50	19792	123.47	542.27	8.5	13.4
884.0	51.4	24.0	157	9.1	1.18	2.52	19975	91.28	536.49	8.5	13.4
885.0	37.1	24.0	154	9.1	1.27	2.55	20224	126.47	531.30	8.5	13.4
886.0	40.0	24.0	154	9.1	1.25	2.57	20455	117.30	526.12	8.5	13.4
887.0	36.0	23.0	153	9.1	1.26	2.60	20710	130.33	521.23	8.5	13.4
888.0	40.4	23.0	154	9.1	1.23	2.62	20939	116.14	516.29	8.5	13.4
889.0	34.0	23.0	154	9.1	1.28	2.65	21211	138.00	511.74	8.5	13.4
890.0	41.4	23.0	153	9.1	1.22	2.68	21433	113.33	506.99	8.5	13.4
891.0	38.7	23.0	153	9.1	1.24	2.70	21670	121.24	502.45	8.5	13.4
892.0	29.8	23.0	153	9.1	1.32	2.74	21978	157.45	498.44	8.5	13.4
893.0	23.1	23.0	154	9.1	1.39	2.78	22378	203.12	495.05	8.5	13.4
894.0	20.7	23.0	152	9.1	1.42	2.83	22818	226.67	492.00	8.5	13.4
895.0	21.8	23.0	155	9.1	1.41	2.88	23245	215.23	488.89	8.5	13.4
896.0	21.3	23.0	155	9.1	1.42	2.92	23682	220.28	485.90	8.5	13.4
897.0	20.3	23.0	155	9.1	1.43	2.97	24140	231.13	483.10	8.5	13.4
898.0	24.8	23.0	155	9.1	1.37	3.01	24515	189.19	479.91	8.5	13.4
899.0	25.0	23.0	154	9.1	1.37	3.05	24884	187.68	476.77	8.5	13.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
900.0	24.7	23.0	154	9.1	1.37	3.09	25258	189.96	473.72	8.5	13.4
901.0	26.1	23.0	154	9.1	1.36	3.13	25612	179.77	470.62	8.5	13.4
902.0	29.0	23.0	154	9.1	1.33	3.16	25931	161.79	467.41	8.5	13.4
903.0	23.0	23.0	152	9.1	1.39	3.21	26328	204.00	464.69	8.5	13.4
904.0	22.6	23.0	154	9.1	1.40	3.25	26736	207.61	462.07	8.5	13.4
905.0	22.4	23.0	154	9.1	1.40	3.30	27149	209.46	459.52	8.5	13.4
906.0	22.2	23.0	154	9.1	1.40	3.34	27565	211.35	457.03	8.5	13.4
907.0	25.9	23.0	155	9.1	1.36	3.38	27924	181.16	454.30	8.5	13.4
908.0	20.2	26.0	155	9.1	1.48	3.43	28385	232.28	452.13	8.5	13.4
909.0	24.3	26.0	155	9.1	1.42	3.47	28767	193.09	449.61	8.5	13.4
910.0	27.7	28.0	155	9.1	1.41	3.51	29103	169.39	446.92	8.5	13.4
911.0	23.4	28.0	155	9.1	1.47	3.55	29500	200.51	444.57	8.5	13.4
912.0	22.9	28.0	155	9.1	1.47	3.59	29907	204.89	442.31	8.5	13.4
913.0	16.0	28.0	149	9.1	1.57	3.66	30465	293.25	440.92	8.5	13.4
914.0	23.2	28.0	154	9.1	1.47	3.70	30864	202.24	438.71	8.5	13.5
915.0	32.4	28.0	155	9.1	1.37	3.73	31151	144.81	436.01	8.5	13.5
916.0	36.7	28.0	154	9.1	1.33	3.76	31402	127.85	433.21	8.5	13.5
917.0	40.4	28.0	154	9.1	1.30	3.78	31631	116.14	430.35	8.5	13.5
918.0	35.0	28.0	153	9.1	1.34	3.81	31893	134.06	427.71	8.5	13.5
919.0	38.3	28.0	153	9.1	1.31	3.84	32133	122.51	425.00	8.5	13.5
920.0	37.1	28.0	154	9.1	1.32	3.86	32382	126.47	422.39	8.5	13.5
921.0	40.4	28.0	153	9.1	1.29	3.89	32609	116.14	419.72	8.5	13.5
922.0	32.1	28.0	153	9.1	1.37	3.92	32895	146.17	417.36	8.5	13.5
923.0	26.9	28.0	145	9.1	1.40	3.96	33219	174.42	415.29	8.5	13.5
924.0	34.6	28.0	155	9.1	1.35	3.99	33488	135.61	412.92	8.5	13.5
925.0	36.7	28.0	155	9.1	1.33	4.01	33741	127.85	410.52	8.5	13.5
926.0	32.1	28.0	154	9.1	1.37	4.04	34029	146.17	408.32	8.5	13.5
927.0	28.6	28.0	154	9.1	1.40	4.08	34352	164.06	406.30	8.5	13.5
928.0	29.8	28.0	155	9.1	1.39	4.11	34664	157.45	404.26	8.5	13.5
929.0	34.0	27.0	155	9.1	1.34	4.14	34938	138.00	402.10	8.5	13.5
930.0	31.9	27.0	153	9.1	1.35	4.17	35225	147.08	400.04	8.5	13.5
931.0	35.0	27.0	155	9.1	1.33	4.20	35491	134.06	397.91	8.5	13.5
932.0	32.0	27.0	155	9.1	1.36	4.23	35782	146.63	395.92	8.5	13.5
933.0	32.7	27.0	154	9.1	1.35	4.26	36064	143.49	393.93	8.5	13.5
934.0	33.6	27.0	153	9.1	1.34	4.29	36337	139.64	391.94	8.5	13.5
935.0	36.0	27.0	153	9.1	1.32	4.32	36592	130.33	389.92	8.5	13.5
936.0	45.0	27.0	153	9.1	1.25	4.34	36796	104.27	387.72	8.5	13.5
937.0	43.4	27.0	154	9.1	1.26	4.37	37009	108.11	385.58	8.5	13.5
938.0	45.0	29.0	154	9.1	1.28	4.39	37215	104.27	383.45	8.5	13.5
939.0	46.8	29.0	153	9.1	1.26	4.41	37411	100.26	381.32	8.5	13.5
940.0	46.2	29.0	151	9.1	1.26	4.43	37607	101.56	379.24	8.5	13.5
941.0	44.4	30.0	148	9.1	1.28	4.45	37807	105.68	377.21	8.5	13.5
942.0	31.0	30.0	131	9.1	1.35	4.49	38060	151.35	375.55	8.5	13.5
943.0	38.3	29.0	145	9.1	1.31	4.51	38288	122.51	373.70	8.5	13.5
944.0	37.5	29.0	145	9.1	1.31	4.54	38520	125.12	371.90	8.5	13.5
945.0	40.0	29.0	145	9.1	1.29	4.56	38737	117.30	370.07	8.5	13.5
946.0	41.9	29.0	145	9.1	1.28	4.59	38945	111.98	368.22	8.5	13.5
947.0	41.9	29.0	140	9.1	1.27	4.61	39145	111.98	366.41	8.5	13.5
948.0	45.0	29.0	138	9.1	1.24	4.63	39329	104.27	364.56	8.5	13.5
949.0	38.3	30.0	139	9.1	1.31	4.66	39547	122.51	362.87	8.5	13.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICDST	CCDST	PP	FG
950.0	40.9	30.0	136	9.1	1.28	4.69	39747	114.72	361.15	8.5	13.5
951.0	31.9	29.0	88	9.2	1.20	4.72	39912	147.08	359.67	8.5	13.5
952.0	42.9	29.0	136	9.2	1.24	4.74	40102	109.37	357.95	8.5	13.5
953.0	36.7	29.0	144	9.2	1.30	4.77	40338	127.85	356.39	8.5	13.5
954.0	36.7	29.0	138	9.2	1.29	4.79	40563	127.85	354.85	8.5	13.5
955.0	50.0	29.0	138	9.2	1.20	4.81	40729	93.84	353.09	8.5	13.5
956.0	44.4	29.0	138	9.2	1.23	4.84	40915	105.68	351.44	8.5	13.5
957.0	41.9	29.0	139	9.2	1.25	4.86	41114	111.98	349.86	8.5	13.6
958.0	46.2	29.0	138	9.2	1.22	4.88	41294	101.56	348.22	8.5	13.6
959.0	45.6	29.0	137	9.2	1.22	4.90	41474	102.89	346.62	8.5	13.6
960.0	28.8	29.0	96	9.2	1.25	4.94	41674	162.92	345.43	8.5	13.6
961.0	28.8	29.0	96	9.2	1.25	4.97	41874	162.92	344.25	8.5	13.6
962.0	46.2	29.0	138	9.2	1.22	5.00	42053	101.56	342.70	8.5	13.6
963.0	50.0	29.0	139	9.2	1.20	5.02	42220	93.84	341.11	8.5	13.6
964.0	48.6	29.0	139	9.2	1.21	5.04	42392	96.54	339.56	8.5	13.6
965.0	50.7	29.0	138	9.2	1.19	5.06	42555	92.54	338.01	8.5	13.6
966.0	44.4	29.0	138	9.2	1.23	5.08	42741	105.68	336.56	8.5	13.6
967.0	46.2	29.0	138	9.2	1.22	5.10	42921	101.56	335.10	8.5	13.6
968.0	46.2	29.0	138	9.2	1.22	5.12	43100	101.56	333.66	8.5	13.6
969.0	48.0	29.0	137	9.2	1.21	5.14	43271	97.75	332.21	8.5	13.6
970.0	41.4	29.0	125	9.2	1.22	5.17	43452	113.33	330.87	8.5	13.6
971.0	47.0	30.0	136	9.2	1.22	5.19	43626	99.83	329.47	8.5	13.6
972.0	42.0	30.0	136	9.2	1.26	5.21	43820	111.71	328.16	8.5	13.6
973.0	45.0	30.0	137	9.2	1.24	5.23	44003	104.27	326.82	8.5	13.6
974.0	47.0	30.0	137	9.2	1.23	5.26	44178	99.83	325.47	8.5	13.6
975.0	46.0	30.0	137	9.2	1.23	5.28	44356	102.00	324.15	8.5	13.6
976.0	58.0	30.0	137	9.2	1.16	5.29	44498	80.90	322.72	8.5	13.6
977.0	54.0	30.0	137	9.2	1.18	5.31	44650	86.89	321.34	8.5	13.6
978.0	40.0	30.0	137	9.2	1.27	5.34	44856	117.30	320.15	8.5	13.6
979.0	42.0	30.0	137	9.2	1.26	5.36	45051	111.71	318.95	8.5	13.6
980.0	38.0	30.0	138	9.2	1.29	5.39	45269	123.47	317.82	8.5	13.6
981.0	51.4	30.0	138	9.2	1.20	5.41	45430	91.28	316.53	8.5	13.6
982.0	45.6	30.0	139	9.2	1.24	5.43	45613	102.89	315.31	8.5	13.6
983.0	45.6	30.0	138	9.2	1.24	5.45	45795	102.89	314.11	8.5	13.6
984.0	37.9	30.0	137	9.2	1.29	5.48	46012	123.80	313.05	8.5	13.6
985.0	35.6	30.0	137	9.2	1.31	5.51	46243	131.80	312.03	8.5	13.6
986.0	40.0	30.0	137	9.2	1.27	5.53	46448	117.30	310.95	8.5	13.6
987.0	45.0	30.0	137	9.2	1.24	5.55	46631	104.27	309.81	8.5	13.6
988.0	38.0	30.0	134	9.2	1.28	5.58	46842	123.47	308.79	8.5	13.6
989.0	51.4	30.0	134	9.2	1.19	5.60	46999	91.28	307.60	8.5	13.6
990.0	48.0	30.0	134	9.2	1.21	5.62	47166	97.75	306.46	8.5	13.6
991.0	39.6	30.0	135	9.2	1.27	5.64	47371	118.48	305.44	8.5	13.6
992.0	40.0	30.0	134	9.2	1.27	5.67	47572	117.30	304.43	8.5	13.6
993.0	38.7	30.0	135	9.2	1.28	5.70	47781	121.24	303.45	8.5	13.6
994.0	52.9	30.0	133	9.2	1.18	5.71	47932	88.70	302.31	8.5	13.6
995.0	42.9	30.0	133	9.2	1.24	5.74	48118	109.37	301.29	8.5	13.6
996.0	47.4	30.0	133	9.2	1.21	5.76	48286	98.99	300.22	8.5	13.6
997.0	41.9	30.0	134	9.2	1.25	5.78	48478	111.98	299.24	8.5	13.6
998.0	34.0	30.0	123	9.2	1.29	5.81	48695	138.00	298.40	8.5	13.6
999.0	46.8	30.0	140	9.2	1.23	5.83	48875	100.26	297.37	8.5	13.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	OCOST	PP	FG
1000.0	41.9	30.0	140	9.2	1.27	5.86	49075	111.98	296.41	8.5	13.6
1001.0	42.9	30.0	140	9.2	1.26	5.88	49271	109.37	295.45	8.5	13.7
1002.0	45.6	30.0	139	9.2	1.24	5.90	49454	102.89	294.47	8.5	13.7
1003.0	44.4	30.0	138	9.2	1.25	5.93	49641	105.68	293.51	8.5	13.7
1004.0	39.6	30.0	138	9.2	1.28	5.95	49850	118.48	292.63	8.5	13.7
1005.0	40.4	30.0	138	9.2	1.27	5.98	50055	116.14	291.74	8.5	13.7
1006.0	38.3	30.0	138	9.2	1.29	6.00	50271	122.51	290.90	8.5	13.7
1007.0	40.4	30.0	137	9.2	1.27	6.03	50474	116.14	290.03	8.5	13.7
1008.0	61.0	30.0	139	9.2	1.15	6.04	50611	76.92	288.97	8.5	13.7
1009.0	42.9	30.0	137	9.2	1.25	6.07	50803	109.37	288.09	8.5	13.7
1010.0	48.6	30.0	137	9.2	1.21	6.09	50972	96.54	287.15	8.5	13.7
1011.0	47.4	30.0	137	9.2	1.22	6.11	51145	98.99	286.23	8.5	13.7
1012.0	42.9	30.0	137	9.2	1.25	6.13	51337	109.37	285.37	8.5	13.7
1013.0	45.0	30.0	137	9.2	1.24	6.15	51519	104.27	284.50	8.5	13.7
1014.0	58.1	30.0	137	9.2	1.16	6.17	51661	80.76	283.52	8.5	13.7
1015.0	44.4	30.0	137	9.2	1.24	6.19	51846	105.68	282.67	8.5	13.7
1016.0	42.9	30.0	137	9.2	1.25	6.22	52038	109.37	281.84	8.5	13.7
1017.0	43.9	30.0	138	9.2	1.25	6.24	52226	106.88	281.01	8.5	13.7
1018.0	26.1	30.0	124	9.2	1.38	6.28	52511	179.77	280.53	8.5	13.7
1019.0	36.0	30.0	137	9.2	1.31	6.30	52740	130.33	279.83	8.5	13.7
1020.0	46.8	30.0	137	9.2	1.23	6.33	52915	100.26	278.99	8.5	13.7
1021.0	47.4	30.0	137	9.2	1.22	6.35	53089	98.99	278.15	8.5	13.7
1022.0	49.3	30.0	138	9.2	1.21	6.37	53257	95.17	277.31	8.5	13.7
1023.0	45.0	30.0	138	9.2	1.24	6.39	53441	104.27	276.51	8.5	13.7
1024.0	42.9	30.0	139	9.2	1.26	6.41	53635	109.37	275.74	8.5	13.7
1025.0	40.9	30.0	139	9.2	1.27	6.44	53839	114.72	275.01	8.5	13.7
1026.0	43.4	30.0	139	9.2	1.25	6.46	54031	108.11	274.25	8.5	13.7
1027.0	50.0	30.0	139	9.2	1.21	6.48	54198	93.84	273.43	8.5	13.7
1028.0	36.7	30.0	117	9.2	1.25	6.51	54389	127.85	272.78	8.5	13.7
1029.0	42.2	30.0	138	9.2	1.26	6.53	54585	111.18	272.05	8.5	13.7
1030.0	43.4	30.0	140	9.2	1.26	6.55	54779	108.11	271.32	8.5	13.7
1031.0	40.4	30.0	140	9.2	1.28	6.58	54987	116.14	270.63	8.5	13.7
1032.0	37.5	30.0	139	9.3	1.29	6.61	55209	125.12	269.99	8.5	13.7
1033.0	42.9	30.0	140	9.3	1.25	6.63	55405	109.37	269.28	8.5	13.7
1034.0	37.5	30.0	140	9.3	1.29	6.66	55629	125.12	268.65	8.5	13.7
1035.0	47.4	30.0	140	9.3	1.22	6.68	55806	98.99	267.91	8.5	13.7
1036.0	36.4	30.0	117	9.3	1.24	6.70	55999	128.90	267.30	8.5	13.7
1037.0	47.4	30.0	117	9.2	1.17	6.73	56147	98.99	266.57	8.5	13.7
1038.0	44.4	30.0	137	9.2	1.24	6.75	56332	105.68	265.88	8.5	13.7
1039.0	48.0	30.0	137	9.2	1.22	6.77	56504	97.75	265.16	8.5	13.7
1040.0	49.3	30.0	137	9.2	1.21	6.79	56670	95.17	264.43	8.5	13.7
1041.0	41.4	30.0	137	9.2	1.26	6.81	56869	113.33	263.79	8.5	13.7
1042.0	43.9	30.0	137	9.2	1.25	6.84	57056	106.88	263.12	8.5	13.7
1043.0	46.2	30.0	137	9.2	1.23	6.86	57234	101.56	262.44	8.5	13.7
1044.0	44.4	30.0	137	9.2	1.24	6.88	57419	105.68	261.78	8.5	13.7
1045.0	41.9	30.0	138	9.2	1.26	6.90	57617	111.98	261.16	8.5	13.7
1046.0	32.1	30.0	128	9.2	1.32	6.94	57856	146.17	260.68	8.5	13.7
1047.0	30.0	30.0	136	9.2	1.36	6.97	58128	156.40	260.24	8.5	13.8
1048.0	32.4	30.0	137	9.2	1.34	7.00	58382	144.81	259.77	8.5	13.8
1049.0	39.6	30.0	139	9.2	1.28	7.02	58592	118.48	259.19	8.5	13.8

DEPTH	RCP	MOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	OCOST	PP	FG
1050.0	34.0	30.0	138	9.2	1.33	7.05	58836	138.00	258.69	8.5	13.8
1051.0	37.9	30.0	138	9.2	1.29	7.08	59054	123.80	258.14	8.5	13.8
1052.0	40.0	30.0	138	9.2	1.28	7.11	59261	117.30	257.57	8.5	13.8
1053.0	46.2	30.0	138	9.2	1.23	7.13	59441	101.56	256.93	8.5	13.8
1054.0	42.0	30.0	138	9.2	1.26	7.15	59638	111.71	256.35	8.5	13.8
1055.0	49.3	30.0	120	9.2	1.17	7.17	59784	95.17	255.70	8.5	13.8
1056.0	48.6	30.0	135	9.2	1.21	7.19	59950	96.54	255.06	8.5	13.8
1057.0	42.0	30.0	129	9.2	1.24	7.22	60135	111.71	254.49	8.5	13.8
1058.0	40.0	30.0	132	9.3	1.25	7.24	60333	117.30	253.95	8.5	13.8
1059.0	40.0	30.0	132	9.3	1.25	7.27	60531	117.30	253.41	8.5	13.8
1060.0	46.0	30.0	131	9.3	1.21	7.29	60702	102.00	252.81	8.5	13.8
1061.0	39.0	30.0	130	9.3	1.25	7.31	60902	120.31	252.29	8.5	13.8
1062.0	48.0	30.0	133	9.3	1.20	7.33	61068	97.75	251.69	8.5	13.8
1063.0	43.0	30.0	132	9.3	1.23	7.36	61252	109.12	251.13	8.5	13.8
1064.0	48.0	30.0	129	9.3	1.19	7.38	61413	97.75	250.54	8.5	13.8
1065.0	35.0	30.0	130	9.3	1.29	7.41	61636	134.06	250.09	8.5	13.8
1066.0	37.0	30.0	131	9.3	1.27	7.43	61849	126.81	249.62	8.5	13.8
1067.0	37.0	30.0	130	9.3	1.27	7.46	62059	126.81	249.15	8.5	13.8
1068.0	46.0	30.0	131	9.3	1.21	7.48	62230	102.00	248.58	8.5	13.8
1069.0	32.7	30.0	131	9.3	1.31	7.51	62471	143.49	248.18	8.5	13.8
1070.0	32.0	30.0	132	9.3	1.32	7.54	62718	146.63	247.80	8.5	13.8
1071.0	48.0	30.0	143	9.3	1.22	7.57	62897	97.75	247.23	8.5	13.8
1072.0	35.0	30.0	143	9.3	1.32	7.59	63142	134.06	246.81	8.5	13.8
1073.0	33.6	30.0	132	9.3	1.30	7.62	63378	139.64	246.41	8.5	13.8
1074.0	39.6	30.0	133	9.3	1.26	7.65	63579	118.48	245.93	8.5	13.8
1075.0	28.3	30.0	131	9.3	1.35	7.68	63857	165.80	245.63	8.5	13.8
1076.0	30.0	30.0	138	9.3	1.35	7.72	64133	156.40	245.30	8.5	13.8
1077.0	34.0	30.0	139	9.3	1.32	7.75	64378	138.00	244.91	8.5	13.8
1078.0	25.7	30.0	120	9.3	1.36	7.79	64658	182.57	244.68	8.5	13.8
1079.0	17.9	20.0	131	9.3	1.34	7.84	65098	262.12	244.74	8.5	13.8
1080.0	22.6	20.0	132	9.3	1.28	7.89	65448	207.61	244.60	8.5	13.8
1081.0	24.2	20.0	130	9.3	1.25	7.93	65770	193.88	244.42	8.5	13.8
1082.0	37.1	30.0	133	9.3	1.28	7.95	65985	126.47	243.99	8.5	13.8
1083.0	36.0	30.0	147	9.3	1.31	7.98	66230	130.33	243.58	8.5	13.8
1084.0	36.4	30.0	109	9.2	1.23	8.01	66410	128.90	243.17	8.5	13.8
1085.0	36.0	30.0	130	9.2	1.29	8.04	66627	130.33	242.77	8.5	13.8
1086.0	42.9	30.0	143	9.3	1.25	8.06	66827	109.37	242.29	8.5	13.8
1087.0	41.9	30.0	143	9.4	1.25	8.08	67032	111.98	241.83	8.5	13.8
1088.0	39.1	30.0	140	9.5	1.25	8.11	67246	120.00	241.39	8.5	13.8
1089.0	48.6	30.0	135	9.5	1.17	8.13	67413	96.54	240.88	8.5	13.8
1090.0	47.4	30.0	133	9.5	1.18	8.15	67581	98.99	240.38	8.5	13.8
1091.0	36.4	30.0	124	9.5	1.23	8.18	67786	128.90	239.99	8.5	13.8
1092.0	47.4	30.0	126	9.5	1.16	8.20	67945	98.99	239.50	8.5	13.8
1093.0	45.6	30.0	134	9.5	1.19	8.22	68122	102.89	239.02	8.5	13.8
1094.0	23.2	30.0	102	9.5	1.31	8.27	68385	202.24	238.89	8.5	13.8
1095.0	40.0	30.0	117	9.5	1.19	8.29	68561	117.30	238.47	8.5	13.9
1096.0	34.6	30.0	129	9.5	1.26	8.32	68784	135.61	238.12	8.5	13.9
1097.0	42.9	30.0	133	9.5	1.20	8.34	68970	109.37	237.68	8.5	13.9
1098.0	45.0	30.0	139	9.5	1.20	8.36	69156	104.27	237.22	8.5	13.9
1099.0	36.0	30.0	137	9.5	1.27	8.39	69384	130.33	236.85	8.5	13.9

