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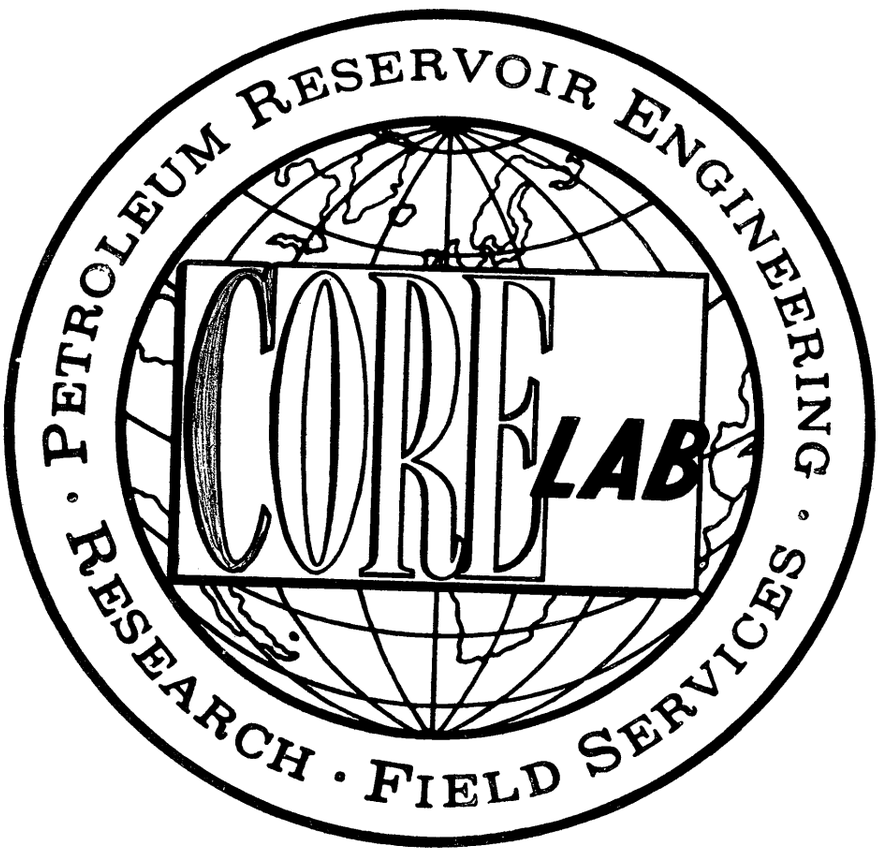
ATTACHMENT TO
WCR VOL 2
PILOT FISH-1A (W793)



IES WELL REPORT

ESSO AUSTRALIA LTD.

W793 PILOTFISH NO.1A

1173 KINGSFORD SMITH DR., BOX 456 HAMILTON CENTRAL, BRISBANE, QLD. 4007
TELEPHONE (07) 268 5732, 260 1722 TELEX AA42513

CORE LABORATORIES AUSTRALIA (QLD.) LTD.

2nd March 1983.

Esso Australia Ltd
Esso House, 127 Kent Street
Sydney, N.S.W. 2001.

Attention: MR. K. KUTTAN

Dear Mr. Kuttan,

Please find enclosed five (5) copies plus the original well report for PILOTFISH NO. 1A.
If you have any enquiries concerning this well, please do not hesitate to contact us.

Yours very truly
CORE LABORATORIES INTERNATIONAL LTD.

Tony Charles
for.
M. MOWATT
UNIT SUPERVISOR.

PERTH: 4/126 RADIUM STREET, WELSHPOOL W.A. 6106 (09) 451 3088

ADELAIDE: 33 KING WILLIAM STREET, ADELAIDE, S.A. 5000. (08) 212 7212

I N D E X

1. INTRODUCTION

PILOTFISH NO. 1A was drilled by ESSO AUSTRALIA LTD. in the Bass Strait, Australia.

Well co-ordinates were:

Latitude : 38^{o} 25' 58.296" ^{o}S
Longitude : 148^{o} 28' 08.976" ^{o}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.

PILOTFISH NO. 1 was spudded on 17th December 1982 and reached a total depth of 3521 metres on 11th January 1983, a total drilling time of 26 days. The main objectives of the well were firstly to test the hydrocarbon potential of an erosional remnant of Latrobe Group sediments between the Marlin channel and older Cretaceous channels; and secondly, to provide stratigraphic control within the Latrobe Group in an area where there is high potential for truncation traps around the edge of the Marlin Channel.

Elevations were:

Kelly bushings to mean sea level 21m
Water depth 206m
Kelly bushings to mean sea level 227m

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 PILOTFISH NO. 1A were as follows:

M. MOWATT	-	Unit Supervisor
T. CHARLES	-	Pressure Engineer
G. MUNN	-	Pressure Engineer
B. GIFTSON	-	Logging Crew Chief
T. RODRIGUES	-	Well Logger
B. PAULET	-	Well Logger
P. DENTON	-	Well Logger
S. FISH	-	Well Logger
A. BOCK	-	Sample Catcher
T. GREEN	-	Sample Catcher
T, GROTH	-	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 fot the above.
5. Rate of Penetration, recorder and digital display.
6. Pit volume totalizer, recorder and digital display.
7. Digital depth counter.
8. Two integrated pump stroke counters, with digital display.
9. Ultra-violet fluoroscope.
10. Binocular microscope.

B. INTERMEDIATE EXTENDED SERVICE PACKAGE

1. Hewlett Packard 9825B desktop computer.
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 tacho-generator and recorder.
7. Stand-pipe pump pressure transducer and recorder.
8. Mud flow out sensor and recorder.
9. Mud temperature sensors and recorders (in and out).
10. Mud conductivity sensors and recorders (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 0.2m 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 a digital meter and recorder chart.

PUMP PRESSURE

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

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 24V 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 programs for the drilling engineer.

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

I.E.S. PRESSURE LOG

Information plotted on this log includes fomation 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.

CORE LAB 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 Jorden 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 :

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

Deviations from the normal 'dc's 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 'dc's 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 'dc's 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, break-even analysis, formation pore pressure, mud density in and formation fracture pressure.
A Geo-plot is included in this report, at a scale of 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 semi-log paper is used, with a vertical scale of 1:10000. 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 metres.

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 fomation leak-off test data, and R.F.T. and well test data where appropriate.

5. RIG INFORMATION SHEET

RIG INFORMATION SHEET

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL PILOTFISH NO.1A

OWNER	SOUTH SEAS DRILLING COMPANY
NAME AND NUMBER	SOUTHERN CROSS (N° 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 5¼" x 50' HEX KELLY
ROTARY TABLE	OILWELL A 37½ 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° 124 DESILTER : 1 DEMCO 4"-16H 16 CONE DEGASSER : 1 SWACO MODEL N° 36 SHALE SHAKERS : 2 BRANDT DUAL UNIT TANDEM - GHI DUAL UNIT.
BLOW OUT PREVENTORS	THREE SHAFFER L.W.S. 18¾" - 10 000 psi TWO HYDRIL G.L. 18¾" - 5000 psi
WELL CONTROL EQUIP.	FOUR VALVCON 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 : 6¼" x 2 13/16" (4" IF TJ) 8 " x 2 13/16" (6 5/8" H90 TJ) 9¾" x 3" (7 5/8" H90 YJ) HWDP : 5" 50lb/ft GRADE G (6½" OD 4½" IF TJ) DP : 5" 19½lb/ft GRADE G&E (6 3/8" OD 4½" 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: 6WESTERN GEAR, 50'STROKE, 80 000lbs.
MUD BULK TANKS: 3x1570cu ft. GUIDE LINE TENSIONERS : 4 WESTERN GEAR 16 000 lbs, 40'STROKE

6. WELL INFORMATION SHEET

CORE LAB

WELL INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
WELL PILOTFISH NO. 1

Sheet No. 1

WELL NAME	PILOTFISH 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° 25' 58.296" S	LONGITUDE (Y)	148° 28' 08.976" E
	FIELD	GIPPSLAND BASIN	AREA	BASS STRAIT
	COUNTY	AUSTRALIA	STATE	VICTORIA
	COUNTRY	AUSTRALIA		
	DESCRIPTION	EXPLORATION		
DATUM POINTS	Ground Elevation		RKB to Ground Level	-
	Mean Water Depth	206M	RKB to Water Level	21M
DATES	SPUD	9 DECEMBER 1982	TOTAL DEPTH	11 JANUARY 1983

HOLE SIZES

Depth From	Depth To	Bit Size "	No. of Bits	No. of Reamers	Date From	Date To	Cased "	Logged
227	369	26	1	0	19/12/82	20/12/82	20	N
369	954	17½	1	0	21/12/82	21/12/82	13-3/8	Y
954	3521	12¼	9	0	22/12/82	11/01/83	-	Y

DRILLING FLUID

Depth From	Depth To	Weights	Type
227	369	8.6 TO 8.6	SEAWATER
369	954	8.6 TO 9.5	SEAWATER GEL
954	3521	8.9 TO 9.4	SEAWATER GEL
		TO	
		TO	
		TO	
		TO	
		TO	

WIRELINE LOGGING

Depth From	Depth To	Hole Size	Date Run	Logs Run
954	351	17½	21/12/82	BHC-CAL-GR
3509	935	12¼	12/01/83	DLL-MSFL-GR
3509	935	12¼	12/01/83	LDL-CNLG-GR
3507	935	12¼	12/01/83	BHC-GR
3504	2815	12¼	12/01/83	HDT
3502	350	12¼	13/01/83	VELOCITY SURVEY (V.S.P.) - S2 LEVELS
-	-	12¼	14/01/83	RFT NO. 1 (11 PRESSURE TESTS)
-	-	12¼	14/01/83	CST'S (RUNS 1 & 2 - 102 SHOTS)

RISER, CASING & LINER

Depth From	Depth To	OD "	ID "	Weight	Grade	Threads	Date Run	Cement	Stages	Excess
2	227	21.5	21	---------- RISER ----------						
227	351	20	19.124	94.4	X52	JV BOX	11/12/82	"N"	1	-
227	938	13-3/8	12.615	54.5	K55	BUTT	21/12/82	"N"	1	-

7. WELL HISTORY

7. WELL HISTORY

PILOTFISH NO. 1 was abandoned when a guide base post became bent when attempting to run the stack and riser after the 20" casing had been set at 354 metres. Major repairs had to be made to the stack as well. PILOTFISH NO. 1 ran between 6th and 16 December 1982.

The rig was moved 12 metres in a south-westerly direction for PILOTFISH NO. 1A.

17th December 1982. Ran drilling template and set T.G.B. $1\frac{1}{2}^{o}$ to port. R.I.H. with 26" H/O and $17\frac{1}{2}$" bit with B.H.A. Spudded PILOTFISH NO. 1A at 12:30 hours, T.G.B. now $2\frac{1}{2}^{o}$. Recovered camera and drilled ahead to 369m, pumping high vis-pills every connection. The hole was then displaced with 300 bbls of high vis mud prior to making a survey ($\frac{1}{4}^{o}$). P.O.O.H. and prepared to run 20" casing.

18th December 1982. Ran 20" casing and cemented the shoe at 351m. Ran the Riser and B.O.P. stack. Some camera trouble then occurred, preventing landing of the stack.

19th December 1982. When the camera was fixed the stack was landed. The slip joint was nippled up and the casing tested to 500 psi. The new B.H.A. was made up and NB 2 was R.I.H., a HTC OSC 3AJ.

20th December 1982. Continued R.I.H. and tagged cement at 346m. The cement was drilled out and then new formation to 954m where the bit was pulled for the 13-3/8" casing. Trip gas was 57 units, with a background of 30-60 units; with gas peaks of 120 units from 392m, 113 units from 489m and 90 units from 790m. Circulation continued at T.D. to clean the hole prior to P.O.O.H. Up to 60 kips overpull, was experienced on the first few stands pulled. On reaching the shoe the survey, which had been dropped, was recovered showing a deviation of $\frac{1}{2}^{o}$. R.I.H. and circulated to clean the hole.

21st December 1982. Continued circulation with B.U. gas of 30-92-10 units. P.O.O.H. and Schlumberger R.I.H. to run the B.H.C. sonic/GR log. R.I.H. and circulated twice to clean the hole, with B.U. gas of 9-77-9 units. P.O.O.H. and ran 13-3/8" casing.

22nd December 1982. Cemented 13-3/8" casing shoe at 938m. Made up

new B.H.A. and R.I.H. with NB 3, an HTC X3A, and tagged cement at 911m. Drilled out cement and 6m of new formation, B.U. gas 9-28-9 units. Made a Leak-Off test with 1200 psi breaking down the formation, with 8.6 ppg seawater in the hole giving a fracture gradient of 16.1 ppg E.M.W. Drilled new formation with a background gas of 15-20 units to 1086m. Gas peaks occurred from the faster drilling of about 30 units from 972m, 980m, 989m, 1050m and 1075m. A general dulling trend was noticed in ROP's dropping from 60-70m/hr.

23rd December 1982. Continued drilling in the Gippsland Limestone to 1493.8m where the bit was pulled due to excessive torque and low penetration rates. The bearings were found to be very worn and the bit was graded 3-7-I. Gas peaks of 20-25 units were derived from faster drilling at depths of 1089m, 1150m, 1205m, 1228m and 1339m over background gas levels of 15 units. NB 4, an HTC X3A was R.I.H. and drilling continued, having worked the junk basket for lost teeth and junk dropped down-hole. Bottom-ups was 2-242-9 units, background gas levels were 10 units and ROP's about 15m/hr down to the midnight depth of 1511m.

24th December 1982. Continued drilling at penetration rates of 10-12 m/hr until 1542-1547m where ROP's were 15-20m/hr and then dropped back to 9-13m/hr. Background levels were 5-10 units with peaks of 26 units from 1517m, 27 units from 1549m, 20 units from 1593m, 33 units from 1615m and 22 units from 1675m. There was 50 kips overpull on the connection at 1540m, but this was not repeated. P.O.O.H. at 1690.6m due to low ROP's. Made a survey $\frac{1}{4}^{o}$. R.I.H. with NB 5, Christensen R32, a Stratapax bit.

25th December 1982. Continued R.I.H. and drilled ahead to 1844m with a background gas of 10 units. Trip gas was 3:13:7 units. ROP's varied from 8 to 25m/hr, and the higher penetration rates occurred with a pump pressure of 2200-2300 psi, whilst the slower, ROP's were pump pressure was 2600 psi. The Kelly rounded off and became stuck in the Kelly bushing at 1844m and so P.O.O.H. to shoe, replaced Kelly and R.I.H. Wiper trip gas was 1.5-2.8-8 units. Drilling continued with a background gas of 10 units and maximum gas of 35 units from 1813m.

26th December 1982. Drilled ahead to 2044m where the collars twisted

off. Up to this point the ROP's had varied again with pump pressure from 8-25m/hr. P.O.O.H., R.I.H. with 11¾" overshot fishing tool, caught and retrieved fish. Tge vix ebd if a H.W.D.P. had broken off. The Stratapax was examined and only slightly worn, and so R.I.H. again, after discovering a piece of aluminium in the bit which accounted for the fluctuations in pump pressure. Background gas had been 8-12 units with maximums occurring of 48 units from 2017m and 2023m.

27th December 1982. R.I.H. Drilled from 2043-2160m, and twisted off 2 joints above the collars. Fished successfully.

28th December 1982. R.I.H. with the same P.D.C. bit, and drilled 12¼" hole from 2160 to 2311m (Max Gas was 16 units over a background of 8-12 units).

29th December 1982. Drilled 12¼" hole from 2311 to 2537m. Background gas levels varied from 6-12 units.

30th December 1982. Drilled ahead to 2550m, where the ROP's decreased significantly, and so the bit was pulled (Bit condition was: T-1 with broken cutters; excessive face erosion (Bit life - B8); and 1/8" out of gauge). Retrieved the wear bushing. Tested the stack. The wear bushing wouldn't run due to poor alignment within the stack. Background gas was 5 units.

31st December 1982. Landed the wear bushing, by working it through the upper Hydril. R.I.H. with a new bit (No. 6, HTC X3A, 12½", 3 x 18), reaming to bottom for the last 34m. (29 units of trip/reaming gas). Drilled one kelly, then had to ream and work tight hole before resuming drilling ahead to 2758m. Maximum drill gas was 14 units over a background of 5-7 units.

1st January 1983. Drilled 12¼" hole from 2758 - 2944m, circulating bottoms up for the geologist from 2916m (calcareous siltstone, 2 units gas) and 2930m (some fine sandm 2 units gas). Due to the low ROP's, the bit was pulled at 2944m. Gas levels are decreasing with increasing depth (today's maximum was 6.5 units, and the background was 2-5 units).

2nd January 1983. Continued P.O.O.H. (Survey was 2¼°, and the bit was graded at 4-4-1/8). R.I.H. with bit no. 8 (HTC X3A); reamed from 2760-2944m, and then drilled from 2944-2983m. Maximum gas was 4 units,

and the background was 2-3 units. No shows were encountered.

3rd January 1983. The bit was pulled due to low ROP's. Tight hole was encountered from 2659 to 2630m (maximum overpull was 70K lbs). R.I.H. with the new bit (HTC J22). Reamed the last 13m to bottom, and worked the junk basket. Drilled 12¼" hole from 2983 - 3045m. Maximum gas was 3 units, and the background was 1-2 units.

4th January 1983. Drilled ahead to 3115m. Gas remained at background levels (1-2 units). Conducted a 25-stand wiper trip. Drilled ahead to 3125m. Wiper trip gas was 1-4-2 units

5th January 1983. Drilled to 3149m, where the bit was pulled due to the predominantly low rates of penetration. The bit condition of 2-2-1/16 suggested that the J22 was unsuited to the formation. R.I.H. with a new J11 bit, and drilled 12¼" hole to 3178m. The penetration rates increased markedly with this bit (6-13m/hr). Maximum gas was 3 units and the background gas was 1-3 units (as a result of adding diesel to the mud).

6th January 1983. Drilled ahead to 3250m. The penetration rates were very low (less than 3m/hr in general), possibly a result of quartzitic lithological units, as evidenced by fractured quartz particles in the cuttings. Gas remained at background levels of 2-3 units.

7th January 1983. Drilled one metre before deciding to pull the bit - no hole was being made, despite both pumps being on the hole, and despite numerous attempts at various WOB/RPM combinations. Tested the stack - O.K. R.I.H. with bit no. 10 (HTC J22) and drilled to 3257m. Trip gas was 6-11-2 units.

8th January 1983. Drilling proceeded with low gas (less than 1.5 units) and slow penetration rates (mainly 6-9m/hr) until it was decided to pull the bit after 7m of very low ROP's. (2-2.5m/hr) at 3359m. B/U were not circulated and last formation to surface before pumping stopped was from 3357m (no change in formation implied a worn bit). After pumping a slug and dropping a survey, P.O.O.H. commenced.

9th January 1983. P.O.O.H. was completed and the survey indicated it had been a misrun. (BCO was 5-3-1/8). R.I.H. with bit no. 11 (HTC J33), stopping to slip and cut the drill line at 930m, drilling continued after reaming from 3341 to 3359m. Drilling was slow,

(3-7m/hr mainly) and background gas level remained low (0.5 - 0.9 units) after trip gas of 0.8/4.8/1.0 units. Midnight depth was 3419m.

10th January 1983. Drilled ahead to 3498m at slow penetration rates (2-9m/hr) and no gas increases were detected above a background level of 0.3 - 0.8 units. A 10-stand wiper trip was conducted at 3455m and when drilling resumed no increase in gas above background was observed that could be connected with trip gas.

11th January 1983. Drilling continued to 3521m (T.D. for the well) which was reached at 05:39 hours. Gas remained at the background level of 0.2 - 0.3 units all the way to T.D. through formation of 100% siltstone from 3490 onwards. A wiper trip to the shoe was conducted after pumping a slug and dropping a survey (misrun when retrieved). R.I.H. to bottom, 1m of fill was found and wiper trip gas was 0.2/3.0/0.6 units. Dropping another survey (again misrun) P.O.O.H. was completed and Schlumberger were rigged up for wireline logging.

12th January 1983. The day was spent running the following Schlumberger logs:

DLL-MSFL-GR (3509 - 935m)
LDL-CNLG-GR (3509 - 935m)
BHC-GR (3507 - 935m)
HDT (3504 - 2815m)

R.I.H. then for Velocity Survey.

13th January 1983. Velocity Survey was completed (52 levels) and Schlumberger rigged down prior to making up BHA and R.I.H. for a wiper trip. R.I.H. to 3501m and reaming to 3521m, B/U were then circulated. Maximum wiper trip gas 17.5 units and was observed 40 minutes after circulated began. The gas then dropped to 6 units before peaking again at 11.8 units with B/U. Dropping a survey ($1\frac{1}{2}^{o}$, S - 17E when retrieved), flushing the riser and pumping a slug, P.O.O.H. commenced.

14th January 1983. Completing P.O.O.H. and retrieving the survey, Schlumberger were again rigged up and the following runs made:

RFT NO. 1 (11 pressure tests)
CST NO. 1 and 2 (102 shots, 1 misfire)

Rigged down Schlumberger, R.I.H. commenced with open ended pipe to begin cementing in P & A program.

15th January 1983. R.I.H. to 2970m, B/U were circulated prior to pumping cement. (Maximum gas was 10-1 units.) Plug No. 1 was then set from 2970 to 2883m using 30 SX of class "N" cement and 1% HR6L - ½% CFR2 in 37 bbls of water. PODH further; Plug No. 2 was set from 988 to 888m using 400 SX of class "N" cement with 49 bbls of seawater. Slurry weight of the cement was 15.6 ppg. P.O.O.H. to 800m and reverse circulating, P.O.O.H. then continued, laying down excess pipe. The cement was then tested to 1500 psi and Schlumberger rigged up with GR-JB. Abridge plug was then run and set at 515m.

16th January 1983. R.I.H. and perforated at 305m, establishing an injection rate of 6½ bbls/minutes at 650 psi, a 13-3/8" EZSV retainer was run and set at 295m. Attempting but failing to sting into the EZSV, Schlumberger were rigged up again and perforation was made at 294m. Establishing an injection rate of 7 bbls/minutes at 700 psi. EZSV No. 2 was then run and set at 293m. Stinging into EZSV cementing was completed using 323 SX below retainer and dumping 97 SX on top mixed with 52 bbls of seawater. This was then tested to 1000 psi against the shear rams with no leak and after reverse circulating at 245m the riser was flushed with seawater and P.O.O.H. finished. Recovering the wear bushing, the flowline and stiff-arms were rigged down and the slip joint closed. The BOP stack was then pulled, split and set back on the rig.

17th January 1983. After making up and R.I.H. with a shot-can the well head was blown at 04:55 hours, but left hanging 2 stands below rotary table while W.O.W. to raise through pontoons.

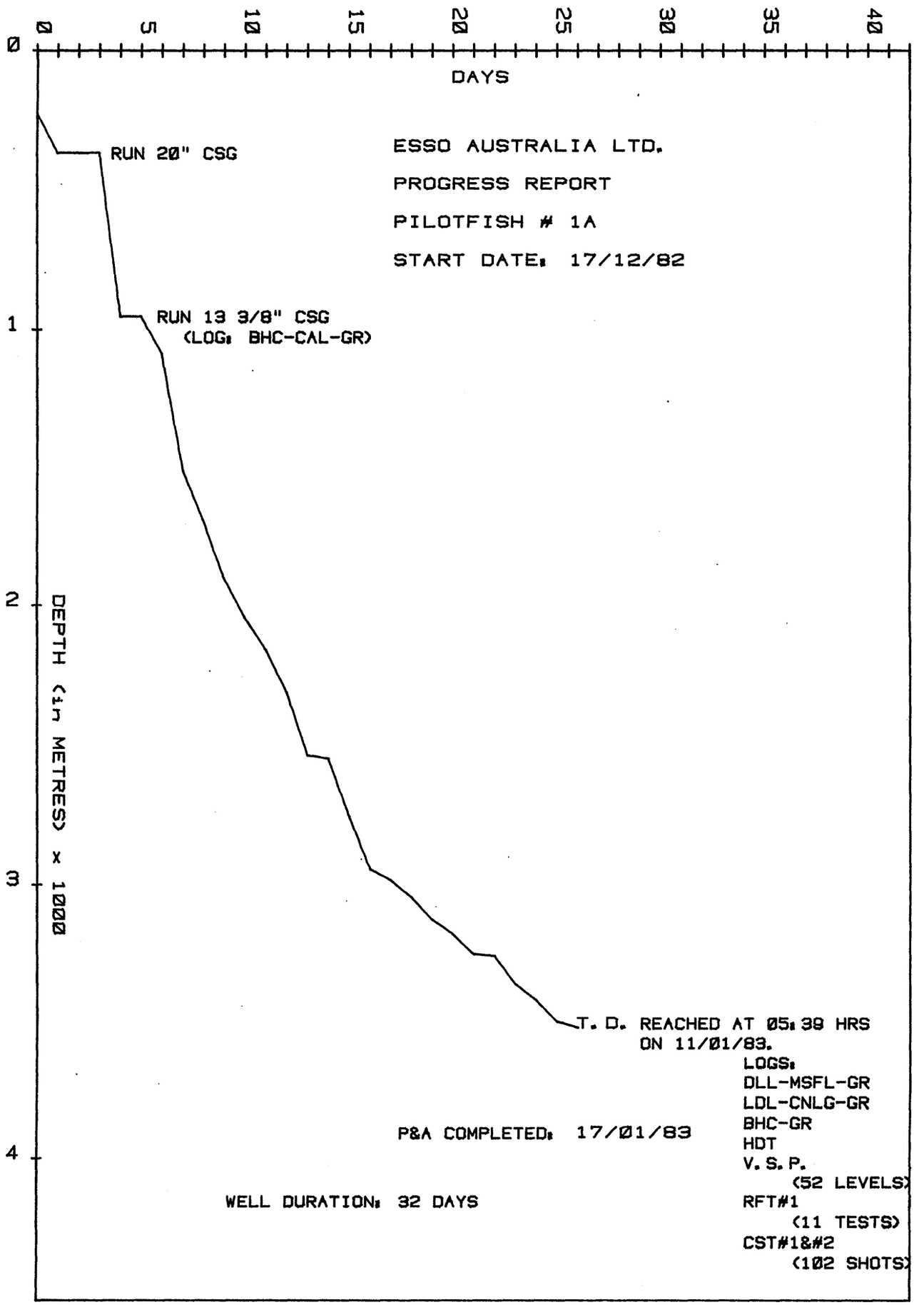
18th January 1983. After raising well-head, W.O.W. for anchor handling boats.

19th January 1983. Waiting on anchor handling boats. Pulled 1st anchor.

20th January 1983. Handled the anchors.

21st January 1983. Completed anchor-pulling and commenced the tow to WIRRAH NO. 2 at 03:20 hours.

8. PROGRESS LOG


0
5
10
15
20
25
30
35
40
DAYS
0
1
2
3
4
DEPTH (in METRES) x 1000
RUN 20" CSG
RUN 13 3/8" CSG
(LOG: BHC-CAL-GR)
ESSO AUSTRALIA LTD.
PROGRESS REPORT
PILOTFISH # 1A
START DATE: 17/12/82
T. D. REACHED AT 05:39 HRS
ON 11/01/83.
LOGS:
DLL-MSFL-GR
LDL-CNLG-GR
BHC-GR
HDT
V. S. P.
(52 LEVELS)
RFT#1
(11 TESTS)
CST#1&#2
(102 SHOTS)
P&A COMPLETED: 17/01/83
WELL DURATION: 32 DAYS
latimer '81

9. BIT RECORD SHEETS

BIT RECORD

BIT SIZE . . . . . Inches

BIT COST . . . . . Australian dollars

JET SIZE . . . . . Thirty-seconds of an inch

DEPTHS . . . . . Metres

HOLE MADE. . . . . Metres

DRILLING TIME. . . . . Hours

AVERAGE ROP. . . . . Metres/hour

AVERAGE COST/METRE . . Australian dollars

BIT CONDITION. . . . . Teeth

Bearings

Gauge . . . . Inches

BIT RECORD

COMPANY ESSO AUSTRALIA LTD.

WELL PILOTFISH 1A

Sheet No. 1

SERIAL NO.	Bit No.	Make	Type	IADC Code	Size "	Jets	Depth In	Hole Made	Drilling Time	On Bottom Hours	KTurns	Condition T B G	Remarks	COST
	PILOTFISH NO. 1													
294 SR	RR 1	HTC	OSC 3AJ +26" H/O	111	26	20/20/20	227.0	143.0	5¼	1.83	8	3-4-I	OUT AT 20" CASING POINT	-
	PILOTFISH NO. 1A													
294 SR	RR 1	HTC	OSC 3AJ +26" H/O	111	26	20/20/20	227.0	142.0	¼	1.56	8	3-4-I	OUT AT 20" CASING POINT	-
KX 288	2	HTC	OSC 3AJ	111	17½	20/20/20	369.0	583.6	16½	8.45	65	2-2-I	OUT AT 13-3/8" CSG POINT	4442
292 UK	3	HTC	X3A	114	12¼	18/18/18	952.6	541.2	21¾	15.92	141	3-7-I	PULLED DUE TO INCREASED TORQUE	2201
781 UH	4	HTC	X3A	114	12¼	18/18/18	1493.8	196.8	19¾	16.08	139	2-2-1/16	BROKEN TEETH	2201
R 963	5	CHRIS	R32 P.D.C.	4	12¼	EQUIVALENT 18/18/18	1690.6	353.4	27	22.25	178	1-1-I	TWISTED OFF	24,000
R 963	RR 5	CHRIS	R32 P.D.C.	4	12¼	EQUIVALENT 18/18/18	2044.0	116.0	12½	32.99	262	1-4-I	TWISTED OFF	-
2R 963	RR 5	CHRIS	R32 P.D.C.	4	12¼	EQUIVALENT 18/18/18	2160.0	390.0	44½	71.16	559	1-8-1/8	OUT DUE TO DECREASED ROP'S	-
284 UK	6	HTC	X3A	114	12¼	18/18/18	2550.0	394.0	32¼	27.25	190	4-4-1/8	OUT DUE TO LOW ROP'S	2201
816 UA	7	HTC	X3A	114	12¼	16/16/16	2944.0	39.0	9¼	7.49	53	8-7-¼	OUT DUE TO DECREASED ROP'S	2201
797 NL	8	HTC	J22	517	12¼	16/16/16	2983.0	166.0	43¼	35.25	112	2-2-I/16	OUT DUE TO 35 HOURS ON THE BIT	6788
320 XS	9	HTC	J11	437	12¼	16/16/16	3149.0	102.0	31	29.61	106	5-4-I	OUT DUE TO DULLED BIT	6788
800 NL	10	HTC	J22	517	12¼	16/16/16	3251.0	108.0	24¼	21.73	75	5-3-1/8	OUT DUE TO LOW ROP'S	6788
020 PL	11	HTC	J33	537	12¼	16/16/16	3359.0	162.0	42¼	39.12	127	2-2-I	T.D. REACHED 11/1/83	6637

7520-487 (CL 1153)

CORE LAB

BIT RECORD

COMPANY ESSO AUSTRALIA LTD.

WELL PILOTFISH NO. 1 AND NO. 1A

Sheet No. 1

S/NO.	Bit No.	Make	Type	IADC Code	Size "	Cost	Jets	Depth In	Depth Out	Hole Made	Drilling Time	On Bottom Hours	Turns K	Average ROP	Average Cost/ M	Condition T B G
	PILOTFISH NO. 1															
294 SR	RR 1	HTC	OSC 3AJ +26" H/O	111	26	-	20/20/20	227	370	143	5¼	1.83	8	78.1	-	3-4-I
	PILOTFISH NO. 1A															
294SR	RR 1	HTC	OSC 3AJ +26" H/O	111	26	-	20/20/20	227	369	142	4	1.56	8	67.9	229.67	3-4-I
KX 288	2	HTC	OSC 3AJ	111	17½	4442	20/20/20	369	952.6	583.6	16½	8.45	65	69.1	113.15	2-2-I
292 UK	3	HTC	X3A	114	12¼	2201	18/18/18	952.6	1493.8	541.2	21¾	15.92	141	34.0	205.59	3-7-I
871 UH	4	HTC	X3A	114	12¼	2201	18/18/18	1493.8	1690.6	196.8	19¾	16.08	139	11.8	620.17	2-2-1/16
2R 963	5	CHRIS	R32(PDC)	4	12¼	24000	EQUIVALENT 18/18/18	1690.6	2044	353.4	27	22.25	178	15.9	510.22	1-1-I
2R 963	RR 5	CHRIS	R32(PDC)	4	12¼	-	EQUIVALENT 18/18/18	2044	2160	116	12½	32.99	262	10.8	461.77	1-4-I
2R 963	RR 5	CHRIS	R32(PDC)	4	12¼	-	EQUIVALENT 18/18/18	2160	2550	390	44½	71.16	559	10.2	500.48	1-8-1/8
284 UK	6	HTC	X3A	114	12¼	2201	18/18/18	2550	2944	394	32¼	27.25	190	14.5	498.20	4-4-1/8
816 UA	7	HTC	X3A	114	12¼	2201	16/16/16	2944	2983	39	9¼	7.49	53	5.2	2273.11	8-7-¼
797 NL	8	HTC	J22	517	12¼	6788	16/16/16	2983	3149	166	43¼	35.25	112	4.7	1490.45	2-2-1/16
320 XS	9	HTC	J11	437	12¼	6788	16/16/16	3149	3251	102	31	29.61	106	3.4	2133.63	5-4-I
800 NL	10	HTC	J22	517	12¼	6788	16/16/16	3251	3359	108	24¼	21.73	75	5.0	1625.76	5-3-1/8
020 PL	11	HTC	J33	537	12¼	6637	16/16/16	3359	3521	162	42¼	39.12	127	4.1	1684.15	2-2-I

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. c.c.

CAKE THICKNESS . . . . Thirty-seconds of an inch

SALINITY : Ca/Cl . . . ppm

SOLIDS/SAND/OIL. . . . Percentage

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

WELL PILOTFISH 1A

Sheet No. 1

DEPTH	369	902	953	1069	1445	1671	1853
DATE	17/12/82	20/12/82	21/12/82	22/12/82	23/12/82	24/12/82	25/12/82
TIME	24:00	16:30	13:00	23:00	13:30	15:30	20:30
WEIGHT	8.6	9.4	9.7	8.7	9.1	9.0	9.0+
FUNNEL VISCOSITY	100+	34	35	27	32	31	30
PV/YP	S	6/16	5/16	3/6	5/15	3/12	3/8
N/K	E	0.35/2.52	0.31/3.08	0.41/0.68	0.32/2.69	0.26/2.91	0.35/1.26
GEL: INITIAL/10 MIN	A	4/12	4/16	1/2	5/10	4/8	4/7
pH	W	9.5	8.0	11.0	9.4	9.6	9.3
FILTRATE: API/API HTHP	A						
CAKE	T						
SALINITY (K ppm)	E		12	18	15	16	14
SAND %	R	TR	TR	TR	TR	TR	TR
SOLIDS %				2¾	5¾	5	5¼
OIL %				0	0	0	0

REMARKS:

SPUDDED

DRILLED 17½" HOLE

LOGGED, RAN 13-3/8" CSG

DRILLED 12¼" HOLE ←——→

DEPTH	2033	2138	2190	2466	2550	2757	2871
DATE	26/12/82	27/12/82	28/12/82	29/12/82	30/12/82	31/12/82	1/1/83
TIME	10:20	09:30	10:30	16:00	22:00	24:00	11:00
WEIGHT	9.0	9.0	9.0	8.9	9.0	9.4	9.4
FUNNEL VISCOSITY	35	33	32	32	32	38	48
PV/YP	5/20	5/18	4/16	4/18	5/19	6/14	7/18
N/K	0.26/4.85	0.28/3.92	0.26/3.88	0.24/4.90	0.27/4.38	0.38/1.89	0.36/2.72
GEL: INITIAL/10 MIN	8/9	6/8	6/8	5/8	5/8	7/9	10/12
pH	10.1	9.6	10.1	9.8	9.5	10.8	11.0
FILTRATE: API/API HTHP					42/-	7/-	6/-
CAKE					3	2	2
SALINITY (K ppm)	15	15	16	17	17	18	18.5
SAND %	TR	0	0	0	TR	TR	TR
SOLIDS %	5	5	5	4	5	7	7
OIL %	0	0	0	0	0	0	0
NITRATE (ppm)						150	130

REMARKS:

FISHED FOR TWIST-OFF (NO.1)

FISHED FOR TWIST-OFF (NO.2)

←——DRILLED 12¼" HOLE ——→

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

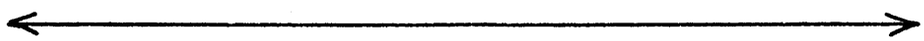
WELL PILOTFISH 1A

Sheet No. 2

DEPTH	2966	3041	3101	3175	3245	3250	3359
DATE	2/1/83	3/1/83	4/1/83	5/1/83	6/1/83	7/1/83	8/1/83
TIME	16:30	23:00	13:00	23:30	23:00	20:30	22:00
WEIGHT	9.4	9.4	9.4	9.4	9.4	9.4	9.4
FUNNEL VISCOSITY	38	45	45	47	42	49	44
PV/YP	6/18	10/20	10/17	12/19	11/17	12/19	12/18
N/K	0.32/3.23	0.41/2.26	0.45/1.59	0.47/1.64	0.48/1.42	0.47/1.64	0.49/1.46
GEL: INITIAL/10 MIN	11/13	10/17	10/17	12/17	10/17	11/18	10/18
pH	10.3	10.2	10.2	10.8	10.5	10.6	10.6
FILTRATE: API/API HTHP	5/15	5.6/15	4.8/14	4.6/13.2	5/13	4.8/13	4.5/12.8
CAKE	2	2	2	2	2	2	2
SALINITY (K ppm)	18	19	20	20	20	20	20
SAND %	TR	TR	TR	TR	TR	TR	TR
SOLIDS %	7	7	7	7	7	7	7
OIL %	0	0	0	0	0	0	0
NITRATES (ppm)	150	190	200	200	200	190	200

REMARKS:

DRILLING 12¼" HOLE



DEPTH	3419	3499	3521	3521	3521	3521	3521
DATE	9/1/83	10/1/83	11/1/83	12/1/83	13/1/83	14/1/83	15/1/83
TIME	12:00	24:00	07:00	17:00	18:00	15:00	02:00
WEIGHT	9.4	9.4	9.4	9.4	9.4	9.4	9.4
FUNNEL VISCOSITY	44	46	50	46	53	46	47
PV/YP	13/19	14/20	14/19	13/18	15/21	13/19	13/18
N/K	0.49/1.49	0.50/1.53	0.51/1.37	0.5/1.33	0.5/1.57	0.49/1.49	0.5/1.33
GEL: INITIAL/10 MIN	10/17	13/20	12/18	9/15	13/19	10/16	11/16
pH	10.3	10.4	10.4	10.4	10.6	10.4	10.3
FILTRATE: API/API HTHP	4/12.4	3.6/12	3.8/13	3.8/12.8	4/13	4.2/13.6	4.4/14
CAKE	2	2	2	2	2	2	2
SALINITY (K ppm)	20	21	21	21	21	21	21
SAND %	TR	TR	TR	TR	TR	TR	TR
SOLIDS %	7	7	7	7	7	7	7
OIL %	0	0	0	0	0	0	0
NITRATES (ppm)	190	220	200	220	220	220	200

REMARKS:

DRILLING 12¼" HOLE TO T.D. @ 05:39 HOURS

SCHLUMBERGER LOGGING CEMENTING

NO MUD IN PITS AFTER 15/01/83

11. LITHOLOGICAL SUMMARY

11. LITHOLOGICAL SUMMARY

There were two objectives for the PILOTFISH NO. 1A well. First was to test the hydrocarbon potential of an erosional remnant of Latrobe Group sediments between the Marlin Channel and older cretaceous sediments. Second was to provide some stratigraphic control within the Latrobe Group sediments.

NB: The formation tops are open to speculation and are based entirely on exmination of cuttings. (All depths from RKB.)

Gippsland Limestone (360 - 2580m)

The Gippsland limestone consisted initially of a white to medium light grey, moderately sorted Biosparite. The most dominant microfossils in the section being forams, bryozoa, echinoderms and astracods. The Gippsland Limestone graded from a fossiliferous biosparite to a more light grey, very soft, calcilutite. The calcilutite was associated with a medium grey, hard-firm, calcisiltite. The calcisiltite then graded into a medium grey, firm calcarenite, with occasional loose quartz grains, and shell fragments.

Lakes Entrance Formation (2580 - 2915m)

The Lakes Entrance Formation is predominately a medium to light grey, friable to soft, very calcareous siltstone. Throughout the unit occasional carbonaceous specking was common, also traces of pyrite. Associated with the siltstone was a light grey, soft, gummy calcareous claystone.

Latrobe Group (2915 - 3521m)

The Latrobe Group consisted mostly of sandstones, siltstones and coal. The sandstones were predominately clear-frosty, very coarse grained, well sorted, subangular to well rounded. Fracturing was common in some grains. The sandstones also had traces of dolomite and pyrite. The siltstone in the Latrobe Group of sediments was predominately grey to dark brown, non-calcareous, carbonaceous in part, and micaceous in part, and soft to firm. No shows were encountered in the sandstone. Gas remained consistently around 1-2 units.

12. R.F.T. DATA SHEETS

CORE LAB

SHEET 1 OF 1

PORE PRESSURE DATA SHEET

DATA FROM: RFT RUN NO. 1

COMPANY: ESSO AUSTRALIA LTD.

WELL : PILOTFISH NO. 1A

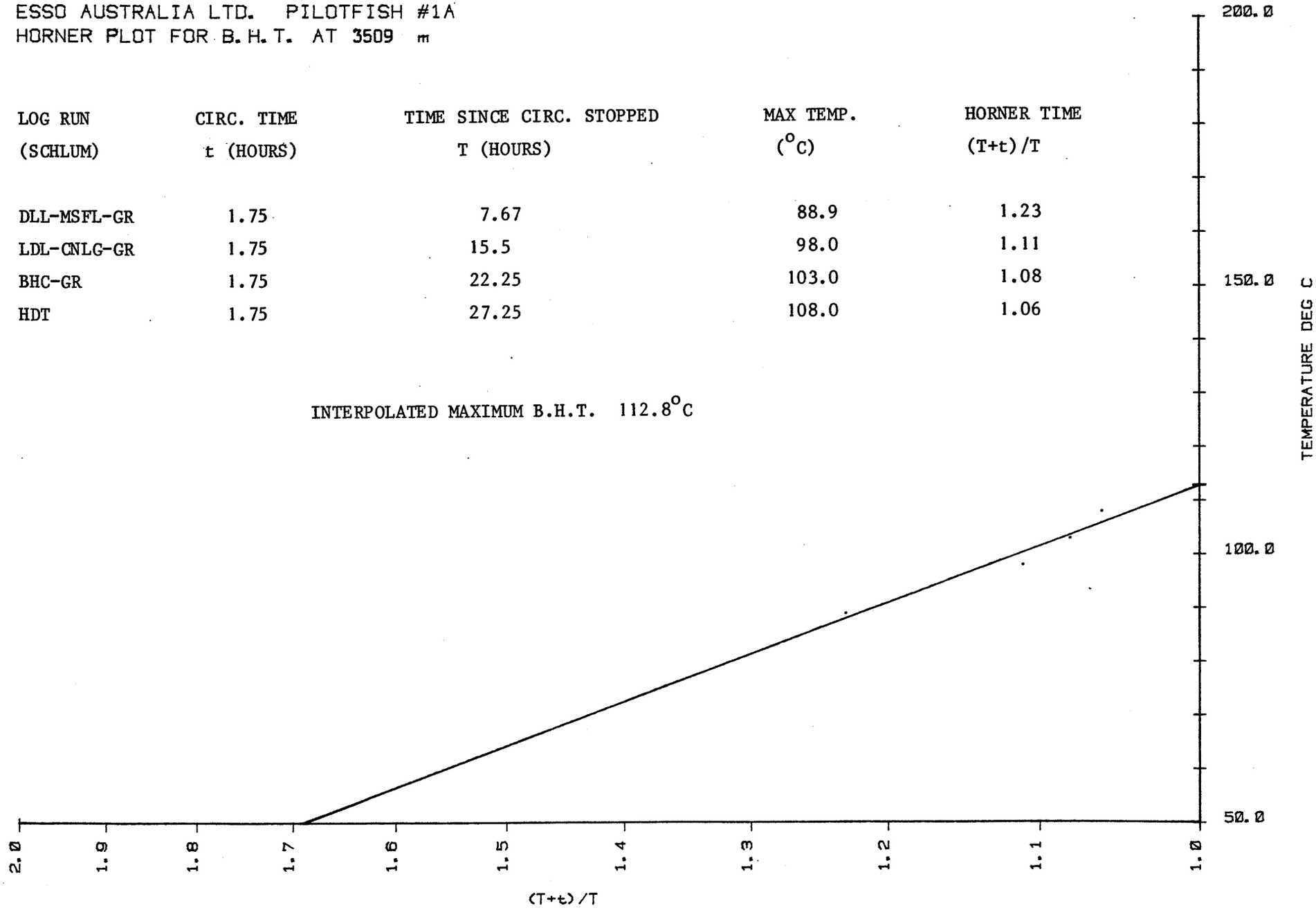
DEPTH (FROM RKB)	DEPTH (FROM MSL)	PORE PRESSURE	PORE PRESSURE GRADIENT EMW (MSL)	PORE PRESSURE GRADIENT
IN METERS	TOTAL VERTICAL DEPTH IN METERS	(PSIA)	(PPG)	(PSI/M)
2934	2913	4135	8.32	1.415
2973.5	2952.5	4187	8.31	1.418
2998	2977	4221	8.31	1.418
3007.5	2986.5	4234	8.31	1.418
3157	3136	4457	8.33	1.421
3215	3194	4549	8.35	1.424
3247	3226	4593	8.35	1.424
3301	3280	4670	8.35	1.424
3341	3320	4726	8.34	1.423
3438	3417	4865	8.35	1.424
3168	3147	4470	8.33	1.423

13. B.H.T. ESTIMATION

ESSO AUSTRALIA LTD. PILOTFISH #1A
HORNER PLOT FOR B.H.T. AT 3509 m

LOG RUN (SCHLUM)	CIRC. TIME t (HOURS)	TIME SINCE CIRC. STOPPED T (HOURS)	MAX TEMP. (°C)	HORNER TIME (T+t)/T
DLL-MSFL-GR	1.75	7.67	88.9	1.23
LDL-CNLG-GR	1.75	15.5	98.0	1.11
BHC-GR	1.75	22.25	103.0	1.08
HDT	1.75	27.25	108.0	1.06

INTERPOLATED MAXIMUM B.H.T. 112.8°C



14. PORE PRESSURE SUMMARY AND P.I.T./L.O.T. DATA

14. PORE PRESSURE SUMMARY

PILOTFISH NO. 1A was drilled in the Gippsland Basin region of the Bass Strait. Core Laboratories field unit FL 802 monitored and calculated various parameters associated with overpressure detection and observed the well to be normally pressured.

The DRILL DATA PLOT shows the d'c exponent trend and as can be seen from this plot a normal trend does not develop until around 600m. The lithology above this depth was poorly consolidated and hence, more likely to have been drilled by extrusion due to jet force at the bit rather than actual bit rotation.

A normal trend follows from this point down to 1690m, interrupted by two anomalies. These are reversals in the trend at 700m (continuing for 40m) and at 1060m (for 50m) caused by the increasing mud weights, and probably accentuated by minor changes in lithology.

At 1690m, a Stratapax bit was run mainly as an economic experiment, in the thick sequence of Gippsland Limestone. This bit increased the rate of penetration significantly, thus producing the lateral shift in d'c's at 1690m. The trend for the bit run was predominantly normal, with a number of reversals caused only by increases in mud weight and therefore not indicative of abnormal formation pressure. The Stratapax bit was pulled coincidentally at a point where the formation underwent a change in lithological character, going from Calcilutite to a calcareous siltstone at approximately 2550m. Hence not only was there a lateral shift in d'c exponents, but also a slight increase in background gas levels. A good normal trend follows down to 2900m where the incursion of the Latrobe formation causes severe scattering of the d'c' exponents down to T.D. (3521m). The scattering is caused by the interbedded nature of the formation, being siltstones, sandstones and coals. (It should be added that the scattering **does** in fact follow a normal trend between 2900 and 3521m.)

As indicators of overpressure, the ROP's yield no evidence, and any drill-breaks have been interpreted as either lithological changes or due to the running of new bits.

Top-hole background gas levels were high, but decreased steadily to very low concentrations particularly in the last two hundred metres of the well. Slight increases in background gas at 1800m (from 8 to 12 units); at 2020m (from 12 to 20 units); and at 2550m (from 5 to 11 units) were caused by formation characteristics, and not by abnormal formation pressures. Substantiated by the non-existence of conclusive connection gas during the entire well the inference from Drill and Mud data is that PILOTFISH NO. 1A is normally pressured throughout. This opinion was confirmed by Schlumberger's post-well pressure tests which indicated pore pressures of 8.3 - 8.4 ppg between 2934 and 3438m.

No shale density measurements were made as there were no beds of true shales encountered.

No reliable conclusions can be drawn from the temperature plot due to the periodic treatment of the mud system. The thermal gradient of PILOTFISH NO. 1A was calculated to be 2.56^{o}F/100', and the bottom-hole temperature at 3509m was extrapolated to 112.8^{o}C.

A "Wireline Plot" was not drawn as this log plots shale parameters, and the lack of significant shale points encountered did not facilitate an objective plot.

The "Pressure Plot" is the pressure conclusion log for the well. As mentioned above, the formations encountered were normally pressured, being between 8.3 and 8.4 ppg M.S.L. E.M.W. throughout the well.

Overburden gradient calculations and a plot of gradient are included in the report. One Leak-Off Test was performed, just below the 13-3/8" casing shoe, and the result was that leak-off occurred when an equivalent pressure of 16.1 ppg was exerted at 9m. Based on this information, the fracture gradient on the pressure plot was drawn. The shape of the curve in based on data from wells in the Gulf Coast Basin of the United States, and then offset to match local data. This is as true a fracture gradient as can be drawn for now until further leak-off data is available to cover the entire vertical section of the Gippsland Basin.

15. OVERBURDEN GRADIENT CALCULATIONS AND PLOT

OVERBURDEN GRADIENT CALCULATIONS

DEPTH . . . . . .metres

BULK DENSITY . . . . . .gm/cc

OVERBURDEN PRESSURE INCREMENT. .psi

CUMULATIVE OVERBURDEN PRESSURE .psi

OVERBURDEN PRESSURE GRADIENT . .psi/m

OVERBURDEN EQUIVALENT DENSITY. .Pounds per gallon

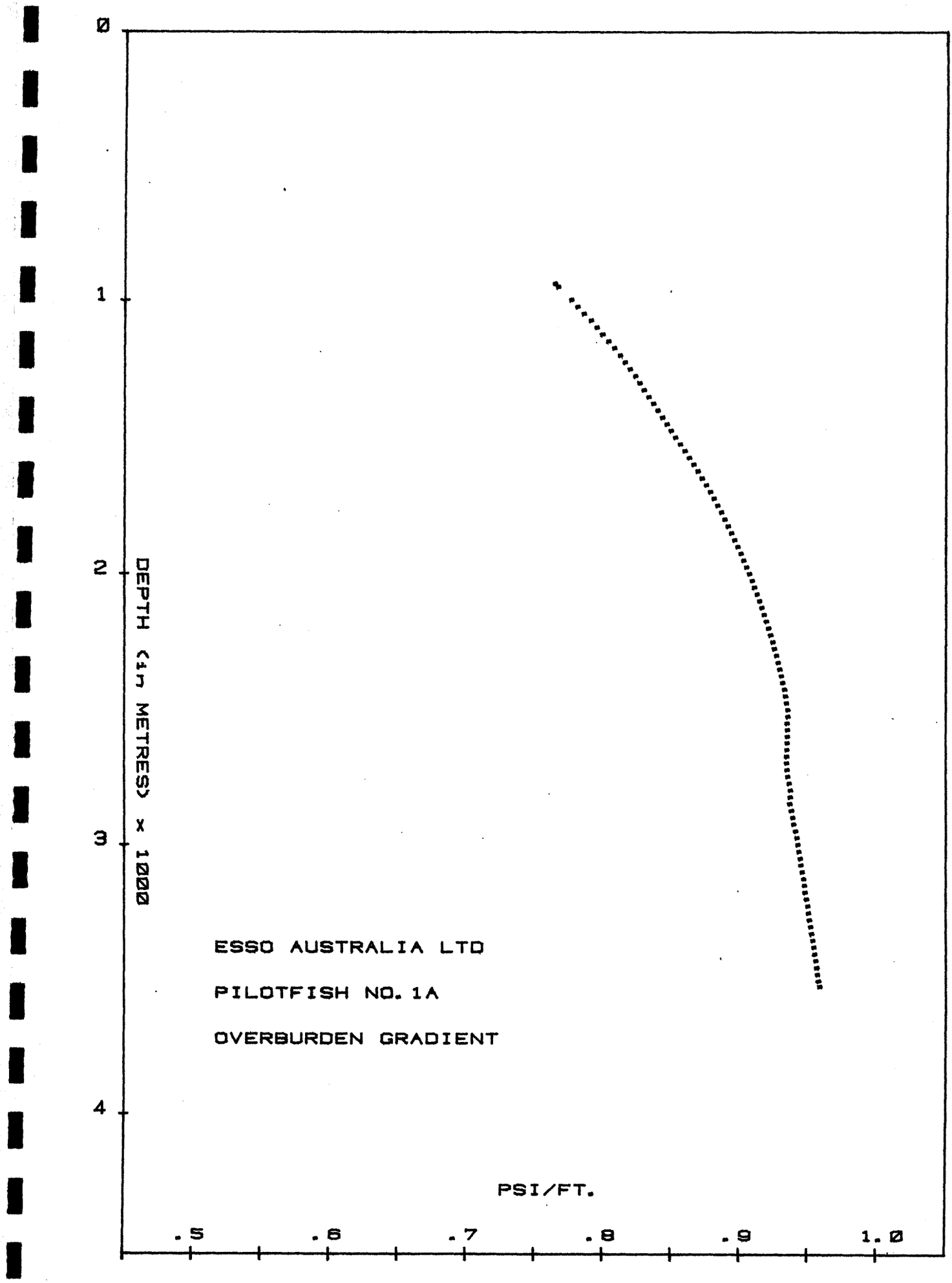
BULK DENSITY TAKEN FROM AVERAGED F.D.C. LOG, OR FROM SONIC LOG FOR SECTIONS WHERE THE F.D.C. LOG IS NOT AVAILABLE.

