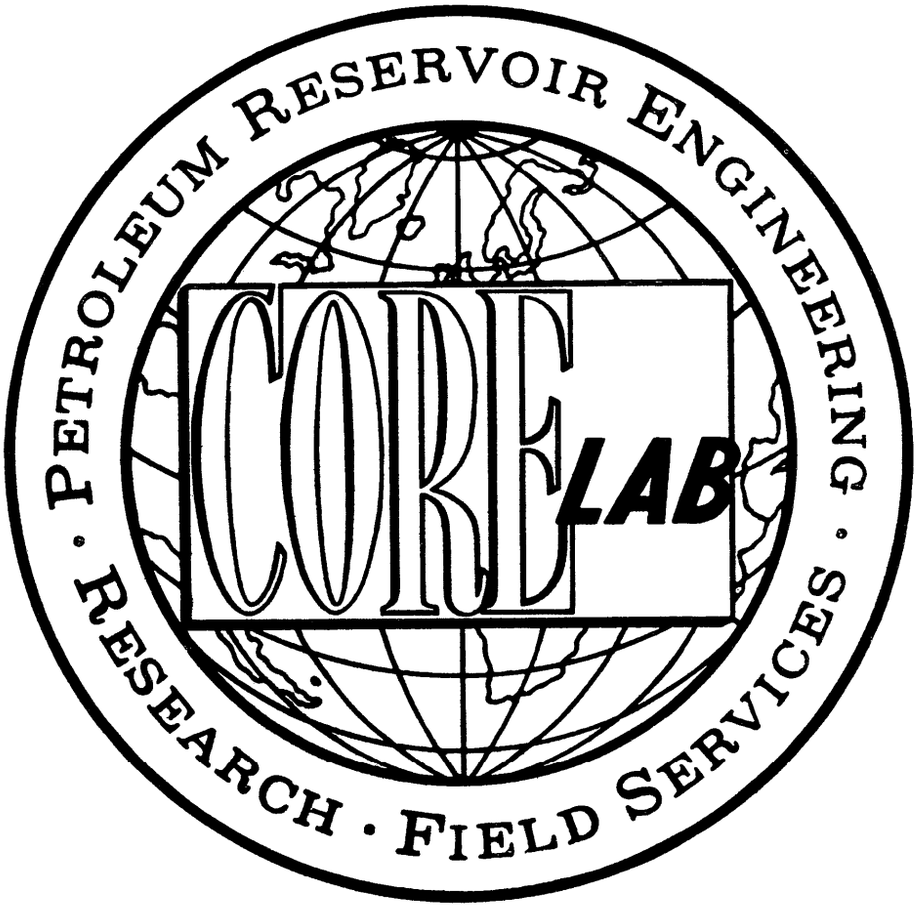
W866

[redacted]

FINAL REPORT
Attachment to WCR
WEST FORTESCUE-1
W866



WEST FORTESCUE NO. 1

ESSO AUSTRALIA LTD.

FINAL WELL REPORT

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

CORE LABORATORIES AUSTRALIA (QLD.) LTD.

15th June 1984

Mr S. Twartz
Esso Australia Ltd.
(Geology Department)
Esso House
127 Kent Street
Sydney
N.S.W. 2001

Dear Mr Twartz,

Please find enclosed the original well report plus five (5) copies, for the well WEST FORTESCUE NO. 1.

If you have any enquiries concerning the report please do not hesitate to contact us.

Yours very truly,
CORE LABORATORIES AUSTRALIA (QLD.) LTD.

Tony Charles

T. CHARLES
Unit Supervisor

ARC:pc

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

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

INDEX

INTRODUCTION

WEST FORTESCUE NO. 1 was drilled by Esso Australia Ltd. in the Bass Strait, Australia.

Well co-ordinates were:

Latitude : 38° 21' 56.47" S
Longitude : 148° 14' 25.43" E

The well was drilled by South Seas Drilling Company's semi-submersible rig "Southern Cross", and monitored by Core Laboratories Extended Service Field Laboratory 2007.

WEST FORTESCUE NO. 1 was spudded on 30th April 1984 and reached a total depth of 2671 metres on 10th May 1984, a total drilling time of 11 days. The main objective of the well was to test and develop an oil accumulation in the Fortescue FM-11 sand on the northwestern flank of the Fortescue field.

Elevations were:

Kelly bushings to mean sea level ..... 21 metres
Water depth ..... 65 metres
Kelly bushings to mean sea bed ..... 86 metres

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

Core Laboratories personnel involved in the logging of WEST FORTESCUE NO. 1 were as follows:

TONY CHARLES	-	Unit Supervisor
BRYAN PAULET	-	Pressure Engineer
BOB GIFTSON	-	Logging Crew Chief
PAUL LANDRY	-	Well Logger
KHIAM OOI	-	Well Logger
ANDY HIGGS	-	Well Logger
DON MACKAY	-	Well Logger

2. RIG SPECIFICATIONS

RIG INFORMATION SHEET

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL WEST FORTESCUE NO. 1

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

7520-485 (CL 1151)

3. WELL INFORMATION, PROGRESS AND HISTORY

WELL INFORMATION SHEET

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL WEST FORTESCUE NO. 1

Sheet No. 1

WELL NAME	WEST FORTESCUE NO. 1			
OPERATOR	ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.			
PARTNERS	B.H.P. PETROLEUM			
RIG	OWNER	SOUTH SEAS DRILLING COMPANY (SANTA FE)		
	NAME OR NUMBER	SOUTHERN CROSS		
	TYPE	SEMI-SUBMERSIBLE		
LOCATION	LATITUDE (X)	38° 21' 56.47" S	LONGITUDE (Y)	148° 14' 25.43" E
	FIELD	GIPPSLAND BASIN	AREA	BASS STRAIT
	COUNTY	PERMIT VIC/P1	STATE	VICTORIA
	COUNTRY	AUSTRALIA		
	DESCRIPTION	EXPLORATION/WILDCAT		
DATUM POINTS	Ground Elevation	-	RKB to Ground Level	-
	Mean Water Depth	65 METRES	RKB to Water Level	21 METRES
DATES	SPUD	30TH APRIL 1984	TOTAL DEPTH	10TH MAY 1984

HOLE SIZES

Depth From M	Depth To M	Bit Size "	No. Of Bits	No. of Reamers	Date From	Date To	Cased	Logged
86	223	26	1	0	30/04/84	01/05/84	Y	N
223	816	17½	1	0	02/05/84	03/05/84	Y	N
816	2671	12¼	3	0	04/05/84	10/05/84	N	Y

DRILLING FLUID

Depth From M	Depth To M	Weights		PPG	Type
86	223	8.7	TO	8.7	SEAWATER
223	2300	8.7	TO	9.2	SEAWATER - DRILLED SOLIDS MUD
2300	2671	9.2	TO	9.4	SEAWATER GEL MUD
			TO		
			TO		
			TO		
			TO		
			TO		

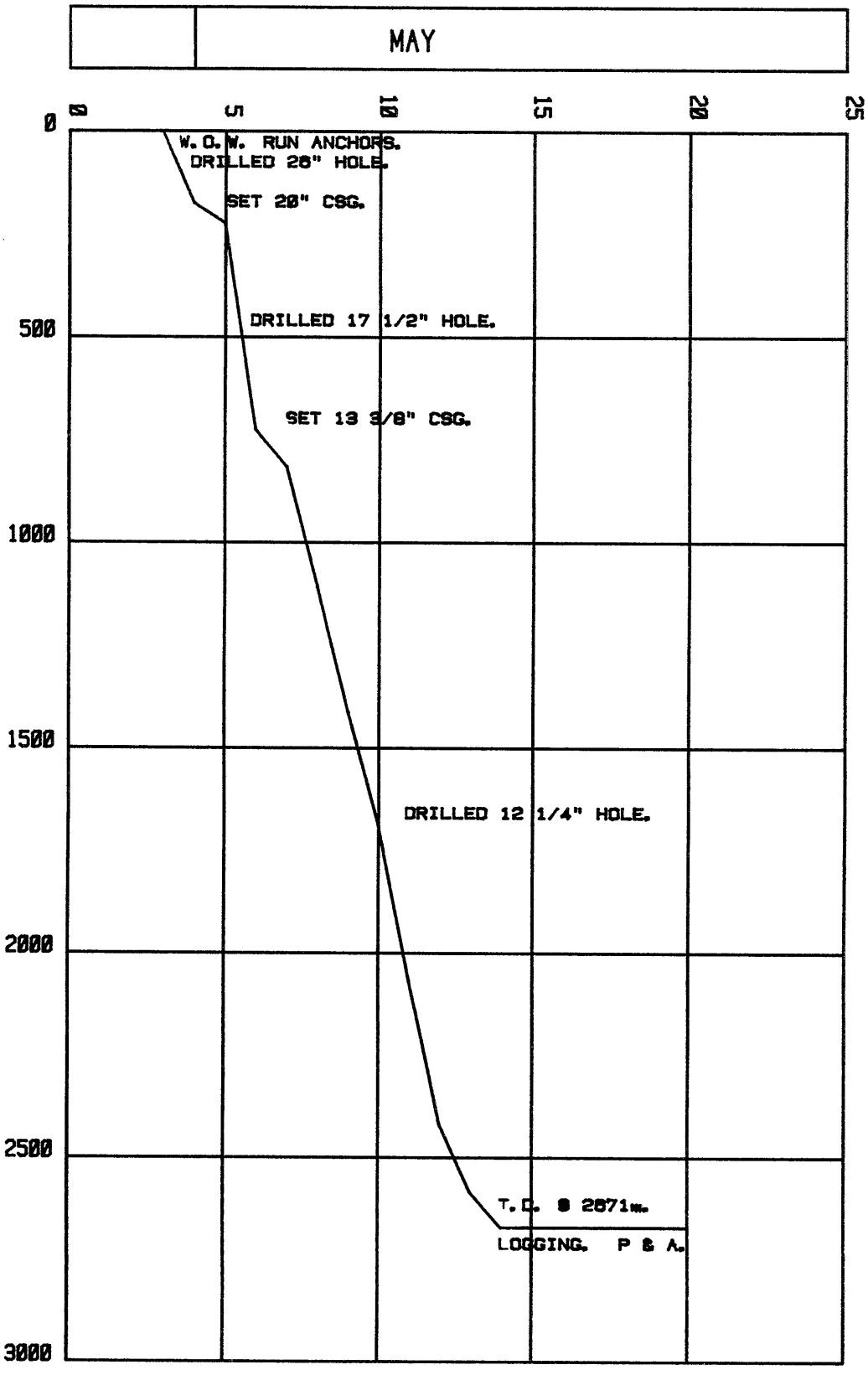
WIRELINE LOGGING

Depth From M	Depth To M	Hole Size "	Date Run	Logs Run
2660	2350	12¼	11/05/84	DLL-MSFL-LDL-CNL-NGT
2350	799	12¼	11/05/84	DLL-MSFL-GR
2666	799	12¼	11/05/84	BHC-GR
	2434	12¼	11/05/84	RFT NO. 1
2632	2434	12¼	11/05/84	RFT NO. 2 PRETESTS
	2436.9	12¼	12/05/84	RFT NO. 3
2550	800	12¼	12/05/84	VELOCITY SURVEY
2569.2	2671	12¼	13/05/84	CST NO. 1

RISER, CASING & LINER

Depth From M	Depth To M	OD "	ID "	Weight	Grade	Threads	Date Run	Cement	Stages	Excess
0	86	22	21	----------	----------	----------	RISER -	----------	----------	
86	208	20	19.124	94.4	X52	JV BOX	01/05/84	"G"	1	-
86	799	13-3/8	12.615	54.5	K55	BUTT	03/05/84	"G"	1	-

PROGRESS LOG
ESSO AUSTRALIA LTD.
WEST FORTESCUE No. 1



WELL HISTORY .

27TH APRIL 1984. The "Southern Cross" was towed to the location of "WEST FORTESCUE NO. 1", but the anchors were not run due to bad weather. The tow-line parted, in the late morning, and the rig drifted eastwards.

28th April 1984. The tow-line was re-connected successfully at 10:00 hours, and the rig was towed in the general direction of "WEST FORTESCUE", but due to the strong winds, no headway was made. (In fact the rig was slipping backwards, due east, at the rate of half a knot, despite the towing vessel being at 90% power).

29th April 1984. The winds subsided a little (down to 30 knots), so progress was made towards "WEST FORTESCUE".

30th April 1984. Arrived on location. Set anchors. Spudded in around 20:45 hours. Drilled 26" hole to 175 metres.

1st May 1984. Drilled 26" hole to the 20" casing point. Ran and set the 20" casing, followed by the stack and riser.

2nd May 1984. Nippled up; tested the stack; RIH with a 17½" bit (HTC OSC 3AJ) and drilled through the cement, shoe and into new formation (Gippsland Limestone).

3rd May 1984. Drilled to 816 metres where the bit was pulled to run 13-3/8" casing. The 13-3/8" was then run and cemented with the shoe at 799 metres.

4th May 1984. The cement and casing shoe were drilled out and a P.I.T. was carried out. No leak off was obtained after pressuring to 1500 psi, giving an equivalent mud weight of 20.0 ppg. Drilling was then recommenced, drilling a 12¼" hole to 1109 metres.

5th May 1984. Drilled ahead to 1415 metres.

6th May 1984. Drilled ahead to 1478 metres where pump pressure was lost indicating a wash out. A wiper trip was performed to the shoe, by which time, the washout had been located. Drilling recommenced and the depth at midnight was 1694 metres.

7th May 1984. New hole was drilled to 1858 metres where a bit change was required. A HTC J1 (3 x 18) was run into the hole and new formation drilled to 2068 metres.

8th May 1984. Drilling was continued to 2418 metres where a bit change was made.

9th May 1984. A new bit was run into the hole (J22, 3 x 18) and new formation was drilled to 2585 metres.

10th May 1984. The well was drilled to 2671 metres this being the total depth of the hole. A wiper trip was made prior to running the DLL-MSFL-LDL-CNL-NGT log.

11th May 1984. Continued to run logs. BHC-GR, RFT Nos. 1 and 2.

12th May 1984. A wiper trip was made to the bottom of the hole experiencing tight hole below 2300 metres. RFT No. 3 and the Velocity survey were then run.

13th May 1984. A C.S.T. run was made and the first cement plug of the abandonment program was set.

14th May 1984. P & A continued.

15th May 1984. P & A continued; pulled B.O.P. and riser.

16th May 1984. P & A.

4. LITHOLOGY AND CORE-O-GRAPHS

LITHOLOGY SUMMARY

The above well was spudded on 30th April 1984. Returns after 20" casing, set at 208 metres, showed a limestone/calcarenite sequence, (the Gippsland Limestone), typified by tan, grey and white Limestone. hard with abundant fossils; and loose sands, coarse grained, clear to opaque, and sub-rounded to rounded. The limestone was gradually replaced by increasing percentages of calcarenite finally making up only 10% of the sample at 370 metres, much of this may well have been cavings. Below 370 metres calcarenite predominated, a light grey, coarse-grained, subrounded - subangular sandstone with calsic cement. At 430 metres this was replaced by calcisiltite; a light grey, soft, calsic siltstone. These two lithologies formed the dominant rock types for this first section of the well; they interbedded regularly until 1200 metres when Marl appeared in significant quantities. The Marl was light grey, soft and sticky and it gradually increased until at 1600 metres when it made up 90% of the collected sample. Marl and Calcarenite then interbedded from 1200 metres to 2160 metres when calcisiltite reappeared.

This was probably the top of the Lakes Entrance unit and was typified by long sections of persistant calcisiltite with minor Marls and Calcarenites.

At 2420 metres the lithology abruptly changed to sandstone, this marked the top of the Latrobe unit and the start of the hydrocarbon bearing zones. This consisted of two different sands: Type One Sandstone - light grey, fine-medium grained, subrounded to subangular, moderately well sorted and cemented; Type Two consisting of clear to opaque quartz grains, poorly cemented, coarse to very coarse, moderately well sorted. Within these sands interbedded coals were developed - black, bituminous in parts, with a concoidal fracture.

The Latrobe ended at 2488 metres, below which a series of small units were developed. These units were mainly delineated by altering percentages of sands, silts and coals.

FM-1.2 extended from 2488 metres to 2510 metres and were marked by the first coal stringer. The coal reaches 20% of the sample before dying away at 2510 metres.

The next 5 metres were a poorly developed shale and marked the base of the FM-1.2 unit.

The next coal stringer represented the cap of the FM-1.3 unit; extending from 2510 to 2550 metres. The unit is an interbedded calcisiltite, (white, light grey, silica cement, clay-silt matrix, occasionally pyritic) and calcarenite (white, light grey, fine to medium grained (occasionally coarse), moderately well sorted and cemented, occasionally pyritic). Within this sequence calcarenite predominated.

The top of the next unit FM-1.4 was marked by a big increase in calcisiltite at 2550 metres with interbedded coals and sands. The calcisiltite was white to light grey, brown, firm, silt clay matrix, occasionally micromicaceous and pyritic. In parts it graded to a very fine grained sandstone.

The base of FM-1.4 was marked by the end of the coals at 2585 metres. A 15 metres section of 80% clacisiltite and 20% calcarenite formed the M-1.0.1 unit. This extended to 2595 metres where coals again formed the top of the M-1.0.2 unit. These coals built rapidly to form 70% of the sample by 2610 metres. The bulk of this section was calcisiltite, grey/brown, fine grained grading to sandstone; it was also occasionally micromicaceous, pyritic, and carbonaceous.

Below the biggest development of the coals the final unit started. This was the M-1.1.1 unit, running from 2610 metres and extending to T.D. at 2671 metres. It consisted of mainly calcisiltite grading to a fine grained sandstone, and in the final 15 metres of the hole showed a poorly developed white, soft kaolinite.

No cores were cut on WEST FORTESCUE NO. 1.

5. EXTENDED SERVICE PACKAGE

EXTENDED SERVICE INTRODUCTION

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

E.S. PRESSURE LOG

Information plotted on this log includes formation pore pressure, mud weight in and formation fracture pressure. This is plotted on linear graph paper at a vertical scale of 1:5000. The formation pore pressure and fracture pressure gradients are based on all available information. This is the conclusion log, therefore the information may be modified by results from formation drill stem tests, data from adjacent wells, kicks, R.F.T.'s, 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 liquid density column.

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.

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.

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 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 ths 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 (%), may be 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 formation leak-off test data, R.F.T. and well test data where appropriate.

CORE LABORATORIES EQUIPMENT

Core Laboratories Field Laboratory 2007 monitoring equipment includes the following :

A. MUD LOGGING

1. T.H.M. total gas detector and recorder.
2. F.I.D. (Flame Ionization Detector) chromatograph and recorder.
3. Cuttings gas detector.
4. Gas trap and support equipment for the above.
5. Pit volume totalizer and recorder.
6. Digital depth counter.
7. Two integrated pump stroke counters.
8. Ultra-violet fluoroscope.
9. Binocular microscope.
10. Calcimeter.
11. Steam-still gas analyzer.

B. 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 sensor 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. Mud density sensors (in and out) and recorders.
12. Rotary torque sensor and recorder.
13. Shale density apparatus.
14. Hydrogen sulphide gas detector.
15. Carbon dioxide gas detector.
16. DATALOGGER computer, monitor and impact printer.
17. DIGITAL remote paging display (located in the client's office).
18. Casing pressure transducer and recorder.

All the above sensors and gas detectors have displays on the DATALOGGER monitors except the Cuttings gas detector and steam-still.

CORE LABORATORIES MONITORING EQUIPMENT

DEPTH

Depth registered every 0.1 metres and rate of penetration calculated each metre (or every 0.2m while coring); ROP displayed on the computer monitor and chart.

WEIGHT-ON-BIT

A DeLaval 0-5000 psi, solid state pressure transducer is connected to the rig's deadline anchor. The weight-on-bit is calculated in the Datalogger, and displayed (with hookload) on the computer monitor and recorder chart.

ROTARY SPEED

This is a proximity limit switch which pulses once for every revolution of the rotary drive shaft. The value is displayed on the computer monitor and a recorder chart.

PUMP PRESSURE

This is a DeLaval 0-5000 psi transducer mounted on the stand-pipe manifold. The pressure is displayed on the computer monitor and recorder chart.

CASING PRESSURE

This is a DeLaval 0-5000 psi transducer mounted on the choke manifold. The signal is displayed on the computer monitor and on a recorder chart.

PIT VOLUME

Four individual pits are displayed on the monitor. The pit volume total is calculated by the Datalogger and displayed on the monitor. The sensors are vertical floats triggering magnetic switches accurate to +/- 1 barrel.
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 pump rates per minute are displayed on the monitor.

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 the computer monitor and recorder chart.

MUD TEMPERATURE

This is a platinum probe resistance thermometer, and an electronics module calibrated 0-100 deg.C. Temperature in and out is displayed on the monitor and recorder.

MUD CONDUCTIVITY

A Balsbaugh electrode-less conductivity sensor contains two toroidally-wound coils and a thermistor enclosed in a donut-shaped housing. Current is induced into the mud by the primary coil and is sampled by the secondary coil, the amplitude of the current being directly proportional to the conductivity of the mud.

MUD DENSITY

Two density sensors (in and out) located in the possum belly and in the pit room, operate on a system of differential pressure. This function is displayed on both chart and monitor.

All the sensors are 12 to 36V DC powered with the exception of the air driven gas trap. Along with monitoring and maintaining the above equipment, Core Lab performed other duties...

CUTTINGS

Microscopic and ultra-violet inspection of cuttings samples at predetermined intervals. Samples were washed, dried, sacked and boxed where necessary. 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. Cuttings gas detector (Wheatstone Bridge type).
   An auxiliary system for total gas detection.

4. Hydrogen Sulphide detector.
   Two sensors are located at the shale-shakers and in the pit room, linked to a TAC 404B H2S monitor, to detect H2S emanating from the drilling fluid.

5. Carbon Dioxide detector.
   An Infra-red gas analyzer determines the percentage of CO2 present in gas samples broken out of the mud by the gas trap.

SHALE DENSITY

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

6. ESP PLOT DISCUSSIONS AND CONCLUSIONS

ESP PLOT DESCRIPTIONS AND CONCLUSIONS
(with particular reference to Pore Pressure)

A prime aim during the drilling of WEST FORTESCUE NO. 1 was utilization of data collected by Core Laboratories DL2007 to provide an estimation of formation pressures. This is described in detail below.

The main pressure indicators that were used while drilling the well were those of rates of penetration, gas levels, 'd'c exponent, mud weight flowline temperature, and lithology.

The "Drill Data Plot" (see attached plots inside back cover) shows the rate of penetration, corrected 'd' exponent and mud density plotted against lithology. This plot indicates a normal pressure profile throughout the well. Minor variations in the 'd'c exponent and gas levels are due to lithology changes. No connection gas was observed and no shale density measurements were performed due to the lack of large shale sequences encountered.

The "Temperature Plot" displays the flowline temperature in and out and their differential plotted against depth. The plot shows a normal trend with depth only deviating from this at points where the mud system was being altered to meet specifications. The temperature plot of WEST FORTESCUE NO. 1 indicates a temperature gradient of 2.77°F/100 feet. The bottom hole temperature was extrapolated using the Horner method to give 220.3°F (104.6°C) at 2671 metres from wireline logging data.

The "Pressure Plot" summarizes the pressures found in the drilling of WEST FORTESCUE NO. 1. On this plot pore pressure is plotted along with mud weight and fracture gradient in pounds per gallon. The pore pressure of the well is drawn from pressure observations made while drilling and information from RFT pretests. The pore pressure profile of the well is set out below:

DEPTH INTERVAL (M)	PORE PRESSURE (PPG)	PORE PRESSURE (PSI/FT)
86 - 2400	8.2	0.426
2440 - 2516	8.1	0.421
2516 - 2558	7.8	0.401
2558 - 2671	8.1	0.421

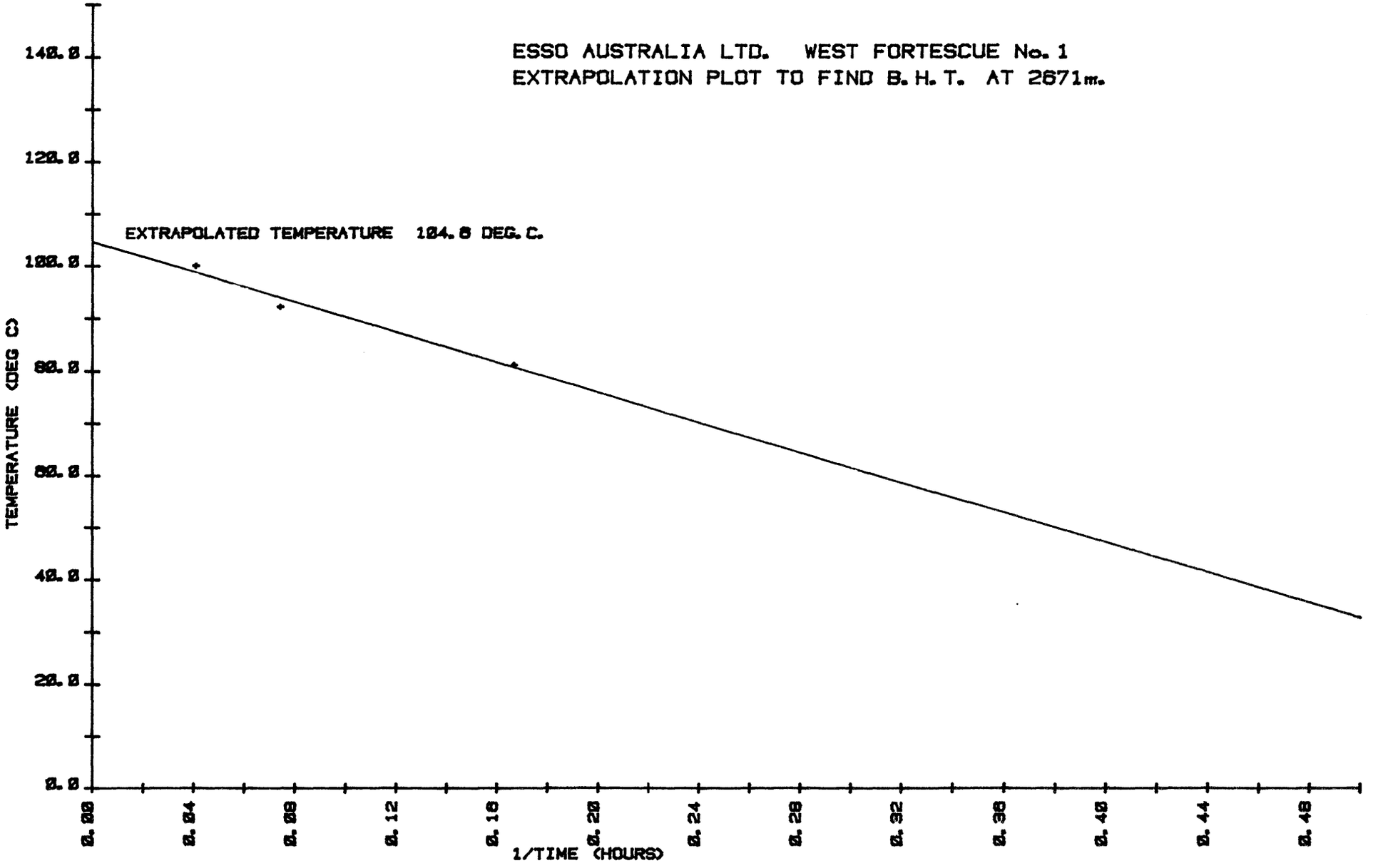
The subnormal pressures are most likely due to a depletion of the reservoir by nearby commercial recoveries.

As shown by the mud density curve the well was drilled with an overbalance of 0.5 to 1.6 pounds per gallon throughout.

The Fracture Gradient curve is based on the U.S. Gulf Coast curve and offset to match local data.

7. B.H.T. ESTIMATION

ESSO AUSTRALIA LTD. WEST FORTESCUE No. 1
EXTRAPOLATION PLOT TO FIND B.H.T. AT 2671m.



CORE LAB

STRAIGHT LINE LEAST SQUARES BEST FIT

1/TIME ON A LINEAR SCALE AGAINST
TEMP ON A LINEAR SCALE

ENTERED DATA:

DATA SET #	1/TIME	TEMP
1	0.1667	81.1
2	0.0741	92.2
3	0.0408	100.0

COEFFICIENT & CONSTANT:

Y = m.X + c where m = -1.4361416E 02 and c = 1.0458058E 02

INTERPOLATED DATA:

1/TIME	TEMP
0.0000	104.6

8. OVERBURDEN GRADIENT CALCULATIONS AND PLOT

OVERBURDEN PLOT DESCRIPTION AND CONCLUSIONS

An Overburden Plot for West Fortescue could not be plotted due to there being insufficent data. This was due to Density logs being run over the interval 2660 - 2350m only.

9. GAS ANALYSES

GAS COMPOSITION ANALYSIS

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

LOG PLOT

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

1. Productive dry gas zones may show only C1, but abnormally high shows of C1 are usually indicative of saltwater.

2. A ratio of C1/C2 between approximately 2 and 15 indicates oil and between 15 and 65, gas. If the C1/C2 ratio is below about 2, or above about 65, the zone is probably non-productive.

   The actual values of the gas/oil/water limits will vary from area to area.

3. If the C1/C2 ratio is low in the oil section and the C1/C4 ratio is high in the gas section, the zone is probably non-productive.

4. If any ratio (with the exception of C1/C5, if oil is used in the mud) is lower than the preceding ratio, the zone is probably non-productive.

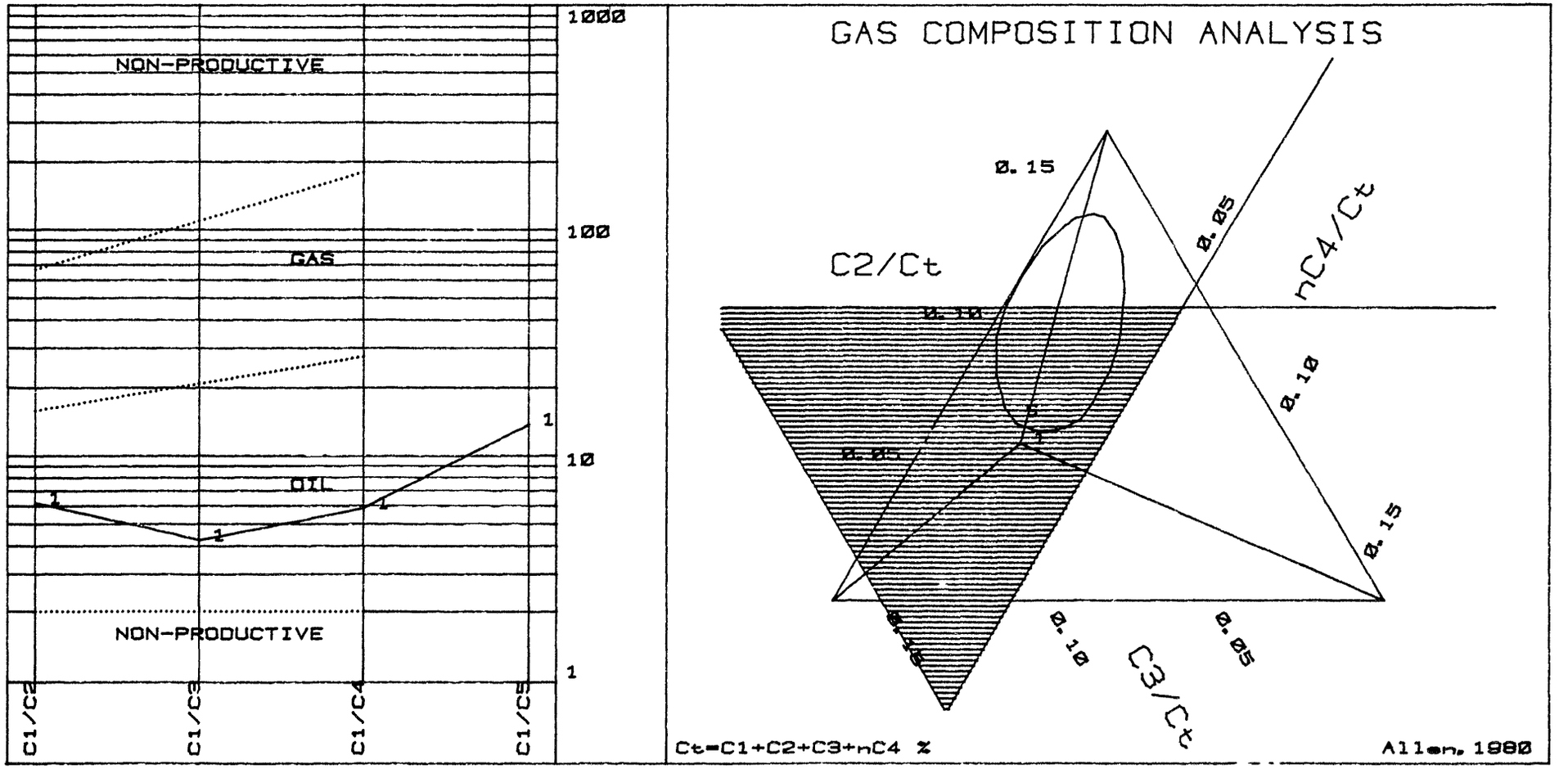
5. The ratios may not be definitive for low permeability zones; however, steep ratio plots may indicate a tight zone.