DEPTH	ROP	MOB	RPM	MW	"d" c	HOURS	URNS	ICOST	CCOST	PP	FG
1100.0	43.4	30.0	141	9.5	1.22	8.42	69579	108.11	236.42	8.5	13.9
1101.0	38.7	30.0	150	9.5	1.27	8.44	69812	121.24	236.03	8.5	13.9
1102.0	36.0	30.0	136	9.5	1.26	8.47	70038	130.33	235.67	8.5	13.9
1103.0	45.0	30.0	136	9.5	1.20	8.49	70220	104.27	235.23	8.5	13.9
1104.0	31.9	30.0	108	9.5	1.23	8.52	70423	147.08	234.93	8.5	13.9
1105.0	36.0	30.0	108	9.5	1.20	8.55	70603	130.33	234.58	8.5	13.9
1106.0	42.9	30.0	131	9.5	1.20	8.57	70786	109.37	234.16	8.5	13.9
1107.0	33.0	30.0	141	9.5	1.30	8.60	71042	142.18	233.86	8.5	13.9
1108.0	32.1	30.0	128	9.5	1.28	8.64	71282	146.17	233.57	8.5	13.9
1109.0	33.0	30.0	128	9.5	1.27	8.67	71514	142.18	233.27	8.5	13.9
1110.0	40.9	30.0	139	9.5	1.23	8.69	71718	114.72	232.88	8.5	13.9
1111.0	52.2	30.0	139	9.5	1.16	8.71	71878	89.89	232.41	8.5	13.9
1112.0	40.0	30.0	143	9.5	1.25	8.73	72092	117.30	232.03	8.5	13.9
1113.0	34.0	30.0	132	9.6	1.26	8.76	72325	138.00	231.72	8.5	13.9
1114.0	27.9	30.0	96	9.7	1.21	8.80	72532	168.17	231.52	8.5	13.9
1115.0	40.3	30.0	133	9.7	1.20	8.82	72730	116.43	231.15	8.5	13.9
1116.0	34.3	30.0	138	9.7	1.26	8.85	72971	136.79	230.84	8.5	13.9
1117.0	42.0	30.0	138	9.7	1.20	8.88	73168	111.71	230.46	8.5	13.9
1118.0	28.8	30.0	144	9.7	1.32	8.91	73468	162.92	230.24	8.5	13.9
1119.0	40.4	30.0	139	9.7	1.21	8.94	73675	116.14	229.88	8.5	13.9
1120.0	39.1	30.0	139	9.7	1.22	8.96	73888	120.00	229.53	8.5	13.9
1121.0	38.3	30.0	130	9.7	1.21	8.99	74092	122.51	229.19	8.5	13.9
1122.0	42.4	30.0	128	9.7	1.17	9.01	74273	110.66	228.81	8.5	13.9
1123.0	43.9	30.0	138	9.7	1.18	9.03	74462	106.88	228.43	8.5	13.9
1124.0	33.6	30.0	99	9.7	1.17	9.06	74638	139.64	228.15	8.5	13.9
1125.0	34.3	30.0	117	9.7	1.21	9.09	74843	136.79	227.86	8.5	13.9
1126.0	40.9	30.0	117	9.7	1.16	9.12	75015	114.72	227.51	8.5	13.9
1127.0	40.9	30.0	117	9.7	1.16	9.14	75186	114.72	227.16	8.5	13.9
1128.0	45.6	30.0	124	9.7	1.14	9.16	75349	102.89	226.77	8.5	13.9
1129.0	41.9	30.0	125	9.7	1.17	9.19	75528	111.98	226.42	8.5	13.9
1130.0	42.4	30.0	125	9.7	1.17	9.21	75705	110.66	226.06	8.5	13.9
1131.0	40.0	30.0	122	9.7	1.18	9.24	75888	117.30	225.72	8.5	13.9
1132.0	23.0	30.0	108	9.7	1.30	9.28	76170	204.00	225.66	8.5	13.9
1133.0	42.9	30.0	118	9.7	1.15	9.30	76335	109.37	225.30	8.5	13.9
1134.0	37.1	30.0	118	9.7	1.19	9.33	76526	126.47	225.00	8.5	13.9
1135.0	46.8	30.0	140	9.7	1.17	9.35	76705	100.26	224.62	8.5	13.9
1136.0	34.6	30.0	151	9.7	1.28	9.38	76967	135.61	224.35	8.5	13.9
1137.0	50.0	30.0	138	9.7	1.15	9.40	77133	93.84	223.96	8.5	13.9
1138.0	45.0	30.0	129	9.7	1.16	9.42	77305	104.27	223.60	8.5	13.9
1139.0	34.6	30.0	135	9.7	1.25	9.45	77539	135.61	223.33	8.5	13.9
1140.0	52.2	30.0	138	9.7	1.13	9.47	77698	89.89	222.93	8.5	13.9
1141.0	42.4	30.0	144	9.7	1.21	9.49	77901	110.66	222.60	8.5	13.9
1142.0	42.4	30.0	112	9.7	1.13	9.52	78060	110.66	222.26	8.5	13.9
1143.0	48.0	30.0	138	9.7	1.16	9.54	78232	97.75	221.90	8.5	14.0
1144.0	39.1	29.0	139	9.7	1.21	9.56	78446	120.00	221.59	8.5	14.0
1145.0	40.5	29.0	138	9.7	1.20	9.59	78650	115.85	221.28	8.5	14.0
1146.0	48.0	29.0	138	9.7	1.15	9.61	78823	97.75	220.92	8.5	14.0
1147.0	44.4	29.0	138	9.7	1.17	9.63	79009	105.68	220.58	8.5	14.0
1148.0	43.4	29.0	138	9.7	1.18	9.66	79200	108.11	220.25	8.5	14.0
1149.0	41.4	29.0	138	9.7	1.19	9.68	79400	113.33	219.94	8.5	14.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1150.0	41.4	29.0	138	9.7	1.19	9.70	79600	113.33	219.63	8.5	14.0
1151.0	37.1	29.0	140	9.7	1.23	9.73	79826	126.47	219.36	8.5	14.0
1152.0	27.0	29.0	127	9.7	1.29	9.77	80108	173.78	219.23	8.5	14.0
1153.0	37.5	29.0	134	9.7	1.21	9.79	80323	125.12	218.96	8.5	14.0
1154.0	31.0	29.0	134	9.7	1.27	9.83	80582	151.35	218.76	8.5	14.0
1155.0	30.0	29.0	134	9.7	1.27	9.86	80850	156.40	218.58	8.5	14.0
1156.0	39.6	29.0	134	9.7	1.19	9.89	81053	118.48	218.30	8.5	14.0
1157.0	31.0	29.0	134	9.7	1.27	9.92	81313	151.35	218.11	8.5	14.0
1158.0	32.0	29.0	134	9.7	1.26	9.95	81564	146.63	217.90	8.5	14.0
1159.0	37.0	29.0	134	9.7	1.21	9.98	81781	126.81	217.65	8.5	14.0
1160.0	41.0	29.0	134	9.7	1.18	10.00	81977	114.44	217.35	8.5	14.0
1161.0	32.0	29.0	134	9.7	1.26	10.03	82229	146.63	217.16	8.5	14.0
1162.0	33.0	29.0	140	9.7	1.26	10.06	82483	142.18	216.95	8.5	14.0
1163.0	34.0	29.0	140	9.7	1.25	10.09	82730	138.00	216.72	8.5	14.0
1164.0	44.0	29.0	140	9.7	1.18	10.11	82921	106.64	216.42	8.5	14.0
1165.0	46.0	29.0	140	9.7	1.16	10.14	83104	102.00	216.10	8.5	14.0
1166.0	46.0	29.0	138	9.7	1.16	10.16	83284	102.00	215.78	8.5	14.0
1167.0	49.0	29.0	138	9.7	1.14	10.18	83453	95.76	215.45	8.5	14.0
1168.0	38.0	29.0	138	9.7	1.21	10.20	83671	123.47	215.19	8.5	14.0
1169.0	46.0	29.0	138	9.7	1.16	10.23	83851	102.02	214.88	8.5	14.0
1170.0	47.0	29.0	138	9.7	1.15	10.25	84027	99.83	214.57	8.5	14.0
1171.0	35.0	29.0	138	9.7	1.24	10.28	84263	134.06	214.35	8.5	14.0
1172.0	37.0	29.0	138	9.7	1.22	10.30	84487	126.81	214.11	8.5	14.0
1173.0	44.0	29.0	138	9.7	1.17	10.33	84675	106.64	213.81	8.5	14.0
1174.0	31.0	29.0	138	9.7	1.27	10.36	84942	151.35	213.64	8.5	14.0
1175.0	31.0	29.0	138	9.7	1.27	10.39	85209	151.35	213.48	8.5	14.0
1176.0	36.0	29.0	138	9.7	1.23	10.42	85439	130.33	213.25	8.5	14.0
1177.0	54.0	29.0	138	9.7	1.11	10.44	85593	86.89	212.91	8.5	14.0
1178.0	35.0	27.0	138	9.7	1.21	10.47	85829	134.06	212.70	8.5	14.0
1179.0	35.0	26.0	138	9.7	1.20	10.49	86066	134.06	212.49	8.5	14.0
1180.0	45.0	25.0	138	9.7	1.12	10.52	86250	104.27	212.20	8.5	14.0
1181.0	28.0	25.0	138	9.7	1.25	10.55	86546	167.57	212.08	8.5	14.0
1182.0	28.0	25.0	138	9.7	1.25	10.59	86841	167.57	211.96	8.5	14.0
1183.0	40.0	25.0	138	9.7	1.15	10.61	87048	117.30	211.71	8.5	14.0
1184.0	33.0	25.0	134	9.7	1.20	10.64	87292	142.18	211.53	8.5	14.0
1185.0	31.0	25.0	134	9.8	1.20	10.67	87551	151.35	211.37	8.5	14.0
1186.0	29.0	25.0	134	9.8	1.22	10.71	87829	161.79	211.24	8.5	14.0
1187.0	23.0	25.0	134	9.8	1.28	10.75	88178	204.00	211.22	8.5	14.0
1188.0	25.7	25.0	134	9.8	1.25	10.79	88491	182.85	211.14	8.5	14.0
1189.0	26.0	25.0	134	9.8	1.25	10.83	88801	180.46	211.06	8.5	14.0
1190.0	78.3	22.0	135	9.8	0.92	10.84	88904	59.92	210.67	8.5	14.0
1191.0	32.0	23.0	136	9.8	1.17	10.87	89159	146.63	210.50	8.5	14.0
1192.0	30.0	23.0	134	9.8	1.18	10.91	89427	156.40	210.36	8.5	14.0
1193.0	27.0	23.0	134	9.8	1.21	10.94	89725	173.78	210.27	8.5	14.0
1194.0	23.0	24.0	135	9.8	1.27	10.99	90077	204.00	210.25	8.5	14.1
1195.0	22.0	24.0	135	9.8	1.28	11.03	90445	213.27	210.26	8.5	14.1
1196.0	17.0	24.0	135	9.8	1.35	11.09	90922	276.00	210.43	8.5	14.1
1197.0	20.0	24.0	135	9.8	1.31	11.14	91327	234.60	210.49	8.5	14.1
1198.0	21.6	24.0	135	9.8	1.29	11.19	91702	217.22	210.51	8.5	14.1
1199.0	11.0	24.0	132	9.8	1.47	11.28	92422	426.55	211.06	8.5	14.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	FP	FG
1200.0	23.0	24.0	132	9.8	1.27	11.32	92766	204.00	211.04	8.5	14.1
1201.0	21.0	24.0	133	9.9	1.28	11.37	93146	223.43	211.07	8.5	14.1
1202.0	25.0	24.0	133	10.0	1.22	11.41	93465	187.68	211.01	8.5	14.1
1203.0	23.4	24.0	133	10.0	1.24	11.45	93806	200.51	210.99	8.5	14.1
1204.0	25.0	24.0	133	10.0	1.22	11.49	94126	187.68	210.93	8.5	14.1
1205.0	28.1	24.0	133	10.1	1.18	11.53	94410	166.98	210.82	8.5	14.1
1206.0	32.0	24.0	133	10.1	1.14	11.56	94659	146.63	210.66	8.5	14.1
1207.0	30.5	23.0	133	10.2	1.13	11.59	94921	153.84	210.51	8.5	14.1
1208.0	21.4	23.0	132	10.2	1.22	11.64	95291	219.25	210.54	8.5	14.1
1209.0	30.0	23.0	132	10.3	1.12	11.67	95555	156.40	210.40	8.5	14.1
1210.0	32.0	25.0	132	10.3	1.13	11.70	95802	146.63	210.24	8.5	14.1
1211.0	21.0	25.0	132	10.3	1.24	11.75	96179	223.43	210.28	8.5	14.1
1212.0	20.0	25.0	132	10.3	1.25	11.80	96575	234.60	210.34	8.5	14.1
1213.0	22.0	25.0	132	10.3	1.23	11.85	96935	213.27	210.34	8.5	14.1
1214.0	36.0	25.0	132	10.3	1.10	11.88	97155	130.33	210.15	8.5	14.1
1215.0	30.0	25.0	132	10.3	1.15	11.91	97419	156.40	210.02	8.5	14.1
1216.0	30.0	25.0	132	10.3	1.15	11.94	97683	156.40	209.89	8.5	14.1
1217.0	32.0	25.0	132	10.3	1.13	11.97	97931	146.63	209.73	8.5	14.1
1218.0	26.0	25.0	132	10.3	1.19	12.01	98235	180.46	209.66	8.5	14.1
1219.0	19.0	25.0	132	10.3	1.27	12.06	98652	246.95	209.75	8.5	14.1
1220.0	20.0	25.0	132	10.3	1.25	12.11	99048	234.60	209.81	8.5	14.1
1221.0	16.0	25.0	132	10.3	1.31	12.18	99543	293.25	210.01	8.5	14.1
1222.0	17.0	25.0	132	10.3	1.30	12.24	100009	276.00	210.17	8.5	14.1
1223.0	17.0	25.0	132	10.3	1.30	12.29	100475	276.00	210.33	8.5	14.1
1224.0	28.0	25.0	132	10.3	1.17	12.33	100758	167.57	210.23	8.5	14.1
1225.0	16.0	25.0	132	10.3	1.31	12.39	101253	293.25	210.42	8.5	14.1
1226.0	24.0	25.0	132	10.3	1.21	12.43	101583	195.50	210.39	8.5	14.1
1227.0	22.0	25.0	132	10.3	1.23	12.48	101943	213.27	210.40	8.5	14.1
1228.0	24.0	25.0	132	10.3	1.21	12.52	102273	195.50	210.36	8.5	14.1
1229.0	24.0	25.0	132	10.3	1.21	12.56	102603	195.50	210.32	8.5	14.1
1230.0	24.0	25.0	132	10.3	1.21	12.60	102933	195.50	210.29	8.5	14.1
1231.0	18.0	25.0	132	10.3	1.28	12.66	103373	260.67	210.41	8.5	14.1
1232.0	26.0	25.0	132	10.3	1.19	12.70	103677	180.46	210.34	8.5	14.1
1233.0	18.0	25.0	132	10.3	1.28	12.75	104117	260.67	210.46	8.5	14.1
1234.0	31.0	25.0	132	10.3	1.14	12.79	104373	151.35	210.32	8.5	14.1
1235.0	17.0	25.0	132	10.3	1.30	12.85	104839	276.00	210.47	8.5	14.1
1236.0	26.0	25.0	132	10.3	1.19	12.88	105143	180.46	210.40	8.5	14.1
1237.0	22.0	25.0	132	10.3	1.23	12.93	105503	213.27	210.41	8.5	14.1
1238.0	23.0	25.0	132	10.3	1.22	12.97	105848	204.00	210.39	8.5	14.1
1239.0	16.0	25.0	132	10.3	1.31	13.04	106343	293.25	210.58	8.5	14.1
1240.0	30.0	25.0	132	10.3	1.15	13.07	106607	156.40	210.46	8.5	14.1
1241.0	26.0	25.0	132	10.3	1.19	13.11	106911	180.46	210.39	8.5	14.1
1242.0	30.0	25.0	132	10.3	1.15	13.14	107175	156.40	210.27	8.5	14.1
1243.0	27.0	25.0	140	10.3	1.19	13.18	107487	173.78	210.18	8.5	14.1
1244.0	21.0	25.0	140	10.3	1.26	13.23	107887	223.43	210.21	8.5	14.1
1245.0	16.0	25.0	140	10.3	1.33	13.29	108412	293.43	210.40	8.5	14.1
1246.0	25.0	25.0	140	10.3	1.21	13.33	108748	187.68	210.35	8.5	14.2
1247.0	14.0	25.0	140	10.3	1.36	13.40	109348	335.14	210.63	8.5	14.2
1248.0	33.0	25.0	140	10.3	1.14	13.43	109602	142.18	210.48	8.5	14.2
1249.0	16.0	25.0	140	10.3	1.33	13.49	110127	293.25	210.67	8.5	14.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1250.0	15.0	25.0	140	10.3	1.35	13.56	110687	312.80	210.90	8.5	14.2
1252.0	32.4	22.0	129	10.2	1.10	13.62	111166	145.00	210.60	8.5	14.2
1253.0	26.7	22.0	133	10.2	1.15	13.66	111465	175.95	210.52	8.5	14.2
1254.0	26.1	22.0	133	10.2	1.16	13.70	111771	179.86	210.45	8.5	14.2
1255.0	31.3	22.0	133	10.2	1.11	13.73	112026	149.88	210.32	8.5	14.2
1256.0	21.8	22.0	133	10.1	1.22	13.77	112393	215.05	210.33	8.5	14.2
1257.0	20.6	22.0	129	10.1	1.22	13.82	112769	228.08	210.37	8.5	14.2
1258.0	24.5	22.0	129	10.1	1.18	13.86	113084	191.59	210.33	8.5	14.2
1259.0	24.8	22.0	129	10.1	1.18	13.90	113397	188.98	210.28	8.5	14.2
1260.0	20.2	22.0	129	10.1	1.23	13.95	113778	231.99	210.33	8.5	14.2
1261.0	23.1	22.0	129	10.1	1.19	14.00	114113	203.32	210.31	8.5	14.2
1262.0	18.8	22.0	129	10.1	1.25	14.05	114525	250.24	210.40	8.5	14.2
1263.0	24.5	22.0	129	10.1	1.18	14.09	114841	191.59	210.36	8.5	14.2
1264.0	26.1	22.0	129	10.1	1.16	14.13	115137	179.86	210.29	8.5	14.2
1265.0	22.9	22.0	129	10.1	1.20	14.17	115475	204.62	210.28	8.5	14.2
1266.0	25.9	22.0	131	10.1	1.17	14.21	115777	181.16	210.22	8.5	14.2
1267.0	24.5	22.0	122	10.1	1.16	14.25	116075	191.59	210.18	8.5	14.2
1268.0	19.5	22.0	136	10.1	1.25	14.30	116494	241.12	210.24	8.5	14.2
1269.0	22.1	22.0	136	10.1	1.22	14.35	116863	212.44	210.25	8.5	14.2
1270.0	26.1	22.0	136	10.1	1.18	14.39	117176	179.86	210.18	8.5	14.2
1271.0	30.3	22.0	136	10.1	1.14	14.42	117447	155.10	210.07	8.5	14.2
1272.0	27.7	22.0	136	10.1	1.16	14.46	117740	169.43	209.98	8.5	14.2
1273.0	29.0	22.0	136	10.1	1.15	14.49	118021	161.61	209.87	8.5	14.2
1274.0	27.5	22.0	135	10.1	1.16	14.53	118317	170.74	209.79	8.5	14.2
1275.0	26.5	22.0	136	10.1	1.17	14.56	118625	177.25	209.72	8.5	14.2
1276.0	29.5	22.0	135	10.1	1.14	14.60	118900	159.01	209.61	8.5	14.2
1277.0	22.1	25.0	117	10.1	1.22	14.64	119218	212.44	209.62	8.5	14.2
1278.0	31.0	25.0	136	10.1	1.17	14.68	119482	151.35	209.50	8.5	14.2
1279.0	23.0	26.0	138	10.1	1.27	14.72	119842	204.00	209.48	8.5	14.2
1280.0	23.0	26.0	138	10.1	1.27	14.76	120202	204.00	209.47	8.5	14.2
1281.0	24.0	25.0	139	10.1	1.24	14.80	120549	195.50	209.44	8.5	14.2
1282.0	27.0	25.0	139	10.1	1.21	14.84	120858	173.78	209.37	8.5	14.2
1283.0	31.0	26.0	139	10.1	1.19	14.87	121127	151.35	209.25	8.5	14.2
1284.0	26.0	25.0	139	10.1	1.22	14.91	121448	180.46	209.19	8.5	14.2
1285.0	29.0	27.0	142	10.1	1.23	14.95	121742	161.79	209.09	8.5	14.2
1286.0	32.0	27.0	142	10.1	1.20	14.98	122008	146.63	208.96	8.5	14.2
1287.0	37.0	28.0	142	10.1	1.17	15.01	122238	126.81	208.79	8.5	14.2
1288.0	33.0	28.0	142	10.1	1.20	15.04	122496	142.18	208.65	8.5	14.2
1289.0	32.0	28.0	142	10.1	1.21	15.07	122763	146.63	208.52	8.5	14.2
1290.0	26.0	28.0	142	10.1	1.27	15.11	123090	180.46	208.46	8.5	14.2
1291.0	24.0	28.0	137	10.1	1.28	15.15	123433	195.50	208.44	8.5	14.2
1292.0	23.0	28.0	137	10.1	1.29	15.19	123790	204.00	208.43	8.5	14.2
1293.0	32.0	29.0	137	10.1	1.20	15.22	124047	146.63	208.30	8.5	14.2
1294.0	35.0	29.0	137	10.1	1.19	15.25	124282	134.06	208.15	8.5	14.2
1295.0	40.0	30.0	137	10.1	1.16	15.28	124487	117.30	207.96	8.5	14.2
1296.0	38.0	30.0	137	10.1	1.18	15.30	124704	123.47	207.79	8.5	14.2
1297.0	32.0	30.0	137	10.1	1.22	15.33	124961	146.63	207.66	8.5	14.2
1298.0	26.0	30.0	137	10.1	1.28	15.37	125277	180.46	207.61	8.5	14.2
1299.0	31.0	29.0	140	10.1	1.23	15.40	125548	151.35	207.50	8.5	14.2
1300.0	31.0	29.0	140	10.1	1.23	15.44	125819	151.35	207.38	8.5	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1301.0	31.0	28.0	140	10.1	1.22	15.47	126090	151.35	207.27	8.5	14.3
1302.0	34.0	30.0	142	10.1	1.22	15.50	126340	138.00	207.13	8.5	14.3
1303.0	33.0	30.0	142	10.1	1.23	15.53	126598	142.18	207.00	8.5	14.3
1304.0	33.0	30.0	142	10.1	1.23	15.56	126857	142.18	206.87	8.5	14.3
1305.0	32.0	29.0	140	10.1	1.22	15.59	127119	146.63	206.75	8.5	14.3
1306.0	30.0	29.0	140	10.1	1.24	15.62	127399	156.40	206.65	8.5	14.3
1307.0	31.0	30.0	141	10.1	1.24	15.66	127672	151.35	206.54	8.5	14.3
1308.0	34.0	30.0	141	10.1	1.22	15.68	127921	138.00	206.40	8.5	14.3
1309.0	25.0	30.0	141	10.1	1.30	15.72	128259	187.68	206.36	8.5	14.3
1310.0	29.0	30.0	141	10.1	1.26	15.76	128551	161.79	206.27	8.5	14.3
1311.0	43.0	30.0	141	10.1	1.15	15.78	128748	109.12	206.08	8.5	14.3
1312.0	32.0	30.0	141	10.1	1.23	15.81	129012	146.63	205.96	8.5	14.3
1313.0	25.0	30.0	141	10.1	1.30	15.85	129350	187.68	205.93	8.5	14.3
1314.0	23.2	30.0	132	10.1	1.30	15.90	129692	202.02	205.92	8.5	14.3
1315.0	28.3	30.0	133	10.1	1.25	15.93	129974	165.52	205.84	8.5	14.3
1316.0	34.6	30.0	134	10.1	1.19	15.96	130206	135.55	205.70	8.5	14.3
1317.0	21.7	30.0	134	10.1	1.33	16.01	130576	216.35	205.72	8.5	14.3
1318.0	20.5	30.0	134	10.1	1.34	16.06	130968	229.39	205.77	8.5	14.3
1319.0	30.3	30.0	134	10.1	1.23	16.09	131235	155.10	205.67	8.5	14.3
1320.0	27.9	30.0	134	10.1	1.26	16.12	131523	168.13	205.60	8.5	14.3
1321.0	28.3	30.0	133	10.2	1.24	16.16	131805	165.52	205.52	8.5	14.3
1322.0	31.6	30.0	134	10.2	1.21	16.19	132060	148.58	205.41	8.5	14.3
1323.0	27.5	30.0	133	10.2	1.25	16.23	132351	170.74	205.34	8.5	14.3
1324.0	17.0	30.0	127	10.2	1.37	16.29	132798	276.31	205.48	8.5	14.3
1325.0	30.3	30.0	138	10.2	1.23	16.32	133071	155.10	205.38	8.5	14.3
1326.0	31.3	30.0	137	10.2	1.22	16.35	133334	149.88	205.28	8.5	14.3
1326.2	17.1	30.0	138	10.2	1.39	16.36	133431	273.70	205.30	8.5	14.3
1328.0	17.1	30.0	137	10.2	1.39	16.47	134295	273.70	205.54	8.5	14.3
1328.2	21.2	30.0	137	10.2	1.33	16.48	134373	221.57	205.54	8.5	14.3
1329.0	27.2	33.0	138	10.2	1.29	16.51	134616	172.69	205.49	8.5	14.3
1329.6	23.0	33.0	137	10.2	1.34	16.53	134830	204.19	205.49	8.5	14.3
1331.4	18.9	33.0	138	10.2	1.40	16.63	135619	247.63	205.64	8.5	14.3
1332.0	26.7	33.0	122	10.2	1.26	16.65	135783	175.95	205.60	8.5	14.3
1333.0	43.4	33.0	140	10.2	1.16	16.67	135976	108.18	205.42	8.5	14.3
1335.0	31.3	32.0	142	10.2	1.25	16.74	136519	149.88	205.21	8.5	14.3
1335.4	45.0	32.0	141	10.2	1.15	16.75	136594	104.27	205.13	8.5	14.3
1335.6	80.0	32.0	141	10.2	0.98	16.75	136616	58.65	205.08	8.5	14.3
1336.0	21.5	32.0	141	10.2	1.35	16.77	136772	218.31	205.09	8.5	14.3
1337.0	25.9	32.0	141	10.2	1.30	16.81	137100	181.16	205.04	8.5	14.3
1338.0	18.8	32.0	140	10.1	1.41	16.86	137547	248.94	205.12	8.5	14.3
1339.0	22.0	32.0	141	10.1	1.36	16.91	137933	213.75	205.14	8.5	14.3
1340.0	23.7	32.0	141	10.1	1.34	16.95	138290	198.11	205.13	8.5	14.3
1341.0	30.8	32.0	142	10.1	1.27	16.98	138567	152.49	205.03	8.5	14.3
1342.0	27.3	32.0	102	10.1	1.21	17.02	138792	172.04	204.97	8.5	14.3
1343.0	15.9	32.0	133	10.1	1.44	17.08	139292	294.55	205.13	8.5	14.3
1344.0	22.4	32.0	132	10.1	1.34	17.12	139646	209.84	205.14	8.5	14.3
1345.0	29.3	32.0	132	10.1	1.26	17.16	139917	160.31	205.06	8.5	14.3
1346.0	32.4	31.0	132	10.1	1.22	17.19	140162	144.67	204.95	8.5	14.3
1347.0	32.7	31.0	133	10.1	1.22	17.22	140406	143.37	204.83	8.5	14.3
1348.0	33.6	31.0	132	10.1	1.21	17.25	140642	139.46	204.71	8.5	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1349.0	30.0	31.0	131	10.1	1.24	17.28	140904	156.40	204.62	8.5	14.3
1350.0	31.0	31.0	132	10.1	1.23	17.31	141158	151.19	204.53	8.5	14.3
1351.0	21.7	31.0	124	10.1	1.32	17.36	141501	216.35	204.55	8.5	14.3
1352.0	31.0	31.0	137	10.1	1.24	17.39	141766	151.19	204.45	8.5	14.3
1353.0	44.4	31.0	137	10.1	1.14	17.42	141952	105.57	204.27	8.5	14.3
1354.0	36.4	31.0	137	10.1	1.20	17.44	142178	129.03	204.13	8.5	14.3
1355.0	36.7	31.0	139	10.1	1.20	17.47	142405	127.73	203.99	8.5	14.4
1356.0	35.3	31.0	137	10.1	1.21	17.50	142638	132.94	203.86	8.5	14.4
1357.0	40.9	31.0	138	10.1	1.17	17.52	142840	114.69	203.70	8.5	14.4
1358.0	25.2	31.0	137	10.1	1.30	17.56	143167	186.38	203.67	8.5	14.4
1359.0	28.6	31.0	137	10.1	1.27	17.60	143455	164.22	203.60	8.5	14.4
1360.0	33.6	31.0	138	10.1	1.22	17.63	143701	139.46	203.48	8.5	14.4
1361.0	25.7	31.0	134	10.1	1.29	17.67	144012	182.47	203.45	8.5	14.4
1362.0	30.8	31.0	138	10.1	1.25	17.70	144282	152.49	203.35	8.5	14.4
1363.0	22.1	31.0	139	10.1	1.34	17.74	144658	212.44	203.37	8.5	14.4
1364.0	21.3	31.0	139	10.1	1.35	17.79	145050	220.26	203.40	8.5	14.4
1365.0	27.7	33.0	138	10.1	1.30	17.83	145349	169.43	203.34	8.5	14.4
1366.0	32.7	33.0	138	10.1	1.25	17.86	145603	143.37	203.23	8.5	14.4
1367.0	23.1	33.0	139	10.1	1.36	17.90	145963	203.32	203.23	8.5	14.4
1368.0	28.8	33.0	139	10.1	1.29	17.94	146252	162.92	203.16	8.5	14.4
1369.0	34.3	33.0	138	10.1	1.24	17.97	146494	136.85	203.04	8.5	14.4
1370.0	42.4	30.0	137	10.1	1.15	17.99	146689	110.78	202.88	8.5	14.4
1371.0	34.3	30.0	130	10.1	1.19	18.02	146915	136.85	202.76	8.5	14.4
1372.0	31.9	30.0	139	10.1	1.23	18.05	147177	147.28	202.66	8.5	14.4
1373.0	25.9	30.0	139	10.1	1.29	18.09	147498	181.16	202.63	8.5	14.4
1374.0	33.6	30.0	139	10.1	1.21	18.12	147746	139.46	202.52	8.5	14.4
1375.0	24.3	30.0	139	10.1	1.30	18.16	148088	192.89	202.50	8.5	14.4
1376.0	28.1	30.0	140	10.1	1.27	18.19	148386	166.83	202.44	8.5	14.4
1377.0	26.7	30.0	139	10.1	1.28	18.23	148699	175.95	202.39	8.5	14.4
1379.0	23.0	33.0	139	10.1	1.36	18.32	149424	203.65	202.39	8.5	14.4
1380.0	26.5	33.0	133	10.1	1.30	18.36	149724	177.25	202.35	8.5	14.4
1381.0	18.5	33.0	139	10.1	1.42	18.41	150175	254.15	202.44	8.5	14.4
1382.0	13.5	33.0	122	10.1	1.47	18.48	150714	346.69	202.69	8.5	14.4
1383.0	15.7	33.0	136	10.1	1.46	18.55	151235	299.77	202.66	8.5	14.4
1384.0	12.2	34.0	135	10.1	1.55	18.63	151898	383.18	203.17	8.5	14.4
1385.0	14.1	34.0	136	10.1	1.50	18.70	152475	332.35	203.39	8.5	14.4
1386.0	11.5	34.0	135	10.1	1.56	18.79	153179	407.94	203.75	8.5	14.4
1387.0	14.3	34.0	135	10.1	1.50	18.86	153743	327.14	203.96	8.5	14.4
1388.0	11.5	34.0	135	10.1	1.56	18.94	154451	409.25	204.31	8.5	14.4
1389.0	15.2	34.0	135	10.1	1.48	19.01	154986	308.89	204.49	8.5	14.4
1390.0	11.9	34.0	126	10.1	1.53	19.09	155621	394.91	204.82	8.5	14.4
1391.0	7.9	34.0	136	10.1	1.67	19.22	156644	590.41	205.48	8.5	14.4
1392.0	16.0	34.0	134	10.1	1.46	19.28	157147	293.25	205.63	8.5	14.4
1393.0	20.3	34.0	134	10.1	1.40	19.33	157543	230.69	205.67	8.5	14.4
1394.0	80.0	34.0	135	10.1	1.00	19.34	157645	58.65	205.42	8.5	14.4
1395.0	33.3	34.0	66	10.1	1.04	19.37	157763	140.76	205.31	8.5	14.4
1396.0	53.7	34.0	93	10.1	1.01	19.39	157867	87.32	205.11	8.5	14.4
1396.2	21.2	34.0	85	10.1	1.25	19.40	157916	221.57	205.11	8.5	14.4
1396.4	41.0	34.0	85	10.1	1.06	19.41	157940	114.44	205.08	8.5	14.4

BIT NUMBER	3	IADC CODE	4	INTERVAL	1396.4- 1410.0
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.1	BIT RUN	13.6
TOTAL HOURS	2.19	TOTAL TURNS	9932	CONDITION	T0 B0 G0.010