OVERBURDEN GRADIENT CALCULATIONS

DEPTH from	DEPTH to	AVR. BULK DENSITY	O/BURDEN INCR.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
m	m	gms/cc	psi	psi	psi/ft	ppg
0	227	1.02	100.26	100.26	0.442	8.49
227	938	2.00	615.73	715.98	0.763	14.68
938	950	2.18	11.33	727.31	0.766	14.72
950	1000	2.20	47.63	774.94	0.775	14.90
1000	1025	2.25	24.36	799.30	0.780	15.00
1025	1050	2.24	24.25	823.54	0.784	15.08
1050	1075	2.32	25.11	848.66	0.789	15.18
1075	1100	2.28	24.68	873.34	0.794	15.27
1100	1125	2.27	24.57	897.91	0.798	15.35
1125	1150	2.30	24.90	922.81	0.802	15.43
1150	1175	2.33	25.22	948.03	0.807	15.52
1175	1200	2.32	25.11	973.15	0.811	15.60
1200	1225	2.28	24.68	997.83	0.815	15.66
1225	1250	2.33	25.22	1023.05	0.818	15.74
1250	1275	2.33	25.22	1048.27	0.822	15.81
1275	1300	2.28	24.68	1072.95	0.825	15.87
1300	1325	2.31	25.01	1097.96	0.829	15.94
1325	1350	2.34	25.33	1123.29	0.832	16.00
1350	1375	2.35	25.44	1148.73	0.835	16.07
1375	1400	2.36	25.55	1174.27	0.839	16.13
1400	1425	2.37	25.66	1199.93	0.842	16.19
1425	1450	2.36	25.55	1225.48	0.845	16.25
1450	1475	2.38	25.76	1251.24	0.848	16.31
1475	1500	2.42	26.20	1277.44	0.852	16.38
1500	1525	2.44	26.41	1303.85	0.855	16.44
1525	1550	2.45	26.52	1330.37	0.858	16.51
1550	1575	2.46	26.63	1357.00	0.862	16.57
1575	1600	2.47	26.74	1383.74	0.865	16.63
1600	1625	2.45	26.52	1410.26	0.868	16.69
1625	1650	2.47	26.74	1437.00	0.871	16.75
1650	1675	2.50	27.06	1464.06	0.874	16.81
1675	1700	2.48	26.85	1490.91	0.877	16.87
1700	1725	2.46	26.63	1517.54	0.880	16.92
1725	1750	2.47	26.74	1544.27	0.882	16.97
1750	1775	2.48	26.85	1571.12	0.885	17.02
1775	1800	2.47	26.74	1597.86	0.888	17.07
1800	1825	2.47	26.74	1624.59	0.890	17.12
1825	1850	2.46	26.63	1651.22	0.893	17.16
1850	1875	2.48	26.85	1678.07	0.895	17.21
1875	1900	2.47	26.74	1704.81	0.897	17.26
1900	1925	2.47	26.74	1731.55	0.900	17.30
1925	1950	2.46	26.63	1758.17	0.902	17.34
1950	1975	2.46	26.63	1784.80	0.904	17.38
1975	2000	2.47	26.74	1811.54	0.906	17.42
2000	2025	2.46	26.63	1838.17	0.908	17.46
2025	2050	2.44	26.41	1864.58	0.910	17.49
2050	2075	2.44	26.41	1891.00	0.911	17.53
2075	2100	2.43	26.30	1917.30	0.913	17.56
2100	2125	2.44	26.41	1943.72	0.915	17.59
2125	2150	2.46	26.63	1970.34	0.916	17.62

DEPTH from	DEPTH to	AVR. BULK DENSITY	O/BURDEN INCR.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
m	m	gms/cc	psi	psi	psi/ft	ppg
2150	2175	2.45	26.52	1996.87	0.918	17.66
2175	2200	2.45	26.52	2023.39	0.920	17.69
2200	2225	2.45	26.52	2049.91	0.921	17.72
2225	2250	2.43	26.30	2076.21	0.923	17.75
2250	2275	2.43	26.30	2102.52	0.924	17.77
2275	2300	2.43	26.30	2128.82	0.926	17.80
2300	2325	2.40	25.98	2154.80	0.927	17.82
2325	2350	2.41	26.09	2180.89	0.928	17.85
2350	2375	2.42	26.20	2207.09	0.929	17.87
2375	2400	2.37	25.66	2232.74	0.930	17.89
2400	2425	2.44	26.41	2259.16	0.932	17.92
2425	2450	2.33	25.22	2284.38	0.932	17.93
2450	2475	2.30	24.90	2309.28	0.933	17.94
2475	2500	2.35	25.44	2334.71	0.934	17.96
2500	2525	2.22	24.03	2358.75	0.934	17.96
2525	2550	2.01	21.76	2380.50	0.934	17.95
2550	2575	2.18	23.60	2404.10	0.934	17.95
2575	2600	2.15	23.27	2427.38	0.934	17.95
2600	2625	2.14	23.17	2450.54	0.934	17.95
2625	2650	2.10	22.73	2473.27	0.933	17.95
2650	2675	2.09	22.62	2495.90	0.933	17.94
2675	2700	2.13	23.06	2518.96	0.933	17.94
2700	2725	2.24	24.25	2543.20	0.933	17.95
2725	2750	2.31	25.01	2568.21	0.934	17.96
2750	2775	2.42	26.20	2594.41	0.935	17.98
2775	2800	2.37	25.66	2620.06	0.936	17.99
2800	2825	2.10	22.73	2642.79	0.936	17.99
2825	2850	2.10	22.73	2665.53	0.935	17.99
2850	2875	2.43	26.30	2691.83	0.936	18.01
2875	2900	2.45	26.52	2718.35	0.937	18.03
2900	2925	2.36	25.55	2743.90	0.938	18.04
2925	2950	2.52	27.28	2771.18	0.939	18.07
2950	2975	2.44	26.41	2797.59	0.940	18.08
2975	3000	2.34	25.33	2822.92	0.941	18.10
3000	3025	2.43	26.30	2849.23	0.942	18.11
3025	3050	2.42	26.20	2875.42	0.943	18.13
3050	3075	2.39	25.87	2901.29	0.944	18.14
3075	3100	2.45	26.52	2927.82	0.944	18.16
3100	3125	2.42	26.20	2954.01	0.945	18.18
3125	3150	2.37	25.66	2979.67	0.946	18.19
3150	3175	2.35	25.44	3005.11	0.946	18.20
3175	3200	2.47	26.74	3031.84	0.947	18.22
3200	3225	2.45	26.52	3058.37	0.948	18.24
3225	3250	2.38	25.76	3084.13	0.949	18.25
3250	3275	2.40	25.98	3110.11	0.950	18.26
3275	3300	2.45	26.52	3136.63	0.950	18.28
3300	3325	2.45	26.52	3163.15	0.951	18.29
3325	3350	2.44	26.41	3189.56	0.952	18.31
3350	3375	2.45	26.52	3216.09	0.953	18.33
3375	3400	2.40	25.98	3242.07	0.954	18.34

DEPTH from	DEPTH to	AVR.BULK DENSITY	O/BURDEN INCR.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
m	m	gms/cc	psi	psi	psi/ft	ppg
3400	3425	2.46	26.63	3268.70	0.954	18.35
3425	3450	2.40	25.98	3294.68	0.955	18.36
3450	3475	2.41	26.09	3320.76	0.956	18.38
3475	3500	2.48	26.85	3347.61	0.956	18.39
3500	3521	2.50	22.73	3370.34	0.957	18.41


0
1
2
3
4
DEPTH (in METRES) x 1000
ESSO AUSTRALIA LTD
PILOTFISH NO. 1A
OVERBURDEN GRADIENT
PSI/FT.
.5
.6
.7
.8
.9
1.0

COMPUTER DATA LISTINGS

Data is fed to the computer while drilling is in progress, using the Drill program and is stored on a tape at 10, 5, 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 and 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 :

GEOPLOT - 1:5000 SCALE - 2m averages

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

(a). BIT RECORD AND BIT INITIALIZATION DATA

BIT SIZE . . . . . Inches

BIT COST . . . . . Australian dollars

JET SIZE . . . . . Thirty-seconds of an inch

DEPTHS . . . . . Metres

HOLE MADE. . . . . Metres

DRILLING TIME. . . . . Hours

AVERAGE ROP. . . . . Metres/hour

AVERAGE COST/METRE . . Australian dollars

BIT CONDITION. . . . . Teeth

Bearings

Gauge . . . . Inches

WELL: PILOTFISH NO.1A

BIT RECORD

BIT No.	IADC CODE	MAKE & TYPE	SIZE	COST	NOZZLES	DEPTH IN	DEPTH OUT	BIT RUN	TOTAL HOURS	AROP	TRIP TIME	CCOST	TOTAL TURNS	CONDITION T	B	G
1	111	HTC OSC3AJ&26"HD	26.000	4442.00	20 20 20	227.0	369.0	142.0	1.56	91.0	2.8	199.39	7615	3	4	0.000
2	111	HTC OSC 3AJ	17.500	4442.00	20 20 20	369.0	952.6	583.6	8.45	69.1	4.0	124.41	65136	2	2	0.000
3	114	HTC X3A	12.250	2201.00	18 18 18	952.6	1493.8	541.2	15.92	34.0	5.2	217.73	140916	3	7	0.000
4	114	HTC X3A	12.250	2201.00	18 18 18	1493.8	1690.6	196.8	16.08	12.2	5.6	614.32	139197	2	2	0.062

WELL: PILOTFISH 1A

BIT RECORD

BIT No.	IADC CODE	MAKE & TYPE	SIZE	COST	NOZZLES	DEPTH IN	DEPTH OUT	BIT RUN	TOTAL HOURS	AROP	TRIP TIME	CCOST	TOTAL TURNS	CONDITION T	B	G
5	4	CHRIS R32	12.250	24000.00	18 18 18	1690.6	2044.0	353.4	22.25	15.9	6.3	510.22	178241	1	1	0.000
5	4	CHRIS R32	12.250	0.00	18 18 18	2044.0	2160.0	116.0	32.99	10.8	6.6	461.77	261648	1	4	0.000
5	4	CHRIS R32	12.250	0.00	18 18 18	2160.0	2550.0	390.0	71.16	10.2	7.4	500.48	558889	1	8	0.125
6	114	HTC X3A	12.250	2201.00	18 18 18	2550.0	2944.0	394.0	27.25	14.5	8.2	498.20	189733	4	4	0.125
7	114	HTC X3A	12.250	2201.00	16 16 16	2944.0	2983.0	39.0	7.49	5.2	8.3	2273.11	52895	8	7	0.250
8	517	HTC J22	12.250	6788.00	16 16 16	2983.0	3149.0	166.0	35.25	4.7	8.7	1490.45	112110	2	2	0.062
9	437	HTC J11	12.250	6788.00	16 16 16	3149.0	3251.0	102.0	29.61	3.4	8.9	2133.63	105798	5	4	0.000
10	517	HTC J22	12.250	6788.00	16 16 16	3251.0	3359.0	108.0	21.73	5.0	9.1	1625.76	74949	5	3	0.125
11	537	HTC J33	12.250	6637.00	16 16 16	3359.0	3521.0	162.0	39.12	4.1	9.5	1684.15	127180	2	2	0.000

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

STARTING DEPTH	227.0		
BIT COST, RIG COST/HOUR	4442.00	5475.00	
TRIP TIME	2.8		
BIT DIAMETER	26.000		
NOZZLES	20	20	20
HW DRILL COLLAR LENGTH, OD, ID	22.14	9.750	3.000
DRILL COLLAR LENGTH, OD, ID	7.14	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID	28.73	5.000	3.000
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	0.00	0.000	
PUMP VOLUMES 1 AND 2	0.117	0.117	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.4		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.30		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	4.0	1.50	
FINISHING DEPTH	369.0		
CUMULATIVE HOURS, TURNS	1.56	7615	
BIT CONDITION OUT	T 3	B 4	G 0.000

BIT NUMBER: 2 IADC CODE 111 HTC OSC 3AJ

STARTING DEPTH	369.0		
BIT COST, RIG COST/HOUR	4442.00	5475.00	
TRIP TIME	4.0		
BIT DIAMETER	17.500		
NOZZLES	20	20	20
HW DRILL COLLAR LENGTH, OD, ID	20.69	9.750	3.062
DRILL COLLAR LENGTH, OD, ID	96.05	8.000	3.803
HW DRILL PIPE LENGTH, OD, ID	28.79	5.000	3.000
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	351.00	19.124	
RISER LENGTH, ID	227.00	21.000	
PUMP VOLUMES 1 AND 2	0.117	0.117	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.4		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.30		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	5.0	2.00	
FINISHING DEPTH	952.6		
CUMULATIVE HOURS, TURNS	8.45	65136	
BIT CONDITION OUT	T 2	B 2	G 0.000

BIT NUMBER: 3 IADC CODE 114 HTC X3A

STARTING DEPTH.....	952.6		
BIT COST, RIG COST/HOUR.....	2201.00	5475.00	
TRIP TIME.....	5.2		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	143.73	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	28.79	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	937.00	12.615	
RISER LENGTH, ID.....	227.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.117	0.117	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.30		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.30	
FINISHING DEPTH.....	1493.8		
CUMULATIVE HOURS, TURNS.....	15.92	140916	
BIT CONDITION OUT.....	T 3	B 7	G 0.000

BIT NUMBER: 4 IADC CODE 114 HTC X3A

STARTING DEPTH.....	1493.8		
BIT COST, RIG COST/HOUR.....	2201.00	5475.00	
TRIP TIME.....	5.6		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	145.46	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	28.79	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	938.00	12.615	
RISER LENGTH, ID.....	227.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.117	0.117	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.30		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.50	
FINISHING DEPTH.....	1690.6		
CUMULATIVE HOURS, TURNS.....	16.08	139197	
BIT CONDITION OUT.....	T 2	B 2	G 0.062

BIT NUMBER: 5 IADC CODE 4 CHRIS R32

STARTING DEPTH	1690.6		
BIT COST, RIG COST/HOUR	24000.00	5475.00	
TRIP TIME	6.3		
BIT DIAMETER	12.250		
NOZZLES	18	18	18
DRILL COLLAR LENGTH, OD, ID	143.20	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID	28.79	5.000	3.000
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	938.00	12.615	
RISER LENGTH, ID	227.00	21.000	
PUMP VOLUMES 1 AND 2	0.117	0.117	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.4		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.30		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	3.0	2.50	
FINISHING DEPTH	2044.0		
CUMULATIVE HOURS, TURNS	22.25	178241	
BIT CONDITION OUT	T 1	B 1	G 0.000

BIT NUMBER: 5 IADC CODE 4 CHRIS R32

STARTING DEPTH	2044.0		
BIT COST, RIG COST/HOUR	0.00	5475.00	
TRIP TIME	6.6		
PREVIOUS HOLE MADE	353.4		
PREVIOUS HOURS, TURNS	22.25	178241	
BIT DIAMETER	12.250		
NOZZLES	18	18	18
DRILL COLLAR LENGTH, OD, ID	147.53	8.000	2.813
DRILL PIPE OD, ID		0.000	4.276
CASING DEPTH, ID	938.00	12.615	
RISER LENGTH, ID	227.00	21.000	
PUMP VOLUMES 1 AND 2	0.117	0.117	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.4		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.30		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	5.0	2.50	
FINISHING DEPTH	2160.0		
CUMULATIVE HOURS, TURNS	32.99	261648	
BIT CONDITION OUT	T 1	B 4	G 0.000

BIT NUMBER: 5 IADC CODE 4 CHRIS R32

STARTING DEPTH.....	2160.0		
BIT COST, RIG COST/HOUR.....	0.00	5475.00	
TRIP TIME.....	7.4		
PREVIOUS HOLE MADE.....	469.4		
PREVIOUS HOURS, TURNS.....	32.99	261648	
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	147.53	8.000	2.813
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	938.00	12.615	
RISER LENGTH, ID.....	227.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.117	0.117	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.30		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.0	2.50	
FINISHING DEPTH.....	2550.0		
CUMULATIVE HOURS, TURNS.....	71.16	558889	
BIT CONDITION OUT.....	T 1	B 8	G 0.125

BIT NUMBER: 6 IADC CODE 114 HTC X3A

STARTING DEPTH.....	2550.0		
BIT COST, RIG COST/HOUR.....	2201.00	5475.00	
TRIP TIME.....	8.2		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	146.10	8.000	2.813
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	938.00	12.615	
RISER LENGTH, ID.....	227.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.117	0.117	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.30		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.0	2.50	
FINISHING DEPTH.....	2944.0		
CUMULATIVE HOURS, TURNS.....	27.25	189733	
BIT CONDITION OUT.....	T 4	B 4	G 0.125

BIT NUMBER: 7	IADC CODE 114	HTC X3A		
STARTING DEPTH		2944.0		
BIT COST, RIG COST/HOUR		2201.00	5475.00	
TRIP TIME		8.3		
BIT DIAMETER		12.250		
NOZZLES		16	16	16
DRILL COLLAR LENGTH, OD, ID		146.10	8.000	2.813
DRILL PIPE OD, ID			5.000	4.276
CASING DEPTH, ID		938.00	12.615	
RISER LENGTH, ID		227.00	21.000	
PUMP VOLUMES 1 AND 2		0.117	0.117	
PORE PRESSURE CALC EXPONENT		1.20		
NORMAL PORE PRESSURE		8.4		
OVERBURDEN GRADIENT MODIFIER		0.00		
STRESS RATIO MODIFIER		0.30		
"d" EXPONENT CORRECTION FACTOR		10.0		
CUTTINGS DIAMETER, DENSITY		2.8	2.50	
FINISHING DEPTH		2983.0		
CUMULATIVE HOURS, TURNS		7.49	52895	
BIT CONDITION OUT		T 8	B 7	G 0.250

BIT NUMBER: 8	IADC CODE 517	HTC J22		
STARTING DEPTH		2983.0		
BIT COST, RIG COST/HOUR		6788.00	5475.00	
TRIP TIME		8.7		
BIT DIAMETER		12.250		
NOZZLES		16	16	16
DRILL COLLAR LENGTH, OD, ID		146.81	8.000	2.813
DRILL PIPE OD, ID			5.000	4.276
CASING DEPTH, ID		938.00	12.615	
RISER LENGTH, ID		227.00	21.000	
PUMP VOLUMES 1 AND 2		0.117	0.117	
PORE PRESSURE CALC EXPONENT		1.20		
NORMAL PORE PRESSURE		8.4		
OVERBURDEN GRADIENT MODIFIER		0.00		
STRESS RATIO MODIFIER		0.30		
"d" EXPONENT CORRECTION FACTOR		10.0		
CUTTINGS DIAMETER, DENSITY		2.7	2.50	
FINISHING DEPTH		3149.0		
CUMULATIVE HOURS, TURNS		35.25	112110	
BIT CONDITION OUT		T 2	B 2	G 0.062

BIT NUMBER: 9 IADC CODE 437	HTC J11		
STARTING DEPTH.....	3149.0		
BIT COST, RIG COST/HOUR.....	6788.00	5475.00	
TRIP TIME.....	8.9		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	16
DRILL COLLAR LENGTH, OD, ID.....	150.23	8.000	2.813
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	938.00	12.615	
RISER LENGTH, ID.....	227.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.117	0.117	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.30		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.6	2.55	
FINISHING DEPTH.....	3251.0		
CUMULATIVE HOURS, TURNS.....	29.61	105798	
BIT CONDITION OUT.....	T 5	B 4	G 0.000

BIT NUMBER: 10 IADC CODE 517	HTC J22		
STARTING DEPTH.....	3251.0		
BIT COST, RIG COST/HOUR.....	6788.00	5475.00	
TRIP TIME.....	9.1		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	16
DRILL COLLAR LENGTH, OD, ID.....	177.24	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	84.70	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	938.00	12.615	
RISER LENGTH, ID.....	227.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.117	0.117	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.30		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.6	2.55	
FINISHING DEPTH.....	3359.0		
CUMULATIVE HOURS, TURNS.....	21.73	74949	
BIT CONDITION OUT.....	T 5	B 3	G 0.125

BIT NUMBER: 11 IADC CODE 537 HTC J33

STARTING DEPTH.....	3359.0		
BIT COST, RIG COST/HOUR.....	6637.00	5475.00	
TRIP TIME.....	9.5		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	16
DRILL COLLAR LENGTH, OD, ID.....	177.24	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	84.70	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	938.00	12.615	
RISER LENGTH, ID.....	227.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.117	0.117	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.30		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.6	2.55	
FINISHING DEPTH.....	3521.0		
CUMULATIVE HOURS, TURNS.....	39.12	127180	
BIT CONDITION OUT.....	T 2	B 2	G 0.000

(b). HYDRAULIC ANALYSIS

Data listed from the 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
IMPACT FORCE	The impact force at the bit, in foot-pounds per second squared
H.H.P.	Hydraulic horsepower at the bit
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 300.0 AND TVD 300.0

SPM 1 101 SPM 2 93 FLOW RATE 953

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	41	12	0	TURBULENT			0.0
DC/OH	1.950	14	12	0	TURBULENT			0.0
HWDP/OH	2.074	60	11	0	TURBULENT			0.0
DP/OH	2.074	502	11	0	TURBULENT			0.0
TOTAL VOLUME		616					TOTAL PRESSURE DROP	0.0

LAG: 27.2 MINUTES 2751 STROKES #1 AND 2517 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	839.1	HHP	466	IMPACT FORCE	1393
% SURFACE PRESSURE	93.2	HHP/sqin	0.88	JET VELOCITY	101

PRESSURE BREAKDOWN:

SURFACE	52.3		
STRING	173.1		
BIT	839.1		
ANNULUS	0.0		
TOTAL	1064.5	PUMP PRESSURE 900.0	% DIFFERENCE 18.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.50	HYDROSTATIC PRESSURE	435.0
CIRCULATING:	ECD	8.50	CIRCULATING PRESSURE	435.1
PULLING OUT:	TRIP MARGIN	0.00	ESTIMATED SWAB	0.0
	EFFECTIVE MUD WEIGHT	8.50	BOTTOM HOLE PRESSURE	435.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 104 SPM 2 93 FLOW RATE 968

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	34	32	TURBULENT			0.0
DC/OH	0.772	22	30	30	LAMINAR	3	27	0.0
DC/CSG	0.961	65	24	29	LAMINAR	2	22	0.1
HWDP/CSG	1.085	31	21	26	LAMINAR	1	20	0.0
DP/CSG	1.085	30	21	26	LAMINAR	1	20	0.0
DP/RIS	1.325	301	17	25	LAMINAR	1	16	0.1
TOTAL VOLUME		463			TOTAL PRESSURE DROP			0.3

LAG: 20.1 MINUTES 2089 STROKES #1 AND 1867 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	865.5	HHP	489	IMPACT FORCE	1437
% SURFACE PRESSURE	47.3	HHP/sqin	2.03	JET VELOCITY	103

PRESSURE BREAKDOWN:

SURFACE	67.0		
STRING	264.0		
BIT	865.5		
ANNULUS	0.3		
TOTAL	1196.9	PUMP PRESSURE 1830.0	% DIFFERENCE 34.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.50	HYDROSTATIC PRESSURE	580.1
CIRCULATING:	ECD	8.50	CIRCULATING PRESSURE	580.3
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	0.5
	EFFECTIVE MUD WEIGHT	8.49	BOTTOM HOLE PRESSURE	579.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 104 SPM 2 93 FLOW RATE 970

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	34	31	TURBULENT			0.0
DC/OH	0.772	74	30	29	TURBULENT			0.1
HWDP/OH	0.896	26	26	27	LAMINAR	2	24	0.0
DP/OH	0.896	3	26	27	LAMINAR	2	24	0.0
DP/CSG	1.085	135	21	26	LAMINAR	1	20	0.1
DP/RIS	1.325	301	17	25	LAMINAR	1	17	0.1
TOTAL VOLUME		552			TOTAL PRESSURE DROP			0.4

LAG: 23.9 MINUTES 2492 STROKES #1 AND 2229 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	901.0	HHP	510	IMPACT FORCE	1496
% SURFACE PRESSURE	46.9	HHP/sqin	2.12	JET VELOCITY	103

PRESSURE BREAKDOWN:

SURFACE	69.2		
STRING	312.7		
BIT	901.0		
ANNULUS	0.4		
TOTAL	1283.4	PUMP PRESSURE 1920.0	% DIFFERENCE 33.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.80	HYDROSTATIC PRESSURE	750.7
CIRCULATING:	ECD	8.80	CIRCULATING PRESSURE	751.0
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	0.7
	EFFECTIVE MUD WEIGHT	8.79	BOTTOM HOLE PRESSURE	749.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 104 SPM 2 94 FLOW RATE 973

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	34	38	LAMINAR	2	32	0.1
DC/OH	0.772	74	30	34	LAMINAR	1	29	0.2
HWDP/OH	0.896	26	26	30	LAMINAR	1	25	0.0
DP/OH	0.896	93	26	30	LAMINAR	1	25	0.1
DP/CSG	1.085	135	21	28	LAMINAR	1	21	0.1
DP/RIS	1.325	301	17	26	LAMINAR	1	17	0.1
TOTAL VOLUME		642			TOTAL PRESSURE DROP			0.6

LAG: 27.7 MINUTES 2882 STROKES #1 AND 2605 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	926.3	HHP	526	IMPACT FORCE	1538
% SURFACE PRESSURE	45.2	HHP/sqin	2.19	JET VELOCITY	103

PRESSURE BREAKDOWN:

SURFACE	90.1		
STRING	458.9		
BIT	926.3		
ANNULUS	0.6		
TOTAL	1476.0	PUMP PRESSURE 2050.0	% DIFFERENCE 28.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	921.3
CIRCULATING:	ECD	9.01	CIRCULATING PRESSURE	921.9
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	1.3
	EFFECTIVE MUD WEIGHT	8.99	BOTTOM HOLE PRESSURE	920.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 104 SPM 2 94 FLOW RATE 973

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	34	38	LAMINAR	2	32	0.1
DC/OH	0.772	74	30	34	LAMINAR	1	29	0.2
HWDP/OH	0.896	26	26	30	LAMINAR	1	25	0.0
DP/OH	0.896	182	26	30	LAMINAR	1	25	0.2
DP/CSG	1.085	135	21	28	LAMINAR	1	21	0.1
DP/RIS	1.325	301	17	26	LAMINAR	1	17	0.1
TOTAL VOLUME		732				TOTAL PRESSURE DROP		0.7

LAG: 31.6 MINUTES 3284 STROKES #1 AND 2968 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	926.3	HHP	526	IMPACT FORCE	1538
% SURFACE PRESSURE	45.2	HHP/sqin	2.19	JET VELOCITY	103

PRESSURE BREAKDOWN:

SURFACE	90.1		
STRING	510.9		
BIT	926.3		
ANNULUS	0.7		
TOTAL	1528.0	PUMP PRESSURE 2050.0	% DIFFERENCE 25.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	1074.8
CIRCULATING:	ECD	9.01	CIRCULATING PRESSURE	1075.5
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	1.5
	EFFECTIVE MUD WEIGHT	8.99	BOTTOM HOLE PRESSURE	1073.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 104 SPM 2 93 FLOW RATE 965

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	34	36	LAMINAR	2	32	0.1
DC/OH	0.772	74	30	33	LAMINAR	1	28	0.2
HWDP/OH	0.896	26	26	29	LAMINAR	1	25	0.0
DP/OH	0.896	272	26	29	LAMINAR	1	25	0.3
DP/CSG	1.085	135	21	27	LAMINAR	1	21	0.1
DP/RIS	1.325	301	17	25	LAMINAR	0	17	0.1
TOTAL VOLUME		821			TOTAL PRESSURE DROP			0.9

LAG: 35.7 MINUTES 3703 STROKES #1 AND 3316 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	951.8	HHP	536	IMPACT FORCE	1580
% SURFACE PRESSURE	42.1	HHP/sqin	2.23	JET VELOCITY	102

PRESSURE BREAKDOWN:

SURFACE	91.9		
STRING	574.2		
BIT	951.8		
ANNULUS	0.9		
TOTAL	1618.8	PUMP PRESSURE 2260.0	% DIFFERENCE 28.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	1282.9
CIRCULATING:	ECD	9.41	CIRCULATING PRESSURE	1283.8
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	1.7
	EFFECTIVE MUD WEIGHT	9.39	BOTTOM HOLE PRESSURE	1281.2

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 103 SPM 2 92 FLOW RATE 958

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	34	36	LAMINAR	2	32	0.1
DC/OH	0.772	74	30	33	LAMINAR	1	28	0.2
HWDP/OH	0.896	26	25	28	LAMINAR	1	25	0.0
DP/OH	0.896	361	25	28	LAMINAR	1	25	0.4
DP/CSG	1.085	135	21	27	LAMINAR	1	20	0.1
DP/RIS	1.325	301	17	25	LAMINAR	0	17	0.1
TOTAL VOLUME		911			TOTAL PRESSURE DROP			1.0

LAG: 39.9 MINUTES 4105 STROKES #1 AND 3679 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	948.1	HHP	530	IMPACT FORCE	1574
% SURFACE PRESSURE	41.8	HHP/sqin	2.20	JET VELOCITY	102

PRESSURE BREAKDOWN:

SURFACE	91.5				
STRING	624.4				
BIT	948.1				
ANNULUS	1.0				
TOTAL	1664.9	PUMP PRESSURE	2270.0	% DIFFERENCE	26.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	1458.7
CIRCULATING:	ECD	9.51	CIRCULATING PRESSURE	1459.6
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	1.9
	EFFECTIVE MUD WEIGHT	9.49	BOTTOM HOLE PRESSURE	1456.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 89 SPM 2 91 FLOW RATE 888

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	17	77	124	LAMINAR	1	76	2.7
DC/CSG	0.303	24	70	123	LAMINAR	1	69	3.0
HWDP/CSG	0.427	12	49	119	LAMINAR	0	49	0.5
DP/CSG	0.427	257	49	119	LAMINAR	0	49	10.6
DP/RIS	1.325	301	16	112	LAMINAR	0	16	1.1
TOTAL VOLUME		611			TOTAL PRESSURE DROP			17.9

LAG: 28.9 MINUTES 2588 STROKES #1 AND 2639 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1123.9	HHP	582	IMPACT FORCE	1511
% SURFACE PRESSURE	48.4	HHP/sqin	4.94	JET VELOCITY	116

PRESSURE BREAKDOWN:

SURFACE	64.2		
STRING	761.3		
BIT	1123.9		
ANNULUS	17.9		
TOTAL	1967.2	PUMP PRESSURE 2320.0	% DIFFERENCE 15.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	1467.2
CIRCULATING:	ECD	8.71	CIRCULATING PRESSURE	1485.1
PULLING OUT:	TRIP MARGIN	0.21	ESTIMATED SWAB	35.9
	EFFECTIVE MUD WEIGHT	8.39	BOTTOM HOLE PRESSURE	1431.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1100.0

SPM 1 102 SPM 2 86 FLOW RATE 926

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL.	PRESSURE DROP
DC/OH	0.274	39	80	66	TURBULENT			3.1
HWDP/OH	0.398	8	55	61	LAMINAR	1	54	0.1
HWDP/CSG	0.427	4	52	61	LAMINAR	1	51	0.1
DP/CSG	0.427	299	52	61	LAMINAR	1	51	4.2
DP/RIS	1.325	301	17	54	LAMINAR	0	16	0.3
TOTAL VOLUME		651			TOTAL PRESSURE DROP			7.7

LAG: 29.5 MINUTES 3026 STROKES #1 AND 2541 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1249.8	HHP	675	IMPACT FORCE	1681
% SURFACE PRESSURE	47.9	HHP/sqin	5.73	JET VELOCITY	121

PRESSURE BREAKDOWN:

SURFACE	63.6		
STRING	791.2		
BIT	1249.8		
ANNULUS	7.7		
TOTAL	2112.4	PUMP PRESSURE 2610.0	% DIFFERENCE 19.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.80	HYDROSTATIC PRESSURE	1651.4
CIRCULATING:	ECD	8.84	CIRCULATING PRESSURE	1659.1
PULLING OUT:	TRIP MARGIN	0.08	ESTIMATED SWAB	15.4
	EFFECTIVE MUD WEIGHT	8.72	BOTTOM HOLE PRESSURE	1636.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1200.0

SPM 1 92 SPM 2 92 FLOW RATE 904

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	78	67	TURBULENT			2.9
HWDP/OH	0.398	11	54	62	LAMINAR	1	53	0.2
DP/OH	0.398	36	54	62	LAMINAR	1	53	0.6
DP/CSG	0.427	303	50	61	LAMINAR	1	49	4.2
DP/RIS	1.325	301	16	54	LAMINAR	0	16	0.3
TOTAL VOLUME		691			TOTAL PRESSURE DROP			8.1

LAG: 32.1 MINUTES 2953 STROKES #1 AND 2954 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1177.9	HHP	621	IMPACT FORCE	1584
% SURFACE PRESSURE	45.3	HHP/sqin	5.27	JET VELOCITY	118

PRESSURE BREAKDOWN:

SURFACE	60.4
STRING	785.7
BIT	1177.9
ANNULUS	8.1
TOTAL	2032.1

PUMP PRESSURE 2600.0 % DIFFERENCE 21.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	1781.1
CIRCULATING:	ECD	8.74	CIRCULATING PRESSURE	1789.2
PULLING OUT:	TRIP MARGIN	0.08	ESTIMATED SWAB	16.3
	EFFECTIVE MUD WEIGHT	8.62	BOTTOM HOLE PRESSURE	1764.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1300.0

SPM 1 89 SPM 2 93 FLOW RATE 890

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	77	66	TURBULENT			2.9
HWDP/OH	0.398	11	53	61	LAMINAR	1	52	0.2
DP/OH	0.398	76	53	61	LAMINAR	1	52	1.2
DP/CSG	0.427	303	50	60	LAMINAR	1	49	4.1
DP/RIS	1.325	301	16	54	LAMINAR	0	16	0.3
TOTAL VOLUME		731			TOTAL PRESSURE DROP			8.7

LAG: 34.5 MINUTES 3056 STROKES #1 AND 3192 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1169.1	HHP	607	IMPACT FORCE	1572
% SURFACE PRESSURE	45.1	HHP/sqin	5.15	JET VELOCITY	116

PRESSURE BREAKDOWN:

SURFACE	59.8		
STRING	813.2		
BIT	1169.1		
ANNULUS	8.7		
TOTAL	2050.8	PUMP PRESSURE 2590.0	% DIFFERENCE 20.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	1973.9
CIRCULATING:	ECD	8.94	CIRCULATING PRESSURE	1982.6
PULLING OUT:	TRIP MARGIN	0.08	ESTIMATED SWAB	17.5
	EFFECTIVE MUD WEIGHT	8.82	BOTTOM HOLE PRESSURE	1956.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1400.0 AND TVD 1400.0

SPM 1 89 SPM 2 92 FLOW RATE 887

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	77	66	TURBULENT			2.9
HWDP/OH	0.398	11	53	61	LAMINAR	1	52	0.2
DP/OH	0.398	116	53	61	LAMINAR	1	52	1.9
DP/CSG	0.427	303	49	60	LAMINAR	1	49	4.1
DP/RIS	1.325	301	16	54	LAMINAR	0	16	0.3
TOTAL VOLUME		771			TOTAL PRESSURE DROP			9.3

LAG: 36.5 MINUTES 3231 STROKES #1 AND 3357 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1160.9	HHP	601	IMPACT FORCE	1561
% SURFACE PRESSURE	44.6	HHP/sqin	5.10	JET VELOCITY	116

PRESSURE BREAKDOWN:

SURFACE	59.5				
STRING	842.3				
BIT	1160.9				
ANNULUS	9.3				
TOTAL	2072.0	PUMP PRESSURE	2600.0	% DIFFERENCE	20.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	2125.7
CIRCULATING:	ECD	8.94	CIRCULATING PRESSURE	2135.0
PULLING OUT:	TRIP MARGIN	0.08	ESTIMATED SWAB	18.7
	EFFECTIVE MUD WEIGHT	8.82	BOTTOM HOLE PRESSURE	2107.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1500.0

SPM 1 89 SPM 2 90 FLOW RATE 880

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	76	115	LAMINAR	1	75	5.8
HWDP/OH	0.398	11	53	108	LAMINAR	0	52	0.5
DP/OH	0.398	154	53	108	LAMINAR	0	52	6.6
DP/CSG	0.427	304	49	108	LAMINAR	0	49	11.0
DP/RIS	1.325	301	16	99	LAMINAR	0	16	0.8
TOTAL VOLUME		810			TOTAL PRESSURE DROP			24.7

LAG: 38.7 MINUTES 3445 STROKES #1 AND 3482 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1128.4	HHP	579	IMPACT FORCE	1517
% SURFACE PRESSURE	42.7	HHP/sqin	4.91	JET VELOCITY	115

PRESSURE BREAKDOWN:

SURFACE	66.6		
STRING	986.9		
BIT	1128.4		
ANNULUS	24.7		
TOTAL	2206.6	PUMP PRESSURE 2640.0	% DIFFERENCE 16.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.80	HYDROSTATIC PRESSURE	2252.0
CIRCULATING:	ECD	8.90	CIRCULATING PRESSURE	2276.7
PULLING OUT:	TRIP MARGIN	0.19	ESTIMATED SWAB	49.4
	EFFECTIVE MUD WEIGHT	8.61	BOTTOM HOLE PRESSURE	2202.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1600.0

SPM 1 89 SPM 2 91 FLOW RATE 883

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	77	114	LAMINAR	1	76	5.8
HWDP/OH	0.398	11	53	108	LAMINAR	0	52	0.5
DP/OH	0.398	194	53	108	LAMINAR	0	52	8.3
DP/CSG	0.427	304	49	107	LAMINAR	0	49	11.0
DP/RIS	1.325	301	16	98	LAMINAR	0	16	0.8
TOTAL VOLUME		850			TOTAL PRESSURE DROP			26.4

LAG: 40.4 MINUTES 3595 STROKES #1 AND 3673 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1149.8	HHP	592	IMPACT FORCE	1546
% SURFACE PRESSURE	42.0	HHP/sqin	5.03	JET VELOCITY	116

PRESSURE BREAKDOWN:

SURFACE	67.7
STRING	1041.7
BIT	1149.8
ANNULUS	26.4
TOTAL	2285.6

PUMP PRESSURE 2740.0 % DIFFERENCE 16.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	2429.4
CIRCULATING:	ECD	9.00	CIRCULATING PRESSURE	2455.8
PULLING OUT:	TRIP MARGIN	0.19	ESTIMATED SWAB	52.9
	EFFECTIVE MUD WEIGHT	8.71	BOTTOM HOLE PRESSURE	2376.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1700.0

SPM 1 80 SPM 2 80 FLOW RATE 786

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	68	107	LAMINAR	2	67	4.6
HWDP/OH	0.398	11	47	105	LAMINAR	1	46	0.4
DP/OH	0.398	235	47	105	LAMINAR	1	46	8.7
DP/CSG	0.427	304	44	104	LAMINAR	1	43	9.6
DP/RIS	1.325	301	14	101	LAMINAR	0	14	0.9
TOTAL VOLUME		890			TOTAL PRESSURE DROP			24.2

LAG: 47.6 MINUTES 3805 STROKES #1 AND 3805 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	911.7	HHP	418	IMPACT FORCE	1226
% SURFACE PRESSURE	39.1	HHP/sqin	3.55	JET VELOCITY	103

PRESSURE BREAKDOWN:

SURFACE	47.8
STRING	759.4
BIT	911.7
ANNULUS	24.2
TOTAL	1743.1

PUMP PRESSURE 2330.0 % DIFFERENCE 25.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	2581.2
CIRCULATING:	ECD	8.98	CIRCULATING PRESSURE	2605.4
PULLING OUT:	TRIP MARGIN	0.17	ESTIMATED SWAB	48.3
	EFFECTIVE MUD WEIGHT	8.73	BOTTOM HOLE PRESSURE	2532.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1800.0

SPM 1 73 SPM 2 75 FLOW RATE 727

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	63	103	LAMINAR	2	62	4.4
HWDP/OH	0.398	11	43	99	LAMINAR	1	43	0.4
DP/OH	0.398	275	43	99	LAMINAR	1	43	9.2
DP/CSG	0.427	304	41	98	LAMINAR	1	40	8.7
DP/RIS	1.325	301	13	93	LAMINAR	0	13	0.7
TOTAL VOLUME		930				TOTAL PRESSURE DROP		23.3

LAG: 53.7 MINUTES 3922 STROKES #1 AND 4029 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	780.0	HHP	331	IMPACT FORCE	1049
% SURFACE PRESSURE	32.8	HHP/sqin	2.81	JET VELOCITY	95

PRESSURE BREAKDOWN:

SURFACE	44.0				
STRING	724.5				
BIT	780.0				
ANNULUS	23.3				
TOTAL	1571.9	PUMP PRESSURE	2380.0	% DIFFERENCE	34.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	2733.1
CIRCULATING:	ECD	8.98	CIRCULATING PRESSURE	2756.4
PULLING OUT:	TRIP MARGIN	0.15	ESTIMATED SWAB	46.6
	EFFECTIVE MUD WEIGHT	8.75	BOTTOM HOLE PRESSURE	2686.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1900.0

SPM 1 81 SPM 2 81 FLOW RATE 796

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	69	81	LAMINAR	3	67	3.0
HWDP/OH	0.398	11	48	77	LAMINAR	1	47	0.3
DP/OH	0.398	315	48	77	LAMINAR	1	47	7.0
DP/CSG	0.427	304	44	76	LAMINAR	1	43	5.8
DP/RIS	1.325	301	14	71	LAMINAR	0	14	0.5
TOTAL VOLUME		970			TOTAL PRESSURE DROP			16.4

LAG: 51.2 MINUTES 4146 STROKES #1 AND 4146 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	945.1	HHP	439	IMPACT FORCE	1271
% SURFACE PRESSURE	41.1	HHP/sqin	3.72	JET VELOCITY	104

PRESSURE BREAKDOWN:

SURFACE	49.4		
STRING	840.5		
BIT	945.1		
ANNULUS	16.4		
TOTAL	1851.4	PUMP PRESSURE 2300.0	% DIFFERENCE 19.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	2917.3
CIRCULATING:	ECD	9.05	CIRCULATING PRESSURE	2933.7
PULLING OUT:	TRIP MARGIN	0.10	ESTIMATED SWAB	32.8
	EFFECTIVE MUD WEIGHT	8.90	BOTTOM HOLE PRESSURE	2884.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 2000.0

SPM 1 81 SPM 2 79 FLOW RATE 786

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	68	109	LAMINAR	2	67	4.9
HWDP/OH	0.398	11	47	105	LAMINAR	1	46	0.4
DP/OH	0.398	355	47	105	LAMINAR	1	46	13.4
DP/CSG	0.427	304	44	104	LAMINAR	1	43	9.9
DP/RIS	1.325	301	14	99	LAMINAR	0	14	0.8
TOTAL VOLUME		1010			TOTAL PRESSURE DROP			29.4

LAG: 54.0 MINUTES 4370 STROKES #1 AND 4262 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	911.7	HHP	418	IMPACT FORCE	1226
% SURFACE PRESSURE	35.1	HHP/sqin	3.55	JET VELOCITY	103

PRESSURE BREAKDOWN:

SURFACE	50.7
STRING	892.0
BIT	911.7
ANNULUS	29.4
TOTAL	1883.8

PUMP PRESSURE 2600.0 % DIFFERENCE 27.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	3036.8
CIRCULATING:	ECD	8.99	CIRCULATING PRESSURE	3066.2
PULLING OUT:	TRIP MARGIN	0.17	ESTIMATED SWAB	58.9
	EFFECTIVE MUD WEIGHT	8.73	BOTTOM HOLE PRESSURE	2977.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2100.0

SPM 1 76 SPM 2 79 FLOW RATE 762

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	66	149	LAMINAR	2	64	8.9
DP/OH	0.478	485	38	142	LAMINAR	0	37	13.7
DP/CSG	0.507	360	36	142	LAMINAR	0	35	9.1
DP/RIS	1.405	319	13	139	LAMINAR	0	13	1.2
TOTAL VOLUME		1205				TOTAL PRESSURE DROP		32.8

LAG: 66.4 MINUTES 5049 STROKES #1 AND 5248 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	855.6	HHP	380	IMPACT FORCE	1151
% SURFACE PRESSURE	33.7	HHP/sqin	3.23	JET VELOCITY	100

PRESSURE BREAKDOWN:

SURFACE	51.9		
STRING	913.3		
BIT	855.6		
ANNULUS	32.8		
TOTAL	1853.6	PUMP PRESSURE 2540.0	% DIFFERENCE 27.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	3188.6
CIRCULATING:	ECD	8.99	CIRCULATING PRESSURE	3221.4
PULLING OUT:	TRIP MARGIN	0.18	ESTIMATED SWAB	65.7
	EFFECTIVE MUD WEIGHT	8.72	BOTTOM HOLE PRESSURE	3122.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2200.0

SPM 1 82 SPM 2 81 FLOW RATE 801

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	70	123	LAMINAR	1	68	6.3
DP/OH	0.398	444	48	121	LAMINAR	1	47	21.9
DP/CSG	0.427	304	45	121	LAMINAR	0	44	12.9
DP/RIS	1.325	301	14	117	LAMINAR	0	14	1.2
TOTAL VOLUME		1089				TOTAL PRESSURE DROP		42.3

LAG: 57.1 MINUTES 4683 STROKES #1 AND 4626 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	956.8	HHP	447	IMPACT FORCE	1287
% SURFACE PRESSURE	33.0	HHP/sqin	3.79	JET VELOCITY	105

PRESSURE BREAKDOWN:

SURFACE	52.9		
STRING	960.8		
BIT	956.8		
ANNULUS	42.3		
TOTAL	2012.8	PUMP PRESSURE 2900.0	% DIFFERENCE 30.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	3377.9
CIRCULATING:	ECD	9.11	CIRCULATING PRESSURE	3420.3
PULLING OUT:	TRIP MARGIN	0.23	ESTIMATED SWAB	84.7
	EFFECTIVE MUD WEIGHT	8.77	BOTTOM HOLE PRESSURE	3293.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2300.0

SPM 1 81 SPM 2 81 FLOW RATE 796

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	69	123	LAMINAR	1	68	6.3
DP/OH	0.398	484	48	121	LAMINAR	1	47	23.9
DP/CSG	0.427	304	44	121	LAMINAR	0	44	12.9
DP/RIS	1.325	301	14	117	LAMINAR	0	14	1.2
TOTAL VOLUME		1129				TOTAL PRESSURE DROP		44.2

LAG: 59.6 MINUTES 4825 STROKES #1 AND 4825 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	945.1	HHP	439	IMPACT FORCE	1271
% SURFACE PRESSURE	32.0	HHP/sqin	3.72	JET VELOCITY	104

PRESSURE BREAKDOWN:

SURFACE	52.3		
STRING	980.3		
BIT	945.1		
ANNULUS	44.2		
TOTAL	2021.9	PUMP PRESSURE 2950.0	% DIFFERENCE 31.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	3531.5
CIRCULATING:	ECD	9.11	CIRCULATING PRESSURE	3575.7
PULLING OUT:	TRIP MARGIN	0.23	ESTIMATED SWAB	88.4
	EFFECTIVE MUD WEIGHT	8.77	BOTTOM HOLE PRESSURE	3443.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2400.0

SPM 1 82 SPM 2 80 FLOW RATE 796

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	69	114	LAMINAR	2	68	5.4
DP/OH	0.398	524	48	111	LAMINAR	1	47	21.9
DP/CSG	0.427	304	44	110	LAMINAR	1	44	10.9
DP/RIS	1.325	301	14	106	LAMINAR	0	14	1.0

TOTAL VOLUME 1169 TOTAL PRESSURE DROP 39.1

LAG: 61.7 MINUTES 5057 STROKES #1 AND 4933 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	934.6	HHP	434	IMPACT FORCE	1257
% SURFACE PRESSURE	31.7	HHP/sqin	3.68	JET VELOCITY	104

PRESSURE BREAKDOWN:

SURFACE	51.8
STRING	1001.5
BIT	934.6
ANNULUS	39.1
TOTAL	2027.0

PUMP PRESSURE 2950.0 % DIFFERENCE 31.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	3644.1
CIRCULATING:	ECD	9.00	CIRCULATING PRESSURE	3683.2
PULLING OUT:	TRIP MARGIN	0.19	ESTIMATED SWAB	78.3
	EFFECTIVE MUD WEIGHT	8.71	BOTTOM HOLE PRESSURE	3565.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2500.0

SPM 1 83 SPM 2 88 FLOW RATE 840

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	73	133	LAMINAR	1	72	7.2
DP/OH	0.398	564	50	132	LAMINAR	1	50	32.6
DP/CSG	0.427	304	47	131	LAMINAR	0	46	15.1
DP/RIS	1.325	301	15	129	LAMINAR	0	15	1.5
TOTAL VOLUME		1209			TOTAL PRESSURE DROP			56.4

LAG: 60.4 MINUTES 5014 STROKES #1 AND 5316 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1041.3	HHP	511	IMPACT FORCE	1400
% SURFACE PRESSURE	40.1	HHP/sqin	4.33	JET VELOCITY	110

PRESSURE BREAKDOWN:

SURFACE	57.1		
STRING	1136.8		
BIT	1041.3		
ANNULUS	56.4		
TOTAL	2291.6	PUMP PRESSURE 2600.0	% DIFFERENCE 11.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	3795.9
CIRCULATING:	ECD	9.03	CIRCULATING PRESSURE	3852.2
PULLING OUT:	TRIP MARGIN	0.26	ESTIMATED SWAB	112.7
	EFFECTIVE MUD WEIGHT	8.64	BOTTOM HOLE PRESSURE	3683.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2600.0 AND TVD 2600.0

SPM 1 81 SPM 2 86 FLOW RATE 822

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	71	133	LAMINAR	1	70	7.1
DP/OH	0.398	604	49	132	LAMINAR	0	49	34.7
DP/CSG	0.427	304	46	131	LAMINAR	0	45	15.1
DP/RIS	1.325	301	15	129	LAMINAR	0	15	1.5
TOTAL VOLUME		1249			TOTAL PRESSURE DROP			58.3

LAG: 63.8 MINUTES 5187 STROKES #1 AND 5486 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	996.3	HHP	478	IMPACT FORCE	1340
% SURFACE PRESSURE	34.7	HHP/sqin	4.05	JET VELOCITY	108

PRESSURE BREAKDOWN:

SURFACE	54.9
STRING	1121.2
BIT	996.3
ANNULUS	58.3
TOTAL	2230.7

PUMP PRESSURE 2870.0 % DIFFERENCE 22.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	3947.8
CIRCULATING:	ECD	9.03	CIRCULATING PRESSURE	4006.1
PULLING OUT:	TRIP MARGIN	0.26	ESTIMATED SWAB	116.6
	EFFECTIVE MUD WEIGHT	8.64	BOTTOM HOLE PRESSURE	3831.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2700.0 AND TVD 2700.0

SPM 1 82 SPM 2 84 FLOW RATE 814

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	71	130	LAMINAR	1	70	7.1
DP/OH	0.398	644	49	128	LAMINAR	0	48	36.9
DP/CSG	0.427	304	45	128	LAMINAR	0	45	15.0
DP/RIS	1.325	301	15	125	LAMINAR	0	15	1.5

TOTAL VOLUME 1289 TOTAL PRESSURE DROP 60.5

LAG: 66.5 MINUTES 5447 STROKES #1 AND 5566 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1031.2	HHP	489	IMPACT FORCE	1387
% SURFACE PRESSURE	35.0	HHP/sqin	4.15	JET VELOCITY	106

PRESSURE BREAKDOWN:

SURFACE	56.3				
STRING	1182.5				
BIT	1031.2				
ANNULUS	60.5				
TOTAL	2330.4	PUMP PRESSURE	2950.0	% DIFFERENCE	21.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4329.9
CIRCULATING:	ECD	9.53	CIRCULATING PRESSURE	4390.3
PULLING OUT:	TRIP MARGIN	0.26	ESTIMATED SWAB	120.9
	EFFECTIVE MUD WEIGHT	9.14	BOTTOM HOLE PRESSURE	4209.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2800.0 AND TVD 2800.0

SPM 1 83 SPM 2 83 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	40	71	106	LAMINAR	1	69	5.3
DP/OH	0.398	684	49	99	LAMINAR	1	48	25.9
DP/CSG	0.427	304	45	98	LAMINAR	1	45	9.8
DP/RIS	1.325	301	15	90	LAMINAR	0	15	0.7

TOTAL VOLUME 1328 TOTAL PRESSURE DROP 41.7

LAG: 68.4 MINUTES 5681 STROKES #1 AND 5672 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1034.8	HHP	492	IMPACT FORCE	1392
% SURFACE PRESSURE	35.2	HHP/sqin	4.18	JET VELOCITY	107

PRESSURE BREAKDOWN:

SURFACE	61.2
STRING	1321.8
BIT	1034.8
ANNULUS	41.7
TOTAL	2459.5

PUMP PRESSURE 2940.0 % DIFFERENCE 16.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4490.2
CIRCULATING:	ECD	9.49	CIRCULATING PRESSURE	4531.9
PULLING OUT:	TRIP MARGIN	0.17	ESTIMATED SWAB	83.4
	EFFECTIVE MUD WEIGHT	9.23	BOTTOM HOLE PRESSURE	4406.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2900.0 AND TVD 2900.0

SPM 1 79 SPM 2 81 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	40	68	123	LAMINAR	1	67	6.8
DP/OH	0.398	723	47	116	LAMINAR	0	46	35.6
DP/CSG	0.427	304	44	116	LAMINAR	0	43	12.7
DP/RIS	1.325	301	14	107	LAMINAR	0	14	1.0
TOTAL VOLUME		1368				TOTAL PRESSURE DROP		56.1

LAG: 73.4 MINUTES 5771 STROKES #1 AND 5923 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	954.6	HHP	436	IMPACT FORCE	1284
% SURFACE PRESSURE	32.5	HHP/sqin	3.70	JET VELOCITY	102

PRESSURE BREAKDOWN:

SURFACE	58.7		
STRING	1301.6		
BIT	954.6		
ANNULUS	56.1		
TOTAL	2371.1	PUMP PRESSURE 2940.0	% DIFFERENCE 19.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4650.6
CIRCULATING:	ECD	9.51	CIRCULATING PRESSURE	4706.7
PULLING OUT:	TRIP MARGIN	0.23	ESTIMATED SWAB	112.2
	EFFECTIVE MUD WEIGHT	9.17	BOTTOM HOLE PRESSURE	4538.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2950.0 AND TVD 2950.0

SPM 1 73 SPM 2 73 FLOW RATE 718

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	62	129	LAMINAR	1	62	7.0
DP/OH	0.398	743	43	124	LAMINAR	0	43	39.8
DP/CSG	0.427	304	40	124	LAMINAR	0	40	13.9
DP/RIS	1.325	301	13	117	LAMINAR	0	13	1.2

TOTAL VOLUME 1388 TOTAL PRESSURE DROP 61.9

LAG: 81.2 MINUTES 5918 STROKES #1 AND 5946 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1286.3	HHP	539	IMPACT FORCE	1367
% SURFACE PRESSURE	48.9	HHP/sqin	4.57	JET VELOCITY	119

PRESSURE BREAKDOWN:

SURFACE	48.7				
STRING	1094.2				
BIT	1286.3				
ANNULUS	61.9				
TOTAL	2491.1	PUMP PRESSURE	2630.0	% DIFFERENCE	5.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4730.8
CIRCULATING:	ECD	9.52	CIRCULATING PRESSURE	4792.7
PULLING OUT:	TRIP MARGIN	0.25	ESTIMATED SWAB	123.8
	EFFECTIVE MUD WEIGHT	9.15	BOTTOM HOLE PRESSURE	4607.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3000.0 AND TVD 3000.0

SPM 1 72 SPM 2 73 FLOW RATE 714

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	62	126	LAMINAR	1	61	6.9
DP/OH	0.398	763	43	118	LAMINAR	0	42	37.5
DP/CSG	0.427	304	40	117	LAMINAR	0	40	12.7
DP/RIS	1.325	301	13	107	LAMINAR	0	13	1.0

TOTAL VOLUME 1408 TOTAL PRESSURE DROP 58.0

LAG: 82.8 MINUTES 5973 STROKES #1 AND 6061 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1273.4	HHP	531	IMPACT FORCE	1353
% SURFACE PRESSURE	43.9	HHP/sqin	4.50	JET VELOCITY	118

PRESSURE BREAKDOWN:

SURFACE	51.2		
STRING	1164.6		
BIT	1273.4		
ANNULUS	58.0		
TOTAL	2547.2	PUMP PRESSURE 2900.0	% DIFFERENCE 12.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4811.0
CIRCULATING:	ECD	9.51	CIRCULATING PRESSURE	4869.0
PULLING OUT:	TRIP MARGIN	0.23	ESTIMATED SWAB	116.1
	EFFECTIVE MUD WEIGHT	9.17	BOTTOM HOLE PRESSURE	4694.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3100.0 AND TVD 3099.9

SPM 1 72 SPM 2 74 FLOW RATE 719

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	62	128	LAMINAR	1	62	7.2
DP/OH	0.398	803	43	118	LAMINAR	0	43	39.7
DP/CSG	0.427	304	40	117	LAMINAR	0	40	12.7
DP/RIS	1.325	301	13	104	LAMINAR	0	13	0.9
TOTAL VOLUME		1448				TOTAL PRESSURE DROP		60.4

LAG: 84.5 MINUTES 6121 STROKES #1 AND 6253 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1291.0	HHP	542	IMPACT FORCE	1372
% SURFACE PRESSURE	44.2	HHP/sqin	4.60	JET VELOCITY	119

PRESSURE BREAKDOWN:

SURFACE	54.2
STRING	1264.2
BIT	1291.0
ANNULUS	60.4
TOTAL	2669.7

PUMP PRESSURE 2920.0 % DIFFERENCE 8.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4971.2
CIRCULATING:	ECD	9.51	CIRCULATING PRESSURE	5031.6
PULLING OUT:	TRIP MARGIN	0.23	ESTIMATED SWAB	120.8
	EFFECTIVE MUD WEIGHT	9.17	BOTTOM HOLE PRESSURE	4850.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3200.0 AND TVD 3199.9

SPM 1 73 SPM 2 70 FLOW RATE 701

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	41	61	123	LAMINAR	1	60	6.8
DP/OH	0.398	841	42	110	LAMINAR	0	42	36.6
DP/CSG	0.427	304	39	109	LAMINAR	0	39	11.1
DP/RIS	1.325	301	13	94	LAMINAR	0	13	0.7
TOTAL VOLUME		1487			TOTAL PRESSURE DROP			55.3

LAG: 89.0 MINUTES 6506 STROKES #1 AND 6205 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1227.6	HHP	502	IMPACT FORCE	1304
% SURFACE PRESSURE	42.8	HHP/sqin	4.26	JET VELOCITY	116

PRESSURE BREAKDOWN:

SURFACE	53.7		
STRING	1290.8		
BIT	1227.6		
ANNULUS	55.3		
TOTAL	2627.3	PUMP PRESSURE 2870.0	% DIFFERENCE 8.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	5131.5
CIRCULATING:	ECD	9.50	CIRCULATING PRESSURE	5186.8
PULLING OUT:	TRIP MARGIN	0.20	ESTIMATED SWAB	110.6
	EFFECTIVE MUD WEIGHT	9.20	BOTTOM HOLE PRESSURE	5021.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3300.0 AND TVD 3299.8

SPM 1 71 SPM 2 70 FLOW RATE 694

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	49	60	118	LAMINAR	1	60	7.6
HWDP/OH	0.398	34	41	105	LAMINAR	0	41	1.4
DP/OH	0.398	837	41	105	LAMINAR	0	41	33.9
DP/CSG	0.427	304	39	104	LAMINAR	0	38	10.3
DP/RIS	1.325	301	12	89	LAMINAR	0	12	0.6
TOTAL VOLUME		1524				TOTAL PRESSURE DROP		53.8

LAG: 92.2 MINUTES 6559 STROKES #1 AND 6464 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1201.6	HHP	486	IMPACT FORCE	1277
% SURFACE PRESSURE	42.2	HHP/sqin	4.13	JET VELOCITY	115

PRESSURE BREAKDOWN:

SURFACE	52.7				
STRING	1439.6				
BIT	1201.6				
ANNULUS	53.8				
TOTAL	2747.6	PUMP PRESSURE	2850.0	% DIFFERENCE	3.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	5291.8
CIRCULATING:	ECD	9.50	CIRCULATING PRESSURE	5345.5
PULLING OUT:	TRIP MARGIN	0.19	ESTIMATED SWAB	107.5
	EFFECTIVE MUD WEIGHT	9.21	BOTTOM HOLE PRESSURE	5184.2

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3400.0 AND TVD 3399.8

SPM 1 69 SPM 2 71 FLOW RATE 686

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	49	60	123	LAMINAR	1	59	7.9
HWDP/OH	0.398	34	41	109	LAMINAR	0	41	1.4
DP/OH	0.398	877	41	109	LAMINAR	0	41	37.0
DP/CSG	0.427	304	38	108	LAMINAR	0	38	10.7
DP/RIS	1.325	301	12	92	LAMINAR	0	12	0.6

TOTAL VOLUME 1564 TOTAL PRESSURE DROP 57.8

LAG: 95.7 MINUTES 6575 STROKES #1 AND 6789 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1161.8	HHP	465	IMPACT FORCE	1234
% SURFACE PRESSURE	40.3	HHP/sqin	3.95	JET VELOCITY	114

PRESSURE BREAKDOWN:

SURFACE	52.0
STRING	1450.7
BIT	1161.8
ANNULUS	57.8
TOTAL	2722.3

PUMP PRESSURE 2879.9 % DIFFERENCE 5.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.30	HYDROSTATIC PRESSURE	5394.1
CIRCULATING:	ECD	9.40	CIRCULATING PRESSURE	5451.9
PULLING OUT:	TRIP MARGIN	0.20	ESTIMATED SWAB	115.6
	EFFECTIVE MUD WEIGHT	9.10	BOTTOM HOLE PRESSURE	5278.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3500.0 AND TVD 3499.8

SPM 1 72 SPM 2 68 FLOW RATE 688

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	49	60	126	LAMINAR	1	59	8.4
HWDP/OH	0.398	34	41	112	LAMINAR	0	41	1.5
DP/OH	0.398	916	41	112	LAMINAR	0	41	40.6
DP/CSG	0.427	304	38	110	LAMINAR	0	38	11.2
DP/RIS	1.325	301	12	93	LAMINAR	0	12	0.7
TOTAL VOLUME		1603				TOTAL PRESSURE DROP		62.3

LAG: 97.9 MINUTES 7039 STROKES #1 AND 6665 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1180.3	HHP	474	IMPACT FORCE	1254
% SURFACE PRESSURE	40.5	HHP/sqin	4.02	JET VELOCITY	114

PRESSURE BREAKDOWN:

SURFACE	53.4		
STRING	1522.6		
BIT	1180.3		
ANNULUS	62.3		
TOTAL	2818.7	PUMP PRESSURE 2914.3	% DIFFERENCE 3.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	5612.5
CIRCULATING:	ECD	9.50	CIRCULATING PRESSURE	5674.8
PULLING OUT:	TRIP MARGIN	0.21	ESTIMATED SWAB	124.7
	EFFECTIVE MUD WEIGHT	9.19	BOTTOM HOLE PRESSURE	5487.8

(c). 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 dependent 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	227.0- 369.0				
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20 20 20				
COST	4442.00	TRIP TIME	2.8	BIT RUN	142.0				
TOTAL HOURS	1.56	TOTAL TURNS	7615	CONDITION	T3 B4 G0.000				

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
230.0	36.3	1.0	36	8.5	0.44	0.08	178	151	6742	8.4	13.8
235.0	52.9	1.0	40	8.5	0.40	0.18	407	103	2593	8.4	13.8
240.0	69.2	1.0	58	8.5	0.42	0.25	659	79	1626	8.4	13.8
245.0	52.3	1.0	62	8.5	0.47	0.34	1015	105	1203	8.4	13.8
250.0	102.6	1.0	79	8.5	0.41	0.39	1247	53.35	953.35	8.4	13.9
255.0	58.8	1.0	78	8.5	0.49	0.48	1642	93.07	799.73	8.4	13.9
260.0	76.9	1.0	85	8.5	0.46	0.54	1973	71.18	689.34	8.4	13.9
265.0	83.7	1.0	89	8.5	0.45	0.60	2293	65.40	607.25	8.4	13.9
270.0	118.4	1.0	93	8.5	0.41	0.65	2527	46.23	542.01	8.4	13.9
275.0	208.5	1.0	87	8.5	0.31	0.67	2653	26.26	488.29	8.4	14.0
280.0	173.1	1.0	93	8.5	0.35	0.70	2815	31.63	445.21	8.4	14.0
285.0	51.8	1.0	94	8.5	0.54	0.79	3356	105.62	415.93	8.4	14.0
290.0	45.1	1.0	94	8.5	0.56	0.91	3980	121.36	392.55	8.4	14.0
295.0	54.2	1.0	91	8.5	0.52	1.00	4482	100.98	371.12	8.4	14.0
300.0	114.4	1.0	93	8.5	0.41	1.04	4725	47.86	348.97	8.4	14.1
305.0	135.3	1.0	93	8.5	0.39	1.08	4931	40.45	329.20	8.4	14.1
310.0	178.2	1.0	90	8.5	0.34	1.11	5083	30.72	311.22	8.4	14.1
315.0	105.9	1.0	93	8.5	0.42	1.15	5346	51.71	296.47	8.4	14.1
320.0	95.2	1.0	94	8.5	0.44	1.21	5643	57.49	283.62	8.4	14.1
325.0	129.5	2.2	92	8.5	0.44	1.25	5856	42.28	271.31	8.4	14.1
330.0	104.7	3.0	95	8.5	0.50	1.29	6128	52.32	260.68	8.4	14.2
335.0	105.9	3.0	93	8.5	0.50	1.34	6392	51.71	251.00	8.4	14.2
340.0	89.6	3.0	92	8.5	0.52	1.40	•6700	61.14	242.60	8.4	14.2
345.0	120.8	3.0	94	8.5	0.47	1.44	6933	45.32	234.24	8.4	14.2
350.0	77.9	3.0	93	8.5	0.55	1.50	7292	70.26	227.58	8.4	14.2
355.0	103.4	3.0	93	8.5	0.50	1.55	7562	52.93	220.76	8.4	14.3
360.0	66.9	3.0	94	8.5	0.58	1.62	7982	81.82	215.53	8.4	14.3
365.0	59.6	3.0	93	8.5	0.60	1.71	8452	91.86	211.05	8.4	14.3
369.0	50.9	3.0	89	8.5	0.62	1.79	8870	107.60	208.14	8.4	14.3