TRIANGULATION PLOT

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

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

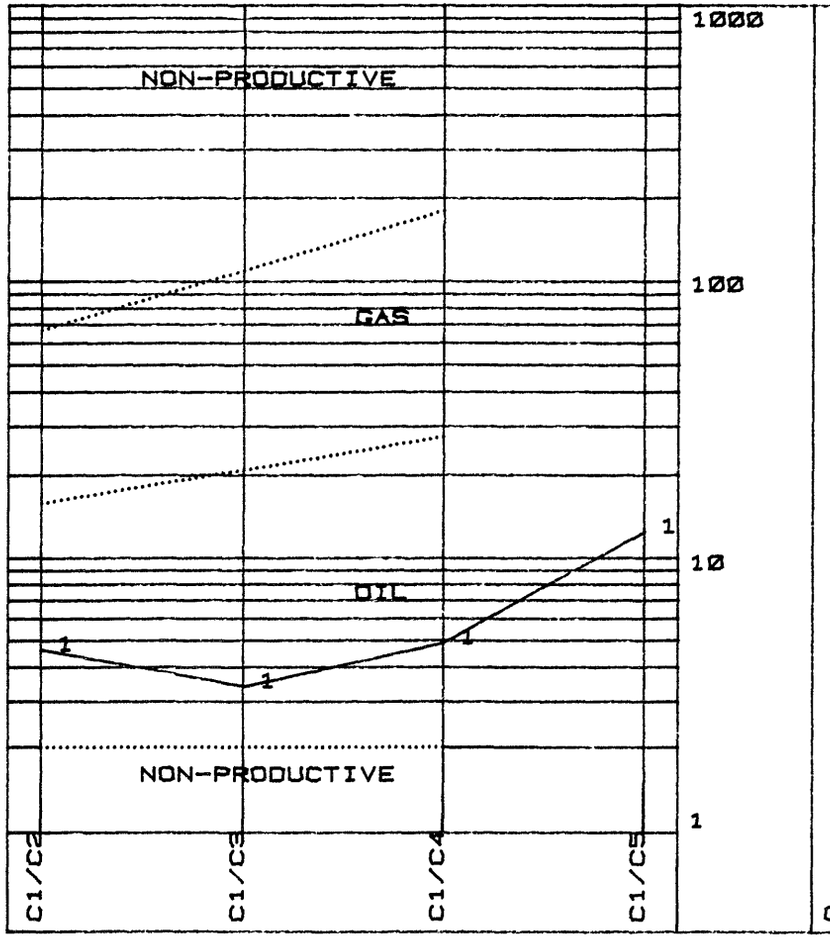
CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: WEST FORTESCUE No. 1

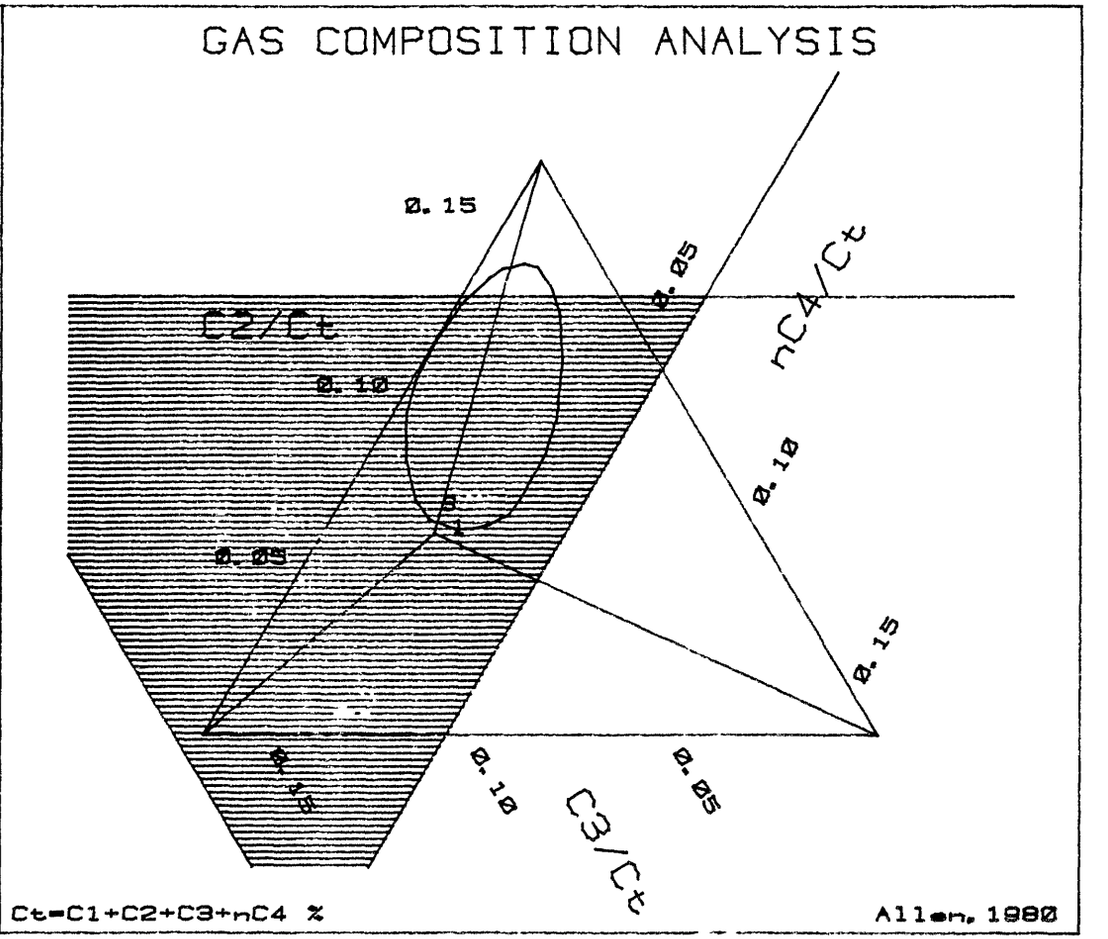


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2434	0.048	0.008	0.011	0.004	0.004	0.004	0.002	0.072	6	4	6	14

CONCLUSION: OIL ZONE, GOOD POROSITY

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: WEST FORTESCUE No. 1





NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2438	0.051	0.011	0.015	0.005	0.005	0.004	0.002	0.082	5	3	5	12

CONCLUSION: OIL ZONE, GOOD POROSITY.

CORE LAB

SIDEWALL CORE GAS ANALYSIS DATA SHEET

SHEET # 1

COMPANY ESSO AUSTRALIA LTD.

LOGGING SUITE NO.

WELL WEST FORTESCUE NO. 1

NO	DEPTH	C1	C2	C3	C4	C5	C6	COMMENTS
		PPM	PPM	PPM	PPM	PPM	PPM	
1	2569.2	1118.9	413.2	183.2	52.8	TR	-	
2	2565.6	3743.2	1561.2	1176.1	366.7	TR	-	
3	2560.2	716.1	564.8	659.5	349.1	TR	TR	
4	2549.0	1139.26	640.5	709.9	317.37	82.2	TR	
5	2531.0	70.7	28.7	23.38	18.32	30.84	12.7	
6	2532.0	1546.1	619.9	641.2	250.37	24.6	TR	
7	2516.1	21.8	5.4	4.58	6.64	4.4	TR	
8	2513.7	40.17	26.6	17.17	23.3	10.7	7.2	
9	2512.0	11.6	11.4	6.8	4.408	15.1	-	
10	2510.0	NIL	-	-	-	-	-	
11	2508.1	133.7	175.6	274.8	193.9	41.9	TR	
12	2502.8	15.2	17.2	11.4	13.2	17.73	TR	
13	2499.1	34.5	11.4	14.6	8.8	TR	-	
14	2495.1	20.3	10.6	15.1	13.22	TR	-	
15	2488.1	NIL	-	-	-	-	-	
16	2486.6	92.0	69.1	32.0	5.9	-	-	
17	2485.0	15.2	5.74	9.16	4.8	-	-	
18	2484.0	44.24	11.4	11.4	5.7	-	-	
19	2479.7	NIL	-	-	-	-	-	
20	2477.6	30.51	8.6	6.8	4.8	TR	-	
21	2473.5	45.7	31.5	13.9	TR	-	-	
22	2465.2	15.2	2.87	3.4	-	-	-	
23	2460.3	71.7	28.7	38.9	24.2	5.1	TR	
24	2454.3	55.9	28.7	29.1	22.0	46.7	21.5	
25	2447.1	533.0	295.0	293.1	137.4	39.78	10.9	
26	2446.1	81.3	103.3	171.75	134.4	48.8	10.9	
27	2439.2	122.0	166.4	58.3	59.9	25.7	TR	
28	2438.0	463.8	688.8	3664.0	6643.7	5658.1	3383.4	
29	2436.7	97.6	137.7	403.0	1022.6	1480.3	641.6	
30	2436.0	1525.8	459.2	872.0	2539.0	2631.6	2100.0	
31	2431.0	61.0	71.1	659.5	1586.8	904.6	1633.4	
32	2429.7	40.6	22.9	99.3	2221.6	318.6	204.1	
33	2428.1	91.5	40.1	22.9	17.6	23.1	32.8	
34	2427.5	81.3	97.5	158.0	125.6	59.1	32.8	
35	2425.2	61.0	25.8	25.1	33.0	23.13	14.5	

CORE LAB | SIDEWALL CORE GAS ANALYSIS DATA SHEET | SHEET # 2

COMPANY ESSO AUSTRALIA LTD. LOGGING SUITE NO. _____

WELL WEST FORTESCUE NO. 1

NO	DEPTH (M)	C1 PPM	C2 PPM	C3 PPM	C4 PPM	C5 PPM	C6 PPM	COMMENTS
36	2424.2	93.0	60.2	77.8	59.5	21.5	10.9	
37	2423.0	21.3	11.4	13.0	33.06	26.9	13.8	
38	2421.3	NIL	-	-	-	-	-	
39	2420.2	116.9	17.2	18.3	19.8	10.2	-	
40	2419.2	457.7	71.7	73.28	145.4	57.3	36.4	
41	2418.6	320.4	54.5	55.1	46.2	21.3	29.1	
42	2417.5	167.8	37.3	50.6	46.2	20.56	TR	
43	2416.4	72.2	20.0	29.7	50.69	12.8	TR	
44	2413.5	185.6	28.7	32.06	28.6	15.4	TR	
45	2411.1	355.6	45.9	45.8	44.0	21.0	TR	
46	2406.6	310.4	45.9	43.5	41.0	24.6	-	
47	2402.1	263.4	37.3	33.2	33.0	16.7	-	
48	2400.0	469.4	54.5	43.5	47.16	25.7	-	
49	2396.6	376.3	45.9	41.2	59.5	33.7	-	
50	2374.5	233.9	25.8	22.9	39.6	20.56	-	
51	2366.2	508.6	48.7	49.2	46.2	15.6	-	

10. CORELAB DATA 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 WEST FORTESCUE NO. 1

Sheet No. 1

Bit No.	Make	Type	IADC Code	Size "	Jets	Depth In	Hole Made M	Drilling Time	On Bottom Hours	Turns K	Condition T B G	Remarks
RR 1	HTC	OSC 3AJ +26" H/O	111	26	20/20/20	86	137	5-3/4	3.38	17.8	3-4-I	PULLED AT THE 20" CASING
												POINT.
NB 1	HTC	J1	111	17½	20/20/16	223	593	15½	10.01	89.6	-	PULLED AT 13-3/8" CASING
												POINT.
2	HTC	J1	116	12¼	18/18/18	816	1042	67-3/4	55.64	490.7	5-3-I	PULLED DUE TO HIGH HOURS.
3	HTC	J1	116	12¼	18/18/18	1858	560	25⅛	18.58	167.2	5-8-I	PULLED DUE TO HIGH TORQUE.
4	HTC	J22	517	12¼	18/18/18	2418	253	32¼	26.35	102.1	3-2-1/8	T.D.

7520 487 (CL 1153)

CORE LAB

BIT RECORD

COMPANY ESSO AUSTRALIA LTD.

WELL WEST FORTESCUE NO. 1

Sheet No. 1

S/NOS.	Bit No.	Make	Type	IADC Code	Size "	Cost A$	Jets	Depth In M	Depth Out M	Hole Made M	Drilling Time	On Bottom Hours	Turns K	Average ROP	Average Cost/ m	Condition T B G
LJ 321	RR 1	HTC	OSC 3AJ +26"H/O	111	26	0	20/20/20	86	223	137	5-3/4	3.38	17.8	40.5	156.74	3-4-I
VE 246	NB 1	HTC	OSC 3AJ	111	17½	4857	20/20/16	223	816	593	15½	10.01	89.6	59.2	92.61	-
CD 528	2	HTC	J1	116	12¼	2694	18/18/18	816	1858	1042	67-3/4	55.64	490.7	18.7	215.02	5-3-I
CD 617	3	HTC	J1	116	12¼	2694	18/18/18	1858	2418	560	25½	18.58	167.2	30.1	152.55	5-8-I
ZF 232	4	HTC	J22	517	12¼	8516	18/18/18	2418	2671	253	32¼	26.35	102.1	9.6	481.91	3-2-1/8

7520-486 (CL 1152)

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 WEST FORTESCUE NO. 1

Sheet No. 1

DEPTH (M)	223	697	816	1054	1366	1680	2046
DATE	30/04/84	02/05/84	03/04/84	04/05/84	05/05/84	06/05/84	07/05/84
TIME	S	23:00	04:00	21:00	20:00	23:00	23:00
WEIGHT	E	9.0	9.2	9.1	9.1	9.0	9.1
FUNNEL VISCOSITY	A	33	34	31	32	30	30
PV/YP	W	4/17	3/17	2/9	2/7	1/5	1/5
N/K	A	.25/4.38	.20/5.69	.24/2.45	.29/1.48	.22/1.50	.22/1.50
GEL: INITIAL/10 MIN	T	6/15	5/11	1/6	2/5	1/3	1/3
pH	E	9.6	9.4	9.7	9.6	9.4	9.5
FILTRATE: API/API HTHP							
CAKE							
SALINITY (PPM)		19,000	17,000	19,000	19,000	19,000	19,000
SAND							
SOLIDS							
OIL							
ITRATES (PPM)							

REMARKS:

20" HOLE SPUD

17½" HOLE

12¼" HOLE

DEPTH (M)	2393	2579	2671	2671	2671		
DATE	08/05/84	09/05/84	10/05/84	11/05/84	12/05/84		
TIME	15:00	23:00	13:30	13:00	08:30		
WEIGHT	9.2	9.5	9.3	9.4	9.3		
FUNNEL VISCOSITY	37	48	50	46	46		
PV/YP	3/12	11/25	8/20	7/19	8/22		
N/K	.26/2.91	.38/3.27	.36/2.92	.34/3.05	.34/3.58		
GEL: INITIAL/10 MIN	6/10	11/30	7/23	8/26	10/25		
pH	10.2	10.3	10.8	10.7	10.6		
FILTRATE: API/API HTHP	10.1/28.6	7.4/23.2	6.8/23	7.1/24.6	7.2/28.3		
CAKE	2	2	2	2	2		
SALINITY	21,000	20,000	20,000	20,000	20,000		
SAND	TR	0.5	TR	TR	TR		
SOLIDS	5	7	6	6	6		
OIL	-	-	-	-	-		
NITRATES (PPM)	240	200	160	160	160		

REMARKS:

12¼" HOLE

T.D.

LOGGED

7520-492 (CL 1158)

R.F.T. DATA SHEETS

PORE PRESSURE DATA SHEET

COMPANY : ESSO AUSTRALIA LTD. DATA FROM RFT'S

WELL : WEST FORTESCUE No.1

DEPTH (FROM RKB)	DEPTH (FROM MSL)	PORE PRESS	PORE PRESS GRADIENT E.M.W.(MSL)	PORE PRESS GRADIENT
METRES	TVD. METRES	PSIA	PPG	PSI/M
2632.0	2611.0	3638.70	8.169	1.394
2627.0	2606.0	3630.40	8.166	1.393
2614.7	2595.7	3612.20	8.157	1.392
2585.0	2564.0	3516.00	8.038	1.371
2558.0	2537.0	3372.30	7.792	1.329
2544.0	2523.0	3362.00	7.811	1.333
2535.0	2514.0	3350.00	7.811	1.333
2516.5	2495.5	3330.00	7.822	1.334
2498.0	2477.0	3424.80	8.104	1.383
2475.0	2454.0	3392.00	8.102	1.382
2457.5	2436.5	3368.40	8.104	1.382
2452.5	2431.5	3359.80	8.099	1.382
2441.7	2420.7	3409.50	8.256	1.408
2440.0	2419.0	3407.80	8.258	1.409
2437.0	2416.0	3403.60	8.258	1.409
2434.0	2413.0	3401.10	8.262	1.409
2431.0	2410.0	3397.70	8.264	1.410

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL WEST FORTESCUE NO. 1

R.F.T. SAMPLING DATA SHEET

Sheet No. 1

RUN No.	1	1	3	3		
SEAT No.	1	1	28	28		
CHAMBER CAPACITY (GAL)	6	1	12	1		
DEPTH (metres)	2434	2434	2436.9	2436.9		
RECOVERY VOLUMES						
GAS (Cu Ft)	3.96	P	0.53	-		
OIL (cc)	17600	R	30600	8300		
WATER/FILTRATE (cc)	1750	E	13750	830		
OTHER (cc)		S				
SURFACE PRESSURE (PSI)	150	E	100	100		
GAS COMPOSITION		R				
C1 (PPM)	121779	V				
C2 (PPM)	36636	E				
C3 (PPM)	34007	D				
C4 (PPM)	21824					
C5 (PPM)	5932					
C6 (PPM)	883					
CO2 (%)						
H2S (PPM)	0					
OIL PROPERTIES						
DENSITY API	40.5		38.5	39.3		
COLOUR	DK BRN					
FLUORESCENCE						
POUR POINT (^{o}C)						
WATER PROPERTIES						
RESISTIVITY (Ωm)			.243@ 62 F	.243@ 62 F		
Cl (frm resis) (PPM)						
Cl (frm titrat) (PPM)	18000		20000	24000		
NITRATES (PPM)	50		40	20		
pH	8.5		7.5	7.0		
COMMENTS						
SAMPLES SHIPPED (Include quantity and volume of containers).	1 X 1 GAL PLASTIC 1 X 5 GAL JERRY CAN		1 X 1 GAL PLASTIC 1 x 5 GAL JERRY 1 x 1 GAL TIN			

APPENDICES

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, hte 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: WEST FORTESCUE NO.1 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"HO	26.000	0.00	20 20 20	86.0	223.0	137.0	3.38	40.5	2.5	156.74	17844	3 4 0.000
1	111	HTC OSC3AJ	17.500	4857.00	20 20 16	223.0	816.0	593.0	10.01	59.2	3.7	92.62	89575	0 0 0.000
2	116	HTC J1	12.250	2694.00	18 18 18	816.0	1858.4	1042.4	55.64	18.7	5.0	215.03	490747	5 3 0.000

WELL: WEST FORTESCUE No.1 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
3	116	HTC J1	12.250	2694.00	18 18 18	1858.0	2418.0	560.0	18.58	30.1	3.8	150.76	167237	5 8 0.001
4	517	HTC J22	12.250	8516.00	18 18 18	2418.0	2671.0	253.0	26.35	9.6	4.7	481.88	102049	3 2 0.125

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

STARTING DEPTH.....	86.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	2.5		
BIT DIAMETER.....	26.000		
NOZZLES.....	20	20	20
HW DRILL COLLAR LENGTH, OD, ID....	22.30	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	65.99	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.57	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	0.00	0.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.2		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.40		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	4.0	2.05	
FINISHING DEPTH.....	223.0		
CUMULATIVE HOURS, TURNS.....	3.38	17044	
BIT CONDITION OUT.....	T 3	B 4	G 0.000

BIT NUMBER: 1 IADC CODE 111 HTC OSC3AJ

STARTING DEPTH.....	223.0		
BIT COST, RIG COST/HOUR.....	4857.00	3652.00	
TRIP TIME.....	3.7		
BIT DIAMETER.....	17.500		
NOZZLES.....	20	20	16
HW DRILL COLLAR LENGTH, OD, ID....	21.26	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	120.01	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.53	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	208.00	19.124	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.2		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.40		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.5	2.10	
FINISHING DEPTH.....	816.0		
CUMULATIVE HOURS, TURNS.....	10.01	89575	
BIT CONDITION OUT.....	T 0	B 0	G 0.000

BIT NUMBER: 2 IADC CODE 116 HTC J1

STARTING DEPTH.....	816.0		
BIT COST, RIG COST/HOUR.....	2694.00	3652.00	
TRIP TIME.....	5.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	168.42	7.750	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.53	5.000	2.813
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	799.00	12.615	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.2		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.40		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	1858.4		
CUMULATIVE HOURS, TURNS.....	55.64	490747	
BIT CONDITION OUT.....	T 5	B 3	G 0.000

BIT NUMBER: 3 IADC CODE 116 HTC J1

STARTING DEPTH.....	1858.0		
BIT COST, RIG COST/HOUR.....	2694.00	3652.00	
TRIP TIME.....	3.8		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	168.42	7.750	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.53	5.000	2.813
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	799.00	12.615	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.2		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.40		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	2418.0		
CUMULATIVE HOURS, TURNS.....	18.58	167237	
BIT CONDITION OUT.....	T 5	B 8	G 0.000

BIT NUMBER: 4 IADC CODE 517 HTC J22

STARTING DEPTH.....	2418.0		
BIT COST, RIG COST/HOUR.....	8516.00	3652.00	
TRIP TIME.....	4.7		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	168.42	7.750	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.53	5.000	2.813
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	799.00	12.615	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.2		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.40		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.8	2.40	
FINISHING DEPTH.....	2671.0		
CUMULATIVE HOURS, TURNS.....	26.35	102049	
BIT CONDITION OUT.....	T 3	B 2	G 0.125

(b). HYDRAULIC ANALYSIS

Data listed from the 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

ASCENT 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

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 100.0 AND TVD 100.0

SPM 1 89 SPM 2 84 FLOW RATE 863

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	11	12	LAMINAR	1	10	0.0
DC/OH	1.950	129	11	12	LAMINAR	1	10	0.0
HWDP/OH	2.074	24	10	11	LAMINAR	1	9	0.0
TOTAL VOLUME		194			TOTAL PRESSURE DROP			0.0

LAG: 9.4 MINUTES 838 STROKES #1 AND 794 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	704.9	HHP	355	IMPACT FORCE	1170
% SURFACE PRESSURE	63.5	HHP/sqin	0.67	JET VELOCITY	91

PRESSURE BREAKDOWN:

SURFACE	44.6				
STRING	168.7				
BIT	704.9				
ANNULUS	0.0				
TOTAL	918.3	PUMP PRESSURE	1110.0	% DIFFERENCE	17.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	148.4
CIRCULATING:	ECD	8.70	CIRCULATING PRESSURE	148.4
PULLING OUT:	TRIP MARGIN	0.00	ESTIMATED SWAB	0.0
	EFFECTIVE MUD WEIGHT	8.70	BOTTOM HOLE PRESSURE	148.4

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 200.0 AND TVD 200.0

SPM 1 99 SPM 2 102 FLOW RATE 1007

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	13	12	TURBULENT			0.0
DC/OH	1.950	129	12	12	TURBULENT			0.0
HWDP/OH	2.074	173	12	11	TURBULENT			0.0
DP/OH	2.074	58	12	11	TURBULENT			0.0
TOTAL VOLUME		402					TOTAL PRESSURE DROP	0.0

LAG: 16.8 MINUTES 1662 STROKES #1 AND 1713 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	958.4	HHP	563	IMPACT FORCE	1591
% SURFACE PRESSURE	69.3	HHP/sqin	1.06	JET VELOCITY	107

PRESSURE BREAKDOWN:

SURFACE	58.8				
STRING	341.7				
BIT	958.4				
ANNULUS	0.0				
TOTAL	1358.9	PUMP PRESSURE	1383.3	% DIFFERENCE	1.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	296.8
CIRCULATING:	ECD	8.70	CIRCULATING PRESSURE	296.9
PULLING OUT:	TRIP MARGIN	0.00	ESTIMATED SWAB	0.0
	EFFECTIVE MUD WEIGHT	8.70	BOTTOM HOLE PRESSURE	296.8

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 99 SPM 2 97 FLOW RATE 980

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	35	15	TURBULENT			0.0
DC/OH	0.772	55	30	14	TURBULENT			0.1
DC/CSG	0.961	47	24	14	TURBULENT			0.0
HWDP/CSG	1.085	79	21	13	TURBULENT			0.0
HWDP/RIS	1.325	14	18	12	TURBULENT			0.0
DP/RIS	1.325	100	18	12	TURBULENT			0.0
TOTAL VOLUME		309					TOTAL PRESSURE DROP	0.2

LAG: 13.3 MINUTES 1312 STROKES #1 AND 1286 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1172.1	HHP	670	IMPACT FORCE	1712
% SURFACE PRESSURE	52.7	HHP/sqin	2.79	JET VELOCITY	118

PRESSURE BREAKDOWN:

SURFACE	56.0				
STRING	469.1				
BIT	1172.1				
ANNULUS	0.2				
TOTAL	1697.4	PUMP PRESSURE	2224.0	% DIFFERENCE	23.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	445.3
CIRCULATING:	ECD	8.70	CIRCULATING PRESSURE	445.5
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	0.4
	EFFECTIVE MUD WEIGHT	8.69	BOTTOM HOLE PRESSURE	444.9

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 101 SPM 2 100 FLOW RATE 1006

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	36	15	TURBULENT			0.0
DC/OH	0.772	93	31	14	TURBULENT			0.1
HWDP/OH	0.896	45	27	13	TURBULENT			0.0
HWDP/CSG	1.085	36	22	13	TURBULENT			0.0
DP/CSG	1.085	97	22	13	TURBULENT			0.0
DP/RIS	1.325	114	18	12	TURBULENT			0.0
TOTAL VOLUME		399			TOTAL PRESSURE DROP			0.3

LAG: 16.6 MINUTES 1684 STROKES #1 AND 1667 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1237.3	HHP	727	IMPACT FORCE	1808
% SURFACE PRESSURE	49.9	HHP/sqin	3.02	JET VELOCITY	121

PRESSURE BREAKDOWN:

SURFACE	58.8				
STRING	526.4				
BIT	1237.3				
ANNULUS	0.3				
TOTAL	1822.7	PUMP PRESSURE	2479.9	% DIFFERENCE	26.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	593.7
CIRCULATING:	ECD	8.70	CIRCULATING PRESSURE	594.0
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	0.6
	EFFECTIVE MUD WEIGHT	8.69	BOTTOM HOLE PRESSURE	593.1

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 100 SPM 2 100 FLOW RATE 1001

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	35	15	TURBULENT			0.0
DC/OH	0.772	93	31	14	TURBULENT			0.1
HWDP/OH	0.896	75	27	13	TURBULENT			0.1
DP/OH	0.896	60	27	13	TURBULENT			0.0
DP/CSG	1.085	132	22	13	TURBULENT			0.0
DP/RIS	1.325	114	18	12	TURBULENT			0.0
TOTAL VOLUME		488				TOTAL PRESSURE DROP		0.3

LAG: 20.5 MINUTES 2049 STROKES #1 AND 2055 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1238.7	HHP	724	IMPACT FORCE	1810
% SURFACE PRESSURE	48.4	HHP/sqin	3.01	JET VELOCITY	121

PRESSURE BREAKDOWN:

SURFACE	58.8		
STRING	560.2		
BIT	1238.7		
ANNULUS	0.3		
TOTAL	1858.0	PUMP PRESSURE 2561.6	% DIFFERENCE 27.5

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	750.0

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 98 SPM 2 100 FLOW RATE 990

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	35	126	LAMINAR	0	35	0.4
DC/OH	0.772	93	31	125	LAMINAR	0	30	1.6
HWDP/OH	0.896	75	26	124	LAMINAR	0	26	0.8
DP/OH	0.896	150	26	124	LAMINAR	0	26	1.5
DP/CSG	1.085	132	22	123	LAMINAR	0	22	0.9
DP/RIS	1.325	114	18	123	LAMINAR	0	18	0.5
TOTAL VOLUME		578				TOTAL PRESSURE DROP		5.8

LAG: 24.5 MINUTES 2406 STROKES #1 AND 2451 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1238.6	HHP	716	IMPACT FORCE	1810
% SURFACE PRESSURE	47.1	HHP/sqin	2.97	JET VELOCITY	119

PRESSURE BREAKDOWN:

SURFACE	77.4
STRING	782.1
BIT	1238.6
ANNULUS	5.8
TOTAL	2103.9

PUMP PRESSURE 2628.0 % DIFFERENCE 19.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	921.3
CIRCULATING:	ECD	9.06	CIRCULATING PRESSURE	927.0
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	11.5
	EFFECTIVE MUD WEIGHT	8.89	BOTTOM HOLE PRESSURE	909.7

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 102 SPM 2 101 FLOW RATE 1013

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	36	125	LAMINAR	0	35	0.4
DC/OH	0.772	93	31	124	LAMINAR	0	31	1.6
HWDP/OH	0.896	75	27	123	LAMINAR	0	27	0.8
DP/OH	0.896	239	27	123	LAMINAR	0	27	2.5
DP/CSG	1.085	132	22	122	LAMINAR	0	22	0.9
DP/RIS	1.325	114	18	122	LAMINAR	0	18	0.5
TOTAL VOLUME		668			TOTAL PRESSURE DROP			6.7

LAG: 27.7 MINUTES 2824 STROKES #1 AND 2785 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1310.4	HHP	774	IMPACT FORCE	1914
% SURFACE PRESSURE	48.4	HHP/sqin	3.22	JET VELOCITY	122

PRESSURE BREAKDOWN:

SURFACE	81.3				
STRING	868.7				
BIT	1310.4				
ANNULUS	6.7				
TOTAL	2267.2	PUMP PRESSURE	2708.3	% DIFFERENCE	16.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	1086.7
CIRCULATING:	ECD	9.16	CIRCULATING PRESSURE	1093.5
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	13.5
	EFFECTIVE MUD WEIGHT	8.99	BOTTOM HOLE PRESSURE	1073.3

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 100 SPM 2 100 FLOW RATE 999

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	35	125	LAMINAR	0	35	0.4
DC/OH	0.772	93	31	124	LAMINAR	0	31	1.6
HWDP/OH	0.896	75	27	123	LAMINAR	0	26	0.8
DP/OH	0.896	329	27	123	LAMINAR	0	26	3.4
DP/CSG	1.085	132	22	122	LAMINAR	0	22	0.9
DP/RIS	1.325	114	18	122	LAMINAR	0	18	0.5
TOTAL VOLUME		757			TOTAL PRESSURE DROP			7.6