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1396.6	1.0	5.0	74	10.1	1.44	0.20	888	4692	222798	8.5	14.4
1396.8	3.3	5.0	74	10.1	1.21	0.26	1160	1434	112116	8.5	14.4
1397.0	8.0	5.0	76	10.1	1.03	0.29	1274	587	74939	8.5	14.4
1397.2	1.7	6.0	77	10.1	1.40	0.41	1831	2828	56912	8.5	14.4
1397.4	6.6	7.0	76	10.1	1.15	0.44	1970	710	45671	8.5	14.4
1397.6	1.9	8.0	76	10.1	1.46	0.54	2463	2522	38480	8.5	14.4
1397.8	13.6	9.0	76	10.1	1.05	0.56	2530	345	33032	8.5	14.4
1398.0	2.9	10.0	77	10.1	1.44	0.63	2853	1636	29107	8.5	14.4
1398.2	18.0	10.0	77	10.1	1.01	0.64	2904	261	25902	8.5	14.4
1398.4	1.5	10.0	76	10.1	1.59	0.77	3505	3076	23620	8.5	14.4
1398.6	15.7	10.0	76	10.1	1.04	0.78	3563	300	21500	8.5	14.4
1398.8	1.8	10.0	76	10.1	1.54	0.89	4066	2594	19924	8.5	14.4
1399.0	18.9	10.0	76	10.1	1.00	0.91	4114	248	18411	8.5	14.4
1399.2	1.8	10.0	76	10.1	1.55	1.02	4623	2626	17283	8.5	14.4
1399.4	13.1	10.0	75	10.1	1.08	1.03	4692	358	16155	8.5	14.4
1399.6	4.9	10.0	76	10.1	1.32	1.07	4879	958	15205	8.5	14.4
1399.8	10.1	10.0	76	10.1	1.14	1.09	4969	463	14338	8.5	14.4
1400.0	2.6	11.0	77	10.1	1.50	1.17	5326	1825	13643	8.5	14.4
1400.2	18.5	12.0	76	10.1	1.05	1.18	5376	254	12938	8.5	14.4
1400.4	1.8	13.0	76	10.1	1.65	1.29	5880	2581	12420	8.5	14.4
1400.6	10.4	14.0	76	10.1	1.24	1.31	5968	450	11850	8.5	14.4
1400.8	1.8	14.0	76	10.1	1.67	1.42	6465	2555	11428	8.5	14.4
1401.0	11.3	14.0	76	10.1	1.22	1.44	6546	417	10949	8.5	14.4
1401.2	1.6	14.0	76	10.1	1.71	1.56	7108	2874	10612	8.5	14.4
1401.4	26.7	14.0	77	10.1	1.00	1.57	7142	176	10195	8.5	14.4
1401.6	1.4	14.0	76	10.1	1.74	1.71	7796	3343	9931	8.5	14.4
1401.8	8.1	14.0	77	10.1	1.30	1.73	7910	580	9585	8.5	14.4
1402.0	1.8	14.0	76	10.1	1.68	1.84	8408	2555	9334	8.5	14.4
1402.2	9.6	14.0	76	10.1	1.26	1.86	8503	489	9029	8.5	14.4
1402.4	1.6	12.0	77	10.1	1.65	1.99	9076	2926	8826	8.5	14.4
1402.6	32.7	12.0	69	10.1	0.89	1.99	9101	143	8545	8.5	14.4
1402.8	32.7	12.0	70	10.1	0.89	2.00	9126	143	8283	8.5	14.4
1403.2	38.4	12.0	65	10.1	0.83	2.01	9167	122	7803	8.5	14.4
1404.4	32.2	12.0	63	10.1	0.87	2.05	9308	146	6654	8.5	14.4
1404.6	60.0	12.0	76	10.1	0.76	2.05	9323	78	6494	8.5	14.4
1404.8	32.7	12.0	76	10.1	0.91	2.06	9351	143	6343	8.5	14.4
1405.0	40.0	12.0	75	10.1	0.86	2.06	9373	117	6198	8.5	14.4
1405.2	60.0	12.0	74	10.1	0.76	2.07	9388	78	6059	8.5	14.4
1405.4	60.0	12.0	74	10.1	0.76	2.07	9403	78	5926	8.5	14.4
1405.6	37.9	12.0	74	10.1	0.87	2.08	9427	124	5800	8.5	14.4
1405.8	37.9	12.0	76	10.1	0.87	2.08	9451	124	5679	8.5	14.4
1406.0	34.3	10.0	76	10.1	0.86	2.09	9477	137	5564	8.5	14.4
1406.2	80.0	10.0	72	10.1	0.65	2.09	9488	59	5451	8.5	14.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1406.4	42.4	10.0	73	10.1	0.80	2.09	9509	111	5344	8.5	14.4
1406.6	37.9	9.0	74	10.1	0.81	2.10	9532	124	5242	8.5	14.4
1406.8	102.9	8.0	75	10.1	0.57	2.10	9541	46	5142	8.5	14.4
1407.0	34.3	8.0	74	10.1	0.81	2.11	9567	137	5048	8.5	14.4
1407.2	27.7	8.0	73	10.1	0.86	2.11	9599	169	4957	8.5	14.4
1407.4	60.0	8.0	77	10.1	0.70	2.12	9615	78	4869	8.5	14.4
1407.6	48.0	8.0	74	10.1	0.74	2.12	9633	98	4783	8.5	14.4
1407.8	48.0	7.0	74	10.1	0.72	2.13	9652	98	4701	8.5	14.4
1408.0	27.7	6.0	75	10.1	0.81	2.13	9684	169	4623	8.5	14.4
1408.2	36.0	6.0	75	10.1	0.76	2.14	9709	130	4547	8.5	14.4
1408.4	20.0	6.0	75	10.1	0.88	2.15	9755	235	4475	8.5	14.4
1408.6	26.7	6.0	74	10.1	0.82	2.16	9788	176	4405	8.5	14.4
1408.8	40.0	6.0	74	10.1	0.73	2.16	9810	117	4335	8.5	14.4
1409.0	36.0	6.0	77	10.1	0.76	2.17	9836	130	4269	8.5	14.4
1409.2	72.0	6.0	77	10.1	0.62	2.17	9849	65	4203	8.5	14.4
1409.4	55.4	6.0	76	10.1	0.67	2.17	9865	85	4140	8.5	14.4
1409.6	31.3	6.0	76	10.1	0.79	2.18	9894	150	4079	8.5	14.4
1409.8	65.5	5.0	77	10.1	0.61	2.18	9908	72	4019	8.5	14.4
1410.0	40.0	5.0	78	10.1	0.71	2.19	9932	117	3962	8.5	14.4

BIT NUMBER	3	IADC CODE	4	INTERVAL	1410.0- 1418.0
CHRISTENSEN	C-22	SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.2	BIT RUN	8.0
TOTAL HOURS	4.65	TOTAL TURNS	21110	CONDITION	T0 R0 G0.100

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1410.2	113.0	5.0	47	10.1	0.41	2.27	9969	42	3967	8.5	14.4
1410.4	37.9	5.0	47	10.1	0.62	2.28	9984	124	3912	8.5	14.4
1410.6	98.0	4.5	48	10.1	0.43	2.28	9990	48	3858	8.5	14.4
1410.8	42.4	5.0	48	10.1	0.61	2.28	10003	111	3806	8.5	14.4
1411.0	60.0	5.0	47	10.1	0.53	2.29	10013	78	3755	8.5	14.4
1411.2	37.9	4.0	45	10.1	0.59	2.29	10027	124	3706	8.5	14.4
1411.4	26.7	4.0	48	10.1	0.67	2.30	10049	176	3659	8.5	14.4
1411.6	65.5	4.0	47	10.1	0.49	2.30	10057	72	3612	8.5	14.4
1411.8	9.5	6.0	48	10.1	0.94	2.32	10119	495	3571	8.5	14.4
1412.0	30.0	6.0	50	10.1	0.71	2.33	10139	156	3527	8.5	14.4
1412.2	13.3	6.0	49	10.1	0.88	2.35	10183	352	3487	8.5	14.4
1412.4	24.0	5.5	50	10.1	0.74	2.35	10208	196	3446	8.5	14.4
1412.6	5.0	5.5	54	10.1	1.08	2.39	10338	938	3415	8.5	14.4
1412.8	10.6	5.5	67	10.1	0.97	2.41	10413	443	3379	8.5	14.5
1413.0	3.5	9.0	68	10.1	1.34	2.47	10649	1355	3354	8.5	14.5
1413.2	9.9	10.0	69	10.1	1.13	2.49	10732	476	3320	8.5	14.5
1413.4	5.1	12.0	76	10.1	1.36	2.53	10912	925	3292	8.5	14.5
1413.6	10.3	12.0	66	10.1	1.16	2.55	10990	456	3259	8.5	14.5
1413.8	28.8	12.0	77	10.1	0.95	2.56	11022	163	3223	8.5	14.5
1414.0	55.4	12.0	78	10.1	0.79	2.56	11039	85	3188	8.5	14.5
1414.2	72.0	12.0	81	10.1	0.73	2.56	11052	65	3153	8.5	14.5
1414.4	80.0	12.0	76	10.1	0.69	2.57	11063	59	3118	8.5	14.5
1414.6	80.0	12.0	78	10.1	0.70	2.57	11075	59	3085	8.5	14.5
1414.8	65.5	12.0	76	10.1	0.74	2.57	11089	72	3052	8.5	14.5
1415.0	40.0	12.0	81	10.1	0.88	2.58	11114	117	3020	8.5	14.5
1415.2	72.0	12.0	81	10.1	0.73	2.58	11127	65	2989	8.5	14.5
1415.4	60.0	12.0	81	10.1	0.78	2.58	11143	78	2958	8.5	14.5
1415.6	65.5	12.0	79	10.1	0.75	2.59	11158	72	2928	8.5	14.5
1415.8	40.0	12.0	77	10.1	0.87	2.59	11181	117	2899	8.5	14.5
1416.0	36.0	11.5	75	10.1	0.88	2.60	11206	130	2871	8.5	14.5
1416.2	13.1	11.5	78	10.1	1.13	2.61	11277	358	2846	8.5	14.5
1416.4	10.7	12.5	71	10.1	1.18	2.63	11356	437	2821	8.5	14.5
1416.6	0.7	12.5	80	10.1	1.88	2.91	12723	6686	2860	8.5	14.5
1416.8	36.0	12.5	79	10.1	0.91	2.92	12749	130	2833	8.5	14.5
1417.0	2.0	13.0	79	10.1	1.63	3.02	13215	2294	2828	8.5	14.5
1417.2	8.5	13.0	78	10.1	1.27	3.04	13325	554	2806	8.5	14.5
1417.4	0.2	16.0	81	10.1	2.38	4.24	19130	28119	3047	8.5	14.5
1417.6	11.1	16.0	80	10.1	1.28	4.26	19216	424	3022	8.5	14.5
1417.8	0.5	20.0	80	10.1	2.20	4.63	21014	8765	3076	8.5	14.5
1418.0	10.1	20.0	81	10.1	1.38	4.65	21110	463	3052	8.5	14.5

BIT NUMBER	4	IADC CODE	114	INTERVAL	1418.0- 1545.2
HTC X3A		SIZE	12.250	NOZZLES	15 15 14
COST	1400.00	TRIP TIME	6.6	BIT RUN	127.2
TOTAL HOURS	4.83	TOTAL TURNS	36851	CONDITION	T5 R3 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1419.0	62.0	20.0	142	10.0	0.95	0.02	137	76	32443	8.5	14.5
1420.0	63.0	20.0	142	10.0	0.94	0.03	273	74	16259	8.5	14.5
1421.0	60.0	21.0	142	10.0	0.97	0.05	415	78	10865	8.5	14.5
1422.0	90.0	21.0	142	10.0	0.86	0.06	509	52	8162	8.5	14.5
1423.0	78.0	21.0	142	10.0	0.90	0.07	619	60	6542	8.5	14.5
1424.0	72.0	22.0	142	10.0	0.93	0.09	737	65	5462	8.5	14.5
1425.0	63.0	22.0	142	10.0	0.97	0.10	872	74	4692	8.5	14.5
1426.0	61.0	22.0	142	10.0	0.97	0.12	1012	77	4116	8.5	14.5
1427.0	5.0	22.0	140	10.1	1.61	0.32	2692	938	3763	8.5	14.5
1428.0	27.4	24.0	134	10.1	1.19	0.36	2985	171	3403	8.5	14.5
1429.0	92.3	24.0	130	10.1	0.86	0.37	3069	51	3099	8.5	14.5
1430.0	180.0	24.0	134	10.1	0.69	0.37	3114	26	2843	8.5	14.5
1431.0	150.0	24.0	133	10.1	0.73	0.38	3167	31	2626	8.5	14.5
1432.0	133.3	24.0	130	10.1	0.76	0.39	3225	35	2441	8.5	14.5
1433.0	5.0	12.0	53	10.1	1.17	0.58	3857	931	2341	8.5	14.5
1434.0	35.0	12.0	126	10.1	0.93	0.61	4073	134	2203	8.5	14.5
1435.0	109.1	12.0	126	10.1	0.68	0.62	4143	43	2076	8.5	14.5
1436.0	102.9	12.0	127	10.1	0.69	0.63	4217	46	1963	8.5	14.5
1437.0	87.8	10.0	101	10.1	0.65	0.64	4286	53	1862	8.5	14.5
1438.0	150.0	10.0	80	10.1	0.49	0.65	4318	31	1771	8.5	14.5
1439.0	138.5	12.0	93	10.1	0.56	0.66	4359	34	1688	8.5	14.5
1440.0	124.1	12.0	118	10.1	0.64	0.66	4416	38	1613	8.5	14.5
1441.0	133.3	12.0	124	10.1	0.63	0.67	4471	35	1544	8.5	14.5
1442.0	105.9	12.0	124	10.1	0.68	0.68	4542	44	1482	8.5	14.5
1443.0	100.0	12.0	124	10.1	0.69	0.69	4616	47	1425	8.5	14.5
1444.0	97.3	12.0	123	10.1	0.70	0.70	4692	48	1372	8.5	14.5
1445.0	47.4	11.0	130	10.1	0.86	0.72	4856	99	1324	8.5	14.5
1446.0	42.4	11.0	127	10.1	0.87	0.75	5036	111	1281	8.5	14.5
1447.0	94.7	11.0	128	10.1	0.70	0.76	5117	50	1239	8.5	14.5
1448.0	80.0	11.0	127	10.1	0.74	0.77	5212	59	1199	8.5	14.5
1449.0	65.5	12.0	130	10.1	0.80	0.79	5332	72	1163	8.5	14.5
1450.0	92.3	13.0	129	10.1	0.74	0.80	5415	51	1128	8.5	14.5
1451.0	124.1	17.0	129	10.1	0.71	0.80	5478	38	1095	8.5	14.5
1452.0	133.3	19.0	133	10.1	0.72	0.81	5538	35	1064	8.5	14.5
1453.0	128.6	18.0	137	10.1	0.73	0.82	5602	36	1035	8.5	14.5
1454.0	206.0	18.0	110	10.1	0.56	0.82	5634	23	1007	8.5	14.5
1455.0	36.9	14.0	97	10.1	0.89	0.85	5791	127.08	982.75	8.5	14.5
1456.0	64.3	12.0	122	10.1	0.79	0.87	5905	72.99	958.80	8.5	14.5
1457.0	50.7	20.0	124	10.1	0.96	0.89	6051	92.54	936.59	8.5	14.5
1458.0	13.1	6.0	68	10.1	0.88	0.96	6361	358.42	922.14	8.5	14.5
1459.0	46.2	5.0	122	10.1	0.72	0.98	6519	101.66	902.13	8.5	14.5
1460.0	52.2	5.0	128	10.1	0.71	1.00	6666	89.93	882.79	8.5	14.5
1461.0	42.9	5.0	133	10.1	0.75	1.03	6853	109.48	864.80	8.5	14.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1462.0	63.2	5.0	134	10.1	0.68	1.04	6980	74.29	846.84	8.5	14.5
1463.0	44.4	5.0	130	10.1	0.74	1.07	7155	105.57	830.37	8.5	14.5
1464.0	37.0	9.0	131	10.1	0.87	1.09	7368	126.81	815.07	8.5	14.5
1465.0	41.4	11.0	132	10.1	0.89	1.12	7559	113.39	800.14	8.5	14.5
1466.0	56.2	13.0	131	10.1	0.85	1.13	7699	83.41	785.21	8.5	14.5
1467.0	63.2	18.0	130	10.1	0.89	1.15	7822	74.29	770.70	8.5	14.5
1468.0	66.7	20.0	129	10.1	0.90	1.17	7938	70.38	756.69	8.5	14.5
1469.0	75.0	25.0	129	10.1	0.92	1.18	8042	62.56	743.08	8.5	14.5
1470.0	12.1	20.0	134	10.1	1.34	1.26	8703	387.09	736.24	8.5	14.5
1471.0	50.0	20.0	134	10.1	0.98	1.28	8864	93.84	724.12	8.5	14.5
1472.0	17.0	20.0	134	10.1	1.25	1.34	9336	276.31	715.82	8.5	14.5
1473.0	12.6	20.0	133	10.1	1.32	1.42	9968	371.45	709.56	8.5	14.6
1474.0	14.5	20.0	134	10.1	1.29	1.49	10524	324.53	702.69	8.5	14.6
1475.0	6.7	20.0	132	10.1	1.48	1.64	11711	705.10	702.73	8.5	14.6
1476.0	10.7	20.0	134	10.1	1.37	1.73	12458	436.62	698.14	8.5	14.6
1477.0	15.6	20.0	136	10.1	1.28	1.80	12982	301.07	691.41	8.5	14.6
1478.0	10.8	20.0	80	10.1	1.24	1.89	13427	434.01	687.12	8.5	14.6
1479.0	30.5	20.0	110	10.1	1.05	1.92	13643	153.79	678.38	8.5	14.6
1480.0	27.5	14.0	128	10.1	1.03	1.96	13921	170.74	670.19	8.5	14.6
1481.0	38.7	14.0	134	10.1	0.96	1.98	14130	121.21	661.48	8.5	14.6
1482.0	48.0	14.0	134	10.1	0.91	2.00	14298	97.75	652.67	8.5	14.6
1483.0	40.0	14.0	104	10.1	0.89	2.03	14454	117.30	644.43	8.5	14.6
1484.0	8.6	30.0	130	10.1	1.58	2.15	15362	547.40	642.96	8.5	14.6
1485.0	56.2	30.0	92	10.1	0.95	2.16	15460	83.41	634.61	8.5	14.6
1486.0	36.4	30.0	118	10.1	1.15	2.19	15655	129.03	627.18	8.5	14.6
1487.0	33.3	30.0	122	10.1	1.18	2.22	15874	140.76	620.13	8.5	14.6
1488.0	20.8	30.0	105	10.1	1.27	2.27	16176	225.48	614.49	8.5	14.6
1489.0	42.4	30.0	137	10.1	1.15	2.29	16371	110.78	607.39	8.5	14.6
1490.0	54.5	30.0	137	10.1	1.07	2.31	16522	86.02	600.15	8.5	14.6
1491.0	58.1	30.0	136	10.1	1.06	2.33	16662	80.81	593.04	8.5	14.6
1492.0	48.6	30.0	135	10.1	1.10	2.35	16829	96.45	586.33	8.5	14.6
1493.0	92.3	30.0	138	10.1	0.93	2.36	16919	50.83	579.19	8.5	14.6
1494.0	48.0	34.0	137	10.1	1.15	2.38	17090	97.75	572.85	8.5	14.6
1495.0	22.9	25.0	130	10.1	1.24	2.42	17431	204.62	568.07	8.5	14.6
1496.0	32.4	25.0	131	10.1	1.15	2.46	17673	144.67	562.64	8.5	14.6
1497.0	19.6	25.0	137	10.1	1.29	2.51	18093	239.81	558.56	8.5	14.6
1498.0	16.2	25.0	137	10.1	1.34	2.57	18599	289.34	555.19	8.5	14.6
1499.0	25.2	25.0	136	10.1	1.23	2.61	18924	186.38	550.64	8.5	14.6
1500.0	22.2	25.0	137	10.1	1.26	2.65	19294	211.14	546.50	8.5	14.6
1501.0	26.5	25.0	136	10.1	1.21	2.69	19601	177.25	542.05	8.5	14.6
1502.0	33.0	25.0	128	10.1	1.14	2.72	19835	142.06	537.29	8.5	14.6
1503.0	18.2	25.0	120	10.1	1.28	2.78	20230	258.06	534.00	8.5	14.6
1504.0	24.2	30.0	126	10.1	1.28	2.82	20544	194.20	530.05	8.5	14.6
1505.0	30.3	30.0	128	10.1	1.22	2.85	20797	155.10	525.74	8.5	14.6
1506.0	25.2	30.0	140	10.1	1.30	2.89	21132	186.38	521.88	8.5	14.6
1507.0	26.3	30.0	141	10.1	1.29	2.93	21455	178.56	518.03	8.5	14.6
1508.0	26.3	30.0	141	10.1	1.29	2.97	21777	178.56	514.25	8.5	14.6
1509.0	39.1	30.0	142	10.1	1.18	2.99	21995	119.91	509.92	8.5	14.6
1510.0	19.9	30.0	142	10.1	1.37	3.04	22422	235.90	506.94	8.5	14.6
1511.0	27.5	30.0	141	10.1	1.28	3.08	22730	170.74	503.33	8.5	14.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1512.0	39.6	30.0	141	10.1	1.17	3.10	22944	118.60	499.24	8.5	14.6
1513.0	30.8	30.0	117	10.1	1.19	3.14	23172	152.49	495.59	8.5	14.6
1514.0	21.3	30.0	138	10.1	1.34	3.18	23561	220.26	492.72	8.5	14.6
1515.0	38.3	30.0	136	10.1	1.17	3.21	23774	122.51	488.90	8.5	14.6
1516.0	13.5	30.0	138	10.1	1.47	3.28	24388	346.69	487.45	8.5	14.6
1517.0	15.3	30.0	138	10.1	1.43	3.35	24929	306.28	485.62	8.5	14.6
1518.0	20.3	30.0	138	10.1	1.35	3.40	25336	230.69	483.07	8.5	14.6
1519.0	9.1	30.0	139	10.1	1.58	3.51	26247	513.51	483.37	8.5	14.6
1520.0	54.0	30.0	139	10.1	1.08	3.53	26402	86.89	479.48	8.5	14.6
1521.0	11.0	30.0	139	10.1	1.53	3.62	27160	426.55	478.97	8.5	14.6
1522.0	59.0	30.0	139	10.1	1.06	3.63	27301	79.53	475.13	8.5	14.6
1523.0	40.0	30.0	139	10.1	1.17	3.66	27510	117.30	471.72	8.5	14.6
1524.0	50.0	30.0	139	10.1	1.10	3.68	27677	93.84	468.16	8.5	14.6
1525.0	15.6	30.0	138	10.1	1.43	3.74	28207	300.77	466.59	8.5	14.6
1526.0	24.6	30.0	138	10.1	1.30	3.78	28544	190.73	464.04	8.5	14.6
1527.0	28.0	30.0	138	10.1	1.26	3.82	28840	167.57	461.32	8.5	14.6
1528.0	16.0	30.0	138	10.1	1.42	3.88	29357	293.25	459.79	8.5	14.6
1529.0	16.0	30.0	138	10.1	1.42	3.94	29875	293.25	458.29	8.5	14.6
1530.0	9.1	30.0	138	10.1	1.58	4.05	30785	515.60	458.80	8.5	14.6
1531.0	10.6	30.0	138	10.1	1.54	4.15	31566	442.64	458.66	8.5	14.6
1532.0	27.0	30.0	138	10.1	1.27	4.18	31873	173.78	456.16	8.5	14.6
1533.0	25.7	30.0	92	10.1	1.17	4.22	32088	182.47	453.78	8.5	14.6
1534.0	50.7	30.0	139	10.1	1.10	4.24	32253	92.54	450.67	8.5	14.6
1535.0	39.6	30.0	139	10.1	1.17	4.27	32463	118.60	447.83	8.5	14.7
1536.0	32.7	30.0	139	10.1	1.22	4.30	32719	143.37	445.25	8.5	14.7
1537.0	37.9	30.0	139	10.1	1.18	4.33	32939	123.82	442.55	8.5	14.7
1538.0	53.7	30.0	139	10.1	1.08	4.34	33094	87.32	439.59	8.5	14.7
1539.0	53.7	30.0	138	10.1	1.08	4.36	33248	87.32	436.67	8.5	14.7
1540.0	16.6	30.0	87	10.1	1.28	4.42	33562	282.82	435.41	8.5	14.7
1541.0	11.4	30.0	132	10.1	1.50	4.51	34258	411.85	435.22	8.5	14.7
1542.0	7.9	30.0	140	10.1	1.62	4.64	35321	594.32	436.51	8.5	14.7
1543.0	11.6	30.0	140	10.1	1.52	4.72	36048	405.34	436.26	8.5	14.7
1544.0	20.9	30.0	139	10.1	1.35	4.77	36446	224.17	434.57	8.5	14.7
1545.0	30.0	30.0	140	10.1	1.25	4.81	36726	156.40	432.38	8.5	14.7
1545.2	9.4	30.0	97	10.1	1.47	4.83	36851	501.78	432.49	8.5	14.7

BIT NUMBER	4	IADC CODE	4	INTERVAL	1545.2- 1558.2
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.7	BIT RUN	13.0
TOTAL HOURS	4.94	TOTAL TURNS	28102	CONDITION	TO B0 G0.015

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1545.4	2.1	7.0	95	10.1	1.44	0.10	543	2234	234416	8.5	14.7
1545.6	3.8	7.0	96	10.1	1.32	0.15	844	1232	117824	8.5	14.7
1545.8	2.2	7.0	95	10.1	1.43	0.24	1355	2111	79253	8.5	14.7
1546.0	24.8	7.0	91	10.1	0.90	0.25	1399	189	59487	8.5	14.7
1546.2	3.9	7.0	94	10.1	1.30	0.30	1684	1193	47828	8.5	14.7
1546.4	14.4	7.0	93	10.1	1.02	0.31	1762	326	39911	8.5	14.7
1546.6	6.4	7.0	92	10.1	1.20	0.34	1934	730	34314	8.5	14.7
1546.8	16.0	7.0	93	10.1	1.00	0.35	2004	293	30061	8.5	14.7
1547.0	6.5	7.0	93	10.1	1.20	0.38	2176	723	26801	8.5	14.7
1547.2	21.2	7.0	93	10.1	0.94	0.39	2228	222	24143	8.5	14.7
1547.4	4.0	7.0	94	10.1	1.30	0.44	2515	1186	22056	8.5	14.7
1547.6	17.6	9.0	95	10.1	1.04	0.46	2580	267	20241	8.5	14.7
1547.8	3.8	12.0	94	10.1	1.49	0.51	2880	1245	18779	8.5	14.7
1548.0	30.0	15.0	97	10.1	1.05	0.52	2918	156	17449	8.5	14.7
1548.2	1.9	15.0	95	10.1	1.75	0.62	3519	2483	16451	8.5	14.7
1548.4	10.7	15.0	94	10.1	1.31	0.64	3625	437	15451	8.5	14.7
1548.6	1.4	15.0	95	10.1	1.83	0.78	4420	3258	14733	8.5	14.7
1548.8	20.6	15.0	96	10.1	1.14	0.79	4476	228	13927	8.5	14.7
1549.0	1.2	15.0	95	10.1	1.88	0.96	5464	4047	13407	8.5	14.7
1549.2	19.5	15.0	95	10.1	1.15	0.97	5523	241	12749	8.5	14.7
1549.4	2.2	15.0	95	10.1	1.72	1.06	6049	2164	12245	8.5	14.7
1549.6	10.6	10.0	97	10.1	1.19	1.08	6159	443	11709	8.5	14.7
1549.8	0.5	12.0	95	10.1	2.00	1.52	8663	10342	11649	8.5	14.7
1550.0	6.9	15.0	95	10.1	1.42	1.55	8829	684	11192	8.5	14.7
1550.2	1.1	15.0	95	10.1	1.89	1.73	9831	4119	10909	8.5	14.7
1550.4	5.8	15.0	95	10.1	1.47	1.76	10029	815	10521	8.5	14.7
1550.6	1.5	15.0	95	10.1	1.81	1.89	10773	3056	10245	8.5	14.7
1550.8	10.9	15.0	95	10.1	1.30	1.91	10878	430	9894	8.5	14.7
1551.0	2.0	15.0	95	10.1	1.74	2.01	11457	2392	9635	8.5	14.7
1551.2	15.0	15.0	92	10.1	1.21	2.03	11531	313	9325	8.5	14.7
1551.4	3.1	15.0	94	10.1	1.63	2.09	11900	1538	9073	8.5	14.7
1551.6	10.4	15.0	94	10.1	1.31	2.11	12008	450	8804	8.5	14.7
1551.8	2.5	15.0	94	10.1	1.68	2.19	12465	1903	8595	8.5	14.7
1552.0	12.0	15.0	93	10.1	1.27	2.21	12558	391	8354	8.5	14.7
1552.2	3.6	15.0	94	10.1	1.58	2.26	12867	1290	8152	8.5	14.7
1552.4	19.5	15.0	93	10.1	1.15	2.27	12925	241	7932	8.5	14.7
1552.6	2.5	15.0	94	10.1	1.68	2.35	13371	1864	7768	8.5	14.7
1552.8	18.9	15.0	94	10.1	1.16	2.36	13431	248	7570	8.5	14.7
1553.0	0.8	15.0	95	10.1	1.97	2.61	14831	5761	7524	8.5	14.7
1553.2	11.6	15.0	96	10.1	1.29	2.63	14930	404	7346	8.5	14.7
1553.4	0.6	15.0	95	10.1	2.07	2.98	16961	8354	7370	8.5	14.7
1553.6	10.6	15.0	95	10.1	1.31	3.00	17068	443	7205	8.5	14.7
1553.8	0.7	15.0	95	10.1	2.01	3.28	18671	6582	7191	8.5	14.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1554.0	8.6	15.0	95	10.1	1.37	3.31	18805	547	7040	8.5	14.7
1554.2	1.5	15.0	96	10.1	1.81	3.44	19549	3043	6951	8.5	14.7
1554.4	10.0	15.0	96	10.1	1.33	3.46	19664	469	6810	8.5	14.7
1554.6	1.5	15.0	95	10.1	1.81	3.59	20407	3043	6730	8.5	14.7
1554.8	7.0	15.0	95	10.1	1.42	3.61	20570	671	6604	8.5	14.7
1555.0	1.7	15.0	95	10.1	1.79	3.73	21255	2815	6526	8.5	14.7
1555.2	7.1	15.0	95	10.1	1.41	3.76	21415	658	6409	8.5	14.7
1555.4	1.9	15.0	95	10.1	1.76	3.87	22026	2502	6333	8.5	14.7
1555.6	7.3	15.0	95	10.1	1.41	3.90	22181	639	6223	8.5	14.7
1555.8	1.2	15.0	95	10.1	1.88	4.07	23174	4073	6182	8.5	14.7
1556.0	4.9	15.0	95	10.1	1.51	4.11	23409	964	6086	8.5	14.7
1556.2	1.3	15.0	95	10.1	1.84	4.26	24265	3506	6039	8.5	14.7
1556.4	6.3	15.0	96	10.1	1.45	4.29	24449	749	5944	8.5	14.7
1556.6	2.1	15.0	95	10.1	1.73	4.39	25005	2281	5890	8.5	14.7
1556.8	3.1	15.0	95	10.1	1.63	4.46	25379	1531	5805	8.5	14.7
1557.0	2.6	15.0	95	10.1	1.68	4.53	25824	1825	5738	8.5	14.7
1557.2	1.3	14.0	96	10.1	1.82	4.69	26713	3643	5703	8.5	14.7
1557.4	6.9	14.0	96	10.1	1.40	4.72	26879	678	5620	8.5	14.7
1557.6	2.3	14.0	95	10.1	1.68	4.80	27380	2059	5563	8.5	14.7
1557.8	3.3	15.0	95	10.1	1.61	4.86	27722	1401	5497	8.5	14.7
1558.0	10.6	15.0	96	10.1	1.31	4.88	27830	443	5418	8.5	14.7
1558.2	3.4	15.0	77	10.1	1.55	4.94	28102	1388	5356	8.5	14.7