BIT NUMBER	2	IADC CODE	111	INTERVAL	369.0- 952.6				
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20				
COST	4442.00	TRIP TIME	4.0	BIT RUN	583.6				
TOTAL HOURS	8.45	TOTAL TURNS	65136	CONDITION	T2 B2 G0.000				

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
370.0	400.0	10.0	101	8.5	0.36	0.00	15	14	26356	8.4	14.3
375.0	360.0	10.0	102	8.5	0.39	0.02	100	15	4405	8.4	14.3
380.0	161.4	10.0	95	8.5	0.56	0.05	276	34	2418	8.4	14.3
385.0	222.2	13.9	94	8.5	0.52	0.07	403	25	1670	8.4	14.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
390.0	233.8	15.0	97	8.5	0.52	0.09	528	23	1278	8.4	14.4
395.0	367.3	15.0	99	8.5	0.41	0.10	609	15	1035	8.4	14.4
400.0	204.5	17.0	102	8.5	0.58	0.13	758	26.77	872.58	8.4	14.4
405.0	134.3	20.0	105	8.5	0.73	0.17	993	40.76	757.05	8.4	14.4
410.0	142.9	20.0	115	8.5	0.74	0.20	1235	38.33	669.40	8.4	14.5
415.0	68.4	11.0	117	8.5	0.83	0.27	1747	80.00	605.33	8.4	14.5
420.0	94.7	10.0	111	8.5	0.72	0.33	2097	57.79	551.65	8.4	14.5
425.0	56.1	10.0	109	8.5	0.84	0.42	2680	97.64	511.12	8.4	14.5
430.0	166.7	12.3	107	8.5	0.61	0.45	2873	32.85	471.91	8.4	14.5
435.0	151.3	15.0	104	8.5	0.65	0.48	3079	36.20	438.90	8.4	14.5
440.0	58.8	15.0	106	8.5	0.90	0.56	3619	93.07	414.55	8.4	14.6
445.0	69.2	15.0	106	8.5	0.86	0.64	4077	79.08	392.48	8.4	14.6
450.0	105.3	15.0	109	8.5	0.75	0.68	4386	52.01	371.46	8.4	14.6
455.0	124.1	15.0	106	8.5	0.71	0.72	4642	44.10	352.43	8.4	14.6
460.0	157.9	15.0	108	8.5	0.65	0.76	4848	34.68	334.97	8.4	14.6
465.0	87.0	10.7	110	8.5	0.75	0.81	5228	62.96	320.81	8.4	14.6
470.0	76.6	10.0	115	8.5	0.78	0.88	5679	71.48	308.46	8.4	14.7
475.0	122.4	13.7	117	8.5	0.72	0.92	5965	44.71	296.02	8.4	14.7
480.0	151.3	20.0	124	8.5	0.74	0.95	6212	36.20	284.32	8.4	14.7
485.0	187.5	20.0	122	8.8	0.66	0.98	6407	29.20	273.32	8.4	14.7
490.0	165.1	20.0	122	8.8	0.69	1.01	6629	33.15	263.40	8.4	14.7
495.0	95.7	16.5	122	8.8	0.80	1.06	7010	57.18	255.21	8.4	14.8
500.0	123.3	20.0	120	8.8	0.76	1.10	7301	44.41	247.17	8.4	14.8
505.0	163.6	19.0	119	8.8	0.68	1.13	7519	33.46	239.31	8.4	14.8
510.0	146.3	18.0	118	8.8	0.70	1.17	7761	37.41	232.15	8.4	14.8
515.0	116.1	18.0	123	8.8	0.77	1.21	8078	47.15	225.82	8.4	14.8
520.0	82.6	18.0	106	8.8	0.82	1.27	8464	66.31	220.53	8.4	14.8
525.0	100.0	18.0	102	8.8	0.76	1.32	8769	54.75	215.22	8.4	14.9
530.0	84.9	18.0	96	8.8	0.78	1.38	9110	64.48	210.54	8.4	14.9
535.0	95.7	18.0	99	8.8	0.76	1.43	9421	57.18	205.92	8.4	14.9
540.0	79.8	18.0	94	8.8	0.79	1.49	9776	68.59	201.90	8.4	14.9
545.0	96.8	18.0	93	8.8	0.74	1.55	10065	56.57	197.78	8.4	14.9
550.0	133.3	18.0	111	8.8	0.70	1.58	10314	41.06	193.45	8.4	14.9
555.0	113.2	18.0	124	8.8	0.77	1.63	10643	48.36	189.55	8.4	15.0
560.0	125.9	18.0	119	8.8	0.74	1.67	10927	43.50	185.72	8.4	15.0
565.0	102.9	24.1	125	8.9	0.85	1.72	11292	53.23	182.34	8.4	15.0
570.0	141.7	25.0	133	8.9	0.79	1.75	11574	38.63	178.77	8.4	15.0
575.0	102.9	22.3	127	8.9	0.84	1.80	11946	53.23	175.72	8.4	15.0
580.0	74.1	20.0	131	8.9	0.91	1.87	12475	73.91	173.31	8.4	15.0
590.0	82.9	24.0	134	8.9	0.92	1.99	13441	66.01	168.45	8.4	15.1
595.0	77.0	25.0	133	9.0	0.94	2.05	13959	71.10	166.30	8.4	15.1
600.0	77.0	25.0	133	9.0	0.94	2.12	14477	71.10	164.24	8.4	15.1
605.0	99.9	25.0	133	9.0	0.87	2.17	14878	54.80	161.92	8.4	15.1
610.0	100.0	25.0	134	9.0	0.87	2.22	15281	54.75	159.70	8.4	15.1
615.0	85.3	25.0	133	9.0	0.92	2.28	15749	64.18	157.76	8.4	15.1
620.0	92.8	25.0	134	9.0	0.89	2.33	16182	59.01	155.79	8.4	15.2
625.0	101.7	25.0	132	9.0	0.86	2.38	16571	53.84	153.80	8.4	15.2
630.0	93.7	25.0	134	9.0	0.89	2.43	16998	58.40	151.97	8.4	15.2
635.0	100.6	25.0	133	9.1	0.86	2.48	17396	54.45	150.14	8.4	15.2
640.0	93.7	25.0	130	9.1	0.87	2.54	17810	58.40	148.44	8.4	15.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
645.0	95.2	25.0	134	9.1	0.88	2.59	18233	57.49	146.80	8.4	15.2
650.0	102.9	25.0	135	9.1	0.86	2.64	18627	53.23	145.13	8.4	15.3
655.0	109.8	25.0	135	9.1	0.84	2.68	18997	49.88	143.47	8.4	15.3
660.0	94.2	25.0	135	9.1	0.88	2.74	19425	58.10	142.00	8.4	15.3
665.0	82.6	25.0	134	9.2	0.91	2.80	19912	66.31	140.72	8.4	15.3
670.0	78.6	25.0	132	9.2	0.92	2.86	20417	69.65	139.54	8.4	15.3
675.0	82.6	25.0	135	9.2	0.91	2.92	20907	66.31	138.34	8.4	15.3
680.0	86.1	25.0	134	9.2	0.90	2.98	21375	63.57	137.14	8.4	15.3
685.0	58.8	25.0	134	9.2	1.00	3.06	22059	93.07	136.44	8.4	15.4
690.0	93.3	29.0	132	9.2	0.90	3.12	22484	58.70	135.23	8.4	15.4
695.0	89.1	29.0	135	9.2	0.92	3.17	22939	61.44	134.10	8.4	15.4
700.0	65.6	29.0	133	9.1	1.01	3.25	23549	83.48	133.34	8.4	15.4
705.0	57.0	29.0	134	9.2	1.04	3.34	24256	96.12	132.78	8.4	15.4
710.0	48.4	28.5	134	9.2	1.08	3.44	25087	113.15	132.50	8.4	15.4
715.0	51.1	28.0	134	9.3	1.05	3.54	25870	107.07	132.13	8.4	15.4
720.0	54.2	28.0	134	9.3	1.04	3.63	26612	100.98	131.68	8.4	15.5
725.0	48.6	26.8	134	9.3	1.05	3.73	27437	112.54	131.42	8.4	15.5
730.0	44.8	25.0	128	9.3	1.05	3.85	28293	122.28	131.29	8.4	15.5
735.0	50.8	25.0	134	9.3	1.03	3.94	29085	107.68	130.97	8.4	15.5
740.0	59.0	25.0	133	9.4	0.97	4.03	29761	92.77	130.45	8.4	15.5
745.0	63.6	25.0	135	9.4	0.96	4.11	30396	86.08	129.86	8.4	15.5
750.0	69.2	25.0	136	9.4	0.94	4.18	30983	79.08	129.19	8.4	15.5
755.0	63.0	25.0	136	9.4	0.96	4.26	31629	86.84	128.65	8.4	15.6
760.0	75.0	25.0	136	9.4	0.92	4.33	32171	73.00	127.93	8.4	15.6
765.0	57.0	25.0	134	9.4	0.98	4.41	32879	96.12	127.53	8.4	15.6
770.0	55.7	25.0	135	9.4	0.99	4.50	33608	98.25	127.17	8.4	15.6
775.0	62.9	25.0	134	9.4	0.96	4.58	34245	86.99	126.67	8.4	15.6
780.0	65.9	25.0	135	9.4	0.95	4.66	34859	83.04	126.14	8.4	15.6
785.0	59.2	25.0	130	9.4	0.97	4.74	35520	92.47	125.74	8.4	15.6
790.0	57.5	25.0	135	9.4	0.98	4.83	36226	95.20	125.37	8.4	15.7
795.0	65.2	25.0	135	9.4	0.95	4.91	36844	83.95	124.89	8.4	15.7
800.0	71.1	25.0	135	9.4	0.93	4.98	37413	76.95	124.33	8.4	15.7
805.0	56.8	25.0	132	9.4	0.98	5.06	38108	96.34	124.01	8.4	15.7
810.0	56.4	25.0	136	9.4	0.99	5.15	38829	97.03	123.71	8.4	15.7
815.0	48.4	25.0	133	9.4	1.03	5.26	39654	113.15	123.59	8.4	15.7
820.0	59.8	25.0	135	9.4	0.97	5.34	40334	91.55	123.23	8.4	15.7
825.0	53.7	25.0	126	9.4	0.98	5.43	41035	101.90	123.00	8.4	15.8
830.0	40.0	25.0	135	9.4	1.08	5.56	42046	136.88	123.15	8.4	15.8
835.0	42.5	25.0	130	9.5	1.04	5.68	42963	128.97	123.21	8.4	15.8
840.0	42.8	25.0	133	9.5	1.05	5.79	43894	128.05	123.26	8.4	15.8
845.0	39.4	25.0	130	9.5	1.06	5.92	44886	139.00	123.43	8.4	15.8
850.0	43.9	25.0	130	9.5	1.03	6.03	45775	124.71	123.44	8.4	15.8
855.0	48.4	25.0	134	9.5	1.02	6.14	46608	113.15	123.34	8.4	15.8
860.0	50.7	25.0	132	9.5	1.00	6.24	47389	107.98	123.18	8.4	15.9
865.0	46.8	25.0	135	9.5	1.03	6.34	48252	117.10	123.12	8.4	15.9
870.0	33.5	25.0	134	9.5	1.11	6.49	49452	163.34	123.52	8.4	15.9
875.0	43.7	25.0	135	9.5	1.04	6.61	50377	125.32	123.54	8.4	15.9
880.0	35.0	25.0	134	9.5	1.10	6.75	51525	156.65	123.86	8.4	15.9
885.0	38.2	25.0	135	9.5	1.08	6.88	52588	143.26	124.05	8.4	15.9
890.0	42.0	25.0	131	9.5	1.05	7.00	53526	130.49	124.11	8.4	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
895.0	47.7	25.0	134	9.5	1.02	7.10	54369	114.67	124.02	8.4	15.9
900.0	50.3	25.0	135	9.5	1.01	7.20	55173	108.89	123.88	8.4	16.0
905.0	46.6	25.0	135	9.5	1.03	7.31	56041	117.41	123.82	8.4	16.0
910.0	47.5	25.0	132	9.5	1.02	7.42	56876	115.28	123.74	8.4	16.0
915.0	43.5	25.0	135	9.5	1.04	7.53	57805	125.93	123.76	8.4	16.0
920.0	42.0	25.0	132	9.5	1.05	7.65	58748	130.49	123.82	8.4	16.0
925.0	37.5	25.0	129	9.5	1.07	7.78	59781	146.00	124.02	8.4	16.0
930.0	42.8	25.0	134	9.5	1.05	7.90	60724	128.05	124.06	8.4	16.0
935.0	41.7	25.0	131	9.5	1.05	8.02	61666	131.40	124.12	8.4	16.0
940.0	38.7	25.0	135	9.5	1.08	8.15	62714	141.44	124.27	8.4	16.1
945.0	43.4	25.0	135	9.5	1.05	8.26	63648	126.23	124.29	8.4	16.1
950.0	43.1	25.0	134	9.5	1.05	8.38	64584	127.14	124.31	8.4	16.1
952.6	36.8	25.0	130	9.5	1.08	8.45	65136	148.81	124.42	8.4	16.1

BIT NUMBER	3	IADC CODE	114	INTERVAL	952.6- 1493.8
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	5.2	BIT RUN	541.2
TOTAL HOURS	15.92	TOTAL TURNS	140916	CONDITION	T3 B7 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
953.0	30.0	17.0	66	8.6	1.05	0.01	53	183	76860	8.4	16.1
954.0	30.0	17.0	66	8.6	1.05	0.05	185	183	22090	8.4	16.1
955.0	29.1	17.0	70	8.6	1.07	0.08	329	188	12964	8.4	16.1
956.0	29.0	17.0	114	8.6	1.21	0.12	565	189	9207	8.4	16.1
957.0	52.2	17.0	143	8.6	1.11	0.13	729	105	7138	8.4	16.1
958.0	58.1	17.0	142	8.6	1.08	0.15	875	94	5834	8.4	16.1
959.0	55.4	17.0	141	8.6	1.09	0.17	1028	99	4938	8.4	16.1
960.0	60.0	17.0	142	8.6	1.07	0.19	1170	91	4283	8.4	16.1
961.0	64.3	17.0	141	8.6	1.05	0.20	1302	85	3783	8.4	16.1
962.0	56.2	17.0	133	8.6	1.07	0.22	1444	97	3391	8.4	16.1
963.0	48.6	25.0	120	8.6	1.19	0.24	1592	113	3076	8.4	16.1
964.0	73.5	25.0	121	8.6	1.07	0.25	1691	75	2812	8.4	16.1
965.0	66.7	25.0	131	8.6	1.12	0.27	1809	82	2592	8.4	16.1
966.0	70.6	25.0	134	8.6	1.11	0.28	1922	78	2405	8.4	16.1
967.0	58.1	25.0	132	8.6	1.17	0.30	2059	94	2244	8.4	16.1
968.0	55.4	25.0	132	8.6	1.18	0.32	2202	99	2105	8.4	16.1
969.0	63.2	25.0	131	8.6	1.14	0.33	2327	87	1982	8.4	16.1
970.0	62.1	25.0	131	8.6	1.15	0.35	2454	88	1873	8.4	16.1
971.0	64.3	25.0	132	8.6	1.14	0.37	2577	85	1776	8.4	16.1
972.0	69.2	25.0	129	8.6	1.11	0.38	2689	79	1688	8.4	16.1
973.0	26.1	25.0	137	8.6	1.43	0.42	3005	210	1616	8.4	16.1
974.0	94.7	25.0	147	8.6	1.05	0.43	3098	58	1543	8.4	16.1
975.0	70.6	25.0	146	8.6	1.14	0.44	3223	78	1478	8.4	16.1
976.0	73.5	25.0	146	8.6	1.13	0.46	3342	75	1418	8.4	16.2
977.0	85.7	25.0	146	8.6	1.08	0.47	3444	64	1362	8.4	16.2
978.0	73.5	25.0	145	8.6	1.12	0.48	3563	75	1312	8.4	16.2
979.0	73.5	25.0	146	8.6	1.13	0.50	3681	75	1265	8.4	16.2
980.0	75.0	25.0	145	8.6	1.12	0.51	3797	73	1221	8.4	16.2
981.0	78.3	25.0	146	8.6	1.11	0.52	3909	70	1181	8.4	16.2
982.0	47.4	25.0	133	8.6	1.23	0.54	4077	116	1144	8.4	16.2
983.0	66.7	25.0	146	8.6	1.16	0.56	4209	82	1109	8.4	16.2
984.0	66.7	25.0	145	8.6	1.16	0.57	4340	82	1077	8.4	16.2
985.0	69.2	25.0	146	8.6	1.15	0.59	4467	79	1046	8.4	16.2
986.0	64.3	25.0	144	8.6	1.16	0.60	4601	85	1017	8.4	16.2
987.0	69.2	25.0	145	8.6	1.14	0.62	4727	79.08	989.91	8.4	16.2
988.0	61.0	25.0	146	8.6	1.18	0.63	4870	89.73	964.48	8.4	16.2
989.0	50.7	25.0	147	8.6	1.24	0.65	5044	107.98	940.95	8.4	16.2
990.0	50.7	25.0	147	8.6	1.24	0.67	5217	107.98	918.68	8.4	16.2
991.0	48.6	25.0	136	8.6	1.23	0.69	5385	112.54	897.69	8.4	16.2
992.0	76.6	25.0	145	8.6	1.11	0.71	5498	71.48	876.72	8.4	16.2
993.0	81.8	25.0	146	8.6	1.09	0.72	5605	66.92	856.67	8.4	16.2
994.0	66.7	27.0	146	8.6	1.18	0.73	5737	82.13	837.96	8.4	16.2
995.0	58.1	27.0	146	8.6	1.23	0.75	5888	94.29	820.42	8.4	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
996.0	69.2	27.0	146	8.6	1.17	0.77	6014	79.08	803.34	8.4	16.2
997.0	64.3	27.0	147	8.6	1.19	0.78	6152	85.17	787.17	8.4	16.2
998.0	62.1	27.0	146	8.6	1.21	0.80	6293	88.21	771.77	8.4	16.2
999.0	67.9	27.0	147	8.6	1.18	0.81	6423	80.60	756.88	8.4	16.2
1000.0	37.5	27.0	137	8.6	1.35	0.84	6642	146.00	743.99	8.4	16.2
1001.0	62.1	27.0	144	8.6	1.20	0.86	6782	88.21	730.44	8.4	16.2
1002.0	54.5	27.0	144	8.6	1.24	0.87	6940	100.38	717.69	8.4	16.2
1003.0	70.6	27.0	144	8.6	1.16	0.89	7062	77.56	704.98	8.4	16.2
1004.0	65.5	27.0	145	8.6	1.18	0.90	7195	83.65	692.90	8.4	16.2
1005.0	66.7	27.0	144	8.6	1.18	0.92	7324	82.13	681.24	8.4	16.2
1006.0	63.2	27.0	145	8.6	1.20	0.93	7462	86.69	670.11	8.4	16.2
1007.0	50.0	27.0	145	8.6	1.27	0.95	7637	109.50	659.80	8.4	16.2
1008.0	50.0	27.0	145	8.6	1.27	0.97	7810	109.50	649.87	8.4	16.2
1009.0	65.5	27.0	144	8.6	1.18	0.99	7942	83.65	639.83	8.4	16.2
1010.0	90.0	27.0	140	8.6	1.07	1.00	8036	60.83	629.74	8.4	16.2
1011.0	64.3	27.0	138	8.6	1.18	1.02	8165	85.17	620.42	8.4	16.2
1012.0	66.7	27.0	138	8.6	1.16	1.03	8290	82.13	611.35	8.4	16.2
1013.0	62.1	27.0	137	8.6	1.18	1.05	8422	88.21	602.69	8.4	16.2
1014.0	60.0	27.0	136	8.6	1.19	1.06	8558	91.25	594.36	8.4	16.2
1015.0	65.5	27.0	138	8.6	1.17	1.08	8685	83.65	586.18	8.4	16.2
1016.0	70.6	27.0	138	8.6	1.14	1.09	8802	77.56	578.16	8.4	16.3
1017.0	65.5	27.0	138	8.6	1.17	1.11	8929	83.65	570.48	8.4	16.3
1018.0	66.7	27.0	140	8.6	1.17	1.12	9054	82.13	563.01	8.4	16.3
1019.0	76.6	27.0	137	8.6	1.12	1.14	9162	71.48	555.61	8.4	16.3
1020.0	41.9	27.0	126	8.6	1.28	1.16	9343	130.79	549.30	8.4	16.3
1021.0	67.9	27.0	145	8.6	1.17	1.17	9471	80.60	542.45	8.4	16.3
1022.0	72.0	30.0	147	8.6	1.19	1.19	9593	76.04	535.73	8.4	16.3
1023.0	67.9	30.0	145	8.6	1.21	1.20	9721	80.60	529.27	8.4	16.3
1024.0	70.6	30.0	147	8.6	1.20	1.22	9846	77.56	522.94	8.4	16.3
1025.0	70.6	30.0	146	8.6	1.20	1.23	9970	77.56	516.79	8.4	16.3
1026.0	70.6	30.0	146	8.6	1.20	1.25	10094	77.56	510.80	8.4	16.3
1027.0	66.7	30.0	146	8.6	1.22	1.26	10225	82.13	505.04	8.4	16.3
1028.0	70.6	30.0	148	8.6	1.20	1.28	10351	77.56	499.37	8.4	16.3
1029.0	50.7	30.0	148	8.6	1.31	1.29	10526	107.98	494.25	8.4	16.3
1030.0	67.9	30.0	148	8.6	1.21	1.31	10657	80.60	488.91	8.4	16.3
1031.0	76.6	30.0	148	8.6	1.18	1.32	10773	71.48	483.58	8.4	16.3
1032.0	67.9	30.0	148	8.6	1.21	1.34	10904	80.60	478.51	8.4	16.3
1033.0	62.1	30.0	148	8.6	1.24	1.35	11047	88.21	473.65	8.4	16.3
1034.0	38.3	30.0	150	8.6	1.41	1.38	11282	142.96	469.59	8.4	16.3
1035.0	50.7	30.0	150	8.6	1.32	1.40	11459	107.98	465.20	8.4	16.3
1036.0	66.7	30.0	150	8.6	1.23	1.41	11594	82.13	460.61	8.4	16.3
1037.0	60.0	30.0	150	8.6	1.26	1.43	11744	91.25	456.23	8.4	16.3
1038.0	56.2	30.0	150	8.6	1.28	1.45	11904	97.33	452.03	8.4	16.3
1039.0	46.8	30.0	150	8.6	1.34	1.47	12097	117.10	448.15	8.4	16.3
1040.0	75.0	30.0	150	8.6	1.19	1.48	12217	73.00	443.86	8.4	16.3
1041.0	69.2	30.0	150	8.6	1.21	1.50	12347	79.08	439.73	8.4	16.3
1042.0	72.0	30.0	150	8.6	1.20	1.51	12472	76.04	435.67	8.4	16.3
1043.0	64.3	30.0	150	8.6	1.24	1.53	12612	85.17	431.79	8.4	16.3
1044.0	60.0	30.0	150	8.6	1.26	1.54	12762	91.25	428.06	8.4	16.3
1045.0	58.1	30.0	150	8.6	1.27	1.56	12917	94.29	424.45	8.4	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1046.0	61.0	30.0	150	8.6	1.25	1.58	13064	89.73	420.87	8.4	16.3
1047.0	63.2	30.0	150	8.6	1.24	1.59	13207	86.69	417.33	8.4	16.3
1048.0	45.6	30.0	150	8.6	1.35	1.62	13404	120.15	414.21	8.4	16.3
1049.0	67.9	30.0	150	8.6	1.22	1.63	13537	80.60	410.75	8.4	16.3
1050.0	62.1	30.0	150	8.6	1.25	1.65	13682	88.21	407.44	8.4	16.3
1051.0	59.0	30.0	150	8.6	1.27	1.66	13834	92.77	404.24	8.4	16.3
1052.0	52.2	30.0	150	8.6	1.31	1.68	14007	104.94	401.23	8.4	16.3
1053.0	54.5	30.0	150	8.6	1.29	1.70	14172	100.38	398.23	8.4	16.3
1054.0	63.2	30.0	150	8.6	1.24	1.72	14314	86.69	395.16	8.4	16.3
1055.0	56.2	35.0	150	8.6	1.34	1.73	14474	97.33	392.25	8.4	16.3
1056.0	46.2	35.0	150	8.6	1.41	1.76	14669	118.63	389.61	8.4	16.3
1057.0	35.0	35.0	150	8.6	1.50	1.78	14927	156.65	387.38	8.4	16.3
1058.0	42.9	35.0	150	8.6	1.43	1.81	15137	127.75	384.91	8.4	16.4
1059.0	43.4	35.0	150	8.6	1.43	1.83	15344	126.23	382.48	8.4	16.4
1060.0	52.9	35.0	150	8.6	1.36	1.85	15514	103.42	379.88	8.4	16.4
1061.0	57.1	35.0	150	8.6	1.33	1.87	15672	95.81	377.26	8.4	16.4
1062.0	43.9	35.0	150	8.6	1.43	1.89	15877	124.71	374.95	8.4	16.4
1063.0	33.0	35.0	150	8.6	1.52	1.92	16149	165.77	373.06	8.4	16.4
1064.0	24.7	35.0	150	8.6	1.62	1.96	16514	222.04	371.70	8.4	16.4
1065.0	25.7	35.0	150	8.6	1.61	2.00	16864	212.92	370.29	8.4	16.4
1066.0	31.6	35.0	150	8.6	1.54	2.03	17149	173.38	368.55	8.4	16.4
1067.0	13.0	30.0	150	8.6	1.76	2.11	17839	419.75	369.00	8.4	16.4
1068.0	26.1	30.0	150	8.6	1.53	2.15	18184	209.88	367.62	8.4	16.4
1069.0	25.0	30.0	150	8.6	1.55	2.19	18544	219.00	366.35	8.4	16.4
1070.0	26.7	30.0	150	8.6	1.53	2.22	18882	205.31	364.97	8.4	16.4
1071.0	21.7	30.0	150	8.6	1.60	2.27	19297	252.46	364.02	8.4	16.4
1072.0	18.5	30.0	150	8.6	1.65	2.32	19784	296.56	363.46	8.4	16.4
1073.0	23.8	30.0	150	8.6	1.56	2.37	20162	229.65	362.35	8.4	16.4
1074.0	28.1	30.0	150	8.6	1.51	2.40	20482	194.67	360.97	8.4	16.4
1075.0	20.2	30.0	150	8.6	1.62	2.45	20927	270.71	360.23	8.4	16.4
1076.0	27.7	35.0	150	8.8	1.55	2.49	21252	197.71	358.91	8.4	16.4
1077.0	14.8	35.0	150	8.8	1.76	2.55	21859	369.56	359.00	8.4	16.4
1078.0	23.4	35.0	150	8.8	1.61	2.60	22244	234.21	358.00	8.4	16.4
1079.0	29.8	35.0	150	8.8	1.52	2.63	22547	184.02	356.63	8.4	16.4
1080.0	34.3	35.0	150	8.8	1.48	2.66	22809	159.69	355.08	8.4	16.4
1081.0	34.0	35.0	150	8.8	1.48	2.69	23074	161.21	353.57	8.4	16.4
1082.0	28.6	35.0	150	8.8	1.54	2.72	23389	191.63	352.32	8.4	16.4
1083.0	29.0	35.0	150	8.8	1.53	2.76	23699	188.58	351.06	8.4	16.4
1084.0	34.0	35.0	150	8.8	1.48	2.79	23964	161.21	349.62	8.4	16.4
1085.0	29.5	35.0	150	8.8	1.53	2.82	24269	185.54	348.38	8.4	16.4
1086.0	28.6	35.0	150	8.8	1.54	2.86	24584	191.63	347.20	8.4	16.4
1087.0	32.1	35.0	150	8.8	1.50	2.89	24864	170.33	345.89	8.4	16.4
1088.0	32.1	35.0	150	8.8	1.50	2.92	25144	170.33	344.59	8.4	16.4
1089.0	35.3	35.0	150	8.8	1.47	2.95	25399	155.13	343.20	8.4	16.4
1090.0	34.0	35.0	150	8.8	1.48	2.98	25664	161.21	341.88	8.4	16.4
1091.0	32.4	35.0	150	8.8	1.50	3.01	25942	168.81	340.63	8.4	16.4
1092.0	29.5	35.0	150	8.8	1.53	3.04	26247	185.54	339.51	8.4	16.4
1093.0	32.4	35.0	150	8.8	1.50	3.07	26524	168.81	338.30	8.4	16.4
1094.0	32.7	35.0	150	8.8	1.49	3.10	26799	167.29	337.09	8.4	16.4
1095.0	26.1	35.0	150	8.8	1.57	3.14	27144	209.88	336.20	8.4	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1096.0	31.9	35.0	150	8.8	1.50	3.17	27427	171.85	335.05	8.4	16.4
1097.0	41.4	35.0	150	8.8	1.41	3.20	27644	132.31	333.65	8.4	16.4
1098.0	33.6	35.0	150	8.8	1.48	3.23	27912	162.73	332.47	8.4	16.4
1099.0	30.5	35.0	150	8.8	1.52	3.26	28207	179.46	331.43	8.4	16.4
1100.0	28.8	35.0	150	8.8	1.54	3.29	28519	190.10	330.47	8.4	16.4
1101.0	29.5	35.0	150	8.8	1.53	3.33	28824	185.54	329.49	8.4	16.5
1102.0	27.7	35.0	150	8.8	1.55	3.36	29149	197.71	328.61	8.4	16.5
1103.0	28.3	35.0	150	8.8	1.54	3.40	29467	193.15	327.71	8.4	16.5
1104.0	22.1	35.0	150	8.8	1.62	3.45	29874	247.90	327.18	8.4	16.5
1105.0	18.7	35.0	150	8.8	1.68	3.50	30357	293.52	326.96	8.4	16.5
1106.0	40.9	35.0	150	8.8	1.42	3.52	30577	133.83	325.70	8.4	16.5
1107.0	44.4	35.0	150	8.8	1.39	3.55	30779	123.19	324.39	8.4	16.5
1108.0	50.7	35.0	150	8.8	1.34	3.57	30957	107.98	323.00	8.4	16.5
1109.0	49.3	35.0	150	8.8	1.35	3.59	31139	111.02	321.64	8.4	16.5
1110.0	48.0	35.0	150	8.8	1.36	3.61	31327	114.06	320.32	8.4	16.5
1111.0	53.7	35.0	150	8.8	1.32	3.63	31494	101.90	318.94	8.4	16.5
1112.0	48.6	35.0	150	8.8	1.36	3.65	31679	112.54	317.65	8.4	16.5
1113.0	52.9	35.0	150	8.8	1.33	3.66	31849	103.42	316.31	8.4	16.5
1114.0	54.5	35.0	150	8.8	1.32	3.68	32014	100.38	314.97	8.4	16.5
1115.0	38.7	35.0	150	8.8	1.44	3.71	32247	141.44	313.91	8.4	16.5
1116.0	47.4	35.0	150	8.8	1.37	3.73	32437	115.58	312.69	8.4	16.5
1117.0	41.9	35.0	150	8.8	1.41	3.75	32652	130.79	311.59	8.4	16.5
1118.0	34.0	35.0	150	8.8	1.48	3.78	32917	161.21	310.68	8.4	16.5
1119.0	46.8	35.0	150	8.8	1.37	3.80	33109	117.10	309.51	8.4	16.5
1120.0	46.8	35.0	150	8.8	1.37	3.83	33302	117.10	308.36	8.4	16.5
1121.0	52.2	35.0	150	8.8	1.33	3.85	33474	104.94	307.16	8.4	16.5
1122.0	41.9	35.0	150	8.8	1.41	3.87	33689	130.79	306.11	8.4	16.5
1123.0	39.1	35.0	150	8.8	1.43	3.89	33919	139.92	305.14	8.4	16.5
1124.0	38.7	35.0	150	8.8	1.44	3.92	34152	141.44	304.18	8.4	16.5
1125.0	33.0	35.0	150	8.8	1.49	3.95	34424	165.77	303.38	8.4	16.5
1126.0	46.2	35.0	150	8.8	1.38	3.97	34619	118.63	302.32	8.4	16.5
1127.0	45.6	35.0	150	8.8	1.38	3.99	34817	120.15	301.27	8.4	16.5
1128.0	47.4	35.0	150	8.8	1.37	4.02	35007	115.58	300.21	8.4	16.5
1129.0	46.8	35.0	150	8.8	1.37	4.04	35199	117.10	299.17	8.4	16.5
1130.0	45.0	35.0	150	8.8	1.38	4.06	35399	121.67	298.17	8.4	16.5
1131.0	41.9	35.0	150	8.8	1.41	4.08	35614	130.79	297.24	8.4	16.5
1132.0	51.4	35.0	150	8.8	1.34	4.10	35789	106.46	296.17	8.4	16.5
1133.0	40.0	35.0	150	8.8	1.42	4.13	36014	136.88	295.29	8.4	16.5
1134.0	35.6	35.0	150	8.8	1.46	4.16	36267	153.60	294.51	8.4	16.5
1135.0	48.0	35.0	150	8.8	1.36	4.18	36454	114.06	293.52	8.4	16.5
1136.0	39.6	35.0	150	8.8	1.43	4.20	36682	138.40	292.67	8.4	16.5
1137.0	43.9	35.0	150	8.8	1.39	4.22	36887	124.71	291.76	8.4	16.5
1138.0	51.4	35.0	150	8.8	1.34	4.24	37062	106.46	290.76	8.4	16.5
1139.0	40.0	35.0	150	8.8	1.42	4.27	37287	136.88	289.94	8.4	16.5
1140.0	58.1	35.0	150	8.8	1.30	4.29	37442	94.29	288.89	8.4	16.5
1141.0	52.9	35.0	150	8.8	1.33	4.31	37612	103.42	287.91	8.4	16.5
1142.0	51.4	35.0	150	8.8	1.34	4.32	37787	106.46	286.95	8.4	16.5
1143.0	55.4	35.0	150	8.8	1.31	4.34	37949	98.85	285.96	8.4	16.5
1144.0	53.7	35.0	150	8.8	1.32	4.36	38117	101.90	285.00	8.4	16.5
1145.0	52.9	35.0	150	8.8	1.33	4.38	38287	103.42	284.06	8.4	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1146.0	54.5	35.0	150	8.8	1.32	4.40	38452	100.38	283.11	8.4	16.6
1147.0	51.4	35.0	150	8.8	1.34	4.42	38627	106.46	282.20	8.4	16.6
1148.0	55.4	35.0	150	8.8	1.31	4.44	38789	98.85	281.26	8.4	16.6
1149.0	57.1	35.0	150	8.8	1.30	4.45	38947	95.81	280.32	8.4	16.6
1150.0	57.1	35.0	150	8.8	1.30	4.47	39104	95.81	279.38	8.4	16.6
1151.0	52.9	35.0	150	8.8	1.33	4.49	39274	103.42	278.49	8.4	16.6
1152.0	49.3	35.0	150	8.8	1.35	4.51	39457	111.02	277.65	8.4	16.6
1153.0	44.1	35.0	150	8.8	1.39	4.53	39661	124.20	276.89	8.4	16.6
1154.0	45.6	35.0	150	8.8	1.38	4.55	39859	120.15	276.11	8.4	16.6
1155.0	46.8	35.0	150	8.8	1.37	4.58	40051	117.10	275.33	8.4	16.6
1156.0	48.0	35.0	150	8.8	1.36	4.60	40239	114.06	274.53	8.4	16.6
1157.0	49.3	35.0	150	8.8	1.35	4.62	40421	111.02	273.73	8.4	16.6
1158.0	55.4	35.0	150	8.8	1.31	4.64	40584	98.85	272.88	8.4	16.6
1159.0	48.0	35.0	150	8.8	1.36	4.66	40771	114.06	272.11	8.4	16.6
1160.0	50.7	35.0	150	8.8	1.34	4.68	40949	107.98	271.32	8.4	16.6
1161.0	28.3	35.0	150	8.8	1.54	4.71	41266	193.15	270.95	8.4	16.6
1162.0	36.0	35.0	150	8.8	1.46	4.74	41516	152.08	270.38	8.4	16.6
1163.0	49.3	35.0	150	8.8	1.35	4.76	41699	111.02	269.62	8.4	16.6
1164.0	53.7	35.0	150	8.8	1.32	4.78	41866	101.90	268.83	8.4	16.6
1165.0	52.2	35.0	150	8.8	1.33	4.80	42039	104.94	268.06	8.4	16.6
1166.0	55.4	35.0	150	8.8	1.31	4.82	42201	98.85	267.26	8.4	16.6
1167.0	39.6	35.0	150	8.8	1.43	4.84	42429	138.40	266.66	8.4	16.6
1168.0	55.4	35.0	150	8.8	1.31	4.86	42591	98.85	265.88	8.4	16.6
1169.0	46.8	35.0	150	8.8	1.37	4.88	42784	117.10	265.19	8.4	16.6
1170.0	43.9	35.0	150	8.8	1.39	4.90	42989	124.71	264.55	8.4	16.6
1171.0	42.4	35.0	150	8.8	1.41	4.93	43201	129.27	263.93	8.4	16.6
1172.0	43.9	35.0	150	8.8	1.39	4.95	43406	124.71	263.29	8.4	16.6
1173.0	45.0	35.0	150	8.8	1.38	4.97	43606	121.67	262.65	8.4	16.6
1174.0	51.4	35.0	150	8.8	1.34	4.99	43781	106.46	261.95	8.4	16.6
1175.0	52.9	35.0	150	8.8	1.33	5.01	43951	103.42	261.23	8.4	16.6
1176.0	48.0	35.0	150	8.8	1.36	5.03	44139	114.06	260.57	8.4	16.6
1177.0	55.4	35.0	150	8.8	1.31	5.05	44301	98.85	259.85	8.4	16.6
1178.0	25.7	35.0	150	8.8	1.57	5.09	44651	212.92	259.65	8.4	16.6
1179.0	24.7	35.0	150	8.8	1.59	5.13	45016	222.04	259.48	8.4	16.6
1180.0	20.1	35.0	150	8.8	1.66	5.18	45464	272.23	259.54	8.4	16.6
1181.0	17.7	30.0	150	8.8	1.62	5.23	45972	309.24	259.75	8.4	16.6
1182.0	31.3	35.0	150	8.8	1.51	5.27	46259	174.90	259.38	8.4	16.6
1183.0	47.4	35.0	150	8.8	1.37	5.29	46449	115.58	258.76	8.4	16.6
1184.0	48.6	35.0	150	8.8	1.36	5.31	46634	112.54	258.13	8.4	16.6
1185.0	44.4	35.0	150	8.8	1.39	5.33	46837	123.19	257.55	8.4	16.6
1186.0	37.1	35.0	150	8.8	1.45	5.36	47079	147.52	257.08	8.4	16.6
1187.0	55.4	35.0	150	8.8	1.31	5.38	47242	98.85	256.40	8.4	16.6
1188.0	48.6	35.0	150	8.8	1.36	5.40	47427	112.54	255.79	8.4	16.6
1189.0	51.4	35.0	150	8.8	1.34	5.42	47602	106.46	255.16	8.4	16.6
1190.0	43.9	35.0	150	8.8	1.39	5.44	47807	124.71	254.61	8.4	16.7
1191.0	46.2	35.0	150	8.7	1.39	5.46	48002	118.63	254.04	8.4	16.7
1192.0	57.1	35.0	150	8.7	1.32	5.48	48159	95.81	253.38	8.4	16.7
1193.0	43.4	35.0	150	8.7	1.41	5.50	48367	126.23	252.85	8.4	16.7
1194.0	38.7	35.0	150	8.7	1.45	5.53	48599	141.44	252.39	8.4	16.7
1195.0	47.4	35.0	150	8.7	1.38	5.55	48789	115.58	251.82	8.4	16.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1196.0	55.4	35.0	150	8.7	1.33	5.57	48952	98.85	251.19	8.4	16.7
1197.0	53.7	35.0	150	8.7	1.34	5.58	49119	101.90	250.58	8.4	16.7
1198.0	50.7	37.0	150	8.7	1.38	5.60	49297	107.98	250.00	8.4	16.7
1199.0	50.7	37.0	150	8.7	1.38	5.62	49474	107.98	249.43	8.4	16.7
1200.0	50.7	37.0	150	8.7	1.38	5.64	49652	107.98	248.85	8.4	16.7
1201.0	46.2	37.0	150	8.7	1.42	5.66	49847	118.63	248.33	8.4	16.7
1202.0	46.2	37.0	150	8.7	1.42	5.69	50042	118.63	247.81	8.4	16.7
1203.0	48.0	35.0	150	8.7	1.38	5.71	50229	114.06	247.28	8.4	16.7
1204.0	48.0	35.0	150	8.7	1.38	5.73	50417	114.06	246.75	8.4	16.7
1205.0	46.2	35.0	150	8.7	1.39	5.75	50612	118.63	246.24	8.4	16.7
1206.0	44.4	35.0	150	8.7	1.40	5.77	50814	123.19	245.75	8.4	16.7
1207.0	48.0	35.0	150	8.8	1.36	5.79	51002	114.06	245.23	8.4	16.7
1208.0	48.6	35.0	150	8.8	1.36	5.81	51187	112.54	244.71	8.4	16.7
1209.0	40.9	35.0	150	8.8	1.42	5.84	51407	133.83	244.28	8.4	16.7
1210.0	37.9	35.0	150	8.8	1.44	5.86	51644	144.48	243.89	8.4	16.7
1211.0	50.7	35.0	150	8.8	1.34	5.88	51822	107.98	243.37	8.4	16.7
1212.0	59.0	35.0	150	8.8	1.29	5.90	51974	92.77	242.79	8.4	16.7
1213.0	57.1	35.0	150	8.8	1.30	5.92	52132	95.81	242.22	8.4	16.7
1214.0	60.0	35.0	150	8.8	1.29	5.94	52282	91.25	241.65	8.4	16.7
1215.0	45.6	35.0	150	8.8	1.38	5.96	52479	120.15	241.18	8.4	16.7
1216.0	51.4	35.0	150	8.8	1.34	5.98	52654	106.46	240.67	8.4	16.7
1217.0	54.5	35.0	150	8.8	1.32	5.99	52819	100.38	240.14	8.4	16.7
1218.0	55.4	35.0	150	8.8	1.31	6.01	52982	98.85	239.61	8.4	16.7
1219.0	41.1	35.0	150	8.8	1.41	6.04	53201	133.07	239.21	8.4	16.7
1220.0	47.4	35.0	150	8.8	1.37	6.06	53391	115.58	238.75	8.4	16.7
1221.0	58.1	38.0	150	8.8	1.33	6.08	53546	94.29	238.21	8.4	16.7
1222.0	54.5	38.0	150	8.8	1.35	6.09	53711	100.38	237.70	8.4	16.7
1223.0	50.7	38.0	150	8.8	1.38	6.11	53888	107.98	237.22	8.4	16.7
1224.0	52.2	38.0	150	8.8	1.37	6.13	54061	104.94	236.73	8.4	16.7
1225.0	59.0	38.0	150	8.8	1.33	6.15	54213	92.77	236.20	8.4	16.7
1226.0	48.0	38.0	150	8.8	1.40	6.17	54401	114.06	235.75	8.4	16.7
1227.0	59.0	38.0	150	8.8	1.33	6.19	54553	92.77	235.23	8.4	16.7
1228.0	52.9	38.0	150	8.8	1.36	6.21	54723	103.42	234.75	8.4	16.7
1229.0	25.7	38.0	150	9.0	1.58	6.25	55073	212.92	234.68	8.4	16.7
1230.0	28.3	38.0	150	9.0	1.54	6.28	55391	193.15	234.53	8.4	16.7
1231.0	37.5	38.0	150	9.0	1.45	6.31	55631	146.00	234.21	8.4	16.7
1232.0	38.3	38.0	150	9.0	1.44	6.33	55866	142.96	233.88	8.4	16.7
1233.0	40.9	38.0	150	9.0	1.42	6.36	56086	133.83	233.52	8.4	16.7
1234.0	36.4	38.0	150	9.0	1.46	6.39	56333	150.56	233.23	8.4	16.7
1235.0	38.7	38.0	150	9.0	1.44	6.41	56566	141.44	232.90	8.4	16.7
1236.0	37.1	38.0	150	9.0	1.45	6.44	56808	147.52	232.60	8.4	16.7
1237.0	26.5	38.0	150	9.0	1.57	6.48	57148	206.83	232.51	8.4	16.8
1238.0	40.0	38.0	150	8.9	1.44	6.50	57373	136.88	232.18	8.4	16.8
1239.0	41.4	38.0	150	8.9	1.43	6.53	57591	132.31	231.83	8.4	16.8
1240.0	51.4	38.0	150	8.9	1.36	6.54	57766	106.46	231.39	8.4	16.8
1241.0	48.6	38.0	150	8.9	1.38	6.57	57951	112.54	230.98	8.4	16.8
1242.0	47.4	38.0	150	8.9	1.39	6.59	58141	115.58	230.58	8.4	16.8
1243.0	47.4	38.0	150	8.9	1.39	6.61	58331	115.58	230.19	8.4	16.8
1244.0	45.6	38.0	150	8.9	1.40	6.63	58528	120.15	229.81	8.4	16.8
1245.0	45.0	38.0	150	8.9	1.40	6.65	58728	121.67	229.44	8.4	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1246.0	44.4	38.0	150	8.9	1.41	6.67	58931	123.19	229.08	8.4	16.8
1247.0	39.1	38.0	150	8.8	1.47	6.70	59161	139.92	228.77	8.4	16.8
1248.0	30.3	38.0	150	8.8	1.56	6.73	59458	180.98	228.61	8.4	16.8
1249.0	39.1	38.0	150	8.8	1.47	6.76	59688	139.92	228.31	8.4	16.8
1250.0	31.9	38.0	150	8.8	1.54	6.79	59971	171.85	228.12	8.4	16.8
1251.0	29.8	38.0	150	8.8	1.56	6.82	60273	184.02	227.97	8.4	16.8
1252.0	31.3	38.0	150	8.8	1.54	6.86	60561	174.90	227.80	8.4	16.8
1253.0	40.4	38.0	150	8.8	1.46	6.88	60783	135.35	227.49	8.4	16.8
1254.0	30.3	38.0	150	8.8	1.56	6.91	61081	180.98	227.34	8.4	16.8
1255.0	37.9	38.0	150	8.8	1.48	6.94	61318	144.48	227.06	8.4	16.8
1256.0	31.6	38.0	150	8.8	1.54	6.97	61603	173.38	226.88	8.4	16.8
1257.0	36.4	38.0	150	8.8	1.49	7.00	61851	150.56	226.63	8.4	16.8
1258.0	40.0	38.0	150	8.8	1.46	7.02	62076	136.88	226.34	8.4	16.8
1259.0	45.0	38.0	150	8.8	1.42	7.05	62276	121.67	226.00	8.4	16.8
1260.0	40.9	38.0	150	8.8	1.45	7.07	62496	133.83	225.70	8.4	16.8
1261.0	43.4	38.0	150	8.8	1.43	7.09	62703	126.23	225.38	8.4	16.8
1262.0	28.3	38.0	150	8.8	1.58	7.13	63021	193.15	225.27	8.4	16.8
1263.0	37.5	38.0	150	8.8	1.48	7.16	63261	146.00	225.02	8.4	16.8
1264.0	32.7	38.0	150	8.8	1.53	7.19	63536	167.29	224.83	8.4	16.8
1265.0	36.4	38.0	150	8.8	1.49	7.21	63783	150.56	224.59	8.4	16.8
1266.0	33.6	38.0	150	8.8	1.52	7.24	64051	162.73	224.40	8.4	16.8
1267.0	26.7	38.0	150	8.8	1.60	7.28	64388	205.31	224.33	8.4	16.8
1268.0	36.7	38.0	150	8.8	1.49	7.31	64633	149.04	224.10	8.4	16.8
1269.0	42.9	38.0	150	8.8	1.44	7.33	64843	127.75	223.79	8.4	16.8
1270.0	39.1	38.0	150	8.8	1.47	7.36	65073	139.92	223.53	8.4	16.8
1271.0	36.7	38.0	150	8.9	1.47	7.38	65318	149.04	223.29	8.4	16.8
1272.0	35.3	38.0	150	8.9	1.49	7.41	65573	155.13	223.08	8.4	16.8
1273.0	37.1	38.0	150	8.9	1.47	7.44	65816	147.52	222.84	8.4	16.8
1274.0	31.6	38.0	150	8.9	1.52	7.47	66101	173.38	222.69	8.4	16.8
1275.0	31.0	38.0	150	8.9	1.53	7.50	66391	176.42	222.55	8.4	16.8
1276.0	39.6	38.0	150	8.9	1.45	7.53	66618	138.40	222.29	8.4	16.8
1277.0	36.7	38.0	150	8.9	1.47	7.56	66863	149.04	222.06	8.4	16.8
1278.0	36.0	38.0	150	8.9	1.48	7.58	67113	152.08	221.85	8.4	16.8
1279.0	49.3	38.0	150	8.9	1.37	7.60	67296	111.02	221.51	8.4	16.8
1280.0	44.4	38.0	150	8.9	1.41	7.63	67498	123.19	221.21	8.4	16.8
1281.0	55.4	38.0	150	8.9	1.33	7.64	67661	98.85	220.83	8.4	16.8
1282.0	53.7	38.0	150	8.9	1.34	7.66	67828	101.90	220.47	8.4	16.8
1283.0	53.7	38.0	150	8.9	1.34	7.68	67996	101.90	220.11	8.4	16.8
1284.0	53.7	38.0	150	8.9	1.34	7.70	68163	101.90	219.76	8.4	16.9
1285.0	46.8	38.0	150	8.9	1.39	7.72	68356	117.10	219.45	8.4	16.9
1286.0	60.0	38.0	150	8.9	1.31	7.74	68506	91.25	219.06	8.4	16.9
1287.0	50.0	38.0	150	8.9	1.37	7.76	68686	109.50	218.74	8.4	16.9
1288.0	39.1	38.0	150	8.9	1.45	7.78	68916	139.92	218.50	8.4	16.9
1289.0	42.9	38.0	150	8.9	1.42	7.81	69126	127.75	218.23	8.4	16.9
1290.0	42.4	38.0	150	8.9	1.42	7.83	69338	129.27	217.97	8.4	16.9
1291.0	46.8	38.0	150	8.9	1.39	7.85	69531	117.10	217.67	8.4	16.9
1292.0	43.9	38.0	150	8.9	1.41	7.87	69736	124.71	217.40	8.4	16.9
1293.0	40.4	38.0	150	8.9	1.44	7.90	69958	135.35	217.15	8.4	16.9
1294.0	41.9	38.0	150	8.9	1.43	7.92	70173	130.79	216.90	8.4	16.9
1295.0	41.4	38.0	150	8.9	1.43	7.95	70391	132.31	216.65	8.4	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1296.0	37.1	38.0	150	8.9	1.47	7.97	70633	147.52	216.45	8.4	16.9
1297.0	39.6	38.0	150	8.9	1.45	8.00	70861	138.40	216.23	8.4	16.9
1298.0	37.9	38.0	150	8.9	1.46	8.03	71098	144.48	216.02	8.4	16.9
1299.0	32.7	38.0	150	8.9	1.51	8.06	71373	167.29	215.88	8.4	16.9
1300.0	23.7	38.0	150	8.9	1.62	8.10	71753	231.17	215.92	8.4	16.9
1301.0	38.7	38.0	150	8.9	1.45	8.12	71986	141.44	215.71	8.4	16.9
1302.0	28.8	38.0	150	8.9	1.56	8.16	72298	190.10	215.63	8.4	16.9
1303.0	37.5	38.0	150	8.9	1.47	8.19	72538	146.00	215.44	8.4	16.9
1304.0	35.6	38.0	150	8.9	1.48	8.21	72791	153.60	215.26	8.4	16.9
1305.0	31.0	38.0	150	8.9	1.53	8.25	73081	176.42	215.15	8.4	16.9
1306.0	42.9	38.0	150	8.9	1.42	8.27	73291	127.75	214.90	8.4	16.9
1307.0	48.6	38.0	150	8.9	1.38	8.29	73476	112.54	214.61	8.4	16.9
1308.0	40.4	38.0	150	8.9	1.44	8.31	73698	135.35	214.39	8.4	16.9
1309.0	39.6	38.0	150	8.9	1.45	8.34	73926	138.40	214.18	8.4	16.9
1310.0	32.1	38.0	150	8.9	1.52	8.37	74206	170.33	214.05	8.4	16.9
1311.0	35.6	38.0	150	8.9	1.48	8.40	74458	153.60	213.89	8.4	16.9
1312.0	30.3	38.0	150	8.9	1.54	8.43	74756	180.98	213.79	8.4	16.9
1313.0	34.0	38.0	150	8.9	1.50	8.46	75021	161.21	213.65	8.4	16.9
1314.0	36.0	38.0	150	8.9	1.48	8.49	75271	152.08	213.48	8.4	16.9
1315.0	34.6	38.0	150	8.9	1.49	8.52	75531	158.17	213.33	8.4	16.9
1316.0	40.4	38.0	150	8.9	1.44	8.54	75753	135.35	213.11	8.4	16.9
1317.0	40.9	38.0	150	8.9	1.44	8.57	75973	133.83	212.89	8.4	16.9
1318.0	41.4	38.0	150	8.9	1.43	8.59	76191	132.31	212.67	8.4	16.9
1319.0	34.6	38.0	150	8.9	1.49	8.62	76451	158.17	212.52	8.4	16.9
1320.0	40.4	38.0	150	8.9	1.44	8.65	76673	135.35	212.31	8.4	16.9
1321.0	43.9	38.0	150	8.9	1.41	8.67	76878	124.71	212.08	8.4	16.9
1322.0	31.6	38.0	150	8.9	1.52	8.70	77163	173.38	211.97	8.4	16.9
1323.0	33.0	38.0	150	8.9	1.51	8.73	77436	165.77	211.85	8.4	16.9
1324.0	35.3	38.0	150	8.9	1.49	8.76	77691	155.13	211.69	8.4	16.9
1325.0	37.5	38.0	150	8.9	1.47	8.79	77931	146.00	211.52	8.4	16.9
1326.0	38.3	38.0	150	8.9	1.46	8.81	78166	142.96	211.33	8.4	16.9
1327.0	37.5	38.0	150	8.9	1.47	8.84	78406	146.00	211.16	8.4	16.9
1328.0	38.3	38.0	150	8.9	1.46	8.86	78641	142.96	210.98	8.4	16.9
1329.0	36.0	38.0	150	8.9	1.48	8.89	78891	152.08	210.82	8.4	16.9
1330.0	36.4	38.0	150	8.9	1.48	8.92	79138	150.56	210.66	8.4	16.9
1331.0	34.6	38.0	150	8.9	1.49	8.95	79398	158.17	210.52	8.4	16.9
1332.0	30.3	38.0	150	8.9	1.54	8.98	79696	180.98	210.45	8.4	16.9
1333.0	36.0	38.0	150	8.9	1.48	9.01	79946	152.08	210.29	8.4	16.9
1334.0	52.9	38.0	150	8.9	1.35	9.03	80116	103.42	210.01	8.4	17.0
1335.0	45.6	38.0	150	8.9	1.40	9.05	80313	120.15	209.78	8.4	17.0
1336.0	51.4	38.0	150	8.9	1.36	9.07	80488	106.46	209.51	8.4	17.0
1337.0	57.1	38.0	150	8.9	1.32	9.09	80646	95.81	209.21	8.4	17.0
1338.0	50.7	38.0	150	8.9	1.36	9.11	80823	107.98	208.95	8.4	17.0
1339.0	45.6	38.0	150	8.9	1.40	9.13	81021	120.15	208.72	8.4	17.0
1340.0	36.0	38.0	150	8.9	1.48	9.16	81271	152.08	208.57	8.4	17.0
1341.0	37.5	38.0	150	8.9	1.47	9.18	81511	146.00	208.41	8.4	17.0
1342.0	33.6	38.0	150	8.9	1.50	9.21	81778	162.73	208.29	8.4	17.0
1343.0	47.4	38.0	150	8.9	1.39	9.23	81968	115.58	208.06	8.4	17.0
1344.0	40.0	38.0	150	8.9	1.44	9.26	82193	136.88	207.88	8.4	17.0
1345.0	46.2	38.0	150	8.9	1.39	9.28	82388	118.63	207.65	8.4	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1346.0	42.4	38.0	150	8.9	1.42	9.30	82601	129.27	207.45	8.4	17.0
1347.0	39.1	38.0	150	8.9	1.45	9.33	82831	139.92	207.28	8.4	17.0
1348.0	44.4	38.0	150	8.9	1.41	9.35	83033	123.19	207.06	8.4	17.0
1349.0	36.0	38.0	150	8.9	1.48	9.38	83283	152.08	206.93	8.4	17.0
1350.0	30.5	38.0	150	8.9	1.54	9.41	83578	179.46	206.86	8.4	17.0
1351.0	28.3	38.0	150	8.9	1.56	9.45	83896	193.15	206.82	8.4	17.0
1352.0	32.7	38.0	150	8.9	1.51	9.48	84171	167.29	206.72	8.4	17.0
1353.0	27.7	38.0	150	8.9	1.57	9.51	84496	197.71	206.70	8.4	17.0
1354.0	28.8	38.0	150	8.9	1.56	9.55	84808	190.10	206.66	8.4	17.0
1355.0	29.3	38.0	150	8.9	1.55	9.58	85116	187.06	206.61	8.4	17.0
1356.0	31.3	38.0	150	8.9	1.53	9.62	85403	174.90	206.53	8.4	17.0
1357.0	34.3	38.0	150	8.9	1.50	9.64	85666	159.69	206.42	8.4	17.0
1358.0	43.4	38.0	150	8.9	1.42	9.67	85873	126.23	206.22	8.4	17.0
1359.0	42.4	38.0	150	8.9	1.42	9.69	86086	129.27	206.03	8.4	17.0
1360.0	32.7	38.0	150	8.9	1.51	9.72	86361	167.29	205.93	8.4	17.0
1361.0	36.7	38.0	150	8.9	1.47	9.75	86606	149.04	205.79	8.4	17.0
1362.0	35.6	38.0	150	8.9	1.48	9.78	86858	153.60	205.67	8.4	17.0
1363.0	35.6	38.0	150	8.9	1.48	9.81	87111	153.60	205.54	8.4	17.0
1364.0	39.1	38.0	150	8.9	1.45	9.83	87341	139.92	205.38	8.4	17.0
1365.0	35.0	38.0	150	8.9	1.49	9.86	87598	156.65	205.26	8.4	17.0
1366.0	35.3	38.0	150	8.9	1.49	9.89	87853	155.13	205.14	8.4	17.0
1367.0	36.7	38.0	150	8.9	1.47	9.91	88098	149.04	205.01	8.4	17.0
1368.0	37.5	38.0	150	8.9	1.47	9.94	88338	146.00	204.86	8.4	17.0
1369.0	23.5	38.0	150	8.9	1.62	9.98	88721	232.69	204.93	8.4	17.0
1370.0	36.7	38.0	150	8.9	1.47	10.01	88966	149.04	204.80	8.4	17.0
1371.0	35.3	38.0	150	8.9	1.49	10.04	89221	155.13	204.68	8.4	17.0
1372.0	25.0	38.0	150	8.9	1.60	10.08	89581	219.00	204.71	8.4	17.0
1373.0	35.0	37.0	150	8.9	1.48	10.11	89838	156.65	204.60	8.4	17.0
1374.0	34.6	37.0	150	8.9	1.48	10.14	90098	158.17	204.49	8.4	17.0
1375.0	30.0	37.0	150	8.9	1.53	10.17	90398	182.50	204.44	8.4	17.0
1376.0	32.1	37.0	150	8.9	1.51	10.20	90678	170.33	204.36	8.4	17.0
1377.0	24.0	37.0	150	8.9	1.61	10.24	91053	228.13	204.41	8.4	17.0
1378.0	20.6	37.0	150	8.9	1.66	10.29	91491	266.15	204.56	8.4	17.0
1379.0	19.9	37.0	150	8.9	1.67	10.34	91943	275.27	204.72	8.4	17.0
1380.0	14.9	37.0	150	8.9	1.77	10.41	92546	366.52	205.10	8.4	17.0
1381.0	23.2	37.0	150	8.9	1.62	10.45	92933	235.73	205.17	8.4	17.0
1382.0	27.1	37.0	150	8.9	1.56	10.49	93266	202.27	205.17	8.4	17.0
1383.0	23.1	37.0	150	8.9	1.62	10.53	93656	237.25	205.24	8.4	17.0
1384.0	27.3	37.0	150	8.9	1.56	10.57	93986	200.75	205.23	8.4	17.0
1385.0	26.3	37.0	150	8.9	1.57	10.61	94328	208.35	205.24	8.4	17.1
1386.0	28.1	37.0	150	8.9	1.55	10.64	94648	194.67	205.21	8.4	17.1
1387.0	29.3	34.0	150	8.9	1.50	10.68	94956	187.06	205.17	8.4	17.1
1388.0	13.5	34.0	150	8.9	1.76	10.75	95623	406.06	205.63	8.4	17.1
1389.0	28.1	34.0	150	8.9	1.51	10.79	95943	194.67	205.61	8.4	17.1
1390.0	31.0	34.0	150	8.9	1.48	10.82	96233	176.42	205.54	8.4	17.1
1391.0	23.7	34.0	150	8.9	1.57	10.86	96613	231.17	205.60	8.4	17.1
1392.0	27.7	34.0	150	8.9	1.52	10.90	96938	197.71	205.58	8.4	17.1
1393.0	30.8	34.0	150	8.9	1.48	10.93	97231	177.94	205.52	8.4	17.1
1394.0	29.8	34.0	150	8.9	1.49	10.96	97533	184.02	205.47	8.4	17.1
1395.0	27.5	34.0	150	8.9	1.52	11.00	97861	199.23	205.46	8.4	17.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1396.0	30.5	34.0	150	8.9	1.49	11.03	98156	179.46	205.40	8.4	17.1
1397.0	34.0	34.0	150	8.9	1.45	11.06	98421	161.21	205.30	8.4	17.1
1398.0	25.9	34.0	150	8.9	1.54	11.10	98768	211.40	205.31	8.4	17.1
1399.0	34.3	34.0	150	8.9	1.45	11.13	99031	159.69	205.21	8.4	17.1
1400.0	26.7	34.0	150	8.9	1.53	11.17	99368	205.31	205.21	8.4	17.1
1401.0	25.7	34.0	150	8.9	1.54	11.21	99718	212.92	205.23	8.4	17.1
1402.0	25.2	34.0	150	8.9	1.55	11.25	100076	217.48	205.25	8.4	17.1
1403.0	29.5	34.0	150	8.9	1.50	11.28	100381	185.54	205.21	8.4	17.1
1404.0	26.3	34.0	150	8.9	1.54	11.32	100723	208.35	205.22	8.4	17.1
1405.0	25.7	34.0	150	8.9	1.54	11.36	101073	212.92	205.23	8.4	17.1
1406.0	26.3	34.0	150	8.9	1.54	11.39	101416	208.35	205.24	8.4	17.1
1407.0	17.2	34.0	150	8.9	1.67	11.45	101938	317.85	205.49	8.4	17.1
1408.0	25.2	34.0	150	8.9	1.55	11.49	102296	217.48	205.51	8.4	17.1
1409.0	25.7	34.0	150	8.9	1.54	11.53	102646	212.92	205.53	8.4	17.1
1410.0	27.3	34.0	150	8.9	1.52	11.57	102976	200.75	205.52	8.4	17.1
1411.0	32.1	34.0	150	8.9	1.47	11.60	103256	170.33	205.44	8.4	17.1
1412.0	24.8	34.0	150	8.9	1.55	11.64	103618	220.52	205.48	8.4	17.1
1413.0	25.5	34.0	150	8.9	1.54	11.68	103971	214.44	205.50	8.4	17.1
1414.0	27.5	34.0	150	8.9	1.52	11.71	104298	199.23	205.48	8.4	17.1
1415.0	26.9	34.0	150	8.9	1.53	11.75	104633	203.79	205.48	8.4	17.1
1416.0	25.9	34.0	150	8.9	1.54	11.79	104981	211.40	205.49	8.4	17.1
1417.0	18.8	30.0	145	8.9	1.58	11.84	105442	290.48	205.67	8.4	17.1
1418.0	24.2	34.0	145	8.9	1.55	11.89	105802	226.60	205.72	8.4	17.1
1419.0	24.5	34.0	145	8.9	1.55	11.93	106158	223.56	205.76	8.4	17.1
1420.0	23.8	34.0	145	8.9	1.56	11.97	106522	229.65	205.81	8.4	17.1
1421.0	26.1	34.0	145	8.9	1.53	12.01	106856	209.88	205.82	8.4	17.1
1422.0	24.5	34.0	145	8.9	1.55	12.05	107211	223.56	205.86	8.4	17.1
1423.0	26.1	34.0	145	8.9	1.53	12.09	107545	209.88	205.86	8.4	17.1
1424.0	25.4	34.0	145	8.9	1.54	12.12	107888	215.96	205.89	8.4	17.1
1425.0	26.7	34.0	145	9.0	1.50	12.16	108214	205.31	205.88	8.4	17.1
1426.0	15.5	30.0	145	9.0	1.62	12.23	108777	354.35	206.20	8.4	17.1
1427.0	34.6	34.0	145	9.0	1.42	12.26	109029	158.17	206.10	8.4	17.1
1428.0	30.3	34.0	145	9.0	1.46	12.29	109316	180.98	206.04	8.4	17.1
1429.0	31.6	34.0	145	9.0	1.45	12.32	109592	173.38	205.97	8.4	17.1
1430.0	36.7	34.0	145	9.0	1.40	12.35	109828	149.04	205.86	8.4	17.1
1431.0	41.4	40.0	145	9.0	1.43	12.37	110039	132.31	205.70	8.4	17.1
1432.0	30.5	40.0	145	9.0	1.53	12.40	110324	179.46	205.65	8.4	17.1
1433.0	37.9	40.0	145	9.0	1.46	12.43	110553	144.48	205.52	8.4	17.1
1434.0	52.9	40.0	145	9.0	1.34	12.45	110718	103.42	205.31	8.4	17.1
1435.0	41.9	40.0	145	9.0	1.42	12.47	110926	130.79	205.15	8.4	17.1
1436.0	22.2	40.0	145	9.0	1.64	12.52	111317	246.38	205.24	8.4	17.1
1437.0	29.0	40.0	145	9.0	1.55	12.55	111617	188.58	205.20	8.4	17.2
1438.0	33.3	40.0	145	9.0	1.50	12.58	111878	164.25	205.12	8.4	17.2
1439.0	31.0	40.0	145	9.0	1.53	12.62	112158	176.42	205.06	8.4	17.2
1440.0	28.1	40.0	145	9.0	1.56	12.65	112467	194.67	205.04	8.4	17.2
1441.0	33.3	40.0	145	9.0	1.50	12.68	112728	164.25	204.96	8.4	17.2
1442.0	28.3	40.0	145	9.0	1.56	12.72	113035	193.15	204.93	8.4	17.2
1443.0	26.3	40.0	145	9.0	1.58	12.75	113366	208.35	204.94	8.4	17.2
1444.0	27.5	40.0	145	9.0	1.57	12.79	113683	199.23	204.93	8.4	17.2
1445.0	21.1	40.0	145	9.0	1.66	12.84	114096	260.06	205.04	8.4	17.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1446.0	26.1	40.0	145	9.0	1.59	12.88	114430	209.88	205.05	8.4	17.2
1447.0	19.0	34.0	145	9.0	1.61	12.93	114887	287.44	205.22	8.4	17.2
1448.0	18.8	40.0	145	9.0	1.70	12.98	115348	290.48	205.39	8.4	17.2
1449.0	17.3	40.0	145	9.0	1.73	13.04	115851	316.33	205.61	8.4	17.2
1450.0	18.8	40.0	145	9.0	1.70	13.09	116312	290.48	205.78	8.4	17.2
1451.0	18.4	40.0	145	9.0	1.71	13.15	116786	298.08	205.97	8.4	17.2
1452.0	15.8	40.0	145	9.0	1.76	13.21	117337	346.75	206.25	8.4	17.2
1453.0	15.7	40.0	145	9.0	1.76	13.27	117890	348.27	206.53	8.4	17.2
1454.0	17.4	40.0	145	9.0	1.72	13.33	118391	314.81	206.75	8.4	17.2
1455.0	13.5	40.0	145	9.0	1.81	13.41	119036	406.06	207.15	8.4	17.2
1456.0	18.9	40.0	145	9.0	1.69	13.46	119495	288.96	207.31	8.4	17.2
1457.0	17.1	40.0	145	9.0	1.73	13.52	120005	320.90	207.53	8.4	17.2
1458.0	21.2	40.0	145	9.0	1.66	13.56	120416	258.54	207.63	8.4	17.2
1459.0	19.0	40.0	145	9.0	1.69	13.62	120873	287.44	207.79	8.4	17.2
1460.0	21.3	40.0	145	9.0	1.65	13.66	121281	257.02	207.89	8.4	17.2
1461.0	23.2	40.0	145	9.0	1.62	13.71	121656	235.73	207.94	8.4	17.2
1462.0	20.6	40.0	145	9.0	1.67	13.76	122079	266.15	208.06	8.4	17.2
1463.0	22.8	40.0	145	9.0	1.63	13.80	122460	240.29	208.12	8.4	17.2
1464.0	21.8	40.0	145	9.0	1.65	13.85	122859	250.94	208.20	8.4	17.2
1465.0	19.5	40.0	145	9.0	1.69	13.90	123306	281.35	208.35	8.4	17.2
1466.0	23.4	40.0	145	9.0	1.62	13.94	123678	234.21	208.40	8.4	17.2
1467.0	26.3	40.0	145	9.0	1.58	13.98	124009	208.35	208.40	8.4	17.2
1468.0	19.7	40.0	145	9.0	1.68	14.03	124452	278.31	208.53	8.4	17.2
1469.0	22.8	40.0	145	9.0	1.63	14.07	124834	240.29	208.59	8.4	17.2
1470.0	21.2	40.0	145	9.0	1.66	14.12	125244	258.54	208.69	8.4	17.2
1471.0	26.3	40.0	145	9.0	1.58	14.16	125575	208.35	208.69	8.4	17.2
1472.0	22.6	40.0	145	9.0	1.63	14.20	125960	241.81	208.75	8.4	17.2
1473.0	18.5	40.0	145	9.0	1.70	14.26	126431	296.56	208.92	8.4	17.2
1474.0	19.7	40.0	145	9.0	1.68	14.31	126873	278.31	209.06	8.4	17.2
1475.0	18.1	40.0	145	9.0	1.71	14.36	127354	302.65	209.24	8.4	17.2
1476.0	16.9	40.0	145	9.0	1.73	14.42	127869	323.94	209.45	8.4	17.2
1477.0	17.0	40.0	145	9.0	1.73	14.48	128381	322.42	209.67	8.4	17.2
1478.0	17.2	40.0	145	9.0	1.73	14.54	128886	317.85	209.88	8.4	17.2
1479.0	13.6	40.0	145	9.0	1.81	14.61	129527	403.02	210.24	8.4	17.2
1480.0	13.8	40.0	145	9.0	1.80	14.68	130157	396.94	210.60	8.4	17.2
1481.0	15.3	40.0	145	9.0	1.77	14.75	130725	357.40	210.87	8.4	17.2
1482.0	11.8	40.0	145	9.0	1.86	14.83	131465	465.37	211.36	8.4	17.2
1483.0	14.9	40.0	145	9.0	1.78	14.90	132047	366.52	211.65	8.4	17.2
1484.0	17.9	40.0	145	9.0	1.71	14.96	132533	305.69	211.82	8.4	17.2
1485.0	18.3	40.0	145	9.0	1.71	15.01	133009	299.60	211.99	8.4	17.2
1486.0	18.6	40.0	145	9.0	1.70	15.07	133478	295.04	212.15	8.4	17.2
1487.0	16.2	40.0	145	9.0	1.75	15.13	134014	337.63	212.38	8.4	17.2
1488.0	13.5	40.0	145	9.0	1.81	15.20	134660	406.06	212.74	8.4	17.2
1489.0	12.9	40.0	145	9.0	1.83	15.28	135336	425.83	213.14	8.4	17.2
1490.0	11.7	40.0	145	9.0	1.86	15.37	136081	468.42	213.61	8.4	17.2
1491.0	6.9	40.0	145	9.0	2.04	15.51	137340	792.35	214.69	8.4	17.3
1492.0	9.9	40.0	145	9.0	1.92	15.61	138222	555.10	215.32	8.4	17.3
1493.0	9.0	35.0	145	9.0	1.87	15.72	139189	608.33	216.05	8.4	17.3
1493.8	4.0	35.0	145	9.0	2.14	15.92	140916	1359	218	8.4	17.3