LAG: 31.8 MINUTES 3175 STROKES #1 AND 3187 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1275.4	HHP	743	IMPACT FORCE	1863
% SURFACE PRESSURE	46.0	HHP/sqin	3.09	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	79.4				
STRING	893.6				
BIT	1275.4				
ANNULUS	7.6				
TOTAL	2256.0	PUMP PRESSURE	2774.9	% DIFFERENCE	18.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	1242.0
CIRCULATING:	ECD	9.16	CIRCULATING PRESSURE	1249.6
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	15.3
	EFFECTIVE MUD WEIGHT	8.99	BOTTOM HOLE PRESSURE	1226.7

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 99 SPM 2 94 FLOW RATE 964

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	29	80	127	LAMINAR	0	80	4.4
DC/CSG	0.316	21	73	127	LAMINAR	0	72	2.6
HWDP/CSG	0.427	36	54	125	LAMINAR	0	54	1.7
DP/CSG	0.427	240	54	125	LAMINAR	0	54	11.5
DP/RIS	1.325	114	17	122	LAMINAR	0	17	0.5
TOTAL VOLUME		440			TOTAL PRESSURE DROP			20.8

LAG: 19.2 MINUTES 1895 STROKES #1 AND 1803 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1400.6	HHP	788	IMPACT FORCE	1883
% SURFACE PRESSURE	47.3	HHP/sqin	6.68	JET VELOCITY	126

PRESSURE BREAKDOWN:

SURFACE	74.4
STRING	1084.3
BIT	1400.6
ANNULUS	20.8
TOTAL	2580.1

PUMP PRESSURE 2960.5 % DIFFERENCE 12.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	1397.2
CIRCULATING:	ECD	9.24	CIRCULATING PRESSURE	1418.0
PULLING OUT:	TRIP MARGIN	0.27	ESTIMATED SWAB	41.6
	EFFECTIVE MUD WEIGHT	8.83	BOTTOM HOLE PRESSURE	1355.6

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 98 SPM 2 91 FLOW RATE 944

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	78	127	LAMINAR	0	78	7.3
HWDP/OH	0.398	13	56	125	LAMINAR	0	56	0.7
HWDP/CSG	0.427	22	53	125	LAMINAR	0	52	1.0
DP/CSG	0.427	283	53	125	LAMINAR	0	52	13.5
DP/RIS	1.325	114	17	122	LAMINAR	0	17	0.5
TOTAL VOLUME		480				TOTAL PRESSURE DROP		23.1

LAG: 21.4 MINUTES 2083 STROKES #1 AND 1950 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1342.9	HHP	739	IMPACT FORCE	1806
% SURFACE PRESSURE	45.9	HHP/sqin	6.27	JET VELOCITY	123

PRESSURE BREAKDOWN:

SURFACE	71.6				
STRING	1085.3				
BIT	1342.9				
ANNULUS	23.1				
TOTAL	2522.9	PUMP PRESSURE	2927.9	% DIFFERENCE	13.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	1552.5
CIRCULATING:	ECD	9.24	CIRCULATING PRESSURE	1575.6
PULLING OUT:	TRIP MARGIN	0.27	ESTIMATED SWAB	46.3
	EFFECTIVE MUD WEIGHT	8.83	BOTTOM HOLE PRESSURE	1506.2

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1100.0

SPM 1 97 SPM 2 89 FLOW RATE 932

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	77	127	LAMINAR	0	77	7.3
HWDP/OH	0.398	33	56	125	LAMINAR	0	55	1.8
DP/OH	0.398	20	56	125	LAMINAR	0	55	1.1
DP/CSG	0.427	305	52	125	LAMINAR	0	52	14.5
DP/RIS	1.325	114	17	122	LAMINAR	0	17	0.5
TOTAL VOLUME		520				TOTAL PRESSURE DROP		25.3

LAG: 23.4 MINUTES 2283 STROKES #1 AND 2084 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1309.6	HHP	712	IMPACT FORCE	1761
% SURFACE PRESSURE	44.6	HHP/sqin	6.04	JET VELOCITY	122

PRESSURE BREAKDOWN:

SURFACE	70.0		
STRING	1101.4		
BIT	1309.6		
ANNULUS	25.3		
TOTAL	2506.3	PUMP PRESSURE 2934.7	% DIFFERENCE 14.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	1707.7
CIRCULATING:	ECD	9.23	CIRCULATING PRESSURE	1733.0
PULLING OUT:	TRIP MARGIN	0.27	ESTIMATED SWAB	50.6
	EFFECTIVE MUD WEIGHT	8.83	BOTTOM HOLE PRESSURE	1657.1

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1200.0

SPM 1 95 SPM 2 88 FLOW RATE 916

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	76	92	LAMINAR	1	75	3.9
HWDP/OH	0.398	33	55	91	LAMINAR	0	54	1.0
DP/OH	0.398	59	55	91	LAMINAR	0	54	1.8
DP/CSG	0.427	305	51	91	LAMINAR	0	51	7.8
DP/RIS	1.325	114	16	89	LAMINAR	0	16	0.3
TOTAL VOLUME		560				TOTAL PRESSURE DROP		14.6

LAG: 25.7 MINUTES 2436 STROKES #1 AND 2266 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1266.0	HHP	677	IMPACT FORCE	1702
% SURFACE PRESSURE	43.2	HHP/sqin	5.74	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	59.1				
STRING	964.2				
BIT	1266.0				
ANNULUS	14.6				
TOTAL	2304.0	PUMP PRESSURE	2928.5	% DIFFERENCE	21.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	1862.9
CIRCULATING:	ECD	9.17	CIRCULATING PRESSURE	1877.6
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	29.3
	EFFECTIVE MUD WEIGHT	8.96	BOTTOM HOLE PRESSURE	1833.7

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1300.0

SPM 1 88 SPM 2 93 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	0.287	48	75	92	LAMINAR	1	74	3.9
HWDP/OH	0.398	33	54	91	LAMINAR	0	54	1.0
DP/OH	0.398	99	54	91	LAMINAR	0	54	2.9
DP/CSG	0.427	305	50	91	LAMINAR	0	50	7.7
DP/RIS	1.325	114	16	89	LAMINAR	0	16	0.3
TOTAL VOLUME		599			TOTAL PRESSURE DROP			15.8

LAG: 27.9 MINUTES 2456 STROKES #1 AND 2581 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1231.3	HHP	649	IMPACT FORCE	1656
% SURFACE PRESSURE	42.1	HHP/sqin	5.51	JET VELOCITY	118

PRESSURE BREAKDOWN:

SURFACE	57.7				
STRING	973.6				
BIT	1231.3				
ANNULUS	15.8				
TOTAL	2278.3	PUMP PRESSURE	2923.2	% DIFFERENCE	22.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	2018.2
CIRCULATING:	ECD	9.17	CIRCULATING PRESSURE	2033.9
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	31.5
	EFFECTIVE MUD WEIGHT	8.96	BOTTOM HOLE PRESSURE	1986.7

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1400.0 AND TVD 1392.9

SPM 1 89 SPM 2 90 FLOW RATE 894

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	74	69	TURBULENT			2.8
HWDP/OH	0.398	33	53	67	LAMINAR	1	53	0.6
DP/OH	0.398	139	53	67	LAMINAR	1	53	2.5
DP/CSG	0.427	305	50	66	LAMINAR	0	49	4.6
DP/RIS	1.325	114	16	62	LAMINAR	0	16	0.1
TOTAL VOLUME		639				TOTAL PRESSURE DROP		10.6

LAG: 30.0 MINUTES 2658 STROKES #1 AND 2714 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1218.7	HHP	636	IMPACT FORCE	1639
% SURFACE PRESSURE	41.8	HHP/sqin	5.39	JET VELOCITY	117

PRESSURE BREAKDOWN:

SURFACE	57.1		
STRING	996.5		
BIT	1218.7		
ANNULUS	10.6		
TOTAL	2283.0	PUMP PRESSURE 2913.9	% DIFFERENCE 21.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	2197.3
CIRCULATING:	ECD	9.24	CIRCULATING PRESSURE	2207.9
PULLING OUT:	TRIP MARGIN	0.09	ESTIMATED SWAB	21.3
	EFFECTIVE MUD WEIGHT	9.11	BOTTOM HOLE PRESSURE	2176.0

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1499.9

SPM 1 88 SPM 2 87 FLOW RATE 873

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	73	69	TURBULENT			2.7
HWDP/OH	0.398	33	52	67	LAMINAR	1	52	0.6
DP/OH	0.398	179	52	67	LAMINAR	1	52	3.2
DP/CSG	0.427	305	49	66	LAMINAR	0	48	4.6
DP/RIS	1.325	114	16	62	LAMINAR	0	16	0.1
TOTAL VOLUME		679			TOTAL PRESSURE DROP			11.2

LAG: 32.7 MINUTES 2865 STROKES #1 AND 2842 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1163.0	HHP	593	IMPACT FORCE	1564
% SURFACE PRESSURE	40.6	HHP/sqin	5.03	JET VELOCITY	114

PRESSURE BREAKDOWN:

SURFACE	54.7
STRING	987.0
BIT	1163.0
ANNULUS	11.2
TOTAL	2215.9

PUMP PRESSURE 2866.4 % DIFFERENCE 22.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	2354.2
CIRCULATING:	ECD	9.24	CIRCULATING PRESSURE	2365.3
PULLING OUT:	TRIP MARGIN	0.09	ESTIMATED SWAB	22.3
	EFFECTIVE MUD WEIGHT	9.11	BOTTOM HOLE PRESSURE	2331.8

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1599.9

SPM 1 87 SPM 2 87 FLOW RATE 872

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	72	69	TURBULENT			2.6
HWDP/OH	0.398	33	52	67	LAMINAR	1	52	0.6
DP/OH	0.398	219	52	67	LAMINAR	1	52	3.9
DP/CSG	0.427	305	49	66	LAMINAR	0	48	4.6
DP/RIS	1.325	114	16	62	LAMINAR	0	16	0.1
TOTAL VOLUME		719				TOTAL PRESSURE DROP		11.9

LAG: 34.6 MINUTES 3021 STROKES #1 AND 3021 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1160.2	HHP	591	IMPACT FORCE	1560
% SURFACE PRESSURE	39.8	HHP/sqin	5.01	JET VELOCITY	114

PRESSURE BREAKDOWN:

SURFACE	54.6
STRING	1016.3
BIT	1160.2
ANNULUS	11.9
TOTAL	2243.0

PUMP PRESSURE 2913.8 % DIFFERENCE 23.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	2511.1
CIRCULATING:	ECD	9.24	CIRCULATING PRESSURE	2523.0
PULLING OUT:	TRIP MARGIN	0.09	ESTIMATED SWAB	23.7
	EFFECTIVE MUD WEIGHT	9.11	BOTTOM HOLE PRESSURE	2487.4

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1699.9

SPM 1 88 SPM 2 85 FLOW RATE 865

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	72	70	TURBULENT			2.6
HWDP/OH	0.398	33	52	67	LAMINAR	1	51	0.6
DP/OH	0.398	259	52	67	LAMINAR	1	51	4.6
DP/CSG	0.427	305	48	67	LAMINAR	0	48	4.6
DP/RIS	1.325	114	16	63	LAMINAR	0	15	0.1
TOTAL VOLUME		759			TOTAL PRESSURE DROP			12.5

LAG: 36.9 MINUTES 3249 STROKES #1 AND 3128 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1127.1	HHP	568	IMPACT FORCE	1516
% SURFACE PRESSURE	39.0	HHP/sqin	4.82	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	53.3				
STRING	1021.9				
BIT	1127.1				
ANNULUS	12.5				
TOTAL	2214.7	PUMP PRESSURE	2886.7	% DIFFERENCE	23.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	2639.0
CIRCULATING:	ECD	9.14	CIRCULATING PRESSURE	2651.5
PULLING OUT:	TRIP MARGIN	0.09	ESTIMATED SWAB	25.0
	EFFECTIVE MUD WEIGHT	9.01	BOTTOM HOLE PRESSURE	2614.1

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1799.9

SPM 1 87 SPM 2 84 FLOW RATE 854

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	71	70	TURBULENT			2.5
HWDP/OH	0.398	33	51	67	LAMINAR	1	50	0.6
DP/OH	0.398	298	51	67	LAMINAR	1	50	5.2
DP/CSG	0.427	305	48	67	LAMINAR	0	47	4.6
DP/RIS	1.325	114	15	63	LAMINAR	0	15	0.1
TOTAL VOLUME		799			TOTAL PRESSURE DROP			13.1

LAG: 39.3 MINUTES 3426 STROKES #1 AND 3285 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1099.0	HHP	547	IMPACT FORCE	1478
% SURFACE PRESSURE	37.9	HHP/sqin	4.64	JET VELOCITY	112

PRESSURE BREAKDOWN:

SURFACE	52.1		
STRING	1029.0		
BIT	1099.0		
ANNULUS	13.1		
TOTAL	2193.2	PUMP PRESSURE 2900.0	% DIFFERENCE 24.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	2794.3
CIRCULATING:	ECD	9.14	CIRCULATING PRESSURE	2807.4
PULLING OUT:	TRIP MARGIN	0.09	ESTIMATED SWAB	26.2
	EFFECTIVE MUD WEIGHT	9.01	BOTTOM HOLE PRESSURE	2768.1

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1899.9

SPM 1 87 SPM 2 82 FLOW RATE 846

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	70	70	TURBULENT			2.5
HWDP/OH	0.398	33	51	67	LAMINAR	1	50	0.6
DP/OH	0.398	338	51	67	LAMINAR	1	50	5.9
DP/CSG	0.427	305	47	67	LAMINAR	1	47	4.6
DP/RIS	1.325	114	15	63	LAMINAR	0	15	0.1
TOTAL VOLUME		838			TOTAL PRESSURE DROP			13.7

LAG: 41.6 MINUTES 3631 STROKES #1 AND 3415 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1080.3	HHP	533	IMPACT FORCE	1453
% SURFACE PRESSURE	36.1	HHP/sqin	4.53	JET VELOCITY	111

PRESSURE BREAKDOWN:

SURFACE	51.3
STRING	1042.7
BIT	1080.3
ANNULUS	13.7
TOTAL	2188.0

PUMP PRESSURE 2988.4 % DIFFERENCE 26.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	2949.6
CIRCULATING:	ECD	9.14	CIRCULATING PRESSURE	2963.3
PULLING OUT:	TRIP MARGIN	0.08	ESTIMATED SWAB	27.4
	EFFECTIVE MUD WEIGHT	9.02	BOTTOM HOLE PRESSURE	2922.1

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 1999.9

SPM 1 84 SPM 2 83 FLOW RATE 834

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	69	70	LAMINAR	1	68	2.4
HWDP/OH	0.398	33	50	67	LAMINAR	1	49	0.6
DP/OH	0.398	378	50	67	LAMINAR	1	49	6.6
DP/CSG	0.427	305	46	67	LAMINAR	1	46	4.5
DP/RIS	1.325	114	15	63	LAMINAR	0	15	0.1
TOTAL VOLUME		878			TOTAL PRESSURE DROP			14.3

LAG: 44.2 MINUTES 3720 STROKES #1 AND 3661 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1048.0	HHP	510	IMPACT FORCE	1409
% SURFACE PRESSURE	36.1	HHP/sqin	4.33	JET VELOCITY	109

PRESSURE BREAKDOWN:

SURFACE	49.9
STRING	1043.4
BIT	1048.0
ANNULUS	14.3
TOTAL	2155.6

PUMP PRESSURE 2904.4 % DIFFERENCE 25.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	3104.8
CIRCULATING:	ECD	9.14	CIRCULATING PRESSURE	3119.1
PULLING OUT:	TRIP MARGIN	0.08	ESTIMATED SWAB	28.6
	EFFECTIVE MUD WEIGHT	9.02	BOTTOM HOLE PRESSURE	3076.2

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2099.9

SPM 1 85 SPM 2 80 FLOW RATE 823

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	68	70	LAMINAR	1	67	2.4
HWDP/OH	0.398	33	49	67	LAMINAR	1	49	0.6
DP/OH	0.398	418	49	67	LAMINAR	1	49	7.3
DP/CSG	0.427	305	46	67	LAMINAR	0	45	4.5
DP/RIS	1.325	114	15	63	LAMINAR	0	15	0.1
TOTAL VOLUME		918			TOTAL PRESSURE DROP			14.9

LAG: 46.9 MINUTES 3962 STROKES #1 AND 3754 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1020.8	HHP	490	IMPACT FORCE	1373
% SURFACE PRESSURE	35.1	HHP/sqin	4.16	JET VELOCITY	108

PRESSURE BREAKDOWN:

SURFACE	48.7		
STRING	1047.1		
BIT	1020.8		
ANNULUS	14.9		
TOTAL	2131.5	PUMP PRESSURE 2906.8	% DIFFERENCE 26.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	3260.0
CIRCULATING:	ECD	9.14	CIRCULATING PRESSURE	3275.0
PULLING OUT:	TRIP MARGIN	0.00	ESTIMATED SWAB	29.9
	EFFECTIVE MUD WEIGHT	9.02	BOTTOM HOLE PRESSURE	3230.2

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2129.9

SPM 1 79 SPM 2 82 FLOW RATE 805

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	67	90	LAMINAR	1	66	4.0
HWDP/OH	0.398	33	48	85	LAMINAR	0	48	0.9
DP/OH	0.398	458	48	85	LAMINAR	0	48	12.6
DP/CSG	0.427	305	45	84	LAMINAR	0	45	7.1
DP/RIS	1.325	114	14	78	LAMINAR	0	14	0.2
TOTAL VOLUME		958			TOTAL PRESSURE DROP			24.7

LAG: 50.0 MINUTES 3972 STROKES #1 AND 4079 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	976.5	HHP	458	IMPACT FORCE	1313
% SURFACE PRESSURE	34.0	HHP/sqin	3.89	JET VELOCITY	105

PRESSURE BREAKDOWN:

SURFACE	53.8
STRING	1186.7
BIT	976.5
ANNULUS	24.7
TOTAL	2241.8

PUMP PRESSURE 2874.0 % DIFFERENCE 22.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	3415.3
CIRCULATING:	ECD	9.17	CIRCULATING PRESSURE	3440.0
PULLING OUT:	TRIP MARGIN	0.13	ESTIMATED SWAB	49.5
	EFFECTIVE MUD WEIGHT	8.97	BOTTOM HOLE PRESSURE	3365.8

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2299.9

SPM 1 78 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	0.287	48	66	89	LAMINAR	1	45	4.0
HWDP/OH	0.398	33	48	84	LAMINAR	0	47	0.9
DP/OH	0.398	498	48	84	LAMINAR	0	47	13.6
DP/CSG	0.427	305	44	84	LAMINAR	0	44	7.1
DP/RIS	1.325	114	14	77	LAMINAR	0	14	0.2
TOTAL VOLUME		998			TOTAL PRESSURE DROP			25.7

LAG: 52.6 MINUTES 4121 STROKES #1 AND 4264 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	966.0	HHP	449	IMPACT FORCE	1299
% SURFACE PRESSURE	32.7	HHP/sqin	3.81	JET VELOCITY	104

PRESSURE BREAKDOWN:

SURFACE	53.2
STRING	1204.6
BIT	966.0
ANNULUS	25.7
TOTAL	2249.5

PUMP PRESSURE 2954.1 % DIFFERENCE 23.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	3609.7
CIRCULATING:	ECD	9.27	CIRCULATING PRESSURE	3635.5
PULLING OUT:	TRIP MARGIN	0.13	ESTIMATED SWAB	51.5
	EFFECTIVE MUD WEIGHT	9.07	BOTTOM HOLE PRESSURE	3558.3

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2399.9

SPM 1 75 SPM 2 80 FLOW RATE 778

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	65	88	LAMINAR	1	64	3.9
HWDP/OH	0.398	33	46	84	LAMINAR	0	46	0.9
DP/OH	0.398	537	46	84	LAMINAR	0	46	14.6
DP/CSG	0.427	305	43	83	LAMINAR	0	43	7.0
DP/RIS	1.325	114	14	77	LAMINAR	0	14	0.2
TOTAL VOLUME		1038				TOTAL PRESSURE DROP		26.6

LAG: 56.0 MINUTES 4214 STROKES #1 AND 4506 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	931.8	HHP	423	IMPACT FORCE	1253
% SURFACE PRESSURE	32.2	HHP/sqin	3.59	JET VELOCITY	102

PRESSURE BREAKDOWN:

SURFACE	51.4				
STRING	1194.5				
BIT	931.8				
ANNULUS	26.6				
TOTAL	2204.3	PUMP PRESSURE	2895.1	% DIFFERENCE	23.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.30	HYDROSTATIC PRESSURE	3807.6
CIRCULATING:	ECD	9.36	CIRCULATING PRESSURE	3834.2
PULLING OUT:	TRIP MARGIN	0.13	ESTIMATED SWAB	53.2
	EFFECTIVE MUD WEIGHT	9.17	BOTTOM HOLE PRESSURE	3754.4

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2499.9

SPM 1 75 SPM 2 78 FLOW RATE 764

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	63	105	LAMINAR	0	63	4.9
HWDP/OH	0.398	33	46	102	LAMINAR	0	45	1.2
DP/OH	0.398	577	46	102	LAMINAR	0	45	21.1
DP/CSG	0.427	305	43	102	LAMINAR	0	42	9.6
DP/RIS	1.325	114	14	99	LAMINAR	0	14	0.3
TOTAL VOLUME		1078				TOTAL PRESSURE DROP		37.2

LAG: 59.2 MINUTES 4435 STROKES #1 AND 4620 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	894.8	HHP	399	IMPACT FORCE	1203
% SURFACE PRESSURE	31.1	HHP/sqin	3.38	JET VELOCITY	100

PRESSURE BREAKDOWN:

SURFACE	46.9				
STRING	1114.9				
BIT	894.8				
ANNULUS	37.2				
TOTAL	2093.7	PUMP PRESSURE	2874.4	% DIFFERENCE	27.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.25	HYDROSTATIC PRESSURE	3945.0
CIRCULATING:	ECD	9.34	CIRCULATING PRESSURE	3982.1
PULLING OUT:	TRIP MARGIN	0.17	ESTIMATED SWAB	74.3
	EFFECTIVE MUD WEIGHT	9.08	BOTTOM HOLE PRESSURE	3870.7

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2600.0 AND TVD 2599.8

SPM 1 75 SPM 2 79 FLOW RATE 772

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.287	48	64	104	LAMINAR	0	64	4.9
HWDP/OH	0.398	33	46	102	LAMINAR	0	46	1.2
DP/OH	0.398	617	46	102	LAMINAR	0	46	22.6
DP/CSG	0.427	305	43	101	LAMINAR	0	43	9.6
DP/RIS	1.325	114	14	98	LAMINAR	0	14	0.3
TOTAL VOLUME		1117				TOTAL PRESSURE DROP		38.7

LAG: 60.8 MINUTES 4587 STROKES #1 AND 4803 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	927.3	HHP	417	IMPACT FORCE	1247
% SURFACE PRESSURE	31.9	HHP/sqin	3.54	JET VELOCITY	101

PRESSURE RREAKDOWN:

SURFACE	48.3
STRING	1177.3
BIT	927.3
ANNULUS	38.7
TOTAL	2191.5

PUMP PRESSURE 2903.6 % DIFFERENCE 24.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4169.2
CIRCULATING:	ECD	9.49	CIRCULATING PRESSURE	4208.0
PULLING OUT:	TRIP MARGIN	0.17	ESTIMATED SWAB	77.4
	EFFECTIVE MUD WEIGHT	9.23	BOTTOM HOLE PRESSURE	4091.8

(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 Australian 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	86.0- 223.0
MTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	137.0
TOTAL HOURS	3.38	TOTAL TURNS	17844	CONDITION	T3 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
87.0	51.4	0.1	52	8.7	0.34	0.02	61	71	9201	8.2	13.9
88.0	25.4	0.1	58	8.7	0.43	0.06	198	144	4673	8.2	13.9
89.0	14.1	0.1	63	8.7	0.51	0.13	465	259	3201	8.2	13.9
90.0	35.3	0.2	82	8.7	0.46	0.16	604	103	2427	8.2	13.9
91.0	34.3	0.1	92	8.7	0.45	0.19	765	107	1963	8.2	13.9
92.0	32.1	0.3	97	8.7	0.52	0.22	946	114	1655	8.2	13.9
94.0	175.4	0.1	92	8.7	0.26	0.23	1009	21	1246	8.2	13.9
96.0	194.6	0.5	93	8.7	0.30	0.24	1066	19	1001	8.2	14.0
98.0	232.3	0.1	93	8.7	0.23	0.25	1114	15.72	836.50	8.2	14.0
100.0	43.9	0.1	91	8.7	0.42	0.29	1365	83.18	728.88	8.2	14.0
102.0	120.0	0.6	76	8.7	0.34	0.31	1440	30.43	641.58	8.2	14.0
104.0	56.7	0.5	91	8.7	0.46	0.35	1632	64.42	577.45	8.2	14.0
106.0	122.0	0.1	91	8.7	0.30	0.36	1721	29.93	522.70	8.2	14.0
108.0	85.7	0.8	85	8.7	0.42	0.39	1840	42.61	479.05	8.2	14.0
110.0	35.8	0.4	92	8.7	0.52	0.44	2149	101.95	447.63	8.2	14.0
112.0	45.3	0.2	83	8.7	0.43	0.49	2369	80.65	419.40	8.2	14.0
114.0	211.8	0.9	91	8.7	0.30	0.50	2421	17.25	390.67	8.2	14.0
116.0	96.0	1.0	89	8.7	0.42	0.52	2532	38.04	367.16	8.2	14.0
118.0	97.3	1.1	86	8.7	0.42	0.54	2637	37.53	346.56	8.2	14.1
120.0	46.8	1.0	90	8.7	0.53	0.58	2868	78.11	330.77	8.2	14.1
122.0	49.3	1.3	81	8.7	0.53	0.62	3064	74.05	316.51	8.2	14.1
124.0	124.1	1.0	76	8.7	0.36	0.64	3138	29.42	301.40	8.2	14.1
126.0	100.0	1.4	76	8.7	0.41	0.66	3229	36.52	288.15	8.2	14.1
128.0	91.1	1.2	76	8.7	0.42	0.68	3329	40.07	276.34	8.2	14.1
130.0	35.1	1.1	64	8.7	0.53	0.74	3547	103.98	268.51	8.2	14.1
132.0	124.1	1.0	80	8.7	0.37	0.75	3625	29.42	258.11	8.2	14.1
134.0	128.6	1.6	85	8.7	0.40	0.77	3704	28.40	248.54	8.2	14.1
136.0	160.0	1.0	83	8.7	0.34	0.78	3766	22.83	239.51	8.2	14.1
138.0	133.3	1.8	80	8.7	0.39	0.79	3838	27.39	231.35	8.2	14.1
140.0	34.3	2.0	87	8.7	0.63	0.85	4143	106.52	226.73	8.2	14.2
142.0	150.0	1.0	83	8.7	0.35	0.87	4209	24.35	219.50	8.2	14.2
144.0	110.8	2.0	80	8.7	0.43	0.88	4296	32.97	213.07	8.2	14.2
146.0	65.5	1.0	90	8.7	0.48	0.91	4462	55.79	207.83	8.2	14.2
148.0	34.0	1.5	78	8.7	0.59	0.97	4738	107.53	204.59	8.2	14.2
150.0	124.1	2.5	68	8.7	0.39	0.99	4803	29.42	199.12	8.2	14.2
152.0	86.7	2.6	88	8.7	0.50	1.01	4924	42.10	194.36	8.2	14.2
154.0	77.4	3.4	85	8.7	0.53	1.04	5056	47.17	190.03	8.2	14.2
156.0	43.9	2.2	87	8.7	0.60	1.08	5292	83.18	186.98	8.2	14.2
158.0	57.6	2.5	83	8.7	0.56	1.12	5466	63.40	183.54	8.2	14.2
160.0	118.0	2.5	90	8.7	0.45	1.14	5557	30.94	179.42	8.2	14.2
162.0	86.7	2.5	93	8.7	0.51	1.16	5686	42.10	175.81	8.2	14.3
164.0	98.6	2.5	95	8.7	0.49	1.18	5801	37.03	172.25	8.2	14.3
166.0	54.1	2.5	75	8.7	0.55	1.22	5967	67.46	169.63	8.2	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
168.0	118.0	2.5	90	8.7	0.45	1.23	6058	30.94	166.25	8.2	14.3
170.0	112.5	2.5	82	8.7	0.44	1.25	6146	32.46	163.06	8.2	14.3
172.0	30.3	3.4	95	8.7	0.72	1.32	6524	120.72	162.08	8.2	14.3
174.0	45.0	0.9	86	8.7	0.53	1.36	6754	81.16	160.24	8.2	14.3
176.0	28.3	0.4	90	8.7	0.54	1.43	7135	128.83	159.54	8.2	14.3
178.0	27.1	0.6	92	8.7	0.58	1.51	7542	134.92	159.00	8.2	14.3
179.0	32.1	1.0	91	8.7	0.59	1.54	7712	113.62	158.52	8.2	14.3
180.0	35.3	0.7	92	8.7	0.55	1.57	7867	103.47	157.93	8.2	14.3
182.0	35.0	0.8	89	8.7	0.56	1.62	8172	104.49	156.82	8.2	14.3
184.0	36.2	0.8	91	8.7	0.56	1.68	8475	100.94	155.68	8.2	14.3
186.0	39.6	1.0	95	8.7	0.56	1.73	8763	92.22	154.41	8.2	14.4
188.0	52.6	1.4	96	8.7	0.55	1.77	8983	69.49	152.74	8.2	14.4
190.0	22.8	1.1	92	8.7	0.65	1.85	9468	160.28	152.89	8.2	14.4
192.0	14.1	1.9	78	8.7	0.75	2.00	10129	259.19	154.89	8.2	14.4
194.0	9.7	1.8	86	8.7	0.83	2.20	11190	375.34	158.98	8.2	14.4
196.0	27.8	0.3	96	8.7	0.53	2.27	11603	131.37	158.47	8.2	14.4
198.0	24.7	1.3	95	8.7	0.66	2.35	12066	148.11	158.29	8.2	14.4
200.0	23.0	1.2	94	8.7	0.66	2.44	12558	158.76	158.30	8.2	14.4
202.0	12.2	1.7	95	8.7	0.80	2.60	13493	298.25	160.71	8.2	14.4
204.0	13.8	4.4	89	8.7	0.88	2.75	14268	263.76	162.46	8.2	14.4
206.0	10.6	3.9	92	8.7	0.92	2.94	15316	344.91	165.50	8.2	14.4
208.0	55.0	5.5	95	8.7	0.66	2.97	15523	66.45	163.87	8.2	14.4
210.0	51.8	6.2	94	8.7	0.69	3.01	15741	70.50	162.37	8.2	14.5
212.0	17.0	6.8	94	8.7	0.92	3.13	16404	215.06	163.20	8.2	14.5
214.0	42.4	3.2	89	8.7	0.64	3.18	16658	86.23	162.00	8.2	14.5
216.0	42.6	2.1	97	8.7	0.62	3.22	16931	85.72	160.83	8.2	14.5
218.0	46.8	2.3	98	8.7	0.61	3.27	17182	78.11	159.57	8.2	14.5
220.0	66.1	3.6	98	8.7	0.59	3.30	17359	55.29	158.02	8.2	14.5
222.0	47.4	2.8	98	8.7	0.63	3.34	17608	77.10	156.83	8.2	14.5
223.0	24.3	3.1	96	8.7	0.75	3.38	17844	150.32	156.78	8.2	14.5