BIT NUMBER	5	IADC CODE	135	INTERVAL	1558.2- 1738.0
HTC XDC		SIZE	12.250	NOZZLES	15 15 14
COST	2256.00	TRIP TIME	7.3	BIT RUN	179.8
TOTAL HOURS	15.37	TOTAL TURNS	115209	CONDITION	T7 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1559.0	67.5	30.0	122	10.1	0.98	0.01	87	70	45704	8.5	14.7
1560.0	17.6	30.0	124	10.1	1.36	0.07	511	267	20461	8.5	14.7
1561.0	19.0	30.0	124	10.1	1.34	0.12	902	246	13242	8.5	14.7
1562.0	46.2	30.0	119	10.1	1.08	0.14	1056	102	9784	8.5	14.7
1563.0	63.2	30.0	119	10.1	0.99	0.16	1169	74	7761	8.5	14.7
1564.0	64.3	30.0	119	10.1	0.99	0.17	1281	73	6435	8.5	14.7
1565.0	61.0	30.0	119	10.1	1.00	0.19	1398	77	5500	8.5	14.7
1566.0	58.1	30.0	121	10.1	1.02	0.21	1522	81	4806	8.5	14.7
1567.0	72.0	30.0	127	10.1	0.97	0.22	1628	65	4267	8.5	14.7
1568.0	58.1	30.0	124	10.1	1.03	0.24	1756	81	3840	8.5	14.7
1569.0	7.9	30.0	64	10.1	1.40	0.37	2243	594	3539	8.5	14.7
1570.0	17.1	30.0	107	10.1	1.33	0.42	2619	274	3262	8.5	14.7
1571.0	28.1	30.0	111	10.1	1.20	0.46	2855	167	3021	8.5	14.7
1572.0	14.0	30.0	123	10.1	1.43	0.53	3382	336	2826	8.5	14.7
1573.0	11.7	25.0	120	10.1	1.40	0.62	3998	400	2662	8.5	14.7
1574.0	11.5	25.0	117	10.1	1.39	0.70	4608	407	2519	8.5	14.7
1575.0	9.9	25.0	124	10.1	1.45	0.80	5359	476	2398	8.5	14.7
1576.0	11.1	25.0	123	10.1	1.42	0.89	6024	421	2287	8.5	14.7
1577.0	8.1	25.0	123	10.1	1.50	1.02	6943	583	2196	8.5	14.7
1578.0	9.5	25.0	124	10.1	1.46	1.12	7729	494	2110	8.5	14.7
1579.0	10.7	25.0	124	10.1	1.43	1.22	8421	438	2030	8.5	14.7
1580.0	11.8	30.0	117	10.1	1.46	1.30	9014	398	1955	8.5	14.7
1581.0	14.6	30.0	126	10.1	1.42	1.37	9529	321	1883	8.5	14.7
1582.0	14.0	30.0	126	10.1	1.43	1.44	10069	336	1818	8.5	14.7
1583.0	24.2	30.0	126	10.1	1.28	1.48	10382	194	1753	8.5	14.7
1584.0	29.5	30.0	126	10.1	1.22	1.52	10638	159	1691	8.5	14.7
1585.0	15.6	30.0	126	10.1	1.40	1.58	11123	301	1639	8.5	14.7
1586.0	16.8	30.0	126	10.1	1.38	1.64	11571	279	1590	8.5	14.7
1587.0	7.7	30.0	126	10.1	1.60	1.77	12553	611	1556	8.5	14.7
1588.0	18.5	30.0	125	10.1	1.35	1.83	12958	254	1512	8.5	14.7
1589.0	26.1	30.0	120	10.1	1.24	1.86	13234	180	1469	8.5	14.7
1590.0	12.9	20.0	113	10.1	1.28	1.94	13759	365	1434	8.5	14.7
1591.0	18.9	32.0	126	10.1	1.37	1.99	14159	248	1398	8.5	14.7
1592.0	12.6	30.0	127	10.1	1.46	2.07	14764	373	1368	8.5	14.7
1593.0	29.5	30.0	127	10.1	1.23	2.11	15022	159	1333	8.5	14.7
1594.0	27.7	30.0	126	10.1	1.24	2.14	15295	169	1301	8.5	14.7
1595.0	33.6	30.0	127	10.1	1.19	2.17	15521	139	1269	8.5	14.7
1596.0	13.8	30.0	127	10.1	1.44	2.25	16070	339	1245	8.5	14.7
1597.0	8.4	30.0	127	10.1	1.58	2.36	16980	560	1227	8.5	14.7
1598.0	9.5	30.0	128	10.1	1.54	2.47	17781	491	1208	8.5	14.7
1599.0	9.5	30.0	125	10.1	1.54	2.57	18572	493	1191	8.5	14.7
1600.0	13.6	30.0	131	10.1	1.45	2.65	19148	344	1171	8.5	14.8
1601.0	11.3	25.0	131	10.1	1.43	2.74	19846	417	1153	8.5	14.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1602.0	12.5	25.0	131	10.1	1.40	2.82	20477	377	1135	8.5	14.8
1603.0	13.0	25.0	132	10.1	1.39	2.89	21085	360	1118	8.5	14.8
1604.0	9.5	25.0	132	10.1	1.48	3.00	21914	493	1104	8.5	14.8
1605.0	12.1	25.0	133	10.1	1.42	3.08	22575	388	1089	8.5	14.8
1606.0	12.8	25.0	131	10.1	1.40	3.16	23193	368	1074	8.5	14.8
1607.0	9.1	25.0	122	10.1	1.47	3.27	23999	515	1062	8.5	14.8
1608.0	10.4	25.0	131	10.1	1.45	3.37	24755	452	1050	8.5	14.8
1609.0	13.6	25.0	131	10.1	1.38	3.44	25331	344	1036	8.5	14.8
1610.0	7.7	30.0	130	10.1	1.61	3.57	26346	609	1028	8.5	14.8
1611.0	7.1	30.0	126	10.1	1.62	3.71	27405	659	1021	8.5	14.8
1612.0	8.5	30.0	126	10.1	1.57	3.83	28295	553	1012	8.5	14.8
1613.0	10.2	35.0	125	10.1	1.59	3.93	29035	461	1002	8.5	14.8
1614.0	17.3	32.0	126	10.1	1.40	3.98	29472	271.09	989.21	8.5	14.8
1615.0	13.4	35.0	130	10.1	1.52	4.06	30055	350.60	977.96	8.5	14.8
1616.0	17.1	35.0	97	10.1	1.36	4.12	30393	273.70	965.78	8.5	14.8
1617.0	12.4	35.0	116	10.1	1.51	4.20	30953	377.97	955.78	8.5	14.8
1618.0	39.6	35.0	127	10.1	1.20	4.22	31145	118.60	941.78	8.5	14.8
1619.0	30.0	35.0	127	10.1	1.28	4.26	31399	156.40	928.86	8.5	14.8
1620.0	31.0	35.0	127	10.1	1.27	4.29	31645	151.19	916.28	8.5	14.8
1621.0	36.0	35.0	127	10.1	1.22	4.32	31857	130.33	903.76	8.5	14.8
1622.0	29.5	35.0	127	10.1	1.28	4.35	32115	159.01	892.09	8.5	14.8
1623.0	16.7	35.0	128	10.1	1.45	4.41	32574	280.22	882.65	8.5	14.8
1624.0	21.3	35.0	127	10.1	1.38	4.46	32933	220.26	872.58	8.5	14.8
1625.0	18.0	35.0	127	10.1	1.43	4.51	33358	260.67	863.42	8.5	14.8
1626.0	8.4	35.0	127	10.1	1.65	4.63	34265	559.13	858.93	8.5	14.8
1627.0	5.7	35.0	125	10.1	1.76	4.81	35575	817.19	858.33	8.5	14.8
1628.0	15.1	35.0	125	10.1	1.47	4.87	36070	310.19	850.47	8.5	14.8
1629.0	19.0	35.0	125	10.1	1.41	4.92	36464	246.33	841.94	8.5	14.8
1630.0	34.0	35.0	125	10.1	1.24	4.95	36685	138.15	832.14	8.5	14.8
1631.0	25.5	35.0	126	10.1	1.32	4.99	36980	183.77	823.23	8.5	14.8
1632.0	42.9	35.0	124	10.1	1.17	5.02	37154	109.48	813.56	8.5	14.8
1633.0	38.3	35.0	110	10.1	1.16	5.04	37326	122.51	804.32	8.5	14.8
1634.0	22.1	35.0	123	10.1	1.36	5.09	37661	212.44	796.51	8.5	14.8
1635.0	22.1	35.0	124	10.1	1.36	5.13	37997	212.44	788.91	8.5	14.8
1636.0	12.0	35.0	108	10.1	1.50	5.22	38538	389.70	783.78	8.5	14.8
1637.0	29.0	35.0	117	10.1	1.26	5.25	38779	161.61	775.88	8.5	14.8
1638.0	24.8	35.0	122	10.1	1.32	5.29	39075	188.98	768.53	8.5	14.8
1639.0	9.4	35.0	130	10.1	1.63	5.40	39907	499.18	765.19	8.5	14.8
1640.0	11.7	35.0	125	10.1	1.55	5.48	40548	401.03	760.74	8.5	14.8
1641.0	10.0	35.0	124	10.1	1.59	5.58	41292	469.20	757.22	8.5	14.8
1642.0	6.0	35.0	125	10.1	1.74	5.75	42542	782.00	757.52	8.5	14.8
1643.0	7.4	35.0	125	10.1	1.68	5.88	43555	634.05	756.06	8.5	14.8
1644.0	26.7	35.0	125	10.1	1.31	5.92	43836	175.73	749.30	8.5	14.8
1645.0	7.9	35.0	125	10.1	1.66	6.05	44786	593.92	747.51	8.5	14.8
1646.0	5.0	30.0	125	10.1	1.72	6.25	46295	944.92	749.76	8.5	14.8
1647.0	24.0	30.0	119	10.1	1.27	6.29	46593	195.50	743.51	8.5	14.8
1648.0	12.0	30.0	125	10.1	1.47	6.37	47219	392.30	739.60	8.5	14.8
1649.0	22.0	30.0	125	10.1	1.30	6.42	47559	213.75	733.81	8.5	14.8
1650.0	34.6	30.0	123	10.1	1.17	6.45	47772	135.55	727.29	8.5	14.8
1651.0	24.3	30.0	124	10.1	1.27	6.49	48078	192.89	721.54	8.5	14.8

DEPTH	ROP	WOB	RFM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1652.0	15.7	30.0	123	10.1	1.39	6.55	48550	299.77	717.04	8.5	14.8
1653.0	9.0	30.0	124	10.1	1.55	6.66	49376	520.03	714.96	8.5	14.8
1654.0	19.9	30.0	124	10.1	1.33	6.71	49751	235.90	709.96	8.5	14.8
1655.0	13.5	30.0	124	10.1	1.44	6.79	50303	346.69	706.21	8.5	14.8
1656.0	6.4	30.0	123	10.1	1.65	6.95	51464	736.38	706.52	8.5	14.8
1657.0	14.9	30.0	125	10.1	1.41	7.01	51965	314.10	702.54	8.5	14.8
1658.0	15.4	30.0	125	10.1	1.40	7.08	52454	304.98	698.56	8.5	14.8
1659.0	12.4	30.0	125	10.1	1.46	7.16	53060	377.97	695.38	8.5	14.8
1660.0	16.5	30.0	125	10.1	1.38	7.22	53513	284.13	691.34	8.5	14.8
1661.0	18.9	30.0	125	10.1	1.35	7.27	53909	247.63	687.02	8.5	14.8
1662.0	19.9	30.0	125	10.1	1.33	7.32	54287	235.90	682.68	8.5	14.8
1663.0	15.5	30.0	126	10.1	1.40	7.39	54772	302.37	679.05	8.5	14.8
1664.0	4.3	30.0	127	10.1	1.77	7.62	56551	1095	683	8.5	14.8
1665.0	5.3	30.0	130	10.1	1.71	7.81	58018	881.05	684.83	8.5	14.8
1666.0	7.6	30.0	125	10.1	1.60	7.94	59004	617.37	684.21	8.5	14.8
1667.0	5.6	30.0	126	10.1	1.69	8.12	60354	837.86	685.62	8.5	14.9
1668.0	10.2	30.0	127	10.1	1.52	8.22	61101	460.00	683.57	8.5	14.9
1669.0	5.0	30.0	122	10.1	1.71	8.42	62565	938.40	685.87	8.5	14.9
1670.0	3.2	30.0	118	10.1	1.83	8.73	64778	1466	693	8.5	14.9
1671.0	8.0	30.0	115	10.1	1.57	8.85	65645	589.11	691.93	8.5	14.9
1672.0	7.0	30.0	124	10.1	1.62	9.00	66697	666.00	691.70	8.5	14.9
1673.0	8.4	30.0	124	10.1	1.57	9.11	67581	557.83	690.53	8.5	14.9
1674.0	7.6	30.0	123	10.1	1.60	9.25	68555	617.78	689.90	8.5	14.9
1675.0	7.2	30.0	125	10.1	1.62	9.39	69596	651.67	689.58	8.5	14.9
1676.0	12.4	30.0	128	10.1	1.47	9.47	70215	379.27	686.94	8.5	14.9
1677.0	10.0	30.0	129	10.1	1.53	9.57	70989	470.50	685.12	8.5	14.9
1678.0	9.0	30.0	128	10.1	1.56	9.68	71840	520.03	683.74	8.5	14.9
1679.0	11.3	30.0	128	10.1	1.50	9.77	72520	415.22	681.52	8.5	14.9
1680.0	24.0	30.0	129	10.1	1.29	9.81	72842	195.50	677.53	8.5	14.9
1681.0	20.2	30.0	128	10.1	1.33	9.86	73223	232.28	673.90	8.5	14.9
1682.0	7.0	30.0	127	10.1	1.63	10.00	74311	670.29	673.87	8.5	14.9
1683.0	21.2	30.0	126	10.1	1.32	10.05	74668	221.57	670.25	8.5	14.9
1684.0	13.0	30.0	124	10.1	1.45	10.12	75241	360.92	667.79	8.5	14.9
1685.0	23.1	30.0	81	10.1	1.17	10.17	75453	203.12	664.13	8.5	14.9
1686.0	14.7	30.0	124	10.1	1.41	10.24	75959	319.18	661.43	8.5	14.9
1687.0	7.4	30.0	128	10.1	1.62	10.37	76997	636.46	661.23	8.5	14.9
1688.0	7.2	32.0	127	10.1	1.65	10.51	78060	654.27	661.18	8.5	14.9
1689.0	4.6	34.0	128	10.1	1.82	10.73	79740	1030	664	8.5	14.9
1690.0	8.0	35.0	132	10.1	1.68	10.85	80732	587.80	663.42	8.5	14.9
1691.0	10.8	35.0	130	10.1	1.58	10.95	81455	435.31	661.70	8.5	14.9
1692.0	10.8	35.0	131	10.1	1.59	11.04	82182	435.31	660.01	8.5	14.9
1693.0	11.9	35.0	130	10.1	1.55	11.12	82835	393.61	658.03	8.5	14.9
1694.0	12.1	35.0	130	10.1	1.55	11.21	83481	388.39	656.05	8.5	14.9
1695.0	10.8	35.0	125	10.1	1.57	11.30	84177	435.31	654.43	8.5	14.9
1696.0	14.4	35.0	125	10.1	1.49	11.37	84696	325.83	652.05	8.5	14.9
1697.0	18.4	35.0	124	10.1	1.41	11.42	85102	255.45	649.19	8.5	14.9
1698.0	22.5	35.0	123	10.1	1.35	11.47	85430	208.53	646.04	8.5	14.9
1699.0	19.0	35.0	124	10.1	1.40	11.52	85821	246.33	643.20	8.5	14.9
1700.0	21.2	35.0	125	10.1	1.37	11.57	86174	221.57	640.23	8.5	14.9
1701.0	10.8	35.0	129	10.1	1.58	11.66	86893	434.01	638.78	8.5	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1702.0	7.3	35.0	131	10.1	1.70	11.80	87972	646.45	638.84	8.5	14.9
1703.0	17.5	35.0	128	10.1	1.44	11.86	88410	268.49	636.28	8.5	14.9
1704.0	21.3	35.0	119	10.1	1.36	11.90	88745	220.26	633.43	8.5	14.9
1705.0	17.3	35.0	126	10.1	1.44	11.96	89182	271.09	630.96	8.5	14.9
1706.0	10.5	35.0	126	10.1	1.58	12.06	89902	446.86	629.71	8.5	14.9
1707.0	24.4	35.0	126	10.1	1.34	12.10	90212	192.24	626.77	8.5	14.9
1708.0	21.2	35.0	131	10.1	1.39	12.14	90584	221.57	624.07	8.5	14.9
1709.0	6.3	35.0	131	10.1	1.74	12.30	91820	740.29	624.84	8.5	14.9
1710.0	14.4	35.0	129	10.1	1.50	12.37	92359	325.83	622.87	8.5	14.9
1711.0	20.8	35.0	129	10.1	1.39	12.42	92732	225.48	620.27	8.5	14.9
1712.0	21.3	35.0	130	10.1	1.38	12.47	93098	220.26	617.67	8.5	14.9
1713.0	20.8	35.0	130	10.1	1.39	12.51	93471	225.48	615.13	8.5	14.9
1714.0	19.0	35.0	128	10.1	1.41	12.57	93876	246.95	612.77	8.5	14.9
1715.0	11.0	35.0	126	10.1	1.57	12.66	94563	426.55	611.58	8.5	14.9
1716.0	13.3	35.0	125	10.1	1.51	12.73	95126	352.77	609.94	8.5	14.9
1717.0	12.9	35.0	129	10.1	1.53	12.81	95726	362.33	608.38	8.5	14.9
1718.0	12.8	35.0	132	10.1	1.54	12.89	96345	367.54	606.88	8.5	14.9
1719.0	14.4	35.0	132	10.1	1.50	12.96	96896	325.83	605.13	8.5	14.9
1720.0	16.4	35.0	131	10.1	1.46	13.02	97373	285.43	603.15	8.5	14.9
1721.0	10.8	35.0	131	10.1	1.58	13.11	98096	432.71	602.10	8.5	14.9
1722.0	14.8	35.0	130	10.1	1.49	13.18	98626	318.01	600.37	8.5	14.9
1723.0	9.4	35.0	128	10.1	1.62	13.28	99437	497.87	599.75	8.5	14.9
1724.0	19.4	35.0	125	10.1	1.40	13.34	99825	242.42	597.59	8.5	14.9
1725.0	14.5	35.0	125	10.1	1.48	13.41	100340	323.23	595.95	8.5	14.9
1726.0	8.3	30.0	126	10.1	1.58	13.53	101248	564.34	595.76	8.5	14.9
1727.0	12.3	30.0	125	10.1	1.47	13.61	101856	380.57	594.49	8.5	14.9
1728.0	10.1	30.0	125	10.1	1.52	13.71	102596	463.99	593.72	8.5	14.9
1729.0	12.9	30.0	125	10.1	1.45	13.78	103178	363.63	592.37	8.5	14.9
1730.0	9.4	30.0	125	10.1	1.54	13.89	103975	497.87	591.82	8.5	14.9
1731.0	8.3	33.0	125	10.1	1.62	14.01	104882	568.25	591.68	8.5	14.9
1732.0	4.5	35.0	126	10.1	1.83	14.23	106563	1047	594	8.5	14.9
1733.0	7.7	37.0	126	10.1	1.70	14.36	107543	609.96	594.39	8.5	14.9
1734.0	11.7	39.0	126	10.1	1.60	14.45	108189	400.12	593.28	8.5	14.9
1735.0	10.0	39.0	127	10.1	1.65	14.55	108947	467.90	592.58	8.5	14.9
1736.0	4.2	40.0	127	10.1	1.93	14.79	110752	1114	596	8.5	15.0
1737.0	3.6	40.0	127	10.1	1.98	15.07	112889	1319	600	8.5	15.0
1738.0	3.3	40.0	127	10.1	2.01	15.37	115209	1434	604	8.5	15.0