BIT NUMBER	4	IADC CODE	114	INTERVAL	1493.8- 1690.6
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	5.6	BIT RUN	196.8
TOTAL HOURS	16.08	TOTAL TURNS	139197	CONDITION	T2 B2 G0.062

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1494.0	13.0	30.0	110	8.8	1.62	0.02	102	421	164726	8.4	17.3
1495.0	14.5	30.0	110	8.8	1.59	0.08	556	377	27769	8.4	17.3
1496.0	15.1	30.0	110	8.8	1.58	0.15	993	362	15311	8.4	17.3
1497.0	16.4	30.0	110	8.8	1.55	0.21	1394	333	10630	8.4	17.3
1498.0	16.7	30.0	110	8.8	1.54	0.27	1788	327	8177	8.4	17.3
1499.0	15.7	30.0	110	8.8	1.56	0.33	2210	350	6672	8.4	17.3
1500.0	17.3	30.0	110	8.8	1.53	0.39	2591	316	5647	8.4	17.3
1501.0	18.6	30.0	110	8.8	1.51	0.45	2947	295	4904	8.4	17.3
1502.0	19.0	30.0	110	8.9	1.49	0.50	3294	288	4341	8.4	17.3
1503.0	19.8	30.0	110	8.9	1.47	0.55	3627	276	3899	8.4	17.3
1504.0	14.7	30.0	110	8.9	1.57	0.62	4076	373	3553	8.4	17.3
1505.0	14.4	30.0	110	8.9	1.57	0.69	4535	380	3270	8.4	17.3
1506.0	14.6	30.0	110	8.9	1.57	0.76	4988	376	3033	8.4	17.3
1507.0	12.9	30.0	110	8.9	1.61	0.83	5497	423	2835	8.4	17.3
1508.0	14.2	30.0	110	8.9	1.58	0.90	5961	385	2662	8.4	17.3
1509.0	15.9	30.0	110	8.9	1.54	0.97	6377	345	2510	8.4	17.3
1510.0	13.4	30.0	110	8.9	1.60	1.04	6870	409	2380	8.4	17.3
1511.0	13.2	30.0	110	8.9	1.60	1.12	7369	414	2266	8.4	17.3
1512.0	11.5	30.0	110	8.9	1.64	1.20	7941	474	2168	8.4	17.3
1513.0	12.2	30.0	110	8.9	1.63	1.29	8484	450	2078	8.4	17.3
1514.0	11.0	30.0	110	8.9	1.66	1.38	9083	497	2000	8.4	17.3
1515.0	11.6	30.0	110	8.9	1.64	1.46	9653	473	1928	8.4	17.3
1516.0	18.8	35.0	150	8.9	1.66	1.52	10133	292	1854	8.4	17.3
1517.0	10.3	35.0	150	8.9	1.86	1.61	11008	532	1797	8.4	17.3
1518.0	9.5	35.0	150	8.9	1.89	1.72	11953	575	1747	8.4	17.3
1519.0	10.4	35.0	150	8.9	1.86	1.81	12818	526	1698	8.4	17.3
1520.0	10.2	35.0	150	8.9	1.86	1.91	13698	535	1654	8.4	17.3
1521.0	10.3	35.0	150	8.9	1.86	2.01	14573	532	1613	8.4	17.3
1522.0	11.6	35.0	150	8.9	1.82	2.10	15351	473	1572	8.4	17.3
1523.0	13.3	35.0	150	8.9	1.77	2.17	16026	411	1532	8.4	17.3
1524.0	12.9	35.0	150	8.9	1.79	2.25	16726	426	1496	8.4	17.3
1525.0	10.4	35.0	150	8.9	1.86	2.34	17591	526	1465	8.4	17.3
1526.0	10.3	35.0	150	8.9	1.86	2.44	18461	529	1436	8.4	17.3
1527.0	11.7	35.0	150	8.9	1.82	2.53	19228	467	1406	8.4	17.3
1528.0	10.9	35.0	150	8.9	1.84	2.62	20053	502	1380	8.4	17.3
1529.0	10.2	35.0	150	8.9	1.86	2.72	20936	537	1356	8.4	17.3
1530.0	11.7	35.0	150	8.9	1.82	2.80	21703	467	1331	8.4	17.3
1531.0	10.5	35.0	150	8.9	1.85	2.90	22558	520	1310	8.4	17.3
1532.0	11.4	38.0	150	8.9	1.87	2.98	23346	479	1288	8.4	17.3
1533.0	10.7	38.0	150	8.9	1.89	3.08	24186	511	1268	8.4	17.3
1534.0	11.4	38.0	150	8.9	1.87	3.17	24976	481	1249	8.4	17.3
1535.0	12.2	38.0	150	8.9	1.85	3.25	25713	449	1229	8.4	17.3
1536.0	12.5	38.0	150	8.9	1.84	3.33	26436	440	1210	8.4	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1537.0	14.5	38.0	150	8.9	1.79	3.40	27056	377	1191	8.4	17.3
1538.0	11.3	38.0	150	8.9	1.87	3.48	27851	484	1175	8.4	17.3
1539.0	11.6	38.0	150	8.9	1.87	3.57	28628	473	1160	8.4	17.3
1540.0	11.6	38.0	150	8.9	1.87	3.66	29406	473	1145	8.4	17.3
1541.0	8.5	38.0	150	8.9	1.97	3.78	30471	648	1134	8.4	17.3
1542.0	14.5	38.0	150	8.9	1.79	3.84	31093	379	1118	8.4	17.3
1543.0	16.2	38.0	150	8.9	1.75	3.91	31648	338	1103	8.4	17.3
1544.0	16.4	38.0	150	8.9	1.75	3.97	32196	333	1087	8.4	17.3
1545.0	20.1	38.0	150	8.9	1.68	4.02	32643	272	1071	8.4	17.3
1546.0	21.1	38.0	150	8.9	1.66	4.06	33071	260	1056	8.4	17.4
1547.0	17.8	40.0	150	8.9	1.75	4.12	33576	307	1042	8.4	17.4
1548.0	17.4	40.0	150	8.9	1.76	4.18	34093	315	1028	8.4	17.4
1549.0	17.4	40.0	150	8.9	1.76	4.24	34611	315	1015	8.4	17.4
1550.0	13.0	40.0	150	8.9	1.86	4.31	35301	420	1005	8.4	17.4
1551.0	14.5	40.0	150	8.9	1.82	4.38	35921	377.17	993.85	8.4	17.4
1552.0	14.7	40.0	150	8.9	1.81	4.45	36533	372.60	983.18	8.4	17.4
1553.0	11.8	40.0	150	8.9	1.89	4.53	37296	463.85	974.41	8.4	17.4
1554.0	13.7	40.0	150	8.9	1.84	4.61	37951	398.46	964.84	8.4	17.4
1555.0	14.6	40.0	150	8.9	1.82	4.68	38566	374.12	955.19	8.4	17.4
1556.0	13.3	40.0	150	8.9	1.85	4.75	39243	412.15	946.46	8.4	17.4
1557.0	14.5	40.0	150	8.9	1.82	4.82	39866	378.69	937.47	8.4	17.4
1558.0	11.4	40.0	150	8.9	1.90	4.91	40656	480.58	930.36	8.4	17.4
1559.0	13.4	40.0	150	8.9	1.84	4.98	41326	407.58	922.34	8.4	17.4
1560.0	10.3	40.0	150	8.9	1.94	5.08	42201	532.29	916.45	8.4	17.4
1561.0	11.9	40.0	150	8.9	1.89	5.16	42958	460.81	909.67	8.4	17.4
1562.0	11.7	40.0	150	8.9	1.89	5.25	43726	466.90	903.17	8.4	17.4
1563.0	10.7	40.0	150	8.9	1.92	5.34	44568	512.52	897.53	8.4	17.4
1564.0	10.4	40.0	150	8.9	1.93	5.44	45436	527.73	892.26	8.4	17.4
1565.0	9.9	40.0	150	8.9	1.95	5.54	46348	555.10	887.52	8.4	17.4
1566.0	13.4	40.0	150	8.9	1.85	5.61	47021	409.10	880.90	8.4	17.4
1567.0	18.7	40.0	150	8.9	1.73	5.67	47503	293.52	872.87	8.4	17.4
1568.0	13.3	40.0	150	8.9	1.85	5.74	48178	410.63	866.64	8.4	17.4
1569.0	13.7	40.0	150	8.9	1.84	5.82	48836	399.98	860.44	8.4	17.4
1570.0	14.7	40.0	150	8.9	1.81	5.88	49448	372.60	854.04	8.4	17.4
1571.0	15.3	40.0	150	8.9	1.80	5.95	50038	358.92	847.62	8.4	17.4
1572.0	16.0	40.0	150	8.9	1.78	6.01	50601	342.19	841.16	8.4	17.4
1573.0	14.5	40.0	150	8.9	1.82	6.08	51223	378.69	835.32	8.4	17.4
1574.0	14.8	40.0	150	8.9	1.81	6.15	51833	371.08	829.53	8.4	17.4
1575.0	13.7	40.0	150	8.9	1.84	6.22	52488	398.46	824.22	8.4	17.4
1576.0	12.9	40.0	150	8.9	1.86	6.30	53186	424.31	819.36	8.4	17.4
1577.0	16.1	40.0	150	8.9	1.78	6.36	53743	339.15	813.59	8.4	17.4
1578.0	11.3	40.0	150	8.9	1.90	6.45	54538	483.62	809.67	8.4	17.4
1579.0	10.7	40.0	150	8.9	1.92	6.54	55381	512.52	806.18	8.4	17.4
1580.0	13.3	40.0	150	8.9	1.85	6.62	56056	410.63	801.59	8.4	17.4
1581.0	14.3	40.0	150	8.9	1.82	6.69	56686	383.25	796.79	8.4	17.4
1582.0	12.9	40.0	150	8.9	1.86	6.77	57386	425.83	792.59	8.4	17.4
1583.0	13.4	40.0	150	8.9	1.85	6.84	58058	409.10	788.29	8.4	17.4
1584.0	13.4	40.0	150	8.9	1.85	6.92	58731	409.10	784.08	8.4	17.4
1585.0	10.9	40.0	150	8.9	1.92	7.01	59556	501.88	780.99	8.4	17.4
1586.0	12.6	40.0	150	8.9	1.87	7.09	60271	434.96	777.24	8.4	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1587.0	9.2	40.0	150	8.9	1.98	7.20	61246	593.13	775.26	8.4	17.4
1588.0	13.4	40.0	150	8.9	1.84	7.27	61916	407.58	771.36	8.4	17.4
1589.0	12.5	40.0	150	8.9	1.87	7.35	62638	439.52	767.87	8.4	17.4
1590.0	8.8	40.0	150	8.9	1.99	7.46	63658	620.50	766.34	8.4	17.4
1591.0	8.5	40.0	150	8.9	2.00	7.58	64721	646.35	765.11	8.4	17.4
1592.0	11.2	45.0	150	8.9	1.98	7.67	65526	489.71	762.30	8.4	17.4
1593.0	12.2	45.0	150	8.9	1.95	7.75	66263	448.65	759.14	8.4	17.4
1594.0	12.6	45.0	150	8.9	1.94	7.83	66978	434.96	755.91	8.4	17.4
1595.0	7.5	45.0	150	8.9	2.12	7.97	68178	730.00	755.65	8.4	17.4
1596.0	9.0	45.0	150	8.9	2.06	8.08	69173	605.29	754.18	8.4	17.4
1597.0	9.8	45.0	150	8.9	2.03	8.18	70091	558.15	752.28	8.4	17.4
1598.0	11.0	45.0	150	8.9	1.99	8.27	70908	497.31	749.83	8.4	17.4
1599.0	12.5	45.0	150	8.9	1.94	8.35	71631	439.52	746.88	8.4	17.4
1600.0	13.1	45.0	150	8.9	1.92	8.43	72318	418.23	743.79	8.4	17.4
1601.0	11.8	45.0	150	8.9	1.96	8.51	73081	463.85	741.18	8.4	17.4
1602.0	15.1	45.0	150	8.9	1.87	8.58	73676	361.96	737.67	8.4	17.4
1603.0	12.4	45.0	150	8.9	1.94	8.66	74401	441.04	734.95	8.4	17.4
1604.0	15.3	45.0	150	8.9	1.87	8.72	74991	358.92	731.54	8.4	17.5
1605.0	11.4	45.0	150	8.9	1.97	8.81	75781	480.58	729.29	8.4	17.5
1606.0	14.3	45.0	150	8.9	1.89	8.88	76408	381.73	726.19	8.4	17.5
1607.0	15.9	45.0	150	8.9	1.85	8.94	76976	345.23	722.82	8.4	17.5
1608.0	14.8	45.0	150	8.9	1.88	9.01	77583	369.56	719.73	8.4	17.5
1609.0	15.9	45.0	150	8.9	1.85	9.07	78148	343.71	716.47	8.4	17.5
1610.0	16.7	45.0	150	8.9	1.84	9.13	78688	328.50	713.13	8.4	17.5
1611.0	13.4	45.0	150	8.9	1.91	9.21	79358	407.58	710.52	8.4	17.5
1612.0	14.2	45.0	150	8.9	1.89	9.28	79991	384.77	707.76	8.4	17.5
1613.0	13.1	45.0	150	8.9	1.92	9.35	80676	416.71	705.32	8.4	17.5
1614.0	15.0	45.0	150	8.9	1.87	9.42	81276	365.00	702.49	8.4	17.5
1615.0	14.6	45.0	150	8.9	1.89	9.49	81893	375.65	699.79	8.4	17.5
1616.0	14.5	45.0	150	8.9	1.89	9.56	82516	378.69	697.17	8.4	17.5
1617.0	11.5	45.0	150	8.9	1.97	9.65	83296	474.50	695.36	8.4	17.5
1618.0	13.7	45.0	150	8.9	1.91	9.72	83953	399.98	692.98	8.4	17.5
1619.0	14.0	45.0	150	8.9	1.90	9.79	84598	392.38	690.58	8.4	17.5
1620.0	13.0	45.0	150	8.9	1.93	9.87	85288	419.75	688.43	8.4	17.5
1621.0	13.5	45.0	150	8.9	1.91	9.94	85953	404.54	686.20	8.4	17.5
1622.0	14.4	45.0	150	8.9	1.89	10.01	86578	380.21	683.81	8.4	17.5
1623.0	14.6	45.0	150	8.9	1.88	10.08	87193	374.12	681.42	8.4	17.5
1624.0	16.4	45.0	150	8.9	1.84	10.14	87741	333.06	678.74	8.4	17.5
1625.0	16.7	45.0	150	8.9	1.84	10.20	88278	326.98	676.06	8.4	17.5
1626.0	9.7	45.0	150	8.9	2.03	10.30	89203	562.71	675.20	8.4	17.5
1627.0	14.6	45.0	150	8.9	1.88	10.37	89818	374.12	672.94	8.4	17.5
1628.0	16.1	45.0	150	8.9	1.85	10.43	90376	339.15	670.46	8.4	17.5
1629.0	13.7	45.0	150	8.9	1.91	10.50	91031	398.46	668.44	8.4	17.5
1630.0	15.6	45.0	150	8.9	1.86	10.57	91608	351.31	666.12	8.4	17.5
1631.0	15.5	45.0	150	8.9	1.86	10.63	92188	352.83	663.83	8.4	17.5
1632.0	13.7	45.0	150	8.9	1.91	10.71	92843	398.46	661.91	8.4	17.5
1633.0	13.8	45.0	150	8.9	1.90	10.78	93493	395.42	660.00	8.4	17.5
1634.0	12.9	45.0	150	8.9	1.93	10.86	94191	424.31	658.32	8.4	17.5
1635.0	8.9	45.0	150	8.9	2.06	10.97	95203	615.94	658.02	8.4	17.5
1636.0	16.1	45.0	150	8.9	1.85	11.03	95763	340.67	655.78	8.4	17.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1637.0	20.7	45.0	150	8.9	1.76	11.08	96198	264.63	653.05	8.4	17.5
1638.0	22.5	45.0	150	8.9	1.73	11.12	96598	243.33	650.21	8.4	17.5
1639.0	17.8	45.0	150	8.9	1.81	11.18	97103	307.21	647.85	8.4	17.5
1640.0	16.0	45.0	150	8.9	1.85	11.24	97666	342.19	645.76	8.4	17.5
1641.0	13.6	45.0	150	8.9	1.91	11.32	98328	403.02	644.11	8.4	17.5
1642.0	13.0	45.0	150	8.9	1.93	11.39	99018	419.75	642.60	8.4	17.5
1643.0	13.0	45.0	150	8.9	1.93	11.47	99711	421.27	641.11	8.4	17.5
1644.0	12.0	45.0	150	8.9	1.96	11.55	100461	456.25	639.88	8.4	17.5
1645.0	13.4	45.0	150	8.9	1.91	11.63	101131	407.58	638.35	8.4	17.5
1646.0	10.3	45.0	150	8.9	2.01	11.72	102003	530.77	637.64	8.4	17.5
1647.0	13.0	45.0	150	8.9	1.93	11.80	102693	419.75	636.22	8.4	17.5
1648.0	13.9	45.0	150	8.9	1.90	11.87	103341	393.90	634.64	8.4	17.5
1649.0	14.0	45.0	150	8.9	1.90	11.94	103986	392.38	633.08	8.4	17.5
1650.0	13.0	45.0	150	8.9	1.93	12.02	104680	422.03	631.73	8.4	17.5
1651.0	15.5	45.0	150	8.9	1.86	12.09	105262	354.35	629.97	8.4	17.5
1652.0	12.3	45.0	150	8.9	1.95	12.17	105995	445.60	628.80	8.4	17.5
1653.0	11.9	45.0	150	8.9	1.96	12.25	106752	460.81	627.75	8.4	17.5
1654.0	10.9	45.0	150	8.9	1.99	12.34	107577	501.88	626.96	8.4	17.5
1655.0	11.9	45.0	150	8.9	1.96	12.43	108335	460.81	625.93	8.4	17.5
1656.0	10.2	45.0	150	8.9	2.01	12.53	109217	536.85	625.38	8.4	17.5
1657.0	9.3	45.0	150	8.9	2.05	12.63	110185	588.56	625.16	8.4	17.5
1658.0	9.8	45.0	150	9.1	1.98	12.73	111102	558.15	624.75	8.4	17.5
1659.0	9.1	45.0	140	9.1	1.99	12.84	112026	602.25	624.61	8.4	17.5
1660.0	10.8	45.0	140	9.1	1.93	12.94	112806	507.96	623.91	8.4	17.5
1661.0	9.9	45.0	140	9.1	1.96	13.04	113657	555.10	623.50	8.4	17.5
1662.0	10.4	45.0	140	9.1	1.94	13.14	114465	526.21	622.92	8.4	17.5
1663.0	9.8	45.0	140	9.1	1.96	13.24	115323	559.67	622.55	8.4	17.6
1664.0	7.8	45.0	140	9.1	2.04	13.37	116406	705.67	623.03	8.4	17.6
1665.0	11.3	45.0	140	9.1	1.91	13.45	117150	485.15	622.23	8.4	17.6
1666.0	12.6	45.0	140	9.1	1.87	13.53	117815	433.44	621.13	8.4	17.6
1667.0	9.3	45.0	140	9.1	1.98	13.64	118723	591.60	620.96	8.4	17.6
1668.0	10.2	45.0	140	9.1	1.94	13.74	119544	535.33	620.47	8.4	17.6
1669.0	10.1	45.0	140	9.1	1.95	13.84	120377	542.94	620.03	8.4	17.6
1670.0	12.1	45.0	140	9.1	1.89	13.92	121073	453.21	619.08	8.4	17.6
1671.0	10.8	45.0	140	9.1	1.92	14.01	121850	506.44	618.45	8.4	17.6
1672.0	9.4	45.0	140	9.1	1.98	14.12	122748	585.52	618.26	8.4	17.6
1673.0	15.2	45.0	140	9.0	1.82	14.19	123301	360.44	616.82	8.4	17.6
1674.0	9.8	45.0	140	9.0	1.98	14.29	124158	558.91	616.50	8.4	17.6
1675.0	10.5	45.0	140	9.0	1.96	14.38	124959	521.65	615.98	8.4	17.6
1676.0	7.4	45.0	140	9.0	2.08	14.52	126100	743.69	616.68	8.4	17.6
1677.0	10.5	45.0	140	9.0	1.96	14.62	126902	523.17	616.17	8.4	17.6
1678.0	8.3	45.0	140	9.0	2.04	14.74	127917	661.56	616.41	8.4	17.6
1679.0	9.6	45.0	140	9.0	1.99	14.84	128795	571.83	616.17	8.4	17.6
1680.0	9.8	45.0	140	9.0	1.98	14.94	129656	561.19	615.88	8.4	17.6
1681.0	8.4	45.0	140	9.0	2.04	15.06	130657	652.44	616.07	8.4	17.6
1682.0	8.0	45.0	140	9.0	2.05	15.19	131707	684.38	616.44	8.4	17.6
1683.0	11.7	45.0	140	9.0	1.92	15.27	132423	466.90	615.65	8.4	17.6
1684.0	9.5	45.0	140	9.0	1.99	15.38	133307	576.40	615.44	8.4	17.6
1685.0	12.0	45.0	140	9.0	1.91	15.46	134007	456.25	614.61	8.4	17.6
1686.0	11.7	45.0	140	9.0	1.92	15.55	134724	466.90	613.84	8.4	17.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1687.0	10.4	45.0	140	9.0	1.96	15.64	135529	524.69	613.38	8.4	17.6
1688.0	7.9	45.0	140	9.0	2.06	15.77	136597	696.54	613.81	8.4	17.6
1689.0	9.0	45.0	140	9.0	2.01	15.88	137531	608.33	613.78	8.4	17.6
1690.0	8.4	45.0	140	9.0	2.04	16.00	138534	653.96	613.98	8.4	17.6
1690.6	7.6	45.0	140	9.0	2.07	16.08	139197	720.39	614.31	8.4	17.6

BIT NUMBER	5	IADC CODE	4	INTERVAL	1690.6- 2044.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	24000.00	TRIP TIME	6.3	BIT RUN	353.4
TOTAL HOURS	22.25	TOTAL TURNS	178241	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1691.0	24.8	10.0	105	8.9	1.06	0.02	102	221	146452	8.4	17.6
1692.0	16.0	10.0	105	8.9	1.16	0.08	495	342	42088	8.4	17.6
1693.0	16.6	10.0	104	8.9	1.15	0.14	871	330	24689	8.4	17.6
1694.0	19.9	10.0	104	8.9	1.11	0.19	1185	275	17508	8.4	17.6
1695.0	16.4	15.0	105	8.9	1.27	0.25	1569	334	13605	8.4	17.6
1696.0	16.8	15.0	105	8.9	1.26	0.31	1944	326	11146	8.4	17.6
1697.0	16.8	15.0	105	8.9	1.26	0.37	2319	326	9455	8.4	17.6
1698.0	14.3	15.0	105	8.9	1.30	0.44	2760	383	8229	8.4	17.6
1699.0	12.6	15.0	105	8.9	1.34	0.52	3260	435	7301	8.4	17.6
1700.0	11.6	15.0	105	8.9	1.36	0.60	3803	472	6575	8.4	17.6
1701.0	12.7	20.0	105	8.9	1.43	0.68	4299	431	5984	8.4	17.6
1702.0	14.1	20.0	105	8.9	1.40	0.75	4746	388	5493	8.4	17.6
1703.0	17.4	20.0	105	8.9	1.34	0.81	5108	315	5076	8.4	17.6
1704.0	16.7	20.0	105	8.9	1.36	0.87	5485	328	4721	8.4	17.6
1705.0	17.1	20.0	100	8.9	1.33	0.93	5836	320	4416	8.4	17.6
1706.0	18.1	20.0	100	8.9	1.32	0.99	6167	302	4149	8.4	17.6
1707.0	18.2	20.0	100	8.9	1.32	1.04	6497	301	3914	8.4	17.6
1708.0	19.5	20.0	100	8.9	1.30	1.09	6805	281	3705	8.4	17.6
1709.0	18.0	20.0	100	8.9	1.32	1.15	7138	304	3520	8.4	17.6
1710.0	19.0	20.0	105	8.9	1.32	1.20	7469	288	3354	8.4	17.6
1711.0	21.8	20.0	100	8.9	1.27	1.25	7745	251	3202	8.4	17.6
1712.0	20.7	20.0	100	8.9	1.28	1.29	8035	264	3064	8.4	17.6
1713.0	19.4	20.0	120	8.9	1.35	1.35	8406	282	2940	8.4	17.6
1714.0	20.8	15.0	120	9.0	1.23	1.39	8752	263	2826	8.4	17.6
1715.0	18.6	15.0	120	9.0	1.26	1.45	9139	294	2722	8.4	17.6
1716.0	18.5	15.0	120	9.0	1.26	1.50	9528	296	2626	8.4	17.6
1717.0	17.3	15.0	120	9.0	1.28	1.56	9944	316	2539	8.4	17.6
1718.0	16.5	15.0	120	9.0	1.29	1.62	10381	332	2458	8.4	17.6
1719.0	14.2	15.0	120	9.0	1.33	1.69	10888	386	2385	8.4	17.6
1720.0	16.0	15.0	120	9.0	1.30	1.75	11338	342	2316	8.4	17.6
1721.0	13.3	15.0	120	9.0	1.34	1.83	11879	412	2253	8.4	17.6
1722.0	22.4	15.0	120	9.0	1.21	1.87	12201	244	2189	8.4	17.6
1723.0	21.8	15.0	120	9.0	1.21	1.92	12531	251	2130	8.4	17.6
1724.0	21.3	15.0	120	9.0	1.22	1.97	12869	257	2073	8.4	17.7
1725.0	22.8	15.0	120	9.0	1.20	2.01	13185	240	2020	8.4	17.7
1726.0	22.0	15.0	120	9.0	1.21	2.05	13512	249	1970	8.4	17.7
1727.0	21.6	15.0	120	9.0	1.22	2.10	13845	253	1923	8.4	17.7
1728.0	21.8	15.0	120	9.0	1.21	2.15	14175	251	1878	8.4	17.7
1729.0	21.3	15.0	120	9.0	1.22	2.19	14514	257	1836	8.4	17.7
1730.0	20.5	15.0	120	9.0	1.23	2.24	14865	267	1796	8.4	17.7
1731.0	24.0	15.0	120	9.0	1.19	2.28	15165	228	1757	8.4	17.7
1732.0	24.7	15.0	120	9.0	1.18	2.32	15456	222	1720	8.4	17.7
1733.0	23.1	15.0	120	9.0	1.20	2.37	15768	237	1685	8.4	17.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1734.0	21.1	15.0	120	9.0	1.22	2.42	16109	259	1652	8.4	17.7
1735.0	19.6	15.0	120	9.0	1.24	2.47	16476	279	1622	8.4	17.7
1736.0	21.4	15.0	120	9.0	1.22	2.51	16813	256	1591	8.4	17.7
1737.0	19.4	15.0	120	9.0	1.24	2.56	17184	282	1563	8.4	17.7
1738.0	18.0	15.0	120	9.0	1.26	2.62	17584	304	1537	8.4	17.7
1739.0	18.9	15.0	120	9.0	1.25	2.67	17965	290	1511	8.4	17.7
1740.0	17.8	15.0	120	9.0	1.27	2.73	18370	308	1487	8.4	17.7
1741.0	23.1	15.0	120	9.0	1.20	2.77	18681	237	1462	8.4	17.7
1742.0	22.9	15.0	120	9.0	1.20	2.82	18996	239	1438	8.4	17.7
1743.0	25.0	15.0	120	9.0	1.18	2.86	19284	219	1415	8.4	17.7
1744.0	22.8	15.0	120	9.0	1.20	2.90	19599	240	1393	8.4	17.7
1745.0	22.0	15.0	120	9.0	1.21	2.95	19927	249	1372	8.4	17.7
1746.0	24.8	15.0	120	9.0	1.18	2.99	20217	221	1351	8.4	17.7
1747.0	22.8	15.0	120	9.0	1.20	3.03	20533	240	1331	8.4	17.7
1748.0	22.8	15.0	120	9.0	1.20	3.07	20849	240	1312	8.4	17.7
1749.0	16.7	15.0	120	9.0	1.28	3.13	21280	328	1295	8.4	17.7
1750.0	14.8	15.0	120	9.0	1.32	3.20	21766	370	1280	8.4	17.7
1751.0	19.7	15.0	120	9.0	1.24	3.25	22132	278	1263	8.4	17.7
1752.0	24.8	15.0	120	9.0	1.18	3.29	22422	221	1246	8.4	17.7
1753.0	24.8	15.0	120	9.0	1.18	3.33	22712	221	1230	8.4	17.7
1754.0	25.4	15.0	120	8.9	1.19	3.37	22996	216	1214	8.4	17.7
1755.0	22.8	15.0	120	8.9	1.22	3.42	23312	240	1199	8.4	17.7
1756.0	23.2	15.0	120	8.9	1.21	3.46	23622	236	1184	8.4	17.7
1757.0	24.0	15.0	120	8.9	1.20	3.50	23922	228	1170	8.4	17.7
1758.0	22.8	15.0	120	8.9	1.22	3.54	24238	240	1156	8.4	17.7
1759.0	22.8	15.0	120	8.9	1.22	3.59	24554	240	1142	8.4	17.7
1760.0	22.8	15.0	120	8.9	1.22	3.63	24869	240	1129	8.4	17.7
1761.0	24.2	15.0	120	8.9	1.20	3.67	25167	226	1117	8.4	17.7
1762.0	27.5	15.0	120	8.9	1.17	3.71	25429	199	1104	8.4	17.7
1763.0	23.4	15.0	120	8.9	1.21	3.75	25736	234	1092	8.4	17.7
1764.0	24.8	15.0	120	8.9	1.19	3.79	26027	221	1080	8.4	17.7
1765.0	24.3	15.0	120	8.9	1.20	3.83	26323	225	1068	8.4	17.7
1766.0	25.9	15.0	120	8.9	1.18	3.87	26601	211	1057	8.4	17.7
1767.0	25.4	15.0	120	8.9	1.19	3.91	26884	216	1046	8.4	17.7
1768.0	25.4	15.0	120	8.9	1.19	3.95	27168	216	1035	8.4	17.7
1769.0	24.2	15.0	120	8.9	1.20	3.99	27465	226	1025	8.4	17.7
1770.0	17.8	15.0	120	8.9	1.28	4.05	27870	308	1016	8.4	17.7
1771.0	17.0	15.0	120	8.9	1.29	4.11	28293	322	1007	8.4	17.7
1772.0	16.5	15.0	120	8.9	1.30	4.17	28730	331.82	998.94	8.4	17.7
1773.0	19.4	15.0	120	8.9	1.26	4.22	29101	282.22	990.25	8.4	17.7
1774.0	13.9	15.0	120	8.9	1.35	4.29	29619	393.88	983.10	8.4	17.7
1775.0	17.9	15.0	120	8.9	1.28	4.35	30021	305.87	975.07	8.4	17.7
1776.0	18.8	15.0	120	8.9	1.27	4.40	30404	291.22	967.06	8.4	17.7
1777.0	18.0	15.0	120	8.9	1.28	4.46	30804	304.17	959.39	8.4	17.7
1778.0	15.7	15.0	120	8.9	1.32	4.52	31263	348.73	952.40	8.4	17.7
1779.0	10.5	15.0	120	8.9	1.42	4.62	31948	521.43	947.53	8.4	17.7
1780.0	12.6	15.0	120	8.9	1.37	4.69	32520	434.52	941.79	8.4	17.7
1781.0	10.0	15.0	120	8.9	1.44	4.79	33240	547.50	937.43	8.4	17.7
1782.0	10.5	15.0	120	8.9	1.42	4.89	33926	521.43	932.88	8.4	17.7
1783.0	10.7	15.0	120	8.9	1.42	4.98	34598	511.68	928.32	8.4	17.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1784.0	10.3	15.0	120	8.9	1.43	5.08	35297	531.55	924.07	8.4	17.7
1785.0	10.9	15.0	120	8.9	1.41	5.17	35958	502.29	919.60	8.4	17.7
1786.0	9.4	15.0	120	8.9	1.45	5.28	36724	582.45	916.07	8.4	17.7
1787.0	8.5	15.0	120	8.9	1.48	5.40	37571	644.12	913.25	8.4	17.8
1788.0	10.0	15.0	120	8.9	1.44	5.50	38291	547.50	909.49	8.4	17.8
1789.0	9.4	15.0	120	8.9	1.45	5.60	39057	582.45	906.17	8.4	17.8
1790.0	8.9	15.0	120	8.9	1.47	5.72	39866	615.17	903.24	8.4	17.8
1791.0	8.4	15.0	105	8.9	1.45	5.83	40616	651.79	900.74	8.4	17.8
1792.0	9.3	22.0	105	8.9	1.56	5.94	41293	588.71	897.66	8.4	17.8
1793.0	6.8	22.0	130	8.9	1.71	6.09	42440	805.15	896.76	8.4	17.8
1794.0	8.0	20.0	130	8.9	1.63	6.21	43415	684.38	894.70	8.4	17.8
1795.0	9.4	20.0	130	8.9	1.58	6.32	44245	582.45	891.71	8.4	17.8
1796.0	9.6	20.0	130	8.9	1.57	6.42	45058	570.31	888.66	8.4	17.8
1797.0	14.5	20.0	130	8.9	1.46	6.49	45596	377.59	883.86	8.4	17.8
1798.0	12.8	20.0	150	8.9	1.53	6.57	46299	427.73	879.61	8.4	17.8
1799.0	14.6	20.0	150	8.9	1.50	6.64	46915	375.00	874.96	8.4	17.8
1800.0	14.0	20.0	150	8.9	1.51	6.71	47558	391.07	870.53	8.4	17.8
1801.0	15.5	20.0	150	8.9	1.48	6.78	48139	353.23	865.85	8.4	17.8
1802.0	15.0	20.0	150	8.9	1.49	6.84	48739	365.00	861.35	8.4	17.8
1803.0	14.2	20.0	150	8.9	1.50	6.91	49373	385.56	857.12	8.4	17.8
1804.0	15.5	20.0	150	8.9	1.48	6.98	49953	353.23	852.68	8.4	17.8
1805.0	16.6	20.0	150	8.9	1.46	7.04	50495	329.82	848.11	8.4	17.8
1806.0	27.2	20.0	150	8.9	1.32	7.07	50826	201.29	842.50	8.4	17.8
1807.0	15.3	20.0	150	8.9	1.48	7.14	51415	357.84	838.34	8.4	17.8
1808.0	27.9	20.0	150	8.9	1.31	7.18	51737	196.24	832.87	8.4	17.8
1809.0	23.1	20.0	150	8.9	1.36	7.22	52127	237.01	827.83	8.4	17.8
1810.0	23.8	20.0	150	8.9	1.36	7.26	52505	230.04	822.83	8.4	17.8
1811.0	21.8	20.0	150	8.9	1.38	7.31	52918	251.15	818.08	8.4	17.8
1812.0	22.8	20.0	150	8.9	1.37	7.35	53312	240.13	813.32	8.4	17.8
1813.0	20.5	20.0	150	8.9	1.40	7.40	53751	267.07	808.86	8.4	17.8
1814.0	21.2	20.0	150	8.9	1.39	7.45	54176	258.25	804.39	8.4	17.8
1815.0	19.6	20.0	150	8.9	1.41	7.50	54635	279.34	800.17	8.4	17.8
1816.0	19.3	20.0	150	8.9	1.42	7.55	55101	283.68	796.05	8.4	17.8
1817.0	15.7	20.0	150	8.9	1.48	7.61	55675	348.73	792.52	8.4	17.8
1818.0	21.3	20.0	150	8.9	1.39	7.66	56097	257.04	788.31	8.4	17.8
1819.0	10.9	20.0	150	8.9	1.58	7.75	56923	502.29	786.09	8.4	17.8
1820.0	13.4	20.0	150	8.9	1.52	7.83	57595	408.58	783.17	8.4	17.8
1821.0	11.6	20.0	150	8.9	1.56	7.91	58370	471.98	780.78	8.4	17.8
1822.0	15.7	20.0	150	8.9	1.48	7.98	58944	348.73	777.49	8.4	17.8
1823.0	15.7	20.0	150	8.9	1.48	8.04	59517	348.73	774.25	8.4	17.8
1824.0	16.4	20.0	120	8.9	1.40	8.10	59956	333.84	770.95	8.4	17.8
1825.0	15.1	20.0	150	8.9	1.49	8.17	60552	362.58	767.91	8.4	17.8
1826.0	18.3	20.0	150	8.9	1.43	8.22	61044	299.18	764.45	8.4	17.8
1827.0	14.1	20.0	150	8.9	1.51	8.29	61682	388.30	761.70	8.4	17.8
1828.0	15.2	20.0	150	8.9	1.48	8.36	62274	360.20	758.77	8.4	17.8
1829.0	19.5	20.0	150	8.9	1.41	8.41	62736	280.77	755.32	8.4	17.8
1830.0	19.3	20.0	150	8.9	1.42	8.46	63202	283.68	751.94	8.4	17.8
1831.0	8.9	20.0	150	8.9	1.64	8.57	64213	615.17	750.96	8.4	17.8
1832.0	6.8	20.0	150	8.9	1.71	8.72	65537	805.15	751.35	8.4	17.8
1833.0	9.1	20.0	150	8.9	1.63	8.83	66526	601.65	750.29	8.4	17.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1834.0	9.9	20.0	150	8.9	1.61	8.93	67435	553.03	748.92	8.4	17.8
1835.0	10.0	20.0	150	8.9	1.60	9.03	68335	547.50	747.52	8.4	17.8
1836.0	7.2	20.0	150	8.9	1.70	9.17	69585	760.42	747.61	8.4	17.8
1837.0	8.4	20.0	150	8.9	1.65	9.29	70656	651.79	746.96	8.4	17.8
1838.0	10.3	20.0	150	8.9	1.60	9.39	71530	531.55	745.50	8.4	17.8
1839.0	8.7	20.0	130	8.9	1.60	9.50	72427	629.31	744.71	8.4	17.8
1840.0	8.8	20.0	130	8.9	1.60	9.62	73313	622.16	743.89	8.4	17.8
1841.0	8.3	20.0	130	8.9	1.62	9.74	74253	659.64	743.33	8.4	17.8
1842.0	8.4	20.0	130	8.9	1.61	9.86	75181	651.79	742.73	8.4	17.8
1843.0	9.0	20.0	130	8.9	1.59	9.97	76048	608.33	741.85	8.4	17.8
1844.0	10.5	20.0	130	8.9	1.55	10.06	76791	521.43	740.41	8.4	17.8
1845.0	24.3	20.0	130	8.9	1.31	10.10	77112	225.31	737.07	8.4	17.8
1846.0	25.4	15.0	130	8.9	1.21	10.14	77419	215.55	733.72	8.4	17.8
1847.0	18.3	15.0	130	8.9	1.30	10.20	77845	299.18	730.94	8.4	17.8
1848.0	24.2	20.0	130	8.9	1.31	10.24	78168	226.24	727.73	8.4	17.8
1849.0	19.5	20.0	130	8.9	1.37	10.29	78568	280.77	724.91	8.4	17.8
1850.0	19.5	20.0	140	8.9	1.39	10.34	78998	280.77	722.12	8.4	17.8
1851.0	18.9	20.0	140	8.9	1.40	10.39	79443	289.68	719.43	8.4	17.8
1852.0	18.3	20.0	145	9.0	1.41	10.45	79918	299.18	716.82	8.4	17.9
1853.0	18.9	20.0	145	9.0	1.40	10.50	80378	289.68	714.19	8.4	17.9
1854.0	18.8	20.0	145	9.0	1.40	10.55	80841	291.22	711.61	8.4	17.9
1855.0	21.4	20.0	145	9.0	1.36	10.60	81248	255.84	708.83	8.4	17.9
1856.0	20.7	20.0	145	9.0	1.37	10.65	81668	264.49	706.15	8.4	17.9
1857.0	20.5	20.0	145	9.0	1.37	10.70	82092	267.07	703.51	8.4	17.9
1858.0	19.0	20.0	145	9.0	1.40	10.75	82550	288.16	701.03	8.4	17.9
1859.0	20.9	20.0	145	9.0	1.37	10.80	82967	261.96	698.42	8.4	17.9
1860.0	19.5	20.0	145	9.0	1.39	10.85	83413	280.77	695.95	8.4	17.9
1861.0	18.1	20.0	145	9.0	1.41	10.90	83893	302.49	693.65	8.4	17.9
1862.0	20.0	15.0	145	9.0	1.29	10.95	84328	273.75	691.20	8.4	17.9
1863.0	24.8	15.0	130	9.0	1.20	11.00	84643	220.77	688.47	8.4	17.9
1864.0	23.5	15.0	130	9.0	1.22	11.04	84975	232.98	685.84	8.4	17.9
1865.0	23.5	15.0	130	9.0	1.22	11.08	85307	232.98	683.24	8.4	17.9
1866.0	18.8	15.0	130	9.0	1.27	11.13	85722	291.22	681.01	8.4	17.9
1867.0	17.5	15.0	130	9.0	1.29	11.19	86167	312.86	678.92	8.4	17.9
1868.0	20.7	15.0	130	9.0	1.25	11.24	86544	264.49	676.59	8.4	17.9
1869.0	17.2	15.0	130	9.0	1.30	11.30	86998	318.31	674.58	8.4	17.9
1870.0	18.0	15.0	130	9.0	1.29	11.35	87431	304.17	672.51	8.4	17.9
1871.0	17.6	15.0	130	9.0	1.29	11.41	87874	311.08	670.51	8.4	17.9
1872.0	16.5	20.0	130	9.0	1.40	11.47	88347	331.82	668.64	8.4	17.9
1873.0	25.2	20.0	130	9.0	1.28	11.51	88656	217.26	666.17	8.4	17.9
1874.0	25.9	20.0	130	9.0	1.28	11.55	88958	211.39	663.69	8.4	17.9
1875.0	14.0	20.0	130	9.0	1.45	11.62	89515	391.07	662.21	8.4	17.9
1876.0	12.9	20.0	130	9.0	1.47	11.70	90119	424.42	660.93	8.4	17.9
1877.0	12.0	20.0	130	9.0	1.49	11.78	90769	456.25	659.83	8.4	17.9
1878.0	12.0	20.0	130	9.0	1.49	11.86	91419	456.25	658.74	8.4	17.9
1879.0	11.0	20.0	130	9.0	1.52	11.95	92129	497.73	657.89	8.4	17.9
1880.0	11.1	20.0	130	9.0	1.52	12.05	92831	493.24	657.02	8.4	17.9
1881.0	10.2	20.0	130	9.0	1.54	12.14	93596	536.76	656.39	8.4	17.9
1882.0	10.7	20.0	130	9.0	1.53	12.24	94325	511.68	655.63	8.4	17.9
1883.0	17.1	20.0	130	9.0	1.39	12.30	94781	320.18	653.89	8.4	17.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1884.0	17.0	20.0	130	9.0	1.40	12.35	95240	322.06	652.17	8.4	17.9
1885.0	17.3	20.0	130	9.0	1.39	12.41	95691	316.47	650.44	8.4	17.9
1886.0	15.5	20.0	130	9.0	1.42	12.48	96194	353.23	648.92	8.4	17.9
1887.0	11.5	20.0	135	9.0	1.52	12.56	96898	476.09	648.04	8.4	17.9
1888.0	11.5	20.0	140	9.0	1.53	12.65	97629	476.09	647.17	8.4	17.9
1889.0	12.5	20.0	140	9.0	1.50	12.73	98301	438.00	646.12	8.4	17.9
1890.0	11.5	25.0	140	9.0	1.62	12.82	99031	476.09	645.27	8.4	17.9
1891.0	10.2	25.0	140	9.0	1.66	12.92	99855	536.76	644.72	8.4	17.9
1892.0	29.3	25.0	140	9.0	1.34	12.95	100141	186.86	642.45	8.4	17.9
1893.0	25.3	25.0	140	9.0	1.38	12.99	100473	216.40	640.35	8.4	17.9
1894.0	22.9	25.0	140	9.0	1.41	13.03	100840	239.08	638.37	8.4	17.9
1895.0	22.2	25.0	140	9.0	1.42	13.08	101219	246.62	636.46	8.4	17.9
1896.0	23.5	25.0	140	9.0	1.41	13.12	101576	232.98	634.49	8.4	17.9
1897.0	24.2	25.0	140	9.0	1.40	13.16	101923	226.24	632.51	8.4	17.9
1898.0	23.2	25.0	140	9.0	1.41	13.20	102285	235.99	630.60	8.4	17.9
1899.0	22.4	25.0	140	9.0	1.42	13.25	102660	244.42	628.75	8.4	17.9
1900.0	20.9	25.0	140	9.0	1.44	13.30	103062	261.96	627.00	8.4	17.9
1901.0	22.0	25.0	140	9.0	1.42	13.34	103444	248.86	625.20	8.4	17.9
1902.0	27.7	25.0	140	9.0	1.36	13.38	103747	197.65	623.18	8.4	17.9
1903.0	27.7	25.0	140	9.0	1.36	13.41	104050	197.65	621.17	8.4	17.9
1904.0	22.2	25.0	140	9.0	1.42	13.46	104429	246.62	619.42	8.4	17.9
1905.0	19.9	25.0	140	9.0	1.45	13.51	104851	275.13	617.81	8.4	17.9
1906.0	18.5	25.0	140	9.0	1.48	13.56	105305	295.95	616.32	8.4	17.9
1907.0	17.3	25.0	140	9.0	1.50	13.62	105791	316.47	614.93	8.4	17.9
1908.0	19.4	25.0	140	9.0	1.46	13.67	106224	282.22	613.40	8.4	17.9
1909.0	21.8	25.0	140	9.0	1.43	13.72	106609	251.15	611.74	8.4	17.9
1910.0	21.3	25.0	140	9.0	1.43	13.77	107003	257.04	610.13	8.4	17.9
1911.0	22.8	25.0	140	9.0	1.41	13.81	107372	240.13	608.45	8.4	17.9
1912.0	25.7	25.0	140	9.0	1.38	13.85	107698	213.04	606.66	8.4	17.9
1913.0	23.8	25.0	140	9.0	1.40	13.89	108051	230.04	604.97	8.4	17.9
1914.0	22.9	25.0	140	9.0	1.41	13.93	108418	239.08	603.33	8.4	17.9
1915.0	19.5	25.0	140	9.0	1.46	13.99	108849	280.77	601.89	8.4	17.9
1916.0	13.8	25.0	140	9.0	1.56	14.06	109458	396.74	600.98	8.4	17.9
1917.0	12.4	25.0	140	8.9	1.61	14.14	110135	441.53	600.28	8.4	17.9
1918.0	12.9	25.0	140	8.9	1.60	14.22	110786	424.42	599.51	8.4	17.9
1919.0	11.4	25.0	140	8.9	1.64	14.30	111523	480.26	598.98	8.4	18.0
1920.0	10.7	25.0	140	8.9	1.66	14.40	112308	511.68	598.60	8.4	18.0
1921.0	10.7	25.0	140	8.9	1.66	14.49	113093	511.68	598.23	8.4	18.0
1922.0	14.9	25.0	140	8.9	1.56	14.56	113657	367.45	597.23	8.4	18.0
1923.0	12.7	25.0	140	8.9	1.61	14.64	114318	431.10	596.51	8.4	18.0
1924.0	11.8	25.0	140	8.9	1.63	14.72	115030	463.98	595.95	8.4	18.0
1925.0	10.7	25.0	140	8.9	1.66	14.82	115815	511.68	595.59	8.4	18.0
1926.0	10.7	23.1	140	8.9	1.62	14.91	116600	511.68	595.23	8.4	18.0
1927.0	20.0	30.0	140	8.9	1.55	14.96	117020	273.75	593.87	8.4	18.0
1928.0	16.9	30.0	140	8.9	1.60	15.02	117517	323.96	592.73	8.4	18.0
1929.0	15.8	30.0	140	8.9	1.62	15.08	118049	346.52	591.70	8.4	18.0
1930.0	16.0	30.0	140	8.9	1.62	15.14	118574	342.19	590.66	8.4	18.0
1931.0	16.7	30.0	140	8.9	1.60	15.20	119077	327.84	589.57	8.4	18.0
1932.0	13.6	30.0	140	8.9	1.67	15.28	119695	402.57	588.79	8.4	18.0
1933.0	15.5	30.0	140	8.9	1.63	15.34	120237	353.23	587.82	8.4	18.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1934.0	17.0	30.0	140	8.9	1.60	15.40	120731	322.06	586.73	8.4	18.0
1935.0	16.9	30.0	140	8.9	1.60	15.46	121228	323.96	585.65	8.4	18.0
1936.0	20.7	30.0	140	8.9	1.53	15.51	121634	264.49	584.34	8.4	18.0
1937.0	22.2	30.0	140	8.9	1.51	15.55	122012	246.62	582.97	8.4	18.0
1938.0	21.2	30.0	140	8.9	1.53	15.60	122408	258.25	581.66	8.4	18.0
1939.0	18.7	30.0	140	8.9	1.57	15.65	122857	292.78	580.50	8.4	18.0
1940.0	18.5	30.0	140	8.9	1.57	15.71	123311	295.95	579.36	8.4	18.0
1941.0	14.3	30.0	140	8.9	1.65	15.78	123899	382.87	578.57	8.4	18.0
1942.0	14.3	30.0	140	8.9	1.65	15.85	124486	382.87	577.79	8.4	18.0
1943.0	12.4	30.0	140	8.9	1.70	15.93	125164	441.53	577.25	8.4	18.0
1944.0	10.9	30.0	140	8.9	1.74	16.02	125934	502.29	576.96	8.4	18.0
1945.0	21.2	25.0	140	9.0	1.44	16.07	126331	258.25	575.70	8.4	18.0
1946.0	20.0	25.0	140	9.0	1.45	16.12	126751	273.75	574.52	8.4	18.0
1947.0	22.0	25.0	140	9.0	1.42	16.16	127132	248.86	573.25	8.4	18.0
1948.0	18.3	25.0	140	9.0	1.48	16.22	127591	299.18	572.19	8.4	18.0
1949.0	13.3	25.0	140	9.0	1.58	16.29	128223	411.65	571.57	8.4	18.0
1950.0	13.8	27.0	140	9.0	1.60	16.36	128832	396.74	570.89	8.4	18.0
1951.0	13.8	27.0	140	9.0	1.60	16.44	129440	396.74	570.22	8.4	18.0
1952.0	10.7	27.0	140	9.0	1.68	16.53	130225	511.68	570.00	8.4	18.0
1953.0	10.3	30.0	140	9.0	1.74	16.63	131041	531.55	569.85	8.4	18.0
1954.0	9.0	30.0	140	9.0	1.78	16.74	131974	608.33	570.00	8.4	18.0
1955.0	10.1	30.0	140	9.0	1.74	16.84	132806	542.08	569.89	8.4	18.0
1956.0	10.7	30.0	140	9.0	1.73	16.93	133591	511.68	569.67	8.4	18.0
1957.0	10.0	30.0	140	9.0	1.75	17.03	134431	547.50	569.59	8.4	18.0
1958.0	9.9	30.0	140	8.9	1.77	17.13	135279	553.03	569.53	8.4	18.0
1959.0	13.6	30.0	140	8.9	1.67	17.21	135897	402.57	568.91	8.4	18.0
1960.0	29.5	30.0	140	8.9	1.42	17.24	136182	185.59	567.48	8.4	18.0
1961.0	25.7	30.0	140	8.9	1.47	17.28	136509	213.04	566.17	8.4	18.0
1962.0	25.2	30.0	140	8.9	1.47	17.32	136842	217.26	564.89	8.4	18.0
1963.0	27.5	27.0	140	8.9	1.40	17.35	137148	199.09	563.54	8.4	18.0
1964.0	22.9	27.0	140	8.9	1.46	17.40	137514	239.08	562.36	8.4	18.0
1965.0	21.8	27.0	140	8.9	1.47	17.44	137900	251.15	561.22	8.4	18.0
1966.0	21.8	27.0	140	8.9	1.47	17.49	138285	251.15	560.10	8.4	18.0
1967.0	21.1	27.0	140	8.9	1.48	17.54	138683	259.48	559.01	8.4	18.0
1968.0	21.2	27.0	140	8.9	1.48	17.58	139079	258.25	557.93	8.4	18.0
1969.0	20.7	27.0	140	8.9	1.49	17.63	139485	264.49	556.87	8.4	18.0
1970.0	19.9	27.0	140	8.9	1.50	17.68	139907	275.13	555.86	8.4	18.0
1971.0	18.4	27.0	140	8.9	1.53	17.74	140364	297.55	554.94	8.4	18.0
1972.0	17.4	27.0	140	8.9	1.54	17.80	140846	314.66	554.09	8.4	18.0
1973.0	17.9	27.0	140	8.9	1.54	17.85	141316	305.87	553.21	8.4	18.0
1974.0	19.7	27.0	140	8.9	1.51	17.90	141742	277.92	552.24	8.4	18.0
1975.0	21.8	27.0	140	8.9	1.47	17.95	142127	251.15	551.18	8.4	18.0
1976.0	22.4	27.0	140	8.9	1.47	17.99	142502	244.42	550.10	8.4	18.0
1977.0	19.6	27.0	140	8.9	1.51	18.04	142931	279.34	549.16	8.4	18.0
1978.0	18.3	27.0	140	8.9	1.53	18.10	143390	299.18	548.29	8.4	18.0
1979.0	22.2	27.0	140	8.9	1.47	18.14	143768	246.62	547.24	8.4	18.0
1980.0	20.3	27.0	140	8.9	1.50	18.19	144182	269.70	546.28	8.4	18.0
1981.0	20.7	27.0	140	8.9	1.49	18.24	144588	264.49	545.31	8.4	18.0
1982.0	20.5	27.0	140	8.9	1.49	18.29	144998	267.07	544.36	8.4	18.0
1983.0	20.2	27.0	140	8.9	1.50	18.34	145414	271.04	543.42	8.4	18.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1984.0	20.3	27.0	140	8.9	1.50	18.39	145827	269.70	542.49	8.4	18.0
1985.0	18.8	27.0	140	8.9	1.52	18.44	146274	291.22	541.64	8.4	18.0
1986.0	20.7	27.0	140	8.9	1.49	18.49	146680	264.49	540.70	8.4	18.0
1987.0	19.5	27.0	140	8.9	1.51	18.54	147111	280.77	539.82	8.4	18.0
1988.0	26.1	27.0	140	8.9	1.42	18.58	147433	209.77	538.71	8.4	18.1
1989.0	23.2	27.0	140	8.9	1.45	18.62	147795	235.99	537.70	8.4	18.1
1990.0	22.5	27.0	140	8.9	1.46	18.67	148168	243.33	536.72	8.4	18.1
1991.0	23.5	25.0	140	8.9	1.42	18.71	148525	232.98	535.70	8.4	18.1
1992.0	23.5	25.0	140	8.9	1.42	18.75	148883	232.98	534.70	8.4	18.1
1993.0	23.8	27.0	140	8.9	1.45	18.79	149236	230.04	533.69	8.4	18.1
1994.0	23.7	27.0	140	8.9	1.45	18.84	149590	231.01	532.69	8.4	18.1
1995.0	23.4	28.0	140	8.9	1.47	18.88	149949	233.97	531.71	8.4	18.1
1996.0	20.7	27.0	140	8.9	1.49	18.93	150355	264.49	530.84	8.4	18.1
1997.0	12.5	27.0	140	8.9	1.65	19.01	151027	438.00	530.54	8.4	18.1
1998.0	11.3	27.0	140	8.9	1.68	19.10	151770	484.51	530.39	8.4	18.1
1999.0	11.0	27.0	140	8.9	1.69	19.19	152534	497.73	530.28	8.4	18.1
2000.0	10.7	27.0	140	8.9	1.69	19.28	153319	511.68	530.22	8.4	18.1
2001.0	7.9	27.0	140	8.9	1.79	19.41	154382	693.04	530.74	8.4	18.1
2002.0	11.8	27.0	140	8.9	1.66	19.49	155094	463.98	530.53	8.4	18.1
2003.0	12.2	27.0	140	8.9	1.65	19.57	155783	448.77	530.27	8.4	18.1
2004.0	11.8	27.0	140	8.9	1.66	19.66	156495	463.98	530.06	8.4	18.1
2005.0	12.1	30.0	140	8.9	1.71	19.74	157189	452.48	529.81	8.4	18.1
2006.0	10.2	30.0	140	8.9	1.76	19.84	158012	536.76	529.83	8.4	18.1
2007.0	14.5	30.0	140	8.9	1.65	19.91	158592	377.59	529.35	8.4	18.1
2008.0	12.0	30.0	140	8.9	1.71	19.99	159292	456.25	529.12	8.4	18.1
2009.0	10.9	30.0	140	8.9	1.74	20.08	160062	502.29	529.04	8.4	18.1
2010.0	11.7	30.0	140	8.9	1.72	20.17	160780	467.95	528.84	8.4	18.1
2011.0	12.9	30.0	140	8.9	1.69	20.25	161431	424.42	528.52	8.4	18.1
2012.0	12.5	30.0	140	8.9	1.70	20.33	162103	438.00	528.24	8.4	18.1
2013.0	11.8	30.0	140	8.9	1.71	20.41	162815	463.98	528.04	8.4	18.1
2014.0	10.8	30.0	140	8.9	1.74	20.50	163593	506.94	527.97	8.4	18.1
2015.0	11.6	30.0	140	8.9	1.72	20.59	164317	471.98	527.80	8.4	18.1
2016.0	13.5	30.0	140	8.9	1.67	20.66	164939	405.56	527.42	8.4	18.1
2017.0	13.4	30.0	140	8.9	1.67	20.74	165566	408.58	527.06	8.4	18.1
2018.0	14.5	30.0	140	8.9	1.65	20.81	166146	377.59	526.60	8.4	18.1
2019.0	16.3	30.0	140	8.9	1.61	20.87	166661	335.89	526.02	8.4	18.1
2020.0	20.1	30.0	140	8.9	1.54	20.92	167079	272.39	525.25	8.4	18.1
2021.0	23.5	30.0	140	8.9	1.49	20.96	167436	232.98	524.37	8.4	18.1
2022.0	21.3	30.0	140	8.9	1.53	21.01	167831	257.04	523.56	8.4	18.1
2023.0	23.5	30.0	140	8.9	1.49	21.05	168188	232.98	522.69	8.4	18.1
2024.0	22.0	30.0	140	8.9	1.52	21.10	168570	248.86	521.87	8.4	18.1
2025.0	22.6	30.0	140	8.9	1.51	21.14	168942	242.26	521.03	8.4	18.1
2026.0	23.1	30.0	140	8.9	1.50	21.18	169305	237.01	520.18	8.4	18.1
2027.0	20.0	30.0	140	8.9	1.55	21.23	169725	273.75	519.45	8.4	18.1
2028.0	16.9	30.0	140	8.9	1.60	21.29	170222	323.96	518.87	8.4	18.1
2029.0	15.8	30.0	140	8.9	1.62	21.36	170754	346.52	518.36	8.4	18.1
2030.0	16.0	30.0	140	8.9	1.62	21.42	171279	342.19	517.84	8.4	18.1
2031.0	16.7	30.0	140	8.9	1.60	21.48	171782	327.84	517.28	8.4	18.1
2032.0	13.6	30.0	140	8.9	1.67	21.55	172400	402.57	516.95	8.4	18.1
2033.0	15.5	30.0	140	8.9	1.63	21.62	172942	353.23	516.47	8.4	18.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2034.0	17.0	30.0	140	8.9	1.60	21.67	173436	322.06	515.90	8.4	18.1
2035.0	16.9	30.0	140	8.9	1.60	21.73	173933	323.96	515.35	8.4	18.1
2036.0	20.7	30.0	140	8.9	1.53	21.78	174339	264.49	514.62	8.4	18.1
2037.0	22.2	30.0	140	8.9	1.51	21.83	174717	246.62	513.85	8.4	18.1
2038.0	21.2	30.0	140	8.9	1.53	21.87	175113	258.25	513.11	8.4	18.1
2039.0	18.7	30.0	140	8.9	1.57	21.93	175562	292.78	512.48	8.4	18.1
2040.0	18.5	30.0	140	8.9	1.57	21.98	176016	295.95	511.86	8.4	18.1
2041.0	14.3	30.0	140	8.9	1.65	22.05	176604	382.87	511.49	8.4	18.1
2042.0	14.3	30.0	140	8.9	1.65	22.12	177191	382.87	511.13	8.4	18.1
2044.0	16.0	30.0	140	8.9	1.62	22.25	178241	342.19	510.17	8.4	18.1