BIT NUMBER	1	IADC CODE	111	INTERVAL	223.0- 816.0
HTC OSC3AJ		SIZE	17.500	NOZZLES	20 20 16
COST	4857.00	TRIP TIME	3.7	BIT RUN	593.0
TOTAL HOURS	10.01	TOTAL TURNS	89575	CONDITION	T0 B0 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
224.0	450.0	5.2	76	8.7	0.23	0.00	10	8	18378	8.2	14.5
225.0	171.4	5.6	75	8.7	0.43	0.01	36	21	9199	8.2	14.5
226.0	40.0	7.8	84	8.7	0.80	0.03	162	91	6163	8.2	14.5
227.0	157.0	5.0	75	8.7	0.44	0.04	191	23	4628	8.2	14.5
228.0	254.3	5.3	75	8.7	0.34	0.04	208	14	3706	8.2	14.5
229.0	342.9	11.2	94	8.7	0.38	0.05	225	11	3090	8.2	14.5
230.0	74.2	10.0	91	8.7	0.72	0.06	298	49	2655	8.2	14.5
232.0	144.0	12.6	92	8.7	0.59	0.07	375	25	2071	8.2	14.5
234.0	138.5	10.8	93	8.7	0.59	0.09	455	26	1699	8.2	14.6
236.0	107.5	11.3	92	8.7	0.65	0.11	559	34	1443	8.2	14.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
240.0	137.1	10.5	100	8.7	0.60	0.14	734	27	1110	8.2	14.6
242.0	257.1	5.6	150	8.7	0.49	0.14	804	14.20	994.42	8.2	14.6
244.0	225.0	5.4	150	8.7	0.51	0.15	884	16.23	901.26	8.2	14.6
246.0	184.6	6.8	150	8.7	0.58	0.16	981	19.78	824.61	8.2	14.6
248.0	225.0	1.0	150	8.7	0.40	0.17	1061	16.23	759.94	8.2	14.6
250.0	218.2	9.8	150	8.7	0.58	0.18	1144	16.74	704.89	8.2	14.6
252.0	266.7	9.7	150	8.7	0.53	0.19	1211	13.70	657.22	8.2	14.6
254.0	211.8	9.6	150	8.7	0.59	0.20	1296	17.25	615.93	8.2	14.6
258.0	104.0	11.2	150	8.7	0.77	0.24	1642	35.12	549.55	8.2	14.7
259.0	225.0	10.5	150	8.7	0.58	0.24	1682	16.23	534.74	8.2	14.7
260.0	257.1	10.3	150	8.7	0.55	0.25	1717	14.20	520.67	8.2	14.7
262.0	90.0	11.4	150	8.7	0.81	0.27	1917	40.58	496.05	8.2	14.7
263.0	81.8	12.0	150	8.7	0.84	0.28	2027	44.64	484.76	8.2	14.7
264.0	120.0	12.7	150	8.7	0.76	0.29	2102	30.43	473.68	8.2	14.7
267.0	171.4	4.8	150	8.7	0.56	0.31	2260	21.30	442.84	8.2	14.7
268.0	102.9	7.6	150	8.7	0.72	0.32	2347	35.51	433.79	8.2	14.7
269.0	171.4	10.1	150	8.7	0.64	0.32	2400	21.30	424.82	8.2	14.7
270.0	225.0	13.7	150	8.7	0.62	0.33	2440	16.23	416.12	8.2	14.7
272.0	240.0	14.0	150	8.7	0.60	0.33	2515	15.22	399.76	8.2	14.7
273.0	100.0	10.7	150	8.7	0.77	0.34	2605	36.52	392.50	8.2	14.7
274.0	171.4	12.0	150	8.7	0.66	0.35	2657	21.30	385.22	8.2	14.7
275.0	200.0	14.0	150	8.7	0.65	0.35	2702	18.26	378.16	8.2	14.7
276.0	85.7	9.2	150	8.7	0.79	0.37	2807	42.61	371.83	8.2	14.7
277.0	163.6	13.2	150	8.7	0.69	0.37	2862	22.32	365.36	8.2	14.7
278.0	225.0	16.4	150	8.7	0.64	0.38	2902	16.23	359.01	8.2	14.7
279.0	257.1	16.4	150	8.7	0.61	0.38	2937	14.20	352.85	8.2	14.7
280.0	257.1	15.0	150	8.7	0.59	0.38	2972	14.20	346.91	8.2	14.7
281.0	80.0	11.0	150	8.7	0.83	0.40	3085	45.65	341.72	8.2	14.7
282.0	163.6	13.6	150	8.7	0.69	0.40	3140	22.32	336.30	8.2	14.8
283.0	163.6	13.7	150	8.7	0.69	0.41	3195	22.32	331.07	8.2	14.8
284.0	43.9	11.3	150	8.7	0.98	0.43	3400	83.18	327.01	8.2	14.8
286.0	43.9	10.0	150	8.7	0.95	0.48	3810	83.18	319.27	8.2	14.8
287.0	138.5	11.7	150	8.7	0.71	0.48	3875	26.38	314.69	8.2	14.8
288.0	156.5	12.3	150	8.7	0.69	0.49	3932	23.33	310.21	8.2	14.8
290.0	171.4	12.5	150	8.7	0.67	0.50	4037	21.30	301.58	8.2	14.8
291.0	124.1	11.8	150	8.7	0.74	0.51	4110	29.42	297.58	8.2	14.8
292.0	144.0	13.1	150	8.7	0.72	0.52	4172	25.36	293.64	8.2	14.8
293.0	45.6	10.2	150	8.7	0.95	0.54	4370	80.14	290.59	8.2	14.8
294.0	133.3	12.2	150	8.7	0.73	0.55	4437	27.39	286.88	8.2	14.8
296.0	334.3	7.5	150	8.7	0.46	0.55	4491	10.92	279.32	8.2	14.8
297.0	452.3	12.5	150	8.7	0.44	0.56	4511	8.07	275.65	8.2	14.8
298.0	284.5	15.0	150	8.7	0.57	0.56	4543	12.84	272.15	8.2	14.8
299.0	356.2	12.5	150	8.7	0.49	0.56	4568	10.25	268.70	8.2	14.8
300.0	521.0	11.5	150	8.7	0.39	0.56	4585	7.01	265.30	8.2	14.8
301.0	720.0	14.8	150	8.7	0.33	0.57	4598	5.07	261.97	8.2	14.8
302.0	720.0	18.5	150	8.7	0.35	0.57	4610	5.07	258.72	8.2	14.8
303.0	257.1	16.0	150	8.7	0.60	0.57	4645	14.20	255.66	8.2	14.8
305.0	92.3	8.8	150	8.7	0.76	0.59	4840	39.56	250.39	8.2	14.8
306.0	105.9	9.8	150	8.7	0.75	0.60	4925	34.49	247.79	8.2	14.8
307.0	171.4	13.8	150	8.7	0.68	0.61	4978	21.30	245.09	8.2	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
308.0	163.6	13.9	150	8.7	0.70	0.61	5033	22.32	242.47	8.2	14.9
309.0	189.5	14.3	150	8.7	0.66	0.62	5080	19.27	239.88	8.2	14.9
310.0	225.0	14.2	150	8.7	0.62	0.62	5120	16.23	237.30	8.2	14.9
311.0	112.5	10.6	150	8.7	0.75	0.63	5200	32.46	234.98	8.2	14.9
312.0	112.5	10.5	150	8.7	0.74	0.64	5280	32.46	232.70	8.2	14.9
313.0	211.8	13.6	150	8.7	0.63	0.65	5323	17.25	230.31	8.2	14.9
314.0	200.0	14.4	150	8.7	0.65	0.65	5368	18.26	227.98	8.2	14.9
315.0	171.4	11.0	150	8.7	0.65	0.66	5420	21.30	225.73	8.2	14.9
316.0	225.0	8.4	150	8.7	0.56	0.66	5460	16.23	223.48	8.2	14.9
317.0	138.5	10.9	150	8.7	0.70	0.67	5525	26.38	221.38	8.2	14.9
318.0	200.0	13.7	150	8.7	0.64	0.67	5570	18.26	219.24	8.2	14.9
319.0	225.0	15.4	150	8.7	0.63	0.68	5610	16.23	217.13	8.2	14.9
320.0	180.0	14.9	150	8.7	0.68	0.68	5660	20.29	215.10	8.2	14.9
322.0	205.7	15.9	150	8.7	0.66	0.69	5748	17.75	211.11	8.2	14.9
323.0	225.0	16.2	150	8.7	0.64	0.70	5788	16.23	209.16	8.2	14.9
324.0	124.1	10.3	150	8.7	0.72	0.71	5860	29.42	207.38	8.2	14.9
325.0	150.0	7.3	150	8.7	0.63	0.71	5920	24.35	205.59	8.2	14.9
326.0	225.0	11.3	150	8.7	0.59	0.72	5960	16.23	203.75	8.2	14.9
327.0	257.1	15.6	150	8.7	0.60	0.72	5995	14.20	201.93	8.2	14.9
328.0	276.9	16.3	150	8.7	0.59	0.72	6028	13.19	200.13	8.2	14.9
329.0	257.1	18.0	150	8.7	0.62	0.73	6063	14.20	198.38	8.2	14.9
330.0	240.0	19.1	150	8.7	0.65	0.73	6100	15.22	196.67	8.2	14.9
332.0	257.1	17.8	150	8.7	0.62	0.74	6170	14.20	193.32	8.2	14.9
334.0	180.0	8.3	150	8.7	0.61	0.75	6270	20.29	190.20	8.2	15.0
335.0	257.1	11.3	150	8.7	0.56	0.75	6305	14.20	188.63	8.2	15.0
337.0	257.1	12.1	150	8.7	0.57	0.76	6375	14.20	185.57	8.2	15.0
338.0	225.0	12.5	150	8.7	0.60	0.77	6415	16.23	184.10	8.2	15.0
339.0	180.0	12.2	150	8.7	0.65	0.77	6465	20.29	182.68	8.2	15.0
340.0	211.8	13.3	150	8.7	0.63	0.78	6508	17.25	181.27	8.2	15.0
343.0	133.3	2.9	150	8.7	0.56	0.80	6710	27.39	177.42	8.2	15.0
344.0	180.0	6.3	150	8.7	0.58	0.81	6760	20.29	176.12	8.2	15.0
345.0	257.1	10.9	150	8.7	0.56	0.81	6795	14.20	174.80	8.2	15.0
346.0	240.0	11.6	150	8.7	0.58	0.81	6833	15.22	173.50	8.2	15.0
347.0	276.9	13.0	150	8.7	0.56	0.82	6865	13.19	172.21	8.2	15.0
348.0	257.1	15.0	150	8.7	0.59	0.82	6900	14.20	170.94	8.2	15.0
350.0	248.3	15.4	150	8.7	0.61	0.83	6973	14.71	168.48	8.2	15.0
352.0	232.3	16.1	150	8.7	0.63	0.84	7050	15.72	166.11	8.2	15.0
353.0	133.3	16.1	150	8.7	0.77	0.85	7118	27.39	165.05	8.2	15.0
354.0	40.4	13.0	150	8.7	1.03	0.87	7340	90.29	164.48	8.2	15.0
355.0	150.0	15.7	150	8.7	0.74	0.88	7400	24.35	163.41	8.2	15.0
356.0	180.0	15.1	150	8.7	0.69	0.88	7450	20.29	162.34	8.2	15.0
357.0	211.8	15.9	150	8.7	0.65	0.89	7493	17.25	161.26	8.2	15.0
358.0	39.1	11.4	150	8.7	1.01	0.91	7723	93.33	160.75	8.2	15.0
359.0	150.0	15.4	150	8.7	0.73	0.92	7783	24.35	159.75	8.2	15.1
360.0	211.8	16.5	150	8.7	0.66	0.92	7825	17.25	158.71	8.2	15.1
362.0	77.4	11.5	150	8.7	0.85	0.95	8058	47.17	157.10	8.2	15.1
363.0	62.1	10.4	150	8.7	0.88	0.97	8203	58.84	156.40	8.2	15.1
364.0	102.9	12.8	150	8.7	0.80	0.98	8290	35.51	155.54	8.2	15.1
365.0	69.2	10.3	150	8.7	0.85	0.99	8420	52.75	154.82	8.2	15.1
366.0	211.8	14.8	150	8.7	0.64	0.99	8463	17.25	153.86	8.2	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
367.0	225.0	16.4	150	8.7	0.64	1.00	8503	16.23	152.90	8.2	15.1
368.0	225.0	16.8	150	8.7	0.64	1.00	8543	16.23	151.96	8.2	15.1
369.0	171.4	14.7	150	8.7	0.69	1.01	8595	21.30	151.07	8.2	15.1
370.0	180.0	15.1	150	8.7	0.68	1.01	8645	20.29	150.18	8.2	15.1
372.0	81.8	13.2	150	8.7	0.86	1.04	8865	44.64	148.76	8.2	15.1
373.0	189.5	15.8	150	8.7	0.68	1.04	8913	19.27	147.90	8.2	15.1
374.0	211.8	15.9	150	8.7	0.65	1.05	8955	17.25	147.03	8.2	15.1
375.0	64.3	12.9	150	8.7	0.91	1.06	9095	56.81	146.44	8.2	15.1
376.0	75.0	12.0	150	8.7	0.86	1.08	9215	48.69	145.80	8.2	15.1
377.0	70.6	12.5	150	8.7	0.88	1.09	9343	51.74	145.19	8.2	15.1
378.0	80.0	12.3	150	8.7	0.85	1.10	9455	45.65	144.55	8.2	15.1
379.0	138.5	15.1	150	8.7	0.75	1.11	9520	26.38	143.79	8.2	15.1
380.0	130.2	14.5	150	8.7	0.76	1.12	9589	28.05	143.05	8.2	15.1
381.0	124.1	16.0	150	8.7	0.79	1.13	9662	29.42	142.33	8.2	15.1
382.0	37.5	12.4	150	8.7	1.04	1.15	9902	97.39	142.05	8.2	15.1
383.0	211.8	16.8	150	8.7	0.66	1.16	9944	17.25	141.27	8.2	15.1
384.0	211.8	16.9	150	8.7	0.66	1.16	9987	17.25	140.50	8.2	15.1
385.0	211.8	16.5	150	8.7	0.66	1.17	10029	17.25	139.74	8.2	15.2
386.0	180.0	16.6	150	8.7	0.70	1.17	10079	20.29	139.01	8.2	15.2
387.0	36.0	11.1	150	8.7	1.02	1.20	10329	101.44	138.78	8.2	15.2
388.0	150.0	15.6	150	8.7	0.74	1.21	10389	24.35	138.08	8.2	15.2
389.0	171.4	17.0	150	8.7	0.72	1.21	10442	21.30	137.38	8.2	15.2
390.0	112.1	14.5	150	8.7	0.80	1.22	10522	32.58	136.75	8.2	15.2
391.0	70.6	11.7	150	8.7	0.87	1.24	10649	51.74	136.25	8.2	15.2
392.0	112.5	12.2	150	8.7	0.77	1.25	10729	32.46	135.63	8.2	15.2
393.0	124.1	13.3	150	8.7	0.76	1.25	10802	29.42	135.01	8.2	15.2
394.0	144.0	12.9	150	8.7	0.72	1.26	10864	25.36	134.37	8.2	15.2
395.0	180.0	14.3	150	8.7	0.68	1.27	10914	20.29	133.70	8.2	15.2
396.0	133.3	13.0	150	8.7	0.74	1.27	10982	27.39	133.09	8.2	15.2
397.0	72.0	11.3	150	8.7	0.86	1.29	11107	50.72	132.61	8.2	15.2
398.0	87.8	11.9	150	8.7	0.82	1.30	11209	41.59	132.09	8.2	15.2
399.0	156.5	15.8	150	8.7	0.73	1.31	11267	23.33	131.48	8.2	15.2
400.0	61.0	15.0	150	8.7	0.96	1.32	11414	59.85	131.07	8.2	15.2
401.0	92.3	15.0	150	8.7	0.85	1.33	11512	39.56	130.56	8.2	15.2
402.0	97.3	14.6	150	8.7	0.83	1.34	11604	37.53	130.04	8.2	15.2
403.0	56.2	12.3	150	8.7	0.94	1.36	11764	64.92	129.68	8.2	15.2
404.0	189.5	16.7	150	8.7	0.69	1.37	11812	19.27	129.07	8.2	15.2
405.0	124.1	14.8	150	8.7	0.77	1.37	11884	29.42	128.52	8.2	15.2
406.0	180.0	18.2	150	8.7	0.71	1.38	11934	20.29	127.93	8.2	15.2
407.0	150.0	18.2	150	8.7	0.76	1.39	11994	24.35	127.36	8.2	15.2
408.0	154.2	18.5	150	8.7	0.76	1.39	12053	23.68	126.80	8.2	15.2
409.0	135.6	17.5	150	8.7	0.78	1.40	12119	26.93	126.27	8.2	15.2
410.0	140.6	18.5	150	8.7	0.78	1.41	12183	25.97	125.73	8.2	15.2
411.0	140.9	15.3	150	8.7	0.75	1.42	12247	25.92	125.20	8.2	15.2
412.0	257.1	20.7	150	8.7	0.64	1.42	12282	14.20	124.61	8.2	15.3
413.0	257.1	19.8	150	8.7	0.63	1.42	12317	14.20	124.03	8.2	15.3
414.0	257.1	18.9	150	8.7	0.63	1.43	12352	14.20	123.46	8.2	15.3
415.0	240.0	19.7	150	8.7	0.65	1.43	12390	15.22	122.89	8.2	15.3
416.0	276.9	19.6	150	8.7	0.61	1.43	12422	13.19	122.32	8.2	15.3
417.0	225.0	18.9	150	8.7	0.66	1.44	12462	16.23	121.78	8.2	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
419.0	225.0	15.2	150	8.7	0.63	1.45	12542	16.23	120.70	8.2	15.3
420.0	257.1	17.6	150	8.7	0.62	1.45	12577	14.20	120.16	8.2	15.3
421.0	109.3	18.5	150	8.7	0.85	1.46	12659	33.41	119.72	8.2	15.3
422.0	92.3	13.7	150	8.7	0.84	1.47	12757	39.56	119.32	8.2	15.3
423.0	138.5	14.1	150	8.7	0.74	1.48	12822	26.38	118.85	8.2	15.3
424.0	180.0	17.2	150	8.7	0.70	1.48	12872	20.29	118.36	8.2	15.3
425.0	189.5	19.3	150	8.7	0.71	1.49	12919	19.27	117.87	8.2	15.3
426.0	163.6	19.5	150	8.7	0.75	1.50	12974	22.32	117.40	8.2	15.3
427.0	145.6	18.5	150	8.7	0.77	1.50	13036	25.08	116.95	8.2	15.3
428.0	100.5	15.6	150	8.7	0.84	1.51	13126	36.34	116.56	8.2	15.3
429.0	76.6	13.1	150	8.7	0.87	1.53	13243	47.68	116.22	8.2	15.3
430.0	85.7	16.2	150	8.7	0.88	1.54	13348	42.61	115.87	8.2	15.3
431.0	60.0	14.5	150	8.7	0.95	1.55	13498	60.87	115.60	8.2	15.3
432.0	100.0	18.9	150	8.7	0.88	1.56	13588	36.52	115.22	8.2	15.3
433.0	116.1	18.2	150	8.7	0.83	1.57	13666	31.45	114.82	8.2	15.3
434.0	102.9	18.6	150	8.7	0.87	1.58	13753	35.51	114.45	8.2	15.3
435.0	116.1	20.7	150	8.7	0.85	1.59	13831	31.45	114.06	8.2	15.3
436.0	61.0	22.0	150	8.7	1.04	1.61	13978	59.85	113.80	8.2	15.3
437.0	81.8	19.4	150	8.7	0.93	1.62	14088	44.64	113.48	8.2	15.3
438.0	59.0	18.4	150	8.7	1.01	1.64	14241	61.88	113.24	8.2	15.3
439.0	50.7	16.4	150	8.7	1.02	1.66	14418	72.03	113.05	8.2	15.4
440.0	90.0	20.5	150	8.7	0.92	1.67	14518	40.58	112.71	8.2	15.4
441.0	78.3	20.2	150	8.7	0.96	1.68	14633	46.66	112.41	8.2	15.4
442.0	120.0	20.3	150	8.7	0.84	1.69	14708	30.43	112.04	8.2	15.4
443.0	92.3	20.9	150	8.7	0.92	1.70	14806	39.56	111.71	8.2	15.4
444.0	92.3	19.5	150	8.7	0.90	1.71	14903	39.56	111.38	8.2	15.4
445.0	59.0	20.6	150	8.7	1.04	1.73	15056	61.88	111.16	8.2	15.4
446.0	105.9	19.1	150	8.7	0.86	1.74	15141	34.49	110.81	8.2	15.4
447.0	87.8	16.9	150	8.7	0.89	1.75	15243	41.59	110.51	8.2	15.4
448.0	112.5	20.8	150	8.7	0.86	1.76	15323	32.46	110.16	8.2	15.4
449.0	20.8	13.4	150	8.7	1.20	1.81	15756	175.50	110.45	8.2	15.4
450.0	124.1	17.9	150	8.7	0.81	1.81	15828	29.42	110.09	8.2	15.4
451.0	133.3	19.2	150	8.7	0.80	1.82	15896	27.39	109.73	8.2	15.4
452.0	109.1	16.3	150	8.7	0.82	1.83	15978	33.48	109.40	8.2	15.4
453.0	150.0	21.2	150	8.7	0.79	1.84	16038	24.35	109.03	8.2	15.4
454.0	138.5	23.2	150	8.7	0.83	1.84	16103	26.38	108.67	8.2	15.4
455.0	128.5	20.5	150	8.7	0.83	1.85	16173	28.42	108.32	8.2	15.4
456.0	100.5	18.9	150	8.7	0.87	1.86	16263	36.34	108.01	8.2	15.4
457.0	109.6	17.7	150	8.7	0.84	1.87	16345	33.33	107.69	8.2	15.4
458.0	83.7	15.5	150	8.7	0.88	1.88	16453	43.62	107.42	8.2	15.4
459.0	67.9	16.2	150	8.8	0.93	1.90	16585	53.77	107.19	8.2	15.4
460.0	46.8	15.7	150	8.8	1.02	1.92	16778	78.11	107.07	8.2	15.4
461.0	85.7	18.4	150	8.8	0.90	1.93	16883	42.61	106.80	8.2	15.4
462.0	105.9	19.7	150	8.8	0.86	1.94	16968	34.49	106.50	8.2	15.4
463.0	94.7	18.5	150	8.8	0.88	1.95	17063	38.55	106.21	8.2	15.4
464.0	144.0	22.7	150	8.8	0.80	1.96	17125	25.36	105.88	8.2	15.4
465.0	112.5	21.7	150	8.8	0.86	1.97	17205	32.46	105.58	8.2	15.4
466.0	97.3	19.4	150	8.8	0.88	1.98	17298	37.53	105.30	8.2	15.5
467.0	62.1	17.3	150	8.8	0.97	1.99	17443	58.84	105.11	8.2	15.5
468.0	54.5	15.3	150	8.8	0.98	2.01	17608	66.95	104.95	8.2	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
469.0	225.0	22.3	150	8.8	0.68	2.02	17648	16.23	104.59	8.2	15.5
470.0	150.0	22.9	150	8.8	0.80	2.02	17708	24.35	104.26	8.2	15.5
471.0	120.0	21.3	150	8.8	0.84	2.03	17783	30.43	103.97	8.2	15.5
472.0	87.8	18.2	150	8.8	0.89	2.04	17885	41.59	103.72	8.2	15.5
473.0	138.5	23.7	150	8.8	0.82	2.05	17950	26.38	103.41	8.2	15.5
474.0	150.0	24.8	150	8.8	0.81	2.06	18010	24.35	103.09	8.2	15.5
475.0	124.1	21.0	150	8.8	0.83	2.06	18083	29.42	102.80	8.2	15.5
476.0	102.9	17.5	150	8.8	0.84	2.07	18170	35.51	102.53	8.2	15.5
477.0	100.0	19.0	150	8.8	0.87	2.08	18260	36.52	102.27	8.2	15.5
478.0	58.1	17.3	150	8.8	0.99	2.10	18415	62.90	102.12	8.2	15.5
479.0	144.0	19.1	150	8.8	0.77	2.11	18478	25.36	101.82	8.2	15.5
480.0	189.5	21.0	150	8.8	0.72	2.11	18525	19.27	101.50	8.2	15.5
481.0	136.5	20.1	150	8.8	0.80	2.12	18591	26.75	101.21	8.2	15.5
482.0	100.0	19.5	150	8.8	0.87	2.13	18681	36.52	100.96	8.2	15.5
483.0	156.5	23.2	150	8.8	0.79	2.14	18739	23.33	100.66	8.2	15.5
484.0	136.0	25.4	150	8.8	0.84	2.14	18805	26.85	100.38	8.2	15.5
485.0	120.0	21.2	150	8.8	0.84	2.15	18880	30.43	100.11	8.2	15.5
486.0	53.7	16.2	150	8.8	0.99	2.17	19047	67.97	99.99	8.2	15.5
487.0	112.5	21.8	150	8.8	0.86	2.18	19127	32.46	99.73	8.2	15.5
488.0	42.4	16.0	150	8.8	1.05	2.20	19340	86.23	99.68	8.2	15.5
489.0	53.7	18.6	150	8.8	1.03	2.22	19507	67.97	99.56	8.2	15.5
490.0	105.9	24.9	150	8.8	0.91	2.23	19592	34.49	99.32	8.2	15.5
491.0	67.9	20.3	150	8.8	0.98	2.25	19725	53.77	99.15	8.2	15.5
492.0	72.0	25.3	150	8.8	1.02	2.26	19850	50.72	98.97	8.2	15.5
493.0	171.4	25.3	150	8.8	0.78	2.27	19902	21.30	98.68	8.2	15.5
494.0	120.4	18.5	150	8.8	0.81	2.27	19977	30.33	98.43	8.2	15.6
495.0	40.6	14.3	150	8.8	1.04	2.30	20199	90.03	98.40	8.2	15.6
496.0	180.0	21.6	150	8.8	0.73	2.30	20249	20.29	98.11	8.2	15.6
497.0	87.8	20.2	150	8.8	0.91	2.32	20351	41.59	97.91	8.2	15.6
498.0	116.1	20.6	150	8.8	0.84	2.32	20429	31.45	97.66	8.2	15.6
499.0	83.7	18.4	150	8.8	0.91	2.34	20536	43.62	97.47	8.2	15.6
500.0	109.1	20.5	150	8.8	0.86	2.35	20619	33.48	97.24	8.2	15.6
501.0	142.0	21.2	150	8.8	0.80	2.35	20682	25.72	96.98	8.2	15.6
502.0	184.6	25.5	150	8.8	0.76	2.36	20731	19.78	96.70	8.2	15.6
503.0	138.5	23.9	150	8.8	0.83	2.37	20796	26.38	96.45	8.2	15.6
514.0	180.0	6.2	150	8.8	0.57	2.43	21346	20.29	93.57	8.2	15.6
515.0	211.8	24.0	150	8.9	0.70	2.43	21388	17.25	93.31	8.2	15.6
516.0	128.6	19.3	150	8.9	0.80	2.44	21458	28.40	93.09	8.2	15.6
517.0	200.0	21.3	150	8.9	0.70	2.44	21503	18.26	92.84	8.2	15.6
518.0	240.0	22.7	150	8.9	0.66	2.45	21541	15.22	92.57	8.2	15.6
519.0	45.6	15.3	150	8.9	1.01	2.47	21738	80.14	92.53	8.2	15.6
520.0	120.5	20.5	150	8.9	0.82	2.48	21813	30.31	92.32	8.2	15.6
521.0	218.2	24.0	150	8.9	0.69	2.48	21854	16.74	92.07	8.2	15.6
522.0	101.0	20.0	150	8.9	0.86	2.49	21943	36.16	91.88	8.2	15.6
523.0	37.9	18.4	150	8.9	1.10	2.52	22181	96.37	91.89	8.2	15.7
524.0	46.2	17.7	150	8.9	1.04	2.54	22376	79.13	91.85	8.2	15.7
525.0	64.3	23.4	150	8.9	1.02	2.56	22516	56.81	91.74	8.2	15.7
526.0	60.0	23.1	150	8.9	1.04	2.57	22666	60.87	91.63	8.2	15.7
527.0	58.1	22.2	150	8.9	1.04	2.59	22821	62.90	91.54	8.2	15.7
528.0	37.9	19.9	150	8.9	1.12	2.62	23058	96.37	91.56	8.2	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
529.0	53.7	20.8	150	8.9	1.04	2.64	23226	67.97	91.48	8.2	15.7
530.0	64.3	23.2	150	8.9	1.02	2.65	23366	56.81	91.37	8.2	15.7
531.0	78.3	24.0	150	8.9	0.97	2.66	23481	46.66	91.22	8.2	15.7
532.0	65.5	20.8	150	8.9	0.99	2.68	23618	55.76	91.11	8.2	15.7
533.0	42.4	19.6	150	8.9	1.09	2.70	23831	86.23	91.09	8.2	15.7
534.0	62.1	21.6	150	8.9	1.01	2.72	23976	58.84	90.99	8.2	15.7
535.0	66.7	21.9	150	8.9	0.99	2.73	24111	54.78	90.87	8.2	15.7
536.0	39.6	23.7	150	8.9	1.16	2.76	24338	92.31	90.88	8.2	15.7
537.0	70.6	26.3	150	8.9	1.02	2.77	24466	51.74	90.75	8.2	15.7
538.0	80.0	28.6	150	8.9	1.01	2.79	24578	45.65	90.61	8.2	15.7
539.0	53.7	28.4	150	8.9	1.12	2.80	24746	67.97	90.54	8.2	15.7