BIT NUMBER	6	IADC CODE	136	INTERVAL	1738.0- 1884.0
HTC JD3		SIZE	12.250	NOZZLES	14 14 13
COST	2348.00	TRIP TIME	7.8	BIT RUN	146.0
TOTAL HOURS	20.44	TOTAL TURNS	102192	CONDITION	T6 R4 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1739.0	16.0	25.0	97	10.1	1.26	0.06	364	293	39239	8.5	15.0
1740.0	2.4	25.0	97	10.1	1.76	0.48	2789	1955	20597	8.5	15.0
1741.0	5.1	25.0	96	10.1	1.56	0.68	3921	920	14038	8.5	15.0
1742.0	11.0	25.0	98	10.1	1.36	0.77	4455	427	10635	8.5	15.0
1743.0	15.0	25.0	98	10.1	1.28	0.83	4846	313	8571	8.5	15.0
1744.0	16.7	25.0	97	10.1	1.25	0.89	5196	281	7189	8.5	15.0
1745.0	15.8	25.0	98	10.1	1.26	0.96	5569	297	6204	8.5	15.0
1746.0	16.0	25.0	93	10.1	1.25	1.02	5919	293	5466	8.5	15.0
1747.0	28.3	30.0	78	10.1	1.10	1.05	6083	166	4877	8.5	15.0
1748.0	13.5	30.0	89	10.1	1.34	1.13	6477	348	4424	8.5	15.0
1749.0	21.8	30.0	99	10.1	1.24	1.17	6749	215	4041	8.5	15.0
1750.0	13.7	30.0	88	10.1	1.34	1.25	7134	341	3733	8.5	15.0
1751.0	20.7	30.0	94	10.1	1.24	1.29	7407	227	3463	8.5	15.0
1752.0	10.9	30.0	90	10.1	1.41	1.39	7898	429	3246	8.5	15.0
1753.0	26.1	30.0	83	10.1	1.14	1.42	8089	180	3042	8.5	15.0
1754.0	29.3	30.0	88	10.1	1.13	1.46	8270	160	2862	8.5	15.0
1755.0	13.7	30.0	84	10.1	1.32	1.53	8637	343	2714	8.5	15.0
1756.0	15.4	30.0	81	10.1	1.28	1.60	8953	305	2580	8.5	15.0
1757.0	10.6	30.0	78	10.1	1.38	1.69	9395	444	2467	8.5	15.0
1758.0	8.4	30.0	71	10.1	1.41	1.81	9899	557	2372	8.5	15.0
1759.0	15.1	30.0	72	10.1	1.25	1.88	10182	310	2274	8.5	15.0
1760.0	17.0	30.0	65	10.1	1.19	1.94	10412	276	2183	8.5	15.0
1761.0	14.1	30.0	70	10.1	1.27	2.01	10710	334	2103	8.5	15.0
1762.0	12.5	30.0	73	10.1	1.31	2.09	11059	374	2031	8.5	15.0
1763.0	16.5	30.0	78	10.1	1.25	2.15	11343	284	1961	8.5	15.0
1764.0	27.9	30.0	74	10.1	1.09	2.18	11502	168	1892	8.5	15.0
1765.0	19.5	30.0	75	10.1	1.20	2.23	11735	241	1831	8.5	15.0
1766.0	14.5	30.0	74	10.1	1.27	2.30	12042	325	1777	8.5	15.0
1767.0	14.2	30.0	86	10.1	1.32	2.37	12406	331	1727	8.5	15.0
1768.0	19.5	30.0	86	10.1	1.23	2.42	12673	241	1677	8.5	15.0
1769.0	20.7	30.0	85	10.1	1.21	2.47	12921	227	1631	8.5	15.0
1770.0	17.9	30.0	77	10.1	1.23	2.53	13179	262	1588	8.5	15.0
1771.0	16.1	30.0	78	10.1	1.26	2.59	13470	292	1549	8.5	15.0
1772.0	17.2	30.0	76	10.1	1.23	2.65	13735	272	1511	8.5	15.0
1773.0	14.0	30.0	75	10.1	1.29	2.72	14056	335	1477	8.5	15.0
1774.0	12.0	30.0	72	10.1	1.32	2.80	14416	391	1447	8.5	15.0
1775.0	12.6	30.0	70	10.1	1.30	2.88	14747	371	1418	8.5	15.0
1776.0	8.6	30.0	71	10.1	1.41	3.00	15245	549	1395	8.5	15.0
1777.0	9.0	30.0	69	10.1	1.39	3.11	15704	521	1373	8.5	15.0
1778.0	5.9	30.0	70	10.1	1.51	3.28	16423	800	1359	8.5	15.0
1779.0	8.6	30.0	71	10.1	1.41	3.40	16918	546	1339	8.5	15.0
1780.0	9.1	30.0	71	10.1	1.39	3.51	17385	514	1319	8.5	15.0
1781.0	15.1	30.0	72	10.1	1.26	3.57	17672	310	1296	8.5	15.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1782.0	14.2	30.0	69	10.1	1.26	3.64	17963	331	1274	8.5	15.0
1783.0	10.6	30.0	69	10.1	1.34	3.74	18353	443	1255	8.5	15.0
1784.0	7.7	30.0	69	10.1	1.43	3.87	18888	607	1241	8.5	15.0
1785.0	7.3	35.0	69	10.1	1.51	4.01	19454	644	1228	8.5	15.0
1786.0	7.5	35.0	69	10.1	1.50	4.14	20007	622	1216	8.5	15.0
1787.0	17.5	35.0	69	10.1	1.26	4.20	20244	268	1197	8.5	15.0
1788.0	14.2	35.0	81	10.1	1.36	4.27	20585	331	1179	8.5	15.0
1789.0	15.6	35.0	82	10.1	1.34	4.33	20900	301	1162	8.5	15.0
1790.0	12.9	35.0	76	10.1	1.37	4.41	21252	364	1147	8.5	15.0
1791.0	7.8	35.0	74	10.1	1.51	4.54	21821	601	1136	8.5	15.0
1792.0	6.3	38.0	79	10.1	1.63	4.69	22565	740	1129	8.5	15.0
1793.0	12.0	38.0	95	10.1	1.49	4.78	23036	390	1116	8.5	15.0
1794.0	14.5	38.0	101	10.1	1.46	4.85	23454	323	1101	8.5	15.0
1795.0	12.0	38.0	104	10.1	1.52	4.93	23973	392	1089	8.5	15.0
1796.0	16.7	38.0	103	10.1	1.42	4.99	24341	280	1075	8.5	15.0
1797.0	13.1	38.0	99	10.1	1.48	5.06	24795	358	1063	8.5	15.0
1798.0	8.3	38.0	104	10.1	1.64	5.19	25550	566	1055	8.5	15.0
1799.0	8.2	38.0	104	10.1	1.64	5.31	26308	570	1047	8.5	15.0
1800.0	6.0	33.0	102	10.1	1.66	5.47	27328	782	1042	8.5	15.0
1801.0	6.4	30.0	101	10.1	1.59	5.63	28270	728	1037	8.5	15.0
1802.0	3.7	30.0	103	10.1	1.75	5.90	29933	1266	1041	8.5	15.0
1803.0	4.4	30.0	101	10.1	1.69	6.12	31300	1062	1041	8.5	15.0
1804.0	6.6	32.0	102	10.1	1.61	6.28	32231	716	1036	8.5	15.0
1805.0	6.2	30.0	99	10.1	1.59	6.44	33185	757	1032	8.5	15.0
1806.0	10.1	30.0	98	10.1	1.45	6.54	33770	465	1024	8.5	15.0
1807.0	10.7	30.0	95	10.1	1.43	6.63	34301	439	1015	8.5	15.0
1808.0	5.6	40.0	97	10.1	1.76	6.81	35343	843	1013	8.5	15.1
1809.0	6.5	40.0	97	10.1	1.72	6.97	36242	726	1009	8.5	15.1
1810.0	6.3	40.0	96	10.1	1.72	7.12	37154	739	1005	8.5	15.1
1811.0	7.6	40.0	97	10.1	1.67	7.26	37916	617.78	999.81	8.5	15.1
1812.0	7.8	40.0	96	10.1	1.66	7.38	38657	602.14	994.44	8.5	15.1
1813.0	7.1	40.0	97	10.1	1.69	7.52	39479	660.79	989.99	8.5	15.1
1814.0	5.9	40.0	98	10.1	1.74	7.69	40465	789.82	987.35	8.5	15.1
1815.0	6.2	40.0	97	10.1	1.73	7.85	41407	757.24	984.37	8.5	15.1
1816.0	4.8	40.0	98	10.1	1.81	8.06	42636	981.41	984.33	8.5	15.1
1817.0	7.1	40.0	92	10.1	1.67	8.20	43417	660.79	980.23	8.5	15.1
1818.0	9.0	40.0	99	10.1	1.62	8.31	44074	520.03	974.48	8.5	15.1
1819.0	12.4	40.0	99	10.1	1.52	8.40	44553	379.27	967.13	8.5	15.1
1820.0	9.6	40.0	98	10.1	1.60	8.50	45165	487.45	961.28	8.5	15.1
1821.0	12.9	40.0	99	10.1	1.51	8.58	45627	364.93	954.10	8.5	15.1
1822.0	6.5	40.0	99	10.1	1.72	8.73	46542	724.65	951.36	8.5	15.1
1823.0	6.8	40.0	99	10.1	1.70	8.88	47407	685.55	948.24	8.5	15.1
1824.0	10.8	40.0	98	10.1	1.56	8.97	47953	434.01	942.26	8.5	15.1
1825.0	4.3	40.0	99	10.1	1.84	9.20	49323	1086	944	8.5	15.1
1826.0	4.1	40.0	98	10.1	1.86	9.45	50760	1144	946	8.5	15.1
1827.0	5.1	40.0	92	10.1	1.77	9.64	51842	924.06	945.94	8.5	15.1
1828.0	5.6	40.0	86	10.1	1.72	9.82	52765	841.95	944.78	8.5	15.1
1829.0	4.0	40.0	93	10.1	1.85	10.07	54172	1185	947	8.5	15.1
1830.0	4.1	40.0	92	10.1	1.84	10.32	55522	1142	950	8.5	15.1
1831.0	3.9	40.0	91	10.1	1.85	10.57	56912	1195	952	8.5	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1832.0	3.9	40.0	90	10.1	1.85	10.83	58299	1206	955	8.5	15.1
1833.0	3.4	40.0	88	10.1	1.88	11.12	59854	1385	959	8.5	15.1
1834.0	3.8	40.0	89	10.1	1.85	11.39	61253	1224	962	8.5	15.1
1835.0	3.8	40.0	89	10.1	1.85	11.65	62651	1223	965	8.5	15.1
1836.0	3.5	40.0	83	10.1	1.86	11.93	64079	1337	969	8.5	15.1
1837.0	3.3	30.0	84	10.1	1.73	12.24	65614	1438	973	8.5	15.1
1838.0	5.6	30.0	84	10.1	1.58	12.42	66514	840.65	972.05	8.5	15.1
1839.0	12.0	40.0	76	10.1	1.45	12.50	66896	392.30	966.31	8.5	15.1
1840.0	21.3	40.0	77	10.1	1.28	12.55	67113	220.26	958.99	8.5	15.1
1841.0	22.1	45.0	77	10.1	1.32	12.59	67321	212.44	951.74	8.5	15.1
1842.0	8.7	45.0	72	10.1	1.59	12.71	67821	540.88	947.79	8.5	15.1
1843.0	26.1	45.0	78	10.1	1.27	12.75	68001	179.86	940.48	8.5	15.1
1844.0	10.4	45.0	78	10.1	1.56	12.84	68447	449.65	935.85	8.5	15.1
1845.0	7.0	45.0	77	10.1	1.68	12.99	69109	671.22	933.38	8.5	15.1
1846.0	4.4	45.0	75	10.1	1.82	13.21	70118	1056	935	8.5	15.1
1847.0	7.3	45.0	73	10.1	1.65	13.35	70723	645.15	931.85	8.5	15.1
1848.0	7.0	45.0	74	10.1	1.67	13.49	71361	673.82	929.51	8.5	15.1
1849.0	9.7	45.0	74	10.1	1.57	13.59	71817	482.23	925.48	8.5	15.1
1850.0	5.1	45.0	74	10.1	1.77	13.79	72697	924.06	925.47	8.5	15.1
1851.0	3.8	45.0	74	10.1	1.87	14.06	73872	1241	928	8.5	15.1
1852.0	4.3	45.0	74	10.1	1.82	14.29	74904	1086	930	8.5	15.1
1853.0	5.5	45.0	74	10.1	1.75	14.47	75716	854.99	928.99	8.5	15.1
1854.0	7.8	44.0	75	10.1	1.63	14.60	76289	599.53	926.15	8.5	15.1
1855.0	12.3	44.0	75	10.1	1.48	14.68	76655	380.57	921.49	8.5	15.1
1856.0	4.9	44.0	76	10.1	1.78	14.88	77586	960.56	921.82	8.5	15.1
1857.0	5.1	44.0	76	10.1	1.76	15.08	78477	920.15	921.80	8.5	15.1
1858.0	5.1	44.0	73	10.1	1.75	15.28	79338	925.37	921.83	8.5	15.1
1859.0	8.2	44.0	72	10.1	1.60	15.40	79868	573.47	918.95	8.5	15.1
1860.0	10.6	43.0	75	10.1	1.52	15.49	80290	441.83	915.04	8.5	15.1
1861.0	7.9	43.0	75	10.1	1.61	15.62	80860	593.02	912.42	8.5	15.1
1862.0	7.5	45.0	72	10.1	1.64	15.75	81440	626.90	910.12	8.5	15.1
1863.0	5.8	45.0	77	10.1	1.74	15.92	82232	804.16	909.27	8.5	15.1
1864.0	8.0	45.0	76	10.1	1.64	16.05	82806	586.50	906.71	8.5	15.1
1865.0	13.5	45.0	71	10.1	1.45	16.12	83121	346.69	902.30	8.5	15.1
1866.0	8.9	45.0	74	10.1	1.59	16.23	83615	525.24	899.36	8.5	15.1
1867.0	19.3	45.0	73	10.1	1.34	16.29	83842	243.72	894.27	8.5	15.1
1868.0	14.8	45.0	73	10.1	1.43	16.35	84137	316.71	889.83	8.5	15.1
1869.0	6.7	45.0	72	10.1	1.67	16.50	84781	695.98	888.35	8.5	15.1
1870.0	3.9	45.0	74	10.1	1.86	16.76	85936	1217	891	8.5	15.1
1871.0	4.0	45.0	75	10.1	1.85	17.01	87052	1161	893	8.5	15.1
1872.0	3.1	45.0	75	10.1	1.93	17.33	88473	1490	897	8.5	15.1
1873.0	4.1	45.0	75	10.1	1.84	17.57	89569	1140	899	8.5	15.1
1874.0	5.2	45.0	73	10.1	1.76	17.76	90408	901.91	899.15	8.5	15.1
1875.0	3.3	45.0	76	10.1	1.92	18.07	91789	1428	903	8.5	15.1
1876.0	6.2	45.0	76	10.1	1.72	18.23	92523	754.63	901.94	8.5	15.1
1877.0	4.3	45.0	76	10.1	1.83	18.46	93589	1092	903	8.5	15.1
1878.0	4.1	45.0	75	10.1	1.85	18.71	94694	1150	905	8.5	15.1
1879.0	3.2	45.0	72	10.1	1.91	19.02	96034	1456	909	8.5	15.1
1880.0	4.2	45.0	71	10.1	1.82	19.25	97058	1123	910	8.5	15.1
1881.0	3.4	45.0	71	10.1	1.89	19.55	98310	1370	914	8.5	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1882.0	3.9	45.0	73	10.1	1.85	19.80	99432	1202	916	8.5	15.1
1883.0	5.3	45.0	74	10.1	1.76	19.99	100267	883.66	915.48	8.5	15.2
1884.0	2.2	45.0	71	10.1	2.02	20.44	102192	2107	924	8.5	15.2

BIT NUMBER	7	IADC CODE	517	INTERVAL	1884.0- 2320.0
HTC J22		SIZE	12.250	NOZZLES	13 13 14
COST	6788.00	TRIP TIME	9.4	BIT RUN	436.0
TOTAL HOURS	63.81	TOTAL TURNS	231890	CONDITION	T4 B4 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1885.0	4.0	30.0	54	10.0	1.56	0.25	810	1173	52066	8.5	15.2
1886.0	3.4	35.0	54	10.0	1.68	0.54	1763	1380	26723	8.5	15.2
1887.0	13.3	35.0	51	10.0	1.26	0.62	1993	353	17933	8.5	15.2
1888.0	17.1	35.0	52	10.0	1.19	0.68	2175	274	13518	8.5	15.2
1889.0	7.0	35.0	54	10.0	1.47	0.82	2638	670	10949	8.5	15.2
1890.0	8.5	40.0	56	10.0	1.48	0.94	3034	552	9216	8.5	15.2
1891.0	9.5	40.0	55	10.0	1.44	1.04	3381	494	7970	8.5	15.2
1892.0	7.2	40.0	56	10.0	1.53	1.18	3848	652	7055	8.5	15.2
1893.0	10.2	40.0	52	10.0	1.40	1.28	4154	460	6322	8.5	15.2
1894.0	12.3	40.0	56	10.0	1.37	1.36	4427	381	5728	8.5	15.2
1895.0	6.0	40.0	67	10.0	1.64	1.53	5097	782	5279	8.5	15.2
1896.0	4.3	40.0	57	10.0	1.69	1.76	5892	1091	4930	8.5	15.2
1897.0	5.8	40.0	57	10.0	1.60	1.93	6482	809	4613	8.5	15.2
1898.0	5.0	40.0	57	10.0	1.65	2.13	7166	938	4350	8.5	15.2
1899.0	4.4	40.0	57	10.0	1.69	2.36	7943	1066	4131	8.5	15.2
1900.0	5.7	40.0	58	10.0	1.61	2.54	8554	823	3925	8.5	15.2
1901.0	7.5	40.0	58	10.0	1.53	2.67	9018	626	3730	8.5	15.2
1902.0	7.6	40.0	60	10.0	1.53	2.80	9491	617	3558	8.5	15.2
1903.0	13.3	40.0	60	10.0	1.36	2.88	9762	353	3389	8.5	15.2
1904.0	21.1	40.0	60	10.0	1.22	2.92	9932	222	3231	8.5	15.2
1905.0	16.3	40.0	64	10.0	1.32	2.98	10168	288	3090	8.5	15.2
1906.0	19.7	40.0	76	10.0	1.31	3.04	10400	238	2961	8.5	15.2
1907.0	24.8	40.0	76	10.0	1.24	3.08	10583	189	2840	8.5	15.2
1908.0	26.1	40.0	57	10.0	1.14	3.11	10714	180	2729	8.5	15.2
1909.0	8.4	40.0	52	10.0	1.46	3.23	11086	559	2643	8.5	15.2
1910.0	5.5	40.0	56	10.0	1.61	3.42	11697	853	2574	8.5	15.2
1911.0	4.4	40.0	56	10.0	1.68	3.64	12460	1066	2518	8.5	15.2
1912.0	4.8	40.0	70	10.0	1.72	3.85	13335	978	2463	8.5	15.2
1913.0	7.2	40.0	78	10.0	1.63	3.99	13985	652	2400	8.5	15.2
1914.0	5.7	40.0	77	10.0	1.70	4.17	14796	823	2348	8.5	15.2
1915.0	11.5	40.0	80	10.0	1.50	4.25	15213	408	2285	8.5	15.2
1916.0	17.4	40.0	87	10.0	1.39	4.31	15513	270	2222	8.5	15.2
1917.0	9.9	40.0	77	10.0	1.53	4.41	15980	474	2169	8.5	15.2
1918.0	23.5	40.0	60	10.0	1.19	4.45	16133	200	2111	8.5	15.2
1919.0	18.5	40.0	75	10.0	1.33	4.51	16376	254	2058	8.5	15.2
1920.0	24.7	40.0	77	10.0	1.25	4.55	16563	190	2006	8.5	15.2
1921.0	6.3	40.0	77	10.0	1.67	4.71	17297	745	1972	8.5	15.2
1922.0	5.3	40.0	77	10.0	1.72	4.90	18169	885	1944	8.5	15.2
1923.0	11.5	40.0	74	10.0	1.47	4.98	18555	408	1904	8.5	15.2
1924.0	27.5	40.0	74	10.0	1.20	5.02	18716	171	1861	8.5	15.2
1925.0	7.8	40.0	75	10.0	1.60	5.15	19293	602	1830	8.5	15.2
1926.0	15.5	40.0	77	10.0	1.39	5.21	19591	303	1794	8.5	15.2
1927.0	11.1	40.0	77	10.0	1.50	5.30	20007	423	1762	8.5	15.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1928.0	11.2	40.0	74	10.0	1.48	5.39	20404	419	1731	8.5	15.2
1929.0	21.3	40.0	70	10.0	1.26	5.44	20601	220	1698	8.5	15.2
1930.0	17.5	40.0	69	10.0	1.32	5.49	20837	268	1667	8.5	15.2
1931.0	17.7	40.0	71	10.0	1.33	5.55	21078	265	1637	8.5	15.2
1932.0	12.7	40.0	70	10.0	1.42	5.63	21409	369	1611	8.5	15.2
1933.0	16.4	40.0	71	10.0	1.35	5.69	21669	286	1584	8.5	15.2
1934.0	18.8	40.0	72	10.0	1.31	5.74	21898	250	1557	8.5	15.2
1935.0	15.5	40.0	72	10.0	1.37	5.81	22177	303	1532	8.5	15.2
1936.0	15.7	40.0	72	10.0	1.37	5.87	22452	299	1509	8.5	15.2
1937.0	13.4	40.0	72	10.0	1.42	5.95	22775	350	1487	8.5	15.2
1938.0	12.5	40.0	69	10.0	1.42	6.03	23106	375	1466	8.5	15.2
1939.0	11.7	40.0	73	10.0	1.46	6.11	23480	401	1447	8.5	15.2
1940.0	14.3	40.0	74	10.0	1.40	6.18	23791	328	1427	8.5	15.2
1941.0	7.7	40.0	72	10.0	1.59	6.31	24352	609	1412	8.5	15.2
1942.0	4.8	40.0	70	10.0	1.72	6.52	25227	978	1405	8.5	15.2
1943.0	21.1	40.0	73	10.0	1.28	6.57	25434	222	1385	8.5	15.2
1944.0	16.6	40.0	73	10.0	1.35	6.63	25698	283	1367	8.5	15.2
1945.0	11.8	40.0	73	10.0	1.46	6.71	26069	398	1351	8.5	15.2
1946.0	18.8	40.0	72	10.0	1.31	6.77	26299	250	1333	8.5	15.2
1947.0	21.1	40.0	71	10.0	1.27	6.81	26501	222	1315	8.5	15.2
1948.0	23.5	40.0	67	10.0	1.22	6.86	26672	200	1298	8.5	15.2
1949.0	25.7	40.0	69	10.0	1.20	6.89	26833	183	1281	8.5	15.2
1950.0	10.1	40.0	69	10.0	1.49	6.99	27243	465	1268	8.5	15.2
1951.0	13.7	40.0	69	10.0	1.40	7.07	27545	342	1254	8.5	15.2
1952.0	18.7	40.0	70	10.0	1.30	7.12	27770	251	1240	8.5	15.2
1953.0	13.7	40.0	70	10.0	1.40	7.19	28076	342	1227	8.5	15.2
1954.0	10.1	40.0	70	10.0	1.49	7.29	28492	465	1216	8.5	15.2
1955.0	14.2	40.0	69	10.0	1.39	7.36	28784	330	1203	8.5	15.2
1956.0	16.8	40.0	69	10.0	1.33	7.42	29030	279	1191	8.5	15.2
1957.0	16.1	40.0	64	10.0	1.32	7.48	29269	291	1178	8.5	15.2
1958.0	11.0	40.0	67	10.0	1.45	7.58	29634	427	1168	8.5	15.2
1959.0	13.6	40.0	69	10.0	1.40	7.65	29939	345	1157	8.5	15.2
1960.0	10.0	40.0	70	10.0	1.50	7.75	30359	469	1148	8.5	15.2
1961.0	8.2	40.0	65	10.0	1.54	7.87	30834	572	1141	8.5	15.3
1962.0	7.0	40.0	66	10.0	1.59	8.01	31400	670	1135	8.5	15.3
1963.0	9.2	40.0	69	10.0	1.52	8.12	31850	510	1127	8.5	15.3
1964.0	25.2	40.0	68	10.0	1.20	8.16	32012	186	1115	8.5	15.3
1965.0	24.6	40.0	67	10.0	1.21	8.20	32175	191	1103	8.5	15.3
1966.0	31.7	40.0	64	10.0	1.11	8.23	32296	148	1092	8.5	15.3
1967.0	35.9	40.0	68	10.0	1.09	8.26	32410	131	1080	8.5	15.3
1968.0	20.3	40.0	71	10.0	1.28	8.31	32620	231	1070	8.5	15.3
1969.0	6.3	40.0	72	10.0	1.65	8.47	33306	745	1066	8.5	15.3
1970.0	7.0	40.0	66	10.0	1.59	8.61	33871	670	1062	8.5	15.3
1971.0	7.6	40.0	66	10.0	1.57	8.74	34394	619	1057	8.5	15.3
1972.0	10.8	40.0	67	10.0	1.46	8.84	34763	434	1050	8.5	15.3
1973.0	10.8	40.0	66	10.0	1.46	8.93	35133	435	1043	8.5	15.3
1974.0	17.1	40.0	66	10.0	1.31	8.99	35365	275	1034	8.5	15.3
1975.0	18.6	40.0	67	10.0	1.29	9.04	35581	253	1026	8.5	15.3
1976.0	14.5	40.0	67	10.0	1.37	9.11	35860	323	1018	8.5	15.3
1977.0	10.6	40.0	67	10.0	1.47	9.21	36238	442	1012	8.5	15.3