BIT NUMBER	5	IADC CODE	4	INTERVAL	2044.0- 2160.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	6.6	BIT RUN	116.0
TOTAL HOURS	32.99	TOTAL TURNS	261648	CONDITION	T1 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2045.0	20.0	25.0	140	9.0	1.45	22.30	178661	273.75	446.47	8.4	18.1
2046.0	18.3	25.0	140	9.0	1.48	22.35	179120	299.18	446.05	8.4	18.1
2047.0	23.7	15.0	100	9.0	1.14	22.40	179373	231.01	445.45	8.4	18.1
2048.0	22.6	15.0	100	9.0	1.16	22.44	179639	242.26	444.88	8.4	18.1
2049.0	20.1	15.0	100	9.0	1.19	22.49	179937	272.39	444.40	8.4	18.1
2050.0	21.3	15.0	100	9.0	1.17	22.54	180219	257.04	443.88	8.4	18.1
2051.0	20.6	15.0	100	9.0	1.18	22.59	180510	265.78	443.38	8.4	18.1
2052.0	21.4	15.0	100	9.0	1.17	22.63	180791	255.84	442.86	8.4	18.1
2053.0	17.8	15.0	100	9.0	1.22	22.69	181128	307.58	442.49	8.4	18.1
2054.0	19.7	15.0	100	9.0	1.19	22.74	181432	277.92	442.04	8.4	18.1
2055.0	19.1	15.0	100	9.0	1.20	22.79	181746	286.65	441.61	8.4	18.1
2056.0	11.8	20.0	130	9.0	1.50	22.88	182407	463.98	441.67	8.4	18.1
2057.0	11.8	20.0	130	9.0	1.50	22.96	183068	463.98	441.73	8.4	18.1
2058.0	11.3	20.0	130	9.0	1.51	23.05	183759	484.51	441.85	8.4	18.1
2059.0	9.3	20.0	130	9.0	1.57	23.16	184597	588.71	442.25	8.4	18.1
2060.0	12.0	20.0	130	9.0	1.49	23.24	185247	456.25	442.29	8.4	18.2
2061.0	11.0	20.0	130	9.0	1.52	23.33	185956	497.73	442.44	8.4	18.2
2062.0	11.0	20.0	130	8.9	1.54	23.42	186665	497.73	442.58	8.4	18.2
2063.0	11.5	20.0	130	8.9	1.52	23.51	187344	476.09	442.67	8.4	18.2
2064.0	13.5	20.0	130	8.9	1.48	23.58	187922	405.56	442.58	8.4	18.2
2065.0	14.0	25.0	130	8.9	1.56	23.66	188479	391.07	442.44	8.4	18.2
2066.0	17.9	25.0	130	8.9	1.48	23.71	188914	305.87	442.07	8.4	18.2
2067.0	16.4	25.0	130	8.9	1.51	23.77	189390	333.84	441.79	8.4	18.2
2068.0	17.7	25.0	130	8.9	1.48	23.83	189831	309.32	441.44	8.4	18.2
2069.0	17.6	25.0	130	8.9	1.49	23.89	190274	311.08	441.09	8.4	18.2
2070.0	15.5	25.0	130	8.9	1.52	23.95	190777	353.23	440.86	8.4	18.2
2071.0	16.7	25.0	130	8.9	1.50	24.01	191244	327.84	440.56	8.4	18.2
2072.0	13.3	25.0	130	8.9	1.57	24.09	191831	411.65	440.49	8.4	18.2
2073.0	12.1	25.0	130	8.9	1.60	24.17	192475	452.48	440.52	8.4	18.2
2074.0	10.7	25.0	130	8.9	1.64	24.26	193204	511.68	440.70	8.4	18.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2075.0	13.2	25.0	130	8.9	1.57	24.34	193795	414.77	440.64	8.4	18.2
2076.0	13.3	25.0	130	8.9	1.57	24.41	194382	411.65	440.56	8.4	18.2
2077.0	14.5	25.0	130	8.9	1.54	24.48	194920	377.59	440.40	8.4	18.2
2078.0	16.6	25.0	130	8.9	1.50	24.54	195389	329.82	440.11	8.4	18.2
2079.0	18.8	25.0	130	8.9	1.47	24.59	195804	291.22	439.73	8.4	18.2
2080.0	19.8	25.0	130	8.9	1.45	24.65	196198	276.52	439.31	8.4	18.2
2081.0	15.3	25.0	130	8.9	1.53	24.71	196708	357.84	439.10	8.4	18.2
2082.0	15.5	25.0	130	8.9	1.52	24.78	197211	353.23	438.88	8.4	18.2
2083.0	13.4	25.0	130	8.9	1.57	24.85	197793	408.58	438.80	8.4	18.2
2084.0	12.2	25.0	130	8.9	1.60	24.93	198433	448.77	438.83	8.4	18.2
2085.0	6.2	25.0	130	8.9	1.80	25.09	199691	883.06	439.96	8.4	18.2
2086.0	7.3	25.0	130	8.9	1.75	25.23	200759	750.00	440.74	8.4	18.2
2087.0	8.6	28.0	130	8.9	1.76	25.35	201666	636.63	441.23	8.4	18.2
2088.0	10.0	28.0	130	8.9	1.71	25.45	202446	547.50	441.50	8.4	18.2
2089.0	10.0	28.0	130	8.9	1.71	25.55	203226	547.50	441.77	8.4	18.2
2090.0	13.4	28.0	130	8.9	1.62	25.62	203808	408.58	441.69	8.4	18.2
2091.0	16.5	28.0	130	8.9	1.55	25.68	204281	331.82	441.41	8.4	18.2
2092.0	7.2	28.0	130	8.9	1.81	25.82	205364	760.42	442.21	8.4	18.2
2093.0	8.2	28.0	130	8.9	1.77	25.94	206316	667.68	442.77	8.4	18.2
2094.0	11.6	28.0	130	8.9	1.66	26.03	206988	471.98	442.84	8.4	18.2
2095.0	9.8	28.0	130	8.9	1.72	26.13	207784	558.67	443.12	8.4	18.2
2096.0	11.0	28.0	130	8.9	1.68	26.22	208493	497.73	443.26	8.4	18.2
2097.0	10.5	28.0	130	8.9	1.69	26.32	209236	521.43	443.45	8.4	18.2
2098.0	12.0	28.0	130	8.9	1.65	26.40	209886	456.25	443.48	8.4	18.2
2099.0	12.3	28.0	130	8.9	1.64	26.48	210520	445.12	443.49	8.4	18.2
2100.0	12.3	25.0	130	8.9	1.59	26.56	211154	445.12	443.49	8.4	18.2
2101.0	16.6	25.0	130	8.9	1.50	26.62	211624	329.82	443.21	8.4	18.2
2102.0	17.4	25.0	130	8.9	1.49	26.68	212072	314.66	442.90	8.4	18.2
2103.0	14.6	25.0	130	8.9	1.54	26.75	212607	375.00	442.74	8.4	18.2
2104.0	13.8	25.0	130	8.9	1.56	26.82	213172	396.74	442.63	8.4	18.2
2105.0	13.5	30.0	130	8.9	1.65	26.90	213750	405.56	442.54	8.4	18.2
2106.0	12.9	30.0	130	8.9	1.66	26.97	214354	424.42	442.49	8.4	18.2
2107.0	11.5	30.0	130	8.9	1.70	27.06	215033	476.09	442.57	8.4	18.2
2108.0	10.7	30.0	130	8.9	1.72	27.15	215761	511.68	442.74	8.4	18.2
2109.0	10.9	30.0	130	8.9	1.72	27.25	216477	502.29	442.88	8.4	18.2
2110.0	11.4	30.0	130	8.9	1.70	27.33	217161	480.26	442.97	8.4	18.2
2111.0	12.2	30.0	130	8.9	1.68	27.41	217801	448.77	442.98	8.4	18.2
2112.0	9.5	30.0	130	8.9	1.76	27.52	218622	576.32	443.30	8.4	18.2
2113.0	10.4	30.0	130	8.9	1.73	27.62	219372	526.44	443.50	8.4	18.2
2114.0	12.6	30.0	130	8.9	1.67	27.70	219991	434.52	443.48	8.4	18.2
2115.0	14.0	30.0	130	8.9	1.64	27.77	220548	391.07	443.35	8.4	18.2
2116.0	12.8	30.0	130	8.9	1.66	27.85	221157	427.73	443.32	8.4	18.2
2117.0	13.8	30.0	130	8.9	1.64	27.92	221722	396.74	443.21	8.4	18.2
2118.0	12.5	30.0	130	8.9	1.67	28.00	222346	438.00	443.19	8.4	18.2
2119.0	10.2	30.0	130	8.9	1.74	28.10	223111	536.76	443.41	8.4	18.2
2120.0	7.0	30.0	130	8.9	1.86	28.24	224225	782.14	444.20	8.4	18.2
2121.0	10.0	30.0	130	8.9	1.74	28.34	225005	547.50	444.44	8.4	18.2
2122.0	6.3	30.0	130	8.9	1.89	28.50	226244	869.05	445.43	8.4	18.2
2123.0	7.5	30.0	130	8.9	1.83	28.63	227284	730.00	446.08	8.4	18.2
2124.0	8.1	30.0	130	8.9	1.81	28.75	228247	675.93	446.61	8.4	18.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2125.0	10.2	30.0	130	8.9	1.74	28.85	229011	536.76	446.82	8.4	18.2
2126.0	7.8	30.0	110	8.9	1.77	28.98	229857	701.92	447.41	8.4	18.2
2127.0	7.8	30.0	110	8.9	1.77	29.11	230704	701.92	447.99	8.4	18.2
2128.0	9.9	30.0	110	8.9	1.69	29.21	231370	553.03	448.23	8.4	18.2
2129.0	9.6	30.0	110	8.9	1.70	29.31	232058	570.31	448.51	8.4	18.2
2130.0	9.6	30.0	110	8.9	1.70	29.42	232745	570.31	448.79	8.4	18.2
2131.0	7.3	30.0	135	8.9	1.86	29.55	233855	750.00	449.47	8.4	18.2
2132.0	9.4	30.0	135	8.9	1.77	29.66	234716	582.45	449.77	8.4	18.2
2133.0	10.0	30.0	135	8.9	1.75	29.76	235526	547.50	449.99	8.4	18.3
2134.0	12.1	30.0	135	8.9	1.69	29.84	236196	452.48	450.00	8.4	18.3
2135.0	12.1	30.0	135	8.9	1.69	29.93	236865	452.48	450.00	8.4	18.3
2136.0	9.9	30.0	135	8.9	1.76	30.03	237684	553.03	450.24	8.4	18.3
2137.0	10.4	30.0	135	8.9	1.74	30.12	238462	526.44	450.41	8.4	18.3
2138.0	10.5	30.0	135	9.0	1.72	30.22	239234	521.43	450.57	8.4	18.3
2139.0	11.1	30.0	135	9.0	1.70	30.31	239964	493.24	450.66	8.4	18.3
2140.0	10.1	30.0	135	9.0	1.73	30.41	240765	542.08	450.86	8.4	18.3
2141.0	10.8	30.0	135	9.0	1.71	30.50	241515	506.94	450.99	8.4	18.3
2142.0	10.1	30.0	135	9.0	1.73	30.60	242317	542.08	451.19	8.4	18.3
2143.0	9.9	30.0	135	9.0	1.74	30.70	243136	553.03	451.42	8.4	18.3
2144.0	9.3	30.0	135	9.0	1.76	30.81	244007	588.71	451.72	8.4	18.3
2145.0	10.5	30.0	135	9.0	1.72	30.90	244778	521.43	451.87	8.4	18.3
2146.0	10.3	30.0	135	9.0	1.73	31.00	245564	531.55	452.05	8.4	18.3
2147.0	10.7	30.0	135	9.0	1.71	31.09	246321	511.68	452.18	8.4	18.3
2148.0	10.5	30.0	135	9.0	1.72	31.19	247093	521.43	452.33	8.4	18.3
2149.0	9.9	30.0	135	9.0	1.74	31.29	247911	553.03	452.55	8.4	18.3
2150.0	9.8	30.0	135	9.0	1.74	31.39	248738	558.67	452.78	8.4	18.3
2151.0	6.1	15.0	135	9.0	1.58	31.56	250065	897.54	453.75	8.4	18.3
2152.0	6.3	15.0	135	9.0	1.57	31.71	251351	869.05	454.65	8.4	18.3
2153.0	5.8	15.0	135	9.0	1.59	31.89	252748	943.97	455.70	8.4	18.3
2154.0	6.2	15.0	135	9.0	1.58	32.05	254054	883.06	456.63	8.4	18.3
2155.0	6.7	15.0	135	9.0	1.56	32.20	255263	817.16	457.40	8.4	18.3
2156.0	6.8	15.0	135	9.0	1.55	32.34	256454	805.15	458.15	8.4	18.3
2157.0	7.6	15.0	135	9.0	1.52	32.48	257520	720.39	458.71	8.4	18.3
2158.0	6.3	15.0	135	9.0	1.57	32.64	258806	869.05	459.59	8.4	18.3
2159.0	5.7	15.0	135	9.0	1.60	32.81	260227	960.53	460.66	8.4	18.3
2160.0	5.7	15.0	135	9.0	1.60	32.99	261648	960.53	461.72	8.4	18.3

BIT NUMBER	5	IADC CODE	4	INTERVAL	2160.0- 2550.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	7.4	BIT RUN	390.0
TOTAL HOURS	71.16	TOTAL TURNS	558889	CONDITION	T1 R8 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2161.0	7.5	15.0	90	9.0	1.42	33.12	262368	730.00	471.65	8.4	18.3
2162.0	6.8	20.0	90	9.0	1.55	33.27	263162	805.15	472.36	8.4	18.3
2163.0	9.1	20.0	90	9.1	1.45	33.38	263756	601.65	472.63	8.4	18.3
2164.0	8.4	25.0	110	9.1	1.62	33.50	264541	651.79	473.01	8.4	18.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2165.0	9.4	25.0	110	9.1	1.59	33.61	265243	582.45	473.24	8.4	18.3
2166.0	9.7	25.0	110	9.1	1.58	33.71	265924	564.43	473.43	8.4	18.3
2167.0	9.7	25.0	110	9.1	1.58	33.81	266604	564.43	473.63	8.4	18.3
2168.0	10.0	25.0	110	9.1	1.57	33.91	267264	547.50	473.78	8.4	18.3
2169.0	11.0	25.0	110	9.1	1.54	34.00	267864	497.73	473.83	8.4	18.3
2170.0	11.1	25.0	110	9.1	1.54	34.09	268459	493.24	473.87	8.4	18.3
2171.0	8.2	25.0	110	9.1	1.63	34.21	269264	667.68	474.27	8.4	18.3
2172.0	11.7	25.0	110	9.1	1.52	34.30	269828	467.95	474.26	8.4	18.3
2173.0	8.9	25.0	110	9.1	1.61	34.41	270569	615.17	474.55	8.4	18.3
2174.0	9.4	25.0	110	9.1	1.59	34.52	271271	582.45	474.78	8.4	18.3
2175.0	9.4	25.0	110	9.1	1.59	34.63	271974	582.45	475.00	8.4	18.3
2176.0	8.9	25.0	110	9.1	1.61	34.74	272715	615.17	475.29	8.4	18.3
2177.0	9.7	25.0	110	9.1	1.58	34.84	273396	564.43	475.47	8.4	18.3
2178.0	8.1	25.0	110	9.1	1.63	34.96	274210	675.93	475.88	8.4	18.3
2179.0	6.7	25.0	110	9.1	1.69	35.11	275195	817.16	476.58	8.4	18.3
2180.0	9.7	30.0	110	9.1	1.66	35.22	275876	564.43	476.76	8.4	18.3
2181.0	10.2	30.0	130	9.1	1.70	35.31	276641	536.76	476.88	8.4	18.3
2182.0	11.7	35.0	130	9.1	1.73	35.40	277307	467.95	476.86	8.4	18.3
2183.0	12.2	35.0	130	9.1	1.72	35.48	277947	448.77	476.81	8.4	18.3
2184.0	12.9	35.0	130	9.1	1.70	35.56	278551	424.42	476.70	8.4	18.3
2185.0	13.2	35.0	130	9.1	1.69	35.64	279142	414.77	476.58	8.4	18.3
2186.0	12.7	35.0	130	9.1	1.70	35.71	279756	431.10	476.48	8.4	18.3
2187.0	13.1	35.0	130	9.1	1.69	35.79	280352	417.94	476.37	8.4	18.3
2188.0	11.4	35.0	130	9.1	1.74	35.88	281036	480.26	476.37	8.4	18.3
2189.0	10.5	35.0	130	9.1	1.77	35.97	281779	521.43	476.46	8.4	18.3
2190.0	9.3	35.0	130	9.0	1.83	36.08	282618	588.71	476.69	8.4	18.3
2191.0	11.5	35.0	130	9.0	1.76	36.17	283296	476.09	476.69	8.4	18.3
2192.0	12.0	35.0	130	9.0	1.74	36.25	283946	456.25	476.65	8.4	18.3
2193.0	11.8	35.0	130	9.0	1.75	36.34	284607	463.98	476.62	8.4	18.3
2194.0	11.2	35.0	130	9.0	1.76	36.43	285303	488.84	476.65	8.4	18.3
2195.0	12.6	35.0	130	9.0	1.73	36.50	285922	434.52	476.56	8.4	18.3
2196.0	12.0	35.0	130	9.0	1.74	36.59	286572	456.25	476.52	8.4	18.3
2197.0	12.0	35.0	130	9.0	1.74	36.67	287222	456.25	476.48	8.4	18.3
2198.0	13.3	35.0	130	9.0	1.71	36.75	287809	411.65	476.35	8.4	18.3
2199.0	11.4	35.0	130	9.0	1.76	36.83	288493	480.26	476.36	8.4	18.3
2200.0	13.6	40.0	130	9.0	1.77	36.91	289066	402.57	476.22	8.4	18.3
2201.0	16.4	40.0	130	9.0	1.71	36.97	289542	333.84	475.94	8.4	18.3
2202.0	14.9	40.0	130	9.0	1.74	37.04	290066	367.45	475.73	8.4	18.3
2203.0	15.0	40.0	130	9.0	1.74	37.10	290586	365.00	475.51	8.4	18.3
2204.0	12.9	40.0	130	9.0	1.79	37.18	291190	424.42	475.41	8.4	18.3
2205.0	12.9	40.0	130	9.0	1.79	37.26	291795	424.42	475.31	8.4	18.3
2206.0	13.6	40.0	130	9.0	1.77	37.33	292368	402.57	475.17	8.4	18.3
2207.0	14.4	40.0	130	9.0	1.75	37.40	292910	380.21	474.99	8.4	18.3
2208.0	13.6	40.0	130	9.0	1.77	37.47	293484	402.57	474.85	8.4	18.3
2209.0	12.3	40.0	130	9.0	1.81	37.56	294118	445.12	474.79	8.4	18.4
2210.0	12.9	40.0	130	9.0	1.79	37.63	294722	424.42	474.69	8.4	18.4
2211.0	12.8	40.0	130	9.0	1.79	37.71	295332	427.73	474.60	8.4	18.4
2212.0	14.7	40.0	130	9.0	1.74	37.78	295862	372.45	474.41	8.4	18.4
2213.0	15.4	40.0	130	9.0	1.73	37.84	296369	355.52	474.18	8.4	18.4
2214.0	13.7	40.0	130	9.0	1.77	37.92	296938	399.64	474.04	8.4	18.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2215.0	12.2	40.0	130	9.0	1.81	38.00	297578	448.77	473.99	8.4	18.4
2216.0	11.5	40.0	130	9.0	1.83	38.09	298256	476.09	473.99	8.4	18.4
2217.0	8.7	40.0	130	9.0	1.92	38.20	299152	629.31	474.29	8.4	18.4
2218.0	9.9	40.0	130	9.0	1.88	38.30	299940	553.03	474.44	8.4	18.4
2219.0	10.6	40.0	130	9.0	1.86	38.40	300676	516.51	474.52	8.4	18.4
2220.0	11.3	40.0	150	9.0	1.88	38.48	301473	484.51	474.53	8.4	18.4
2221.0	9.5	40.0	150	9.0	1.94	38.59	302420	576.32	474.73	8.4	18.4
2222.0	9.9	40.0	150	9.0	1.93	38.69	303329	553.03	474.87	8.4	18.4
2223.0	10.6	40.0	150	9.0	1.91	38.79	304178	516.51	474.95	8.4	18.4
2224.0	10.7	40.0	150	9.0	1.90	38.88	305019	511.68	475.02	8.4	18.4
2225.0	12.2	40.0	150	9.0	1.86	38.96	305757	448.77	474.97	8.4	18.4
2226.0	8.4	40.0	150	9.0	1.99	39.08	306828	651.79	475.30	8.4	18.4
2227.0	11.2	40.0	150	9.0	1.89	39.17	307632	488.84	475.33	8.4	18.4
2228.0	16.3	40.0	150	9.0	1.76	39.23	308184	335.89	475.07	8.4	18.4
2229.0	12.4	40.0	150	9.0	1.85	39.31	308910	441.53	475.01	8.4	18.4
2230.0	9.5	40.0	150	9.0	1.94	39.42	309857	576.32	475.19	8.4	18.4
2231.0	9.5	40.0	150	9.0	1.94	39.52	310805	576.32	475.38	8.4	18.4
2232.0	8.8	40.0	150	9.0	1.97	39.64	311827	622.16	475.65	8.4	18.4
2233.0	7.3	40.0	150	9.0	2.03	39.77	313060	750.00	476.16	8.4	18.4
2234.0	6.9	40.0	150	9.0	2.05	39.92	314365	793.48	476.74	8.4	18.4
2235.0	7.7	40.0	150	9.0	2.02	40.05	315533	711.04	477.17	8.4	18.4
2236.0	9.4	40.0	150	9.0	1.95	40.15	316491	582.45	477.37	8.4	18.4
2237.0	9.0	40.0	150	9.0	1.96	40.26	317491	608.33	477.60	8.4	18.4
2238.0	8.8	40.0	150	9.0	1.97	40.38	318514	622.16	477.87	8.4	18.4
2239.0	9.0	40.0	150	9.0	1.96	40.49	319514	608.33	478.11	8.4	18.4
2240.0	9.0	40.0	150	9.0	1.96	40.60	320514	608.33	478.34	8.4	18.4
2241.0	10.1	40.0	150	9.0	1.92	40.70	321405	542.08	478.46	8.4	18.4
2242.0	11.5	40.0	150	9.0	1.88	40.79	322187	476.09	478.46	8.4	18.4
2243.0	12.3	40.0	150	9.0	1.85	40.87	322919	445.12	478.39	8.4	18.4
2244.0	12.0	40.0	150	9.0	1.86	40.95	323669	456.25	478.35	8.4	18.4
2245.0	10.0	40.0	150	9.0	1.93	41.05	324569	547.50	478.48	8.4	18.4
2246.0	11.3	40.0	150	9.0	1.88	41.14	325365	484.51	478.49	8.4	18.4
2247.0	12.4	40.0	150	9.0	1.85	41.22	326091	441.53	478.42	8.4	18.4
2248.0	10.3	40.0	150	9.0	1.92	41.32	326965	531.55	478.52	8.4	18.4
2249.0	10.0	40.0	150	9.0	1.93	41.42	327865	547.50	478.64	8.4	18.4
2250.0	9.5	40.0	150	9.0	1.94	41.52	328812	576.32	478.82	8.4	18.4
2251.0	8.9	40.0	150	9.0	1.97	41.63	329824	615.17	479.06	8.4	18.4
2252.0	9.9	40.0	150	9.0	1.93	41.74	330733	553.03	479.19	8.4	18.4
2253.0	8.7	40.0	150	9.0	1.97	41.85	331767	629.31	479.46	8.4	18.4
2254.0	7.6	40.0	150	9.0	2.02	41.98	332951	720.39	479.89	8.4	18.4
2255.0	10.7	40.0	130	9.0	1.85	42.08	333680	511.68	479.94	8.4	18.4
2256.0	11.8	40.0	130	9.0	1.82	42.16	334341	463.98	479.92	8.4	18.4
2257.0	12.7	40.0	130	9.0	1.79	42.24	334956	431.10	479.83	8.4	18.4
2258.0	11.8	40.0	130	9.0	1.82	42.32	335617	463.98	479.80	8.4	18.4
2259.0	11.8	40.0	130	9.0	1.82	42.41	336278	463.98	479.77	8.4	18.4
2260.0	10.8	40.0	130	9.0	1.85	42.50	337000	506.94	479.82	8.4	18.4
2261.0	10.4	40.0	130	9.0	1.86	42.60	337750	526.44	479.90	8.4	18.4
2262.0	7.6	40.0	130	9.0	1.97	42.73	338776	720.39	480.32	8.4	18.4
2263.0	7.2	40.0	130	9.0	1.99	42.87	339859	760.42	480.81	8.4	18.4
2264.0	7.9	40.0	130	9.0	1.96	42.99	340847	693.04	481.18	8.4	18.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2265.0	6.3	40.0	130	9.0	2.04	43.15	342085	869.05	481.86	8.4	18.4
2266.0	7.3	40.0	130	9.0	1.98	43.29	343153	750.00	482.32	8.4	18.4
2267.0	8.8	40.0	130	9.0	1.92	43.40	344040	622.16	482.57	8.4	18.4
2268.0	8.8	40.0	130	9.0	1.92	43.52	344926	622.16	482.81	8.4	18.4
2269.0	7.3	40.0	130	9.0	1.98	43.65	345995	750.00	483.27	8.4	18.4
2270.0	8.8	40.0	130	9.0	1.92	43.77	346881	622.16	483.51	8.4	18.4
2271.0	7.8	40.0	130	9.0	1.96	43.90	347881	701.92	483.89	8.4	18.4
2272.0	7.0	40.0	130	9.0	2.00	44.04	348995	782.14	484.40	8.4	18.4
2273.0	14.1	40.0	130	9.0	1.76	44.11	349548	388.30	484.23	8.4	18.4
2274.0	12.2	40.0	130	9.0	1.81	44.19	350188	448.77	484.17	8.4	18.4
2275.0	12.2	40.0	130	9.0	1.81	44.27	350827	448.77	484.11	8.4	18.4
2276.0	11.8	40.0	130	9.0	1.82	44.36	351488	463.98	484.08	8.4	18.4
2277.0	10.7	40.0	130	9.0	1.85	44.45	352217	511.68	484.13	8.4	18.4
2278.0	11.2	40.0	130	9.0	1.84	44.54	352914	488.84	484.13	8.4	18.4
2279.0	9.3	40.0	130	9.0	1.90	44.65	353752	588.71	484.31	8.4	18.4
2280.0	9.8	40.0	130	9.0	1.88	44.75	354548	558.67	484.44	8.4	18.4
2281.0	10.9	40.0	130	9.0	1.85	44.84	355264	502.29	484.47	8.4	18.4
2282.0	7.9	40.0	130	9.0	1.96	44.97	356251	693.04	484.82	8.4	18.4
2283.0	10.0	40.0	130	9.0	1.88	45.07	357031	547.50	484.93	8.4	18.4
2284.0	10.9	40.0	130	9.0	1.85	45.16	357747	502.29	484.96	8.4	18.4
2285.0	10.1	40.0	130	9.0	1.87	45.26	358519	542.08	485.05	8.4	18.4
2286.0	10.2	40.0	130	9.0	1.87	45.36	359284	536.76	485.14	8.4	18.4
2287.0	9.7	40.0	130	9.0	1.89	45.46	360088	564.43	485.27	8.4	18.5
2288.0	9.4	40.0	130	9.0	1.90	45.57	360918	582.45	485.43	8.4	18.5
2289.0	9.9	40.0	130	9.0	1.88	45.67	361706	553.03	485.55	8.4	18.5
2290.0	8.9	40.0	130	9.0	1.92	45.78	362582	615.17	485.76	8.4	18.5
2291.0	7.9	40.0	130	9.0	1.96	45.91	363569	693.04	486.11	8.4	18.5
2292.0	9.2	40.0	130	9.0	1.91	46.02	364417	595.11	486.29	8.4	18.5
2293.0	12.5	40.0	130	9.0	1.80	46.10	365041	438.00	486.21	8.4	18.5
2294.0	10.8	40.0	130	9.0	1.85	46.19	365763	506.94	486.24	8.4	18.5
2295.0	11.0	40.0	130	9.0	1.84	46.28	366472	497.73	486.26	8.4	18.5
2296.0	13.7	40.0	130	9.0	1.77	46.35	367042	399.64	486.12	8.4	18.5
2297.0	13.7	40.0	130	9.0	1.77	46.43	367611	399.64	485.98	8.4	18.5
2298.0	9.1	40.0	130	9.0	1.91	46.54	368468	601.65	486.17	8.4	18.5
2299.0	10.2	40.0	130	9.0	1.87	46.63	369233	536.76	486.25	8.4	18.5
2300.0	10.1	40.0	130	9.0	1.87	46.73	370005	542.08	486.34	8.4	18.5
2301.0	11.9	40.0	130	9.0	1.82	46.82	370661	460.08	486.30	8.4	18.5
2302.0	10.6	40.0	130	9.0	1.86	46.91	371397	516.51	486.35	8.4	18.5
2303.0	9.0	40.0	130	9.0	1.91	47.02	372263	608.33	486.55	8.4	18.5
2304.0	11.3	40.0	130	9.0	1.83	47.11	372953	484.51	486.55	8.4	18.5
2305.0	9.5	40.0	130	9.0	1.89	47.22	373775	576.32	486.69	8.4	18.5
2306.0	9.4	40.0	130	9.0	1.90	47.32	374604	582.45	486.85	8.4	18.5
2307.0	9.7	40.0	130	9.0	1.89	47.43	375408	564.43	486.97	8.4	18.5
2308.0	9.5	40.0	130	9.0	1.89	47.53	376229	576.32	487.12	8.4	18.5
2309.0	9.0	40.0	130	9.0	1.91	47.64	377096	608.33	487.31	8.4	18.5
2310.0	8.0	40.0	130	9.0	1.95	47.77	378071	684.38	487.63	8.4	18.5
2311.0	9.6	40.0	130	9.0	1.89	47.87	378884	570.31	487.76	8.4	18.5
2312.0	9.2	40.0	130	9.0	1.91	47.98	379731	595.11	487.94	8.4	18.5
2313.0	10.6	40.0	130	9.0	1.86	48.07	380467	516.51	487.98	8.4	18.5
2314.0	11.0	40.0	130	9.0	1.84	48.17	381176	497.73	488.00	8.4	18.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2315.0	11.8	40.0	130	9.0	1.82	48.25	381837	463.98	487.96	8.4	18.5
2316.0	12.3	40.0	130	9.0	1.81	48.33	382472	445.12	487.89	8.4	18.5
2317.0	10.6	40.0	130	9.0	1.86	48.43	383207	516.51	487.94	8.4	18.5
2318.0	12.0	40.0	130	9.0	1.81	48.51	383857	456.25	487.89	8.4	18.5
2319.0	10.4	40.0	130	9.0	1.86	48.60	384607	526.44	487.95	8.4	18.5
2320.0	9.3	40.0	130	9.0	1.90	48.71	385446	588.71	488.11	8.4	18.5
2321.0	10.4	40.0	130	9.0	1.86	48.81	386196	526.44	488.17	8.4	18.5
2322.0	11.0	40.0	130	9.0	1.84	48.90	386905	497.73	488.18	8.4	18.5
2323.0	10.4	40.0	130	9.0	1.86	49.00	387655	526.44	488.25	8.4	18.5
2324.0	12.1	40.0	130	9.0	1.81	49.08	388300	452.48	488.19	8.4	18.5
2325.0	11.7	35.0	130	9.0	1.75	49.16	388967	467.95	488.16	8.4	18.5
2326.0	9.9	35.0	130	9.0	1.81	49.26	389754	553.03	488.26	8.4	18.5
2327.0	12.0	35.0	130	9.0	1.74	49.35	390404	456.25	488.21	8.4	18.5
2328.0	8.8	35.0	130	9.0	1.84	49.46	391291	622.16	488.42	8.4	18.5
2329.0	14.0	40.0	130	9.0	1.76	49.53	391848	391.07	488.27	8.4	18.5
2330.0	10.8	40.0	130	9.0	1.85	49.63	392570	506.94	488.30	8.4	18.5
2331.0	9.9	40.0	130	9.0	1.88	49.73	393358	553.03	488.40	8.4	18.5
2332.0	9.4	40.0	130	9.0	1.90	49.83	394188	582.45	488.54	8.4	18.5
2333.0	10.5	40.0	130	9.0	1.86	49.93	394931	521.43	488.59	8.4	18.5
2334.0	9.2	40.0	130	9.0	1.91	50.04	395778	595.11	488.76	8.4	18.5
2335.0	8.3	40.0	130	9.0	1.94	50.16	396718	659.64	489.03	8.4	18.5
2336.0	8.1	40.0	130	9.0	1.95	50.28	397681	675.93	489.31	8.4	18.5
2337.0	6.6	40.0	130	9.0	2.02	50.43	398863	829.55	489.84	8.4	18.5
2338.0	5.2	40.0	130	9.0	2.10	50.62	400363	1053	491	8.4	18.5
2339.0	6.1	40.0	130	9.0	2.05	50.79	401642	897.54	491.34	8.4	18.5
2340.0	6.1	40.0	130	9.0	2.05	50.95	402920	897.54	491.96	8.4	18.5
2341.0	11.2	40.0	130	9.0	1.84	51.04	403617	488.84	491.96	8.4	18.5
2342.0	12.0	40.0	130	9.0	1.81	51.13	404267	456.25	491.90	8.4	18.5
2343.0	11.1	40.0	130	9.0	1.84	51.22	404970	493.24	491.91	8.4	18.5
2344.0	12.9	40.0	130	9.0	1.79	51.29	405574	424.42	491.80	8.4	18.5
2345.0	14.2	40.0	130	8.9	1.78	51.36	406123	385.56	491.64	8.4	18.5
2346.0	12.5	40.0	130	8.9	1.82	51.44	406747	438.00	491.56	8.4	18.5
2347.0	13.0	40.0	130	8.9	1.81	51.52	407347	421.15	491.45	8.4	18.5
2348.0	13.7	40.0	130	8.9	1.79	51.59	407917	399.64	491.31	8.4	18.5
2349.0	11.2	40.0	130	8.9	1.86	51.68	408613	488.84	491.31	8.4	18.5
2350.0	12.3	40.0	130	8.9	1.83	51.76	409247	445.12	491.24	8.4	18.5
2351.0	11.7	40.0	130	8.9	1.84	51.85	409914	467.95	491.20	8.4	18.5
2352.0	10.9	40.0	130	8.9	1.87	51.94	410630	502.29	491.22	8.4	18.5
2353.0	11.7	40.0	130	8.9	1.84	52.03	411296	467.95	491.18	8.4	18.5
2354.0	12.4	40.0	130	8.9	1.82	52.11	411925	441.53	491.11	8.4	18.5
2355.0	10.8	40.0	130	8.9	1.87	52.20	412648	506.94	491.13	8.4	18.5
2356.0	15.3	40.0	130	8.9	1.75	52.27	413157	357.84	490.93	8.4	18.5
2357.0	15.9	40.0	130	8.9	1.74	52.33	413648	344.34	490.71	8.4	18.5
2358.0	14.8	40.0	130	8.9	1.76	52.40	414175	369.93	490.53	8.4	18.5
2359.0	11.7	40.0	130	8.9	1.84	52.48	414842	467.95	490.50	8.4	18.5
2360.0	17.7	40.0	130	8.9	1.70	52.54	415282	309.32	490.23	8.4	18.5
2361.0	16.8	40.0	130	8.9	1.72	52.60	415747	325.89	489.98	8.4	18.5
2362.0	15.2	40.0	130	8.9	1.75	52.66	416260	360.20	489.79	8.4	18.5
2363.0	15.7	40.0	130	8.9	1.74	52.73	416757	348.73	489.58	8.4	18.5
2364.0	16.1	40.0	130	8.9	1.73	52.79	417241	340.06	489.36	8.4	18.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2365.0	15.1	40.0	130	8.9	1.75	52.85	417758	362.58	489.17	8.4	18.5
2366.0	17.0	40.0	130	8.9	1.71	52.91	418216	322.06	488.92	8.4	18.5
2367.0	17.9	40.0	130	8.9	1.70	52.97	418652	305.87	488.65	8.4	18.6
2368.0	12.8	40.0	130	8.9	1.81	53.05	419262	427.73	488.56	8.4	18.6
2369.0	15.1	40.0	130	8.9	1.75	53.11	419778	362.58	488.38	8.4	18.6
2370.0	14.5	40.0	130	8.9	1.77	53.18	420316	377.59	488.21	8.4	18.6
2371.0	14.9	40.0	130	8.9	1.76	53.25	420840	367.45	488.04	8.4	18.6
2372.0	11.8	40.0	130	8.9	1.84	53.33	421501	463.98	488.00	8.4	18.6
2373.0	14.0	40.0	130	8.9	1.78	53.41	422058	391.07	487.86	8.4	18.6
2374.0	13.8	40.0	130	8.9	1.79	53.48	422623	396.74	487.72	8.4	18.6
2375.0	13.0	40.0	130	8.9	1.81	53.56	423223	421.15	487.63	8.4	18.6
2376.0	11.7	40.0	130	8.9	1.84	53.64	423890	467.95	487.60	8.4	18.6
2377.0	12.5	40.0	130	8.9	1.82	53.72	424514	438.00	487.53	8.4	18.6
2378.0	11.1	40.0	130	8.9	1.86	53.81	425216	493.24	487.53	8.4	18.6
2379.0	12.2	40.0	130	8.9	1.83	53.89	425856	448.77	487.48	8.4	18.6
2380.0	12.0	40.0	130	8.9	1.83	53.98	426506	456.25	487.43	8.4	18.6
2381.0	10.9	40.0	130	8.9	1.87	54.07	427221	502.29	487.45	8.4	18.6
2382.0	11.7	40.0	130	8.9	1.84	54.15	427888	467.95	487.43	8.4	18.6
2383.0	13.3	40.0	130	8.9	1.80	54.23	428474	411.65	487.32	8.4	18.6
2384.0	12.5	40.0	130	8.9	1.82	54.31	429098	438.00	487.25	8.4	18.6
2385.0	10.3	40.0	130	8.9	1.89	54.41	429856	531.55	487.31	8.4	18.6
2386.0	11.5	40.0	130	8.9	1.85	54.49	430534	476.09	487.29	8.4	18.6
2387.0	13.5	40.0	130	8.9	1.79	54.57	431112	405.56	487.18	8.4	18.6
2388.0	13.5	40.0	130	8.9	1.79	54.64	431689	405.56	487.06	8.4	18.6
2389.0	14.1	40.0	130	8.9	1.78	54.71	432243	388.30	486.92	8.4	18.6
2390.0	13.2	40.0	130	8.9	1.80	54.79	432834	414.77	486.81	8.4	18.6
2391.0	12.9	40.0	130	8.9	1.81	54.87	433438	424.42	486.73	8.4	18.6
2392.0	13.6	40.0	130	8.9	1.79	54.94	434012	402.57	486.61	8.4	18.6
2393.0	13.7	40.0	130	8.9	1.79	55.01	434581	399.64	486.48	8.4	18.6
2394.0	15.3	40.0	130	8.9	1.75	55.08	435091	357.84	486.30	8.4	18.6
2395.0	12.8	40.0	130	8.9	1.81	55.16	435700	427.73	486.22	8.4	18.6
2396.0	11.9	40.0	130	8.9	1.84	55.24	436356	460.08	486.18	8.4	18.6
2397.0	10.6	40.0	130	8.9	1.88	55.33	437092	516.51	486.22	8.4	18.6
2398.0	12.5	40.0	130	8.9	1.82	55.41	437716	438.00	486.15	8.4	18.6
2399.0	12.7	40.0	130	8.9	1.81	55.49	438330	431.10	486.08	8.4	18.6
2400.0	14.8	40.0	130	8.9	1.76	55.56	438857	369.93	485.91	8.4	18.6
2401.0	11.8	40.0	130	8.9	1.84	55.64	439518	463.98	485.88	8.4	18.6
2402.0	14.2	40.0	130	8.9	1.78	55.72	440067	385.56	485.74	8.4	18.6
2403.0	13.6	40.0	130	8.9	1.79	55.79	440641	402.57	485.62	8.4	18.6
2404.0	13.2	40.0	130	8.9	1.80	55.86	441232	414.77	485.52	8.4	18.6
2405.0	14.1	40.0	130	8.9	1.78	55.94	441785	388.30	485.39	8.4	18.6
2406.0	15.5	40.0	130	8.9	1.75	56.00	442288	353.23	485.20	8.4	18.6
2407.0	12.3	40.0	130	8.9	1.83	56.08	442922	445.12	485.15	8.4	18.6
2408.0	9.5	40.0	130	8.9	1.92	56.19	443743	576.32	485.27	8.4	18.6
2409.0	11.4	40.0	130	8.9	1.85	56.27	444427	480.26	485.27	8.4	18.6
2410.0	9.9	40.0	130	8.9	1.90	56.38	445215	553.03	485.36	8.4	18.6
2411.0	12.0	40.0	130	8.9	1.83	56.46	445865	456.25	485.32	8.4	18.6
2412.0	11.8	40.0	130	8.9	1.84	56.54	446526	463.98	485.29	8.4	18.6
2413.0	11.7	40.0	130	8.9	1.84	56.63	447193	467.95	485.27	8.4	18.6
2414.0	10.3	40.0	130	8.9	1.89	56.73	447950	531.55	485.33	8.4	18.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
2415.0	13.0	40.0	130	8.9	1.81	56.80	448550	421.15	485.24	8.4	18.6
2416.0	11.3	40.0	130	8.9	1.86	56.89	449240	484.51	485.24	8.4	18.6
2417.0	13.5	40.0	130	8.9	1.79	56.97	449818	405.56	485.13	8.4	18.6
2418.0	14.8	40.0	130	8.9	1.76	57.03	450345	369.93	484.97	8.4	18.6
2419.0	13.9	40.0	130	8.9	1.78	57.10	450906	393.88	484.85	8.4	18.6
2420.0	14.3	40.0	130	8.9	1.77	57.17	451452	382.87	484.71	8.4	18.6
2421.0	13.3	40.0	130	8.9	1.80	57.25	452038	411.65	484.61	8.4	18.6
2422.0	13.1	40.0	130	8.9	1.80	57.33	452634	417.94	484.52	8.4	18.6
2423.0	14.3	40.0	130	8.9	1.77	57.40	453179	382.87	484.38	8.4	18.6
2424.0	13.7	40.0	130	8.9	1.79	57.47	453749	399.64	484.26	8.4	18.6
2425.0	10.7	40.0	130	8.9	1.87	57.56	454478	511.68	484.30	8.4	18.6
2426.0	11.0	40.0	130	8.9	1.86	57.65	455187	497.73	484.32	8.4	18.6
2427.0	13.4	40.0	130	8.9	1.80	57.73	455769	408.58	484.22	8.4	18.6
2428.0	12.3	40.0	130	8.9	1.83	57.81	456403	445.12	484.16	8.4	18.6
2429.0	12.6	40.0	130	8.9	1.82	57.89	457022	434.52	484.10	8.4	18.6
2430.0	13.1	40.0	130	8.9	1.80	57.97	457617	417.94	484.01	8.4	18.6
2431.0	12.1	40.0	130	8.9	1.83	58.05	458262	452.48	483.96	8.4	18.6
2432.0	10.7	40.0	130	8.9	1.87	58.14	458991	511.68	484.00	8.4	18.6
2433.0	10.2	40.0	130	8.9	1.89	58.24	459756	536.76	484.07	8.4	18.6
2434.0	7.7	40.0	130	8.9	1.99	58.37	460769	711.04	484.38	8.4	18.6
2435.0	7.7	40.0	130	8.9	1.99	58.50	461782	711.04	484.68	8.4	18.6
2436.0	11.4	40.0	130	8.9	1.85	58.59	462466	480.26	484.68	8.4	18.6
2437.0	10.8	40.0	130	8.9	1.87	58.68	463188	506.94	484.71	8.4	18.6
2438.0	10.0	40.0	130	8.9	1.90	58.78	463968	547.50	484.79	8.4	18.6
2439.0	12.1	40.0	130	8.9	1.83	58.86	464613	452.48	484.75	8.4	18.6
2440.0	10.0	40.0	130	8.9	1.90	58.96	465393	547.50	484.83	8.4	18.6
2441.0	10.3	40.0	130	8.9	1.89	59.06	466150	531.55	484.89	8.4	18.6
2442.0	10.1	40.0	130	8.9	1.89	59.16	466922	542.08	484.97	8.4	18.6
2443.0	9.9	40.0	130	8.9	1.90	59.26	467710	553.03	485.06	8.4	18.6
2444.0	8.9	40.0	130	8.9	1.94	59.37	468586	615.17	485.23	8.4	18.6
2445.0	10.4	40.0	130	8.9	1.88	59.47	469336	526.44	485.29	8.4	18.6
2446.0	9.3	40.0	130	8.9	1.92	59.58	470175	588.71	485.42	8.4	18.6
2447.0	12.1	40.0	130	8.9	1.83	59.66	470820	452.48	485.38	8.4	18.6
2448.0	11.2	40.0	130	8.9	1.86	59.75	471516	488.84	485.38	8.4	18.6
2449.0	10.0	40.0	130	8.9	1.90	59.85	472296	547.50	485.47	8.4	18.7
2450.0	9.6	40.0	130	8.9	1.91	59.95	473109	570.31	485.58	8.4	18.7
2451.0	9.6	40.0	130	8.9	1.91	60.06	473921	570.31	485.69	8.4	18.7
2452.0	9.3	40.0	130	8.9	1.92	60.16	474760	588.71	485.82	8.4	18.7
2453.0	9.9	40.0	130	8.9	1.90	60.26	475548	553.03	485.91	8.4	18.7
2454.0	8.7	40.0	130	8.9	1.95	60.38	476444	629.31	486.10	8.4	18.7
2455.0	7.7	40.0	130	8.9	1.99	60.51	477457	711.04	486.40	8.4	18.7
2456.0	10.1	40.0	130	8.9	1.89	60.61	478230	542.08	486.47	8.4	18.7
2457.0	9.7	40.0	130	8.9	1.91	60.71	479034	564.43	486.57	8.4	18.7
2458.0	9.5	40.0	130	8.9	1.92	60.82	479855	576.32	486.69	8.4	18.7
2459.0	10.1	40.0	130	8.9	1.89	60.92	480627	542.08	486.76	8.4	18.7
2460.0	11.4	40.0	130	8.9	1.85	61.00	481311	480.26	486.75	8.4	18.7
2461.0	10.5	40.0	130	8.9	1.88	61.10	482054	521.43	486.80	8.4	18.7
2462.0	11.3	40.0	130	8.9	1.86	61.19	482744	484.51	486.79	8.4	18.7
2463.0	10.1	40.0	130	8.9	1.89	61.29	483517	542.08	486.86	8.4	18.7
2464.0	10.9	40.0	130	8.9	1.87	61.38	484232	502.29	486.88	8.4	18.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2465.0	10.0	40.0	130	8.9	1.90	61.48	485012	547.50	486.96	8.4	18.7
2466.0	10.6	40.0	130	8.9	1.88	61.57	485748	516.51	487.00	8.4	18.7
2467.0	10.7	40.0	130	8.9	1.87	61.67	486477	511.68	487.03	8.4	18.7
2468.0	11.8	40.0	130	8.9	1.84	61.75	487138	463.98	487.00	8.4	18.7
2469.0	11.0	40.0	130	8.9	1.86	61.84	487847	497.73	487.02	8.4	18.7
2470.0	10.3	40.0	130	8.9	1.89	61.94	488605	531.55	487.07	8.4	18.7
2471.0	10.2	40.0	130	8.9	1.89	62.04	489369	536.76	487.14	8.4	18.7
2472.0	9.9	40.0	130	8.9	1.90	62.14	490157	553.03	487.22	8.4	18.7
2473.0	11.4	40.0	130	8.9	1.85	62.22	490841	480.26	487.21	8.4	18.7
2474.0	15.1	40.0	130	8.9	1.75	62.29	491358	362.58	487.05	8.4	18.7
2475.0	13.0	40.0	130	8.9	1.81	62.37	491958	421.15	486.97	8.4	18.7
2476.0	12.7	40.0	130	8.9	1.81	62.45	492572	431.10	486.90	8.4	18.7
2477.0	14.1	40.0	130	8.9	1.78	62.52	493125	388.30	486.77	8.4	18.7
2478.0	12.1	40.0	130	8.9	1.83	62.60	493770	452.48	486.73	8.4	18.7
2479.0	12.6	40.0	130	8.9	1.82	62.68	494389	434.52	486.66	8.4	18.7
2480.0	13.8	40.0	130	8.9	1.79	62.75	494954	396.74	486.55	8.4	18.7
2481.0	11.7	40.0	130	8.9	1.84	62.84	495621	467.95	486.53	8.4	18.7
2482.0	11.5	40.0	130	8.9	1.85	62.92	496299	476.09	486.51	8.4	18.7
2483.0	12.1	40.0	130	8.9	1.83	63.01	496944	452.48	486.47	8.4	18.7
2484.0	15.7	40.0	130	8.9	1.74	63.07	497441	348.73	486.30	8.4	18.7
2485.0	12.5	40.0	130	8.9	1.82	63.15	498065	438.00	486.24	8.4	18.7
2486.0	9.0	40.0	130	8.9	1.93	63.26	498931	608.33	486.39	8.4	18.7
2487.0	11.1	40.0	130	8.9	1.86	63.35	499634	493.24	486.40	8.4	18.7
2488.0	11.4	40.0	130	8.9	1.85	63.44	500318	480.26	486.39	8.4	18.7
2489.0	7.7	35.0	130	8.9	1.91	63.57	501331	711.04	486.67	8.4	18.7
2490.0	12.1	35.0	130	8.9	1.76	63.65	501976	452.48	486.63	8.4	18.7
2491.0	9.1	35.0	130	8.9	1.85	63.76	502833	601.65	486.77	8.4	18.7
2492.0	8.3	38.0	130	8.9	1.93	63.88	503773	659.64	486.99	8.4	18.7
2493.0	9.0	38.0	130	8.9	1.90	63.99	504639	608.33	487.14	8.4	18.7
2494.0	9.8	38.0	130	8.9	1.87	64.10	505435	558.67	487.23	8.4	18.7
2495.0	10.0	38.0	130	8.9	1.87	64.20	506215	547.50	487.30	8.4	18.7
2496.0	9.3	38.0	130	8.9	1.89	64.30	507054	588.71	487.43	8.4	18.7
2497.0	10.4	38.0	130	8.9	1.85	64.40	507804	526.44	487.48	8.4	18.7
2498.0	9.5	38.0	130	8.9	1.89	64.50	508625	576.32	487.59	8.4	18.7
2499.0	10.7	38.0	130	8.9	1.84	64.60	509354	511.68	487.62	8.4	18.7
2500.0	9.9	38.0	130	8.9	1.87	64.70	510142	553.03	487.70	8.4	18.7
2501.0	10.7	38.0	130	8.9	1.84	64.79	510871	511.68	487.73	8.4	18.7
2502.0	9.8	38.0	130	8.9	1.87	64.89	511667	558.67	487.81	8.4	18.7
2503.0	7.8	38.0	130	8.9	1.95	65.02	512667	701.92	488.08	8.4	18.7
2504.0	11.7	38.0	130	8.9	1.81	65.11	513333	467.95	488.05	8.4	18.7
2505.0	10.0	38.0	130	8.9	1.87	65.21	514113	547.50	488.13	8.4	18.7
2506.0	14.9	38.0	130	8.9	1.73	65.28	514637	367.45	487.98	8.4	18.7
2507.0	11.4	38.0	130	8.9	1.82	65.36	515321	480.26	487.97	8.4	18.7
2508.0	11.6	38.0	130	8.9	1.82	65.45	515993	471.98	487.95	8.4	18.7
2509.0	10.3	38.0	130	8.9	1.86	65.55	516751	531.55	488.00	8.4	18.7
2510.0	11.4	38.0	130	8.9	1.82	65.63	517435	480.26	487.99	8.4	18.7
2511.0	11.7	38.0	130	8.9	1.81	65.72	518102	467.95	487.97	8.4	18.7
2512.0	11.4	38.0	130	8.9	1.82	65.81	518786	480.26	487.96	8.4	18.7
2513.0	12.6	38.0	130	8.9	1.79	65.89	519405	434.52	487.89	8.4	18.7
2514.0	12.3	38.0	130	8.9	1.80	65.97	520039	445.12	487.84	8.4	18.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2515.0	12.6	38.0	130	8.9	1.79	66.05	520658	434.52	487.78	8.4	18.7
2516.0	11.8	38.0	130	8.9	1.81	66.13	521319	463.98	487.75	8.4	18.7
2517.0	12.3	38.0	130	8.9	1.80	66.21	521953	445.12	487.70	8.4	18.7
2518.0	11.9	38.0	130	8.9	1.81	66.30	522609	460.08	487.66	8.4	18.7
2519.0	11.3	38.0	130	8.9	1.83	66.39	523299	484.51	487.66	8.4	18.7
2520.0	9.6	38.0	130	8.9	1.88	66.49	524111	570.31	487.76	8.4	18.7
2521.0	9.6	38.0	130	8.9	1.88	66.59	524924	570.31	487.86	8.4	18.7
2522.0	11.7	38.0	130	8.9	1.81	66.68	525591	467.95	487.84	8.4	18.7
2523.0	12.1	38.0	130	8.9	1.80	66.76	526235	452.48	487.79	8.4	18.7
2524.0	9.0	38.0	130	8.9	1.90	66.87	527102	608.33	487.94	8.4	18.7
2525.0	9.1	38.0	130	8.9	1.90	66.98	527959	601.65	488.07	8.4	18.7
2526.0	10.6	38.0	130	8.9	1.85	67.08	528695	516.51	488.11	8.4	18.7
2527.0	9.1	38.0	130	8.9	1.90	67.19	529552	601.65	488.24	8.4	18.7
2528.0	8.6	38.0	130	8.9	1.92	67.30	530459	636.63	488.42	8.4	18.7
2529.0	9.9	38.0	130	8.9	1.87	67.40	531247	553.03	488.50	8.4	18.7
2530.0	9.6	38.0	130	8.9	1.88	67.51	532059	570.31	488.60	8.4	18.7
2531.0	9.9	40.0	130	8.9	1.90	67.61	532847	553.03	488.67	8.4	18.7
2532.0	8.5	40.0	130	8.9	1.95	67.73	533765	644.12	488.86	8.4	18.8
2533.0	9.6	40.0	130	8.9	1.91	67.83	534577	570.31	488.95	8.4	18.8
2534.0	7.6	40.0	130	8.9	1.99	67.96	535604	720.39	489.23	8.4	18.8
2535.0	6.8	40.0	130	8.9	2.03	68.11	536751	805.15	489.60	8.4	18.8
2536.0	8.6	40.0	130	8.9	1.95	68.23	537658	636.63	489.78	8.4	18.8
2537.0	5.2	40.0	130	8.9	2.12	68.42	539158	1053	490	8.4	18.8
2538.0	3.5	40.0	130	8.9	2.26	68.70	541386	1564	492	8.4	18.8
2539.0	3.9	40.0	130	8.9	2.22	68.96	543386	1404	493	8.4	18.8
2540.0	6.0	40.0	130	8.9	2.07	69.13	544686	912.50	493.28	8.4	18.8
2541.0	6.0	40.0	130	8.9	2.07	69.29	545986	912.50	493.77	8.4	18.8
2542.0	4.0	40.0	90	8.9	2.09	69.54	547336	1369	495	8.4	18.8
2543.0	5.0	40.0	90	8.9	2.01	69.74	548416	1095	496	8.4	18.8
2544.0	4.0	40.0	90	8.9	2.09	69.99	549766	1369	497	8.4	18.8
2545.0	6.0	40.0	130	8.9	2.07	70.16	551066	912.50	497.01	8.4	18.8
2546.0	5.6	40.0	130	8.9	2.10	70.34	552459	977.68	497.57	8.4	18.8
2547.0	6.5	40.0	130	8.9	2.05	70.49	553659	842.31	497.98	8.4	18.8
2548.0	5.3	40.0	130	8.9	2.12	70.68	555131	1033	499	8.4	18.8
2549.0	7.3	40.0	130	8.9	2.01	70.82	556199	750.00	498.89	8.4	18.8
2550.0	2.9	40.0	130	8.9	2.33	71.16	558889	1888	501	8.4	18.8