540.0	94.7	27.3	150	8.9	0.95	2.81	24841	38.55	90.37	8.2	15.7
541.0	34.3	30.0	150	8.9	1.27	2.84	25103	106.52	90.42	8.2	15.7
542.0	46.8	26.2	150	8.9	1.14	2.87	25296	78.11	90.38	8.2	15.7
543.0	58.1	22.9	150	8.9	1.04	2.88	25451	62.90	90.30	8.2	15.7
544.0	64.3	25.8	150	8.9	1.04	2.90	25591	56.81	90.19	8.2	15.7
545.0	39.6	28.0	150	8.9	1.20	2.92	25818	92.31	90.20	8.2	15.7
546.0	97.3	27.3	150	8.9	0.94	2.93	25911	37.53	90.04	8.2	15.7
547.0	28.6	31.8	150	8.9	1.34	2.97	26226	127.82	90.15	8.2	15.7
548.0	102.9	26.6	150	8.9	0.92	2.98	26313	35.51	89.99	8.2	15.7
549.0	24.2	29.6	150	8.9	1.36	3.02	26686	151.15	90.17	8.2	15.7
550.0	92.3	27.1	150	8.9	0.96	3.03	26783	39.56	90.02	8.2	15.7
551.0	75.5	22.3	150	8.9	0.97	3.04	26903	48.37	89.89	8.2	15.7
552.0	86.9	19.3	150	8.9	0.90	3.06	27006	42.03	89.75	8.2	15.8
553.0	80.0	24.3	150	8.9	0.97	3.07	27119	45.65	89.61	8.2	15.8
554.0	53.7	28.1	150	8.9	1.12	3.09	27286	67.97	89.55	8.2	15.8
555.0	65.5	27.1	150	8.9	1.05	3.10	27424	55.79	89.45	8.2	15.8
556.0	75.0	26.9	150	8.9	1.01	3.11	27544	48.69	89.32	8.2	15.8
557.0	69.2	27.6	150	8.9	1.04	3.13	27674	52.75	89.21	8.2	15.8
558.0	67.9	27.5	150	8.9	1.05	3.14	27806	53.77	89.11	8.2	15.8
559.0	70.6	27.9	150	8.9	1.04	3.16	27934	51.74	89.00	8.2	15.8
560.0	60.0	26.2	150	8.9	1.07	3.17	28084	60.87	88.91	8.2	15.8
561.0	75.0	23.7	150	8.9	0.98	3.19	28204	48.69	88.79	8.2	15.8
562.0	30.8	24.0	150	8.9	1.23	3.22	28496	118.69	88.88	8.2	15.8
563.0	33.6	20.2	150	8.9	1.15	3.25	28764	108.55	88.94	8.2	15.8
564.0	63.2	22.3	150	8.9	1.01	3.27	28906	57.82	88.85	8.2	15.8
565.0	47.4	22.6	150	9.0	1.08	3.29	29096	77.10	88.81	8.2	15.8
566.0	39.6	23.1	150	9.0	1.14	3.31	29324	92.31	88.82	8.2	15.8
567.0	60.0	22.4	150	9.0	1.02	3.33	29474	60.87	88.74	8.2	15.8
568.0	29.8	22.8	150	9.0	1.21	3.36	29776	122.75	88.84	8.2	15.8
569.0	54.5	21.9	150	9.0	1.04	3.38	29941	66.95	88.78	8.2	15.8
570.0	44.6	22.2	150	9.0	1.09	3.40	30143	81.88	88.76	8.2	15.8
571.0	45.8	20.6	150	9.0	1.07	3.43	30339	79.71	88.73	8.2	15.8
572.0	48.6	19.8	150	9.0	1.04	3.45	30524	75.07	88.69	8.2	15.8
573.0	45.6	20.6	150	9.0	1.07	3.47	30722	80.14	88.67	8.2	15.8
574.0	62.1	23.6	150	9.0	1.02	3.48	30867	58.84	88.58	8.2	15.8
575.0	75.0	23.6	150	9.0	0.97	3.50	30987	48.69	88.47	8.2	15.8
576.0	50.7	24.2	150	9.0	1.08	3.52	31164	72.03	88.42	8.2	15.8
577.0	48.0	22.2	150	9.0	1.07	3.54	31352	76.08	88.39	8.2	15.8
578.0	40.9	23.7	150	9.0	1.13	3.56	31572	89.27	88.39	8.2	15.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
579.0	22.6	25.6	150	9.0	1.32	3.61	31969	161.30	88.60	8.2	15.8
580.0	51.4	21.8	150	9.0	1.05	3.63	32144	71.01	88.55	8.2	15.8
581.0	19.8	21.8	150	9.0	1.30	3.68	32599	184.63	88.82	8.2	15.8
582.0	27.5	21.7	150	9.0	1.22	3.71	32927	132.89	88.94	8.2	15.9
583.0	39.6	24.8	150	9.0	1.16	3.74	33154	92.31	88.95	8.2	15.9
584.0	27.3	26.2	150	9.0	1.27	3.77	33484	133.91	89.07	8.2	15.9
585.0	33.3	23.8	150	9.0	1.19	3.80	33754	109.56	89.13	8.2	15.9
586.0	66.7	26.5	150	9.0	1.03	3.82	33889	54.78	89.03	8.2	15.9
587.0	51.4	27.3	150	9.0	1.11	3.84	34064	71.01	88.98	8.2	15.9
588.0	52.2	24.2	150	9.0	1.07	3.86	34237	69.96	88.93	8.2	15.9
589.0	41.1	23.9	150	9.0	1.14	3.88	34456	88.86	88.93	8.2	15.9
590.0	40.9	22.2	150	9.0	1.12	3.91	34676	89.27	88.93	8.2	15.9
591.0	40.0	21.9	150	9.0	1.12	3.93	34901	91.30	88.94	8.2	15.9
592.0	55.4	28.1	150	9.0	1.10	3.95	35063	65.94	88.88	8.2	15.9
593.0	52.2	24.3	150	9.0	1.08	3.97	35236	70.00	88.83	8.2	15.9
594.0	83.7	27.0	150	9.0	0.97	3.98	35343	43.62	88.70	8.2	15.9
595.0	34.0	27.1	150	9.0	1.22	4.01	35608	107.53	88.76	8.2	15.9
596.0	43.4	24.8	150	9.0	1.13	4.03	35816	84.20	88.74	8.2	15.9
597.0	52.2	25.4	150	9.0	1.09	4.05	35988	70.00	88.69	8.2	15.9
598.0	50.2	25.6	150	9.0	1.10	4.07	36168	72.75	88.65	8.2	15.9
599.0	51.4	26.2	150	9.0	1.10	4.09	36343	71.01	88.60	8.2	15.9
600.0	48.6	24.6	150	9.0	1.10	4.11	36528	75.07	88.57	8.2	15.9
601.0	57.1	26.6	150	9.0	1.07	4.13	36685	63.91	88.50	8.2	15.9
602.0	46.8	24.4	150	9.0	1.11	4.15	36878	78.11	88.47	8.2	15.9
603.0	53.7	26.8	150	9.0	1.09	4.17	37045	67.97	88.42	8.2	15.9
604.0	60.0	26.6	150	9.0	1.06	4.19	37195	60.87	88.35	8.2	15.9
605.0	78.3	27.8	150	9.0	1.00	4.20	37310	46.66	88.24	8.2	15.9
606.0	43.9	27.0	150	9.0	1.15	4.22	37515	83.18	88.23	8.2	15.9
607.0	46.8	27.3	150	9.0	1.14	4.24	37708	78.11	88.20	8.2	15.9
608.0	38.3	23.9	150	9.0	1.15	4.27	37943	95.36	88.22	8.2	15.9
609.0	52.2	25.0	150	9.0	1.08	4.29	38115	70.00	88.17	8.2	15.9
610.0	53.7	23.0	150	9.0	1.05	4.31	38283	67.97	88.12	8.2	15.9
611.0	60.0	26.4	150	9.0	1.06	4.32	38433	60.87	88.05	8.2	15.9
612.0	56.2	26.7	150	9.0	1.08	4.34	38593	64.92	87.99	8.2	16.0
613.0	57.1	23.2	150	9.0	1.04	4.36	38750	63.91	87.93	8.2	16.0
614.0	78.3	28.2	150	9.0	1.00	4.37	38865	46.66	87.82	8.2	16.0
615.0	41.9	28.3	150	9.0	1.18	4.40	39080	87.24	87.82	8.2	16.0
616.0	65.5	28.4	150	9.0	1.05	4.41	39218	55.79	87.74	8.2	16.0
617.0	50.7	25.6	150	9.0	1.10	4.43	39395	72.03	87.70	8.2	16.0
618.0	72.0	26.2	150	9.0	1.01	4.45	39520	50.72	87.61	8.2	16.0
619.0	51.4	23.6	150	9.0	1.07	4.46	39695	71.01	87.56	8.2	16.0
620.0	54.5	20.9	150	9.0	1.03	4.48	39860	66.95	87.51	8.2	16.0
621.0	52.9	26.1	150	9.0	1.09	4.50	40030	68.98	87.47	8.2	16.0
622.0	72.0	25.1	150	9.0	1.00	4.52	40155	50.72	87.37	8.2	16.0
623.0	69.2	27.6	150	9.0	1.03	4.53	40285	52.75	87.29	8.2	16.0
624.0	41.4	28.6	150	9.0	1.19	4.55	40503	88.26	87.29	8.2	16.0
625.0	97.3	27.7	150	9.0	0.94	4.56	40595	37.53	87.17	8.2	16.0
626.0	69.2	28.0	150	9.0	1.03	4.58	40725	52.75	87.08	8.2	16.0
627.0	51.4	24.9	150	9.0	1.09	4.60	40900	71.01	87.04	8.2	16.0
628.0	42.9	27.3	150	9.0	1.16	4.62	41110	85.21	87.04	8.2	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
629.0	80.0	26.8	150	9.0	0.98	4.63	41223	45.65	86.93	8.2	16.0
630.0	63.2	29.9	150	9.0	1.08	4.65	41365	57.82	86.86	8.2	16.0
631.0	49.3	29.9	150	9.0	1.15	4.67	41548	74.05	86.83	8.2	16.0
632.0	63.2	29.1	150	9.0	1.07	4.69	41690	57.82	86.76	8.2	16.0
633.0	48.6	28.5	150	9.0	1.14	4.71	41875	75.07	86.73	8.2	16.0
634.0	59.0	29.9	150	9.0	1.10	4.72	42028	61.88	86.67	8.2	16.0
635.0	62.1	30.1	150	9.0	1.08	4.74	42173	58.84	86.60	8.2	16.0
636.0	58.8	25.6	150	9.0	1.06	4.76	42326	62.11	86.54	8.2	16.0
637.0	93.9	26.8	150	9.0	0.94	4.77	42421	38.89	86.43	8.2	16.0
638.0	38.7	25.3	150	9.0	1.17	4.79	42654	94.34	86.45	8.2	16.0
639.0	63.2	26.9	150	9.0	1.05	4.81	42796	57.82	86.38	8.2	16.0
640.0	28.1	29.6	150	9.0	1.31	4.85	43116	129.85	86.48	8.2	16.0
641.0	54.5	28.8	150	9.0	1.11	4.86	43281	66.95	86.44	8.2	16.0
642.0	43.4	27.7	150	9.0	1.16	4.89	43489	84.20	86.43	8.2	16.0
643.0	64.3	28.4	150	9.0	1.06	4.90	43629	56.81	86.36	8.2	16.1
644.0	54.5	29.5	150	9.0	1.12	4.92	43794	66.95	86.31	8.2	16.1
645.0	53.2	29.2	150	9.0	1.12	4.94	43963	68.65	86.27	8.2	16.1
646.0	55.4	29.0	150	9.0	1.11	4.96	44126	65.94	86.22	8.2	16.1
647.0	60.0	27.2	150	9.0	1.07	4.97	44276	60.87	86.17	8.2	16.1
648.0	50.0	25.3	150	9.0	1.10	4.99	44456	73.04	86.13	8.2	16.1
649.0	67.9	28.0	150	9.0	1.04	5.01	44588	53.77	86.06	8.2	16.1
650.0	87.8	28.3	150	9.0	0.97	5.02	44691	41.59	85.95	8.2	16.1
651.0	64.3	28.9	150	9.0	1.06	5.04	44831	56.81	85.89	8.2	16.1
652.0	41.4	29.4	150	9.0	1.19	5.06	45048	88.26	85.89	8.2	16.1
653.0	55.4	28.2	150	9.0	1.10	5.08	45211	65.94	85.85	8.2	16.1
654.0	44.4	29.5	150	9.0	1.17	5.10	45413	82.17	85.84	8.2	16.1
655.0	42.2	26.8	150	9.0	1.16	5.12	45626	86.54	85.84	8.2	16.1
656.0	26.5	26.1	150	9.0	1.28	5.16	45966	137.67	85.96	8.2	16.1
657.0	44.4	25.3	150	9.0	1.13	5.18	46168	82.17	85.95	8.2	16.1
658.0	40.4	26.0	150	9.0	1.16	5.21	46391	90.29	85.96	8.2	16.1
659.0	48.6	26.5	150	9.0	1.12	5.23	46576	75.07	85.93	8.2	16.1
660.0	38.3	25.1	150	9.0	1.17	5.26	46811	95.36	85.96	8.2	16.1
661.0	44.4	27.7	150	9.0	1.16	5.28	47013	82.17	85.95	8.2	16.1
662.0	52.9	27.2	150	9.1	1.09	5.30	47183	68.98	85.91	8.2	16.1
663.0	45.0	26.3	150	9.1	1.13	5.32	47383	81.16	85.90	8.2	16.1
664.0	46.2	26.2	150	9.1	1.12	5.34	47578	79.13	85.88	8.2	16.1
665.0	45.0	27.0	150	9.1	1.13	5.36	47778	81.16	85.87	8.2	16.1
666.0	78.3	29.1	150	9.1	1.00	5.38	47893	46.66	85.78	8.2	16.1
667.0	60.0	29.9	150	9.1	1.08	5.39	48043	60.87	85.73	8.2	16.1
668.0	64.3	29.2	150	9.1	1.05	5.41	48183	56.81	85.66	8.2	16.1
669.0	44.4	28.3	150	9.1	1.15	5.43	48386	82.17	85.65	8.2	16.1
670.0	60.0	27.6	150	9.1	1.06	5.45	48536	60.87	85.60	8.2	16.1
671.0	46.2	27.7	150	9.1	1.13	5.47	48731	79.13	85.58	8.2	16.1
672.0	42.9	25.8	150	9.1	1.13	5.49	48941	85.21	85.58	8.2	16.1
673.0	48.0	26.8	150	9.1	1.11	5.51	49128	76.08	85.56	8.2	16.1
674.0	42.8	25.4	150	9.1	1.13	5.54	49338	85.33	85.56	8.2	16.2
675.0	43.2	24.7	150	9.1	1.12	5.56	49547	84.54	85.56	8.2	16.2
676.0	26.7	25.4	150	9.1	1.26	5.60	49884	136.95	85.67	8.2	16.2
677.0	46.8	26.2	150	9.1	1.11	5.62	50077	78.11	85.66	8.2	16.2
678.0	41.9	24.0	150	9.1	1.12	5.64	50292	87.24	85.66	8.2	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
679.0	27.5	21.9	150	9.1	1.21	5.68	50619	132.89	85.76	8.2	16.2
680.0	34.3	23.5	150	9.1	1.17	5.71	50882	106.52	85.81	8.2	16.2
681.0	43.9	25.7	150	9.1	1.12	5.73	51087	83.18	85.80	8.2	16.2
682.0	37.9	26.5	150	9.1	1.17	5.76	51324	96.37	85.83	8.2	16.2
683.0	25.7	24.3	150	9.1	1.25	5.80	51674	142.02	85.95	8.2	16.2
684.0	45.0	27.0	150	9.1	1.13	5.82	51874	81.16	85.94	8.2	16.2
685.0	45.6	24.3	150	9.1	1.10	5.84	52072	80.14	85.93	8.2	16.2
686.0	64.3	26.7	150	9.1	1.03	5.86	52212	56.81	85.86	8.2	16.2
687.0	48.0	23.3	150	9.1	1.07	5.88	52399	76.08	85.84	8.2	16.2
688.0	80.0	22.6	150	9.1	0.93	5.89	52512	45.65	85.75	8.2	16.2
689.0	47.4	27.9	150	9.1	1.13	5.91	52702	77.10	85.74	8.2	16.2
690.0	37.1	27.0	150	9.1	1.18	5.94	52944	98.40	85.76	8.2	16.2
691.0	35.6	26.1	150	9.1	1.19	5.97	53197	102.46	85.80	8.2	16.2
692.0	36.2	22.5	150	9.1	1.14	5.99	53445	100.88	85.83	8.2	16.2
693.0	35.0	22.6	150	9.1	1.15	6.02	53703	104.34	85.87	8.2	16.2
694.0	39.5	21.9	150	9.1	1.11	6.05	53930	92.43	85.88	8.2	16.2
695.0	32.1	22.0	150	9.1	1.17	6.08	54210	113.62	85.94	8.2	16.2
696.0	35.0	22.5	150	9.1	1.15	6.11	54468	104.49	85.98	8.2	16.2
697.0	37.9	22.1	150	9.1	1.12	6.13	54705	96.37	86.00	8.2	16.2
698.0	53.7	23.9	150	9.1	1.05	6.15	54873	67.97	85.97	8.2	16.2
699.0	49.3	22.7	150	9.1	1.06	6.17	55055	74.05	85.94	8.2	16.2
700.0	32.4	23.4	150	9.1	1.18	6.20	55333	112.60	86.00	8.2	16.2
701.0	32.7	23.3	150	9.1	1.18	6.23	55608	111.59	86.05	8.2	16.2
702.0	40.9	24.1	150	9.1	1.13	6.26	55828	89.27	86.06	8.2	16.2
703.0	28.8	22.8	150	9.1	1.20	6.29	56140	126.81	86.14	8.2	16.2
704.0	40.9	24.2	150	9.1	1.13	6.32	56360	89.27	86.15	8.2	16.2
705.0	38.7	24.6	150	9.1	1.15	6.34	56593	94.34	86.17	8.2	16.2
706.0	46.2	25.8	150	9.1	1.11	6.36	56788	79.13	86.15	8.2	16.3
707.0	64.3	25.6	150	9.1	1.02	6.38	56928	56.81	86.09	8.2	16.3
708.0	62.1	25.8	150	9.1	1.03	6.40	57073	58.84	86.03	8.2	16.3
709.0	46.2	24.1	150	9.1	1.09	6.42	57268	79.13	86.02	8.2	16.3
710.0	63.2	25.5	150	9.1	1.02	6.43	57410	57.82	85.96	8.2	16.3
711.0	48.0	26.3	150	9.1	1.11	6.45	57598	76.08	85.94	8.2	16.3
712.0	42.2	25.4	150	9.1	1.13	6.48	57811	86.54	85.94	8.2	16.3
713.0	49.7	22.9	150	9.1	1.06	6.50	57992	73.55	85.92	8.2	16.3
714.0	40.4	25.8	150	9.1	1.15	6.52	58215	90.29	85.93	8.2	16.3
715.0	32.7	26.5	150	9.1	1.21	6.55	58490	111.59	85.98	8.2	16.3
716.0	42.9	26.2	150	9.1	1.14	6.58	58700	85.21	85.98	8.2	16.3
717.0	40.0	26.1	150	9.1	1.15	6.60	58925	91.30	85.99	8.2	16.3
718.0	30.8	26.4	150	9.1	1.23	6.63	59217	118.69	86.05	8.2	16.3
719.0	51.4	25.5	150	9.1	1.08	6.65	59392	71.01	86.02	8.2	16.3
720.0	43.9	26.2	150	9.1	1.13	6.68	59597	83.18	86.02	8.2	16.3
721.0	39.0	24.2	150	9.1	1.14	6.70	59828	93.64	86.03	8.2	16.3
722.0	40.0	24.2	150	9.1	1.13	6.73	60053	91.30	86.04	8.2	16.3
723.0	31.6	24.6	150	9.1	1.20	6.76	60338	115.65	86.10	8.2	16.3
724.0	27.1	25.8	150	9.1	1.26	6.80	60671	134.92	86.20	8.2	16.3
725.0	29.0	25.5	150	9.1	1.24	6.83	60981	125.79	86.28	8.2	16.3
726.0	23.2	25.4	150	9.1	1.29	6.87	61368	157.24	86.42	8.2	16.3
727.0	23.7	23.9	150	9.1	1.27	6.92	61748	154.20	86.56	8.2	16.3
728.0	24.5	25.1	150	9.1	1.28	6.96	62116	149.12	86.68	8.2	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
729.0	25.4	24.5	150	9.1	1.26	7.00	62471	144.05	86.79	8.2	16.3
730.0	16.0	25.3	150	9.1	1.39	7.06	63033	228.25	87.07	8.2	16.3
731.0	45.0	24.0	150	9.1	1.10	7.08	63233	81.16	87.06	8.2	16.3
732.0	20.4	29.3	150	9.1	1.38	7.13	63675	179.22	87.24	8.2	16.3
733.0	29.3	30.0	150	9.1	1.28	7.16	63982	124.78	87.31	8.2	16.3
734.0	20.2	30.2	150	9.1	1.39	7.21	64427	180.57	87.50	8.2	16.3
735.0	25.4	31.8	150	9.1	1.35	7.25	64782	144.05	87.61	8.2	16.3
736.0	21.6	32.4	150	9.1	1.40	7.30	65200	169.41	87.77	8.2	16.3
737.0	31.3	31.1	150	9.1	1.28	7.33	65487	116.66	87.82	8.2	16.3
738.0	25.5	31.3	150	9.1	1.34	7.37	65840	143.04	87.93	8.2	16.3
739.0	30.0	31.6	150	9.1	1.30	7.40	66140	121.73	88.00	8.2	16.4
740.0	22.4	31.1	150	9.1	1.37	7.45	66542	163.33	88.14	8.2	16.4
741.0	30.5	30.1	150	9.1	1.27	7.48	66837	119.70	88.20	8.2	16.4
742.0	35.6	31.1	150	9.1	1.24	7.51	67090	102.46	88.23	8.2	16.4
743.0	33.0	32.1	150	9.1	1.27	7.54	67362	110.57	88.27	8.2	16.4
744.0	32.4	29.5	150	9.1	1.25	7.57	67640	112.60	88.32	8.2	16.4
745.0	23.8	24.0	150	9.1	1.27	7.61	68017	153.18	88.44	8.2	16.4
746.0	29.5	25.2	150	9.1	1.23	7.65	68322	123.76	88.51	8.2	16.4
747.0	36.7	25.3	150	9.1	1.17	7.67	68567	99.42	88.53	8.2	16.4
748.0	34.0	26.4	150	9.1	1.20	7.70	68832	107.53	88.57	8.2	16.4
749.0	28.6	27.3	150	9.1	1.26	7.74	69147	127.82	88.64	8.2	16.4
750.0	34.3	26.0	150	9.1	1.20	7.77	69410	106.52	88.68	8.2	16.4
751.0	36.4	27.1	150	9.1	1.19	7.79	69657	100.43	88.70	8.2	16.4
752.0	36.7	26.2	150	9.1	1.18	7.82	69902	99.42	88.72	8.2	16.4
753.0	38.3	25.5	150	9.1	1.16	7.85	70137	95.36	88.73	8.2	16.4
754.0	41.9	25.8	150	9.1	1.14	7.87	70352	87.24	88.73	8.2	16.4
755.0	38.3	25.3	150	9.1	1.16	7.90	70587	95.36	88.74	8.2	16.4
756.0	35.6	27.1	150	9.1	1.20	7.93	70840	102.46	88.77	8.2	16.4
757.0	28.1	24.2	150	9.1	1.23	7.96	71160	129.85	88.84	8.2	16.4
758.0	35.6	25.7	150	9.1	1.18	7.99	71412	102.46	88.87	8.2	16.4
759.0	33.6	24.2	150	9.1	1.18	8.02	71680	108.55	88.91	8.2	16.4
760.0	28.3	23.7	150	9.1	1.22	8.05	71997	128.83	88.98	8.2	16.4
761.0	52.9	24.6	150	9.1	1.06	8.07	72167	68.98	88.94	8.2	16.4
762.0	38.7	24.3	150	9.1	1.14	8.10	72400	94.34	88.95	8.2	16.4
763.0	40.0	24.5	150	9.1	1.14	8.12	72625	91.30	88.96	8.2	16.4
764.0	30.5	25.2	150	9.1	1.22	8.16	72920	119.70	89.02	8.2	16.4
765.0	30.0	24.3	150	9.1	1.21	8.19	73220	121.73	89.08	8.2	16.4
766.0	28.6	24.5	150	9.1	1.23	8.22	73535	127.82	89.15	8.2	16.4
767.0	26.3	24.0	150	9.1	1.24	8.26	73877	138.98	89.24	8.2	16.4
768.0	32.4	24.1	150	9.1	1.19	8.29	74155	112.60	89.28	8.2	16.4
769.0	35.6	26.1	150	9.1	1.19	8.32	74407	102.46	89.31	8.2	16.4
770.0	34.0	26.8	150	9.1	1.21	8.35	74672	107.53	89.34	8.2	16.4
771.0	33.3	26.5	150	9.1	1.21	8.38	74942	109.56	89.38	8.2	16.4
772.0	33.6	27.6	150	9.1	1.22	8.41	75210	108.55	89.41	8.2	16.5
773.0	27.5	25.9	150	9.1	1.25	8.45	75537	132.89	89.49	8.2	16.5
774.0	23.4	25.8	150	9.1	1.30	8.49	75922	156.22	89.61	8.2	16.5
775.0	23.8	24.4	150	9.1	1.28	8.53	76300	153.18	89.73	8.2	16.5
776.0	37.1	27.1	150	9.1	1.19	8.56	76542	98.40	89.74	8.2	16.5
777.0	30.0	22.5	150	9.1	1.19	8.59	76842	121.73	89.80	8.2	16.5
778.0	37.9	26.7	150	9.1	1.18	8.62	77080	96.37	89.81	8.2	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
779.0	35.0	24.3	150	9.1	1.17	8.65	77337	104.34	89.84	8.2	16.5
780.0	34.5	24.7	150	9.1	1.18	8.68	77598	105.79	89.87	8.2	16.5
781.0	29.3	24.4	150	9.1	1.22	8.71	77905	124.78	89.93	8.2	16.5
782.0	30.8	25.5	150	9.1	1.22	8.74	78198	118.69	89.98	8.2	16.5
783.0	25.9	26.2	150	9.1	1.28	8.78	78545	141.01	90.07	8.2	16.5
784.0	32.4	27.2	150	9.1	1.22	8.81	78823	112.60	90.11	8.2	16.5
785.0	42.4	25.5	150	9.1	1.13	8.84	79035	86.23	90.10	8.2	16.5
786.0	48.0	25.5	150	9.1	1.10	8.86	79223	76.08	90.08	8.2	16.5
787.0	39.1	25.1	150	9.1	1.15	8.88	79453	93.33	90.09	8.2	16.5
788.0	43.4	26.0	150	9.1	1.13	8.91	79660	84.20	90.07	8.2	16.5
789.0	25.9	21.8	150	9.1	1.22	8.94	80008	141.01	90.16	8.2	16.5
790.0	33.0	23.0	150	9.1	1.17	8.97	80280	110.57	90.20	8.2	16.5
791.0	33.0	22.7	150	9.1	1.17	9.00	80553	110.57	90.24	8.2	16.5
792.0	24.7	21.3	150	9.1	1.23	9.05	80918	148.11	90.34	8.2	16.5
793.0	31.9	22.2	150	9.1	1.17	9.08	81200	114.63	90.38	8.2	16.5
794.0	27.7	23.5	150	9.1	1.22	9.11	81525	131.88	90.45	8.2	16.5
795.0	26.3	24.6	150	9.1	1.25	9.15	81868	138.98	90.54	8.2	16.5
796.0	28.1	23.2	150	9.1	1.22	9.19	82188	129.85	90.61	8.2	16.5
797.0	25.9	22.9	150	9.1	1.23	9.22	82535	141.01	90.69	8.2	16.5
798.0	31.6	26.4	150	9.1	1.22	9.26	82820	115.65	90.74	8.2	16.5
799.0	23.2	25.1	150	9.1	1.29	9.30	83208	157.24	90.85	8.2	16.5
800.0	24.2	23.8	150	9.1	1.26	9.34	83580	151.15	90.96	8.2	16.5
801.0	35.3	26.9	150	9.1	1.20	9.37	83835	103.47	90.98	8.2	16.5
802.0	36.7	27.3	150	9.1	1.19	9.40	84080	99.42	90.99	8.2	16.5
803.0	20.5	26.0	150	9.1	1.34	9.45	84520	178.54	91.15	8.2	16.5
804.0	40.4	27.8	150	9.1	1.17	9.47	84743	90.29	91.14	8.2	16.5
805.0	28.3	27.1	150	9.1	1.26	9.51	85060	128.83	91.21	8.2	16.5
806.0	23.1	27.5	150	9.1	1.32	9.55	85450	158.25	91.32	8.2	16.5
807.0	34.3	25.9	150	9.1	1.19	9.58	85713	106.52	91.35	8.2	16.6
808.0	18.4	22.8	150	9.1	1.32	9.63	86203	198.83	91.53	8.2	16.6
809.0	19.3	23.6	150	9.1	1.32	9.68	86670	189.70	91.70	8.2	16.6
810.0	25.0	22.9	150	9.1	1.24	9.72	87030	146.08	91.79	8.2	16.6
811.0	20.1	22.5	150	9.1	1.30	9.77	87478	181.59	91.95	8.2	16.6
812.0	22.4	24.0	150	9.1	1.29	9.82	87880	163.33	92.07	8.2	16.6
813.0	20.6	24.5	150	9.1	1.32	9.87	88318	177.53	92.21	8.2	16.6
814.0	26.5	24.8	150	9.1	1.25	9.91	88658	137.96	92.29	8.2	16.6
815.0	15.7	23.8	150	9.1	1.38	9.97	89230	232.31	92.53	8.2	16.6
816.0	26.1	23.4	150	9.1	1.24	10.01	89575	139.99	92.61	8.2	16.6