DEPTH	ROP	MOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1978.0	17.5	40.0	66	10.0	1.31	9.26	36466	268	1004	8.5	15.3
1979.0	8.0	40.0	60	10.0	1.52	9.39	36916	586.50	999.38	8.5	15.3
1980.0	8.8	40.0	56	10.0	1.47	9.50	37296	532.74	994.52	8.5	15.3
1981.0	7.3	40.0	65	10.0	1.57	9.64	37833	643.85	990.90	8.5	15.3
1982.0	11.0	40.0	65	10.0	1.44	9.73	38185	426.19	985.14	8.5	15.3
1983.0	8.4	40.0	65	10.0	1.53	9.85	38651	561.74	980.86	8.5	15.3
1984.0	6.8	40.0	65	10.0	1.59	10.00	39222	685.55	977.91	8.5	15.3
1985.0	8.6	40.0	66	10.0	1.52	10.11	39680	546.10	973.64	8.5	15.3
1986.0	6.2	40.0	66	10.0	1.63	10.27	40323	762.45	971.57	8.5	15.3
1987.0	6.3	40.0	66	10.0	1.62	10.43	40950	744.20	969.36	8.5	15.3
1988.0	7.5	40.0	65	10.0	1.57	10.57	41473	625.60	966.05	8.5	15.3
1989.0	8.5	40.0	62	10.0	1.51	10.68	41907	551.31	962.10	8.5	15.3
1990.0	6.1	40.0	67	10.0	1.64	10.85	42569	767.66	960.27	8.5	15.3
1991.0	20.9	40.0	67	10.0	1.26	10.90	42761	224.17	953.39	8.5	15.3
1992.0	19.1	40.0	67	10.0	1.28	10.95	42970	245.03	946.83	8.5	15.3
1993.0	22.9	40.0	67	10.0	1.23	10.99	43147	204.62	940.02	8.5	15.3
1994.0	23.4	40.0	68	10.0	1.23	11.03	43322	200.71	933.30	8.5	15.3
1995.0	24.5	40.0	69	10.0	1.22	11.07	43491	191.59	926.62	8.5	15.3
1996.0	27.1	40.0	69	10.0	1.19	11.11	43644	173.34	919.89	8.5	15.3
1997.0	7.2	40.0	69	10.0	1.59	11.25	44216	650.36	917.51	8.5	15.3
1998.0	10.3	40.0	68	10.0	1.48	11.35	44613	453.56	913.44	8.5	15.3
1999.0	11.3	40.0	65	10.0	1.44	11.44	44962	417.07	909.12	8.5	15.3
2000.0	6.0	40.0	68	10.0	1.64	11.60	45636	776.79	907.98	8.5	15.3
2001.0	6.0	40.0	68	10.0	1.65	11.77	46316	782.00	906.90	8.5	15.3
2002.0	6.3	40.0	68	10.0	1.63	11.93	46964	744.76	905.53	8.5	15.3
2003.0	5.0	40.0	68	10.0	1.70	12.13	47780	938.40	905.81	8.5	15.3
2004.0	4.8	40.0	68	10.0	1.72	12.33	48630	977.50	906.40	8.5	15.3
2005.0	7.1	40.0	68	10.0	1.59	12.48	49204	660.85	904.37	8.5	15.3
2006.0	8.1	40.0	68	10.0	1.55	12.60	49708	579.26	901.71	8.5	15.3
2007.0	5.6	40.0	68	10.0	1.67	12.78	50448	844.56	901.24	8.5	15.3
2008.0	5.5	40.0	69	10.0	1.68	12.96	51195	849.77	900.83	8.5	15.3
2009.0	6.6	40.0	62	10.0	1.59	13.11	51757	714.23	899.34	8.5	15.3
2010.0	7.4	40.0	68	10.0	1.58	13.25	52304	632.12	897.22	8.5	15.3
2011.0	9.5	40.0	67	10.0	1.50	13.35	52728	493.96	894.04	8.5	15.3
2012.0	10.1	40.0	68	10.0	1.49	13.45	53132	463.99	890.68	8.5	15.3
2013.0	19.1	40.0	67	10.0	1.29	13.50	53344	245.03	885.68	8.5	15.3
2014.0	24.2	40.0	68	10.0	1.22	13.55	53512	194.20	880.36	8.5	15.3
2015.0	22.9	40.0	68	10.0	1.23	13.59	53689	204.62	875.20	8.5	15.3
2016.0	21.4	40.0	67	10.0	1.25	13.64	53878	218.96	870.23	8.5	15.3
2017.0	21.8	40.0	67	10.0	1.24	13.68	54062	215.05	865.30	8.5	15.3
2018.0	18.2	40.0	61	10.0	1.27	13.74	54261	258.06	860.77	8.5	15.3
2019.0	25.2	40.0	66	10.0	1.19	13.78	54418	186.38	855.77	8.5	15.3
2020.0	26.5	40.0	66	10.0	1.18	13.81	54568	177.25	850.78	8.5	15.3
2021.0	6.7	40.0	66	10.0	1.60	13.96	55162	702.50	849.70	8.5	15.3
2022.0	5.1	40.0	66	10.0	1.69	14.16	55944	924.06	850.24	8.5	15.3
2023.0	4.6	40.0	70	10.0	1.74	14.38	56862	1030	852	8.5	15.3
2024.0	7.2	40.0	71	10.0	1.60	14.52	57453	654.27	850.12	8.5	15.3
2025.0	10.7	40.0	71	10.0	1.48	14.61	57849	437.92	847.20	8.5	15.3
2026.0	17.1	40.0	70	10.0	1.33	14.67	58093	273.70	843.16	8.5	15.3
2027.0	19.9	40.0	70	10.0	1.29	14.72	58305	235.90	838.91	8.5	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2028.0	18.8	40.0	66	10.0	1.28	14.77	58515	248.94	834.82	8.5	15.3
2029.0	15.3	40.0	71	10.0	1.37	14.84	58795	307.59	831.18	8.5	15.3
2030.0	4.1	40.0	73	10.0	1.79	15.09	59878	1155	833	8.5	15.3
2031.0	9.3	40.0	74	10.0	1.54	15.19	60358	504.39	831.16	8.5	15.3
2032.0	18.2	40.0	75	10.0	1.33	15.25	60605	258.06	827.29	8.5	15.3
2033.0	18.5	40.0	75	10.0	1.33	15.30	60848	254.15	823.44	8.5	15.3
2034.0	20.3	40.0	75	10.0	1.30	15.35	61069	230.69	819.49	8.5	15.3
2035.0	24.0	40.0	74	10.0	1.24	15.39	61254	195.50	815.36	8.5	15.3
2036.0	9.9	40.0	74	10.0	1.52	15.49	61701	473.11	813.10	8.5	15.3
2037.0	11.9	40.0	72	10.0	1.45	15.58	62065	393.61	810.36	8.5	15.3
2038.0	19.9	40.0	65	10.0	1.26	15.63	62262	235.90	806.63	8.5	15.3
2039.0	25.0	40.0	71	10.0	1.22	15.67	62433	187.68	802.64	8.5	15.3
2040.0	18.3	40.0	61	10.0	1.27	15.72	62633	256.76	799.14	8.5	15.3
2041.0	27.5	40.0	74	10.0	1.20	15.76	62795	170.74	795.14	8.5	15.3
2042.0	11.2	40.0	75	10.0	1.48	15.85	63194	418.37	792.75	8.5	15.4
2043.0	6.4	40.0	78	10.0	1.67	16.00	63921	729.87	792.36	8.5	15.4
2044.0	13.7	40.0	74	10.0	1.42	16.08	64245	341.47	789.54	8.5	15.4
2045.0	23.7	40.0	74	10.0	1.25	16.12	64432	198.11	785.87	8.5	15.4
2046.0	23.2	40.0	74	10.0	1.25	16.16	64623	202.02	782.26	8.5	15.4
2047.0	28.8	40.0	74	10.0	1.19	16.20	64777	162.92	778.46	8.5	15.4
2048.0	25.7	40.0	75	10.0	1.23	16.24	64951	182.47	774.83	8.5	15.4
2049.0	27.1	40.0	74	10.0	1.21	16.27	65114	173.34	771.18	8.5	15.4
2050.0	27.5	40.0	73	10.0	1.20	16.31	65273	170.74	767.57	8.5	15.4
2051.0	24.8	40.0	74	10.0	1.23	16.35	65451	188.98	764.10	8.5	15.4
2052.0	29.5	40.0	73	10.0	1.18	16.38	65599	159.01	760.50	8.5	15.4
2053.0	27.7	40.0	73	10.0	1.20	16.42	65758	169.43	757.00	8.5	15.4
2054.0	9.7	40.0	73	10.0	1.52	16.52	66211	483.54	755.39	8.5	15.4
2055.0	5.5	40.0	72	10.0	1.69	16.71	67005	857.59	755.99	8.5	15.4
2056.0	7.0	40.0	64	10.0	1.58	16.85	67553	671.22	755.50	8.5	15.4
2057.0	25.4	40.0	74	10.0	1.23	16.89	67728	185.07	752.20	8.5	15.4
2058.0	5.7	45.0	71	10.0	1.74	17.06	68479	822.40	752.60	8.5	15.4
2059.0	3.9	40.0	63	10.0	1.76	17.32	69458	1208	755	8.5	15.4
2060.0	5.1	40.0	67	10.0	1.69	17.52	70251	920.15	756.14	8.5	15.4
2061.0	6.0	45.0	67	10.0	1.71	17.68	70927	785.91	756.31	8.5	15.4
2062.0	4.8	40.0	72	10.0	1.74	17.89	71834	980.11	757.57	8.5	15.4
2063.0	4.0	43.0	75	10.0	1.84	18.14	72946	1160	760	8.5	15.4
2064.0	4.6	43.0	78	10.0	1.81	18.36	73962	1022	761	8.5	15.4
2065.0	4.2	43.0	78	10.0	1.84	18.60	75077	1120	763	8.5	15.4
2066.0	4.2	43.0	76	10.0	1.83	18.83	76155	1113	765	8.5	15.4
2067.0	18.0	43.0	68	10.0	1.34	18.89	76382	260.67	762.42	8.5	15.4
2068.0	3.9	45.0	51	10.0	1.76	19.15	77183	1219	765	8.5	15.4
2069.0	8.1	45.0	50	10.0	1.52	19.27	77555	578.68	763.89	8.5	15.4
2070.0	10.2	45.0	50	10.0	1.44	19.37	77848	460.08	762.26	8.5	15.4
2071.0	15.1	45.0	50	10.0	1.31	19.44	78045	310.19	759.84	8.5	15.4
2072.0	16.1	54.0	50	10.0	1.37	19.50	78231	291.95	757.35	8.5	15.4
2073.0	15.6	54.0	49	10.0	1.38	19.56	78420	301.07	754.94	8.5	15.4
2074.0	15.7	54.0	49	10.0	1.38	19.63	78610	299.77	752.54	8.5	15.4
2075.0	18.0	55.0	49	10.0	1.34	19.68	78773	260.67	749.97	8.5	15.4
2076.0	6.8	55.0	51	10.0	1.68	19.83	79224	692.07	749.66	8.5	15.4
2077.0	5.6	55.0	50	10.0	1.75	20.01	79767	841.95	750.14	8.5	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2078.0	5.0	55.0	50	10.0	1.78	20.21	80364	930.58	751.07	8.5	15.4
2079.0	4.3	55.0	51	10.0	1.84	20.44	81077	1097	753	8.5	15.4
2080.0	6.5	55.0	51	10.0	1.70	20.59	81544	718.14	752.67	8.5	15.4
2081.0	5.5	55.0	51	10.0	1.76	20.78	82100	852.38	753.18	8.5	15.4
2082.0	6.9	55.0	51	10.0	1.68	20.92	82539	676.43	752.79	8.5	15.4
2083.0	10.3	55.0	51	10.0	1.54	21.02	82836	456.17	751.30	8.5	15.4
2084.0	11.3	55.0	50	10.0	1.50	21.11	83102	414.46	749.62	8.5	15.4
2085.0	14.5	55.0	46	10.0	1.39	21.18	83294	324.53	747.50	8.5	15.4
2086.0	5.1	55.0	50	10.0	1.78	21.37	83891	927.97	748.39	8.5	15.4
2087.0	9.5	55.0	67	10.0	1.66	21.48	84312	492.66	747.13	8.5	15.4
2088.0	3.9	55.0	54	10.0	1.90	21.74	85149	1206	749	8.5	15.4
2089.0	6.5	55.0	54	10.0	1.72	21.89	85646	724.65	749.26	8.5	15.4
2090.0	6.5	55.0	54	10.0	1.72	22.04	86144	725.96	749.15	8.5	15.4
2091.0	9.4	55.0	53	10.0	1.59	22.15	86483	496.57	747.93	8.5	15.4
2092.0	8.4	55.0	53	10.0	1.63	22.27	86864	559.13	747.02	8.5	15.4
2093.0	18.7	55.0	52	10.0	1.35	22.32	87033	251.54	744.65	8.5	15.4
2094.0	14.3	55.0	53	10.0	1.44	22.39	87255	327.14	742.66	8.5	15.4
2095.0	4.9	55.0	55	10.0	1.82	22.60	87926	960.56	743.69	8.5	15.4
2096.0	5.0	55.0	54	10.0	1.81	22.80	88574	942.31	744.63	8.5	15.4
2097.0	6.2	55.0	54	10.0	1.74	22.96	89097	758.54	744.70	8.5	15.4
2098.0	5.7	55.0	52	10.0	1.75	23.14	89645	827.62	745.08	8.5	15.4
2099.0	5.5	55.0	52	10.0	1.76	23.32	90206	851.08	745.58	8.5	15.4
2100.0	9.8	55.0	51	10.0	1.56	23.42	90521	479.63	744.35	8.5	15.4
2101.0	2.7	55.0	53	10.0	2.01	23.79	91685	1730	749	8.5	15.4
2102.0	4.3	55.0	53	10.0	1.86	24.02	92431	1103	751	8.5	15.4
2103.0	3.6	55.0	53	10.0	1.92	24.30	93316	1310	753	8.5	15.4
2104.0	4.7	55.0	51	10.0	1.81	24.52	93968	1006	754	8.5	15.4
2105.0	4.6	55.0	53	10.0	1.84	24.74	94666	1030	755	8.5	15.4
2106.0	4.2	55.0	53	10.0	1.87	24.98	95429	1125	757	8.5	15.4
2107.0	5.4	55.0	53	10.0	1.77	25.16	96012	861.50	757.59	8.5	15.4
2108.0	7.7	55.0	53	10.0	1.65	25.29	96424	608.66	756.93	8.5	15.4
2109.0	7.3	55.0	53	10.0	1.67	25.43	96861	642.54	756.42	8.5	15.4
2110.0	10.9	55.0	53	10.0	1.54	25.52	97153	431.40	754.98	8.5	15.4
2111.0	7.5	55.0	54	10.0	1.67	25.65	97582	625.60	754.41	8.5	15.4
2112.0	7.6	55.0	54	10.0	1.66	25.78	98006	616.48	753.80	8.5	15.4
2113.0	4.7	55.0	54	10.0	1.83	26.00	98695	1004	755	8.5	15.4
2114.0	6.5	55.0	50	10.0	1.69	26.15	99156	720.74	754.75	8.5	15.4
2115.0	4.1	55.0	51	10.0	1.86	26.39	99901	1146	756	8.5	15.4
2116.0	3.6	55.0	50	10.0	1.89	26.67	100732	1299	759	8.5	15.4
2117.0	6.7	55.0	51	10.0	1.69	26.82	101186	695.98	758.51	8.5	15.4
2118.0	6.5	55.0	50	10.0	1.70	26.97	101652	724.65	758.36	8.5	15.4
2119.0	10.7	55.0	50	10.0	1.53	27.07	101935	439.22	757.01	8.5	15.4
2120.0	7.1	55.0	66	10.0	1.76	27.21	102491	660.79	756.60	8.5	15.4
2121.0	4.9	55.0	49	10.0	1.79	27.41	103100	964.47	757.48	8.5	15.4
2122.0	7.1	50.0	67	10.0	1.71	27.56	103673	664.70	757.09	8.5	15.4
2123.0	3.7	50.0	64	10.0	1.91	27.83	104712	1266	759	8.5	15.4
2124.0	5.9	50.0	59	10.0	1.73	28.00	105316	795.03	759.36	8.5	15.4
2125.0	7.4	50.0	65	10.0	1.68	28.13	105840	630.81	758.83	8.5	15.4
2126.0	14.4	50.0	65	10.0	1.46	28.20	106110	325.83	757.04	8.5	15.5
2127.0	15.3	50.0	64	10.0	1.44	28.26	106360	306.28	755.19	8.5	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2128.0	15.3	50.0	64	10.0	1.44	28.33	106613	307.59	753.35	8.5	15.5
2129.0	10.5	50.0	65	10.0	1.57	28.43	106983	447.04	752.10	8.5	15.5
2130.0	6.9	50.0	65	10.0	1.70	28.57	107544	675.13	751.79	8.5	15.5
2131.0	6.7	50.0	65	10.0	1.72	28.72	108125	695.98	751.56	8.5	15.5
2132.0	7.8	45.0	65	10.0	1.61	28.85	108629	603.44	750.96	8.5	15.5
2133.0	8.7	45.0	62	10.0	1.56	28.96	109054	539.58	750.12	8.5	15.5
2134.0	8.0	45.0	65	10.0	1.60	29.09	109545	589.11	749.47	8.5	15.5
2135.0	5.8	45.0	66	10.0	1.71	29.26	110228	813.28	749.73	8.5	15.5
2136.0	5.5	45.0	66	10.0	1.73	29.44	110948	856.29	750.15	8.5	15.5
2137.0	5.5	45.0	65	10.0	1.72	29.62	111661	852.38	750.55	8.5	15.5
2138.0	6.6	45.0	65	10.0	1.66	29.78	112254	709.01	750.39	8.5	15.5
2139.0	6.1	45.0	65	10.0	1.69	29.94	112900	771.57	750.47	8.5	15.5
2140.0	6.2	45.0	56	10.0	1.64	30.10	113449	761.15	750.51	8.5	15.5
2141.0	8.3	45.0	62	10.0	1.58	30.22	113901	568.25	749.80	8.5	15.5
2142.0	5.3	45.0	63	10.0	1.73	30.41	114618	892.78	750.36	8.5	15.5
2143.0	8.3	45.0	58	10.0	1.55	30.53	115035	564.34	749.64	8.5	15.5
2144.0	3.0	45.0	59	10.0	1.88	30.86	116193	1543	753	8.5	15.5
2145.0	4.1	45.0	59	10.0	1.79	31.11	117064	1156	754	8.5	15.5
2146.0	5.1	45.0	59	10.0	1.71	31.30	117751	912.33	754.84	8.5	15.5
2147.0	4.1	45.0	59	10.0	1.79	31.55	118618	1142	756	8.5	15.5
2148.0	6.6	45.0	58	10.0	1.63	31.70	119149	710.32	756.14	8.5	15.5
2149.0	5.8	45.0	58	10.0	1.67	31.87	119747	806.76	756.33	8.5	15.5
2150.0	4.7	45.0	54	10.0	1.71	32.08	120434	999.66	757.24	8.5	15.5
2151.0	5.0	45.0	54	10.0	1.69	32.28	121076	934.49	757.91	8.5	15.5
2152.0	5.4	45.0	54	10.0	1.67	32.47	121675	870.63	758.33	8.5	15.5
2153.0	5.0	45.0	56	10.0	1.71	32.67	122347	944.92	759.02	8.5	15.5
2154.0	4.7	45.0	56	10.0	1.73	32.88	123070	1009	760	8.5	15.5
2155.0	9.5	45.0	56	10.0	1.50	32.99	123422	493.96	758.97	8.5	15.5
2156.0	15.5	45.0	55	10.0	1.34	33.05	123636	303.68	757.29	8.5	15.5
2157.0	15.9	45.0	55	10.0	1.33	33.12	123841	294.55	755.60	8.5	15.5
2158.0	16.6	45.0	55	10.0	1.31	33.18	124040	282.82	753.87	8.5	15.5
2159.0	12.9	45.0	45	10.0	1.33	33.25	124251	363.63	752.45	8.5	15.5
2160.0	17.9	45.0	61	10.0	1.32	33.31	124455	261.97	750.68	8.5	15.5
2161.0	9.4	45.0	57	10.0	1.51	33.42	124818	496.57	749.76	8.5	15.5
2162.0	12.5	45.0	60	10.0	1.43	33.50	125107	375.36	748.41	8.5	15.5
2163.0	16.2	45.0	68	10.0	1.39	33.56	125357	289.34	746.77	8.5	15.5
2164.0	13.9	45.0	68	10.0	1.44	33.63	125649	337.56	745.30	8.5	15.5
2165.0	12.1	45.0	51	10.0	1.39	33.71	125902	388.39	744.03	8.5	15.5
2166.0	17.5	45.0	65	10.0	1.35	33.77	126124	268.49	742.35	8.5	15.5
2167.0	7.3	45.0	63	10.0	1.62	33.91	126643	645.15	742.00	8.5	15.5
2168.0	4.8	45.0	61	10.0	1.75	34.12	127415	984.02	742.86	8.5	15.5
2169.0	3.5	45.0	55	10.0	1.81	34.40	128356	1340	745	8.5	15.5
2170.0	4.6	45.0	60	10.0	1.75	34.62	129131	1011	746	8.5	15.5
2171.0	3.6	45.0	59	10.0	1.83	34.90	130110	1299	748	8.5	15.5
2172.0	2.7	45.0	59	10.0	1.92	35.27	131444	1770	751	8.5	15.5
2173.0	3.4	45.0	59	10.0	1.84	35.56	132470	1369	753	8.5	15.5
2174.0	2.8	45.0	59	10.0	1.91	35.92	133741	1677	757	8.5	15.5
2175.0	2.7	45.0	60	10.0	1.93	36.30	135084	1762	760	8.5	15.5
2176.0	2.9	50.0	58	10.0	1.96	36.64	136279	1614	763	8.5	15.5
2177.0	4.0	50.0	62	10.0	1.87	36.89	137214	1176	764	8.5	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2178.0	4.6	50.0	62	10.0	1.83	37.11	138022	1015	765	8.5	15.5
2179.0	13.7	50.0	61	10.0	1.46	37.18	138289	342.78	763.89	8.5	15.5
2180.0	12.2	50.0	60	10.0	1.49	37.26	138582	383.18	762.60	8.5	15.5
2181.0	7.4	50.0	47	10.0	1.58	37.40	138968	637.33	762.18	8.5	15.5
2182.0	4.5	48.0	57	10.0	1.78	37.62	139730	1041	763	8.5	15.5
2183.0	3.8	48.0	59	10.0	1.85	37.88	140659	1239	765	8.5	15.5
2184.0	4.9	48.0	57	10.0	1.76	38.09	141364	967.07	765.38	8.5	15.5
2185.0	9.0	48.0	58	10.0	1.56	38.20	141751	518.73	764.57	8.5	15.5
2186.0	7.5	48.0	58	10.0	1.62	38.34	142217	628.21	764.11	8.5	15.5
2187.0	12.0	48.0	57	10.0	1.46	38.42	142503	392.30	762.89	8.5	15.5
2188.0	13.1	48.0	58	10.0	1.43	38.50	142766	357.11	761.55	8.5	15.5
2189.0	17.1	48.0	58	10.0	1.35	38.55	142967	273.70	759.95	8.5	15.5
2190.0	7.5	48.0	54	10.0	1.60	38.69	143400	628.21	759.52	8.5	15.5
2191.0	5.4	50.0	58	10.0	1.75	38.87	144046	870.63	759.88	8.5	15.5
2192.0	4.9	50.0	59	10.0	1.78	39.08	144756	948.83	760.50	8.5	15.5
2193.0	4.0	50.0	58	10.0	1.85	39.33	145635	1177	762	8.5	15.5
2194.0	3.7	50.0	59	10.0	1.88	39.60	146599	1280	764	8.5	15.5
2195.0	3.9	50.0	51	10.0	1.82	39.86	147393	1209	765	8.5	15.5
2196.0	3.0	40.0	57	10.0	1.80	40.19	148515	1548	767	8.5	15.5
2197.0	3.2	40.0	53	10.0	1.77	40.50	149526	1484	770	8.5	15.5
2198.0	10.6	50.0	53	10.0	1.50	40.60	149826	444.44	768.72	8.5	15.5
2199.0	4.8	50.0	49	10.0	1.74	40.81	150442	985.32	769.40	8.5	15.5
2200.0	5.4	10.0	31	10.0	1.01	40.99	150786	868.02	769.72	8.5	15.5
2201.0	3.3	50.0	54	10.0	1.89	41.30	151767	1427	772	8.5	15.5
2202.0	7.4	50.0	62	10.0	1.67	41.43	152270	634.72	771.36	8.5	15.5
2203.0	11.7	50.0	59	10.0	1.50	41.52	152572	402.73	770.20	8.5	15.5
2204.0	12.6	50.0	58	10.0	1.47	41.60	152849	372.75	768.96	8.5	15.5
2205.0	5.3	50.0	59	10.0	1.76	41.79	153517	888.87	769.33	8.5	15.5
2206.0	3.8	50.0	57	10.0	1.86	42.05	154404	1225	771	8.5	15.5
2207.0	11.0	50.0	46	10.0	1.44	42.14	154653	424.89	769.68	8.5	15.5
2208.0	22.8	50.0	72	10.0	1.34	42.18	154842	205.93	767.94	8.5	15.5
2209.0	9.2	20.0	45	10.0	1.14	42.29	155135	508.30	767.14	8.5	15.5
2210.0	20.5	40.0	68	10.0	1.27	42.34	155334	229.39	765.49	8.5	15.5
2211.0	7.2	30.0	73	10.0	1.48	42.48	155944	655.58	765.15	8.5	15.5
2212.0	10.9	40.0	57	10.0	1.41	42.57	156259	430.10	764.13	8.5	15.6
2213.0	7.3	40.0	58	10.0	1.54	42.71	156742	646.45	763.78	8.5	15.6
2214.0	8.5	40.0	58	10.0	1.49	42.83	157153	550.01	763.13	8.5	15.6
2215.0	14.3	40.0	58	10.0	1.33	42.90	157397	327.14	761.81	8.5	15.6
2216.0	7.9	40.0	59	10.0	1.52	43.02	157841	594.32	761.31	8.5	15.6
2217.0	11.2	40.0	58	10.0	1.40	43.11	158151	419.67	760.28	8.5	15.6
2218.0	7.7	40.0	59	10.0	1.52	43.24	158610	607.35	759.82	8.5	15.6
2219.0	11.3	40.0	59	10.0	1.41	43.33	158923	414.46	758.79	8.5	15.6
2220.0	15.7	40.0	60	10.0	1.31	43.39	159154	298.46	757.42	8.5	15.6
2221.0	7.3	40.0	60	10.0	1.55	43.53	159648	643.85	757.08	8.5	15.6
2222.0	3.8	40.0	60	10.0	1.75	43.80	160611	1246	759	8.5	15.6
2223.0	6.6	50.0	58	10.0	1.68	43.95	161136	709.01	758.38	8.5	15.6
2224.0	4.0	40.0	59	10.0	1.73	44.20	162019	1178	760	8.5	15.6
2225.0	11.3	40.0	59	10.0	1.41	44.29	162332	415.76	758.61	8.5	15.6
2226.0	10.2	40.0	57	10.0	1.43	44.38	162667	460.08	757.74	8.5	15.6
2227.0	11.8	40.0	57	10.0	1.39	44.47	162958	397.52	756.69	8.5	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2228.0	8.0	40.0	51	10.0	1.47	44.59	163344	587.80	756.20	8.5	15.6
2229.0	7.9	40.0	58	10.0	1.51	44.72	163786	594.32	755.73	8.5	15.6
2230.0	10.4	30.0	56	10.0	1.30	44.82	164109	449.65	754.84	8.5	15.6
2231.0	5.2	30.0	78	10.0	1.59	45.01	165011	900.60	755.26	8.5	15.6
2232.0	5.9	10.0	68	10.0	1.16	45.18	165707	801.55	755.40	8.5	15.6
2233.0	5.0	10.0	66	10.0	1.19	45.38	166509	946.22	755.94	8.5	15.6
2234.0	5.6	10.0	67	10.0	1.17	45.56	167233	843.26	756.19	8.5	15.6
2235.0	6.6	10.0	62	10.0	1.11	45.71	167797	712.92	756.07	8.5	15.6
2236.0	7.2	30.0	59	10.0	1.42	45.85	168288	649.06	755.76	8.5	15.6
2237.0	3.3	35.0	59	10.0	1.72	46.16	169378	1438	758	8.5	15.6
2238.0	5.3	35.0	56	10.0	1.56	46.35	170016	892.78	758.08	8.5	15.6
2239.0	4.6	35.0	58	10.0	1.62	46.57	170781	1027	759	8.5	15.6
2240.0	3.4	35.0	59	10.0	1.71	46.87	171832	1397	761	8.5	15.6
2241.0	3.4	35.0	59	10.0	1.71	47.16	172864	1375	762	8.5	15.6
2242.0	4.3	35.0	59	10.0	1.64	47.39	173699	1099	763	8.5	15.6
2243.0	5.2	35.0	62	10.0	1.60	47.59	174422	908.42	763.69	8.5	15.6
2244.0	6.4	35.0	51	10.0	1.48	47.74	174903	731.17	763.60	8.5	15.6
2245.0	6.3	40.0	54	10.0	1.56	47.90	175419	744.76	763.55	8.5	15.6
2246.0	3.0	45.0	53	10.0	1.85	48.23	176486	1564	766	8.5	15.6
2247.0	2.4	45.0	58	10.0	1.95	48.65	177951	1976	769	8.5	15.6
2248.0	2.1	35.0	58	10.0	1.85	49.13	179607	2233	773	8.5	15.6
2249.0	3.6	45.0	58	10.0	1.82	49.41	180563	1289	775	8.5	15.6
2250.0	3.5	45.0	58	10.0	1.83	49.69	181561	1345	776	8.5	15.6
2251.0	7.0	45.0	58	10.0	1.61	49.84	182060	672.52	775.81	8.5	15.6
2252.0	15.1	45.0	58	10.0	1.36	49.90	182291	311.50	774.54	8.5	15.6
2253.0	4.4	45.0	58	10.0	1.76	50.13	183086	1073	775	8.5	15.6
2254.0	3.4	45.0	58	10.0	1.84	50.42	184101	1369	777	8.5	15.6
2255.0	3.8	45.0	58	10.0	1.80	50.69	185017	1234	778	8.5	15.6
2256.0	4.2	45.0	60	10.0	1.78	50.92	185871	1113	779	8.5	15.6
2257.0	5.0	45.0	59	10.0	1.72	51.12	186574	938.40	779.52	8.5	15.6
2258.0	10.2	45.0	60	10.0	1.50	51.22	186925	458.34	778.66	8.5	15.6
2259.0	7.1	45.0	60	10.0	1.62	51.36	187433	662.09	778.35	8.5	15.6
2260.0	6.7	45.0	60	10.0	1.63	51.51	187972	702.50	778.14	8.5	15.6
2261.0	9.7	45.0	60	10.0	1.52	51.61	188345	486.14	777.37	8.5	15.6
2262.0	10.7	45.0	60	10.0	1.48	51.71	188680	436.62	776.47	8.5	15.6
2263.0	6.3	45.0	60	10.0	1.65	51.87	189252	745.51	776.39	8.5	15.6
2264.0	5.0	45.0	59	10.0	1.72	52.07	189960	938.40	776.81	8.5	15.6
2265.0	5.3	45.0	59	10.0	1.70	52.26	190628	885.28	777.10	8.5	15.6
2266.0	8.4	45.0	59	10.0	1.56	52.37	191050	558.57	776.53	8.5	15.6
2267.0	7.4	45.0	60	10.0	1.60	52.51	191536	634.29	776.15	8.5	15.6
2268.0	6.5	45.0	60	10.0	1.64	52.66	192088	719.44	776.01	8.5	15.6
2269.0	3.5	45.0	59	10.0	1.84	52.95	193111	1355	778	8.5	15.6
2270.0	6.3	45.0	59	10.0	1.65	53.11	193670	740.29	777.41	8.5	15.6
2271.0	3.2	45.0	59	10.0	1.86	53.42	194766	1453	779	8.5	15.6
2272.0	5.3	45.0	59	10.0	1.70	53.61	195430	879.75	779.42	8.5	15.6
2273.0	3.0	45.0	59	10.0	1.89	53.94	196612	1567	781	8.5	15.6
2274.0	3.1	45.0	60	10.0	1.88	54.26	197758	1494	783	8.5	15.6
2275.0	3.4	45.0	60	10.0	1.85	54.55	198823	1388	785	8.5	15.6
2276.0	4.3	45.0	60	10.0	1.78	54.79	199668	1101	786	8.5	15.6
2277.0	5.7	45.0	60	10.0	1.69	54.97	200304	828.92	785.73	8.5	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2278.0	6.5	45.0	60	10.0	1.64	55.12	200860	724.65	785.58	8.5	15.6
2279.0	5.5	45.0	60	10.0	1.70	55.30	201515	853.68	785.75	8.5	15.6
2280.0	3.1	45.0	60	10.0	1.88	55.62	202675	1512	788	8.5	15.6
2281.0	5.0	45.0	60	10.0	1.73	55.83	203401	946.22	787.99	8.5	15.6
2282.0	3.9	45.0	60	10.0	1.81	56.08	204326	1206	789	8.5	15.6
2283.0	3.7	45.0	60	10.0	1.82	56.35	205292	1259	790	8.5	15.6
2284.0	5.4	45.0	59	10.0	1.69	56.54	205943	862.81	790.39	8.5	15.6
2285.0	3.5	45.0	59	10.0	1.84	56.82	206954	1341	792	8.5	15.6
2286.0	4.9	45.0	59	10.0	1.73	57.03	207679	960.56	792.19	8.5	15.6
2287.0	4.1	45.0	59	10.0	1.78	57.27	208536	1137	793	8.5	15.6
2288.0	4.8	45.0	59	10.0	1.73	57.47	209267	968.38	793.47	8.5	15.6
2289.0	9.7	45.0	59	10.0	1.51	57.58	209631	482.23	792.71	8.5	15.6
2290.0	9.5	45.0	59	10.0	1.52	57.68	210003	492.66	791.97	8.5	15.6
2291.0	4.9	45.0	59	10.0	1.73	57.89	210724	956.65	792.37	8.5	15.6
2292.0	4.8	45.0	59	10.0	1.73	58.09	211460	974.89	792.82	8.5	15.6
2293.0	4.9	45.0	59	10.0	1.73	58.30	212176	948.83	793.20	8.5	15.6
2294.0	6.5	45.0	59	10.0	1.64	58.45	212723	725.96	793.04	8.5	15.6
2295.0	2.9	45.0	59	10.0	1.90	58.80	213950	1625	795	8.5	15.6
2296.0	2.5	45.0	59	10.0	1.94	59.20	215367	1879	798	8.5	15.6
2297.0	3.1	45.0	59	10.0	1.88	59.52	216519	1526	799	8.5	15.6
2298.0	2.7	45.0	59	10.0	1.92	59.90	217850	1765	802	8.5	15.6
2299.0	4.5	45.0	59	10.0	1.76	60.12	218639	1045	802	8.5	15.6
2300.0	8.6	45.0	59	10.0	1.55	60.24	219050	544.79	801.75	8.5	15.6
2301.0	11.8	45.0	59	10.0	1.45	60.32	219349	396.21	800.78	8.5	15.6
2302.0	10.9	45.0	60	10.0	1.48	60.41	219678	428.80	799.89	8.5	15.7
2303.0	13.6	45.0	60	10.0	1.41	60.49	219942	344.08	798.80	8.5	15.7
2304.0	13.2	45.0	60	10.0	1.42	60.56	220215	355.81	797.75	8.5	15.7
2305.0	14.9	45.0	60	10.0	1.38	60.63	220457	315.41	796.60	8.5	15.7
2306.0	7.5	45.0	60	10.0	1.60	60.76	220937	625.60	796.20	8.5	15.7
2307.0	6.6	45.0	60	10.0	1.64	60.92	221483	711.62	796.00	8.5	15.7
2308.0	9.4	45.0	60	10.0	1.52	61.02	221865	497.87	795.30	8.5	15.7
2309.0	5.8	45.0	60	10.0	1.68	61.19	222484	806.76	795.32	8.5	15.7
2310.0	3.7	45.0	60	10.0	1.82	61.46	223453	1263	796	8.5	15.7
2311.0	3.6	45.0	60	10.0	1.83	61.74	224447	1296	798	8.5	15.7
2312.0	7.0	45.0	60	10.0	1.62	61.88	224962	671.22	797.29	8.5	15.7
2313.0	2.9	45.0	60	10.0	1.91	62.23	226225	1646	799	8.5	15.7
2314.0	3.2	45.0	60	10.0	1.87	62.55	227364	1484	801	8.5	15.7
2315.0	3.9	45.0	60	10.0	1.81	62.80	228285	1200	802	8.5	15.7
2316.0	4.1	45.0	60	10.0	1.79	63.05	229172	1156	803	8.5	15.7
2317.0	3.7	45.0	60	10.0	1.82	63.32	230147	1271	804	8.5	15.7
2318.0	4.6	45.0	60	10.0	1.75	63.54	230927	1017	804	8.5	15.7
2319.0	6.4	45.0	60	10.0	1.65	63.69	231486	728.56	804.01	8.5	15.7
2320.0	8.9	45.0	60	10.0	1.54	63.81	231890	526.55	803.37	8.5	15.7

COMPUTER DATA LISTING : LIST E

INTERVAL 10 m average

DEPTH. Well depth, in metres

ROP. Rate of penetration, in metres per hour

BIT RUN. Depth interval drilled by the bit, in metres

HOURS. Cumulative bit hours. The number of hours
that the bit has actually been "on bottom",
recorded in decimal hours

TURNS. Cumulative bit turns. The number of turns
made by the bit, while actually "on bottom"

TOTAL COST Cumulative bit cost, in A dollars

ICOST. Incremental cost per metre, calculated
from the drilling time, in A dollars

CCOST. Cumulative cost per metre, calculated
from the drilling time, in A dollars

IC ICOST minus CCOST, expressed as a positive
or negative sign. When the bit becomes worn,
this should change from negative to positive

BIT NUMBER	1	IADC CODE	111	INTERVAL	82.0- 216.0
HTC DSC3AJ&26"HO		SIZE	26.000	NOZZLES	25 25 25
COST	6350.00	TRIP TIME	1.8	RIT RUN	134.0
TOTAL HOURS	6.98	TOTAL TURNS	25127	CONDITION	T1 B1 G1.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
100.0	17.5	18.0	1.03	1665	19616.89	268	1090	-
110.0	5.6	28.0	2.81	6164	27965.90	834.90	998.78	-
130.0	15.6	48.0	4.09	11829	33972.96	300.35	707.77	-
150.0	17.4	68.0	5.24	17137	39372.67	269.99	579.01	-
160.0	25.1	78.0	5.64	18950	41240.35	186.77	528.72	-
170.0	33.0	88.0	5.94	20191	42662.28	142.19	484.80	-
180.0	52.9	98.0	6.13	21079	43548.55	88.63	444.37	-
190.0	47.6	108.0	6.34	22059	44535.17	98.66	412.36	-
200.0	49.7	118.0	6.54	23013	45478.79	94.36	385.41	-
210.0	33.1	128.0	6.84	24472	46898.12	141.93	366.39	-
216.0	43.8	134.0	6.98	25127	47540.66	107.09	354.78	-