BIT NUMBER	6	IADC CODE	114	INTERVAL	2550.0- 2944.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	8.2	BIT RUN	394.0
TOTAL HOURS	27.25	TOTAL TURNS	189733	CONDITION	T4 B4 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2555.0	20.0	25.0	90	8.9	1.34	0.25	1350	274	9693	8.4	18.8
2560.0	25.0	25.0	90	8.9	1.27	0.45	2430	219	4956	8.4	18.8
2565.0	25.0	30.0	90	8.9	1.33	0.65	3510	219	3377	8.4	18.8
2570.0	25.0	30.0	90	8.9	1.33	0.85	4590	219	2587	8.4	18.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2575.0	25.0	30.0	90	8.9	1.33	1.05	5670	219	2114	8.4	18.8
2580.0	25.0	30.0	90	8.9	1.33	1.25	6750	219	1798	8.4	18.8
2585.0	24.0	30.0	90	8.9	1.35	1.46	7875	228	1574	8.4	18.8
2590.0	19.0	30.0	90	8.9	1.42	1.72	9296	288	1413	8.4	18.8
2595.0	24.0	30.0	90	8.9	1.35	1.93	10421	228	1281	8.4	18.8
2600.0	16.0	30.0	90	8.9	1.48	2.24	12109	342	1187	8.4	18.8
2605.0	17.0	30.0	90	8.9	1.46	2.54	13697	322	1109	8.4	18.8
2610.0	23.0	30.0	90	8.9	1.36	2.75	14871	238	1036	8.4	18.8
2615.0	20.0	30.0	90	8.9	1.40	3.00	16221	273.75	977.57	8.4	18.8
2620.0	25.0	30.0	100	9.0	1.35	3.20	17421	219.00	923.39	8.4	18.9
2625.0	24.0	30.0	120	9.0	1.42	3.41	18921	228.13	877.03	8.4	18.9
2630.0	15.0	30.0	120	9.0	1.57	3.75	21321	365.00	845.03	8.4	18.9
2635.0	20.0	30.0	120	9.1	1.46	4.00	23121	273.75	811.43	8.4	18.9
2640.0	24.0	30.0	120	9.1	1.41	4.20	24621	228.13	779.02	8.4	18.9
2645.0	20.0	30.0	120	9.1	1.46	4.45	26421	273.75	752.43	8.4	18.9
2650.0	18.0	30.0	120	9.2	1.48	4.73	28421	304.17	730.02	8.4	18.9
2655.0	15.0	30.0	120	9.2	1.54	5.06	30821	365.00	712.63	8.4	18.9
2660.0	20.0	30.0	120	9.2	1.45	5.31	32621	273.75	692.68	8.4	18.9
2665.0	15.0	30.0	120	9.3	1.52	5.65	35021	365.00	678.44	8.4	18.9
2670.0	16.0	30.0	120	9.3	1.50	5.96	37271	342.19	664.43	8.4	18.9
2675.0	25.0	35.0	120	9.3	1.43	6.16	38711	219.00	646.61	8.4	18.9
2680.0	21.0	35.0	120	9.3	1.48	6.40	40425	260.71	631.77	8.4	18.9
2681.0	21.0	35.0	120	9.4	1.47	6.45	40768	260.71	628.94	8.4	18.9
2682.0	24.0	35.0	120	9.4	1.42	6.49	41068	228.13	625.90	8.4	18.9
2683.0	15.0	40.0	120	9.4	1.64	6.55	41548	365.00	623.94	8.4	18.9
2684.0	19.0	40.0	120	9.4	1.56	6.61	41927	288.16	621.43	8.4	18.9
2685.0	14.0	40.0	120	9.4	1.66	6.68	42441	391.07	619.73	8.4	18.9
2686.0	11.6	35.0	120	9.4	1.65	6.77	43062	471.98	618.64	8.4	18.9
2687.0	12.4	30.0	120	9.4	1.56	6.85	43642	441.53	617.35	8.4	18.9
2688.0	14.0	30.0	120	9.4	1.52	6.92	44157	391.07	615.71	8.4	18.9
2689.0	12.0	30.0	120	9.4	1.57	7.00	44757	456.25	614.56	8.4	18.9
2690.0	13.2	30.0	120	9.4	1.54	7.08	45302	414.77	613.13	8.4	18.9
2691.0	13.6	30.0	120	9.4	1.53	7.15	45832	402.57	611.64	8.4	18.9
2692.0	11.6	30.0	120	9.4	1.58	7.24	46452	471.98	610.66	8.4	18.9
2693.0	19.5	30.0	120	9.4	1.43	7.29	46822	281.35	608.35	8.4	18.9
2694.0	15.6	30.0	120	9.4	1.49	7.35	47284	351.31	606.57	8.4	18.9
2695.0	15.9	30.0	120	9.4	1.49	7.41	47738	345.23	604.77	8.4	18.9
2696.0	19.6	30.0	120	9.4	1.42	7.47	48106	279.83	602.54	8.4	18.9
2697.0	14.9	30.0	120	9.4	1.50	7.53	48588	366.52	600.93	8.4	18.9
2698.0	19.0	30.0	120	9.4	1.43	7.59	48966	287.44	598.82	8.4	18.9
2699.0	16.4	30.0	120	9.4	1.48	7.65	49404	333.06	597.03	8.4	18.9
2700.0	19.1	30.0	120	9.4	1.43	7.70	49780	285.92	594.96	8.4	18.9
2701.0	16.7	30.0	120	9.4	1.47	7.76	50210	326.98	593.18	8.4	18.9
2702.0	15.0	30.0	120	9.4	1.50	7.82	50690	365.00	591.68	8.4	18.9
2703.0	20.0	30.0	120	9.4	1.42	7.87	51050	273.75	589.60	8.4	18.9
2704.0	20.0	30.0	120	9.4	1.42	7.92	51410	273.75	587.55	8.4	18.9
2705.0	15.0	30.0	120	9.4	1.50	7.99	51890	365.00	586.12	8.4	19.0
2706.0	18.0	30.0	120	9.4	1.45	8.05	52290	304.17	584.31	8.4	19.0
2707.0	19.0	30.0	120	9.4	1.43	8.10	52669	288.16	582.42	8.4	19.0
2708.0	14.0	30.0	120	9.4	1.52	8.17	53183	391.07	581.21	8.4	19.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2709.0	20.0	30.0	120	9.4	1.42	8.22	53543	273.75	579.28	8.4	19.0
2710.0	16.0	30.0	120	9.4	1.48	8.28	53993	342.19	577.80	8.4	19.0
2711.0	21.0	30.0	120	9.4	1.40	8.33	54336	260.71	575.83	8.4	19.0
2712.0	12.8	30.0	120	9.4	1.55	8.41	54899	427.73	574.91	8.4	19.0
2713.0	10.3	29.0	120	9.4	1.60	8.51	55599	532.29	574.65	8.4	19.0
2714.0	11.6	29.0	120	9.4	1.57	8.59	56219	471.46	574.02	8.4	19.0
2715.0	10.7	29.0	120	9.4	1.59	8.69	56889	509.48	573.63	8.4	19.0
2716.0	10.7	29.0	120	9.4	1.59	8.78	57563	512.52	573.26	8.4	19.0
2717.0	10.6	29.0	120	9.4	1.59	8.87	58241	515.56	572.92	8.4	19.0
2718.0	8.9	29.0	120	9.4	1.64	8.99	59047	612.90	573.16	8.4	19.0
2719.0	10.3	29.0	120	9.4	1.60	9.08	59749	533.81	572.92	8.4	19.0
2720.0	9.4	29.0	120	9.4	1.63	9.19	60511	579.44	572.96	8.4	19.0
2721.0	10.8	29.0	120	9.4	1.59	9.28	61177	506.44	572.57	8.4	19.0
2722.0	11.7	29.0	120	9.4	1.56	9.37	61791	466.90	571.96	8.4	19.0
2723.0	16.0	29.0	120	9.4	1.47	9.43	62241	342.19	570.63	8.4	19.0
2724.0	14.0	29.0	120	9.4	1.51	9.50	62755	390.85	569.60	8.4	19.0
2725.0	13.0	29.0	120	9.4	1.53	9.58	63309	421.27	568.75	8.4	19.0
2726.0	14.5	29.0	120	9.4	1.50	9.65	63807	378.69	567.67	8.4	19.0
2727.0	16.6	29.0	120	9.4	1.46	9.71	64241	330.02	566.33	8.4	19.0
2728.0	15.6	29.0	120	9.4	1.48	9.77	64703	351.31	565.12	8.4	19.0
2729.0	15.9	29.0	120	9.4	1.47	9.83	65155	343.71	563.88	8.4	19.0
2730.0	14.8	29.0	120	9.4	1.49	9.90	65643	371.08	562.81	8.4	19.0
2731.0	13.4	29.0	120	9.4	1.52	9.98	66181	409.10	561.96	8.4	19.0
2732.0	13.9	29.0	120	9.4	1.51	10.05	66699	393.90	561.04	8.4	19.0
2733.0	16.6	29.0	120	9.4	1.46	10.11	67133	330.02	559.78	8.4	19.0
2734.0	15.2	29.0	120	9.4	1.49	10.17	67607	360.44	558.69	8.4	19.0
2735.0	15.5	29.0	120	9.4	1.48	10.24	68073	354.35	557.59	8.4	19.0
2736.0	16.8	29.0	120	9.4	1.46	10.30	68501	325.46	556.34	8.4	19.0
2737.0	13.5	29.0	120	9.4	1.52	10.37	69035	406.06	555.54	8.4	19.0
2738.0	12.6	29.0	120	9.4	1.54	10.45	69605	433.44	554.89	8.4	19.0
2739.0	12.9	29.0	120	9.4	1.53	10.53	70163	424.31	554.20	8.4	19.0
2740.0	16.4	29.0	120	9.4	1.46	10.59	70603	334.58	553.04	8.4	19.0
2741.0	11.8	30.0	120	9.4	1.58	10.67	71213	463.85	552.57	8.4	19.0
2742.0	14.0	30.0	120	9.4	1.52	10.75	71727	390.85	551.73	8.4	19.0
2743.0	12.9	30.0	120	9.4	1.55	10.82	72285	424.31	551.07	8.4	19.0
2744.0	11.6	30.0	120	9.4	1.58	10.91	72907	472.98	550.67	8.4	19.0
2745.0	15.1	30.0	120	9.4	1.50	10.98	73385	363.48	549.71	8.4	19.0
2746.0	14.1	30.0	120	9.4	1.52	11.05	73897	389.33	548.89	8.4	19.0
2747.0	12.0	30.0	120	9.4	1.57	11.13	74497	456.25	548.42	8.4	19.0
2748.0	12.6	30.0	120	9.4	1.56	11.21	75069	434.96	547.85	8.4	19.0
2749.0	13.2	30.0	120	9.4	1.54	11.29	75615	415.19	547.18	8.4	19.0
2750.0	15.1	30.0	120	9.4	1.50	11.35	76093	363.48	546.26	8.4	19.0
2751.0	11.5	30.0	120	9.4	1.58	11.44	76717	474.50	545.90	8.4	19.0
2752.0	9.9	30.0	120	9.4	1.63	11.54	77443	552.06	545.93	8.4	19.0
2753.0	11.4	30.0	120	9.4	1.59	11.63	78073	479.06	545.61	8.4	19.0
2754.0	11.4	30.0	120	9.4	1.59	11.72	78707	482.10	545.29	8.4	19.0
2755.0	11.6	30.0	120	9.4	1.58	11.80	79329	472.98	544.94	8.4	19.0
2756.0	12.0	30.0	120	9.4	1.57	11.89	79929	456.25	544.51	8.4	19.0
2757.0	11.3	30.0	120	9.4	1.59	11.97	80567	485.15	544.22	8.4	19.0
2758.0	11.6	30.0	120	9.4	1.58	12.06	81187	471.46	543.87	8.4	19.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2759.0	12.5	30.0	120	9.4	1.56	12.14	81761	436.48	543.36	8.4	19.0
2760.0	11.8	30.0	120	9.4	1.58	12.22	82373	465.37	542.99	8.4	19.0
2761.0	16.9	30.0	120	9.4	1.47	12.28	82799	323.94	541.95	8.4	19.0
2762.0	13.8	30.0	120	9.4	1.53	12.36	83319	395.42	541.26	8.4	19.0
2763.0	17.8	30.0	120	9.4	1.45	12.41	83723	307.21	540.16	8.4	19.0
2764.0	15.7	30.0	120	9.4	1.49	12.48	84181	348.27	539.26	8.4	19.0
2765.0	15.9	30.0	120	9.4	1.49	12.54	84633	343.71	538.35	8.4	19.0
2766.0	14.6	30.0	120	9.4	1.51	12.61	85125	374.12	537.59	8.4	19.0
2767.0	14.1	30.0	120	9.4	1.52	12.68	85635	387.81	536.90	8.4	19.0
2768.0	15.3	30.0	120	9.4	1.50	12.74	86105	357.40	536.08	8.4	19.0
2769.0	12.3	30.0	120	9.4	1.56	12.82	86689	444.08	535.66	8.4	19.0
2770.0	12.9	30.0	120	9.4	1.55	12.90	87245	422.79	535.15	8.4	19.0
2771.0	13.9	30.0	120	9.4	1.53	12.97	87763	393.90	534.51	8.4	19.0
2772.0	14.1	30.0	120	9.4	1.52	13.04	88273	387.81	533.85	8.4	19.0
2773.0	14.8	30.0	120	9.4	1.51	13.11	88761	371.08	533.12	8.4	19.0
2774.0	12.9	30.0	120	9.4	1.55	13.19	89319	424.31	532.63	8.4	19.0
2775.0	14.9	30.0	120	9.4	1.51	13.26	89803	368.04	531.90	8.4	19.0
2776.0	15.0	30.0	120	9.4	1.50	13.32	90283	365.00	531.16	8.4	19.0
2777.0	15.1	30.0	120	9.4	1.50	13.39	90761	363.48	530.42	8.4	19.0
2778.0	15.2	30.0	120	9.4	1.50	13.46	91235	360.44	529.68	8.4	19.0
2779.0	16.4	30.0	120	9.4	1.48	13.52	91673	333.06	528.82	8.4	19.0
2780.0	15.8	30.0	120	9.4	1.49	13.58	92129	346.75	528.03	8.4	19.0
2781.0	15.7	30.0	120	9.4	1.49	13.64	92587	348.27	527.25	8.4	19.0
2782.0	14.9	30.0	120	9.4	1.50	13.71	93069	366.52	526.56	8.4	19.0
2783.0	13.5	30.0	120	9.4	1.53	13.78	93601	404.54	526.03	8.4	19.0
2784.0	13.7	30.0	120	9.4	1.53	13.86	94125	398.46	525.49	8.4	19.0
2785.0	15.5	30.0	120	9.4	1.49	13.92	94589	352.83	524.75	8.4	19.0
2786.0	14.7	30.0	120	9.4	1.51	13.99	95079	372.60	524.11	8.4	19.0
2787.0	11.7	30.0	100	9.4	1.52	14.07	95591	466.90	523.87	8.4	19.0
2788.0	12.9	30.0	100	9.4	1.50	14.15	96057	425.83	523.45	8.4	19.0
2789.0	14.5	30.0	120	9.4	1.51	14.22	96555	378.69	522.85	8.4	19.0
2790.0	15.7	30.0	120	9.4	1.49	14.29	97015	349.79	522.13	8.4	19.0
2791.0	14.6	30.0	120	9.4	1.51	14.35	97507	374.12	521.51	8.4	19.0
2792.0	13.3	30.0	120	9.4	1.54	14.43	98047	410.63	521.06	8.4	19.0
2793.0	16.0	30.0	120	9.4	1.48	14.49	98497	342.19	520.32	8.4	19.0
2794.0	15.9	30.0	120	9.4	1.49	14.55	98951	345.23	519.60	8.4	19.1
2795.0	13.7	30.0	120	9.4	1.53	14.63	99475	398.46	519.11	8.4	19.1
2796.0	13.3	30.0	100	9.4	1.49	14.70	99927	412.15	518.67	8.4	19.1
2797.0	11.8	30.0	100	9.4	1.52	14.79	100434	462.33	518.44	8.4	19.1
2798.0	14.3	30.0	120	9.4	1.52	14.86	100938	383.25	517.90	8.4	19.1
2799.0	12.7	30.0	120	9.4	1.55	14.94	101506	431.92	517.55	8.4	19.1
2800.0	12.9	30.0	120	9.4	1.55	15.01	102064	424.31	517.18	8.4	19.1
2801.0	12.3	30.0	120	9.4	1.56	15.09	102648	444.08	516.89	8.4	19.1
2802.0	11.7	30.0	120	9.4	1.58	15.18	103264	468.42	516.70	8.4	19.1
2803.0	12.3	30.0	120	9.4	1.56	15.26	103850	445.60	516.42	8.4	19.1
2804.0	12.7	30.0	120	9.4	1.55	15.34	104418	431.92	516.08	8.4	19.1
2805.0	14.4	30.0	120	9.4	1.52	15.41	104918	380.21	515.55	8.4	19.1
2806.0	11.5	30.0	100	9.4	1.53	15.50	105438	474.50	515.39	8.4	19.1
2807.0	9.6	30.0	100	9.4	1.58	15.60	106063	570.31	515.60	8.4	19.1
2808.0	10.0	30.0	120	9.4	1.63	15.70	106783	547.50	515.73	8.4	19.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2809.0	16.0	30.0	120	9.4	1.48	15.76	107233	342.19	515.06	8.4	19.1
2810.0	12.7	30.0	120	9.4	1.55	15.84	107798	429.64	514.73	8.4	19.1
2811.0	14.3	30.0	120	9.4	1.52	15.91	108300	381.73	514.22	8.4	19.1
2812.0	13.0	30.0	120	9.4	1.55	15.99	108852	419.75	513.86	8.4	19.1
2813.0	12.2	30.0	120	9.4	1.57	16.07	109442	448.65	513.61	8.4	19.1
2814.0	15.4	30.0	120	9.4	1.50	16.14	109910	355.88	513.01	8.4	19.1
2815.0	13.1	30.0	100	9.4	1.49	16.21	110368	418.23	512.66	8.4	19.1
2816.0	12.5	30.0	100	9.4	1.50	16.29	110850	439.52	512.38	8.4	19.1
2817.0	11.9	30.0	120	9.4	1.57	16.38	111456	460.81	512.19	8.4	19.1
2818.0	13.8	30.0	120	9.4	1.53	16.45	111976	395.42	511.75	8.4	19.1
2819.0	15.3	30.0	120	9.4	1.50	16.51	112446	357.40	511.18	8.4	19.1
2820.0	13.4	30.0	120	9.4	1.54	16.59	112984	409.10	510.80	8.4	19.1
2821.0	15.1	30.0	120	9.4	1.50	16.65	113462	363.48	510.26	8.4	19.1
2822.0	13.4	30.0	120	9.4	1.54	16.73	114000	409.10	509.89	8.4	19.1
2823.0	15.9	30.0	120	9.4	1.49	16.79	114452	343.71	509.28	8.4	19.1
2824.0	14.5	30.0	120	9.4	1.51	16.86	114950	378.69	508.80	8.4	19.1
2825.0	11.9	30.0	120	9.4	1.57	16.95	115556	460.81	508.63	8.4	19.1
2826.0	11.3	30.0	120	9.4	1.59	17.03	116194	485.15	508.54	8.4	19.1
2827.0	11.7	30.0	120	9.4	1.58	17.12	116810	468.42	508.40	8.4	19.1
2828.0	13.3	30.0	120	9.4	1.54	17.19	117352	412.15	508.05	8.4	19.1
2829.0	16.6	30.0	120	9.4	1.47	17.26	117786	330.02	507.41	8.4	19.1
2830.0	13.9	30.0	120	9.4	1.53	17.33	118304	393.90	507.01	8.4	19.1
2831.0	12.6	30.0	120	9.3	1.57	17.41	118876	434.96	506.75	8.4	19.1
2832.0	13.8	30.0	120	9.3	1.55	17.48	119398	396.94	506.36	8.4	19.1
2833.0	13.1	30.0	120	9.3	1.56	17.56	119946	416.71	506.04	8.4	19.1
2834.0	11.1	30.0	120	9.3	1.61	17.65	120596	494.27	506.00	8.4	19.1
2835.0	9.9	30.0	120	9.3	1.65	17.75	121322	552.06	506.16	8.4	19.1
2836.0	9.8	30.0	120	9.3	1.65	17.85	122060	561.19	506.36	8.4	19.1
2837.0	15.0	30.0	120	9.3	1.52	17.92	122540	365.00	505.86	8.4	19.1
2838.0	13.0	30.0	120	9.3	1.56	17.99	123092	419.75	505.56	8.4	19.1
2839.0	14.8	30.0	120	9.3	1.52	18.06	123578	369.56	505.09	8.4	19.1
2840.0	15.0	30.0	120	9.3	1.52	18.13	124058	365.00	504.61	8.4	19.1
2841.0	13.4	30.0	120	9.3	1.55	18.20	124594	407.58	504.28	8.4	19.1
2842.0	14.5	30.0	120	9.3	1.53	18.27	125092	378.69	503.85	8.4	19.1
2843.0	12.0	30.0	120	9.3	1.59	18.35	125692	456.25	503.68	8.4	19.1
2844.0	13.6	30.0	120	9.3	1.55	18.43	126220	401.50	503.34	8.4	19.1
2845.0	12.2	30.0	120	9.3	1.58	18.51	126808	447.12	503.15	8.4	19.1
2846.0	15.0	30.0	120	9.3	1.52	18.57	127288	365.00	502.68	8.4	19.1
2847.0	14.3	30.0	120	9.3	1.53	18.64	127792	383.25	502.28	8.4	19.1
2848.0	14.0	30.0	120	9.3	1.54	18.72	128308	392.38	501.91	8.4	19.1
2849.0	12.4	30.0	120	9.3	1.58	18.80	128888	441.04	501.71	8.4	19.1
2850.0	12.4	30.0	120	9.3	1.58	18.88	129468	441.04	501.50	8.4	19.1
2851.0	10.3	30.0	120	9.3	1.63	18.97	130166	530.77	501.60	8.4	19.1
2852.0	10.7	30.0	120	9.3	1.62	19.07	130840	512.52	501.64	8.4	19.1
2853.0	10.1	30.0	120	9.3	1.64	19.17	131556	544.46	501.78	8.4	19.1
2854.0	7.8	30.0	120	9.3	1.72	19.30	132484	705.67	502.45	8.4	19.1
2855.0	10.9	30.0	120	9.3	1.62	19.39	133142	500.35	502.44	8.4	19.1
2856.0	8.7	30.0	120	9.3	1.69	19.50	133970	629.63	502.86	8.4	19.1
2857.0	9.9	30.0	120	9.3	1.65	19.60	134696	552.06	503.02	8.4	19.1
2858.0	7.7	30.0	120	9.3	1.72	19.73	135626	707.19	503.68	8.4	19.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2859.0	7.0	30.0	120	9.3	1.75	19.88	136656	783.23	504.58	8.4	19.1
2860.0	6.0	30.0	120	9.3	1.80	20.04	137856	912.50	505.90	8.4	19.1
2861.0	6.6	30.0	120	9.3	1.77	20.19	138942	825.81	506.93	8.4	19.1
2862.0	7.8	30.0	120	9.3	1.72	20.32	139866	702.63	507.56	8.4	19.1
2863.0	6.5	30.0	120	9.3	1.78	20.48	140976	844.06	508.63	8.4	19.1
2864.0	7.1	30.0	120	9.3	1.75	20.62	141986	768.02	509.46	8.4	19.1
2865.0	9.2	30.0	120	9.3	1.67	20.73	142772	597.69	509.74	8.4	19.1
2866.0	8.8	30.0	120	9.3	1.68	20.84	143586	618.98	510.08	8.4	19.1
2867.0	8.9	30.0	120	9.3	1.68	20.95	144394	614.42	510.41	8.4	19.1
2868.0	9.8	30.0	120	9.3	1.65	21.05	145132	561.19	510.57	8.4	19.1
2869.0	10.5	30.0	120	9.3	1.63	21.15	145818	521.65	510.61	8.4	19.1
2870.0	9.8	30.0	120	9.3	1.65	21.25	146556	561.19	510.77	8.4	19.1
2871.0	9.2	30.0	120	9.3	1.67	21.36	147338	594.65	511.03	8.4	19.1
2872.0	8.9	30.0	120	9.3	1.68	21.47	148150	617.46	511.36	8.4	19.1
2873.0	9.1	30.0	120	9.3	1.67	21.58	148942	602.25	511.64	8.4	19.1
2874.0	8.1	30.0	120	9.3	1.71	21.71	149836	679.81	512.16	8.4	19.1
2875.0	11.0	30.0	120	9.3	1.62	21.80	150492	498.83	512.12	8.4	19.1
2876.0	14.3	30.0	120	9.3	1.53	21.87	150996	383.25	511.72	8.4	19.1
2877.0	11.8	30.0	120	9.3	1.59	21.95	151608	465.37	511.58	8.4	19.1
2878.0	11.0	30.0	120	9.4	1.60	22.04	152264	498.83	511.54	8.4	19.1
2879.0	12.9	30.0	120	9.4	1.55	22.12	152824	425.83	511.28	8.4	19.1
2880.0	10.5	30.0	120	9.4	1.61	22.22	153508	520.12	511.31	8.4	19.1
2881.0	12.6	30.0	120	9.4	1.56	22.30	154080	434.96	511.08	8.4	19.1
2882.0	13.6	30.0	120	9.4	1.53	22.37	154610	403.02	510.75	8.4	19.1
2883.0	12.1	30.0	120	9.4	1.57	22.45	155204	451.69	510.57	8.4	19.1
2884.0	8.8	30.0	120	9.4	1.66	22.57	156022	622.02	510.91	8.4	19.1
2885.0	12.6	35.0	120	9.4	1.63	22.64	156592	433.44	510.68	8.4	19.2
2886.0	12.5	35.0	120	9.4	1.63	22.72	157166	436.48	510.46	8.4	19.2
2887.0	12.2	35.0	120	9.4	1.64	22.81	157756	448.65	510.27	8.4	19.2
2888.0	12.5	35.0	120	9.4	1.63	22.89	158334	439.52	510.06	8.4	19.2
2889.0	10.7	35.0	120	9.4	1.68	22.98	159006	511.00	510.07	8.4	19.2
2890.0	10.4	35.0	120	9.4	1.69	23.08	159698	526.21	510.11	8.4	19.2
2891.0	10.8	35.0	120	9.4	1.67	23.17	160362	504.92	510.10	8.4	19.2
2892.0	12.5	35.0	120	9.4	1.63	23.25	160938	438.00	509.89	8.4	19.2
2893.0	11.5	35.0	120	9.4	1.66	23.34	161564	476.02	509.79	8.4	19.2
2894.0	6.5	36.0	120	9.4	1.85	23.49	162676	845.58	510.76	8.4	19.2
2895.0	9.4	36.0	120	9.4	1.73	23.60	163442	582.48	510.97	8.4	19.2
2896.0	11.4	36.0	120	9.4	1.67	23.68	164074	480.58	510.88	8.4	19.2
2897.0	10.7	36.0	120	9.4	1.69	23.78	164746	511.00	510.88	8.4	19.2
2898.0	9.9	36.0	120	9.4	1.72	23.88	165472	552.06	511.00	8.4	19.2
2899.0	11.4	36.0	120	9.4	1.67	23.97	166106	482.10	510.92	8.4	19.2
2900.0	10.5	36.0	120	9.4	1.70	24.06	166790	520.12	510.95	8.4	19.2
2901.0	12.0	36.0	120	9.4	1.66	24.14	167390	456.25	510.79	8.4	19.2
2902.0	10.3	37.0	118	9.4	1.71	24.24	168076	530.77	510.85	8.4	19.2
2903.0	12.5	37.0	118	9.4	1.65	24.32	168640	436.48	510.64	8.4	19.2
2904.0	9.6	37.0	118	9.4	1.74	24.43	169378	570.31	510.80	8.4	19.2
2905.0	9.7	37.0	118	9.5	1.71	24.53	170107	564.23	510.96	8.4	19.2
2906.0	11.6	34.0	120	9.5	1.62	24.61	170727	471.46	510.84	8.4	19.2
2907.0	11.6	34.0	120	9.5	1.62	24.70	171347	471.46	510.73	8.4	19.2
2908.0	11.3	34.0	120	9.5	1.63	24.79	171985	465.15	510.66	8.4	19.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2909.0	11.7	34.0	120	9.5	1.62	24.87	172599	466.90	510.54	8.4	19.2
2910.0	13.7	34.0	120	9.5	1.57	24.95	173123	398.46	510.23	8.4	19.2
2911.0	12.7	34.0	120	9.5	1.59	25.03	173691	431.92	510.01	8.4	19.2
2912.0	14.5	34.0	120	9.5	1.55	25.10	174187	377.17	509.65	8.4	19.2
2913.0	12.2	34.0	120	9.5	1.61	25.18	174777	448.65	509.48	8.4	19.2
2914.0	13.4	35.0	120	9.5	1.59	25.25	175315	409.10	509.20	8.4	19.2
2915.0	18.1	35.0	120	9.5	1.50	25.31	175713	302.65	508.64	8.4	19.2
2916.0	21.6	35.0	120	9.5	1.44	25.35	176047	253.98	507.94	8.4	19.2
2917.0	19.4	35.0	120	9.5	1.48	25.41	176419	282.88	507.33	8.4	19.2
2918.0	18.2	35.0	121	9.5	1.50	25.46	176819	301.13	506.77	8.4	19.2
2919.0	19.1	35.0	121	9.5	1.48	25.51	177198	285.92	506.17	8.4	19.2
2920.0	29.8	35.0	121	9.5	1.34	25.55	177442	184.02	505.30	8.4	19.2
2921.0	23.2	35.0	121	9.5	1.42	25.59	177754	235.73	504.57	8.4	19.2
2922.0	20.7	35.0	121	9.5	1.46	25.64	178105	264.63	503.93	8.4	19.2
2923.0	19.4	35.0	121	9.5	1.48	25.69	178480	282.88	503.33	8.4	19.2
2924.0	27.1	35.0	121	9.5	1.37	25.73	178749	202.27	502.53	8.4	19.2
2925.0	20.0	35.0	121	9.5	1.47	25.78	179112	273.75	501.92	8.4	19.2
2926.0	17.7	35.0	121	9.5	1.51	25.83	179521	308.73	501.40	8.4	19.2
2927.0	21.1	35.0	121	9.5	1.45	25.88	179866	260.06	500.76	8.4	19.2
2928.0	19.7	35.0	121	9.5	1.47	25.93	180235	278.31	500.18	8.4	19.2
2929.0	22.5	35.0	121	9.5	1.43	25.98	180558	243.33	499.50	8.4	19.2
2930.0	23.5	35.0	121	9.5	1.42	26.02	180866	232.69	498.80	8.4	19.2
2931.0	25.9	35.0	121	9.5	1.39	26.06	181147	211.40	498.04	8.4	19.2
2932.0	18.6	35.0	121	9.4	1.51	26.11	181538	295.04	497.51	8.4	19.2
2933.0	20.2	35.0	121	9.4	1.48	26.16	181897	270.71	496.92	8.4	19.2
2934.0	22.2	35.0	121	9.4	1.45	26.20	182223	246.38	496.27	8.4	19.2
2935.0	16.5	35.0	120	9.4	1.54	26.27	182659	331.54	495.84	8.4	19.2
2936.0	16.1	35.0	120	9.4	1.55	26.33	183105	339.15	495.43	8.4	19.2
2937.0	16.9	35.0	120	9.4	1.53	26.39	183531	323.94	494.99	8.4	19.2
2938.0	11.5	35.0	120	9.4	1.66	26.47	184155	474.50	494.94	8.4	19.2
2939.0	12.0	35.0	120	9.4	1.64	26.56	184757	457.77	494.84	8.4	19.2
2940.0	12.9	35.0	120	9.4	1.62	26.63	185313	422.79	494.66	8.4	19.2
2941.0	12.6	35.0	120	9.4	1.63	26.71	185883	433.44	494.50	8.4	19.2
2942.0	6.9	35.0	120	9.4	1.82	26.86	186921	789.31	495.25	8.4	19.2
2943.0	5.0	36.0	120	9.4	1.94	27.06	188361	1095	497	8.4	19.2
2944.0	5.2	36.0	120	9.4	1.92	27.25	189733	1043	498	8.4	19.2

BIT NUMBER	7	IADC CODE	114	INTERVAL	2944.0- 2983.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	2201.00	TRIP TIME	8.3	BIT RUN	39.0
TOTAL HOURS	7.49	TOTAL TURNS	52895	CONDITION	T8 R7 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2945.0	7.0	20.0	100	9.4	1.51	0.14	857	782	48426	8.4	19.2
2946.0	6.0	25.0	100	9.4	1.64	0.31	1857	913	24669	8.4	19.2
2947.0	8.0	25.0	100	9.4	1.56	0.43	2607	684	16674	8.4	19.2
2948.0	7.0	25.0	100	9.4	1.60	0.58	3464	782	12701	8.4	19.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FC
2949.0	6.9	30.0	100	9.4	1.68	0.72	4333	793	10319	8.4	19.2
2950.0	11.9	30.0	100	9.4	1.52	0.81	4836	459	8676	8.4	19.2
2951.0	17.3	30.0	100	9.4	1.41	0.86	5183	316	7482	8.4	19.2
2952.0	16.4	29.0	120	9.4	1.46	0.92	5623	335	6588	8.4	19.2
2953.0	12.6	29.0	120	9.4	1.54	1.00	6193	433	5905	8.4	19.2
2954.0	27.9	29.0	120	9.4	1.30	1.04	6451	196	5334	8.4	19.2
2955.0	15.3	30.0	120	9.4	1.50	1.11	6923	359	4881	8.4	19.2
2956.0	7.8	30.0	120	9.4	1.70	1.23	7845	701	4533	8.4	19.2
2957.0	3.7	31.0	120	9.4	1.95	1.51	9807	1492	4299	8.4	19.2
2958.0	10.0	31.0	120	9.4	1.64	1.61	10527	548	4031	8.4	19.2
2959.0	9.3	30.0	120	9.4	1.65	1.71	11299	587	3802	8.4	19.2
2960.0	9.7	29.0	120	9.4	1.62	1.82	12039	563	3599	8.4	19.2
2961.0	11.2	29.0	120	9.4	1.58	1.91	12683	490	3416	8.4	19.2
2962.0	9.9	29.0	120	9.4	1.61	2.01	13413	555	3257	8.4	19.2
2963.0	6.0	30.0	120	9.4	1.78	2.17	14605	906	3134	8.4	19.2
2964.0	3.5	35.0	120	9.4	2.03	2.45	16635	1544	3054	8.4	19.2
2965.0	3.4	35.0	120	9.4	2.04	2.75	18773	1626	2986	8.4	19.2
2966.0	3.6	35.0	120	9.4	2.02	3.03	20749	1503	2919	8.4	19.2
2967.0	2.6	30.0	120	9.4	2.04	3.41	23549	2129	2884	8.4	19.2
2968.0	1.9	30.0	120	9.4	2.12	3.93	27285	2841	2882	8.4	19.2
2969.0	2.2	35.0	120	9.4	2.17	4.38	30523	2462	2866	8.4	19.2
2970.0	4.0	40.0	120	9.4	2.07	4.63	32323	1369	2808	8.4	19.2
2971.0	3.3	40.0	120	9.4	2.14	4.94	34531	1679	2766	8.4	19.2
2972.0	4.2	40.0	120	9.4	2.06	5.18	36257	1312	2714	8.4	19.2
2973.0	4.6	40.0	120	9.4	2.03	5.40	37823	1191	2662	8.4	19.2
2974.0	4.7	39.0	120	9.4	2.00	5.61	39345	1157	2612	8.4	19.2
2975.0	4.3	40.0	120	9.4	2.05	5.84	41037	1287	2569	8.4	19.2
2976.0	3.0	40.0	120	9.4	2.16	6.17	43413	1807	2545	8.4	19.2
2977.0	2.3	40.0	120	9.4	2.25	6.60	46517	2360	2540	8.4	19.3
2978.0	6.0	40.0	120	9.4	1.94	6.77	47723	917	2492	8.4	19.3
2979.0	8.8	40.0	120	9.4	1.81	6.89	48545	625	2438	8.4	19.3
2980.0	6.9	39.0	120	9.4	1.88	7.03	49593	797	2393	8.4	19.3
2981.0	6.3	39.0	120	9.4	1.91	7.19	50729	864	2352	8.4	19.3
2982.0	6.0	39.0	120	9.4	1.92	7.36	51921	906	2314	8.4	19.3
2983.0	7.4	40.0	120	9.4	1.87	7.49	52895	741	2273	8.4	19.3

BIT NUMBER	8	IADC CODE	517	INTERVAL	2983.0- 3149.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	8.7	BIT RUN	166.0
TOTAL HOURS	35.25	TOTAL TURNS	112110	CONDITION	T2 R2 G0.062

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2984.0	3.6	5.0	70	9.4	1.17	0.28	1167	1521	55941	8.4	19.3
2985.0	4.6	5.0	70	9.4	1.13	0.50	2086	1198	28570	8.4	19.3
2986.0	9.5	5.0	70	9.4	0.98	0.60	2527	575	19238	8.4	19.3
2987.0	10.2	14.0	70	9.4	1.20	0.70	2940	538	14563	8.4	19.3
2988.0	9.1	14.0	68	9.4	1.22	0.81	3389	602	11771	8.4	19.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2989.0	5.8	13.0	70	9.4	1.31	0.98	4107	937	9965	8.4	19.3
2990.0	13.8	13.0	70	9.4	1.10	1.05	4411	395	8598	8.4	19.3
2991.0	11.7	13.0	70	9.4	1.14	1.14	4770	468	7582	8.4	19.3
2992.0	12.8	17.0	65	9.4	1.18	1.22	5075	427	6787	8.4	19.3
2993.0	10.4	17.0	65	9.4	1.23	1.31	5449	526	6161	8.4	19.3
2994.0	9.1	17.0	65	9.4	1.27	1.42	5877	601	5655	8.4	19.3
2995.0	10.8	20.0	65	9.4	1.27	1.52	6237	505	5226	8.4	19.3
2996.0	7.3	20.0	65	9.4	1.38	1.65	6770	748	4882	8.4	19.3
2997.0	15.9	20.0	65	9.4	1.17	1.71	7015	344	4558	8.4	19.3
2998.0	12.4	22.0	65	9.4	1.26	1.80	7329	441	4283	8.4	19.3
2999.0	6.3	20.0	65	9.4	1.42	1.95	7946	867	4070	8.4	19.3
3000.0	6.8	20.0	65	9.4	1.40	2.10	8517	801	3877	8.4	19.3
3001.0	4.4	20.0	65	9.4	1.51	2.33	9396	1233	3731	8.4	19.3
3002.0	5.2	23.0	65	9.4	1.53	2.52	10151	1060	3590	8.4	19.3
3003.0	4.7	23.0	65	9.4	1.55	2.73	10986	1173	3469	8.4	19.3
3004.0	3.5	23.0	65	9.4	1.63	3.02	12100	1563	3378	8.4	19.3
3005.0	12.9	25.0	65	9.4	1.30	3.10	12403	426	3244	8.4	19.3
3006.0	12.3	25.0	65	9.4	1.31	3.18	12721	446	3122	8.4	19.3
3007.0	10.8	25.0	65	9.4	1.35	3.27	13081	506	3013	8.4	19.3
3008.0	11.2	25.0	65	9.4	1.34	3.36	13429	489	2912	8.4	19.3
3009.0	11.8	25.0	65	9.4	1.32	3.44	13760	464	2818	8.4	19.3
3010.0	17.2	25.0	65	9.4	1.21	3.50	13986	318	2726	8.4	19.3
3011.0	14.0	25.0	65	9.4	1.27	3.57	14266	392	2642	8.4	19.3
3012.0	10.4	25.0	65	9.4	1.36	3.67	14641	526	2569	8.4	19.3
3013.0	2.9	25.0	65	9.4	1.73	4.01	15986	1889	2547	8.4	19.3
3014.0	8.2	24.0	65	9.4	1.41	4.14	16462	668	2486	8.4	19.3
3015.0	9.7	24.0	65	9.4	1.36	4.24	16865	566	2426	8.4	19.3
3016.0	10.7	24.0	65	9.4	1.34	4.33	17230	513	2368	8.4	19.3
3017.0	2.9	30.0	65	9.4	1.82	4.68	18587	1906	2355	8.4	19.3
3018.0	5.0	27.0	65	9.4	1.60	4.88	19365	1092	2318	8.4	19.3
3019.0	5.1	24.0	65	9.4	1.55	5.08	20135	1081	2284	8.4	19.3
3020.0	2.7	25.0	60	9.4	1.73	5.46	21491	2062	2278	8.4	19.3
3021.0	6.7	30.0	60	9.4	1.54	5.60	22028	817	2240	8.4	19.3
3022.0	3.5	30.0	60	9.4	1.73	5.89	23047	1550	2222	8.4	19.3
3023.0	3.4	30.0	60	9.4	1.75	6.19	24120	1632	2207	8.4	19.3
3024.0	6.1	30.0	60	9.4	1.57	6.35	24713	902	2175	8.4	19.3
3025.0	7.9	25.0	60	9.4	1.42	6.48	25171	697	2140	8.4	19.3
3026.0	2.7	25.0	60	9.4	1.72	6.84	26487	2001	2137	8.4	19.3
3027.0	6.5	30.0	60	9.4	1.55	7.00	27040	840	2107	8.4	19.3
3028.0	8.5	35.0	80	9.4	1.62	7.11	27606	646	2075	8.4	19.3
3029.0	6.2	35.0	80	9.4	1.72	7.28	28381	883	2049	8.4	19.3
3030.0	14.0	40.0	75	9.4	1.51	7.35	28702	391	2014	8.4	19.3
3031.0	4.6	30.0	75	9.4	1.72	7.56	29676	1185	1996	8.4	19.3
3032.0	8.0	30.0	75	9.4	1.55	7.69	30238	684	1970	8.4	19.3
3033.0	9.9	31.0	75	9.4	1.50	7.79	30694	555	1941	8.4	19.3
3034.0	7.3	31.0	75	9.4	1.60	7.93	31313	753	1918	8.4	19.3
3035.0	5.1	31.0	75	9.4	1.70	8.12	32192	1069	1902	8.4	19.3
3036.0	5.0	32.0	75	9.4	1.73	8.32	33099	1104	1887	8.4	19.3
3037.0	6.8	32.0	75	9.4	1.63	8.47	33761	805	1867	8.4	19.3
3038.0	4.7	32.0	75	9.4	1.74	8.68	34714	1160	1854	8.4	19.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3039.0	4.2	35.0	60	9.4	1.75	8.92	35566	1296	1844	8.4	19.3
3040.0	3.0	35.0	60	9.4	1.86	9.25	36766	1825	1844	8.4	19.3
3041.0	7.9	35.0	45	9.4	1.46	9.38	37108	692	1824	8.4	19.3
3042.0	6.1	35.0	45	9.4	1.55	9.54	37549	896	1808	8.4	19.3
3043.0	8.7	35.0	45	9.4	1.44	9.66	37861	633	1788	8.4	19.3
3044.0	6.1	35.0	45	9.4	1.55	9.82	38304	897	1774	8.4	19.3
3045.0	3.6	30.0	70	9.4	1.77	10.10	39457	1503	1769	8.4	19.3
3046.0	10.4	35.0	60	9.4	1.47	10.19	39802	525	1750	8.4	19.3
3047.0	10.4	35.0	70	9.4	1.52	10.29	40206	528	1731	8.4	19.3
3048.0	8.0	35.0	70	9.4	1.60	10.41	40730	683	1714	8.4	19.3
3049.0	7.5	35.0	70	9.4	1.62	10.55	41289	728	1700	8.4	19.3
3050.0	6.9	35.0	60	9.4	1.60	10.69	41813	797	1686	8.4	19.3
3051.0	4.3	35.0	60	9.4	1.75	10.93	42656	1282	1680	8.4	19.3
3052.0	3.5	36.0	60	9.4	1.83	11.21	43679	1556	1678	8.4	19.3
3053.0	8.5	36.0	60	9.4	1.55	11.33	44104	646	1664	8.4	19.3
3054.0	6.2	36.0	60	9.4	1.64	11.49	44681	878	1652	8.4	19.3
3055.0	4.3	36.0	60	9.4	1.76	11.72	45512	1264	1647	8.4	19.3
3056.0	4.7	36.0	60	9.4	1.73	11.93	46271	1154	1640	8.4	19.3
3057.0	4.0	36.0	60	9.4	1.79	12.18	47175	1375	1637	8.4	19.3
3058.0	3.0	36.0	60	9.4	1.88	12.52	48383	1837	1639	8.4	19.3
3059.0	3.6	40.0	60	9.4	1.88	12.80	49384	1522	1638	8.4	19.3
3060.0	6.2	40.0	57	9.4	1.68	12.96	49936	884	1628	8.4	19.3
3061.0	5.1	40.0	57	9.4	1.75	13.15	50606	1072	1621	8.4	19.3
3062.0	2.6	40.0	40	9.4	1.85	13.53	51517	2079	1627	8.4	19.3
3063.0	2.4	35.0	70	9.4	1.97	13.94	53234	2239	1634	8.4	19.3
3064.0	3.0	30.0	60	9.4	1.78	14.28	54434	1825	1637	8.4	19.3
3065.0	3.3	35.0	60	9.4	1.83	14.57	55510	1636	1637	8.4	19.3
3066.0	2.9	35.0	60	9.4	1.87	14.91	56736	1865	1639	8.4	19.3
3067.0	3.9	40.0	60	9.4	1.86	15.17	57671	1422	1637	8.4	19.3
3068.0	3.9	35.0	60	9.4	1.78	15.43	58606	1422	1634	8.4	19.3
3069.0	6.7	42.0	60	9.4	1.70	15.58	59145	820	1625	8.4	19.3
3070.0	6.5	42.0	60	9.4	1.71	15.74	59697	840	1616	8.4	19.4
3071.0	4.0	43.0	70	9.4	1.94	15.99	60749	1370	1613	8.4	19.4
3072.0	4.6	40.0	68	9.4	1.84	16.20	61628	1180	1608	8.4	19.4
3073.0	3.6	40.0	68	9.4	1.92	16.48	62760	1519	1607	8.4	19.4
3074.0	4.0	40.0	68	9.4	1.88	16.73	63773	1360	1605	8.4	19.4
3075.0	5.7	42.0	40	9.4	1.62	16.90	64191	954	1597	8.4	19.4
3076.0	3.5	40.0	42	9.4	1.77	17.19	64913	1568	1597	8.4	19.4
3077.0	3.9	40.0	42	9.4	1.73	17.44	65556	1396	1595	8.4	19.4
3078.0	6.3	40.0	42	9.4	1.58	17.60	65954	865	1587	8.4	19.4
3079.0	4.3	40.0	42	9.4	1.71	17.84	66546	1285	1584	8.4	19.4
3080.0	3.2	40.0	42	9.4	1.80	18.15	67325	1694	1585	8.4	19.4
3081.0	3.4	40.0	46	9.4	1.81	18.44	68144	1624	1586	8.4	19.4
3082.0	3.0	40.0	40	9.4	1.80	18.77	68932	1796	1588	8.4	19.4
3083.0	3.9	40.0	40	9.4	1.72	19.03	69553	1417	1586	8.4	19.4
3084.0	10.5	40.0	40	9.4	1.39	19.13	69781	520	1576	8.4	19.4
3085.0	11.7	40.0	58	9.4	1.48	19.21	70080	470	1565	8.4	19.4
3086.0	12.7	40.0	58	9.4	1.45	19.29	70354	432	1554	8.4	19.4
3087.0	3.2	43.0	40	9.4	1.83	19.60	71107	1719	1555	8.4	19.4
3088.0	5.0	43.0	40	9.4	1.67	19.80	71584	1087	1551	8.4	19.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3089.0	5.1	42.0	42	9.4	1.67	20.00	72075	1068	1546	8.4	19.4
3090.0	5.9	42.0	42	9.4	1.62	20.17	72504	931	1541	8.4	19.4
3091.0	3.8	42.0	46	9.4	1.80	20.43	73233	1446	1540	8.4	19.4
3092.0	5.8	42.0	46	9.4	1.66	20.60	73709	944	1534	8.4	19.4
3093.0	5.8	42.0	46	9.4	1.66	20.78	74188	951	1529	8.4	19.4
3094.0	3.1	42.0	42	9.4	1.83	21.10	74990	1743	1531	8.4	19.4
3095.0	7.9	40.0	42	9.4	1.50	21.22	75310	694	1523	8.4	19.4
3096.0	9.5	40.0	42	9.4	1.44	21.33	75576	578	1515	8.4	19.4
3097.0	4.1	40.0	42	9.4	1.72	21.57	76194	1343	1513	8.4	19.4
3098.0	6.1	40.0	42	9.4	1.59	21.74	76605	894	1508	8.4	19.4
3099.0	5.5	40.0	42	9.4	1.62	21.92	77061	990	1504	8.4	19.4
3100.0	4.1	40.0	42	9.4	1.72	22.16	77674	1332	1502	8.4	19.4
3101.0	2.6	40.0	45	9.4	1.88	22.54	78694	2068	1507	8.4	19.4
3102.0	3.1	40.0	45	9.4	1.83	22.86	79555	1744	1509	8.4	19.4
3103.0	2.7	42.0	45	9.4	1.91	23.23	80564	2047	1513	8.4	19.4
3104.0	2.8	41.0	45	9.4	1.88	23.58	81513	1924	1517	8.4	19.4
3105.0	2.5	41.0	45	9.4	1.91	23.98	82581	2166	1522	8.4	19.4
3106.0	3.4	41.0	45	9.4	1.81	24.27	83371	1601	1523	8.4	19.4
3107.0	3.4	41.0	45	9.4	1.82	24.57	84166	1614	1524	8.4	19.4
3108.0	2.8	41.0	45	9.4	1.88	24.92	85117	1927	1527	8.4	19.4
3109.0	3.3	41.0	45	9.4	1.83	25.22	85933	1656	1528	8.4	19.4
3110.0	4.2	41.0	45	9.4	1.75	25.46	86578	1306	1526	8.4	19.4
3111.0	5.5	41.0	45	9.4	1.66	25.64	87066	990	1522	8.4	19.4
3112.0	3.2	41.0	45	9.4	1.84	25.95	87914	1720	1523	8.4	19.4
3113.0	4.4	41.0	45	9.4	1.73	26.18	88524	1238	1521	8.4	19.4
3114.0	7.7	40.0	45	9.4	1.54	26.31	88877	715	1515	8.4	19.4
3115.0	7.4	40.0	45	9.4	1.55	26.44	89240	736	1509	8.4	19.4
3116.0	2.5	40.0	45	9.4	1.91	26.85	90340	2231	1515	8.4	19.4
3117.0	3.3	39.0	45	9.4	1.80	27.16	91162	1667	1516	8.4	19.4
3118.0	3.9	39.0	45	9.4	1.74	27.41	91856	1407	1515	8.4	19.4
3119.0	5.4	39.0	60	9.4	1.73	27.60	92523	1014	1511	8.4	19.4
3120.0	3.5	41.0	60	9.4	1.90	27.88	93543	1551	1511	8.4	19.4
3121.0	2.8	42.0	50	9.4	1.93	28.24	94603	1936	1515	8.4	19.4
3122.0	5.5	42.0	50	9.4	1.70	28.42	95148	993	1511	8.4	19.4
3123.0	3.1	42.0	48	9.4	1.89	28.74	96088	1789	1513	8.4	19.4
3124.0	3.3	42.0	48	9.4	1.86	29.04	96953	1644	1514	8.4	19.4
3125.0	3.8	42.0	48	9.4	1.81	29.30	97703	1425	1513	8.4	19.4
3126.0	2.7	42.0	45	9.4	1.91	29.67	98700	2023	1517	8.4	19.4
3127.0	11.7	40.0	40	9.4	1.36	29.76	98905	467	1509	8.4	19.4
3128.0	8.9	40.0	40	9.4	1.45	29.87	99174	614	1503	8.4	19.4
3129.0	7.6	40.0	40	9.4	1.50	30.00	99489	718	1498	8.4	19.4
3130.0	3.4	42.0	40	9.4	1.79	30.30	100195	1611	1499	8.4	19.4
3131.0	3.0	42.0	40	9.4	1.84	30.63	101004	1845	1501	8.4	19.4
3132.0	2.4	42.0	40	9.4	1.91	31.06	102019	2316	1506	8.4	19.4
3133.0	3.7	42.0	40	9.4	1.76	31.33	102666	1477	1506	8.4	19.4
3134.0	3.4	42.0	40	9.4	1.79	31.62	103372	1610	1507	8.4	19.4
3135.0	2.9	42.0	40	9.4	1.84	31.96	104198	1884	1509	8.4	19.4
3136.0	3.1	42.0	40	9.4	1.82	32.28	104965	1750	1511	8.4	19.4
3137.0	4.0	42.0	40	9.4	1.73	32.53	105562	1361	1510	8.4	19.4
3138.0	3.6	42.0	40	9.4	1.77	32.81	106229	1522	1510	8.4	19.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3139.0	2.8	42.0	36	9.4	1.82	33.16	106996	1925	1513	8.4	19.4
3140.0	5.5	42.0	32	9.4	1.56	33.34	107348	999	1509	8.4	19.4
3141.0	3.3	43.0	43	9.4	1.84	33.65	108131	1673	1510	8.4	19.4
3142.0	7.1	41.0	42	9.4	1.55	33.79	108485	770	1506	8.4	19.4
3143.0	8.2	41.0	43	9.4	1.51	33.91	108799	671	1501	8.4	19.4
3144.0	9.7	41.0	42	9.4	1.45	34.02	109062	564	1495	8.4	19.4
3145.0	9.5	41.0	42	9.4	1.46	34.12	109330	578	1489	8.4	19.4
3146.0	3.0	40.0	44	9.4	1.84	34.46	110215	1851	1491	8.4	19.4
3147.0	2.7	40.0	44	9.4	1.87	34.83	111185	2020	1495	8.4	19.4
3148.0	3.5	40.0	35	9.4	1.71	35.12	111784	1580	1495	8.4	19.4
3149.0	7.4	40.0	40	9.4	1.51	35.25	112110	738	1491	8.4	19.4