BIT NUMBER	2	IADC CODE	116	INTERVAL	816.0- 1858.4
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	5.0	BIT RUN	1042.4
TOTAL HOURS	55.64	TOTAL TURNS	490747	CONDITION	T5 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
817.0	16.7	20.0	70	9.1	1.21	0.06	251	219	21173	8.2	16.6
818.0	17.5	22.5	70	9.1	1.24	0.12	491	209	10691	8.2	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
819.0	11.4	22.5	70	9.1	1.36	0.20	860	320	7234	8.2	16.6
820.0	23.7	24.2	70	9.1	1.17	0.25	1037	154	5464	8.2	16.6
821.0	17.9	22.4	70	9.1	1.23	0.30	1272	204	4412	8.2	16.6
822.0	24.3	27.2	70	9.1	1.20	0.34	1445	150	3702	8.2	16.6
823.0	34.5	30.0	70	9.1	1.13	0.37	1566	106	3188	8.2	16.6
824.0	31.3	27.4	70	9.1	1.13	0.40	1701	117	2804	8.2	16.6
825.0	40.9	27.8	70	9.1	1.05	0.43	1803	89	2502	8.2	16.6
826.0	24.2	24.5	119	9.1	1.33	0.47	2098	151	2267	8.2	16.6
827.2	27.7	32.1	120	9.1	1.39	0.51	2410	132	2039	8.2	16.6
827.5	22.5	32.2	120	9.1	1.46	0.53	2506	162	1990	8.2	16.6
827.7	42.4	30.9	120	9.1	1.24	0.53	2540	86	1957	8.2	16.6
828.0	56.8	32.3	120	9.1	1.16	0.54	2578	64	1910	8.2	16.6
829.0	48.0	31.0	120	9.1	1.20	0.56	2728	76	1769	8.2	16.6
830.0	36.4	30.5	120	9.1	1.28	0.59	2926	100	1650	8.2	16.6
831.0	34.3	31.5	120	9.1	1.31	0.61	3136	107	1547	8.2	16.6
832.0	30.8	29.8	120	9.1	1.33	0.65	3370	119	1457	8.2	16.6
833.0	21.8	28.2	120	9.1	1.41	0.69	3700	167	1382	8.2	16.6
834.0	44.4	26.1	120	9.1	1.17	0.72	3862	82	1309	8.2	16.6
835.0	39.6	30.6	120	9.1	1.26	0.74	4044	92	1245	8.2	16.6
836.0	36.7	30.3	120	9.1	1.28	0.77	4240	99	1188	8.2	16.6
837.0	26.7	31.2	120	9.1	1.39	0.81	4510	137	1138	8.2	16.6
838.0	44.4	29.6	120	9.1	1.21	0.83	4672	82	1090	8.2	16.6
839.0	42.4	30.8	120	9.1	1.24	0.85	4842	86	1046	8.2	16.6
840.0	36.4	26.8	120	9.1	1.24	0.88	5040	100	1007	8.2	16.6
841.0	66.7	29.9	120	9.1	1.09	0.89	5148	54.78	968.80	8.2	16.7
842.0	39.1	26.2	120	9.1	1.21	0.92	5332	93.33	935.13	8.2	16.7
843.0	36.7	28.3	120	9.1	1.25	0.95	5528	99.42	904.18	8.2	16.7
844.0	43.4	29.9	120	9.1	1.22	0.97	5694	84.20	874.89	8.2	16.7
845.0	47.4	29.2	120	9.1	1.19	0.99	5846	77.10	847.38	8.2	16.7
846.0	44.4	28.5	120	9.1	1.20	1.01	6008	82.17	821.88	8.2	16.7
847.0	57.1	30.6	120	9.1	1.14	1.03	6134	63.91	797.43	8.2	16.7
848.0	34.3	30.3	120	9.1	1.30	1.06	6344	106.52	775.84	8.2	16.7
849.0	41.9	30.9	120	9.1	1.24	1.08	6516	87.24	754.97	8.2	16.7
850.0	41.4	29.1	120	9.1	1.23	1.11	6690	88.26	735.36	8.2	16.7
851.0	38.3	29.7	120	9.1	1.26	1.13	6878	95.36	717.07	8.2	16.7
852.0	25.5	30.5	120	9.1	1.39	1.17	7160	143.04	701.13	8.2	16.7
853.0	18.5	23.7	120	9.1	1.40	1.23	7550	197.82	687.53	8.2	16.7
854.0	24.3	23.9	120	9.1	1.32	1.27	7846	150.14	673.38	8.2	16.7
855.0	28.8	23.9	120	9.1	1.27	1.30	8096	126.81	659.37	8.2	16.7
856.0	23.7	20.1	120	9.1	1.27	1.35	8400	154.20	646.74	8.2	16.7
857.0	30.0	24.3	120	9.1	1.26	1.38	8640	121.73	633.93	8.2	16.7
858.0	14.0	24.7	120	9.1	1.49	1.45	9154	260.71	625.05	8.2	16.7
859.0	19.7	23.7	120	9.1	1.38	1.50	9520	185.64	614.83	8.2	16.7
860.0	19.7	24.2	120	9.1	1.38	1.55	9886	185.64	605.08	8.2	16.7
861.0	20.2	24.3	120	9.1	1.38	1.60	10242	180.57	595.64	8.2	16.7
862.0	20.3	25.6	120	9.1	1.40	1.65	10596	179.56	586.60	8.2	16.7
863.0	22.1	27.4	120	9.1	1.40	1.70	10922	165.35	577.63	8.2	16.7
864.0	34.3	27.9	120	9.1	1.27	1.73	11132	106.52	567.82	8.2	16.7
865.0	26.3	29.4	120	9.1	1.37	1.76	11406	138.98	559.07	8.2	16.7
866.0	26.3	31.0	120	9.1	1.39	1.80	11680	138.98	550.67	8.2	16.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
867.0	24.5	30.4	120	9.1	1.41	1.84	11974	149.12	542.79	8.2	16.7
868.0	33.0	29.3	120	9.1	1.30	1.87	12192	110.57	534.48	8.2	16.7
869.0	28.6	29.1	120	9.1	1.34	1.91	12444	127.82	526.81	8.2	16.7
870.0	23.1	28.5	120	9.1	1.40	1.95	12756	158.25	519.98	8.2	16.7
871.0	27.9	28.8	120	9.1	1.34	1.99	13014	130.86	512.91	8.2	16.7
872.0	21.7	30.1	120	9.1	1.44	2.03	13346	168.40	506.76	8.2	16.7
873.0	24.0	31.4	120	9.1	1.42	2.07	13646	152.17	500.53	8.2	16.7
874.0	17.2	31.7	120	9.1	1.53	2.13	14064	212.02	495.56	8.2	16.7
875.0	26.3	31.2	120	9.1	1.39	2.17	14338	138.98	489.52	8.2	16.7
876.0	29.3	32.1	120	9.1	1.37	2.20	14584	124.78	483.44	8.2	16.7
877.0	23.7	28.1	120	9.1	1.39	2.25	14888	154.20	478.04	8.2	16.8
878.0	32.7	30.0	120	9.1	1.31	2.28	15108	111.59	472.13	8.2	16.8
879.0	32.7	31.6	120	9.1	1.33	2.31	15328	111.59	466.41	8.2	16.8
880.0	33.6	30.8	120	9.1	1.31	2.34	15542	108.55	460.81	8.2	16.8
881.0	38.7	28.9	120	9.1	1.24	2.36	15728	94.34	455.18	8.2	16.8
882.0	33.3	33.3	120	9.1	1.34	2.39	15944	109.56	449.94	8.2	16.8
883.0	48.6	37.6	120	9.1	1.27	2.41	16092	75.07	444.35	8.2	16.8
885.0	36.5	34.4	120	9.1	1.33	2.47	16487	100.18	434.37	8.2	16.8
886.0	26.7	34.5	120	9.1	1.43	2.51	16757	136.95	430.12	8.2	16.8
887.0	21.4	34.5	120	9.1	1.50	2.55	17093	170.43	426.46	8.2	16.8
888.0	19.6	34.0	120	9.1	1.52	2.60	17461	186.66	423.13	8.2	16.8
889.0	20.0	34.0	120	9.1	1.52	2.65	17821	182.60	419.84	8.2	16.8
890.0	21.7	32.2	120	9.1	1.47	2.70	18153	168.40	416.44	8.2	16.8
891.0	26.9	32.0	120	9.1	1.40	2.74	18421	135.94	412.70	8.2	16.8
892.0	31.3	31.5	120	9.1	1.34	2.77	18651	116.66	408.80	8.2	16.8
893.0	30.5	31.3	120	9.1	1.35	2.80	18887	119.70	405.05	8.2	16.8
894.0	38.7	31.2	120	9.1	1.27	2.83	19073	94.34	401.07	8.2	16.8
895.0	40.9	30.4	120	9.1	1.25	2.85	19249	89.27	397.12	8.2	16.8
896.0	37.5	30.7	120	9.1	1.28	2.88	19441	97.39	393.37	8.2	16.8
897.0	33.3	30.7	120	9.1	1.31	2.91	19657	109.56	389.87	8.2	16.8
898.0	36.7	31.3	120	9.1	1.29	2.94	19853	99.42	386.33	8.2	16.8
899.0	34.3	30.6	120	9.1	1.30	2.97	20063	106.52	382.96	8.2	16.8
900.0	25.4	29.3	120	9.1	1.38	3.01	20347	144.05	380.11	8.2	16.8
901.0	28.1	29.7	120	9.1	1.35	3.04	20603	129.85	377.17	8.2	16.8
902.0	31.6	29.7	120	9.1	1.32	3.07	20831	115.65	374.13	8.2	16.8
903.0	40.0	29.6	120	9.1	1.24	3.10	21011	91.30	370.88	8.2	16.8
904.0	32.4	29.6	120	9.1	1.31	3.13	21233	112.60	367.94	8.2	16.8
905.0	19.8	28.1	120	9.1	1.44	3.18	21597	184.63	365.88	8.2	16.8
906.0	18.9	28.2	120	9.1	1.46	3.23	21977	192.74	363.96	8.2	16.8
907.0	17.9	28.5	120	9.1	1.48	3.29	22379	203.90	362.20	8.2	16.8
908.0	24.3	28.3	120	9.1	1.38	3.33	22675	150.14	359.89	8.2	16.8
909.0	25.4	27.6	120	9.1	1.36	3.37	22959	144.05	357.57	8.2	16.8
910.0	27.7	29.9	120	9.1	1.36	3.40	23219	131.88	355.17	8.2	16.8
911.0	24.3	29.6	120	9.1	1.40	3.45	23515	150.14	353.01	8.2	16.8
912.0	17.6	29.6	120	9.1	1.50	3.50	23925	207.96	351.50	8.2	16.8
913.0	23.7	28.4	120	9.1	1.39	3.54	24229	154.20	349.47	8.2	16.8
914.0	39.6	28.7	120	9.1	1.24	3.57	24411	92.31	346.84	8.2	16.9
915.0	29.5	29.2	120	9.1	1.33	3.60	24655	123.76	344.59	8.2	16.9
916.0	22.8	29.4	120	9.1	1.42	3.65	24971	160.28	342.75	8.2	16.9
917.0	29.3	28.9	120	9.1	1.33	3.68	25217	124.78	340.59	8.2	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
918.0	51.4	29.8	120	9.1	1.17	3.70	25357	71.01	337.95	8.2	16.9
919.0	35.3	31.7	120	9.1	1.31	3.73	25561	103.47	335.67	8.2	16.9
920.0	32.1	32.9	120	9.1	1.35	3.76	25785	113.62	333.53	8.2	16.9
921.0	22.8	31.2	120	9.1	1.44	3.80	26101	160.28	331.88	8.2	16.9
922.0	28.1	32.5	120	9.1	1.39	3.84	26357	129.85	329.98	8.2	16.9
923.0	20.3	32.2	120	9.1	1.49	3.89	26711	179.56	328.57	8.2	16.9
924.0	18.9	32.7	120	9.1	1.52	3.94	27091	192.74	327.32	8.2	16.9
925.0	17.0	29.7	120	9.1	1.51	4.00	27515	215.06	326.29	8.2	16.9
926.0	21.6	33.8	120	9.1	1.49	4.05	27849	169.41	324.86	8.2	16.9
927.0	22.9	34.1	120	9.1	1.47	4.09	28163	159.27	323.37	8.2	16.9
928.0	23.2	30.1	120	9.1	1.42	4.13	28473	157.24	321.88	8.2	16.9
929.0	28.1	30.3	120	9.1	1.36	4.17	28729	129.85	320.18	8.2	16.9
930.0	32.4	31.1	120	9.1	1.33	4.20	28951	112.60	318.36	8.2	16.9
931.0	31.3	30.8	120	9.1	1.33	4.23	29181	116.66	316.61	8.2	16.9
932.0	28.3	30.9	120	9.1	1.37	4.27	29435	128.83	314.99	8.2	16.9
933.0	24.3	32.0	120	9.1	1.43	4.31	29731	150.14	313.58	8.2	16.9
934.0	19.6	31.8	120	9.1	1.49	4.36	30099	186.66	312.51	8.2	16.9
935.0	18.4	32.1	120	9.1	1.52	4.41	30491	198.83	311.55	8.2	16.9
936.0	16.8	31.8	120	9.1	1.54	4.47	30919	217.09	310.76	8.2	16.9
937.0	12.0	31.2	120	9.1	1.64	4.56	31519	304.33	310.71	8.2	16.9
938.0	32.4	36.5	120	9.1	1.39	4.59	31741	112.60	309.09	8.2	16.9
939.0	39.6	35.7	120	9.1	1.32	4.61	31923	92.31	307.32	8.2	16.9
940.0	44.4	36.8	120	9.1	1.29	4.64	32085	82.17	305.51	8.2	16.9
941.0	41.9	36.6	120	9.1	1.31	4.66	32257	87.24	303.76	8.2	16.9
942.0	34.0	36.2	120	9.1	1.37	4.69	32469	107.53	302.21	8.2	16.9
943.0	31.3	35.8	120	9.1	1.39	4.72	32699	116.66	300.74	8.2	16.9
944.0	34.6	37.0	120	9.1	1.37	4.75	32907	105.50	299.22	8.2	16.9
945.0	29.3	37.0	120	9.1	1.43	4.78	33153	124.78	297.87	8.2	16.9
946.0	24.3	37.2	123	9.1	1.50	4.83	33455	150.14	296.73	8.2	16.9
947.0	21.6	33.6	150	9.1	1.56	4.87	33873	169.41	295.76	8.2	16.9
948.0	31.0	36.3	150	9.1	1.48	4.90	34163	117.68	294.41	8.2	16.9
949.0	33.6	36.2	150	9.1	1.45	4.93	34430	108.55	293.01	8.2	16.9
950.0	32.4	34.1	150	9.1	1.43	4.96	34708	112.60	291.67	8.2	16.9
951.0	29.5	36.5	150	9.1	1.50	5.00	35013	123.76	290.42	8.2	17.0
952.0	37.9	41.7	150	9.1	1.47	5.02	35250	96.37	289.00	8.2	17.0
953.0	34.6	38.9	150	9.1	1.47	5.05	35510	105.50	287.66	8.2	17.0
954.0	46.8	39.7	150	9.1	1.38	5.07	35703	78.11	286.14	8.2	17.0
955.0	50.0	41.2	150	9.1	1.37	5.09	35883	73.04	284.60	8.2	17.0
956.0	41.2	38.0	150	9.1	1.40	5.12	36101	88.64	283.20	8.2	17.0
957.0	34.3	32.5	150	9.1	1.40	5.15	36364	106.52	281.95	8.2	17.0
958.0	40.4	36.9	150	9.1	1.40	5.17	36586	90.29	280.60	8.2	17.0
959.0	25.9	31.1	150	9.1	1.47	5.21	36934	141.01	279.63	8.2	17.0
960.0	24.0	30.0	150	9.1	1.48	5.25	37309	152.17	278.74	8.2	17.0
961.0	28.8	32.1	150	9.1	1.45	5.29	37621	126.81	277.69	8.2	17.0
962.0	26.1	31.9	150	9.1	1.48	5.33	37966	139.99	276.75	8.2	17.0
963.0	24.3	32.5	150	9.1	1.51	5.37	38336	150.14	275.89	8.2	17.0
964.0	25.7	32.3	150	9.1	1.49	5.41	38686	142.02	274.98	8.2	17.0
965.0	26.1	31.5	150	9.1	1.47	5.44	39031	139.99	274.08	8.2	17.0
966.0	16.6	30.6	150	9.1	1.60	5.50	39574	220.13	273.72	8.2	17.0
967.0	28.8	37.6	150	9.1	1.52	5.54	39886	126.81	272.75	8.2	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
968.0	32.4	37.1	150	9.1	1.47	5.57	40164	112.60	271.69	8.2	17.0
969.0	42.4	38.1	150	9.1	1.39	5.59	40376	86.23	270.48	8.2	17.0
970.0	49.3	40.3	150	9.1	1.37	5.61	40559	74.05	269.20	8.2	17.0
971.0	31.0	38.7	150	9.1	1.50	5.65	40849	117.68	268.23	8.2	17.0
972.0	30.3	36.9	150	9.1	1.49	5.68	41146	120.72	267.28	8.2	17.0
973.0	46.2	41.2	150	9.1	1.40	5.70	41341	79.13	266.08	8.2	17.0
974.0	36.7	38.1	150	9.1	1.44	5.73	41586	99.42	265.03	8.2	17.0
975.0	26.1	36.8	150	9.1	1.54	5.77	41931	139.99	264.24	8.2	17.0
976.0	27.7	37.0	150	9.1	1.52	5.80	42256	131.88	263.41	8.2	17.0
977.0	27.7	38.4	150	9.1	1.54	5.84	42581	131.88	262.60	8.2	17.0
978.0	26.9	37.4	150	9.1	1.54	5.88	42916	135.94	261.81	8.2	17.0
979.0	31.9	37.5	150	9.1	1.48	5.91	43199	114.63	260.91	8.2	17.0
980.0	21.6	29.8	150	9.1	1.51	5.95	43616	169.41	260.35	8.2	17.0
981.0	27.5	39.3	150	9.1	1.55	5.99	43944	132.89	259.58	8.2	17.0
982.0	30.0	39.0	150	9.1	1.52	6.02	44244	121.73	258.75	8.2	17.0
983.0	30.3	39.4	150	9.1	1.52	6.06	44541	120.72	257.92	8.2	17.0
984.0	30.0	39.4	150	9.1	1.52	6.09	44841	121.73	257.11	8.2	17.0
985.0	30.5	39.4	150	9.1	1.52	6.12	45136	119.70	256.30	8.2	17.0
986.0	27.5	40.1	150	9.1	1.56	6.16	45464	132.89	255.57	8.2	17.0
987.0	29.8	39.8	150	9.1	1.53	6.19	45766	122.75	254.80	8.2	17.0
988.0	28.3	40.1	150	9.1	1.55	6.23	46084	128.83	254.07	8.2	17.0
989.0	32.1	40.0	150	9.1	1.51	6.26	46364	113.62	253.25	8.2	17.1
990.0	27.5	40.3	150	9.1	1.57	6.30	46691	132.89	252.56	8.2	17.1
991.0	26.9	40.5	150	9.1	1.58	6.33	47026	135.94	251.90	8.2	17.1
992.0	26.3	40.7	150	9.1	1.59	6.37	47369	138.98	251.25	8.2	17.1
993.0	25.4	40.8	150	9.1	1.60	6.41	47724	144.05	250.65	8.2	17.1
994.0	36.0	38.9	150	9.1	1.46	6.44	47974	101.44	249.81	8.2	17.1
995.0	29.8	39.9	150	9.1	1.53	6.47	48276	122.75	249.10	8.2	17.1
996.0	24.7	37.5	150	9.1	1.57	6.51	48641	148.11	248.54	8.2	17.1
997.0	23.7	36.3	150	9.1	1.57	6.55	49021	154.20	248.02	8.2	17.1
998.0	26.3	36.6	150	9.1	1.53	6.59	49364	138.98	247.42	8.2	17.1
999.0	22.9	36.8	150	9.1	1.58	6.64	49756	159.27	246.94	8.2	17.1
1000.0	28.6	36.6	150	9.1	1.51	6.67	50071	127.82	246.29	8.2	17.1
1001.0	27.3	36.0	150	9.1	1.51	6.71	50401	133.91	245.68	8.2	17.1
1002.0	27.1	36.1	150	9.1	1.52	6.74	50734	134.92	245.09	8.2	17.1
1003.0	25.4	36.2	150	9.1	1.54	6.78	51089	144.05	244.55	8.2	17.1
1004.0	27.7	37.3	150	9.1	1.53	6.82	51414	131.88	243.95	8.2	17.1
1005.0	27.1	36.5	150	9.1	1.52	6.86	51746	134.92	243.37	8.2	17.1
1006.0	26.5	35.8	150	9.1	1.52	6.90	52086	137.96	242.82	8.2	17.1
1007.0	24.5	35.7	150	9.1	1.55	6.94	52454	149.12	242.33	8.2	17.1
1008.0	22.6	37.2	150	9.1	1.59	6.98	52851	161.30	241.90	8.2	17.1
1009.0	24.8	37.0	150	9.1	1.56	7.02	53214	147.09	241.41	8.2	17.1
1010.0	33.0	36.2	150	9.1	1.45	7.05	53486	110.57	240.74	8.2	17.1
1011.0	30.5	35.9	150	9.1	1.48	7.08	53781	119.70	240.12	8.2	17.1
1012.0	33.3	36.0	150	9.1	1.45	7.11	54051	109.56	239.45	8.2	17.1
1013.0	31.9	35.3	150	9.1	1.46	7.14	54334	114.63	238.82	8.2	17.1
1014.0	34.6	34.1	150	9.1	1.41	7.17	54594	105.50	238.14	8.2	17.1
1015.0	41.9	35.1	150	9.1	1.36	7.20	54809	87.24	237.39	8.2	17.1
1016.0	47.4	34.3	150	9.1	1.31	7.22	54999	77.10	236.58	8.2	17.1
1017.0	37.5	34.9	150	9.1	1.40	7.25	55239	97.39	235.89	8.2	17.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1018.0	24.3	38.4	150	9.1	1.58	7.29	55609	150.14	235.47	8.2	17.1
1019.0	37.9	38.1	150	9.1	1.43	7.31	55846	96.37	234.78	8.2	17.1
1020.0	55.4	35.8	150	9.1	1.28	7.33	56009	65.94	233.95	8.2	17.1
1021.0	36.0	36.7	150	9.1	1.43	7.36	56259	101.44	233.31	8.2	17.1
1022.0	23.4	38.0	150	9.1	1.59	7.40	56644	156.22	232.93	8.2	17.1
1023.0	29.0	39.2	150	9.1	1.53	7.44	56954	125.79	232.42	8.2	17.1
1024.0	30.0	37.9	150	9.1	1.51	7.47	57254	121.73	231.88	8.2	17.1
1025.0	30.3	36.7	150	9.1	1.49	7.50	57551	120.72	231.35	8.2	17.1
1026.0	40.0	38.3	150	9.1	1.42	7.53	57776	91.30	230.69	8.2	17.1
1027.0	29.0	40.3	150	9.1	1.55	7.56	58086	125.79	230.19	8.2	17.1
1028.0	9.2	40.0	150	9.1	1.93	7.67	59061	395.63	230.97	8.2	17.2
1029.0	14.5	39.2	150	9.1	1.77	7.74	59681	251.58	231.07	8.2	17.2
1030.0	26.1	37.8	150	9.1	1.55	7.78	60026	139.99	230.64	8.2	17.2
1031.0	31.9	37.4	150	9.1	1.48	7.81	60309	114.63	230.10	8.2	17.2
1032.0	30.0	38.0	150	9.1	1.51	7.84	60609	121.73	229.60	8.2	17.2
1033.0	29.5	38.2	150	9.1	1.52	7.88	60914	123.80	229.11	8.2	17.2
1034.0	30.0	38.3	150	9.1	1.51	7.91	61214	121.73	228.62	8.2	17.2
1035.0	27.9	37.5	150	9.1	1.53	7.95	61536	130.75	228.17	8.2	17.2
1036.0	26.3	38.1	150	9.1	1.55	7.98	61879	138.98	227.77	8.2	17.2
1037.0	29.3	38.2	150	9.1	1.52	8.02	62186	124.78	227.30	8.2	17.2
1038.0	27.5	38.2	150	9.1	1.54	8.05	62514	132.89	226.87	8.2	17.2
1039.0	29.8	38.1	150	9.1	1.51	8.09	62816	122.75	226.41	8.2	17.2
1040.0	32.1	37.9	150	9.1	1.48	8.12	63096	113.62	225.90	8.2	17.2
1041.0	26.5	37.9	150	9.1	1.55	8.16	63436	137.96	225.51	8.2	17.2
1042.0	18.8	39.6	150	9.1	1.69	8.21	63916	194.77	225.38	8.2	17.2
1043.0	19.4	38.0	150	9.1	1.65	8.26	64381	188.69	225.22	8.2	17.2
1044.0	20.3	39.1	150	9.1	1.65	8.31	64824	179.56	225.02	8.2	17.2
1045.0	20.3	39.7	150	9.1	1.66	8.36	65266	179.56	224.82	8.2	17.2
1046.0	23.1	39.1	150	9.1	1.61	8.40	65656	158.25	224.53	8.2	17.2
1047.0	21.7	39.6	150	9.1	1.64	8.45	66071	168.40	224.28	8.2	17.2
1048.0	18.2	39.8	150	9.1	1.70	8.50	66566	200.86	224.18	8.2	17.2
1049.0	17.9	39.9	150	9.1	1.71	8.56	67069	203.90	224.10	8.2	17.2
1050.0	18.3	40.0	150	9.1	1.70	8.61	67561	199.85	223.99	8.2	17.2
1051.0	24.0	35.7	150	9.1	1.55	8.66	67936	152.17	223.69	8.2	17.2
1052.0	25.9	38.3	150	9.1	1.56	8.69	68284	141.01	223.34	8.2	17.2
1053.0	18.9	36.6	150	9.1	1.64	8.75	68759	192.74	223.21	8.2	17.2
1054.0	18.5	34.2	150	9.1	1.62	8.80	69246	197.82	223.10	8.2	17.2
1055.0	20.6	34.3	150	9.1	1.58	8.85	69684	177.53	222.91	8.2	17.2
1056.0	21.4	34.3	150	9.1	1.57	8.90	70104	170.43	222.69	8.2	17.2
1057.0	19.6	34.3	150	9.1	1.60	8.95	70564	186.66	222.54	8.2	17.2
1058.0	22.4	34.3	150	9.1	1.56	8.99	70966	163.33	222.30	8.2	17.2
1059.0	22.8	34.3	150	9.1	1.55	9.04	71361	160.28	222.04	8.2	17.2
1060.0	23.7	34.1	150	9.1	1.54	9.08	71741	154.20	221.76	8.2	17.2
1061.0	32.1	36.0	150	9.1	1.46	9.11	72021	113.62	221.32	8.2	17.2
1062.0	27.3	36.2	150	9.1	1.52	9.15	72351	133.91	220.97	8.2	17.2
1063.0	14.4	38.3	150	9.1	1.76	9.22	72976	253.61	221.10	8.2	17.2
1064.0	28.3	38.4	150	9.1	1.53	9.25	73294	128.83	220.73	8.2	17.2
1065.0	29.8	36.8	150	9.1	1.50	9.29	73596	122.75	220.33	8.2	17.2
1066.0	37.9	36.0	150	9.1	1.41	9.31	73834	96.37	219.84	8.2	17.2
1067.0	33.3	35.7	150	9.1	1.45	9.34	74104	109.67	219.40	8.2	17.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1068.0	32.5	36.7	150	9.1	1.47	9.37	74381	112.37	218.97	8.2	17.3
1069.0	36.2	36.8	150	9.1	1.43	9.40	74629	100.88	218.51	8.2	17.3
1070.0	26.2	35.8	150	9.1	1.53	9.44	74973	139.49	218.20	8.2	17.3
1071.0	25.4	36.8	150	9.1	1.55	9.48	75328	144.05	217.91	8.2	17.3
1072.0	31.3	36.9	150	9.1	1.48	9.51	75616	116.66	217.51	8.2	17.3
1073.0	32.7	36.9	150	9.1	1.47	9.54	75891	111.59	217.10	8.2	17.3
1074.0	30.5	36.9	150	9.1	1.49	9.57	76186	119.70	216.72	8.2	17.3
1075.0	35.6	36.7	150	9.1	1.44	9.60	76438	102.46	216.28	8.2	17.3
1076.0	39.6	36.3	150	9.1	1.40	9.63	76666	92.31	215.80	8.2	17.3
1077.0	37.1	35.8	150	9.1	1.41	9.65	76908	98.40	215.35	8.2	17.3
1078.0	35.0	36.4	150	9.1	1.44	9.68	77166	104.49	214.93	8.2	17.3
1079.0	23.7	33.8	150	9.1	1.53	9.72	77546	154.20	214.70	8.2	17.3
1080.0	28.6	38.0	150	9.1	1.52	9.76	77861	127.82	214.37	8.2	17.3
1081.0	27.9	38.6	150	9.1	1.54	9.79	78183	130.86	214.05	8.2	17.3
1082.0	36.4	37.9	150	9.1	1.44	9.82	78431	100.43	213.63	8.2	17.3
1083.0	36.4	37.2	150	9.1	1.43	9.85	78678	100.43	213.20	8.2	17.3
1084.0	37.9	37.4	150	9.1	1.42	9.88	78916	96.37	212.77	8.2	17.3
1085.0	30.5	38.0	150	9.1	1.50	9.91	79211	119.70	212.42	8.2	17.3
1086.0	26.1	38.5	150	9.1	1.56	9.95	79556	139.99	212.15	8.2	17.3
1087.0	25.9	38.5	150	9.1	1.56	9.99	79903	141.01	211.89	8.2	17.3
1088.0	26.9	37.5	150	9.1	1.54	10.02	80238	135.94	211.61	8.2	17.3
1089.0	28.3	38.3	150	9.1	1.53	10.06	80556	128.83	211.31	8.2	17.3
1090.0	27.5	38.7	150	9.1	1.55	10.09	80883	132.89	211.02	8.2	17.3
1091.0	28.8	38.5	150	9.1	1.53	10.13	81196	126.81	210.72	8.2	17.3
1092.0	28.6	38.5	150	9.1	1.53	10.16	81511	127.82	210.42	8.2	17.3
1093.0	28.8	38.6	150	9.1	1.53	10.20	81823	126.81	210.11	8.2	17.3
1094.0	26.5	38.6	150	9.1	1.56	10.24	82163	137.96	209.85	8.2	17.3
1095.0	24.7	38.9	150	9.1	1.58	10.28	82528	148.11	209.63	8.2	17.3
1096.0	26.3	38.9	150	9.1	1.56	10.32	82871	138.98	209.38	8.2	17.3
1097.0	22.8	39.2	150	9.1	1.62	10.36	83266	160.28	209.21	8.2	17.3
1098.0	19.4	36.8	150	9.1	1.64	10.41	83731	188.69	209.13	8.2	17.3
1099.0	7.1	38.1	150	9.1	1.99	10.55	84991	511.28	210.20	8.2	17.3
1100.0	13.8	36.9	150	9.1	1.75	10.62	85641	263.76	210.39	8.2	17.3
1101.0	15.9	36.8	150	9.1	1.70	10.69	86208	230.28	210.46	8.2	17.3
1102.0	19.6	38.3	150	9.1	1.65	10.74	86668	186.66	210.38	8.2	17.3
1103.0	18.2	39.0	150	9.1	1.69	10.79	87163	200.86	210.34	8.2	17.3
1104.0	16.9	38.4	150	9.1	1.70	10.85	87696	216.08	210.36	8.2	17.3
1105.0	20.8	38.1	150	9.1	1.63	10.90	88128	175.50	210.24	8.2	17.3
1106.0	20.5	38.5	150	9.1	1.64	10.95	88568	178.54	210.13	8.2	17.3
1107.0	18.3	34.1	150	9.1	1.62	11.00	89061	199.85	210.10	8.2	17.3
1108.0	22.1	37.8	150	9.1	1.61	11.05	89468	165.35	209.94	8.2	17.3
1109.0	22.8	37.0	150	9.1	1.59	11.09	89863	160.28	209.77	8.2	17.3
1110.0	23.7	37.1	150	9.1	1.58	11.13	90243	154.20	209.59	8.2	17.4
1111.0	20.8	37.4	150	9.1	1.62	11.18	90676	175.50	209.47	8.2	17.4
1112.0	20.7	37.4	150	9.1	1.62	11.23	91111	176.51	209.36	8.2	17.4
1113.0	19.8	37.7	150	9.1	1.64	11.28	91566	184.63	209.28	8.2	17.4
1114.0	17.1	37.8	150	9.1	1.69	11.34	92091	213.03	209.29	8.2	17.4
1115.0	18.1	38.2	150	9.1	1.68	11.40	92588	201.87	209.26	8.2	17.4
1116.0	21.6	37.3	150	9.1	1.61	11.44	93006	169.41	209.13	8.2	17.4
1117.0	28.1	33.6	150	9.1	1.47	11.48	93326	129.85	208.87	8.2	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
1118.0	19.0	39.8	150	9.1	1.68	11.53	93798	191.73	208.81	8.2	17.4
1119.0	21.6	41.3	150	9.1	1.66	11.58	94216	169.41	208.68	8.2	17.4
1120.0	19.9	41.8	150	9.1	1.69	11.63	94668	183.61	208.60	8.2	17.4
1121.0	20.7	41.9	150	9.1	1.68	11.67	95103	176.51	208.49	8.2	17.4
1122.0	21.2	42.1	150	9.1	1.68	11.72	95528	172.46	208.38	8.2	17.4
1123.0	19.0	42.2	150	9.1	1.71	11.77	96001	191.73	208.32	8.2	17.4
1124.0	20.9	42.3	150	9.1	1.68	11.82	96431	174.48	208.21	8.2	17.4