BIT NUMBER	1	IADC CODE	111	INTERVAL	216.0-	806.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20	20 20
COST	2450.00	TRIP TIME	3.9	BIT RUN		590.0
TOTAL HOURS	22.11	TOTAL TURNS	152470	CONDITION	T3 B4	G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
220.0	313.0	138.0	6.99	25232	53558.91	14.99	388.11	-
240.0	252.4	158.0	7.07	25867	53930.69	18.59	341.33	-
250.0	146.3	168.0	7.14	26431	54251.31	32.06	322.92	-
260.0	99.7	178.0	7.24	27235	54721.81	47.05	307.43	-
270.0	130.4	188.0	7.32	27864	55081.53	35.97	292.99	-
290.0	121.2	208.0	7.48	29250	55855.71	38.71	268.54	-
300.0	111.1	218.0	7.57	30005	56277.99	42.23	258.16	-
310.0	126.3	228.0	7.65	30677	56649.44	37.15	248.46	-
320.0	78.3	238.0	7.78	31781	57248.98	59.95	240.54	-
330.0	77.9	248.0	7.91	32876	57851.12	60.21	233.27	-
340.0	137.4	258.0	7.98	33495	58192.59	34.15	225.55	-
350.0	129.0	268.0	8.06	34165	58556.22	36.36	218.49	-
360.0	61.7	278.0	8.22	35422	59316.06	75.98	213.37	-
370.0	85.4	288.0	8.34	36395	59865.42	54.94	207.87	-
380.0	91.1	298.0	8.45	37319	60380.24	51.48	202.62	-
390.0	96.8	308.0	8.55	38213	60865.08	48.48	197.61	-
400.0	93.5	318.0	8.66	39121	61366.86	50.18	192.98	-
410.0	80.9	328.0	8.78	40138	61946.84	58.00	188.86	-
420.0	56.0	338.0	8.96	41475	62784.89	83.80	185.75	-
430.0	74.8	348.0	9.09	42582	63411.79	62.69	182.22	-
440.0	66.1	358.0	9.24	43856	64122.11	71.03	179.11	-
450.0	59.3	368.0	9.41	45126	64913.23	79.11	176.39	-
460.0	53.7	378.0	9.60	46493	65786.46	87.32	174.04	-
470.0	47.6	388.0	9.81	48221	66771.78	98.53	172.09	-
480.0	59.4	398.0	9.98	49522	67561.60	78.98	169.75	-
490.0	46.0	408.0	10.19	51099	68580.81	101.92	168.09	-
500.0	49.3	418.0	10.40	52475	69532.24	95.14	166.35	-
510.0	49.5	428.0	10.60	53993	70481.07	94.88	164.68	-
520.0	52.0	438.0	10.79	55495	71382.98	90.19	162.97	-
530.0	57.3	448.0	10.97	56833	72202.12	81.91	161.17	-
540.0	48.8	458.0	11.17	58368	73162.69	96.06	159.74	-
550.0	41.9	468.0	11.41	60390	74282.01	111.93	158.72	-
560.0	49.0	478.0	11.61	62151	75239.96	95.79	157.41	-
570.0	36.1	488.0	11.89	64443	76538.08	129.81	156.84	-
580.0	30.7	498.0	12.22	67290	78065.59	152.75	156.76	-
590.0	36.2	508.0	12.49	69631	79362.41	129.68	156.23	-
600.0	38.0	518.0	12.76	71851	80597.97	123.56	155.59	-
610.0	29.1	528.0	13.10	74793	82211.49	161.35	155.70	+
620.0	32.1	538.0	13.41	77464	83673.37	146.19	155.53	+
630.0	28.5	548.0	13.76	80513	85320.79	164.74	155.69	+
640.0	26.0	558.0	14.15	83869	87121.99	180.12	156.13	+
650.0	28.5	568.0	14.50	86783	88768.10	164.61	156.28	+
660.0	26.2	578.0	14.88	90052	90560.19	179.21	156.68	+

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
670.0	23.8	588.0	15.30	93689	92534.74	197.46	157.37	+
680.0	22.6	598.0	15.74	97551	94614.86	208.01	158.22	+
690.0	18.0	608.0	16.30	102402	97228.04	261.32	159.91	+
700.0	21.9	618.0	16.76	106327	99366.81	213.88	160.79	+
710.0	21.6	628.0	17.22	110279	101534.25	216.74	161.68	+
720.0	20.5	638.0	17.70	114447	103819.00	228.47	162.73	+
730.0	21.3	648.0	18.18	118415	106026.69	220.77	163.62	+
740.0	24.8	658.0	18.58	121944	107917.06	189.04	164.01	+
750.0	17.7	668.0	19.14	126903	110573.35	265.63	165.53	+
760.0	17.0	678.0	19.73	131863	113328.53	275.52	167.15	+
770.0	17.9	688.0	20.29	136730	115946.00	261.75	168.53	+
780.0	16.2	698.0	20.91	142073	118847.51	290.15	170.27	+
790.0	22.1	708.0	21.36	145973	120968.17	212.07	170.86	+
800.0	21.8	718.0	21.82	149885	123120.17	215.20	171.48	+
806.0	20.6	724.0	22.11	152470	124487.37	227.87	171.94	+

BIT NUMBER	3	IADC CODE	114	INTERVAL	806.0- 1396.4
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	6.1	BIT RUN	590.4
TOTAL HOURS	19.41	TOTAL TURNS	157940	CONDITION	T3 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
810.0	24.2	4.0	0.17	1311	30796.04	194	7699	-
820.0	25.1	14.0	0.56	3485	32665.52	187	2333	-
830.0	28.2	24.0	0.92	6145	34326.49	166	1430	-
840.0	31.5	34.0	1.23	8901	35814.93	149	1053	-
850.0	32.2	44.0	1.55	11682	37273.15	145.82	847.12	-
860.0	27.6	54.0	1.91	14802	38972.88	169.97	721.72	-
870.0	37.8	64.0	2.17	17052	40215.04	124.22	628.36	-
880.0	40.2	74.0	2.42	19137	41383.46	116.84	559.24	-
890.0	39.0	84.0	2.68	21433	42587.42	120.40	506.99	-
900.0	24.2	94.0	3.09	25258	44529.37	194.20	473.72	-
910.0	24.1	104.0	3.51	29103	46479.27	194.99	446.92	-
920.0	28.0	114.0	3.86	32382	48152.00	167.27	422.39	-
930.0	32.3	124.0	4.17	35225	49604.94	145.29	400.04	-
940.0	38.7	134.0	4.43	37607	50817.55	121.26	379.24	-
950.0	39.5	144.0	4.69	39747	52004.96	118.74	361.15	-
960.0	39.4	154.0	4.94	41674	53195.97	119.10	345.43	-
970.0	44.0	164.0	5.17	43452	54263.25	106.73	330.87	-
980.0	45.2	174.0	5.39	45269	55301.17	103.79	317.82	-
990.0	43.2	184.0	5.62	47166	56387.91	108.67	306.46	-
1000.0	42.0	194.0	5.86	49075	57504.21	111.63	296.41	-
1010.0	43.7	204.0	6.09	50972	58578.25	107.40	287.15	-
1020.0	41.7	214.0	6.33	52915	59703.92	112.57	278.99	-
1030.0	43.8	224.0	6.55	54779	60775.53	107.16	271.32	-
1040.0	42.6	234.0	6.79	56670	61876.75	110.12	264.43	-
1050.0	37.7	244.0	7.05	58836	63120.04	124.33	258.69	-
1060.0	42.9	254.0	7.29	60702	64214.45	109.44	252.81	-
1070.0	38.9	264.0	7.54	62718	65419.16	120.47	247.80	-
1080.0	29.3	274.0	7.89	65448	67021.59	160.24	244.60	-
1090.0	37.6	284.0	8.15	67581	68268.39	124.68	240.38	-
1100.0	37.9	294.0	8.42	69579	69506.41	123.80	236.42	-
1110.0	36.4	304.0	8.69	71718	70794.29	128.79	232.88	-
1120.0	36.7	314.0	8.96	73888	72071.63	127.73	229.53	-
1130.0	40.1	324.0	9.21	75705	73243.09	117.15	226.06	-
1140.0	38.6	334.0	9.47	77698	74459.69	121.66	222.93	-
1150.0	42.9	344.0	9.70	79600	75552.82	109.31	219.63	-
1160.0	33.7	354.0	10.00	81977	76943.65	139.08	217.35	-
1170.0	40.5	364.0	10.25	84027	78102.18	115.85	214.57	-
1180.0	37.2	374.0	10.52	86250	79361.99	125.98	212.20	-
1190.0	30.6	384.0	10.84	88904	80897.00	153.50	210.67	-
1200.0	20.8	394.0	11.32	92766	83149.45	225.24	211.04	+
1210.0	26.2	404.0	11.70	95802	84938.46	178.90	210.24	-
1220.0	24.4	414.0	12.11	99048	86861.53	192.31	209.81	-
1230.0	20.4	424.0	12.60	102933	89162.87	230.13	210.29	+

DEPTH	ROP	RIT	RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
1240.0	21.6	434.0		13.07	106607	91339.41	217.65	210.46	+
1250.0	20.4	444.0		13.56	110687	93637.96	229.86	210.90	+
1260.0	25.3	454.0		13.95	113778	95489.35	185.14	210.33	-
1270.0	23.0	464.0		14.39	117176	97525.16	203.58	210.18	-
1280.0	26.6	474.0		14.76	120202	99290.09	176.49	209.47	-
1290.0	29.2	484.0		15.11	123090	100895.69	160.56	208.46	-
1300.0	30.3	494.0		15.44	125819	102446.44	155.08	207.38	-
1310.0	31.0	504.0		15.76	128551	103962.01	151.56	206.27	-
1320.0	27.4	514.0		16.12	131523	105677.48	171.55	205.60	-
1340.0	24.3	534.0		16.95	138290	109537.96	193.02	205.13	-
1350.0	27.2	544.0		17.31	141158	111262.27	172.43	204.53	-
1360.0	32.0	554.0		17.63	143701	112729.82	146.76	203.48	-
1370.0	27.7	564.0		17.99	146689	114424.15	169.43	202.88	-
1380.0	27.2	574.0		18.36	149724	116149.12	172.50	202.35	-
1390.0	13.5	584.0		19.09	155621	119613.38	346.43	204.82	+
1396.4	20.5	590.4		19.41	157940	121081.66	229.42	205.08	+

BIT NUMBER	3	IADC CODE	4	INTERVAL	1396.4- 1410.0
CHRISTENSEN	C-22	SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.1	BIT RUN	13.6
TOTAL HOURS	2.19	TOTAL TURNS	9932	CONDITION	T0 B0 G0.010

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1400.0	3.1	3.6	1.17	5326	49113.45	1526	13643	-
1410.0	9.8	13.6	2.19	9932	53883.21	477	3962	-

BIT NUMBER	3	IADC CODE	4	INTERVAL	1410.0- 1418.0
CHRISTENSEN	C-22	SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.2	BIT RUN	8.0
TOTAL HOURS	4.65	TOTAL TURNS	21110	CONDITION	TO B0 G0.100

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1418.0	3.4	21.6	4.65	21110	65916.95	1397	3052	-

BIT NUMBER	4	IADC CODE	114	INTERVAL	1418.0- 1545.2
HTC X3A		SIZE	12.250	NOZZLES	15 15 14
COST	1400.00	TRIP TIME	6.6	BIT RUN	127.2
TOTAL HOURS	4.83	TOTAL TURNS	36851	CONDITION	T5 R3 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1420.0	62.5	2.0	0.03	273	32517.35	75	16259	-
1430.0	29.4	12.0	0.37	3114	34110.76	159	2843	-
1440.0	34.1	22.0	0.66	4416	35487.08	138	1613	-
1450.0	76.3	32.0	0.80	5415	36102.25	62	1128	-
1460.0	48.1	42.0	1.00	6666	37077.12	97.49	882.79	-
1470.0	38.9	52.0	1.26	8703	38284.39	120.73	736.24	-
1480.0	14.4	62.0	1.96	13921	41551.85	326.75	670.19	-
1490.0	28.3	72.0	2.31	16522	43210.99	165.91	600.15	-
1500.0	29.3	82.0	2.65	19294	44812.79	160.18	546.50	-
1510.0	25.7	92.0	3.04	22422	46638.76	182.60	506.94	-
1520.0	20.7	102.0	3.53	26402	48907.43	226.87	479.48	-
1530.0	18.9	112.0	4.05	30785	51385.81	247.84	458.80	-
1540.0	27.0	122.0	4.42	33562	53120.49	173.47	435.41	-
1545.2	12.9	127.2	4.83	36851	55012.93	363.93	432.49	-

BIT NUMBER	4	IADC CODE	4	INTERVAL	1545.2- 1558.2
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.7	BIT RUN	13.0
TOTAL HOURS	4.94	TOTAL TURNS	28102	CONDITION	T0 B0 G0.015

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1550.0	3.1	4.8	1.55	8829	53723.15	1518	11192	-
1558.2	2.4	13.0	4.94	28102	69627.73	1940	5356	-

BIT NUMBER	5	IADC CODE	135	INTERVAL	1558.2- 1738.0
HTC XDG		SIZE	12.250	NOZZLES	15 15 14
COST	2256.00	TRIP TIME	7.3	BIT RUN	179.8
TOTAL HOURS	15.37	TOTAL TURNS	115209	CONDITION	T7 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1560.0	26.2	1.8	0.07	511	36830.39	179	20461	-
1570.0	28.1	11.8	0.42	2619	38497.36	167	3262	-
1580.0	11.4	21.8	1.30	9014	42615.89	412	1955	-
1590.0	15.6	31.8	1.94	13759	45616.16	300	1434	-
1600.0	14.2	41.8	2.65	19148	48931.84	332	1171	-
1610.0	10.9	51.8	3.57	26346	53253.07	432	1028	-
1620.0	13.9	61.8	4.29	31645	56626.10	337.30	916.28	-
1630.0	15.0	71.8	4.95	36685	59747.58	312.15	832.14	-
1640.0	18.9	81.8	5.48	40548	62228.73	248.11	760.74	-
1650.0	10.3	91.8	6.45	47772	66765.65	453.69	727.29	-
1660.0	13.0	101.8	7.22	53513	70378.49	361.28	691.34	-
1670.0	6.6	111.8	8.73	64778	77460.13	708.16	692.85	+
1680.0	9.3	121.8	9.81	72842	82523.04	506.29	677.53	-
1690.0	9.5	131.8	10.85	80732	87438.56	491.55	663.42	-
1700.0	14.0	141.8	11.57	86174	90784.22	334.57	640.23	-
1710.0	12.5	151.8	12.37	92359	94551.31	376.71	622.87	-
1720.0	15.4	161.8	13.02	97373	97589.92	303.86	603.15	-
1730.0	11.5	171.8	13.89	103975	101674.57	408.46	591.82	-
1738.0	5.4	179.8	15.37	115209	108634.37	869.98	604.20	.

BIT NUMBER	6	IADC CODE	136	INTERVAL	1738.0- 1884.0
HTC JD3		SIZE	12.250	NOZZLES	14 14 13
COST	2348.00	TRIP TIME	7.8	BIT RUN	146.0
TOTAL HOURS	20.44	TOTAL TURNS	102192	CONDITION	T6 B4 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1740.0	4.2	2.0	0.48	2789	41193.85	1124	20597	-
1750.0	13.0	12.0	1.25	7134	44794.40	360	3733	-
1760.0	14.5	22.0	1.94	10412	48025.37	323	2183	-
1770.0	16.8	32.0	2.53	13179	50811.89	279	1588	-
1780.0	10.2	42.0	3.51	17385	55403.72	459	1319	-
1790.0	11.1	52.0	4.41	21252	59625.22	422	1147	-
1800.0	9.4	62.0	5.47	27328	64627.41	500	1042	-
1810.0	6.1	72.0	7.12	37154	72368.34	774	1005	-
1820.0	7.3	82.0	8.50	45165	78825.06	645.67	961.28	-
1830.0	5.5	92.0	10.32	55522	87356.68	853.16	949.53	-
1840.0	4.5	102.0	12.55	67113	97817.23	1046	959	+
1850.0	8.0	112.0	13.79	72697	103652.25	583.50	925.47	-
1860.0	5.9	122.0	15.49	80290	111635.17	798.29	915.04	-
1870.0	7.9	132.0	16.76	85936	117591.40	595.62	890.84	-
1880.0	4.0	142.0	19.25	97058	129288.82	1170	910	+
1884.0	3.4	146.0	20.44	102192	134851.45	1391	924	+

BIT NUMBER	7	IADC CODE	517	INTERVAL	1884.0- 2320.0
HTC J22		SIZE	12.250	NOZZLES	13 13 14
COST	6788.00	TRIP TIME	9.4	BIT RUN	436.0
TOTAL HOURS	63.81	TOTAL TURNS	231890	CONDITION	T4 B4 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1890.0	6.4	6.0	0.94	3034	55295.25	734	9216	-
1900.0	6.3	16.0	2.54	8554	62792.33	750	3925	-
1910.0	11.4	26.0	3.42	11697	66917.10	412	2574	-
1920.0	8.8	36.0	4.55	16563	72230.62	531	2006	-
1930.0	10.6	46.0	5.49	20837	76673.56	444	1667	-
1940.0	14.5	56.0	6.18	23791	79899.98	323	1427	-
1950.0	12.3	66.0	6.99	27243	83708.20	381	1268	-
1960.0	13.2	76.0	7.75	30359	87250.51	354	1148	-
1970.0	11.6	86.0	8.61	33871	91304.80	405	1062	-
1980.0	11.3	96.0	9.50	37296	95473.84	416.90	994.52	-
1990.0	7.4	106.0	10.85	42569	101788.49	631.46	960.27	-
2000.0	13.3	116.0	11.60	45636	105325.74	353.72	907.98	-
2010.0	6.1	126.0	13.25	52304	113049.18	772.34	897.22	-
2020.0	17.7	136.0	13.81	54568	115706.68	265.75	850.78	-
2030.0	7.9	146.0	15.09	59878	121675.94	596.93	833.40	-
2040.0	15.7	156.0	15.72	62633	124665.79	298.98	799.14	-
2050.0	17.1	166.0	16.31	65273	127415.82	275.00	767.57	-
2060.0	8.3	176.0	17.52	70251	133081.41	566.56	756.14	-
2070.0	5.4	186.0	19.37	77848	141779.86	869.84	762.26	+
2080.0	8.2	196.0	20.59	81544	147523.65	574.38	752.67	-
2090.0	6.9	206.0	22.04	86144	154324.44	680.08	749.15	-
2100.0	7.3	216.0	23.42	90521	160778.55	645.41	744.35	-
2110.0	4.8	226.0	25.52	97153	170625.23	984.67	754.98	+
2120.0	5.9	236.0	27.21	102491	178557.32	793.21	756.60	+
2130.0	7.4	246.0	28.57	107544	184939.74	638.24	751.79	-
2140.0	6.5	256.0	30.10	113449	192131.54	719.18	750.51	-
2150.0	5.0	266.0	32.08	120434	201426.91	929.54	757.24	-
2160.0	8.1	276.0	33.31	124455	207186.34	575.94	750.68	-
2170.0	7.6	286.0	34.62	129131	213322.43	613.61	745.88	-
2180.0	3.8	296.0	37.26	138582	225730.17	1241	763	+
2190.0	7.0	306.0	38.69	143400	232413.66	668.35	759.52	-
2200.0	4.3	316.0	40.99	150786	243230.02	1082	770	+
2210.0	7.4	326.0	42.34	155334	249549.89	631.99	765.49	-
2220.0	9.5	336.0	43.39	159154	254493.43	494.35	757.42	-
2230.0	7.0	346.0	44.82	164109	261175.62	668.22	754.84	-
2240.0	4.9	356.0	46.87	171832	270783.79	960.82	760.63	+
2250.0	3.5	366.0	49.69	181561	284048.38	1326	776	+
2260.0	5.5	376.0	51.51	187972	292582.17	853.38	778.14	+
2270.0	6.3	386.0	53.11	193670	300082.18	750.00	777.41	-
2280.0	4.0	396.0	55.62	202675	311883.86	1180	788	+
2290.0	4.9	406.0	57.68	210003	321538.40	965.45	791.97	+
2300.0	3.9	416.0	60.24	219050	333529.93	1199	802	+
2310.0	8.2	426.0	61.46	223453	339275.02	574.51	796.42	-

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
2320.0	4.3	436.0	63.81	231890	350271.25	1100	803	+

COMPUTER DATA LISTING : LIST C

INTERVAL 10 m average

DEPTH. Well depth, in metres

FLOW RATE. Mud flow into the well,
in gallons per minute

PSP Pump pressure, in pounds
per square inch

PBIT Bit pressure drop,
in pounds per square inch

% PSP Percentage of surface pressure
dropped at the bit

HHP Bit hydraulic horsepower

HHP/SQ IN Bit hydraulic horsepower per
square inch of bit diameter

IMPACT FORCE Bit impact force, in foot
pound per second squared

JET VELOCITY Mud velocity through the bit
nozzles, in metres per second

BIT NUMBER	1	IADC CODE	111	INTERVAL	82.0- 216.0
HTC OSC3AJ&26"HD		SIZE	26.000	NOZZLES	25 25 25
COST	6350.00	TRIP TIME	1.8	BIT RUN	134.0
TOTAL HOURS	6.98	TOTAL TURNS	25127	CONDITION	T1 B1 G1.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
100.0	280	320.0	30.0	9.4	5	0.01	78	19
110.0	262	360.0	26.3	7.3	4	0.01	68	18
130.0	944	1200.0	340.9	28.4	188	0.35	884	64
150.0	568	430.0	123.3	28.7	41	0.08	320	38
160.0	576	430.0	126.9	29.5	43	0.08	329	39
170.0	503	420.0	96.9	23.1	28	0.05	251	34
180.0	993	1210.0	377.6	31.2	219	0.41	980	67
190.0	992	1210.0	377.0	31.2	218	0.41	978	67
200.0	988	1210.0	374.1	30.9	216	0.41	970	67
210.0	999	1210.0	381.9	31.6	223	0.42	991	68
216.0	1005	1210.0	386.9	32.0	227	0.43	1003	68

BIT NUMBER	1	IADC CODE	111	INTERVAL	216.0- 806.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	2450.00	TRIP TIME	3.9	BIT RUN	590.0
TOTAL HOURS	22.11	TOTAL TURNS	152470	CONDITION	T3 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
220.0	986	2200.0	909.0	41.3	523	2.17	1509	104
240.0	985	2200.0	906.4	41.2	521	2.16	1505	104
250.0	986	2200.0	908.8	41.3	523	2.17	1509	104
260.0	988	2086.0	912.6	43.7	526	2.19	1515	105
270.0	979	2086.0	896.5	43.0	512	2.13	1488	104
290.0	975	1900.0	889.7	46.8	506	2.11	1477	103
300.0	995	1900.0	924.9	48.7	537	2.23	1535	105
310.0	988	1900.0	913.0	48.1	526	2.19	1516	105
320.0	996	1900.0	937.5	49.3	545	2.26	1556	106
330.0	993	1900.0	932.5	49.1	540	2.25	1548	105
340.0	987	1900.0	932.2	49.1	537	2.23	1548	105
350.0	990	1900.0	948.2	49.9	548	2.28	1574	105
360.0	975	2000.0	920.7	46.0	524	2.18	1529	103
370.0	980	2000.0	928.8	46.4	531	2.21	1542	104
380.0	978	2000.0	914.8	45.7	522	2.17	1519	104
390.0	980	2000.0	919.0	45.9	525	2.18	1526	104
400.0	979	2000.0	917.3	45.9	524	2.18	1523	104
410.0	984	2000.0	926.4	46.3	532	2.21	1538	104
420.0	986	2000.0	930.3	46.5	535	2.23	1544	105
430.0	977	2000.0	912.6	45.6	520	2.16	1515	103
440.0	977	2000.0	912.5	45.6	520	2.16	1515	103
450.0	969	2000.0	908.1	45.4	513	2.13	1508	103
460.0	986	2000.0	950.5	47.5	547	2.27	1578	104
470.0	979	2000.0	947.7	47.4	541	2.25	1573	104
480.0	984	2000.0	967.6	48.4	555	2.31	1606	104
490.0	983	2100.0	966.3	46.0	554	2.30	1604	104
500.0	981	2100.0	963.0	45.9	551	2.29	1599	104
510.0	976	2100.0	952.5	45.4	542	2.25	1581	103
520.0	964	2100.0	929.8	44.3	523	2.17	1544	102
530.0	962	2100.0	925.6	44.1	520	2.16	1537	102
540.0	962	2100.0	925.6	44.1	520	2.16	1537	102
550.0	996	2100.0	993.2	47.3	577	2.40	1649	106
560.0	996	2100.0	991.3	47.2	576	2.39	1646	105
570.0	992	2200.0	984.3	44.7	570	2.37	1634	105
580.0	997	2200.0	994.1	45.2	578	2.40	1650	106
590.0	1000	2200.0	1000.4	45.5	584	2.43	1661	106
600.0	999	2200.0	997.8	45.4	581	2.42	1656	106
610.0	1007	2200.0	1014.2	46.1	596	2.48	1684	107
620.0	991	2230.0	979.0	43.9	566	2.35	1625	105
630.0	991	2250.0	983.3	43.7	569	2.36	1632	105
640.0	1010	2250.0	1021.2	45.4	602	2.50	1695	107
650.0	999	2250.0	992.4	44.1	579	2.41	1648	106
660.0	999	2250.0	992.5	44.1	579	2.41	1648	106

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
670.0	1000	2250.0	993.3	44.1	579	2.41	1649	106
680.0	991	2250.0	971.4	43.2	562	2.33	1613	105
690.0	994	2250.0	982.2	43.7	569	2.37	1631	105
700.0	1004	2300.0	1002.2	43.6	587	2.44	1664	106
710.0	1003	2300.0	1000.9	43.5	586	2.44	1662	106
720.0	1002	2300.0	993.2	43.2	581	2.41	1649	106
730.0	1003	2300.0	996.2	43.3	583	2.42	1654	106
740.0	1003	2300.0	996.2	43.3	583	2.42	1654	106
750.0	1003	2300.0	996.2	43.3	583	2.42	1654	106
760.0	1003	2300.0	996.2	43.3	583	2.42	1654	106
770.0	1003	2300.0	996.2	43.3	583	2.42	1654	106
780.0	1003	2300.0	996.2	43.3	583	2.42	1654	106
790.0	1075	2350.0	1155.0	49.1	724	3.01	1917	114
800.0	1092	2350.0	1193.6	50.8	761	3.16	1982	116
806.0	1092	2350.0	1193.6	50.8	761	3.16	1982	116

BIT NUMBER	3	IADC CODE	114	INTERVAL	806.0- 1396.4
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	6.1	BIT RUN	590.4
TOTAL HOURS	19.41	TOTAL TURNS	157940	CONDITION	T3 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
810.0	670	2350.0	1083.4	46.1	423	3.59	1151	111
820.0	780	2580.0	1468.4	56.9	668	5.67	1560	129
830.0	780	2580.0	1468.4	56.9	668	5.67	1560	129
840.0	780	2580.0	1468.4	56.9	668	5.67	1560	129
850.0	810	2620.0	1583.5	60.4	748	6.35	1682	134
860.0	810	2620.0	1583.5	60.4	748	6.35	1682	134
870.0	810	2620.0	1583.5	60.4	748	6.35	1682	134
880.0	810	2620.0	1583.5	60.4	748	6.35	1682	134
890.0	810	2460.0	1583.5	64.4	748	6.35	1682	134
900.0	560	1400.0	756.9	54.1	247	2.10	804	93
910.0	560	1400.0	756.9	54.1	247	2.10	804	93
920.0	795	1450.0	1525.4	105.2	707	6.00	1621	132
930.0	795	2600.0	1525.4	58.7	707	6.00	1621	132
940.0	810	2600.0	1583.5	60.9	748	6.35	1682	134
950.0	810	2600.0	1583.5	60.9	748	6.35	1682	134
960.0	820	2620.0	1640.7	62.6	785	6.66	1743	136
970.0	810	2620.0	1600.9	61.1	756	6.42	1701	134
980.0	790	2580.0	1522.8	59.0	702	5.95	1618	131
990.0	805	2660.0	1581.2	59.4	742	6.30	1680	133
1000.0	815	2650.0	1620.7	61.2	770	6.54	1722	135
1010.0	815	2680.0	1620.7	60.5	770	6.54	1722	135
1020.0	810	2700.0	1600.9	59.3	756	6.42	1701	134
1030.0	800	2650.0	1561.6	58.9	729	6.18	1659	132
1040.0	800	2700.0	1561.6	57.8	729	6.18	1659	132
1050.0	805	2700.0	1581.2	58.6	742	6.30	1680	133
1060.0	805	2700.0	1598.4	59.2	750	6.37	1698	133
1070.0	795	2700.0	1558.9	57.7	723	6.13	1656	132
1080.0	485	1400.0	580.2	41.4	164	1.39	616	80
1090.0	790	2500.0	1572.5	62.9	724	6.15	1671	131
1100.0	790	2500.0	1572.5	62.9	724	6.15	1671	131
1110.0	770	2620.0	1493.8	57.0	671	5.69	1587	127
1120.0	775	2650.0	1545.2	58.3	698	5.93	1642	128
1130.0	775	2650.0	1545.2	58.3	698	5.93	1642	128
1140.0	775	2650.0	1545.2	58.3	698	5.93	1642	128
1150.0	780	2620.0	1565.2	59.7	712	6.04	1663	129
1160.0	780	2620.0	1565.2	59.7	712	6.04	1663	129
1170.0	820	2580.0	1729.8	67.0	827	7.02	1838	136
1180.0	820	2580.0	1729.8	67.0	827	7.02	1838	136
1190.0	820	2580.0	1747.7	67.7	836	7.09	1857	136
1200.0	820	2580.0	1747.7	67.7	836	7.09	1857	136
1210.0	820	2580.0	1836.8	71.2	878	7.45	1952	136
1220.0	820	2580.0	1836.8	71.2	878	7.45	1952	136
1230.0	820	2580.0	1836.8	71.2	878	7.45	1952	136