BIT NUMBER	9	IADC CODE	437	INTERVAL	3149.0- 3251.0
HTC J11		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	8.9	BIT RUN	102.0
TOTAL HOURS	29.61	TOTAL TURNS	105798	CONDITION	T5 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3150.0	12.6	20.0	50	9.4	1.16	0.08	239	435	55951	8.4	19.4
3151.0	12.4	20.0	48	9.4	1.15	0.16	471	443	28197	8.4	19.4
3152.0	9.0	22.0	46	9.4	1.26	0.27	779	610	19001	8.4	19.4
3153.0	7.8	22.0	44	9.5	1.27	0.40	1117	698	14425	8.4	19.4
3154.0	6.9	23.0	43	9.5	1.31	0.54	1489	789	11698	8.4	19.4
3155.0	10.0	20.0	43	9.5	1.17	0.64	1747	549	9840	8.4	19.4
3156.0	7.5	20.0	45	9.5	1.25	0.78	2103	728	8538	8.4	19.4
3157.0	11.6	20.0	46	9.5	1.15	0.86	2340	471	7530	8.4	19.4
3158.0	9.0	20.0	46	9.5	1.22	0.97	2649	610	6761	8.4	19.4
3159.0	9.8	20.0	47	9.5	1.20	1.08	2938	561	6141	8.4	19.4
3160.0	8.1	20.0	47	9.5	1.25	1.20	3283	672	5644	8.4	19.4
3161.0	10.9	20.0	47	9.5	1.17	1.29	3542	503	5216	8.4	19.4
3162.0	10.0	20.0	47	9.5	1.19	1.39	3822	546	4856	8.4	19.4
3163.0	7.3	20.0	46	9.5	1.27	1.53	4201	751	4563	8.4	19.4
3164.0	6.9	20.0	42	9.5	1.26	1.67	4568	792	4312	8.4	19.5
3165.0	6.2	20.0	42	9.4	1.31	1.84	4977	890	4090	8.4	19.5
3166.0	5.3	20.0	42	9.4	1.35	2.03	5457	1039	3918	8.4	19.5
3167.0	4.6	20.0	43	9.4	1.39	2.24	6012	1185	3766	8.4	19.5
3168.0	4.1	20.0	44	9.4	1.43	2.49	6655	1335	3638	8.4	19.5
3169.0	4.7	20.0	50	9.4	1.43	2.70	7296	1173	3515	8.4	19.5
3170.0	4.4	20.0	50	9.4	1.45	2.93	7983	1258	3407	8.4	19.5
3171.0	8.8	20.0	49	9.4	1.25	3.04	8322	625	3281	8.4	19.5
3172.0	9.6	25.0	49	9.4	1.30	3.15	8625	569	3163	8.4	19.5
3173.0	5.7	27.0	37	9.4	1.40	3.32	9014	964	3071	8.4	19.5
3174.0	7.5	28.0	45	9.4	1.39	3.46	9372	732	2978	8.4	19.5
3175.0	8.3	28.0	45	9.4	1.36	3.58	9699	662	2889	8.4	19.5
3176.0	5.3	28.0	45	9.4	1.49	3.77	10209	1025	2820	8.4	19.5
3177.0	6.1	28.0	45	9.4	1.45	3.93	10653	894	2751	8.4	19.5
3178.0	6.9	28.0	49	9.4	1.44	4.07	11081	797	2684	8.4	19.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3179.0	9.0	29.0	52	9.4	1.39	4.19	11429	608	2614	8.4	19.5
3180.0	2.1	28.0	49	9.4	1.80	4.67	12857	2640	2615	8.4	19.5
3181.0	1.8	32.0	42	9.4	1.86	5.22	14250	2998	2627	8.4	19.5
3182.0	3.1	20.0	40	9.4	1.48	5.54	15022	1763	2601	8.4	19.5
3183.0	3.0	25.0	40	9.4	1.58	5.87	15822	1825	2578	8.4	19.5
3184.0	6.3	25.0	39	9.4	1.36	6.03	16200	873	2529	8.4	19.5
3185.0	4.0	25.0	52	9.4	1.57	6.28	16973	1366	2497	8.4	19.5
3186.0	1.3	26.0	47	9.4	1.88	7.04	19132	4164	2542	8.4	19.5
3187.0	7.5	26.0	61	9.4	1.45	7.17	19618	732	2494	8.4	19.5
3188.0	2.7	26.0	65	9.4	1.76	7.54	21036	2000	2482	8.4	19.5
3189.0	3.5	26.0	60	9.4	1.66	7.82	22057	1547	2458	8.4	19.5
3190.0	2.7	26.0	53	9.4	1.70	8.19	23227	2004	2447	8.4	19.5
3191.0	1.6	26.0	45	9.4	1.81	8.82	24929	3471	2472	8.4	19.5
3192.0	1.5	30.0	47	9.4	1.91	9.48	26786	3603	2498	8.4	19.5
3193.0	1.3	40.0	47	9.4	2.12	10.22	28893	4076	2534	8.4	19.5
3194.0	1.5	40.0	53	9.4	2.11	10.87	30945	3540	2556	8.4	19.5
3195.0	1.5	40.0	54	9.4	2.12	11.52	33026	3548	2578	8.4	19.5
3196.0	1.8	45.0	56	9.4	2.16	12.07	34888	3017	2587	8.4	19.5
3197.0	1.6	45.0	58	9.4	2.21	12.70	37069	3442	2605	8.4	19.5
3198.0	2.5	45.0	61	9.4	2.08	13.10	38528	2176	2596	8.4	19.5
3199.0	2.2	45.0	61	9.4	2.13	13.56	40220	2526	2595	8.4	19.5
3200.0	1.6	45.0	62	9.4	2.23	14.17	42489	3361	2610	8.4	19.5
3201.0	2.1	45.0	64	9.4	2.15	14.65	44318	2607	2610	8.4	19.5
3202.0	2.1	45.0	64	9.4	2.16	15.13	46167	2637	2610	8.4	19.5
3203.0	2.0	45.0	65	9.4	2.17	15.62	48099	2712	2612	8.4	19.5
3204.0	1.4	45.0	65	9.4	2.30	16.35	50931	3975	2637	8.4	19.5
3205.0	1.8	35.0	73	9.4	2.08	16.90	53327	2996	2643	8.4	19.5
3206.0	1.2	35.0	74	9.4	2.23	17.76	57145	4707	2680	8.4	19.5
3207.0	1.2	35.0	74	9.4	2.21	18.56	60713	4400	2709	8.4	19.5
3208.0	1.6	35.0	72	9.4	2.12	19.19	63437	3443	2722	8.4	19.5
3209.0	1.8	34.0	89	9.4	2.14	19.76	66482	3112	2728	8.4	19.5
3210.0	9.9	34.0	89	9.4	1.60	19.86	67023	554	2693	8.4	19.5
3211.0	7.8	34.0	89	9.4	1.67	19.99	67703	700	2660	8.4	19.5
3212.0	11.2	34.0	69	9.4	1.48	20.08	68073	490	2626	8.4	19.5
3213.0	9.5	34.0	69	9.4	1.53	20.18	68508	574	2594	8.4	19.5
3214.0	9.1	34.0	71	9.4	1.55	20.29	68975	601	2563	8.4	19.5
3215.0	9.5	34.0	70	9.4	1.53	20.40	69418	574	2533	8.4	19.5
3216.0	7.6	34.0	71	9.4	1.61	20.53	69980	719	2506	8.4	19.5
3217.0	7.6	34.0	71	9.4	1.61	20.66	70537	719	2480	8.4	19.5
3218.0	7.1	34.0	71	9.4	1.63	20.80	71140	773	2455	8.4	19.5
3219.0	7.1	34.0	71	9.4	1.63	20.94	71738	768	2431	8.4	19.5
3220.0	8.2	35.0	71	9.4	1.60	21.06	72254	665	2406	8.4	19.5
3221.0	5.8	35.0	71	9.3	1.73	21.23	72989	947	2386	8.4	19.5
3222.0	7.6	35.0	73	9.3	1.64	21.37	73559	716	2363	8.4	19.5
3223.0	7.4	35.0	73	9.3	1.66	21.50	74151	739	2341	8.4	19.5
3224.0	8.3	35.0	73	9.3	1.62	21.62	74679	659	2319	8.4	19.5
3225.0	8.3	35.0	73	9.3	1.62	21.74	75209	659	2297	8.4	19.5
3226.0	6.9	35.0	74	9.3	1.68	21.89	75847	791	2277	8.4	19.5
3227.0	1.2	35.0	75	9.3	2.24	22.70	79488	4448	2305	8.4	19.5
3228.0	2.1	35.0	75	9.3	2.07	23.18	81632	2620	2309	8.4	19.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3229.0	7.6	35.0	74	9.3	1.65	23.31	82216	724	2289	8.4	19.5
3230.0	5.3	35.0	73	9.3	1.76	23.50	83032	1025	2274	8.4	19.5
3231.0	8.4	36.0	72	9.3	1.63	23.62	83546	655	2254	8.4	19.5
3232.0	7.8	36.0	72	9.3	1.65	23.74	84099	701	2235	8.4	19.5
3233.0	8.2	36.0	72	9.3	1.63	23.87	84623	665	2216	8.4	19.5
3234.0	7.2	36.0	72	9.3	1.67	24.00	85220	760	2199	8.4	19.5
3235.0	8.1	36.0	72	9.3	1.64	24.13	85754	677	2182	8.4	19.5
3236.0	7.7	36.0	71	9.3	1.65	24.26	86313	713	2165	8.4	19.5
3237.0	7.4	36.0	71	9.3	1.66	24.39	86891	744	2149	8.4	19.5
3238.0	7.7	36.0	71	9.3	1.65	24.52	87444	710	2132	8.4	19.5
3239.0	6.9	36.0	71	9.3	1.68	24.67	88063	792	2117	8.4	19.5
3240.0	5.2	36.0	66	9.3	1.75	24.86	88818	1051	2106	8.4	19.5
3241.0	6.3	36.0	70	9.3	1.71	25.02	89489	873	2092	8.4	19.5
3242.0	7.8	38.0	70	9.3	1.66	25.15	90024	701	2077	8.4	19.5
3243.0	7.3	38.0	70	9.3	1.69	25.28	90600	748	2063	8.4	19.5
3244.0	6.1	38.0	70	9.3	1.75	25.45	91290	897	2051	8.4	19.5
3245.0	7.1	38.0	70	9.3	1.70	25.59	91884	774	2038	8.4	19.5
3246.0	3.8	38.0	71	9.3	1.91	25.85	93003	1440	2032	8.4	19.5
3247.0	5.9	38.0	71	9.3	1.76	26.02	93716	922	2020	8.4	19.5
3248.0	4.0	37.0	72	9.3	1.88	26.27	94797	1375	2014	8.4	19.5
3249.0	5.0	37.0	71	9.3	1.80	26.47	95641	1089	2004	8.4	19.5
3250.0	1.1	30.0	75	9.3	2.17	27.36	99652	4877	2033	8.4	19.5
3251.0	0.4	41.9	46	9.3	2.53	29.61	105798	12324	2134	8.4	19.5

BIT NUMBER	10	IADC CODE	517	INTERVAL	3251.0- 3359.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	9.1	BIT RUN	108.0
TOTAL HOURS	21.73	TOTAL TURNS	74949	CONDITION	T5 B3 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3252.0	4.9	25.0	55	9.4	1.53	0.21	677	1124	57734	8.4	19.5
3253.0	4.3	25.0	52	9.4	1.55	0.44	1415	1285	29510	8.4	19.5
3254.0	3.6	28.0	55	9.4	1.66	0.71	2327	1506	20175	8.4	19.5
3255.0	1.8	30.0	55	9.3	1.93	1.28	4175	3068	15898	8.4	19.5
3256.0	2.3	30.0	54	9.3	1.85	1.72	5600	2421	13203	8.4	19.5
3257.0	3.4	38.0	52	9.3	1.84	2.01	6510	1608	11270	8.4	19.5
3258.0	3.0	30.0	52	9.3	1.76	2.35	7556	1853	9925	8.4	19.5
3259.0	2.9	30.0	50	9.3	1.75	2.69	8584	1860	8917	8.4	19.6
3260.0	3.6	35.0	42	9.3	1.71	2.96	9282	1507	8093	8.4	19.6
3261.0	2.7	35.0	46	9.3	1.83	3.34	10317	2035	7488	8.4	19.6
3262.0	4.5	35.0	56	9.3	1.73	3.56	11054	1208	6917	8.4	19.6
3263.0	11.8	35.0	58	9.3	1.43	3.64	11348	462	6379	8.4	19.6
3264.0	7.4	35.0	57	9.3	1.57	3.78	11805	736	5945	8.4	19.6
3265.0	8.0	35.0	58	9.3	1.56	3.90	12240	683	5569	8.4	19.6
3266.0	6.5	35.0	42	9.3	1.52	4.06	12627	849	5254	8.4	19.6
3267.0	6.3	35.0	53	9.3	1.61	4.21	13131	865	4980	8.4	19.6
3268.0	7.9	35.0	53	9.3	1.54	4.34	13537	695	4728	8.4	19.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3269.0	7.2	35.0	53	9.3	1.57	4.48	13982	762	4508	8.4	19.6
3270.0	7.5	35.0	53	9.3	1.55	4.61	14405	728	4309	8.4	19.6
3271.0	4.0	35.0	54	9.3	1.75	4.86	15209	1354	4161	8.4	19.6
3272.0	2.1	35.0	52	9.3	1.95	5.34	16701	2619	4087	8.4	19.6
3273.0	9.3	35.0	46	9.3	1.43	5.45	16995	590	3928	8.4	19.6
3274.0	3.4	35.0	50	9.3	1.79	5.74	17883	1624	3828	8.4	19.6
3275.0	6.1	35.0	38	9.3	1.51	5.91	18255	891	3706	8.4	19.6
3276.0	2.5	35.0	47	9.3	1.86	6.30	19371	2184	3645	8.4	19.6
3277.0	3.0	35.0	51	9.3	1.83	6.63	20378	1805	3574	8.4	19.6
3278.0	3.4	45.0	53	9.4	1.93	6.93	21327	1632	3502	8.4	19.6
3279.0	2.8	45.0	52	9.4	1.99	7.29	22443	1960	3447	8.4	19.6
3280.0	8.6	45.0	53	9.4	1.61	7.41	22810	634	3350	8.4	19.6
3281.0	8.4	45.0	53	9.4	1.62	7.52	23189	651	3260	8.4	19.6
3282.0	7.2	45.0	54	9.4	1.68	7.66	23638	763	3180	8.4	19.6
3283.0	9.2	45.0	54	9.4	1.59	7.77	23989	595	3099	8.4	19.6
3284.0	10.2	45.0	52	9.4	1.55	7.87	24296	538	3021	8.4	19.6
3285.0	9.8	45.0	51	9.4	1.56	7.97	24611	561	2949	8.4	19.6
3286.0	7.5	45.0	52	9.4	1.65	8.11	25030	733	2886	8.4	19.6
3287.0	9.4	45.0	58	9.4	1.61	8.21	25399	584	2822	8.4	19.6
3288.0	9.8	45.0	55	9.4	1.58	8.32	25734	558	2761	8.4	19.6
3289.0	3.6	45.0	59	9.4	1.94	8.59	26710	1513	2728	8.4	19.6
3290.0	4.1	45.0	58	9.4	1.90	8.84	27567	1338	2692	8.4	19.6
3291.0	3.6	45.0	59	9.4	1.94	9.12	28550	1522	2663	8.4	19.6
3292.0	3.9	45.0	59	9.4	1.92	9.37	29465	1422	2633	8.4	19.6
3293.0	3.8	45.0	58	9.4	1.92	9.64	30376	1434	2604	8.4	19.6
3294.0	4.6	45.0	58	9.4	1.85	9.85	31132	1185	2571	8.4	19.6
3295.0	10.7	45.0	55	9.4	1.55	9.95	31442	513	2524	8.4	19.6
3296.0	6.5	45.0	63	9.4	1.76	10.10	32023	840	2487	8.4	19.6
3297.0	9.0	45.0	63	9.4	1.65	10.21	32442	605	2446	8.4	19.6
3298.0	9.5	45.0	65	9.4	1.65	10.32	32853	578	2406	8.4	19.6
3299.0	9.5	45.0	64	9.4	1.64	10.42	33259	575	2368	8.4	19.6
3300.0	11.2	45.0	63	9.4	1.58	10.51	33598	488	2330	8.4	19.6
3301.0	9.2	45.0	65	9.4	1.66	10.62	34026	596	2295	8.4	19.6
3302.0	9.8	45.0	61	9.4	1.61	10.72	34399	557	2261	8.4	19.6
3303.0	12.0	45.0	58	9.4	1.53	10.80	34689	455	2226	8.4	19.6
3304.0	6.7	45.0	53	9.4	1.69	10.95	35159	817	2200	8.4	19.6
3305.0	6.3	45.0	59	9.4	1.76	11.11	35728	876	2175	8.4	19.6
3306.0	8.2	45.0	58	9.4	1.66	11.23	36151	665	2148	8.4	19.6
3307.0	8.8	45.0	59	9.4	1.64	11.35	36554	624	2120	8.4	19.6
3308.0	6.0	45.0	60	9.4	1.78	11.52	37157	919	2099	8.4	19.6
3309.0	7.7	45.0	61	9.4	1.70	11.65	37633	713	2075	8.4	19.6
3310.0	9.2	45.0	61	9.4	1.64	11.76	38032	595	2050	8.4	19.6
3311.0	8.6	45.0	63	9.4	1.67	11.87	38471	639	2027	8.4	19.6
3312.0	3.9	45.0	67	9.4	1.96	12.13	39495	1392	2016	8.4	19.6
3313.0	3.2	45.0	68	9.4	2.03	12.44	40775	1726	2012	8.4	19.6
3314.0	2.6	45.0	65	9.4	2.08	12.82	42262	2077	2013	8.4	19.6
3315.0	3.2	45.0	62	9.4	2.00	13.13	43419	1709	2008	8.4	19.6
3316.0	4.9	45.0	61	9.4	1.85	13.34	44167	1119	1994	8.4	19.6
3317.0	8.4	45.0	51	9.4	1.61	13.46	44531	651	1974	8.4	19.6
3318.0	7.0	45.0	42	9.4	1.60	13.60	44895	783	1956	8.4	19.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3319.0	8.8	45.0	55	9.3	1.63	13.71	45270	625	1937	8.4	19.6
3320.0	9.3	45.0	50	9.3	1.58	13.82	45593	589	1917	8.4	19.6
3321.0	9.2	44.0	56	9.3	1.61	13.93	45959	598	1898	8.4	19.6
3322.0	8.7	44.0	59	9.3	1.65	14.04	46365	627	1880	8.4	19.6
3323.0	9.6	44.0	58	9.3	1.61	14.15	46729	570	1862	8.4	19.6
3324.0	7.7	44.0	58	9.4	1.67	14.28	47179	712	1846	8.4	19.6
3325.0	8.8	44.0	61	9.4	1.64	14.39	47596	624	1830	8.4	19.6
3326.0	3.4	44.0	75	9.4	2.03	14.68	48907	1594	1827	8.4	19.6
3327.0	5.4	44.0	73	9.4	1.86	14.87	49709	1008	1816	8.4	19.6
3328.0	6.6	45.0	72	9.4	1.81	15.02	50367	832	1803	8.4	19.6
3329.0	8.2	45.0	73	9.4	1.74	15.14	50904	668	1789	8.4	19.6
3330.0	4.7	45.0	74	9.4	1.93	15.35	51853	1165	1781	8.4	19.6
3331.0	2.8	45.0	64	9.4	2.06	15.72	53253	1986	1783	8.4	19.6
3332.0	6.1	45.0	62	9.3	1.80	15.88	53862	899	1772	8.4	19.6
3333.0	8.4	45.0	69	9.3	1.73	16.00	54355	652	1759	8.4	19.6
3334.0	7.3	45.0	69	9.3	1.78	16.14	54924	751	1747	8.4	19.6
3335.0	9.4	45.0	78	9.3	1.73	16.24	55423	581	1733	8.4	19.6
3336.0	10.7	45.0	79	9.3	1.69	16.34	55866	509	1718	8.4	19.6
3337.0	10.8	45.0	73	9.3	1.66	16.43	56273	506	1704	8.4	19.6
3338.0	10.4	45.0	75	9.3	1.68	16.53	56709	528	1691	8.4	19.6
3339.0	10.3	45.0	77	9.3	1.69	16.62	57157	529	1677	8.4	19.6
3340.0	7.9	45.0	77	9.3	1.79	16.75	57742	689	1666	8.4	19.6
3341.0	9.4	45.0	75	9.3	1.72	16.85	58221	581	1654	8.4	19.6
3342.0	8.2	45.0	77	9.3	1.77	16.98	58784	671	1644	8.4	19.6
3343.0	5.1	45.0	72	9.3	1.91	17.17	59627	1074	1637	8.4	19.6
3344.0	7.0	45.0	73	9.3	1.81	17.32	60247	777	1628	8.4	19.6
3345.0	9.4	45.0	73	9.3	1.71	17.42	60712	579	1617	8.4	19.6
3346.0	8.2	45.0	72	9.3	1.75	17.54	61244	669	1607	8.4	19.6
3347.0	5.1	45.0	70	9.3	1.90	17.74	62070	1080	1601	8.4	19.6
3348.0	4.4	45.0	71	9.3	1.96	17.97	63028	1232	1598	8.4	19.6
3349.0	6.1	45.0	62	9.3	1.80	18.13	63635	899	1591	8.4	19.6
3350.0	8.6	45.0	53	9.3	1.63	18.25	64010	640	1581	8.4	19.6
3351.0	7.4	45.0	53	9.3	1.68	18.38	64439	739	1572	8.4	19.6
3352.0	6.4	45.0	54	9.3	1.74	18.54	64949	861	1565	8.4	19.6
3353.0	2.3	45.0	56	9.3	2.10	18.97	66400	2363	1573	8.4	19.6
3354.0	2.5	45.0	54	9.3	2.06	19.37	67688	2179	1579	8.4	19.6
3355.0	2.0	45.0	55	9.3	2.14	19.87	69343	2757	1590	8.4	19.7
3356.0	2.4	45.0	52	9.3	2.06	20.29	70648	2271	1597	8.4	19.7
3357.0	2.4	45.0	43	9.3	1.99	20.71	71721	2298	1604	8.4	19.7
3358.0	2.0	45.0	50	9.3	2.11	21.21	73238	2774	1615	8.4	19.7
3359.0	1.9	45.0	55	9.3	2.16	21.73	74949	2839	1626	8.4	19.7

BIT NUMBER	11	IADC CODE	537	INTERVAL	3359.0- 3521.0		
HTC J33		SIZE	12.250	NOZZLES	16 16 16		
COST	6637.00	TRIP TIME	9.5	BIT RUN	162.0		
TOTAL HOURS	39.12	TOTAL TURNS	127180	CONDITION	T2 B2 G0.000		

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3360.0	2.8	29.4	45	9.3	1.73	0.36	982	1990	60640	8.4	19.7
3361.0	4.0	39.1	45	9.3	1.76	0.61	1658	1372	31006	8.4	19.7
3362.0	8.5	39.0	45	9.3	1.51	0.73	1977	646	20886	8.4	19.7
3363.0	2.4	45.8	50	9.3	2.07	1.16	3249	2322	16245	8.4	19.7
3364.0	7.4	45.9	50	9.3	1.67	1.29	3656	742	13145	8.4	19.7
3365.0	12.7	47.9	50	9.3	1.50	1.37	3893	432	11026	8.4	19.7
3366.0	10.2	45.6	50	9.3	1.56	1.47	4188	538	9528	8.4	19.7
3367.0	5.3	47.7	50	9.4	1.79	1.66	4756	1037	8466	8.4	19.7
3368.0	3.6	48.5	50	9.4	1.94	1.94	5596	1533	7696	8.4	19.7
3369.0	7.0	46.2	50	9.4	1.68	2.08	6026	785	7005	8.4	19.7
3370.0	7.6	44.3	50	9.4	1.62	2.21	6422	722	6434	8.4	19.7
3371.0	9.3	44.1	50	9.4	1.56	2.32	6746	592	5947	8.4	19.7
3372.0	7.1	42.4	50	9.4	1.63	2.46	7170	774	5549	8.4	19.7
3373.0	6.6	43.8	48	9.4	1.65	2.61	7605	826	5212	8.4	19.7
3374.0	9.2	44.8	48	9.4	1.55	2.72	7917	593	4904	8.4	19.7
3375.0	4.1	44.9	48	9.4	1.83	2.97	8618	1334	4681	8.4	19.7
3376.0	3.9	46.1	46	9.4	1.84	3.22	9324	1401	4488	8.4	19.7
3377.0	6.0	48.0	46	9.4	1.72	3.39	9781	906	4289	8.4	19.7
3378.0	6.9	46.1	50	9.4	1.68	3.53	10216	794	4105	8.4	19.7
3379.0	7.1	45.9	50	9.4	1.67	3.67	10641	776	3938	8.4	19.7
3380.0	4.2	44.4	50	9.4	1.83	3.91	11355	1303	3813	8.4	19.7
3381.0	1.4	44.5	47	9.3	2.21	4.64	13420	4009	3822	8.4	19.7
3382.0	2.2	46.5	50	9.3	2.09	5.09	14768	2460	3762	8.4	19.7
3383.0	5.0	47.4	52	9.3	1.84	5.29	15392	1095	3651	8.4	19.7
3384.0	7.2	50.6	55	9.3	1.77	5.43	15850	760	3536	8.4	19.7
3385.0	7.2	51.5	55	9.3	1.78	5.57	16306	756	3429	8.4	19.7
3386.0	6.9	51.3	55	9.3	1.79	5.72	16784	792	3331	8.4	19.7
3387.0	6.6	50.1	55	9.3	1.79	5.87	17284	830	3242	8.4	19.7
3388.0	7.9	49.3	55	9.3	1.72	5.99	17704	697	3154	8.4	19.7
3389.0	8.8	49.3	55	9.3	1.68	6.11	18079	622	3070	8.4	19.7
3390.0	7.2	48.3	55	9.3	1.74	6.25	18534	756	2995	8.4	19.7
3391.0	5.9	48.6	55	9.3	1.81	6.42	19094	928	2930	8.4	19.7
3392.0	9.8	53.8	60	9.3	1.72	6.52	19461	558	2859	8.4	19.7
3393.0	9.8	47.7	60	9.3	1.66	6.62	19830	561	2791	8.4	19.7
3394.0	12.7	49.4	60	9.3	1.58	6.70	20114	432	2724	8.4	19.7
3395.0	7.8	48.7	60	9.3	1.75	6.83	20576	703	2667	8.4	19.7
3396.0	4.4	50.9	55	9.3	1.95	7.05	21325	1244	2629	8.4	19.7
3397.0	2.6	51.2	50	9.3	2.11	7.45	22501	2146	2616	8.4	19.7
3398.0	3.2	51.2	50	9.3	2.03	7.76	23437	1708	2593	8.4	19.7
3399.0	3.7	51.7	50	9.3	1.99	8.03	24246	1477	2565	8.4	19.7
3400.0	2.7	50.9	55	9.3	2.13	8.41	25491	2065	2553	8.4	19.7
3401.0	3.9	49.6	55	9.3	1.97	8.66	26332	1395	2525	8.4	19.7
3402.0	4.6	49.1	55	9.3	1.91	8.88	27055	1200	2494	8.4	19.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3403.0	4.1	50.7	55	9.3	1.97	9.12	27858	1332	2468	8.4	19.7
3404.0	3.2	49.4	55	9.3	2.04	9.44	28897	1723	2451	8.4	19.7
3405.0	2.9	49.4	55	9.3	2.07	9.78	30026	1874	2439	8.4	19.7
3406.0	4.7	49.5	55	9.3	1.90	9.99	30722	1154	2412	8.4	19.7
3407.0	4.1	49.4	55	9.3	1.95	10.23	31519	1323	2389	8.4	19.7
3408.0	4.6	49.4	55	9.3	1.91	10.45	32239	1194	2365	8.4	19.7
3409.0	4.1	50.4	55	9.3	1.97	10.70	33050	1346	2344	8.4	19.7
3410.0	3.5	49.2	55	9.3	2.01	10.99	34006	1586	2329	8.4	19.7
3411.0	2.7	48.9	55	9.3	2.09	11.35	35211	2000	2323	8.4	19.7
3412.0	4.4	49.4	55	9.3	1.93	11.58	35967	1253	2303	8.4	19.7
3413.0	4.5	47.9	55	9.3	1.90	11.80	36704	1223	2283	8.4	19.7
3414.0	4.9	48.5	55	9.3	1.88	12.01	37378	1119	2262	8.4	19.7
3415.0	4.6	47.7	55	9.3	1.89	12.22	38093	1185	2242	8.4	19.7
3416.0	7.8	47.5	55	9.3	1.70	12.35	38513	698	2215	8.4	19.7
3417.0	4.4	47.6	55	9.3	1.90	12.58	39259	1238	2198	8.4	19.7
3418.0	6.8	47.9	55	9.3	1.75	12.72	39743	801	2175	8.4	19.7
3419.0	2.8	48.7	55	9.3	2.08	13.08	40920	1954	2171	8.4	19.7
3420.0	1.9	49.2	55	9.3	2.22	13.60	42621	2821	2182	8.4	19.7
3421.0	2.7	51.0	40	9.3	2.01	13.96	43502	2009	2179	8.4	19.7
3422.0	1.8	48.7	40	9.3	2.12	14.52	44834	3039	2193	8.4	19.7
3423.0	4.3	43.5	50	9.3	1.83	14.75	45534	1278	2178	8.4	19.7
3424.0	1.8	54.0	50	9.3	2.28	15.31	47214	3066	2192	8.4	19.7
3425.0	2.6	52.6	50	9.3	2.12	15.69	48348	2070	2190	8.4	19.7
3426.0	2.2	52.3	50	9.3	2.19	16.15	49727	2517	2195	8.4	19.7
3427.0	4.7	49.8	45	9.3	1.84	16.36	50299	1160	2180	8.4	19.7
3428.0	4.7	51.2	45	9.3	1.85	16.57	50868	1153	2165	8.4	19.7
3429.0	8.9	48.0	45	9.3	1.59	16.68	51170	613	2143	8.4	19.7
3430.0	8.2	49.0	45	9.3	1.63	16.81	51500	669	2122	8.4	19.7
3431.0	2.7	49.7	40	9.3	2.00	17.18	52403	2059	2121	8.4	19.7
3432.0	4.2	50.1	40	9.4	1.82	17.42	52969	1293	2110	8.4	19.7
3433.0	8.9	48.2	40	9.4	1.54	17.53	53240	617	2090	8.4	19.7
3434.0	6.4	48.9	40	9.4	1.66	17.69	53614	853	2073	8.4	19.7
3435.0	9.9	50.2	40	9.4	1.52	17.79	53857	554	2053	8.4	19.7
3436.0	7.4	49.6	40	9.4	1.62	17.92	54182	742	2036	8.4	19.7
3437.0	9.6	48.4	40	9.4	1.51	18.03	54432	570	2017	8.4	19.7
3438.0	7.7	49.3	40	9.4	1.60	18.16	54745	715	2001	8.4	19.7
3439.0	9.2	50.1	40	9.4	1.55	18.27	55007	598	1983	8.4	19.7
3440.0	6.6	53.1	40	9.4	1.70	18.42	55373	835	1969	8.4	19.7
3441.0	6.4	51.3	40	9.4	1.69	18.58	55749	856	1956	8.4	19.7
3442.0	6.7	51.1	40	9.4	1.67	18.73	56109	823	1942	8.4	19.7
3443.0	7.3	53.3	40	9.4	1.66	18.86	56437	747	1928	8.4	19.7
3444.0	6.5	53.0	40	9.4	1.70	19.02	56805	840	1915	8.4	19.7
3445.0	7.7	51.4	40	9.4	1.62	19.15	57117	712	1901	8.4	19.7
3446.0	8.5	51.4	40	9.4	1.59	19.26	57399	643	1886	8.4	19.7
3447.0	6.5	53.6	40	9.4	1.71	19.42	57771	849	1875	8.4	19.7
3448.0	7.5	49.8	40	9.4	1.61	19.55	58091	730	1862	8.4	19.7
3449.0	6.1	48.3	40	9.4	1.67	19.72	58484	897	1851	8.4	19.7
3450.0	6.7	49.0	40	9.4	1.64	19.87	58843	818	1840	8.4	19.7
3451.0	7.3	50.1	40	9.4	1.63	20.00	59171	748	1828	8.4	19.8
3452.0	6.7	49.0	40	9.4	1.64	20.15	59529	818	1817	8.4	19.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3453.0	2.8	50.2	40	9.4	1.97	20.51	60385	1951	1818	8.4	19.8
3454.0	2.7	50.9	40	9.4	1.99	20.88	61287	2058	1821	8.4	19.8
3455.0	5.0	52.1	40	9.4	1.78	21.08	61765	1090	1813	8.4	19.8
3456.0	6.2	46.7	55	9.4	1.76	21.24	62297	883	1804	8.4	19.8
3457.0	6.0	51.3	55	9.4	1.82	21.41	62847	913	1795	8.4	19.8
3458.0	7.5	50.9	55	9.4	1.74	21.54	63290	735	1784	8.4	19.8
3459.0	8.7	50.9	55	9.4	1.68	21.66	63667	627	1772	8.4	19.8
3460.0	8.6	51.0	60	9.4	1.72	21.78	64087	639	1761	8.4	19.8
3461.0	7.8	50.3	60	9.4	1.75	21.90	64548	701	1751	8.4	19.8
3462.0	8.9	50.4	60	9.4	1.70	22.02	64953	616	1740	8.4	19.8
3463.0	6.2	50.8	60	9.4	1.83	22.18	65531	879	1731	8.4	19.8
3464.0	3.9	52.3	60	9.4	2.02	22.43	66447	1393	1728	8.4	19.8
3465.0	5.4	50.0	60	9.4	1.87	22.61	67108	1005	1721	8.4	19.8
3466.0	9.9	48.1	60	9.4	1.64	22.72	67471	552	1710	8.4	19.8
3467.0	3.0	48.9	60	9.4	2.07	23.05	68681	1840	1712	8.4	19.8
3468.0	7.2	50.7	60	9.4	1.78	23.19	69184	765	1703	8.4	19.8
3469.0	7.0	48.9	60	9.4	1.77	23.34	69701	786	1695	8.4	19.8
3470.0	7.7	48.8	60	9.4	1.73	23.46	70167	709	1686	8.4	19.8
3471.0	4.4	47.9	60	9.4	1.92	23.69	70985	1244	1682	8.4	19.8
3472.0	2.3	50.6	60	9.4	2.19	24.13	72570	2411	1688	8.4	19.8
3473.0	1.8	50.4	60	9.4	2.26	24.68	74527	2976	1700	8.4	19.8
3474.0	2.5	53.6	60	9.4	2.20	25.08	75966	2188	1704	8.4	19.8
3475.0	2.7	52.1	60	9.4	2.15	25.45	77297	2024	1707	8.4	19.8
3476.0	2.8	51.9	60	9.4	2.13	25.80	78585	1959	1709	8.4	19.8
3477.0	2.0	52.5	60	9.4	2.26	26.29	80354	2690	1717	8.4	19.8
3478.0	1.7	49.1	60	9.4	2.27	26.89	82481	3235	1730	8.4	19.8
3479.0	1.5	52.6	62	9.4	2.38	27.55	84950	3633	1746	8.4	19.8
3480.0	2.0	51.8	62	9.4	2.26	28.04	86791	2710	1754	8.4	19.8
3481.0	3.6	51.5	62	9.4	2.05	28.32	87823	1518	1752	8.4	19.8
3482.0	3.1	51.4	62	9.4	2.10	28.64	89026	1772	1752	8.4	19.8
3483.0	2.5	51.7	62	9.3	2.20	29.04	90511	2185	1755	8.4	19.8
3484.0	1.7	50.8	62	9.3	2.33	29.63	92701	3223	1767	8.4	19.8
3485.0	4.8	48.7	62	9.3	1.93	29.84	93473	1136	1762	8.4	19.8
3486.0	3.1	45.4	62	9.3	2.04	30.17	94684	1782	1762	8.4	19.8
3487.0	2.5	47.6	62	9.3	2.15	30.57	96184	2208	1766	8.4	19.8
3488.0	4.0	46.5	62	9.3	1.97	30.82	97117	1373	1763	8.4	19.8
3489.0	2.5	48.2	62	9.3	2.16	31.23	98631	2228	1766	8.4	19.8
3490.0	4.1	48.8	62	9.4	1.97	31.47	99544	1343	1763	8.4	19.8
3491.0	4.0	47.2	62	9.4	1.95	31.72	100475	1370	1760	8.4	19.8
3492.0	3.7	47.6	62	9.4	1.99	31.99	101485	1487	1758	8.4	19.8
3493.0	2.8	50.5	62	9.4	2.12	32.35	102793	1925	1759	8.4	19.8
3494.0	5.0	50.1	60	9.4	1.91	32.55	103520	1106	1754	8.4	19.8
3495.0	4.3	51.0	60	9.4	1.96	32.78	104348	1259	1751	8.4	19.8
3496.0	3.5	48.8	60	9.4	2.02	33.07	105391	1586	1750	8.4	19.8
3497.0	4.3	50.1	60	9.4	1.96	33.30	106235	1284	1746	8.4	19.8
3498.0	2.6	50.0	60	9.4	2.13	33.68	107613	2096	1749	8.4	19.8
3499.0	6.5	50.3	60	9.4	1.81	33.84	108166	841	1742	8.4	19.8
3500.0	3.7	50.5	60	9.4	2.01	34.11	109139	1480	1740	8.4	19.8
3501.0	5.6	51.3	60	9.4	1.88	34.29	109778	972	1735	8.4	19.8
3502.0	4.6	51.3	60	9.4	1.95	34.50	110566	1198	1731	8.4	19.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3503.0	4.5	49.6	60	9.4	1.93	34.73	111366	1217	1728	8.4	19.8
3504.0	3.0	51.0	60	9.4	2.09	35.06	112552	1804	1728	8.4	19.8
3505.0	3.9	47.2	60	9.4	1.96	35.32	113486	1420	1726	8.4	19.8
3506.0	4.7	46.9	60	9.4	1.88	35.53	114248	1159	1722	8.4	19.8
3507.0	5.9	45.4	60	9.4	1.78	35.70	114855	923	1717	8.4	19.8
3508.0	7.5	48.1	60	9.4	1.74	35.83	115337	733	1710	8.4	19.8
3509.0	3.7	49.0	60	9.4	2.00	36.10	116315	1487	1709	8.4	19.8
3510.0	4.5	48.0	60	9.4	1.91	36.32	117119	1223	1705	8.4	19.8
3511.0	7.1	48.0	60	9.4	1.75	36.47	117627	773	1699	8.4	19.8
3512.0	4.9	48.0	60	9.4	1.88	36.67	118356	1109	1695	8.4	19.8
3513.0	12.3	48.7	60	9.4	1.57	36.75	118649	446	1687	8.4	19.8
3514.0	3.0	48.3	60	9.4	2.06	37.09	119863	1846	1688	8.4	19.8
3515.0	3.6	48.6	60	9.4	2.00	37.36	120856	1510	1687	8.4	19.8
3516.0	4.1	48.4	60	9.4	1.95	37.61	121739	1343	1685	8.4	19.8
3517.0	2.1	48.7	60	9.4	2.19	38.08	123442	2590	1691	8.4	19.8
3518.0	5.6	47.2	60	9.4	1.83	38.26	124082	973	1686	8.4	19.8
3519.0	2.5	49.9	60	9.4	2.14	38.66	125512	2175	1689	8.4	19.8
3520.0	5.3	52.6	60	9.4	1.91	38.85	126192	1034	1685	8.4	19.8
3521.0	3.6	52.5	60	9.4	2.05	39.12	127180	1503	1684	8.4	19.8

(d). COMPUTER DATA LISTING : LIST B

INTERVAL	10m averages.
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, (and therefore uneconomic), this should change from negative to positive.

BIT NUMBER	1	IADC CODE	111	INTERVAL	227.0- 369.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	4442.00	TRIP TIME	2.8	BIT RUN	142.0
TOTAL HOURS	1.56	TOTAL TURNS	7615	CONDITION	T3 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
230.0	36.3	3.0	0.08	178	20224.70	151	6742	-
240.0	60.0	13.0	0.25	659	21137.20	91	1626	-
250.0	69.3	23.0	0.39	1247	21927.11	78.99	953.35	-
260.0	66.7	33.0	0.54	1973	22748.36	82.13	689.34	-
270.0	98.1	43.0	0.65	2527	23306.50	55.81	542.01	-
280.0	189.1	53.0	0.70	2815	23595.99	28.95	445.21	-
290.0	48.2	63.0	0.91	3980	24730.91	113.49	392.55	-
300.0	73.6	73.0	1.04	4725	25475.13	74.42	348.97	-
310.0	153.8	83.0	1.11	5083	25831.01	35.59	311.22	-
320.0	100.3	93.0	1.21	5643	26376.99	54.60	283.62	-
330.0	115.8	103.0	1.29	6128	26849.97	47.30	260.68	
340.0	97.0	113.0	1.40	6700	27414.20	56.42	242.60	-
350.0	94.7	123.0	1.50	7292	27992.11	57.79	227.58	-
360.0	81.3	133.0	1.62	7982	28665.84	67.37	215.53	-
369.0	55.4	142.0	1.79	8870	29555.53	98.85	208.14	-

BIT NUMBER	2	IADC CODE	111	INTERVAL	369.0- 952.6
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	4442.00	TRIP TIME	4.0	BIT RUN	583.6
TOTAL HOURS	8.45	TOTAL TURNS	65136	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
370.0	400.0	1.0	0.00	15	26355.69	14	26356	-
380.0	222.9	11.0	0.05	276	26601.30	25	2418	-
390.0	227.8	21.0	0.09	528	26841.59	24	1278	-
400.0	262.8	31.0	0.13	758	27049.95	20.84	872.58	-
410.0	138.5	41.0	0.20	1235	27445.36	39.54	669.40	-
420.0	79.5	51.0	0.33	2097	28134.30	68.89	551.65	-
430.0	83.9	61.0	0.45	2873	28786.74	65.24	471.91	-
440.0	84.7	71.0	0.56	3619	29433.09	64.64	414.55	-
450.0	83.5	81.0	0.68	4386	30088.57	65.55	371.46	-
460.0	139.0	91.0	0.76	4848	30482.47	39.39	334.97	-
470.0	81.4	101.0	0.88	5679	31154.68	67.22	308.46	-
480.0	135.3	111.0	0.95	6212	31559.22	40.45	284.32	-
490.0	175.6	121.0	1.01	6629	31870.99	31.18	263.40	-
500.0	107.8	131.0	1.10	7301	32378.95	50.80	247.17	-
510.0	154.5	141.0	1.17	7761	32733.30	35.44	232.15	-
520.0	96.5	151.0	1.27	8464	33300.57	56.73	220.53	-
530.0	91.8	161.0	1.38	9110	33896.74	59.62	210.54	-
540.0	87.1	171.0	1.49	9776	34525.60	62.89	201.90	-
550.0	112.1	181.0	1.58	10314	35013.79	48.82	193.45	-
560.0	119.2	191.0	1.67	10927	35473.08	45.93	185.72	-
570.0	119.2	201.0	1.75	11574	35932.38	45.93	178.77	-
580.0	86.1	211.0	1.87	12475	36568.08	63.57	173.31	-
590.0	82.9	221.0	1.99	13441	37228.16	66.01	168.45	-
600.0	77.0	231.0	2.12	14477	37939.20	71.10	164.24	-
610.0	100.0	241.0	2.22	15281	38486.96	54.78	159.70	-
620.0	88.9	251.0	2.33	16182	39102.90	61.59	155.79	-
630.0	97.6	261.0	2.43	16998	39664.09	56.12	151.97	-
640.0	97.0	271.0	2.54	17810	40228.32	56.42	148.44	-
650.0	98.9	281.0	2.64	18627	40781.90	55.36	145.13	-
660.0	101.4	291.0	2.74	19425	41321.80	53.99	142.00	-
670.0	80.5	301.0	2.86	20417	42001.61	67.98	139.54	-
680.0	84.3	311.0	2.98	21375	42651.00	64.94	137.14	-
690.0	72.1	321.0	3.12	22484	43409.90	75.89	135.23	-
700.0	75.6	331.0	3.25	23549	44134.53	72.46	133.34	-
710.0	52.3	341.0	3.44	25087	45180.86	104.63	132.50	-
720.0	52.6	351.0	3.63	26612	46221.11	104.03	131.68	-
730.0	46.6	361.0	3.85	28293	47395.20	117.41	131.29	-
740.0	54.6	371.0	4.03	29761	48397.43	100.22	130.45	-
750.0	66.3	381.0	4.18	30983	49223.24	82.58	129.19	-
760.0	68.5	391.0	4.33	32171	50022.44	79.92	127.93	-
770.0	56.3	401.0	4.50	33608	50994.25	97.18	127.17	-
780.0	64.4	411.0	4.66	34859	51844.39	85.01	126.14	-
790.0	58.3	421.0	4.83	36226	52782.75	93.84	125.37	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
800.0	68.1	431.0	4.98	37413	53587.27	80.45	124.33	-
810.0	56.6	441.0	5.15	38829	54554.14	96.69	123.71	-
820.0	53.5	451.0	5.34	40334	55577.66	102.35	123.23	-
830.0	45.9	461.0	5.56	42046	56771.51	119.39	123.15	-
840.0	42.6	471.0	5.79	43894	58056.62	128.51	123.26	+
850.0	41.5	481.0	6.03	45775	59375.18	131.86	123.44	+
860.0	49.5	491.0	6.24	47389	60480.83	110.56	123.18	-
870.0	39.0	501.0	6.49	49452	61883.04	140.22	123.52	+
880.0	38.8	511.0	6.75	51525	63292.85	140.98	123.86	+
890.0	40.0	521.0	7.00	53526	64661.60	136.87	124.11	+
900.0	49.0	531.0	7.20	55173	65779.41	111.78	123.88	-
910.0	47.1	541.0	7.42	56876	66942.85	116.34	123.74	-
920.0	42.7	551.0	7.65	58748	68224.91	128.21	123.82	+
930.0	40.0	561.0	7.90	60724	69595.18	137.03	124.06	+
940.0	40.1	571.0	8.15	62714	70959.37	136.42	124.27	+
950.0	43.2	581.0	8.38	64584	72226.22	126.69	124.31	+
952.6	36.8	583.6	8.45	65136	72613.12	148.81	124.42	+

BIT NUMBER	3	IADC CODE	114	INTERVAL	952.6- 1493.8
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	5.2	BIT RUN	541.2
TOTAL HOURS	15.92	TOTAL TURNS	140916	CONDITION	T3 B7 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
960.0	39.7	7.4	0.19	1170	31692.62	138	4283	-
970.0	61.0	17.4	0.35	2454	32589.91	90	1873	-
980.0	62.9	27.4	0.51	3797	33459.83	87	1221	-
990.0	60.9	37.4	0.67	5217	34358.64	89.88	918.68	-
1000.0	60.4	47.4	0.84	6642	35265.06	90.64	743.99	-
1010.0	62.1	57.4	1.00	8036	36147.14	88.21	629.74	-
1020.0	62.5	67.4	1.16	9343	37023.14	87.60	549.30	-
1030.0	66.9	77.4	1.31	10657	37841.35	81.82	488.91	
1040.0	57.5	87.4	1.48	12217	38793.39	95.20	443.86	-
1050.0	61.4	97.4	1.65	13682	39684.60	89.12	407.44	-
1060.0	49.1	107.4	1.85	15514	40799.37	111.48	379.88	-
1070.0	26.7	117.4	2.22	18882	42847.93	204.86	364.97	-
1080.0	22.9	127.4	2.66	22809	45237.16	238.92	355.08	-
1090.0	31.5	137.4	2.98	25664	46973.95	173.68	341.88	-
1100.0	31.5	147.4	3.29	28519	48710.74	173.68	330.47	-
1110.0	32.1	157.4	3.61	31327	50418.64	170.79	320.32	-
1120.0	45.6	167.4	3.83	33302	51620.10	120.15	308.36	-
1130.0	42.9	177.4	4.06	35399	52896.08	127.60	298.17	-
1140.0	44.1	187.4	4.29	37442	54138.60	124.25	288.89	-
1150.0	54.1	197.4	4.47	39104	55149.95	101.14	279.38	-
1160.0	48.8	207.4	4.68	40949	56271.82	112.19	271.32	-
1170.0	44.1	217.4	4.90	42989	57512.82	124.10	264.55	-
1180.0	36.4	227.4	5.18	45464	59018.45	150.56	259.54	-
1190.0	38.4	237.4	5.44	47807	60443.97	142.55	254.61	-
1200.0	48.8	247.4	5.64	49652	61566.35	112.24	248.85	-
1210.0	45.2	257.4	5.86	51644	62778.45	121.21	243.89	-
1220.0	51.5	267.4	6.06	53391	63840.76	106.23	238.75	-
1230.0	45.0	277.4	6.28	55391	65057.42	121.67	234.53	-
1240.0	37.9	287.4	6.54	57766	66502.21	144.48	231.39	-
1250.0	40.8	297.4	6.79	59971	67843.59	134.14	228.12	-
1260.0	35.6	307.4	7.07	62496	69379.63	153.60	225.70	-
1270.0	34.9	317.4	7.36	65073	70947.61	156.80	223.53	-
1280.0	37.1	327.4	7.63	67498	72422.82	147.52	221.21	-
1290.0	48.9	337.4	7.83	69338	73542.15	111.93	217.97	-
1300.0	37.3	347.4	8.10	71753	75011.28	146.91	215.92	-
1310.0	36.7	357.4	8.37	74206	76503.21	149.19	214.05	-
1320.0	36.5	367.4	8.65	76673	78004.28	150.11	212.31	-
1330.0	36.5	377.4	8.92	79138	79503.82	149.95	210.66	-
1340.0	42.2	387.4	9.16	81271	80801.09	129.73	208.57	-
1350.0	39.0	397.4	9.41	83578	82204.82	140.37	206.86	-
1360.0	32.3	407.4	9.72	86361	83897.51	169.27	205.93	-
1370.0	34.5	417.4	10.01	88966	85482.21	158.47	204.80	-
1380.0	25.1	427.4	10.41	92546	87660.05	217.78	205.10	+

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1390.0	24.4	437.4	10.82	96233	89903.28	224.32	205.54	+
1400.0	28.7	447.4	11.17	99368	91810.40	190.71	205.21	-
1410.0	24.9	457.4	11.57	102976	94004.96	219.46	205.52	+
1420.0	25.0	467.4	11.97	106522	96194.96	219.00	205.81	+
1430.0	26.3	477.4	12.35	109828	98275.46	208.05	205.86	+
1440.0	33.0	487.4	12.65	112467	99936.21	166.08	205.04	-
1450.0	22.6	497.4	13.09	116312	102355.86	241.96	205.78	+
1460.0	17.5	507.4	13.66	121281	105482.69	312.68	207.89	+
1470.0	22.0	517.4	14.12	125244	107976.86	249.42	208.69	+
1480.0	17.7	527.4	14.68	130157	111068.71	309.19	210.60	+
1490.0	14.7	537.4	15.37	136081	114796.28	372.76	213.61	+
1493.8	6.8	541.2	15.92	140916	117839.46	800.84	217.74	+

BIT NUMBER	4	IADC CODE	114	INTERVAL	1493.8- 1690.6
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	5.6	BIT RUN	196.8
TOTAL HOURS	16.08	TOTAL TURNS	139197	CONDITION	T2 B2 G0.062

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1500.0	15.8	6.2	0.39	2591	35010.52	347	5647	-
1510.0	15.4	16.2	1.04	6870	38560.36	355	2380	-
1520.0	11.5	26.2	1.91	13698	43329.69	477	1654	-
1530.0	11.2	36.2	2.80	21703	48199.40	487	1331	-
1540.0	11.7	46.2	3.66	29406	52885.09	469	1145	-
1550.0	15.3	56.2	4.31	35301	56471.22	359	1005	-
1560.0	13.0	66.2	5.08	42201	60668.72	419.75	916.45	-
1570.0	12.4	76.2	5.88	49448	65077.61	440.89	854.04	-
1580.0	13.6	86.2	6.62	56056	69097.17	401.96	801.59	-
1590.0	11.8	96.2	7.46	63658	73722.03	462.49	766.34	-
1600.0	10.4	106.2	8.43	72318	78990.19	526.82	743.79	-
1610.0	14.1	116.2	9.13	78688	82865.28	387.51	713.13	-
1620.0	13.6	126.2	9.87	85288	86880.28	401.50	688.43	-
1630.0	14.2	136.2	10.57	91608	90724.94	384.47	666.12	-
1640.0	14.9	146.2	11.24	97666	94409.92	368.50	645.76	-
1650.0	12.8	156.2	12.02	104680	98676.62	426.67	631.73	-
1660.0	10.9	166.2	12.94	112806	103693.85	501.72	623.91	-
1670.0	10.2	176.2	13.92	121073	109082.16	538.83	619.08	-
1680.0	9.8	186.2	14.94	129656	114676.55	559.44	615.88	-
1690.0	9.5	196.2	16.00	138534	120463.32	578.68	613.98	-
1690.6	7.6	196.8	16.08	139197	120895.56	720.39	614.31	+

BIT NUMBER	5	IADC CODE	4	INTERVAL	1690.6- 2044.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	24000.00	TRIP TIME	6.3	BIT RUN	353.4
TOTAL HOURS	22.25	TOTAL TURNS	178241	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1700.0	15.5	9.4	0.60	3803	61802.94	352	6575	-
1710.0	16.8	19.4	1.20	7469	65061.42	326	3354	-
1720.0	18.1	29.4	1.75	11338	68088.84	303	2316	-
1730.0	20.4	39.4	2.24	14865	70770.83	268	1796	-
1740.0	20.5	49.4	2.73	18370	73435.94	267	1487	-
1750.0	21.2	59.4	3.20	21766	76018.83	258	1280	-
1760.0	23.2	69.4	3.63	24869	78378.48	236	1129	-
1770.0	24.0	79.4	4.05	27870	80660.18	228	1016	
1780.0	15.5	89.4	4.69	32520	84196.09	353.59	941.79	-
1790.0	9.8	99.4	5.72	39866	89782.23	558.61	903.24	-
1800.0	10.0	109.4	6.71	47558	95236.39	545.42	870.53	-
1810.0	18.2	119.4	7.26	52505	98245.65	300.93	822.83	-
1820.0	17.7	129.4	7.83	57595	101341.92	309.63	783.17	-
1830.0	15.7	139.4	8.46	63202	104819.90	347.80	751.94	-
1840.0	8.7	149.4	9.62	73313	111137.62	631.77	743.89	-
1850.0	13.8	159.4	10.34	78998	115106.62	396.90	722.12	-
1860.0	19.6	169.4	10.85	83413	117894.69	278.81	695.95	-
1870.0	19.9	179.4	11.35	87431	120648.70	275.40	672.51	-
1880.0	14.4	189.4	12.05	92831	124439.21	379.05	657.02	-
1890.0	13.0	199.4	12.82	99031	128665.85	422.66	645.27	-
1900.0	20.8	209.4	13.30	103062	131293.18	262.73	627.00	-
1910.0	21.3	219.4	13.77	107003	133861.92	256.87	610.13	-
1920.0	15.8	229.4	14.40	112308	137319.62	345.77	598.60	-
1930.0	13.4	239.4	15.14	118574	141403.62	408.40	590.66	-
1940.0	17.7	249.4	15.71	123311	144491.38	308.78	579.36	-
1950.0	15.2	259.4	16.36	128832	148089.38	359.80	570.89	-
1960.0	11.4	269.4	17.24	136182	152880.15	479.08	567.48	-
1970.0	22.5	279.4	17.68	139907	155308.27	242.81	555.86	-
1980.0	19.6	289.4	18.19	144182	158094.67	278.64	546.28	-
1990.0	21.1	299.4	18.67	148168	160692.56	259.79	536.72	-
2000.0	16.3	309.4	19.28	153319	164049.96	335.74	530.22	-
2010.0	11.3	319.4	20.17	160780	168913.06	486.31	528.84	-
2020.0	13.3	329.4	20.92	167079	173018.39	410.53	525.25	-
2030.0	20.0	339.4	21.42	171279	175755.94	273.76	517.84	-
2040.0	17.7	349.4	21.98	176016	178843.71	308.78	511.86	-
2044.0	15.1	353.4	22.25	178241	180293.82	362.53	510.17	-

BIT NUMBER	5	IADC CODE	4	INTERVAL	2044.0- 2160.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	6.6	BIT RUN	116.0
TOTAL HOURS	32.99	TOTAL TURNS	261648	CONDITION	T1 R4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2050.0	20.8	359.4	22.54	180219	159529.38	262.60	443.88	-
2060.0	14.2	369.4	23.24	185247	163380.59	385.12	442.29	-
2070.0	14.1	379.4	23.95	190777	167262.09	388.15	440.86	-
2080.0	14.4	389.4	24.65	196198	171067.32	380.52	439.31	-
2090.0	10.2	399.4	25.62	203808	176409.02	534.17	441.69	+
2100.0	10.6	409.4	26.56	211154	181565.24	515.62	443.49	+
2110.0	13.0	419.4	27.33	217161	185781.76	421.65	442.97	-
2120.0	11.0	429.4	28.24	224225	190740.26	495.85	444.20	+
2130.0	8.5	439.4	29.42	232745	197197.00	645.67	448.79	+
2140.0	10.1	449.4	30.41	240765	202618.13	542.11	450.86	+
2150.0	10.2	459.4	31.39	248738	208006.69	538.86	452.78	+
2160.0	6.3	469.4	32.99	261648	216733.12	872.64	461.72	+