1125.0	19.3	42.7	150	9.1	1.72	11.87	96898	189.70	208.15	8.2	17.4
1126.0	20.3	40.1	150	9.1	1.67	11.92	97341	179.56	208.06	8.2	17.4
1127.0	26.3	39.6	150	9.1	1.57	11.96	97683	138.98	207.84	8.2	17.4
1128.0	21.6	38.2	150	9.1	1.62	12.01	98101	169.41	207.71	8.2	17.4
1129.0	21.1	37.1	150	9.1	1.61	12.06	98528	173.47	207.60	8.2	17.4
1130.0	28.3	36.9	150	9.1	1.51	12.09	98846	128.83	207.35	8.2	17.4
1131.0	29.8	36.7	150	9.1	1.50	12.12	99148	122.75	207.08	8.2	17.4
1132.0	31.3	36.4	150	9.1	1.47	12.16	99436	116.66	206.80	8.2	17.4
1133.0	30.8	36.7	150	9.1	1.48	12.19	99728	118.69	206.52	8.2	17.4
1134.0	28.3	36.8	150	9.1	1.51	12.22	100046	128.83	206.28	8.2	17.4
1135.0	28.8	37.3	150	9.1	1.51	12.26	100358	126.81	206.03	8.2	17.4
1136.0	22.9	36.0	150	9.1	1.57	12.30	100751	159.27	205.88	8.2	17.4
1137.0	22.1	34.7	150	9.1	1.57	12.35	101158	165.35	205.75	8.2	17.4
1138.0	17.8	31.1	150	9.1	1.59	12.40	101663	204.92	205.75	8.2	17.4
1139.0	21.7	36.7	150	9.1	1.60	12.45	102078	168.40	205.64	8.2	17.4
1140.0	20.7	36.2	150	9.1	1.61	12.50	102513	176.51	205.55	8.2	17.4
1141.0	20.2	35.6	150	9.1	1.61	12.55	102958	180.57	205.47	8.2	17.4
1142.0	21.2	37.4	150	9.1	1.62	12.59	103383	172.46	205.37	8.2	17.4
1143.0	21.3	37.8	150	9.1	1.62	12.64	103806	171.44	205.26	8.2	17.4
1144.0	25.5	37.7	150	9.1	1.56	12.68	104158	143.04	205.08	8.2	17.4
1145.0	18.8	35.5	150	9.1	1.63	12.73	104636	193.76	205.04	8.2	17.4
1146.0	22.9	38.0	150	9.1	1.60	12.78	105028	159.27	204.90	8.2	17.4
1147.0	20.3	37.9	150	9.1	1.64	12.83	105471	179.56	204.83	8.2	17.4
1148.0	18.2	38.5	150	9.1	1.68	12.88	105966	200.86	204.81	8.2	17.4
1149.0	19.3	38.6	150	9.1	1.66	12.93	106433	189.70	204.77	8.2	17.4
1150.0	20.6	38.5	150	9.1	1.64	12.98	106871	177.53	204.69	8.2	17.4
1151.0	19.0	38.4	150	9.1	1.67	13.03	107343	191.73	204.65	8.2	17.4
1152.0	15.9	38.5	150	9.1	1.73	13.10	107908	229.26	204.72	8.2	17.5
1153.0	17.1	38.7	150	9.1	1.70	13.16	108433	213.03	204.75	8.2	17.5
1154.0	17.4	37.6	150	9.1	1.68	13.21	108951	209.99	204.76	8.2	17.5
1155.0	16.7	39.2	150	9.1	1.72	13.27	109488	218.11	204.80	8.2	17.5
1156.0	22.5	38.9	150	9.1	1.62	13.32	109888	162.31	204.68	8.2	17.5
1157.0	18.5	38.8	150	9.1	1.68	13.37	110376	197.82	204.66	8.2	17.5
1158.0	17.7	39.4	150	9.1	1.70	13.43	110883	205.93	204.66	8.2	17.5
1159.0	17.8	39.2	150	9.1	1.70	13.48	111388	204.92	204.66	8.2	17.5
1160.0	17.5	39.3	150	9.1	1.71	13.54	111903	208.98	204.67	8.2	17.5
1161.0	18.8	39.1	150	9.1	1.68	13.59	112383	194.77	204.64	8.2	17.5
1162.0	18.2	39.3	150	9.1	1.69	13.65	112878	200.86	204.63	8.2	17.5
1163.0	19.6	37.5	150	9.1	1.64	13.70	113338	186.66	204.58	8.2	17.5
1164.0	23.8	38.0	150	9.1	1.58	13.74	113716	153.18	204.43	8.2	17.5
1165.0	21.2	39.4	150	9.1	1.64	13.79	114141	172.46	204.34	8.2	17.5
1166.0	21.2	39.2	150	9.1	1.64	13.84	114566	172.46	204.25	8.2	17.5
1167.0	22.0	39.1	150	9.1	1.63	13.88	114976	166.37	204.14	8.2	17.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1168.0	20.5	39.2	150	9.1	1.65	13.93	115416	178.54	204.07	8.2	17.5
1169.0	17.1	39.6	150	9.1	1.72	13.99	115943	214.05	204.10	8.2	17.5
1170.0	16.7	39.7	150	9.1	1.73	14.05	116481	218.11	204.14	8.2	17.5
1171.0	19.3	39.9	150	9.1	1.68	14.10	116948	189.70	204.10	8.2	17.5
1172.0	24.8	39.4	150	9.1	1.59	14.14	117311	147.09	203.94	8.2	17.5
1173.0	24.8	37.0	150	9.1	1.56	14.18	117673	147.09	203.78	8.2	17.5
1174.0	16.7	39.7	150	9.1	1.73	14.24	118211	218.11	203.82	8.2	17.5
1175.0	21.8	39.8	150	9.1	1.64	14.29	118623	167.38	203.72	8.2	17.5
1176.0	17.6	39.8	150	9.1	1.71	14.35	119136	207.96	203.73	8.2	17.5
1177.0	23.2	38.9	150	9.1	1.61	14.39	119523	157.24	203.60	8.2	17.5
1178.0	18.2	39.8	150	9.1	1.70	14.44	120018	200.86	203.59	8.2	17.5
1179.0	20.9	39.7	150	9.1	1.65	14.49	120448	174.48	203.51	8.2	17.5
1180.0	19.5	39.8	150	9.1	1.68	14.54	120911	187.67	203.47	8.2	17.5
1181.0	18.2	39.9	150	9.1	1.70	14.60	121406	200.86	203.46	8.2	17.5
1182.0	9.6	40.5	150	9.1	1.93	14.70	122341	379.40	203.94	8.2	17.5
1183.0	14.4	40.6	150	9.1	1.79	14.77	122966	253.61	204.08	8.2	17.5
1184.0	15.9	40.3	150	9.1	1.75	14.83	123531	229.26	204.15	8.2	17.5
1185.0	14.4	40.6	150	9.1	1.79	14.90	124156	253.61	204.28	8.2	17.5
1186.0	27.9	39.4	150	9.1	1.55	14.94	124478	130.86	204.08	8.2	17.5
1187.0	22.4	39.3	150	9.1	1.62	14.98	124881	163.33	203.97	8.2	17.5
1188.0	20.8	39.5	150	9.1	1.54	15.02	125193	126.81	203.76	8.2	17.5
1189.0	12.7	40.5	150	9.1	1.83	15.10	125903	288.10	203.99	8.2	17.5
1190.0	17.8	40.6	150	9.1	1.72	15.15	126408	204.92	203.99	8.2	17.5
1191.0	22.0	37.1	150	9.1	1.60	15.20	126818	166.37	203.89	8.2	17.5
1192.0	26.3	38.1	150	9.1	1.55	15.24	127161	138.98	203.72	8.2	17.5
1193.0	23.7	36.0	150	9.1	1.56	15.28	127541	154.20	203.59	8.2	17.5
1194.0	32.4	34.5	150	9.1	1.44	15.31	127818	112.60	203.35	8.2	17.5
1195.0	27.9	34.7	150	9.1	1.49	15.35	128141	130.86	203.16	8.2	17.6
1196.0	27.7	35.3	150	9.1	1.50	15.38	128466	131.88	202.97	8.2	17.6
1197.0	25.0	35.1	150	9.1	1.53	15.42	128826	146.08	202.82	8.2	17.6
1198.0	18.4	35.9	150	9.1	1.64	15.48	129316	198.83	202.81	8.2	17.6
1199.0	17.9	36.1	150	9.1	1.65	15.53	129818	203.90	202.81	8.2	17.6
1200.0	25.4	35.5	150	9.1	1.53	15.57	130173	144.05	202.66	8.2	17.6
1201.0	14.6	36.9	150	9.1	1.73	15.64	130791	250.57	202.78	8.2	17.6
1202.0	13.6	37.1	150	9.1	1.76	15.71	131451	267.81	202.95	8.2	17.6
1203.0	11.5	37.3	150	9.1	1.82	15.80	132233	317.52	203.25	8.2	17.6
1204.0	13.4	36.9	150	9.1	1.76	15.87	132903	271.87	203.42	8.2	17.6
1205.0	17.7	36.6	150	9.1	1.66	15.93	133411	205.93	203.43	8.2	17.6
1206.0	15.5	36.5	150	9.1	1.71	16.00	133993	236.37	203.52	8.2	17.6
1207.0	16.4	36.6	150	9.1	1.69	16.06	134543	223.18	203.57	8.2	17.6
1208.0	17.6	36.7	150	9.1	1.67	16.11	135053	206.95	203.57	8.2	17.6
1209.0	18.9	36.6	150	9.1	1.64	16.17	135528	192.74	203.55	8.2	17.6
1210.0	20.0	36.0	150	9.1	1.62	16.22	135978	182.60	203.49	8.2	17.6
1211.0	22.3	35.0	150	9.1	1.57	16.26	136382	163.83	203.39	8.2	17.6
1212.0	24.5	36.2	150	9.1	1.55	16.30	136749	149.12	203.26	8.2	17.6
1213.0	14.5	36.9	150	9.1	1.74	16.37	137369	251.58	203.38	8.2	17.6
1214.0	17.1	37.1	150	9.1	1.68	16.43	137894	213.03	203.40	8.2	17.6
1215.0	18.1	37.1	150	9.1	1.66	16.48	138392	201.87	203.40	8.2	17.6
1216.0	17.3	37.3	150	9.1	1.68	16.54	138912	211.00	203.42	8.2	17.6
1217.0	16.6	35.8	150	9.1	1.68	16.60	139454	220.13	203.46	8.2	17.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1218.0	25.7	36.2	150	9.1	1.54	16.64	139804	142.02	203.31	8.2	17.6
1219.0	22.1	36.6	150	9.1	1.59	16.69	140212	165.35	203.21	8.2	17.6
1220.0	19.3	36.0	150	9.1	1.63	16.74	140679	189.70	203.18	8.2	17.6
1221.0	15.8	37.3	150	9.1	1.71	16.80	141249	231.29	203.25	8.2	17.6
1222.0	20.7	37.2	150	9.1	1.62	16.85	141684	176.51	203.18	8.2	17.6
1223.0	17.6	37.5	150	9.1	1.68	16.91	142194	206.95	203.19	8.2	17.6
1224.0	20.6	37.6	150	9.1	1.63	16.96	142632	177.53	203.13	8.2	17.6
1225.0	23.1	37.1	150	9.1	1.58	17.00	143022	158.25	203.02	8.2	17.6
1226.0	14.5	38.3	150	9.1	1.76	17.07	143644	252.60	203.14	8.2	17.6
1227.0	17.1	37.7	150	9.1	1.69	17.13	144172	214.05	203.17	8.2	17.6
1228.0	14.7	37.7	150	9.1	1.74	17.19	144784	248.54	203.28	8.2	17.6
1229.0	14.3	36.6	150	9.1	1.74	17.26	145414	255.64	203.40	8.2	17.6
1230.0	12.4	33.6	150	9.1	1.74	17.35	146142	295.20	203.62	8.2	17.6
1231.0	15.2	33.1	150	9.1	1.66	17.41	146734	240.42	203.71	8.2	17.6
1232.0	21.7	33.1	150	9.1	1.55	17.46	147149	168.40	203.63	8.2	17.6
1233.0	18.9	34.2	150	9.1	1.61	17.51	147624	192.74	203.60	8.2	17.6
1234.0	14.3	34.6	150	9.1	1.71	17.58	148254	255.64	203.73	8.2	17.6
1235.0	11.4	34.9	150	9.1	1.78	17.67	149042	319.55	204.00	8.2	17.6
1236.0	10.2	35.0	150	9.1	1.82	17.77	149922	357.08	204.37	8.2	17.6
1237.0	10.5	34.9	150	9.1	1.81	17.86	150782	348.97	204.71	8.2	17.6
1238.0	14.9	34.5	150	9.1	1.69	17.93	151384	244.48	204.81	8.2	17.6
1239.0	21.2	34.5	150	9.1	1.58	17.98	151809	172.46	204.73	8.2	17.6
1240.0	10.4	35.7	150	9.1	1.83	18.07	152674	351.00	205.07	8.2	17.7
1241.0	10.8	34.7	150	9.1	1.80	18.16	153507	337.81	205.39	8.2	17.7
1242.0	11.7	35.4	150	9.1	1.78	18.25	154274	311.43	205.64	8.2	17.7
1243.0	12.6	35.5	150	9.1	1.76	18.33	154989	290.13	205.83	8.2	17.7
1244.0	13.3	35.4	150	9.1	1.74	18.40	155664	273.90	205.99	8.2	17.7
1245.0	14.5	35.4	150	9.1	1.71	18.47	156287	252.60	206.10	8.2	17.7
1246.0	16.9	35.3	150	9.1	1.66	18.53	156819	216.08	206.12	8.2	17.7
1247.0	18.7	35.2	150	9.1	1.63	18.59	157302	195.79	206.10	8.2	17.7
1248.0	13.9	34.3	150	9.1	1.71	18.66	157949	262.74	206.23	8.2	17.7
1249.0	12.7	36.5	150	9.1	1.77	18.74	158657	287.09	206.42	8.2	17.7
1250.0	12.8	37.5	150	9.1	1.79	18.81	159359	285.06	206.60	8.2	17.7
1251.0	12.9	37.4	150	9.1	1.78	18.89	160059	284.04	206.78	8.2	17.7
1252.0	8.2	37.7	150	9.1	1.94	19.01	161159	446.36	207.33	8.2	17.7
1253.0	12.5	37.5	150	9.1	1.79	19.09	161879	292.16	207.52	8.2	17.7
1254.0	9.4	37.6	150	9.1	1.89	19.20	162842	390.56	207.94	8.2	17.7
1255.0	10.6	37.6	150	9.1	1.85	19.30	163689	343.90	208.25	8.2	17.7
1256.0	10.8	37.6	150	9.1	1.84	19.39	164519	336.80	208.54	8.2	17.7
1257.0	11.8	37.5	150	9.1	1.81	19.47	165284	310.42	208.77	8.2	17.7
1258.0	12.5	37.0	150	9.1	1.79	19.55	166004	292.16	208.96	8.2	17.7
1259.0	13.7	36.4	150	9.1	1.75	19.63	166662	266.80	209.09	8.2	17.7
1260.0	14.3	36.4	150	9.1	1.73	19.70	167289	254.63	209.19	8.2	17.7
1261.0	17.8	36.4	150	9.1	1.66	19.75	167794	204.92	209.18	8.2	17.7
1262.0	23.1	35.8	150	9.1	1.57	19.79	168184	158.25	209.07	8.2	17.7
1263.0	18.9	34.9	150	9.1	1.62	19.85	168659	192.74	209.03	8.2	17.7
1264.0	19.1	36.1	150	9.1	1.63	19.90	169129	190.72	208.99	8.2	17.7
1265.0	16.5	36.4	150	9.1	1.69	19.96	169674	221.15	209.02	8.2	17.7
1266.0	11.3	37.0	150	9.1	1.82	20.05	170469	322.59	209.27	8.2	17.7
1267.0	13.1	35.8	150	9.1	1.75	20.12	171154	277.96	209.42	8.2	17.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
1268.0	12.7	37.0	150	9.1	1.78	20.20	171864	288.10	209.60	8.2	17.7
1269.0	14.8	36.9	150	9.1	1.73	20.27	172474	247.52	209.68	8.2	17.7
1270.0	12.9	37.1	150	9.1	1.78	20.35	173174	284.04	209.85	8.2	17.7
1271.0	10.8	37.4	150	9.1	1.84	20.44	174007	337.81	210.13	8.2	17.7
1272.0	10.5	37.5	150	9.1	1.85	20.54	174862	346.94	210.43	8.2	17.7
1273.0	10.2	37.5	150	9.1	1.86	20.63	175744	358.10	210.75	8.2	17.7
1274.0	10.4	37.4	150	9.1	1.85	20.73	176609	351.00	211.06	8.2	17.7
1275.0	9.3	37.5	150	9.1	1.89	20.84	177574	391.58	211.45	8.2	17.7
1276.0	11.5	36.6	150	9.1	1.81	20.93	178357	317.52	211.68	8.2	17.7
1277.0	19.5	34.6	150	9.1	1.61	20.98	178819	187.67	211.63	8.2	17.7
1278.0	13.3	34.2	150	9.1	1.72	21.05	179497	274.91	211.76	8.2	17.7
1279.0	13.5	32.9	150	9.1	1.70	21.13	180164	270.86	211.89	8.2	17.7
1280.0	10.4	31.8	150	9.1	1.76	21.22	181027	349.98	212.19	8.2	17.7
1281.0	11.2	31.7	150	9.1	1.74	21.31	181829	325.64	212.43	8.2	17.7
1282.0	10.6	31.6	150	9.1	1.76	21.41	182682	345.93	212.72	8.2	17.7
1283.0	11.9	31.6	150	9.1	1.72	21.49	183439	307.38	212.92	8.2	17.7
1284.0	11.5	31.7	150	9.1	1.73	21.58	184222	317.52	213.15	8.2	17.7
1285.0	12.2	31.7	150	9.1	1.71	21.66	184959	299.26	213.33	8.2	17.8
1286.0	8.3	33.0	150	9.1	1.86	21.78	186044	440.27	213.81	8.2	17.8
1287.0	10.5	34.6	150	9.1	1.81	21.87	186904	348.97	214.10	8.2	17.8
1288.0	11.2	35.9	150	9.1	1.81	21.96	187709	326.65	214.34	8.2	17.8
1289.0	11.8	35.9	150	9.1	1.79	22.05	188474	310.42	214.54	8.2	17.8
1290.0	10.7	36.1	150	9.1	1.82	22.14	189319	342.88	214.81	8.2	17.8
1291.0	12.9	35.9	150	9.1	1.76	22.22	190014	282.02	214.95	8.2	17.8
1292.0	13.1	35.9	150	9.1	1.75	22.30	190699	277.96	215.09	8.2	17.8
1293.0	13.3	36.0	150	9.1	1.75	22.37	191374	273.90	215.21	8.2	17.8
1294.0	14.6	36.0	150	9.1	1.72	22.44	191992	250.57	215.28	8.2	17.8
1295.0	16.1	34.2	150	9.1	1.66	22.50	192552	227.24	215.31	8.2	17.8
1296.0	19.6	35.4	150	9.1	1.62	22.55	193012	186.66	215.25	8.2	17.8
1297.0	17.6	35.9	150	9.1	1.66	22.61	193522	206.95	215.23	8.2	17.8
1298.0	17.2	36.1	150	9.1	1.67	22.67	194044	212.02	215.23	8.2	17.8
1299.0	15.2	36.4	150	9.1	1.71	22.73	194637	240.42	215.28	8.2	17.8
1300.0	13.8	36.5	150	9.1	1.75	22.81	195289	264.77	215.38	8.2	17.8
1301.0	13.3	36.6	150	9.1	1.76	22.88	195967	274.91	215.50	8.2	17.8
1302.0	12.2	36.7	150	9.1	1.79	22.96	196702	298.25	215.67	8.2	17.8
1303.0	12.1	36.7	150	9.1	1.79	23.05	197444	301.29	215.85	8.2	17.8
1304.0	13.8	36.6	150	9.1	1.75	23.12	198094	263.76	215.95	8.2	17.8
1305.0	10.6	34.5	150	9.1	1.80	23.21	198942	343.90	216.21	8.2	17.8
1306.0	15.1	37.2	150	9.1	1.73	23.28	199539	242.45	216.26	8.2	17.8
1307.0	12.6	37.6	150	9.1	1.79	23.36	200254	290.13	216.41	8.2	17.8
1308.0	13.5	37.6	150	9.1	1.77	23.43	200922	270.86	216.52	8.2	17.8
1309.0	11.7	38.0	150	9.1	1.82	23.52	201694	313.46	216.72	8.2	17.8
1310.0	12.4	37.9	150	9.1	1.80	23.60	202419	294.19	216.88	8.2	17.8
1311.0	12.9	38.0	150	9.1	1.79	23.68	203114	282.02	217.01	8.2	17.8
1312.0	14.0	38.2	150	9.1	1.77	23.75	203759	261.73	217.10	8.2	17.8
1313.0	14.9	38.1	150	9.1	1.74	23.81	204362	244.48	217.15	8.2	17.8
1314.0	15.6	37.2	150	9.1	1.72	23.88	204939	234.34	217.19	8.2	17.8
1315.0	13.7	38.8	150	9.1	1.78	23.95	205597	266.80	217.29	8.2	17.8
1316.0	14.3	37.8	150	9.1	1.75	24.02	206227	255.64	217.36	8.2	17.8
1317.0	15.4	37.7	150	9.1	1.73	24.09	206812	237.38	217.40	8.2	17.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1318.0	15.8	37.7	150	9.1	1.72	24.15	207382	231.29	217.43	8.2	17.8
1319.0	13.7	37.8	150	9.1	1.77	24.22	208037	265.78	217.53	8.2	17.8
1320.0	16.1	37.8	150	9.1	1.71	24.28	208594	226.22	217.54	8.2	17.8
1321.0	14.9	37.8	150	9.1	1.74	24.35	209197	244.48	217.60	8.2	17.8
1322.0	11.4	38.1	150	9.1	1.83	24.44	209989	321.58	217.80	8.2	17.8
1323.0	10.6	38.2	150	9.1	1.86	24.53	210839	344.91	218.05	8.2	17.8
1324.0	12.3	38.2	150	9.2	1.79	24.62	211572	297.23	218.21	8.2	17.8
1325.0	11.6	38.6	150	9.2	1.81	24.70	212347	314.48	218.40	8.2	17.8
1326.0	12.7	38.5	150	9.2	1.78	24.78	213057	288.10	218.54	8.2	17.8
1327.0	13.1	38.7	150	9.2	1.77	24.86	213742	277.96	218.65	8.2	17.8
1328.0	14.7	38.5	150	9.2	1.73	24.92	214354	248.54	218.71	8.2	17.8
1329.0	13.2	38.7	150	9.2	1.77	25.00	215037	276.94	218.82	8.2	17.8
1330.0	11.5	38.7	150	9.2	1.82	25.09	215817	316.51	219.01	8.2	17.8
1331.0	11.4	39.0	150	9.2	1.83	25.18	216609	321.58	219.21	8.2	17.8
1332.0	10.7	38.9	150	9.2	1.84	25.27	217449	340.85	219.45	8.2	17.9
1333.0	11.3	38.3	150	9.2	1.82	25.36	218249	324.62	219.65	8.2	17.9
1334.0	10.1	38.0	150	9.2	1.85	25.46	219139	361.14	219.93	8.2	17.9
1335.0	12.2	36.1	150	9.2	1.76	25.54	219879	300.28	220.08	8.2	17.9
1336.0	14.2	36.1	150	9.2	1.71	25.61	220514	257.67	220.15	8.2	17.9
1337.0	17.1	36.3	150	9.2	1.65	25.67	221039	213.03	220.14	8.2	17.9
1338.0	13.7	37.6	150	9.2	1.74	25.74	221697	266.80	220.23	8.2	17.9
1339.0	13.1	39.1	150	9.2	1.78	25.82	222384	278.97	220.34	8.2	17.9
1340.0	12.4	39.3	150	9.2	1.80	25.90	223109	294.19	220.48	8.2	17.9
1341.0	12.9	39.3	150	9.2	1.79	25.97	223804	282.02	220.60	8.2	17.9
1342.0	12.3	38.5	150	9.2	1.79	26.06	224534	296.22	220.74	8.2	17.9
1343.0	17.9	40.4	150	9.2	1.69	26.11	225037	203.90	220.71	8.2	17.9
1344.0	13.0	41.0	150	9.2	1.81	26.19	225729	281.00	220.82	8.2	17.9
1345.0	13.4	40.8	150	9.2	1.80	26.26	226402	272.89	220.92	8.2	17.9
1346.0	12.5	41.0	150	9.2	1.82	26.34	227124	293.17	221.06	8.2	17.9
1347.0	15.9	40.7	150	9.2	1.74	26.41	227689	229.26	221.08	8.2	17.9
1348.0	15.2	40.8	150	9.2	1.75	26.47	228282	240.42	221.11	8.2	17.9
1349.0	14.8	40.9	150	9.2	1.77	26.54	228892	247.52	221.16	8.2	17.9
1350.0	14.6	40.8	150	9.2	1.77	26.61	229507	249.55	221.21	8.2	17.9
1351.0	16.5	41.0	150	9.2	1.73	26.67	230052	221.15	221.21	8.2	17.9
1352.0	14.3	37.8	150	9.2	1.73	26.74	230679	254.63	221.28	8.2	17.9
1353.0	14.3	41.0	150	9.2	1.78	26.81	231309	255.64	221.34	8.2	17.9
1354.0	13.2	41.4	150	9.2	1.81	26.88	231989	275.93	221.44	8.2	17.9
1355.0	17.6	40.9	150	9.2	1.70	26.94	232499	206.95	221.41	8.2	17.9
1356.0	12.6	41.5	150	9.2	1.83	27.02	233214	290.13	221.54	8.2	17.9
1357.0	11.4	41.7	150	9.2	1.86	27.11	234004	320.56	221.73	8.2	17.9
1358.0	11.5	41.7	150	9.2	1.86	27.20	234789	318.54	221.90	8.2	17.9
1359.0	10.9	41.7	150	9.2	1.88	27.29	235614	334.77	222.11	8.2	17.9
1360.0	11.7	41.9	150	9.2	1.86	27.37	236382	311.43	222.28	8.2	17.9
1361.0	10.7	41.5	150	9.2	1.88	27.47	237224	341.87	222.50	8.2	17.9
1362.0	12.4	39.9	150	9.2	1.81	27.55	237949	294.19	222.63	8.2	17.9
1363.0	12.5	39.3	150	9.2	1.80	27.63	238669	292.16	222.75	8.2	17.9
1364.0	16.7	38.8	150	9.2	1.70	27.69	239207	218.11	222.75	8.2	17.9
1365.0	20.5	38.5	150	9.2	1.62	27.74	239647	178.54	222.66	8.2	17.9
1366.0	13.7	39.1	150	9.2	1.77	27.81	240304	266.80	222.74	8.2	17.9
1367.0	12.3	39.3	150	9.2	1.80	27.89	241034	296.22	222.88	8.2	17.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1368.0	8.5	39.2	150	9.2	1.93	28.01	242089	428.10	223.25	8.2	17.9
1369.0	7.9	39.0	150	9.2	1.95	28.13	243224	460.56	223.68	8.2	17.9
1370.0	7.5	39.7	150	9.2	1.98	28.27	244432	489.98	224.16	8.2	17.9
1371.0	10.1	38.1	150	9.2	1.85	28.37	245322	361.14	224.41	8.2	17.9
1372.0	13.5	39.6	150	9.2	1.78	28.44	245989	270.86	224.49	8.2	17.9
1373.0	14.0	39.4	150	9.2	1.76	28.51	246632	260.71	224.56	8.2	17.9
1374.0	11.5	39.7	150	9.2	1.83	28.60	247417	318.54	224.72	8.2	17.9
1375.0	10.3	39.7	150	9.2	1.87	28.70	248289	354.04	224.96	8.2	17.9
1376.0	13.7	42.2	150	9.2	1.81	28.77	248944	265.78	225.03	8.2	17.9
1377.0	14.8	44.2	150	9.2	1.81	28.84	249554	247.52	225.07	8.2	17.9
1378.0	13.8	43.8	150	9.2	1.83	28.91	250204	263.76	225.14	8.2	17.9
1379.0	14.2	43.9	150	9.2	1.82	28.98	250837	256.65	225.19	8.2	17.9
1380.0	14.7	42.7	150	9.2	1.79	29.05	251449	248.54	225.23	8.2	17.9
1381.0	15.8	44.1	150	9.2	1.78	29.11	252019	231.29	225.25	8.2	18.0
1382.0	15.6	43.9	150	9.2	1.79	29.17	252597	234.34	225.24	8.2	18.0
1383.0	20.3	43.7	150	9.2	1.69	29.22	253039	179.56	225.18	8.2	18.0
1384.0	19.9	43.5	150	9.2	1.70	29.27	253492	183.61	225.11	8.2	18.0
1385.0	15.3	44.1	150	9.2	1.80	29.34	254082	239.41	225.13	8.2	18.0
1386.0	15.8	44.1	150	9.2	1.78	29.40	254652	231.29	225.14	8.2	18.0
1387.0	11.3	44.4	150	9.2	1.90	29.49	255446	322.09	225.31	8.2	18.0
1388.0	10.6	44.5	150	9.2	1.93	29.59	256296	344.91	225.52	8.2	18.0
1389.0	16.4	44.7	150	9.2	1.78	29.65	256846	223.18	225.52	8.2	18.0
1390.0	16.4	45.2	150	9.2	1.79	29.71	257396	223.18	225.51	8.2	18.0
1391.0	12.4	44.9	150	9.2	1.88	29.79	258121	294.19	225.63	8.2	18.0
1392.0	13.8	45.3	150	9.2	1.85	29.86	258771	263.76	225.70	8.2	18.0
1393.0	14.6	44.8	150	9.2	1.82	29.93	259388	250.57	225.74	8.2	18.0
1394.0	15.9	44.7	150	9.2	1.79	29.99	259953	229.26	225.75	8.2	18.0
1395.0	16.9	44.6	150	9.2	1.77	30.05	260486	216.08	225.73	8.2	18.0
1396.0	17.1	44.8	150	9.2	1.77	30.11	261013	214.05	225.71	8.2	18.0
1397.0	15.7	45.0	150	9.2	1.80	30.17	261588	233.32	225.72	8.2	18.0
1398.0	18.1	44.8	150	9.2	1.75	30.23	262086	201.87	225.68	8.2	18.0
1399.0	29.2	45.2	150	9.2	1.58	30.26	262394	125.11	225.51	8.2	18.0
1400.0	14.4	45.7	150	9.2	1.84	30.33	263019	253.61	225.56	8.2	18.0
1401.0	11.7	43.6	150	9.2	1.88	30.42	263786	311.43	225.71	8.2	18.0
1402.0	10.6	42.6	150	9.2	1.90	30.51	264634	343.90	225.91	8.2	18.0
1403.0	10.9	42.8	150	9.2	1.89	30.60	265456	333.75	226.09	8.2	18.0
1404.0	12.0	42.6	150	9.2	1.86	30.69	266204	303.32	226.22	8.2	18.0
1405.0	14.5	42.3	150	9.2	1.79	30.75	266824	251.58	226.27	8.2	18.0
1406.0	18.1	42.4	150	9.2	1.72	30.81	267321	201.87	226.22	8.2	18.0
1407.0	16.8	42.3	150	9.2	1.74	30.87	267856	217.09	226.21	8.2	18.0
1408.0	22.9	39.2	150	9.2	1.59	30.91	268249	159.27	226.10	8.2	18.0
1409.0	20.5	42.0	150	9.2	1.67	30.96	268689	178.54	226.02	8.2	18.0
1410.0	21.1	41.9	150	9.2	1.66	31.01	269116	173.47	225.93	8.2	18.0
1411.0	21.7	41.9	150	9.2	1.65	31.06	269531	168.40	225.83	8.2	18.0
1412.0	19.5	42.2	150	9.2	1.69	31.11	269994	187.67	225.77	8.2	18.0
1413.0	16.4	42.6	150	9.2	1.75	31.17	270544	223.18	225.76	8.2	18.0
1414.0	15.6	42.6	150	9.2	1.77	31.23	271121	234.34	225.78	8.2	18.0
1415.0	15.9	42.8	150	9.2	1.77	31.30	271689	230.28	225.78	8.2	18.0
1416.0	14.6	42.9	150	9.2	1.79	31.36	272304	249.55	225.82	8.2	18.0
1417.0	14.2	42.9	150	9.2	1.80	31.43	272936	256.65	225.88	8.2	18.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1418.0	14.4	41.0	150	9.2	1.78	31.50	273561	253.61	225.92	8.2	18.0
1419.0	14.2	43.5	150	9.2	1.81	31.57	274196	257.67	225.97	8.2	18.0
1420.0	15.3	43.3	150	9.2	1.79	31.64	274786	239.41	226.00	8.2	18.0
1421.0	10.9	43.4	150	9.2	1.90	31.73	275609	333.75	226.17	8.2	18.0