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1240.0	820	2580.0	1836.8	71.2	878	7.45	1952	136
1250.0	820	2580.0	1836.8	71.2	878	7.45	1952	136
1260.0	789	2900.0	1667.0	57.5	767	6.51	1771	131
1270.0	788	2900.0	1663.0	57.3	764	6.48	1767	130
1280.0	783	3000.0	1645.4	54.8	752	6.38	1748	130
1290.0	783	2900.0	1645.4	56.7	752	6.38	1748	130
1300.0	783	2900.0	1645.4	56.7	752	6.38	1748	130
1310.0	783	2900.0	1645.4	56.7	752	6.38	1748	130
1320.0	788	2900.0	1665.2	57.4	766	6.50	1769	131
1340.0	786	2900.0	1656.2	57.1	760	6.44	1760	130
1350.0	781	2900.0	1634.6	56.4	745	6.32	1737	129
1360.0	783	2900.0	1644.2	56.7	751	6.37	1747	130
1370.0	672	2900.0	1210.9	41.8	475	4.03	1287	111
1380.0	568	2900.0	865.3	29.8	287	2.43	919	94
1390.0	562	2900.0	847.2	29.2	278	2.36	900	93
1396.4	570	2900.0	870.3	30.0	289	2.45	925	94

BIT NUMBER	3	IADC CODE	4	INTERVAL	1396.4- 1410.0
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.1	BIT RUN	13.6
TOTAL HOURS	2.19	TOTAL TURNS	9932	CONDITION	T0 B0 G0.010

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1400.0	366	750.0	823.8	109.8	176	3.12	578	92
1410.0	341	610.0	714.0	117.1	142	2.52	501	85

BIT NUMBER	3	IADC CODE	4	INTERVAL	1410.0- 1418.0
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.2	BIT RUN	8.0
TOTAL HOURS	4.65	TOTAL TURNS	21110	CONDITION	TO B0 G0.100

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1418.0	384	740.0	906.1	122.4	203	3.60	636	96

BIT NUMBER	4	IADC CODE	114	INTERVAL	1418.0- 1545.2
HTC X3A		SIZE	12.250	NOZZLES	15 15 14
COST	1400.00	TRIP TIME	6.6	BIT RUN	127.2
TOTAL HOURS	4.83	TOTAL TURNS	36851	CONDITION	T5 B3 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1420.0	700	2800.0	1842.3	65.8	752	6.38	1646	138
1430.0	719	2800.0	1959.9	70.0	822	6.98	1752	142
1440.0	747	2800.0	2113.0	75.5	921	7.81	1888	147
1450.0	736	2900.0	2054.6	70.8	883	7.49	1836	145
1460.0	716	2900.0	1941.4	66.9	811	6.88	1735	141
1470.0	708	2600.0	1898.8	73.0	784	6.65	1697	139
1480.0	725	2750.0	1993.8	72.5	844	7.16	1782	143
1490.0	730	2900.0	2019.7	69.6	860	7.30	1805	144
1500.0	728	2950.0	2010.6	68.2	854	7.25	1797	143
1510.0	727	2950.0	2000.6	67.8	848	7.20	1788	143
1520.0	735	2900.0	2045.3	70.5	877	7.44	1828	145
1530.0	700	2900.0	1855.1	64.0	757	6.43	1658	138
1540.0	707	2950.0	1893.3	64.2	781	6.63	1692	139
1545.2	430	1000.0	701.5	70.2	176	1.49	627	85

BIT NUMBER	4	IADC CODE	4	INTERVAL	1545.2- 1558.2
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.7	BIT RUN	13.0
TOTAL HOURS	4.94	TOTAL TURNS	28102	CONDITION	TO B0 G0.015

DEPTH	FLOW RATE	PSP	PRIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1550.0	251	480.0	386.4	80.5	56	1.00	271	63
1558.2	209	560.0	267.7	47.8	33	0.58	188	52

BIT NUMBER	5	IADC CODE	135	INTERVAL	1558.2- 1738.0
HTC XDG		SIZE	12.250	NOZZLES	15 15 14
COST	2256.00	TRIP TIME	7.3	BIT RUN	179.8
TOTAL HOURS	15.37	TOTAL TURNS	115209	CONDITION	T7 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1560.0	709	3000.0	1905.6	63.5	788	6.69	1703	140
1570.0	713	3000.0	1925.8	64.2	801	6.80	1721	140
1580.0	697	3000.0	1840.9	61.4	749	6.35	1645	137
1590.0	728	3000.0	2009.6	67.0	854	7.24	1796	143
1600.0	528	1700.0	1057.1	62.2	326	2.76	945	104
1610.0	713	2850.0	1923.7	67.5	800	6.79	1719	140
1620.0	697	2850.0	1839.2	64.5	748	6.34	1644	137
1630.0	721	2850.0	1969.4	69.1	828	7.03	1760	142
1640.0	720	2850.0	1962.7	68.9	824	6.99	1754	142
1650.0	734	2950.0	2042.1	69.2	875	7.42	1825	145
1660.0	722	2950.0	1973.6	66.9	831	7.05	1764	142
1670.0	690	2950.0	1802.5	61.1	725	6.15	1611	136
1680.0	645	2300.0	1575.1	68.5	592	5.03	1408	127
1690.0	728	2950.0	2006.6	68.0	852	7.23	1793	143
1700.0	760	2950.0	2187.3	74.1	970	8.23	1955	150
1710.0	630	2950.0	1502.6	50.9	552	4.68	1343	124
1720.0	662	2350.0	1659.5	70.6	641	5.44	1483	130
1730.0	614	2350.0	1430.6	60.9	513	4.35	1279	121
1738.0	635	2400.0	1526.8	63.6	565	4.80	1365	125

BIT NUMBER	6	IADC CODE	136	INTERVAL	1738.0- 1884.0
HTC JD3		SIZE	12.250	NOZZLES	14 14 13
COST	2348.00	TRIP TIME	7.8	BIT RUN	146.0
TOTAL HOURS	20.44	TOTAL TURNS	102192	CONDITION	T6 B4 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1740.0	685	2800.0	2355.6	84.1	941	7.98	1828	155
1750.0	693	2900.0	2412.0	83.2	975	8.27	1872	157
1760.0	701	2900.0	2468.2	85.1	1009	8.56	1916	159
1770.0	693	2950.0	2413.9	81.8	976	8.28	1873	157
1780.0	839	2900.0	3533.9	121.9	1729	14.67	2743	190
1790.0	655	2850.0	2153.2	75.6	822	6.98	1671	148
1800.0	640	2900.0	2056.3	70.9	767	6.51	1596	145
1810.0	650	2900.0	2120.9	73.1	804	6.82	1646	147
1820.0	656	2900.0	2161.1	74.5	827	7.02	1677	149
1830.0	649	2950.0	2117.1	71.8	802	6.80	1643	147
1840.0	644	2950.0	2080.7	70.5	781	6.63	1615	146
1850.0	651	2900.0	2127.4	73.4	808	6.85	1651	148
1860.0	650	2900.0	2121.5	73.2	804	6.82	1647	147
1870.0	646	2800.0	2095.3	74.8	789	6.70	1626	146
1880.0	645	2800.0	2088.7	74.6	786	6.67	1621	146
1884.0	645	2750.0	2092.8	76.1	788	6.69	1624	146

BIT NUMBER	7	IADC CODE	517	INTERVAL	1884.0- 2320.0
HTC J22		SIZE	12.250	NOZZLES	13 13 14
COST	6788.00	TRIP TIME	9.4	BIT RUN	436.0
TOTAL HOURS	63.81	TOTAL TURNS	231890	CONDITION	T4 B4 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1890.0	625	2900.0	2142.9	73.9	781	6.63	1583	149
1900.0	630	2825.0	2177.3	77.1	800	6.79	1609	150
1910.0	635	2850.0	2212.0	77.6	819	6.95	1634	151
1920.0	635	2900.0	2212.0	76.3	819	6.95	1634	151
1930.0	670	2850.0	2462.6	86.4	962	8.16	1819	159
1940.0	665	2850.0	2426.0	85.1	941	7.98	1792	158
1950.0	675	2850.0	2499.5	87.7	984	8.35	1847	161
1960.0	670	2850.0	2462.6	86.4	962	8.16	1819	159
1970.0	660	2900.0	2389.6	82.4	920	7.80	1765	157
1980.0	680	2900.0	2539.5	87.6	1008	8.55	1876	162
1990.0	670	2900.0	2466.8	85.1	965	8.19	1822	160
2000.0	678	2900.0	2527.0	87.1	1000	8.49	1867	162
2010.0	666	2900.0	2434.8	84.0	946	8.03	1799	159
2020.0	660	2900.0	2390.7	82.4	920	7.81	1766	157
2030.0	677	2900.0	2517.4	86.8	995	8.44	1860	161
2040.0	669	2850.0	2456.2	86.2	959	8.13	1815	159
2050.0	658	2850.0	2378.0	83.4	913	7.75	1757	157
2060.0	643	2850.0	2269.4	79.6	851	7.22	1677	153
2070.0	683	2850.0	2562.1	89.9	1021	8.66	1893	163
2080.0	647	2850.0	2296.5	80.6	867	7.35	1697	154
2090.0	643	2850.0	2270.2	79.7	852	7.23	1677	153
2100.0	640	2900.0	2251.2	77.6	841	7.14	1663	152
2110.0	642	2900.0	2260.6	78.0	846	7.18	1670	153
2120.0	666	2850.0	2433.6	85.4	945	8.02	1798	159
2130.0	673	2850.0	2483.0	87.1	974	8.27	1834	160
2140.0	661	2850.0	2401.5	84.3	927	7.86	1774	157
2150.0	672	2850.0	2478.7	87.0	972	8.24	1831	160
2160.0	657	2850.0	2369.3	83.1	908	7.70	1750	156
2170.0	647	2850.0	2299.6	80.7	868	7.37	1699	154
2180.0	673	2850.0	2486.1	87.2	976	8.28	1837	160
2190.0	680	2850.0	2535.5	89.0	1005	8.53	1873	162
2200.0	608	2700.0	2030.3	75.2	720	6.11	1500	145
2210.0	631	2700.0	2182.6	80.8	803	6.81	1612	150
2220.0	660	2800.0	2388.2	85.3	919	7.80	1764	157
2230.0	686	2800.0	2582.7	92.2	1033	8.77	1908	163
2240.0	660	2800.0	2392.0	85.4	921	7.82	1767	157
2250.0	662	2850.0	2408.0	84.5	930	7.89	1779	158
2260.0	635	2900.0	2214.8	76.4	821	6.96	1636	151
2270.0	637	2850.0	2227.3	78.2	828	7.02	1645	152
2280.0	554	2000.0	1687.1	84.4	546	4.63	1246	132
2290.0	678	2850.0	2525.3	88.6	999	8.48	1866	162
2300.0	673	3100.0	2488.1	80.3	977	8.29	1838	160
2310.0	659	3000.0	2385.6	79.5	917	7.78	1762	157

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2320.0	690	2900.0	2611.8	90.1	1051	8.92	1929	164

COMPUTER DATA LISTING : LIST D

INTERVAL 10 m average

DEPTH Well depth, in metres

SPM1 Stroke rate per minute,
for pump No 1

SPM2 Stroke rate per minute,
for pump No 2

FLOW RATE Mud flow rate into the well,
in gallons per minute

ANNULAR VELOCITIES : (in metres per minute)

DC/OH - Between drill collars and the open hole

DC/CSG - Between drill collars and casing

HW/OH - Between heavyweight drill pipe and the open hole

HW/CSG - Between heavyweight drill pipe and casing

DP/OH - Between drill pipe and open hole

DP/CSG - Between drill pipe and casing

DP/RIS - Between drill pipe and riser

BIT NUMBER	1	IADC CODE	111	INTERVAL	82.0- 216.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	25 25 25
COST	6350.00	TRIP TIME	1.8	BIT RUN	134.0
TOTAL HOURS	6.98	TOTAL TURNS	25127	CONDITION	T1 B1 G1.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
100.0	0	56	280	3		3		3		
110.0	0	52	262	3		3		3		
130.0	87	102	944	12		11		11		
150.0	0	114	568	7		7		7		
160.0	0	115	576	7		7		7		
170.0	0	101	503	6		6		6		
180.0	98	101	993	12		11		11		
190.0	98	100	992	12		11		11		
200.0	98	99	988	12		11		11		
210.0	99	101	999	12		11		11		
216.0	100	101	1005	12		12		12		

BIT NUMBER	1	IADC CODE	111	INTERVAL	216.0-	806.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20	20 20
CDST	2450.00	TRIP TIME	3.9	BIT RUN		590.0
TOTAL HOURS	22.11	TOTAL TURNS	152470	CONDITION	T3 B4 G0.000	

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
220.0	98	99	986		24		22			18
240.0	98	99	985	30	24		22			18
250.0	97	100	986	30	24		22			18
260.0	98	100	988	30	24		22			18
270.0	97	99	979	30	24		21			18
290.0	96	99	975	30	24		21		21	18
300.0	99	100	995	31	25		22		22	18
310.0	98	100	988	30	24		22		22	18
320.0	99	100	996	31		26	22		22	18
330.0	98	100	993	31		26	22		22	18
340.0	99	99	987	30		26	22		22	18
350.0	98	100	990	31		26	22		22	18
360.0	96	99	975	30		26	21		21	18
370.0	97	99	980	30		26	21		21	18
380.0	97	98	978	30		26	21		21	18
390.0	97	99	980	30		26	21		21	18
400.0	98	98	979	30		26		26	21	18
410.0	98	98	984	30		26		26	22	18
420.0	98	99	986	30		26		26	22	18
430.0	97	99	977	30		26		26	21	18
440.0	97	99	977	30		26		26	21	18
450.0	96	98	969	30		26		26	21	17
460.0	98	99	986	30		26		26	22	18
470.0	97	99	979	30		26		26	21	18
480.0	98	98	984	30		26		26	22	18
490.0	98	99	983	30		26		26	22	18
500.0	97	99	981	30		26		26	22	18
510.0	97	98	976	30		26		26	21	18
520.0	97	96	964	30		26		26	21	17
530.0	96	97	962	30		26		26	21	17
540.0	96	97	962	30		26		26	21	17
550.0	100	100	996	31		26		26	22	18
560.0	99	100	996	31		26		26	22	18
570.0	100	99	992	31		26		26	22	18
580.0	100	99	997	31		26		26	22	18
590.0	101	99	1000	31		27		27	22	18
600.0	100	100	999	31		27		27	22	18
610.0	100	101	1007	31		27		27	22	18
620.0	99	99	991	31		26		26	22	18
630.0	100	99	991	31		26		26	22	18
640.0	102	100	1010	31		27		27	22	18
650.0	100	100	999	31		27		27	22	18
660.0	100	100	999	31		27		27	22	18

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RTS
670.0	101	100	1000	31		27		27	22	18
680.0	99	100	991	31		26		26	22	18
690.0	99	100	994	31		26		26	22	18
700.0	101	100	1004	31		27		27	22	18
710.0	101	100	1003	31		27		27	22	18
720.0	101	99	1002	31		27		27	22	18
730.0	101	100	1003	31		27		27	22	18
740.0	101	100	1003	31		27		27	22	18
750.0	101	100	1003	31		27		27	22	18
760.0	101	100	1003	31		27		27	22	18
770.0	101	100	1003	31		27		27	22	18
780.0	101	100	1003	31		27		27	22	18
790.0	114	101	1075	33		29		29	24	19
800.0	119	100	1092	34		29		29	24	20
836.0	119	100	1092	34		29		29	24	20

BIT NUMBER	3	IADC CODE	114	INTERVAL	806.0- 1396.4
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	6.1	BIT RUN	590.4
TOTAL HOURS	19.41	TOTAL TURNS	157940	CONDITION	T3 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
810.0	69	65	670	58	53		37		37	12
820.0	78	78	780	68	61		43		43	14
830.0	78	78	780	68	61		43		43	14
840.0	78	78	780	68	61		43		43	14
850.0	80	82	810	70	64		45		45	15
860.0	80	82	810	70	64		45		45	15
870.0	80	82	810	70	64		45		45	15
880.0	80	82	810	70	64		45		45	15
890.0	82	80	810	70	64		45		45	15
900.0	112	0	560	49	44		31		31	10
910.0	112	0	560	49		33	31		31	10
920.0	82	77	795	69		47	44		44	14
930.0	80	79	795	69		47	44		44	14
940.0	81	81	810	70		48	45		45	15
950.0	81	81	810	70		48	45		45	15
960.0	83	81	820	71		49	46		46	15
970.0	80	82	810	70		48	45		45	15
980.0	78	80	790	69		47	44		44	14
990.0	80	81	805	70		48	45		45	14
1000.0	82	81	815	71		49		49	45	15
1010.0	82	81	815	71		49		49	45	15
1020.0	82	80	810	70		48		48	45	15
1030.0	80	80	800	69		48		48	45	14
1040.0	80	80	800	69		48		48	45	14
1050.0	80	81	805	70		48		48	45	14
1060.0	80	81	805	70		48		48	45	14
1070.0	81	78	795	69		47		47	44	14
1080.0	60	37	485	42		29		29	27	9
1090.0	77	81	790	69		47		47	44	14
1100.0	77	81	790	69		47		47	44	14
1110.0	75	79	770	67		46		46	43	14
1120.0	76	79	775	67		46		46	43	14
1130.0	76	79	775	67		46		46	43	14
1140.0	76	79	775	67		46		46	43	14
1150.0	77	79	780	68		47		47	43	14
1160.0	77	79	780	68		47		47	43	14
1170.0	82	82	820	71		49		49	46	15
1180.0	82	82	820	71		49		49	46	15
1190.0	82	82	820	71		49		49	46	15
1200.0	82	82	820	71		49		49	46	15
1210.0	82	82	820	71		49		49	46	15
1220.0	82	82	820	71		49		49	46	15
1230.0	82	82	820	71		49		49	46	15

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1240.0	82	82	820	71		49		49	46	15
1250.0	82	82	820	71		49		49	46	15
1260.0	80	78	789	68		47		47	44	14
1270.0	80	77	788	68		47		47	44	14
1280.0	79	77	783	68		47		47	44	14
1290.0	79	77	783	68		47		47	44	14
1300.0	79	77	783	68		47		47	44	14
1310.0	79	77	783	68		47		47	44	14
1320.0	80	78	788	68		47		47	44	14
1340.0	80	77	786	68		47		47	44	14
1350.0	80	77	781	68		47		47	44	14
1360.0	79	77	783	68		47		47	44	14
1370.0	68	67	672	58		40		40	37	12
1380.0	57	57	568	49		34		34	32	10
1390.0	56	56	562	49		34		34	31	10
1396.4	57	57	570	49		34		34	32	10

BIT NUMBER	3	IADC CODE	4	INTERVAL	1396.4- 1410.0
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.1	BIT RUN	13.6
TOTAL HOURS	2.19	TOTAL TURNS	9932	CONDITION	TO B0 G0.010

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1400.0	73	0	366	355					20	7
1410.0	68	0	341	330					19	6

BIT NUMBER	3	IADC CODE	4	INTERVAL	1410.0- 1418.0
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.2	BIT RUN	8.0
TOTAL HOURS	4.65	TOTAL TURNS	21110	CONDITION	TO B0 G0.100

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1418.0	77	0	384	372					21	7

BIT NUMBER	4	IADC CODE	114	INTERVAL	1418.0- 1545.2
HTC X3A		SIZE	12.250	NOZZLES	15 15 14
COST	1400.00	TRIP TIME	6.6	BIT RUN	127.2
TOTAL HOURS	4.83	TOTAL TURNS	36851	CONDITION	T5 B3 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1420.0	70	70	700	61		42		42	39	13
1430.0	76	68	719	62		43		43	40	13
1440.0	81	68	747	65		45		45	42	13
1450.0	78	69	736	64		44		44	41	13
1460.0	77	66	716	62		43		43	40	13
1470.0	73	69	708	61		42		42	39	13
1480.0	76	69	725	63		43		43	40	13
1490.0	78	69	730	63		44		44	41	13
1500.0	76	69	728	63		44		44	41	13
1510.0	76	69	727	63		43		43	40	13
1520.0	77	70	735	64		44		44	41	13
1530.0	70	70	700	61		42		42	39	13
1540.0	73	68	707	61		42		42	39	13
1545.2	86	0	430	37		26		26	24	8

BIT NUMBER	4	IADC CODE	4	INTERVAL	1545.2- 1558.2
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13
COST	15000.00	TRIP TIME	6.7	BIT RUN	13.0
TOTAL HOURS	4.94	TOTAL TURNS	28102	CONDITION	TO B0 G0.015

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1550.0	50	0	251	243					14	5
1558.2	42	0	209	202					12	4

BIT NUMBER	5	IADC CODE	135	INTERVAL	1558.2- 1738.0
HTC XDG		SIZE	12.250	NOZZLES	15 15 14
COST	2256.00	TRIP TIME	7.3	BIT RUN	179.8
TOTAL HOURS	15.37	TOTAL TURNS	115209	CONDITION	T7 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1560.0	73	69	709	62		42		42	40	13
1570.0	75	68	713	62		43		43	40	13
1580.0	71	68	697	61		42		42	39	13
1590.0	76	69	728	63		44		44	41	13
1600.0	1	105	528	46		32		32	29	9
1610.0	73	69	713	62		43		43	40	13
1620.0	71	68	697	61		42		42	39	13
1630.0	76	68	721	63		43		43	40	13
1640.0	76	68	720	63		43		43	40	13
1650.0	79	68	734	64		44		44	41	13
1660.0	77	67	722	63		43		43	40	13
1670.0	74	64	690	60		41		41	38	12
1680.0	70	59	645	56		39		39	36	12
1690.0	78	68	728	63		43		43	41	13
1700.0	84	68	760	66		45		45	42	14
1710.0	65	61	630	55		38		38	35	11
1720.0	73	59	662	57		40		40	37	12
1730.0	66	57	614	53		37		37	34	11
1738.0	67	60	635	55		38		38	35	11

BIT NUMBER	6	IADC CODE	136	INTERVAL	1738.0- 1884.0
HTC JD3		SIZE	12.250	NOZZLES	14 14 13
COST	2348.00	TRIP TIME	7.8	BIT RUN	146.0
TOTAL HOURS	20.44	TOTAL TURNS	102192	CONDITION	T6 B4 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1740.0	72	65	685	59		41		41	38	12
1750.0	74	65	693	60		41		41	39	12
1760.0	76	64	701	61		42		42	39	13
1770.0	74	64	693	60		41		41	39	12
1780.0	73	95	839	73		50		50	47	15
1790.0	66	65	655	57		39		39	36	12
1800.0	63	65	640	56		38		38	36	11
1810.0	66	64	650	56		39		39	36	12
1820.0	68	63	656	57		39		39	37	12
1830.0	65	65	649	56		39		39	36	12
1840.0	65	64	644	56		38		38	36	12
1850.0	65	65	651	57		39		39	36	12
1860.0	65	65	650	56		39		39	36	12
1870.0	65	64	646	56		39		39	36	12
1880.0	65	64	645	56		39		39	36	12
1884.0	65	64	645	56		39		39	36	12

BIT NUMBER	7	IADC CODE	517	INTERVAL	1884.0- 2320.0
HTC J22		SIZE	12.250	NOZZLES	13 13 14
COST	6788.00	TRIP TIME	9.4	BIT RUN	436.0
TOTAL HOURS	63.81	TOTAL TURNS	231890	CONDITION	T4 B4 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1890.0	63	62	625	54		37		37	35	11
1900.0	63	63	630	55		38		38	35	11
1910.0	65	62	635	55		38		38	35	11
1920.0	64	63	635	55		38		38	35	11
1930.0	72	62	670	58		40		40	37	12
1940.0	70	63	665	58		40		40	37	12
1950.0	72	63	675	59		40		40	38	12
1960.0	70	64	670	58		40		40	37	12
1970.0	68	64	660	57		39		39	37	12
1980.0	73	63	680	59		41		41	38	12
1990.0	69	66	670	58		40		40	37	12
2000.0	72	64	678	59		41		41	38	12
2010.0	70	64	666	58		40		40	37	12
2020.0	68	64	660	57		39		39	37	12
2030.0	71	64	677	59		40		40	38	12
2040.0	70	64	669	58		40		40	37	12
2050.0	67	64	658	57		39		39	37	12
2060.0	65	64	643	56		38		38	36	12
2070.0	73	63	683	59		41		41	38	12
2080.0	66	63	647	56		39		39	36	12
2090.0	66	62	643	56		38		38	36	12
2100.0	65	63	640	56		38		38	36	12
2110.0	65	63	642	56		38		38	36	12
2120.0	69	64	666	58		40		40	37	12
2130.0	70	64	673	58		40		40	37	12
2140.0	70	62	661	57		40		40	37	12
2150.0	71	64	672	58		40		40	37	12
2160.0	69	62	657	57		39		39	37	12
2170.0	66	64	647	56		39		39	36	12
2180.0	73	62	673	58		40		40	37	12
2190.0	74	62	680	59		41		41	38	12
2200.0	56	66	608	53		36		36	34	11
2210.0	63	63	631	55		38		38	35	11
2220.0	68	63	660	57		39		39	37	12
2230.0	73	64	686	60		41		41	38	12
2240.0	68	64	660	57		39		39	37	12
2250.0	69	64	662	58		40		40	37	12
2260.0	64	64	635	55		38		38	35	11
2270.0	65	62	637	55		38		38	35	11
2280.0	101	10	554	48		33		33	31	10
2290.0	71	64	678	59		41		41	38	12
2300.0	70	65	673	58		40		40	38	12
2310.0	67	64	659	57		39		39	37	12

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RTS
2320.0	66	72	690	60		41		41	38	12

PE603367

This is an enclosure indicator page.
The enclosure PE603367 is enclosed within the
container PE906018 at this location in this
document.

The enclosure PE603367 has the following characteristics:

ITEM_BARCODE = PE603367
CONTAINER_BARCODE = PE906018
NAME = Drill Data Plot
BASIN = GIPPSLAND
PERMIT = VIC/L4
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Kahawai 1 Drill Data Plot. Enclosure
from attachment 1 of WCR volume 2.
REMARKS =
DATE_CREATED = 11/06/82
DATE_RECEIVED = 30/09/82
W_NO = W776
WELL_NAME = Kahawai-1
CONTRACTOR = Core Laboratories Australia Ltd
CLIENT_OP_CO = Esso Australia Limited

(Inserted by DNRE - Vic Govt Mines Dept)

PE603368

This is an enclosure indicator page.
The enclosure PE603368 is enclosed within the
container PE906018 at this location in this
document.

The enclosure PE603368 has the following characteristics:

ITEM_BARCODE = PE603368
CONTAINER_BARCODE = PE906018
NAME = Temperature Plot
BASIN = GIPPSLAND
PERMIT = VIC/L4
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Kahawai 1 Temperature Plot. Enclosure
from attachment 1 of WCR volume 2.
REMARKS =
DATE_CREATED = 11/06/82
DATE_RECEIVED = 30/09/82
W_NO = W776
WELL_NAME = Kahawai-1
CONTRACTOR = Core Laboratories Australia Ltd
CLIENT_OP_CO = Esso Australia Limited

(Inserted by DNRE - Vic Govt Mines Dept)

PE603369

This is an enclosure indicator page.
The enclosure PE603369 is enclosed within the
container PE906018 at this location in this
document.

The enclosure PE603369 has the following characteristics:

- ITEM_BARCODE = PE603369
- CONTAINER_BARCODE = PE906018
- NAME = Pressure Plot
- BASIN = GIPPSLAND
- PERMIT = VIC/L4
- TYPE = WELL
- SUBTYPE = WELL_LOG
- DESCRIPTION = Kahawai 1 Pressure Plot. Enclosure from
attachment 1 of WCR volume 2.
- REMARKS =
- DATE_CREATED = 11/06/82
- DATE_RECEIVED = 30/09/82
- W_NO = W776
- WELL_NAME = Kahawai-1
- CONTRACTOR = Core Laboratories Australia Ltd
- CLIENT_OP_CO = Esso Australia Limited

(Inserted by DNRE - Vic Govt Mines Dept)

PE603370

This is an enclosure indicator page.
The enclosure PE603370 is enclosed within the
container PE906018 at this location in this
document.

The enclosure PE603370 has the following characteristics:

ITEM_BARCODE = PE603370
CONTAINER_BARCODE = PE906018
NAME = Geo-Plot
BASIN = GIPPSLAND
PERMIT = VIC/L4
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Kahawai 1 Geo-Plot. Enclosure from
attachment 1 of WCR volume 2.
REMARKS =
DATE_CREATED = 11/06/82
DATE_RECEIVED = 30/09/82
W_NO = W776
WELL_NAME = Kahawai-1
CONTRACTOR = Core Laboratories Australia Ltd
CLIENT_OP_CO = Esso Australia Limited

(Inserted by DNRE - Vic Govt Mines Dept)

PE603371

This is an enclosure indicator page.
The enclosure PE603371 is enclosed within the
container PE906018 at this location in this
document.

The enclosure PE603371 has the following characteristics:

ITEM_BARCODE = PE603371
CONTAINER_BARCODE = PE906018
NAME = Grapholog
BASIN = GIPPSLAND
PERMIT = VIC/L4
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Kahawai 1 Grapholog. Enclosure from
attachment 1 of WCR volume 2.
REMARKS =
DATE_CREATED = 11/06/82
DATE_RECEIVED = 30/09/82
W_NO = W776
WELL_NAME = Kahawai-1
CONTRACTOR = Core Laboratories Australia Ltd
CLIENT_OP_CO = Esso Australia Limited

(Inserted by DNRE - Vic Govt Mines Dept)