BIT NUMBER	5	IADC CODE	4	INTERVAL	2160.0- 2550.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	7.4	BIT RUN	390.0
TOTAL HOURS	71.16	TOTAL TURNS	558889	CONDITION	T1 R8 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2170.0	9.1	479.4	34.09	268459	227173.61	603.84	473.87	+
2180.0	8.9	489.4	35.22	275876	233326.43	615.28	476.76	+
2190.0	11.6	499.4	36.08	282618	238058.55	473.21	476.69	-
2200.0	12.1	509.4	36.91	289066	242585.22	452.67	476.22	-
2210.0	13.8	519.4	37.63	294722	246555.25	397.00	474.69	-
2220.0	11.7	529.4	38.48	301473	251218.81	466.36	474.53	-
2230.0	10.7	539.4	39.42	309857	256319.48	510.07	475.19	+
2240.0	8.4	549.4	40.60	320514	262802.08	648.26	478.34	+
2250.0	10.8	559.4	41.52	328812	267850.53	504.85	478.82	+
2260.0	10.2	569.4	42.50	337000	273210.11	535.96	479.82	+
2270.0	7.9	579.4	43.77	346881	280145.93	693.58	483.51	+
2280.0	10.2	589.4	44.75	354548	285527.72	538.18	484.44	+
2290.0	9.7	599.4	45.78	362582	291166.77	563.90	485.76	+
2300.0	10.5	609.4	46.73	370005	296377.35	521.06	486.34	+
2310.0	9.7	619.4	47.77	378071	302039.01	566.17	487.63	+
2320.0	10.6	629.4	48.71	385446	307215.68	517.67	488.11	+
2330.0	10.9	639.4	49.63	392570	312216.18	500.05	488.30	+
2340.0	7.5	649.4	50.95	402920	319481.27	726.51	491.96	+
2350.0	12.3	659.4	51.76	409247	323922.33	444.11	491.24	-
2360.0	12.9	669.4	52.54	415282	328158.39	423.61	490.23	-
2370.0	15.5	679.4	53.18	420316	331691.68	353.33	488.21	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2380.0	12.6	689.4	53.98	426506	336036.29	434.46	487.43	-
2390.0	12.3	699.4	54.79	432834	340478.00	444.17	486.81	-
2400.0	12.9	709.4	55.56	438857	344705.84	422.78	485.91	-
2410.0	12.3	719.4	56.38	445215	349168.99	446.31	485.36	-
2420.0	12.5	729.4	57.17	451452	353546.63	437.76	484.71	-
2430.0	12.7	739.4	57.97	457617	357874.30	432.77	484.01	-
2440.0	10.0	749.4	58.96	465393	363331.99	545.77	484.83	+
2450.0	10.1	759.4	59.95	473109	368748.11	541.61	485.58	+
2460.0	9.5	769.4	61.00	481311	374505.68	575.76	486.75	+
2470.0	10.7	779.4	61.94	488605	379624.95	511.93	487.07	+
2480.0	12.3	789.4	62.75	494954	384081.88	445.69	486.55	-
2490.0	11.1	799.4	63.65	501976	389010.48	492.86	486.63	+
2500.0	9.6	809.4	64.70	510142	394742.46	573.20	487.70	+
2510.0	10.7	819.4	65.63	517435	399861.70	511.92	487.99	+
2520.0	11.7	829.4	66.49	524111	404548.09	468.64	487.76	-
2530.0	9.8	839.4	67.51	532059	410126.94	557.89	488.60	+
2540.0	6.2	849.4	69.13	544686	418990.09	886.31	493.28	+
2550.0	4.9	859.4	71.16	558889	430138.53	1115	501	+

BIT NUMBER	6	IADC CODE	114	INTERVAL	2550.0- 2944.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	8.2	BIT RUN	394.0
TOTAL HOURS	27.25	TOTAL TURNS	189733	CONDITION	T4 B4 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2560.0	22.2	10.0	0.45	2430	49559.75	246	4956	-
2570.0	25.0	20.0	0.85	4590	51749.75	219	2587	-
2580.0	25.0	30.0	1.25	6750	53939.75	219	1798	-
2590.0	21.2	40.0	1.72	9296	56521.16	258	1413	-
2600.0	19.2	50.0	2.24	12109	59372.73	285	1187	-
2610.0	19.6	60.0	2.75	14871	62173.24	280	1036	-
2620.0	22.2	70.0	3.20	17421	64636.99	246.38	923.39	-
2630.0	18.5	80.0	3.75	21321	67602.61	296.56	845.03	-
2640.0	21.8	90.0	4.20	24621	70111.99	250.94	779.02	-
2650.0	18.9	100.0	4.73	28421	73001.57	288.96	730.02	-
2660.0	17.1	110.0	5.31	32621	76195.32	319.38	692.68	-
2670.0	15.5	120.0	5.96	37271	79731.26	353.59	664.43	-
2680.0	22.8	130.0	6.40	40425	82129.83	239.86	631.77	-
2690.0	14.8	140.0	7.08	45302	85838.51	370.87	613.13	-
2700.0	16.1	150.0	7.70	49780	89243.73	340.52	594.96	-
2710.0	17.1	160.0	8.28	53993	92447.54	320.38	577.80	-
2720.0	11.0	170.0	9.19	60511	97403.45	495.59	572.96	-
2730.0	14.0	180.0	9.90	65643	101305.91	390.25	562.81	-
2740.0	14.5	190.0	10.59	70603	105077.58	377.17	553.04	-
2750.0	13.1	200.0	11.35	76093	109252.26	417.47	546.26	-
2760.0	11.5	210.0	12.22	82373	114027.68	477.54	542.99	-
2770.0	14.8	220.0	12.90	87245	117732.43	370.48	535.15	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2780.0	14.7	230.0	13.58	92129	121446.31	371.39	528.03	-
2790.0	14.2	240.0	14.29	97015	125310.74	386.44	522.13	-
2800.0	13.7	250.0	15.01	102064	129295.33	398.46	517.18	-
2810.0	12.1	260.0	15.84	107798	133829.69	453.44	514.73	-
2820.0	13.4	270.0	16.59	112984	137916.17	408.65	510.80	-
2830.0	13.5	280.0	17.33	118304	141961.59	404.54	507.01	-
2840.0	12.5	290.0	18.13	124058	146337.02	437.54	504.61	-
2850.0	13.3	300.0	18.88	129468	150450.88	411.39	501.50	-
2860.0	8.6	310.0	20.04	137856	156829.25	637.84	505.90	+
2870.0	8.3	320.0	21.25	146556	163444.88	661.56	510.77	+
2880.0	10.4	330.0	22.22	153508	168731.29	528.64	511.31	+
2890.0	11.6	340.0	23.08	159698	173438.27	470.70	510.11	-
2900.0	10.2	350.0	24.06	166790	178831.15	539.29	510.95	+
2910.0	11.3	360.0	24.95	173123	183682.61	485.15	510.23	-
2920.0	16.7	370.0	25.55	177442	186960.00	327.74	505.30	-
2930.0	21.2	380.0	26.02	180866	189542.38	258.24	498.80	-
2940.0	16.2	390.0	26.63	185313	192915.59	337.32	494.66	-
2944.0	6.5	394.0	27.25	189733	196276.63	840.26	498.16	+

BIT NUMBER	7	IADC CODE	114	INTERVAL	2944.0- 2983.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	2201.00	TRIP TIME	8.3	BIT RUN	39.0
TOTAL HOURS	7.49	TOTAL TURNS	52895	CONDITION	T8 B7 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2950.0	7.4	6.0	0.81	4836	52056.69	736	8676	-
2960.0	9.9	16.0	1.82	12039	57586.44	553	3599	-
2970.0	3.5	26.0	4.63	32323	73010.73	1542	2808	-
2980.0	4.2	36.0	7.03	49593	86143.12	1313	2393	-
2983.0	6.5	39.0	7.49	52895	88654.02	837	2273	-

BIT NUMBER	8	IADC CODE	517	INTERVAL	2983.0- 3149.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	8.7	BIT RUN	166.0
TOTAL HOURS	35.25	TOTAL TURNS	112110	CONDITION	T2 B2 G0.062

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2990.0	6.6	7.0	1.05	4411	60187.50	824	8598	-
3000.0	9.6	17.0	2.10	8517	65916.48	573	3877	-
3010.0	7.1	27.0	3.50	13986	73594.03	768	2726	-
3020.0	5.1	37.0	5.46	21491	84288.53	1069	2278	
3030.0	5.3	47.0	7.35	28702	94647.14	1036	2014	-
3040.0	5.2	57.0	9.25	36766	105083.10	1044	1844	-
3050.0	6.9	67.0	10.69	41813	112964.06	788	1686	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3060.0	4.4	77.0	12.96	49936	125361.89	1240	1628	-
3070.0	3.6	87.0	15.74	59697	140580.87	1522	1616	-
3080.0	4.2	97.0	18.15	67325	153772.58	1319	1585	-
3090.0	4.9	107.0	20.17	72504	164836.64	1106	1541	-
3100.0	5.0	117.0	22.16	77674	175751.66	1092	1502	-
3110.0	3.0	127.0	25.46	86578	193805.48	1805	1526	+
3120.0	4.1	137.0	27.88	93543	207073.86	1327	1511	-
3130.0	4.1	147.0	30.30	100195	220292.94	1322	1499	-
3140.0	3.3	157.0	33.34	107348	236983.82	1669	1509	+
3149.0	4.7	166.0	35.25	112110	247427.38	1160	1491	-

BIT NUMBER	9	IADC CODE	437	INTERVAL	3149.0- 3251.0
HTC J11		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	8.9	BIT RUN	102.0
TOTAL HOURS	29.61	TOTAL TURNS	105798	CONDITION	T5 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3150.0	12.6	1.0	0.08	239	55950.84	435	55951	-
3160.0	8.9	11.0	1.20	3283	62082.84	613	5644	-
3170.0	5.8	21.0	2.93	7983	71554.59	947	3407	-
3180.0	5.8	31.0	4.67	12857	81070.44	952	2615	-
3190.0	2.8	41.0	8.19	23227	100340.92	1927	2447	-
3200.0	1.7	51.0	14.17	42489	133101.95	3276	2610	+
3210.0	1.8	61.0	19.86	67023	164244.49	3114	2693	+
3220.0	8.3	71.0	21.06	72254	170827.42	658	2406	-
3230.0	4.1	81.0	23.50	83032	184156.00	1333	2274	-
3240.0	7.3	91.0	24.86	88818	191624.81	747	2106	-
3250.0	4.0	101.0	27.36	99652	205321.44	1370	2033	-
3251.0	0.4	102.0	29.61	105798	217645.26	12324	2134	+

BIT NUMBER	10	IADC CODE	517	INTERVAL	3251.0- 3359.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	9.1	BIT RUN	108.0
TOTAL HOURS	21.73	TOTAL TURNS	74949	CONDITION	T5 B3 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3260.0	3.0	9.0	2.96	9282	72840.96	1803	8093	-
3270.0	6.1	19.0	4.61	14405	81864.06	902	4309	-
3280.0	3.6	29.0	7.41	22810	97157.56	1529	3350	
3290.0	7.0	39.0	8.84	27567	104992.90	784	2692	-
3300.0	6.0	49.0	10.51	33598	114154.40	916	2330	-
3310.0	8.0	59.0	11.76	38032	120969.25	681	2050	-
3320.0	4.8	69.0	13.82	45593	132279.69	1131	1917	-
3330.0	6.5	79.0	15.35	51853	140676.21	840	1781	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3340.0	7.2	89.0	16.75	57742	148307.75	763	1666	-
3350.0	6.7	99.0	18.25	64010	156509.61	820	1581	-
3359.0	2.6	108.0	21.73	74949	175591.50	2120	1626	+

BIT NUMBER	11	IADC CODE	537	INTERVAL	3359.0- 3521.0
HTC J33		SIZE	12.250	NOZZLES	16 16 16
COST	6637.00	TRIP TIME	9.5	BIT RUN	162.0
TOTAL HOURS	39.12	TOTAL TURNS	127180	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3360.0	2.8	1.0	0.36	982	60639.89	1990	60640	-
3370.0	5.4	11.0	2.21	6422	70770.16	1013	6434	-
3380.0	5.9	21.0	3.91	11355	80068.54	930	3813	-
3390.0	4.3	31.0	6.25	18534	92845.82	1278	2995	-
3400.0	4.6	41.0	8.41	25491	104667.26	1182	2553	-
3410.0	3.9	51.0	10.99	34006	118794.28	1413	2329	-
3420.0	3.8	61.0	13.60	42621	133087.07	1429	2182	-
3430.0	3.1	71.0	16.81	51500	150660.30	1757	2122	-
3440.0	6.2	81.0	18.42	55373	159496.34	884	1969	-
3450.0	6.9	91.0	19.87	58843	167410.76	791	1840	-
3460.0	5.2	101.0	21.78	64087	177872.03	1046	1761	-
3470.0	5.9	111.0	23.46	70167	187118.69	925	1686	-
3480.0	2.2	121.0	28.04	86791	212189.63	2507	1754	+
3490.0	2.9	131.0	31.47	99544	230958.24	1877	1763	+
3500.0	3.8	141.0	34.11	109139	245392.47	1443	1740	-
3510.0	4.5	151.0	36.32	117119	257528.72	1214	1705	-
3520.0	4.0	161.0	38.85	126192	271327.24	1380	1685	-
3521.0	3.6	162.0	39.12	127180	272829.82	1503	1684	-

(e). COMPUTER DATA LISTING : LIST C

INTERVAL	10m averages.
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.
H.H.P.	Bit hydraulic horsepower.
HHP/SQ IN.	Bit hydraulic horsepower per square inch of bit diameter.
IMPACT FORCE	Bit impact force, in foot-pounds per second squared.
JET VELOCITY	Mud velocity through the bit nozzles, in metres per second.

BIT NUMBER	1	IADC CODE	111	INTERVAL	227.0- 369.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	4442.00	TRIP TIME	2.8	BIT RUN	142.0
TOTAL HOURS	1.56	TOTAL TURNS	7615	CONDITION	T3 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
230.0	445	450.0	182.9	40.7	47	0.09	304	47
240.0	444	450.0	181.8	40.4	47	0.09.	302	47
250.0	478	450.0	211.4	47.0	59	0.11	351	51
260.0	969	680.0	867.1	127.5	490	0.92	1439	103
270.0	984	680.0	894.3	131.5	513	0.97	1485	104
280.0	935	680.0	807.7	118.8	441	0.83	1341	99
290.0	956	900.0	845.3	93.9	472	0.89	1403	101
300.0	953	900.0	839.1	93.2	466	0.88	1393	101
310.0	983	900.0	892.6	99.2	512	0.96	1482	104
320.0	989	900.0	903.4	100.4	521	0.98	1500	105
330.0	995	1840.0	915.6	49.8	532	1.00	1520	105
340.0	969	1840.0	868.5	47.2	491	0.93	1442	103
350.0	974	1840.0	877.3	47.7	499	0.94	1456	103
360.0	982	1900.0	891.8	46.9	511	0.96	1480	104
369.0	983	1900.0	893.3	47.0	512	0.97	1483	104

BIT NUMBER	2	IADC CODE	111	INTERVAL	369.0- 952.6
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	4442.00	TRIP TIME	4.0	BIT RUN	583.6
TOTAL HOURS	8.45	TOTAL TURNS	65136	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
370.0	958	1780.0	848.5	47.7	474	1.97	1409	102
380.0	894	1600.0	738.6	46.2	385	1.60	1226	95
390.0	870	1600.0	699.1	43.7	355	1.47	1161	92
400.0	968	1830.0	865.5	47.3	489	2.03	1437	103
410.0	973	1870.0	874.1	46.7	496	2.06	1451	103
420.0	958	1900.0	848.9	44.7	475	1.97	1409	102
430.0	984	1900.0	894.5	47.1	513	2.13	1485	104
440.0	965	1900.0	861.0	45.3	485	2.02	1429	102
450.0	981	1900.0	888.9	46.8	509	2.11	1476	104
460.0	976	1900.0	880.9	46.4	502	2.09	1462	103
470.0	983	1940.0	892.8	46.0	512	2.13	1482	104
480.0	991	1940.0	907.1	46.8	524	2.18	1506	105
490.0	1015	1920.0	985.9	51.3	584	2.43	1637	108
500.0	970	1920.0	901.0	46.9	510	2.12	1496	103
510.0	967	1980.0	894.7	45.2	505	2.10	1485	102
520.0	964	1980.0	888.7	44.9	500	2.08	1475	102
530.0	968	1980.0	896.6	45.3	506	2.11	1488	103
540.0	963	1980.0	888.1	44.9	499	2.08	1474	102
550.0	968	1970.0	896.6	45.5	506	2.11	1488	103
560.0	949	1970.0	861.5	43.7	477	1.98	1430	101
570.0	958	1970.0	887.6	45.1	496	2.06	1474	101
580.0	978	2050.0	924.9	45.1	528	2.19	1535	104
590.0	973	2050.0	926.3	45.2	526	2.19	1538	103
600.0	973	2050.0	926.3	45.2	526	2.19	1538	103
610.0	967	2050.0	914.9	44.6	516	2.15	1519	102
620.0	967	2050.0	914.2	44.6	516	2.14	1518	102
630.0	971	2050.0	932.1	45.5	528	2.19	1547	103
640.0	967	2050.0	925.5	45.1	522	2.17	1537	102
650.0	964	2050.0	919.4	44.9	517	2.15	1526	102
660.0	966	2050.0	923.8	45.1	521	2.17	1534	102
670.0	968	2050.0	937.9	45.7	530	2.20	1557	103
680.0	974	2050.0	948.0	46.2	538	2.24	1574	103
690.0	964	2050.0	928.6	45.3	522	2.17	1542	102
700.0	973	2050.0	926.3	45.2	526	2.19	1538	103
710.0	489	750.0	241.3	32.2	69	0.29	401	52
720.0	483	750.0	236.4	31.5	67	0.28	392	51
730.0	472	750.0	225.0	30.0	62	0.26	374	50
740.0	962	2250.0	945.7	42.0	531	2.21	1570	102
750.0	967	2250.0	956.4	42.5	540	2.24	1588	103
760.0	966	2250.0	953.5	42.4	537	2.23	1583	102
770.0	965	2250.0	951.8	42.3	536	2.23	1580	102
780.0	972	2250.0	964.7	42.9	547	2.27	1601	103
790.0	964	2250.0	949.6	42.2	534	2.22	1576	102

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
800.0	965	2260.0	951.8	42.1	536	2.23	1580	102
810.0	967	2220.0	956.2	43.1	540	2.24	1587	103
820.0	969	2220.0	959.7	43.2	543	2.26	1593	103
830.0	975	2220.0	972.2	43.8	553	2.30	1614	103
840.0	968	2270.0	967.9	42.6	547	2.27	1607	103
850.0	968	2270.0	967.2	42.6	546	2.27	1606	103
860.0	965	2270.0	962.4	42.4	542	2.25	1598	102
870.0	968	2270.0	967.6	42.6	546	2.27	1606	103
880.0	971	2270.0	973.4	42.9	551	2.29	1616	103
890.0	971	2270.0	973.2	42.9	551	2.29	1616	103
900.0	958	2270.0	948.1	41.8	530	2.20	1574	102
910.0	974	2270.0	980.6	43.2	557	2.32	1628	103
920.0	967	2270.0	965.2	42.5	544	2.26	1602	102
930.0	967	2270.0	965.4	42.5	545	2.26	1603	102
940.0	970	2270.0	972.3	42.8	550	2.29	1614	103
950.0	959	2270.0	949.5	41.8	531	2.21	1576	102
952.6	963	2270.0	958.1	42.2	538	2.24	1591	102

BIT NUMBER	3	IADC CODE	114	INTERVAL	952.6- 1493.8
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	5.2	BIT RUN	541.2
TOTAL HOURS	15.92	TOTAL TURNS	140916	CONDITION	T3 B7 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
960.0	930	2450.0	1232.3	50.3	669	5.67	1657	122
970.0	892	2280.0	1133.2	49.7	590	5.00	1524	117
980.0	912	2320.0	1184.1	51.0	630	5.34	1592	119
990.0	890	2320.0	1129.1	48.7	586	4.98	1518	116
1000.0	888	2320.0	1123.9	48.4	582	4.94	1511	116
1010.0	904	2320.0	1164.5	50.2	614	5.21	1566	118
1020.0	884	2320.0	1114.4	48.0	575	4.88	1498	116
1030.0	896	2350.0	1144.8	48.7	599	5.08	1539	117
1040.0	896	2400.0	1144.0	47.7	598	5.07	1538	117
1050.0	900	2400.0	1155.2	48.1	607	5.15	1553	118
1060.0	893	2450.0	1135.3	46.3	591	5.02	1527	117
1070.0	899	2450.0	1151.5	47.0	604	5.12	1548	118
1080.0	899	2450.0	1178.2	48.1	618	5.24	1584	118
1090.0	915	2540.0	1221.0	48.1	652	5.53	1642	120
1100.0	926	2610.0	1249.8	47.9	675	5.73	1681	121
1110.0	928	2610.0	1256.9	48.2	681	5.78	1690	121
1120.0	887	2440.0	1146.5	47.0	593	5.03	1542	116
1130.0	899	2440.0	1177.4	48.3	617	5.24	1583	118
1140.0	901	2500.0	1184.0	47.4	622	5.28	1592	118
1150.0	909	2550.0	1203.9	47.2	638	5.41	1619	119
1160.0	916	2600.0	1223.2	47.0	654	5.55	1645	120
1170.0	916	2600.0	1222.5	47.0	653	5.54	1644	120
1180.0	907	2550.0	1200.7	47.1	636	5.39	1615	119
1190.0	903	2600.0	1188.4	45.7	626	5.31	1598	118
1200.0	904	2600.0	1177.9	45.3	621	5.27	1584	118
1210.0	917	2650.0	1227.2	46.3	657	5.57	1650	120
1220.0	905	2650.0	1195.0	45.1	631	5.36	1607	118
1230.0	527	1040.0	414.0	39.8	127	1.08	557	69
1240.0	923	2640.0	1257.5	47.6	677	5.75	1691	121
1250.0	903	2570.0	1189.5	46.3	627	5.32	1600	118
1260.0	915	2680.0	1221.0	45.6	652	5.53	1642	120
1270.0	920	2590.0	1233.9	47.6	662	5.62	1659	120
1280.0	896	2600.0	1185.2	45.6	620	5.26	1594	117
1290.0	964	2690.0	1371.0	51.0	771	6.54	1844	126
1300.0	890	2590.0	1169.1	45.1	607	5.15	1572	116
1310.0	883	2620.0	1150.5	43.9	593	5.03	1547	116
1320.0	887	2600.0	1160.2	44.6	600	5.09	1560	116
1330.0	890	2600.0	1168.8	45.0	607	5.15	1572	116
1340.0	894	2610.0	1178.7	45.2	615	5.22	1585	117
1350.0	887	2630.0	1159.7	44.1	600	5.09	1559	116
1360.0	890	2630.0	1167.3	44.4	606	5.14	1570	116
1370.0	897	2660.0	1186.2	44.6	621	5.27	1595	117
1380.0	895	2600.0	1181.4	45.4	617	5.23	1589	117

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1390.0	898	2600.0	1188.7	45.7	623	5.28	1598	117
1400.0	887	2600.0	1160.9	44.6	601	5.10	1561	116
1410.0	891	2600.0	1169.7	45.0	608	5.16	1573	117
1420.0	893	2600.0	1175.8	45.2	613	5.20	1581	117
1430.0	896	2600.0	1196.9	46.0	626	5.31	1609	117
1440.0	891	2600.0	1182.9	45.5	615	5.21	1591	117
1450.0	890	2600.0	1182.5	45.5	614	5.21	1590	117
1460.0	891	2600.0	1184.8	45.6	616	5.23	1593	117
1470.0	895	2600.0	1195.0	46.0	624	5.30	1607	117
1480.0	892	2640.0	1187.1	45.0	618	5.24	1596	117
1490.0	885	2650.0	1167.9	44.1	603	5.12	1570	116
1493.8	796	2650.0	946.0	35.7	440	3.73	1272	104

BIT NUMBER	4	IADC CODE	114	INTERVAL	1493.8- 1690.6
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	5.6	BIT RUN	196.8
TOTAL HOURS	16.08	TOTAL TURNS	139197	CONDITION	T2 B2 G0.062

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1500.0	880	2640.0	1128.4	42.7	579	4.91	1517	115
1510.0	624	1400.0	574.7	41.1	209	1.78	773	82
1520.0	874	2650.0	1126.2	42.5	574	4.87	1514	114
1530.0	877	2700.0	1133.8	42.0	580	4.92	1525	115
1540.0	881	2700.0	1145.1	42.4	589	4.99	1540	115
1550.0	887	2650.0	1160.5	43.8	601	5.10	1561	116
1560.0	883	2650.0	1149.5	43.4	592	5.02	1546	116
1570.0	880	2650.0	1141.2	43.1	586	4.97	1535	115
1580.0	887	2700.0	1159.8	43.0	600	5.09	1560	116
1590.0	877	2700.0	1133.8	42.0	580	4.92	1525	115
1600.0	883	2740.0	1149.8	42.0	592	5.03	1546	116
1610.0	881	2680.0	1145.2	42.7	589	5.00	1540	115
1620.0	880	2680.0	1141.7	42.6	586	4.97	1535	115
1630.0	869	2680.0	1114.7	41.6	565	4.80	1499	114
1640.0	883	2680.0	1148.7	42.9	591	5.02	1545	115
1650.0	862	2710.0	1095.7	40.4	551	4.68	1473	113
1660.0	570	1280.0	490.0	38.3	163	1.38	659	75
1670.0	582	1290.0	511.4	39.6	174	1.47	688	76
1680.0	927	2300.0	1282.5	55.8	694	5.89	1725	121
1690.0	894	2000.0	1193.2	59.7	623	5.28	1605	117
1690.6	894	2000.0	1192.9	59.6	622	5.28	1604	117

BIT NUMBER	5	IADC CODE	4	INTERVAL	2044.0- 2160.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	6.6	BIT RUN	116.0
TOTAL HOURS	32.99	TOTAL TURNS	261648	CONDITION	T1 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2050.0	875	2700.0	1141.0	42.3	582	4.94	1534	114
2060.0	767	2200.0	876.4	39.8	392	3.33	1178	100
2070.0	786	2450.0	911.7	37.2	418	3.55	1226	103
2080.0	786	2450.0	911.7	37.2	418	3.55	1226	103
2090.0	752	2500.0	833.6	33.3	366	3.10	1121	98
2100.0	762	2540.0	855.6	33.7	380	3.23	1151	100
2110.0	762	2540.0	855.6	33.7	380	3.23	1151	100
2120.0	762	2540.0	855.6	33.7	380	3.23	1151	100
2130.0	732	2460.0	790.6	32.1	338	2.87	1063	96
2140.0	722	2460.0	778.2	31.6	328	2.78	1046	95
2150.0	727	2460.0	788.8	32.1	335	2.84	1061	95
2160.0	732	2460.0	799.5	32.5	342	2.90	1075	96

BIT NUMBER	5	IADC CODE	4	INTERVAL	2160.0- 2550.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	7.4	BIT RUN	390.0
TOTAL HOURS	71.16	TOTAL TURNS	558889	CONDITION	T1 B8 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2170.0	644	2000.0	624.9	31.2	235	1.99	-840	84
2180.0	600	1750.0	542.0	31.0	190	1.61	729	78
2190.0	708	2450.0	746.8	30.5	308	2.62	1004	93
2200.0	801	2900.0	956.8	33.0	447	3.79	1287	105
2210.0	801	2900.0	956.8	33.0	447	3.79	1287	105
2220.0	801	2900.0	956.8	33.0	447	3.79	1287	105
2230.0	801	2900.0	956.8	33.0	447	3.79	1287	105
2240.0	801	2900.0	956.8	33.0	447	3.79	1287	105
2250.0	801	2900.0	956.8	33.0	447	3.79	1287	105
2260.0	678	2250.0	685.8	30.5	271	2.30	922	89
2270.0	678	2250.0	685.8	30.5	271	2.30	922	89
2280.0	801	2900.0	956.8	33.0	447	3.79	1287	105
2290.0	767	2950.0	876.4	29.7	392	3.33	1178	100
2300.0	796	2950.0	945.1	32.0	439	3.72	1271	104
2310.0	796	2950.0	945.1	32.0	439	3.72	1271	104
2320.0	796	2950.0	945.1	32.0	439	3.72	1271	104
2330.0	796	2950.0	945.1	32.0	439	3.72	1271	104
2340.0	796	2950.0	945.1	32.0	439	3.72	1271	104
2350.0	796	2950.0	934.6	31.7	434	3.68	1257	104
2360.0	796	2950.0	934.6	31.7	434	3.68	1257	104
2370.0	781	2950.0	900.3	30.5	410	3.48	1211	102

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2380.0	796	2950.0	934.6	31.7	434	3.68	1257	104
2390.0	796	2950.0	934.6	31.7	434	3.68	1257	104
2400.0	796	2950.0	934.6	31.7	434	3.68	1257	104
2410.0	796	2950.0	934.6	31.7	434	3.68	1257	104
2420.0	796	2950.0	934.6	31.7	434	3.68	1257	104
2430.0	786	2950.0	911.7	30.9	418	3.55	1226	103
2440.0	791	2960.0	923.1	31.2	426	3.62	1241	104
2450.0	776	2960.0	889.0	30.0	403	3.42	1195	102
2460.0	781	2960.0	900.3	30.4	410	3.48	1211	102
2470.0	781	2960.0	900.3	30.4	410	3.48	1211	102
2480.0	786	2960.0	911.7	30.8	418	3.55	1226	103
2490.0	786	2360.0	911.7	38.6	418	3.55	1226	103
2500.0	840	2600.0	1041.3	40.1	511	4.33	1400	110
2510.0	840	2600.0	1041.3	40.1	511	4.33	1400	110
2520.0	835	2600.0	1029.2	39.6	502	4.26	1384	109
2530.0	840	2600.0	1041.3	40.1	511	4.33	1400	110
2540.0	875	2800.0	1128.3	40.3	576	4.89	1517	114
2550.0	885	2800.0	1153.8	41.2	595	5.05	1552	116

BIT NUMBER	6	IADC CODE	114	INTERVAL	2550.0- 2944.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	8.2	BIT RUN	394.0
TOTAL HOURS	27.25	TOTAL TURNS	189733	CONDITION	T4 B4 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2560.0	752	2850.0	833.6	29.3	366	3.10	1121	98
2570.0	747	2850.0	822.8	28.9	359	3.04	1106	98
2580.0	829	2850.0	1012.9	35.5	490	4.16	1362	108
2590.0	820	2870.0	992.7	34.6	475	4.03	1335	107
2600.0	822	2870.0	996.3	34.7	478	4.05	1340	108
2610.0	835	2880.0	1029.2	35.7	502	4.26	1384	109
2620.0	835	2880.0	1040.8	36.1	507	4.30	1400	109
2630.0	835	2880.0	1040.8	36.1	507	4.30	1400	109
2640.0	835	2880.0	1052.3	36.5	513	4.35	1415	109
2650.0	835	2900.0	1063.9	36.7	519	4.40	1431	109
2660.0	835	2900.0	1063.9	36.7	519	4.40	1431	109
2670.0	835	2900.0	1075.4	37.1	524	4.45	1446	109
2680.0	835	2900.0	1075.4	37.1	524	4.45	1446	109
2690.0	850	3000.0	1125.7	37.5	558	4.74	1514	111
2700.0	814	2950.0	1031.2	35.0	489	4.15	1387	106
2710.0	806	2900.0	1011.6	34.9	476	4.04	1360	105
2720.0	815	2940.0	1033.6	35.2	491	4.17	1390	107
2730.0	843	2940.0	1107.0	37.7	544	4.62	1489	110
2740.0	812	2940.0	1026.8	34.9	486	4.13	1381	106
2750.0	805	2930.0	1009.2	34.4	474	4.02	1357	105
2760.0	803	2930.0	1004.6	34.3	471	3.99	1351	105
2770.0	799	2930.0	994.3	33.9	463	3.93	1337	105

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2780.0	798	2940.0	992.6	33.8	462	3.92	1335	104
2790.0	794	2940.0	982.9	33.4	456	3.87	1322	104
2800.0	815	2940.0	1034.8	35.2	492	4.18	1392	107
2810.0	792	2920.0	978.0	33.5	452	3.84	1315	104
2820.0	793	2920.0	978.5	33.5	452	3.84	1316	104
2830.0	795	2920.0	983.6	33.7	456	3.87	1323	104
2840.0	571	1680.0	502.5	29.9	167	1.42	676	75
2850.0	794	2970.0	971.8	32.7	450	3.82	1307	104
2860.0	785	2930.0	949.4	32.4	435	3.69	1277	103
2870.0	565	1690.0	491.4	29.1	162	1.37	661	74
2880.0	789	2950.0	969.0	32.8	446	3.78	1303	103
2890.0	790	2950.0	972.9	33.0	449	3.81	1308	103
2900.0	783	2940.0	954.6	32.5	436	3.70	1284	102
2910.0	780	2900.0	956.8	33.0	435	3.69	1287	102
2920.0	786	2910.0	971.6	33.4	445	3.78	1307	103
2930.0	790	2910.0	981.3	33.7	452	3.84	1320	103
2940.0	570	1680.0	506.8	30.2	169	1.43	682	75
2944.0	573	1720.0	512.0	29.8	171	1.45	688	75

BIT NUMBER	7	IADC CODE	114	INTERVAL	2944.0- 2983.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	2201.00	TRIP TIME	8.3	BIT RUN	39.0
TOTAL HOURS	7.49	TOTAL TURNS	52895	CONDITION	T8 B7 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2950.0	718	2630.0	1286.3	48.9	539	4.57	1367	119
2960.0	577	1970.0	832.0	42.2	280	2.38	884	96
2970.0	575	1950.0	824.4	42.3	276	2.35	876	95
2980.0	714	2900.0	1272.2	43.9	530	4.50	1352	118
2983.0	716	2900.0	1278.9	44.1	534	4.53	1359	119

BIT NUMBER	8	IADC CODE	517	INTERVAL	2983.0- 3149.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	8.7	BIT RUN	166.0
TOTAL HOURS	35.25	TOTAL TURNS	112110	CONDITION	T2 B2 G0.062

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2990.0	741	2930.0	1369.5	46.7	592	5.02	1455	123
3000.0	714	2900.0	1273.4	43.9	531	4.50	1353	118
3010.0	747	2910.0	1394.1	47.9	608	5.16	1481	124
3020.0	716	2880.0	1279.9	44.4	535	4.54	1360	119
3030.0	744	2880.0	1382.6	48.0	600	5.09	1469	123
3040.0	496	1590.0	614.6	38.7	178	1.51	653	82
3050.0	548	1830.0	749.2	40.9	240	2.03	796	91

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3060.0	713	2910.0	1269.1	43.6	528	4.48	1348	118
3070.0	705	2880.0	1240.9	43.1	511	4.33	1318	117
3080.0	715	2910.0	1276.4	43.9	533	4.52	1356	118
3090.0	720	2930.0	1294.3	44.2	544	4.61	1375	119
3100.0	719	2920.0	1291.0	44.2	542	4.60	1372	119
3110.0	717	2900.0	1282.4	44.2	536	4.55	1363	119
3120.0	709	3000.0	1255.3	41.8	519	4.41	1334	117
3130.0	714	3000.0	1270.3	42.3	529	4.49	1350	118
3140.0	705	3000.0	1238.7	41.3	509	4.32	1316	117
3149.0	708	2870.0	1249.3	43.5	516	4.38	1327	117

BIT NUMBER	9	IADC CODE	437	INTERVAL	3149.0- 3251.0
HTC J11		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	8.9	BIT RUN	102.0
TOTAL HOURS	29.61	TOTAL TURNS	105798	CONDITION	T5 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3150.0	673	2910.0	1131.1	38.9	444	3.77	1202	111
3160.0	704	2900.0	1248.1	43.0	512	4.35	1326	116
3170.0	705	2900.0	1239.3	42.7	510	4.32	1317	117
3180.0	709	2900.0	1252.7	43.2	518	4.39	1331	117
3190.0	703	2870.0	1234.8	43.0	507	4.30	1312	116
3200.0	701	2870.0	1227.6	42.8	502	4.26	1304	116
3210.0	532	1770.0	704.9	39.8	219	1.85	749	88
3220.0	514	1700.0	660.3	38.8	198	1.68	702	85
3230.0	535	1860.0	705.4	37.9	220	1.87	750	89
3240.0	533	1850.0	702.3	38.0	219	1.85	746	88
3250.0	530	1770.0	692.8	39.1	214	1.82	736	88
3251.0	713	2920.0	1255.1	43.0	522	4.43	1334	118

BIT NUMBER	10	IADC CODE	517	INTERVAL	3251.0- 3359.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	9.1	BIT RUN	108.0
TOTAL HOURS	21.73	TOTAL TURNS	74949	CONDITION	T5 B3 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3260.0	528	1800.0	688.5	38.2	212	1.80	731	87
3270.0	686	2830.0	1162.2	41.1	465	3.95	1235	114
3280.0	693	2850.0	1198.6	42.1	485	4.11	1274	115
3290.0	693	2850.0	1197.4	42.0	484	4.11	1272	115
3300.0	694	2850.0	1201.6	42.2	486	4.13	1277	115
3310.0	687	2850.0	1176.2	41.3	471	4.00	1250	114
3320.0	687	2900.0	1166.7	40.2	468	3.97	1240	114
3330.0	689	2880.0	1183.7	41.1	476	4.04	1258	114

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3340.0	692	2880.0	1181.9	41.0	477	4.05	1256	115
3350.0	694	2880.0	1189.4	41.3	482	4.09	1264	115
3359.0	686	2880.0	1160.7	40.3	464	3.94	1233	114

BIT NUMBER	11	IADC CODE	537	INTERVAL	3359.0- 3521.0
HTC J33		SIZE	12.250	NOZZLES	16 16 16
COST	6637.00	TRIP TIME	9.5	BIT RUN	162.0
TOTAL HOURS	39.12	TOTAL TURNS	127180	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3360.0	523	1812.4	674.2	37.2	206	1.74	716	87
3370.0	542	1849.7	731.9	39.6	231	1.96	778	90
3380.0	540	1845.6	726.5	39.4	229	1.94	772	89
3390.0	548	1963.9	742.5	37.8	238	2.02	789	91
3400.0	686	2879.9	1161.8	40.3	465	3.95	1234	114
3410.0	685	2892.3	1157.7	40.0	463	3.92	1230	113
3420.0	691	2888.5	1180.1	40.9	476	4.04	1254	114
3430.0	692	2956.2	1181.5	40.0	477	4.05	1255	115
3440.0	690	2893.7	1187.5	41.0	478	4.06	1262	114
3450.0	682	2860.6	1161.9	40.6	463	3.93	1235	113
3460.0	538	1894.2	721.5	38.1	226	1.92	767	89
3470.0	542	1946.0	733.9	37.7	232	1.97	780	90
3480.0	534	1877.3	710.4	37.8	221	1.88	755	88
3490.0	691	2933.9	1192.3	40.6	481	4.08	1267	114
3500.0	688	2914.3	1180.3	40.5	474	4.02	1254	114
3510.0	678	2890.1	1146.3	39.7	453	3.85	1218	112
3520.0	682	2895.7	1161.9	40.1	463	3.92	1234	113
3521.0	684	2896.9	1165.7	40.2	465	3.94	1239	113

(f). COMPUTER DATA LISTING : LIST D

INTERVAL . . . . . 10m averages.

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	227.0- 369.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	4442.00	TRIP TIME	2.8	BIT RUN	142.0
TOTAL HOURS	1.56	TOTAL TURNS	7615	CONDITION	T3 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
230.0	91	0	445	5		5		5		
240.0	90	0	444	5		5		5		
250.0	97	0	478	6		5		5		
260.0	104	93	969	12		11		11		
270.0	104	96	984	12		11		11		
280.0	99	91	935	11		11		11		
290.0	103	91	956	12		11		11		
300.0	101	93	953	12		11		11		
310.0	108	92	983	12		11		11		
320.0	107	94	989	12		11		11		
330.0	111	92	995	12		11		11		
340.0	106	92	969	12		11		11		
350.0	105	93	974	12		11		11		
360.0	107	93	982	12		11		11		
369.0	108	92	983	12		11		11		

BIT NUMBER	2	IADC CODE	111	INTERVAL	369.0- 952.6
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	4442.00	TRIP TIME	4.0	BIT RUN	583.6
TOTAL HOURS	8.45	TOTAL TURNS	65136	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
370.0	104	91	958		24		21			17
380.0	95	87	894	28	22		20		20	16
390.0	93	84	870	27	22		19		19	16
400.0	104	93	968	30	24		21		21	17
410.0	104	94	973	30	24		21		21	17
420.0	102	93	958	30	24		21		21	17
430.0	104	96	984	30	24		22		22	18
440.0	102	95	965	30	24		21		21	17
450.0	106	94	981	30	24		22		22	18
460.0	104	94	976	30	24		21		21	18
470.0	105	95	983	30		26	22		22	18
480.0	106	95	991	31		26	22		22	18
490.0	108	98	1015	31		27	22		22	18
500.0	104	93	970	30		26		26	21	17
510.0	103	94	967	30		26		26	21	17
520.0	104	93	964	30		26		26	21	17
530.0	104	93	968	30		26		26	21	17
540.0	102	94	963	30		26		26	21	17
550.0	103	94	968	30		26		26	21	17
560.0	100	93	949	29		25		25	21	17
570.0	102	93	958	30		25		25	21	17
580.0	105	93	978	30		26		26	21	18
590.0	104	94	973	30		26		26	21	17
600.0	104	94	973	30		26		26	21	17
610.0	104	93	967	30		26		26	21	17
620.0	103	93	967	30		26		26	21	17
630.0	104	94	971	30		26		26	21	17
640.0	103	94	967	30		26		26	21	17
650.0	103	94	964	30		26		26	21	17
660.0	104	93	966	30		26		26	21	17
670.0	104	93	968	30		26		26	21	17
680.0	105	94	974	30		26		26	21	17
690.0	104	92	964	30		26		26	21	17
700.0	104	94	973	30		26		26	21	17
710.0	0	99	489	15		13		13	11	9
720.0	0	98	483	15		13		13	11	9
730.0	0	96	472	15		13		13	10	8
740.0	102	93	962	30		26		26	21	17
750.0	104	93	967	30		26		26	21	17
760.0	103	94	966	30		26		26	21	17
770.0	104	93	965	30		26		26	21	17
780.0	105	93	972	30		26		26	21	17
790.0	104	92	964	30		26		26	21	17

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
800.0	104	93	965	30		26		26	21	17
810.0	104	92	967	30		26		26	21	17
820.0	104	93	969	30		26		26	21	17
830.0	105	93	975	30		26		26	21	18
840.0	104	93	968	30		26		26	21	17
850.0	104	93	968	30		26		26	21	17
860.0	103	94	965	30		26		26	21	17
870.0	104	93	968	30		26		26	21	17
880.0	104	94	971	30		26		26	21	17
890.0	104	94	971	30		26		26	21	17
900.0	103	92	958	30		25		25	21	17
910.0	105	94	974	30		26		26	21	18
920.0	104	93	967	30		26		26	21	17
930.0	104	93	967	30		26		26	21	17
940.0	104	93	970	30		26		26	21	17
950.0	102	93	959	30		25		25	21	17
952.6	102	94	963	30		26		26	21	17

BIT NUMBER	3	IADC CODE	114	INTERVAL	952.6- 1493.8
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	5.2	BIT RUN	541.2
TOTAL HOURS	15.92	TOTAL TURNS	140916	CONDITION	T3 B7 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
960.0	103	86	930	81	73		52		52	17
970.0	93	88	892	77	70		50		50	16
980.0	94	92	912	79	72		51		51	16
990.0	91	90	890	77	70		50		50	16
1000.0	89	91	888	77	70		49		49	16
1010.0	92	92	904	79	71		50		50	16
1020.0	89	91	884	77	69		49		49	16
1030.0	91	92	896	78	70		50		50	16
1040.0	90	92	896	78	70		50		50	16
1050.0	92	91	900	78	71		50		50	16
1060.0	90	92	893	78	70		50		50	16
1070.0	91	92	899	78	71		50		50	16
1080.0	91	92	899	78	71		50		50	16
1090.0	101	86	915	79		55	51		51	16
1100.0	102	86	926	80		55	52		52	17
1110.0	103	86	928	81		55		55	52	17
1120.0	94	87	887	77		53		53	49	16
1130.0	93	90	899	78		54		54	50	16
1140.0	94	89	901	78		54		54	50	16
1150.0	93	92	909	79		54		54	51	16
1160.0	92	94	916	80		55		55	51	16
1170.0	95	92	916	80		55		55	51	16
1180.0	93	92	907	79		54		54	51	16
1190.0	91	93	903	78		54		54	50	16
1200.0	92	92	904	78		54		54	50	16
1210.0	94	93	917	80		55		55	51	16
1220.0	93	91	905	79		54		54	50	16
1230.0	107	0	527	46		31		31	29	9
1240.0	94	94	923	80		55		55	51	17
1250.0	89	95	903	78		54		54	50	16
1260.0	95	92	915	79		55		55	51	16
1270.0	94	93	920	80		55		55	51	17
1280.0	91	92	896	78		54		54	50	16
1290.0	95	101	964	84		58		58	54	17
1300.0	89	93	890	77		53		53	50	16
1310.0	87	92	883	77		53		53	49	16
1320.0	88	92	887	77		53		53	49	16
1330.0	89	92	890	77		53		53	50	16
1340.0	90	92	894	78		53		53	50	16
1350.0	89	92	887	77		53		53	49	16
1360.0	89	92	890	77		53		53	50	16
1370.0	89	94	897	78		54		54	50	16
1380.0	89	94	895	78		53		53	50	16

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1390.0	90	93	898	78		54		54	50	16
1400.0	89	92	887	77		53		53	49	16
1410.0	89	93	891	77		53		53	50	16
1420.0	89	93	893	78		53		53	50	16
1430.0	90	93	896	78		54		54	50	16
1440.0	89	93	891	77		53		53	50	16
1450.0	89	93	890	77		53		53	50	16
1460.0	89	92	891	77		53		53	50	16
1470.0	89	93	895	78		53		53	50	16
1480.0	89	92	892	77		53		53	50	16
1490.0	89	91	885	77		53		53	49	16
1493.8	82	80	796	69		48		48	44	14

BIT NUMBER	4	IADC CODE	114	INTERVAL	1493.8- 1690.6
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	5.6	BIT RUN	196.8
TOTAL HOURS	16.08	TOTAL TURNS	139197	CONDITION	T2 B2 G0.062

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1500.0	89	90	880	76		53		53	49	16
1510.0	127	0	624	54		37		37	35	11
1520.0	88	89	874	76		52		52	49	16
1530.0	89	90	877	76		52		52	49	16
1540.0	89	91	881	77		53		53	49	16
1550.0	90	91	887	77		53		53	49	16
1560.0	89	91	883	77		53		53	49	16
1570.0	89	90	880	76		53		53	49	16
1580.0	89	91	887	77		53		53	49	16
1590.0	89	90	877	76		52		52	49	16
1600.0	89	91	883	77		53		53	49	16
1610.0	90	90	881	77		53		53	49	16
1620.0	89	90	880	76		53		53	49	16
1630.0	87	90	869	76		52		52	48	16
1640.0	89	91	883	77		53		53	49	16
1650.0	87	88	862	75		52		52	48	15
1660.0	116	0	570	50		34		34	32	10
1670.0	119	0	582	51		35		35	32	10
1680.0	95	93	927	81		55		55	52	17
1690.0	90	92	894	78		53		53	50	16
1690.6	90	92	894	78		53		53	50	16

BIT NUMBER	5	IADC CODE	4	INTERVAL	1690.6- 2044.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	24000.00	TRIP TIME	6.3	BIT RUN	353.4
TOTAL HOURS	22.25	TOTAL TURNS	178241	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1700.0	80	80	786	68		47		47	44	14
1710.0	80	80	786	68		47		47	44	14
1720.0	80	78	776	67		46		46	43	14
1730.0	80	78	776	67		46		46	43	14
1740.0	80	80	786	68		47		47	44	14
1750.0	80	80	786	68		47		47	44	14
1760.0	80	79	781	68		47		47	44	14
1770.0	80	79	781	68		47		47	44	14
1780.0	73	75	727	63		43		43	41	13
1790.0	73	75	727	63		43		43	41	13
1800.0	73	75	727	63		43		43	41	13
1810.0	82	81	801	70		48		48	45	14
1820.0	82	81	801	70		48		48	45	14
1830.0	82	79	791	69		47		47	44	14
1840.0	82	79	791	69		47		47	44	14
1850.0	82	79	791	69		47		47	44	14
1860.0	81	79	786	68		47		47	44	14
1870.0	84	81	811	70		48		48	45	15
1880.0	81	78	781	68		47		47	44	14
1890.0	81	78	781	68		47		47	44	14
1900.0	81	81	796	69		48		48	44	14
1910.0	81	81	796	69		48		48	44	14
1920.0	80	80	786	68		47		47	44	14
1930.0	81	79	786	68		47		47	44	14
1940.0	81	79	786	68		47		47	44	14
1950.0	79	79	776	67		46		46	43	14
1960.0	80	79	781	68		47		47	44	14
1970.0	80	79	781	68		47		47	44	14
1980.0	80	79	781	68		47		47	44	14
1990.0	80	79	781	68		47		47	44	14
2000.0	81	79	786	68		47		47	44	14
2010.0	81	79	786	68		47		47	44	14
2020.0	81	79	786	68		47		47	44	14
2030.0	81	80	791	69		47		47	44	14
2040.0	81	80	791	69		47		47	44	14
2044.0	81	80	791	69		47		47	44	14

BIT NUMBER	5	IADC CODE	4	INTERVAL	2044.0- 2160.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	6.6	BIT RUN	116.0
TOTAL HOURS	32.99	TOTAL TURNS	261648	CONDITION	T1 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2050.0	88	90	875	76				44	41	15
2060.0	75	81	767	67				38	36	13
2070.0	80	80	786	68				39	37	13
2080.0	80	80	786	68				39	37	13
2090.0	74	79	752	65				37	35	13
2100.0	76	79	762	66				38	36	13
2110.0	76	79	762	66				38	36	13
2120.0	76	79	762	66				38	36	13
2130.0	73	76	732	64				36	34	12
2140.0	72	75	722	63				36	34	12
2150.0	73	75	727	63				36	34	12
2160.0	73	76	732	64				36	34	12

BIT NUMBER	5	IADC CODE	4	INTERVAL	2160.0- 2550.0
CHRIS R32		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	7.4	BIT RUN	390.0
TOTAL HOURS	71.16	TOTAL TURNS	558889	CONDITION	T1 B8 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2170.0	63	68	644	56				38	36	12
2180.0	0	122	600	52				36	33	11
2190.0	70	74	708	61				42	39	13
2200.0	82	81	801	70				48	45	14
2210.0	82	81	801	70				48	45	14
2220.0	82	81	801	70				48	45	14
2230.0	82	81	801	70				48	45	14
2240.0	81	82	801	70				48	45	14
2250.0	82	81	801	70				48	45	14
2260.0	69	69	678	59				41	38	12
2270.0	69	69	678	59				41	38	12
2280.0	82	81	801	70				48	45	14
2290.0	78	78	767	67				46	43	14
2300.0	81	81	796	69				48	44	14
2310.0	83	79	796	69				48	44	14
2320.0	83	79	796	69				48	44	14
2330.0	83	79	796	69				48	44	14
2340.0	83	79	796	69				48	44	14
2350.0	83	79	796	69				48	44	14
2360.0	81	81	796	69				48	44	14
2370.0	81	78	781	68				47	44	14

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2380.0	81	81	796	69				48	44	14
2390.0	81	81	796	69				48	44	14
2400.0	82	80	796	69				48	44	14
2410.0	82	80	796	69				48	44	14
2420.0	81	81	796	69				48	44	14
2430.0	80	80	786	68				47	44	14
2440.0	81	80	791	69				47	44	14
2450.0	78	80	776	67				46	43	14
2460.0	79	80	781	68				47	44	14
2470.0	79	80	781	68				47	44	14
2480.0	80	80	786	68				47	44	14
2490.0	79	81	786	68				47	44	14
2500.0	83	88	840	73				50	47	15
2510.0	83	88	840	73				50	47	15
2520.0	84	86	835	73				50	47	15
2530.0	84	87	840	73				50	47	15
2540.0	88	90	875	76				52	49	16
2550.0	90	90	885	77				53	49	16

BIT NUMBER	6	IADC CODE	114	INTERVAL	2550.0- 2944.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2201.00	TRIP TIME	8.2	BIT RUN	394.0
TOTAL HOURS	27.25	TOTAL TURNS	189733	CONDITION	T4 B4 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2560.0	82	71	752	65				45	42	14
2570.0	82	70	747	65				45	42	13
2580.0	82	86	829	72				50	46	15
2590.0	81	86	820	71				49	46	15
2600.0	81	86	822	71				49	46	15
2610.0	82	88	835	73				50	47	15
2620.0	82	88	835	73				50	47	15
2630.0	82	88	835	73				50	47	15
2640.0	82	88	835	73				50	47	15
2650.0	82	88	835	73				50	47	15
2660.0	82	88	835	73				50	47	15
2670.0	82	88	835	73				50	47	15
2680.0	82	88	835	73				50	47	15
2690.0	85	88	850	74				51	47	15
2700.0	82	84	814	71				49	45	15
2710.0	80	84	806	70				48	45	14
2720.0	82	84	815	71				49	45	15
2730.0	85	87	843	73				50	47	15
2740.0	79	86	812	71				49	45	15
2750.0	80	84	805	70				48	45	14
2760.0	81	83	803	70				48	45	14
2770.0	82	81	799	69				48	45	14

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2780.0	81	81	798	69				48	44	14
2790.0	81	81	794	69				47	44	14
2800.0	83	83	815	71				49	45	15
2810.0	80	81	792	69				47	44	14
2820.0	81	80	793	69				47	44	14
2830.0	81	81	795	69				47	44	14
2840.0	116	0	571	50				34	32	10
2850.0	81	80	794	69				47	44	14
2860.0	81	79	785	68				47	44	14
2870.0	115	0	565	49				34	31	10
2880.0	81	79	789	68				47	44	14
2890.0	80	81	790	69				47	44	14
2900.0	79	81	783	68				47	44	14
2910.0	79	79	780	68				47	43	14
2920.0	78	82	786	68				47	44	14
2930.0	80	81	790	69				47	44	14
2940.0	116	0	570	50				34	32	10
2944.0	117	0	573	50				34	32	10

BIT NUMBER	7	IADC CODE	114	INTERVAL	2944.0- 2983.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	2201.00	TRIP TIME	8.3	BIT RUN	39.0
TOTAL HOURS	7.49	TOTAL TURNS	52895	CONDITION	T8 B7 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2950.0	73	73	718	62				43	40	13
2960.0	117	0	577	50				35	32	10
2970.0	117	0	575	50				34	32	10
2980.0	73	73	714	62				43	40	13
2983.0	72	73	716	62				43	40	13

BIT NUMBER	8	IADC CODE	517	INTERVAL	2983.0- 3149.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	8.7	BIT RUN	166.0
TOTAL HOURS	35.25	TOTAL TURNS	112110	CONDITION	T2 B2 G0.062

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2990.0	76	75	741	64				44	41	13
3000.0	72	73	714	62				43	40	13
3010.0	76	76	747	65				45	42	13
3020.0	75	70	716	62				43	40	13
3030.0	77	74	744	65				44	41	13
3040.0	101	0	496	43				30	28	9
3050.0	112	0	548	48				33	31	10

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3060.0	75	70	713	62				43	40	13
3070.0	74	69	705	61				42	39	13
3080.0	71	74	715	62				43	40	13
3090.0	73	74	720	63				43	40	13
3100.0	72	74	719	62				43	40	13
3110.0	73	73	717	62				43	40	13
3120.0	73	71	709	62				42	40	13
3130.0	74	71	714	62				43	40	13
3140.0	73	71	705	61				42	39	13
3149.0	72	72	708	61				42	39	13

BIT NUMBER	9	IADC CODE	437	INTERVAL	3149.0- 3251.0
HTC J11		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	8.9	BIT RUN	102.0
TOTAL HOURS	29.61	TOTAL TURNS	105798	CONDITION	T5 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3150.0	71	66	673	58				40	38	12
3160.0	73	70	704	61				42	39	13
3170.0	73	71	705	61				42	39	13
3180.0	74	71	709	62				42	39	13
3190.0	74	69	703	61				42	39	13
3200.0	73	70	701	61				42	39	13
3210.0	108	0	532	46				32	30	10
3220.0	0	105	514	45				31	29	9
3230.0	9	100	535	46				32	30	10
3240.0	67	41	533	46				32	30	10
3250.0	108	0	530	46				32	30	10
3251.0	75	70	713	62				43	40	13

BIT NUMBER	10	IADC CODE	517	INTERVAL	3251.0- 3359.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	6788.00	TRIP TIME	9.1	BIT RUN	108.0
TOTAL HOURS	21.73	TOTAL TURNS	74949	CONDITION	T5 B3 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3260.0	107	0	528	46		32		32	29	9
3270.0	70	69	686	60		41		41	38	12
3280.0	71	71	693	60		41		41	39	12
3290.0	70	71	693	60		41		41	39	12
3300.0	71	70	694	60		41		41	39	12
3310.0	69	70	687	60		41		41	38	12
3320.0	70	70	687	60		41		41	38	12
3330.0	71	69	689	60		41		41	38	12

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3340.0	71	70	692	60		41		41	39	12
3350.0	72	69	694	60		41		41	39	12
3359.0	70	69	686	60		41		41	38	12

BIT NUMBER	11	IADC CODE	537	INTERVAL	3359.0- 3521.0
HTC J33		SIZE	12.250	NOZZLES	16 16 16
COST	6637.00	TRIP TIME	9.5	BIT RUN	162.0
TOTAL HOURS	39.12	TOTAL TURNS	127180	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3360.0	106	0	523	45		31		31	29	9
3370.0	110	0	542	47		32		32	30	10
3380.0	110	0	540	47		32		32	30	10
3390.0	0	112	548	48		33		33	31	10
3400.0	69	71	686	60		41		41	38	12
3410.0	70	69	685	59		41		41	38	12
3420.0	70	70	691	60		41		41	39	12
3430.0	72	69	692	60		41		41	39	12
3440.0	71	70	690	60		41		41	38	12
3450.0	70	69	682	59		41		41	38	12
3460.0	0	109	538	47		32		32	30	10
3470.0	0	110	542	47		32		32	30	10
3480.0	0	109	534	46		32		32	30	10
3490.0	72	69	691	60		41		41	39	12
3500.0	72	68	688	60		41		41	38	12
3510.0	72	66	678	59		41		41	38	12
3520.0	70	69	682	59		41		41	38	12
3521.0	70	69	684	59		41		41	38	12

PE603606

This is an enclosure indicator page.
The enclosure PE603606 is enclosed within the container PE906252 at this location in this document.

The enclosure PE603606 has the following characteristics:

ITEM_BARCODE	= PE603606
CONTAINER_BARCODE	= PE906252
NAME	= Drill Data Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L6
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Drill Data Log for Pilot Fish-1A containing Rate of Penetration, Mud Gas, Corrected 'd' Exponent
REMARKS	=
DATE_CREATED	= 11/01/83
DATE_RECEIVED	= 7/06/83
W_NO	= W793
WELL_NAME	= PILOTFISH-1A
CONTRACTOR	= CORE LABORATORIES AUSTRALIA LTD
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603608

DRILL DATA PLOT

PE603607

This is an enclosure indicator page.
The enclosure PE603607 is enclosed within the container PE906252 at this location in this document.

The enclosure PE603607 has the following characteristics:

ITEM_BARCODE	= PE603607
CONTAINER_BARCODE	= PE906252
NAME	= Geoplot Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L6
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Geoplot Log for Pilot Fish-1A containing incremental and cumulative cost data
REMARKS	=
DATE_CREATED	= 11/01/83
DATE_RECEIVED	= 7/06/83
W_NO	= W793
WELL_NAME	= PILOTFISH-1A
CONTRACTOR	= CORE LABORATORIES AUSTRALIA LTD
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE 603607

GEOPLOT

PE603608

This is an enclosure indicator page.
The enclosure PE603608 is enclosed within the container PE906252 at this location in this document.

The enclosure PE603608 has the following characteristics:

ITEM_BARCODE	= PE603608
CONTAINER_BARCODE	= PE906252
NAME	= Temperature Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L6
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Temperature Log for Pilot Fish-1A
REMARKS	=
DATE_CREATED	= 11/01/83
DATE_RECEIVED	= 7/06/83
W_NO	= W793
WELL_NAME	= PILOTFISH-1A
CONTRACTOR	= CORE LABORATORIES AUSTRALIA LTD
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

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PE603608

TEMPERATURE PLOT

PE603609

This is an enclosure indicator page.
The enclosure PE603609 is enclosed within the container PE906252 at this location in this document.

The enclosure PE603609 has the following characteristics:

ITEM_BARCODE	= PE603609
CONTAINER_BARCODE	= PE906252
NAME	= Pressure Log
BASIN	= GIPPSLAND
PERMIT	= VIC/L6
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Pressure Log for Pilot Fish-1A
REMARKS	=
DATE_CREATED	= 11/01/83
DATE_RECEIVED	= 7/06/83
W_NO	= W793
WELL_NAME	= PILOTFISH-1A
CONTRACTOR	= CORE LABORATORIES AUSTRALIA LTD
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

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PE603609

PRESSURE PLOT

PE603610

This is an enclosure indicator page.
The enclosure PE603610 is enclosed within the container PE906252 at this location in this document.

The enclosure PE603610 has the following characteristics:

ITEM_BARCODE	= PE603610
CONTAINER_BARCODE	= PE906252
NAME	= Mud Log (Grapholog)
BASIN	= GIPPSLAND
PERMIT	= VIC/L6
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Mud Log (Grapholog) for Pilot Fish-1A
REMARKS	=
DATE_CREATED	= 11/01/83
DATE_RECEIVED	= 7/06/83
W_NO	= W793
WELL_NAME	= PILOTFISH-1A
CONTRACTOR	= CORE LABORATORIES AUSTRALIA LTD
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

Pt603610

GRAPHOLOG