1422.0	11.0	43.7	150	9.2	1.90	31.82	276424	330.71	226.35	8.2	18.0
1423.0	16.6	43.3	150	9.2	1.76	31.88	276966	220.13	226.34	8.2	18.0
1424.0	17.1	43.3	150	9.2	1.75	31.94	277491	213.03	226.31	8.2	18.0
1425.0	15.7	41.9	150	9.2	1.76	32.00	278064	232.31	226.32	8.2	18.0
1426.0	21.3	42.3	150	9.2	1.66	32.05	278486	171.44	226.23	8.2	18.0
1427.0	16.4	41.9	150	9.2	1.74	32.11	279034	222.16	226.23	8.2	18.0
1428.0	25.7	45.8	150	9.2	1.64	32.15	279384	142.02	226.09	8.2	18.0
1429.0	19.7	45.5	150	9.2	1.72	32.20	279841	185.64	226.02	8.2	18.0
1430.0	16.8	45.7	150	9.2	1.78	32.26	280376	217.09	226.01	8.2	18.0
1431.0	14.5	46.3	150	9.2	1.84	32.33	280999	252.60	226.05	8.2	18.1
1432.0	15.7	46.5	150	9.2	1.82	32.39	281574	233.32	226.06	8.2	18.1
1433.0	20.6	46.0	150	9.2	1.72	32.44	282011	177.53	225.99	8.2	18.1
1434.0	16.9	45.8	150	9.2	1.78	32.50	282544	216.08	225.97	8.2	18.1
1435.0	17.4	46.2	150	9.2	1.78	32.56	283061	209.99	225.94	8.2	18.1
1436.0	20.3	44.7	150	9.2	1.70	32.61	283504	179.56	225.87	8.2	18.1
1437.0	26.3	43.1	150	9.2	1.60	32.65	283846	138.98	225.73	8.2	18.1
1438.0	18.3	42.6	150	9.2	1.71	32.70	284339	199.85	225.69	8.2	18.1
1439.0	20.8	44.9	150	9.2	1.70	32.75	284771	175.50	225.61	8.2	18.1
1440.0	18.9	43.9	150	9.2	1.72	32.80	285246	192.74	225.55	8.2	18.1
1441.0	21.2	43.1	150	9.2	1.67	32.85	285671	172.46	225.47	8.2	18.1
1442.0	21.6	42.8	150	9.2	1.66	32.90	286089	169.41	225.38	8.2	18.1
1443.0	26.5	42.2	150	9.2	1.58	32.93	286429	137.96	225.24	8.2	18.1
1444.0	28.3	42.3	150	9.2	1.56	32.97	286746	128.83	225.09	8.2	18.1
1445.0	23.1	43.2	150	9.2	1.64	33.01	287136	158.25	224.98	8.2	18.1
1446.0	21.1	43.1	150	9.2	1.67	33.06	287564	173.47	224.90	8.2	18.1
1447.0	15.5	45.0	150	9.2	1.80	33.12	288146	236.37	224.92	8.2	18.1
1448.0	16.7	44.9	150	9.2	1.78	33.18	288686	219.12	224.91	8.2	18.1
1449.0	16.1	45.2	150	9.2	1.79	33.25	289244	226.22	224.91	8.2	18.1
1450.0	15.8	45.1	150	9.2	1.80	33.31	289814	231.29	224.92	8.2	18.1
1451.0	17.0	45.1	150	9.2	1.77	33.37	290344	215.06	224.91	8.2	18.1
1452.0	17.6	44.8	150	9.2	1.75	33.42	290854	206.95	224.88	8.2	18.1
1453.0	17.8	44.8	150	9.2	1.75	33.48	291359	204.92	224.85	8.2	18.1
1454.0	16.7	44.9	150	9.2	1.77	33.54	291896	218.11	224.83	8.2	18.1
1455.0	14.8	45.4	150	9.2	1.82	33.61	292504	246.51	224.87	8.2	18.1
1456.0	22.5	42.6	150	9.2	1.64	33.65	292904	162.31	224.77	8.2	18.1
1457.0	18.9	44.6	150	9.2	1.73	33.71	293379	192.74	224.72	8.2	18.1
1458.0	20.5	44.6	150	9.2	1.70	33.75	293819	178.54	224.65	8.2	18.1
1459.0	19.8	43.1	150	9.2	1.69	33.80	294274	184.63	224.59	8.2	18.1
1460.0	20.2	42.6	150	9.2	1.68	33.85	294719	180.57	224.52	8.2	18.1
1461.0	15.2	43.3	150	9.2	1.79	33.92	295311	240.42	224.54	8.2	18.1
1462.0	12.2	43.0	150	9.2	1.86	34.00	296046	298.25	224.66	8.2	18.1
1463.0	13.1	43.0	150	9.2	1.83	34.08	296734	278.97	224.74	8.2	18.1
1464.0	15.9	43.4	150	9.2	1.77	34.14	297299	229.26	224.75	8.2	18.1
1465.0	14.5	41.3	150	9.2	1.78	34.21	297919	251.58	224.79	8.2	18.1
1466.0	16.2	42.3	150	9.2	1.75	34.27	298474	225.21	224.79	8.2	18.1
1467.0	17.9	43.1	150	9.2	1.73	34.33	298976	203.90	224.76	8.2	18.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
1468.0	17.5	41.8	150	9.2	1.72	34.38	299491	208.69	224.73	8.2	18.1
1469.0	16.5	35.9	150	9.2	1.66	34.45	300036	221.33	224.73	8.2	18.1
1470.0	17.1	41.4	150	9.2	1.72	34.50	300563	213.57	224.71	8.2	18.1
1471.0	22.5	41.1	150	9.2	1.63	34.55	300963	162.31	224.62	8.2	18.1
1472.0	27.6	41.6	150	9.2	1.56	34.58	301289	132.32	224.48	8.2	18.1
1473.0	30.4	41.2	150	9.2	1.52	34.62	301585	120.13	224.32	8.2	18.1
1474.0	26.5	41.9	150	9.2	1.58	34.65	301924	137.81	224.18	8.2	18.1
1475.0	21.5	38.2	150	9.2	1.60	34.70	302343	169.86	224.10	8.2	18.1
1476.0	21.9	42.8	150	9.2	1.66	34.75	302754	166.76	224.02	8.2	18.1
1477.0	16.4	43.8	150	9.2	1.77	34.81	303303	222.68	224.01	8.2	18.1
1478.0	18.0	40.0	150	9.2	1.69	34.86	303803	202.89	223.98	8.2	18.1
1479.0	18.4	42.6	150	9.2	1.71	34.92	304293	198.83	223.94	8.2	18.1
1480.0	18.6	43.4	150	9.2	1.72	34.97	304778	196.80	223.90	8.2	18.1
1481.0	16.8	45.4	150	9.2	1.78	35.03	305313	217.09	223.89	8.2	18.1
1482.0	17.6	45.8	150	9.2	1.77	35.09	305825	207.96	223.87	8.2	18.2
1483.0	21.4	46.2	150	9.2	1.70	35.14	306245	170.43	223.79	8.2	18.2
1484.0	22.2	46.1	150	9.2	1.69	35.18	306650	164.34	223.70	8.2	18.2
1485.0	18.0	43.9	150	9.2	1.74	35.24	307150	202.89	223.67	8.2	18.2
1486.0	17.8	46.2	150	9.2	1.77	35.29	307655	204.92	223.64	8.2	18.2
1487.0	12.4	44.6	150	9.2	1.87	35.37	308380	294.19	223.75	8.2	18.2
1488.0	13.4	44.6	150	9.2	1.85	35.45	309053	272.89	223.82	8.2	18.2
1489.0	13.3	44.5	150	9.2	1.85	35.52	309730	274.91	223.89	8.2	18.2
1490.0	15.5	44.5	150	9.2	1.80	35.59	310310	235.35	223.91	8.2	18.2
1491.0	16.1	44.7	150	9.2	1.79	35.65	310870	227.24	223.92	8.2	18.2
1492.0	19.3	44.4	150	9.2	1.72	35.70	311338	189.70	223.87	8.2	18.2
1493.0	21.4	43.7	150	9.2	1.67	35.75	311758	170.43	223.79	8.2	18.2
1494.0	16.7	43.5	150	9.2	1.76	35.81	312295	218.11	223.78	8.2	18.2
1495.0	22.2	44.2	150	9.2	1.67	35.85	312700	164.34	223.69	8.2	18.2
1496.0	19.4	45.1	150	9.2	1.73	35.90	313165	188.69	223.64	8.2	18.2
1497.0	16.8	45.2	150	9.2	1.78	35.96	313700	217.09	223.63	8.2	18.2
1498.0	20.1	44.7	150	9.2	1.71	36.01	314148	181.59	223.57	8.2	18.2
1499.0	21.2	44.7	150	9.2	1.69	36.06	314573	172.46	223.49	8.2	18.2
1500.0	19.8	44.5	150	9.2	1.71	36.11	315028	184.63	223.44	8.2	18.2
1501.0	23.7	44.1	150	9.2	1.64	36.15	315408	154.20	223.34	8.2	18.2
1502.0	21.1	44.2	150	9.2	1.69	36.20	315835	173.47	223.26	8.2	18.2
1503.0	17.1	45.0	150	9.2	1.77	36.26	316363	214.05	223.25	8.2	18.2
1504.0	13.7	45.8	150	9.2	1.86	36.33	317020	266.80	223.31	8.2	18.2
1505.0	15.4	45.8	150	9.2	1.81	36.40	317605	237.38	223.33	8.2	18.2
1506.0	14.5	45.3	150	9.2	1.83	36.47	318228	252.60	223.38	8.2	18.2
1507.0	14.6	45.5	150	9.2	1.83	36.54	318845	250.57	223.42	8.2	18.2
1508.0	15.0	45.5	150	9.2	1.82	36.60	319445	243.47	223.44	8.2	18.2
1509.0	15.1	45.4	150	9.2	1.82	36.67	320043	242.45	223.47	8.2	18.2
1510.0	15.9	45.6	150	9.2	1.80	36.73	320610	230.28	223.48	8.2	18.2
1511.0	16.7	45.7	150	9.2	1.79	36.79	321150	219.12	223.48	8.2	18.2
1512.0	17.7	45.7	150	9.2	1.76	36.85	321658	205.93	223.45	8.2	18.2
1513.0	11.1	44.1	150	9.2	1.90	36.94	322465	327.67	223.60	8.2	18.2
1514.0	12.0	46.2	150	9.2	1.91	37.02	323213	303.32	223.71	8.2	18.2
1515.0	14.6	46.3	150	9.2	1.84	37.09	323828	249.55	223.75	8.2	18.2
1516.0	14.2	46.2	150	9.2	1.85	37.16	324463	257.67	223.80	8.2	18.2
1517.0	16.1	46.1	150	9.2	1.80	37.22	325020	226.22	223.80	8.2	18.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1518.0	17.6	45.9	150	9.2	1.77	37.28	325533	207.96	223.78	8.2	18.2
1519.0	18.5	46.3	150	9.2	1.76	37.33	326020	197.82	223.74	8.2	18.2
1520.0	23.1	46.0	150	9.2	1.68	37.38	326410	158.25	223.65	8.2	18.2
1521.0	24.0	44.0	150	9.2	1.64	37.42	326785	152.17	223.55	8.2	18.2
1522.0	19.8	45.3	150	9.2	1.72	37.47	327240	184.63	223.49	8.2	18.2
1523.0	18.8	46.7	150	9.2	1.76	37.52	327720	194.77	223.45	8.2	18.2
1524.0	18.7	46.5	150	9.2	1.76	37.57	328203	195.79	223.41	8.2	18.2
1525.0	19.6	46.6	150	9.2	1.74	37.63	328663	186.66	223.36	8.2	18.2
1526.0	15.3	46.9	150	9.2	1.83	37.69	329250	238.39	223.38	8.2	18.2
1527.0	16.1	46.8	150	9.2	1.81	37.75	329810	227.24	223.39	8.2	18.2
1528.0	14.9	46.7	150	9.2	1.84	37.82	330415	245.50	223.42	8.2	18.2
1529.0	15.9	47.0	150	9.2	1.82	37.88	330980	229.26	223.43	8.2	18.2
1530.0	16.2	46.9	150	9.2	1.81	37.95	331535	225.21	223.43	8.2	18.2
1531.0	15.5	45.4	150	9.2	1.81	38.01	332118	236.37	223.45	8.2	18.2
1532.0	18.8	44.6	150	9.2	1.73	38.06	332595	193.76	223.41	8.2	18.2
1533.0	20.3	45.2	150	9.2	1.71	38.11	333038	179.56	223.35	8.2	18.2
1534.0	21.7	45.4	150	9.2	1.69	38.16	333453	168.40	223.27	8.2	18.3
1535.0	16.9	45.3	150	9.2	1.78	38.22	333985	216.08	223.26	8.2	18.3
1536.0	15.5	44.9	150	9.2	1.80	38.28	334568	236.37	223.28	8.2	18.3
1537.0	13.2	44.9	150	9.2	1.86	38.36	335248	275.93	223.35	8.2	18.3
1538.0	14.3	44.7	150	9.2	1.83	38.43	335878	255.64	223.40	8.2	18.3
1539.0	14.6	44.6	150	9.2	1.82	38.50	336495	250.57	223.43	8.2	18.3
1540.0	11.5	44.3	150	9.2	1.90	38.58	337280	318.54	223.56	8.2	18.3
1541.0	15.0	44.7	150	9.2	1.81	38.65	337880	243.47	223.59	8.2	18.3
1542.0	15.3	44.4	150	9.2	1.80	38.72	338468	238.39	223.61	8.2	18.3
1543.0	14.0	44.6	150	9.2	1.83	38.79	339110	260.71	223.66	8.2	18.3
1544.0	14.5	45.1	150	9.2	1.83	38.86	339733	252.60	223.70	8.2	18.3
1545.0	12.6	45.2	150	9.2	1.88	38.94	340445	289.12	223.79	8.2	18.3
1546.0	16.2	44.9	150	9.2	1.78	39.00	341000	225.21	223.79	8.2	18.3
1547.0	16.1	44.9	150	9.2	1.79	39.06	341558	226.22	223.80	8.2	18.3
1548.0	19.8	45.0	150	9.2	1.72	39.11	342013	184.63	223.74	8.2	18.3
1549.0	15.9	45.3	150	9.2	1.80	39.17	342578	229.26	223.75	8.2	18.3
1550.0	19.5	45.6	150	9.2	1.73	39.22	343040	187.67	223.70	8.2	18.3
1551.0	16.4	45.5	150	9.2	1.79	39.28	343590	223.18	223.70	8.2	18.3
1552.0	17.4	45.1	150	9.2	1.76	39.34	344108	209.99	223.68	8.2	18.3
1553.0	15.7	45.7	150	9.2	1.81	39.41	344683	233.32	223.70	8.2	18.3
1554.0	15.9	45.8	150	9.2	1.80	39.47	345248	229.26	223.70	8.2	18.3
1555.0	13.8	45.5	150	9.2	1.85	39.54	345900	264.77	223.76	8.2	18.3
1556.0	14.3	45.6	150	9.2	1.84	39.61	346530	255.64	223.80	8.2	18.3
1557.0	14.1	45.4	150	9.2	1.84	39.68	347170	259.70	223.85	8.2	18.3
1558.0	12.2	45.9	150	9.2	1.90	39.76	347910	300.28	223.95	8.2	18.3
1559.0	11.6	44.8	150	9.2	1.90	39.85	348688	315.49	224.08	8.2	18.3
1560.0	14.0	45.6	150	9.2	1.85	39.92	349333	261.73	224.13	8.2	18.3
1561.0	18.6	46.4	150	9.2	1.76	39.98	349818	196.80	224.09	8.2	18.3
1562.0	17.2	47.0	150	9.2	1.79	40.03	350340	212.02	224.07	8.2	18.3
1563.0	19.5	47.2	150	9.2	1.75	40.09	350803	187.67	224.03	8.2	18.3
1564.0	21.2	47.2	150	9.2	1.72	40.13	351228	172.46	223.96	8.2	18.3
1565.0	25.2	47.0	150	9.2	1.66	40.17	351585	145.07	223.85	8.2	18.3
1566.0	20.7	47.3	150	9.2	1.73	40.22	352020	176.51	223.79	8.2	18.3
1567.0	21.3	47.4	150	9.2	1.72	40.27	352443	171.44	223.72	8.2	18.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1568.0	24.0	42.3	150	9.2	1.62	40.31	352818	152.17	223.62	8.2	18.3
1569.0	21.4	45.4	150	9.2	1.69	40.36	353238	170.43	223.55	8.2	18.3
1570.0	18.8	45.3	150	9.2	1.74	40.41	353718	194.77	223.52	8.2	18.3
1571.0	17.1	45.9	150	9.2	1.78	40.47	354243	213.03	223.50	8.2	18.3
1572.0	13.9	46.6	150	9.2	1.86	40.54	354890	262.74	223.55	8.2	18.3
1573.0	15.5	46.6	150	9.2	1.82	40.60	355470	235.35	223.57	8.2	18.3
1574.0	14.5	46.6	150	9.2	1.85	40.67	356093	252.60	223.61	8.2	18.3
1575.0	14.3	46.1	150	9.2	1.85	40.74	356723	255.64	223.65	8.2	18.3
1576.0	18.1	45.9	150	9.2	1.76	40.80	357220	201.87	223.62	8.2	18.3
1577.0	18.4	46.0	150	9.2	1.76	40.85	357710	198.83	223.59	8.2	18.3
1578.0	13.7	45.9	150	9.2	1.86	40.93	358368	266.80	223.64	8.2	18.3
1579.0	12.0	46.2	150	9.2	1.91	41.01	359120	305.35	223.75	8.2	18.3
1580.0	13.3	46.3	150	9.2	1.87	41.09	359798	274.91	223.82	8.2	18.3
1581.0	14.9	45.8	150	9.2	1.83	41.15	360403	245.50	223.85	8.2	18.3
1582.0	18.7	45.6	150	9.2	1.74	41.21	360885	195.79	223.81	8.2	18.3
1583.0	18.9	45.6	150	9.2	1.74	41.26	361360	192.74	223.77	8.2	18.3
1584.0	16.3	45.5	150	9.2	1.79	41.32	361913	224.19	223.77	8.2	18.3
1585.0	13.5	46.2	150	9.2	1.87	41.39	362580	270.86	223.83	8.2	18.3
1586.0	14.3	46.3	150	9.2	1.85	41.46	363208	254.63	223.87	8.2	18.3
1587.0	10.2	45.9	150	9.2	1.96	41.56	364093	359.11	224.05	8.2	18.3
1588.0	14.8	45.9	150	9.2	1.83	41.63	364703	247.52	224.08	8.2	18.3
1589.0	13.3	46.5	150	9.2	1.87	41.71	365378	273.90	224.14	8.2	18.4
1590.0	12.7	46.4	150	9.2	1.89	41.78	366088	280.10	224.22	8.2	18.4
1591.0	16.2	46.1	150	9.2	1.80	41.85	366643	225.21	224.23	8.2	18.4
1592.0	16.2	46.2	150	9.2	1.80	41.91	367198	225.21	224.23	8.2	18.4
1593.0	17.1	46.2	150	9.2	1.78	41.97	367725	214.05	224.21	8.2	18.4
1594.0	17.2	46.3	150	9.2	1.78	42.02	368248	212.02	224.20	8.2	18.4
1595.0	17.1	46.2	150	9.2	1.78	42.08	368773	213.03	224.18	8.2	18.4
1596.0	13.4	44.5	150	9.2	1.85	42.16	369445	272.89	224.25	8.2	18.4
1597.0	10.3	43.9	150	9.2	1.93	42.25	370315	353.03	224.41	8.2	18.4
1598.0	15.5	46.0	150	9.2	1.81	42.32	370895	235.35	224.43	8.2	18.4
1599.0	14.3	47.3	150	9.2	1.86	42.39	371523	254.63	224.46	8.2	18.4
1600.0	15.1	47.3	150	9.2	1.84	42.45	372120	242.45	224.49	8.2	18.4
1601.0	15.7	47.3	150	9.2	1.83	42.52	372693	232.31	224.50	8.2	18.4
1602.0	11.9	47.4	150	9.2	1.93	42.60	373450	307.38	224.60	8.2	18.4
1603.0	12.4	47.2	150	9.2	1.91	42.68	374175	294.19	224.69	8.2	18.4
1604.0	10.6	47.7	150	9.2	1.97	42.78	375023	343.90	224.84	8.2	18.4
1605.0	11.3	46.4	150	9.2	1.93	42.87	375818	322.59	224.97	8.2	18.4
1606.0	14.9	45.2	150	9.2	1.82	42.93	376420	244.48	224.99	8.2	18.4
1607.0	17.1	45.6	150	9.2	1.77	42.99	376945	213.03	224.98	8.2	18.4
1608.0	21.3	45.0	150	9.2	1.69	43.04	377368	171.44	224.91	8.2	18.4
1609.0	18.8	42.8	150	9.2	1.71	43.09	377845	193.76	224.87	8.2	18.4
1610.0	19.3	44.0	150	9.2	1.71	43.14	378313	189.70	224.82	8.2	18.4
1611.0	19.3	44.4	150	9.2	1.72	43.19	378780	189.70	224.78	8.2	18.4
1612.0	19.6	43.8	150	9.2	1.71	43.25	379240	186.66	224.73	8.2	18.4
1613.0	16.4	44.2	150	9.2	1.77	43.31	379788	222.16	224.73	8.2	18.4
1614.0	15.4	45.0	150	9.2	1.80	43.37	380373	237.38	224.74	8.2	18.4
1615.0	13.6	45.2	150	9.2	1.85	43.45	381035	268.83	224.80	8.2	18.4
1616.0	16.1	45.5	150	9.2	1.80	43.51	381595	227.24	224.80	8.2	18.4
1617.0	16.4	46.2	150	9.2	1.80	43.57	382143	222.16	224.80	8.2	18.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1618.0	15.1	45.2	150	9.2	1.81	43.63	382738	241.44	224.82	8.2	18.4
1619.0	17.2	46.8	150	9.2	1.79	43.69	383260	212.02	224.80	8.2	18.4
1620.0	14.1	46.7	150	9.2	1.86	43.76	383900	259.70	224.85	8.2	18.4
1621.0	10.6	46.8	150	9.2	1.96	43.86	384753	345.93	225.00	8.2	18.4
1622.0	12.0	46.7	150	9.2	1.92	43.94	385505	305.35	225.10	8.2	18.4
1623.0	12.9	46.8	150	9.2	1.89	44.02	386203	283.03	225.17	8.2	18.4
1624.0	15.3	46.8	150	9.2	1.83	44.08	386790	238.39	225.19	8.2	18.4
1625.0	13.8	46.2	150	9.2	1.86	44.16	387440	263.76	225.23	8.2	18.4
1626.0	18.3	46.4	150	9.2	1.76	44.21	387933	199.85	225.20	8.2	18.4
1627.0	15.9	47.0	150	9.2	1.82	44.27	388500	230.28	225.21	8.2	18.4
1628.0	13.4	47.2	150	9.2	1.88	44.35	389170	271.87	225.27	8.2	18.4
1629.0	13.3	47.1	150	9.2	1.88	44.42	389845	273.90	225.33	8.2	18.4
1630.0	15.1	47.0	150	9.2	1.84	44.49	390443	242.45	225.35	8.2	18.4
1631.0	15.0	46.9	150	9.2	1.84	44.56	391043	243.47	225.37	8.2	18.4
1632.0	16.1	47.0	150	9.2	1.81	44.62	391600	226.22	225.37	8.2	18.4
1633.0	13.6	46.7	150	9.2	1.87	44.69	392260	267.81	225.42	8.2	18.4
1634.0	18.4	43.0	150	9.2	1.72	44.75	392750	198.83	225.39	8.2	18.4
1635.0	16.7	46.0	150	9.1	1.81	44.81	393288	218.11	225.38	8.2	18.4
1636.0	13.0	45.7	150	9.1	1.89	44.88	393978	279.99	225.45	8.2	18.4
1637.0	13.1	45.7	150	9.1	1.89	44.96	394663	277.96	225.51	8.2	18.4
1638.0	13.8	45.7	150	9.1	1.87	45.03	395313	263.76	225.56	8.2	18.4
1639.0	14.2	45.6	150	9.1	1.86	45.10	395945	256.65	225.60	8.2	18.4
1640.0	15.9	45.6	150	9.1	1.82	45.16	396513	230.28	225.60	8.2	18.4
1641.0	15.9	45.4	150	9.1	1.82	45.23	397080	230.28	225.61	8.2	18.4
1642.0	13.4	45.3	150	9.1	1.88	45.30	397750	271.87	225.66	8.2	18.4
1643.0	13.4	45.7	150	9.1	1.88	45.38	398423	272.89	225.72	8.2	18.4
1644.0	13.4	46.0	150	9.1	1.89	45.45	399093	271.87	225.78	8.2	18.4
1645.0	16.9	45.6	150	9.1	1.80	45.51	399625	216.08	225.76	8.2	18.5
1646.0	16.2	45.8	150	9.1	1.82	45.57	400180	225.21	225.76	8.2	18.5
1647.0	15.7	46.0	150	9.1	1.83	45.64	400755	233.32	225.77	8.2	18.5
1648.0	12.7	46.1	150	9.1	1.91	45.71	401463	287.09	225.85	8.2	18.5
1649.0	13.1	46.3	150	9.1	1.90	45.79	402150	278.97	225.91	8.2	18.5
1650.0	13.8	46.2	150	9.1	1.88	45.86	402800	263.76	225.96	8.2	18.5
1651.0	13.3	46.2	150	9.1	1.89	45.94	403478	274.91	226.01	8.2	18.5
1652.0	12.4	46.5	150	9.1	1.92	46.02	404205	295.20	226.10	8.2	18.5
1653.0	12.2	43.0	150	9.1	1.88	46.10	404943	299.26	226.18	8.2	18.5
1654.0	17.2	44.6	150	9.1	1.78	46.16	405465	212.02	226.17	8.2	18.5
1655.0	16.7	44.5	150	9.1	1.79	46.22	406005	219.12	226.16	8.2	18.5
1656.0	17.6	44.7	150	9.1	1.77	46.28	406518	207.96	226.14	8.2	18.5
1657.0	16.9	44.7	150	9.1	1.79	46.34	407050	216.08	226.13	8.2	18.5
1658.0	17.1	44.8	150	9.1	1.78	46.39	407575	213.03	226.11	8.2	18.5
1659.0	16.6	44.5	150	9.1	1.79	46.45	408118	220.13	226.10	8.2	18.5
1660.0	15.5	44.6	150	9.1	1.82	46.52	408698	235.35	226.11	8.2	18.5
1661.0	14.0	45.1	150	9.1	1.86	46.59	409340	260.71	226.15	8.2	18.5
1662.0	12.1	45.6	150	9.1	1.92	46.67	410083	301.29	226.24	8.2	18.5
1663.0	12.7	45.2	150	9.1	1.89	46.75	410790	287.09	226.32	8.2	18.5
1664.0	12.5	45.3	150	9.1	1.90	46.83	411513	293.17	226.39	8.2	18.5
1665.0	13.0	45.5	150	9.1	1.89	46.91	412205	281.00	226.46	8.2	18.5
1666.0	13.0	45.5	150	9.1	1.89	46.99	412895	279.99	226.52	8.2	18.5
1667.0	14.8	45.3	150	9.1	1.84	47.05	413503	246.51	226.54	8.2	18.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1668.0	15.3	45.1	150	9.1	1.83	47.12	414090	238.39	226.56	8.2	18.5
1669.0	13.9	45.2	150	9.1	1.86	47.19	414738	262.74	226.60	8.2	18.5
1670.0	11.7	45.6	150	9.1	1.93	47.28	415505	311.43	226.70	8.2	18.5
1671.0	12.5	45.0	150	9.1	1.90	47.36	416225	292.16	226.78	8.2	18.5
1672.0	24.8	44.1	150	9.1	1.65	47.40	416588	147.09	226.68	8.2	18.5
1673.0	19.1	44.7	150	9.1	1.74	47.45	417058	190.72	226.64	8.2	18.5
1674.0	16.6	45.2	150	9.1	1.80	47.51	417600	220.13	226.63	8.2	18.5
1675.0	13.0	44.2	150	9.1	1.87	47.58	418290	279.99	226.70	8.2	18.5
1676.0	13.5	44.5	150	9.1	1.86	47.66	418955	269.84	226.75	8.2	18.5
1677.0	13.2	44.6	150	9.1	1.87	47.73	419635	275.93	226.80	8.2	18.5
1678.0	11.4	43.2	150	9.1	1.90	47.82	420423	319.55	226.91	8.2	18.5
1679.0	14.5	46.5	150	9.1	1.87	47.89	421045	252.60	226.94	8.2	18.5
1680.0	13.9	46.9	150	9.1	1.89	47.96	421693	262.74	226.98	8.2	18.5
1681.0	18.2	45.5	150	9.1	1.77	48.02	422188	200.86	226.95	8.2	18.5
1682.0	15.9	44.4	150	9.1	1.81	48.08	422755	230.28	226.96	8.2	18.5
1683.0	14.9	44.7	150	9.1	1.83	48.15	423358	244.48	226.98	8.2	18.5
1684.0	14.2	44.5	150	9.1	1.85	48.22	423990	256.65	227.01	8.2	18.5
1685.0	12.3	44.9	150	9.1	1.90	48.30	424720	296.22	227.09	8.2	18.5
1686.0	13.1	45.0	150	9.1	1.88	48.38	425405	277.96	227.15	8.2	18.5
1687.0	12.9	44.6	150	9.1	1.88	48.45	426100	282.02	227.21	8.2	18.5
1688.0	17.8	44.8	150	9.1	1.77	48.51	426605	204.92	227.19	8.2	18.5
1689.0	14.3	45.0	150	9.1	1.85	48.58	427233	254.63	227.22	8.2	18.5
1690.0	13.5	45.1	150	9.1	1.87	48.65	427898	269.84	227.27	8.2	18.5
1691.0	15.8	43.4	150	9.1	1.79	48.72	428468	231.29	227.27	8.2	18.5
1692.0	16.6	44.8	150	9.1	1.80	48.78	429010	220.13	227.26	8.2	18.5
1693.0	17.2	44.7	150	9.1	1.78	48.83	429533	212.02	227.25	8.2	18.5
1694.0	16.0	44.7	150	9.1	1.81	48.90	430095	228.25	227.25	8.2	18.5
1695.0	17.7	44.6	150	9.1	1.77	48.95	430603	205.93	227.22	8.2	18.5
1696.0	13.8	44.8	150	9.1	1.86	49.03	431255	264.77	227.27	8.2	18.5
1697.0	14.1	45.0	150	9.1	1.86	49.10	431893	258.68	227.30	8.2	18.5
1698.0	14.1	45.5	150	9.1	1.86	49.17	432533	259.70	227.34	8.2	18.5
1699.0	16.7	45.4	150	9.1	1.80	49.23	433073	219.12	227.33	8.2	18.5
1700.0	13.6	44.6	150	9.1	1.86	49.30	433733	267.81	227.37	8.2	18.5
1701.0	13.6	44.0	150	9.1	1.85	49.37	434394	268.53	227.42	8.2	18.5
1702.0	13.8	41.6	150	9.1	1.82	49.45	435047	264.77	227.46	8.2	18.6
1703.0	15.0	41.5	150	9.1	1.79	49.51	435647	243.47	227.48	8.2	18.6
1704.0	18.7	41.4	150	9.1	1.71	49.57	436129	195.79	227.45	8.2	18.6
1705.0	13.7	41.7	150	9.1	1.82	49.64	436784	265.78	227.49	8.2	18.6
1706.0	12.5	42.1	150	9.1	1.86	49.72	437502	291.15	227.56	8.2	18.6
1707.0	17.3	42.3	150	9.1	1.75	49.78	438022	211.00	227.54	8.2	18.6
1708.0	17.0	42.1	150	9.1	1.75	49.84	438552	215.06	227.53	8.2	18.6
1709.0	20.0	41.9	150	9.1	1.69	49.89	439002	182.60	227.48	8.2	18.6
1710.0	20.7	42.4	150	9.1	1.69	49.93	439437	176.51	227.42	8.2	18.6
1711.0	19.3	42.3	150	9.1	1.71	49.99	439904	189.70	227.38	8.2	18.6
1712.0	17.9	42.5	150	9.1	1.74	50.04	440407	203.90	227.35	8.2	18.6
1713.0	15.3	42.8	150	9.1	1.80	50.11	440997	239.41	227.36	8.2	18.6
1714.0	12.2	43.0	150	9.1	1.88	50.19	441732	298.25	227.44	8.2	18.6
1715.0	19.9	42.8	150	9.1	1.71	50.24	442184	183.61	227.40	8.2	18.6
1716.0	18.0	42.8	150	9.1	1.74	50.29	442684	202.89	227.37	8.2	18.6
1717.0	13.7	43.1	150	9.1	1.84	50.37	443342	266.80	227.41	8.2	18.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1718.0	18.5	42.8	150	9.1	1.73	50.42	443829	197.82	227.38	8.2	18.6
1719.0	25.5	42.2	150	9.1	1.61	50.46	444182	143.04	227.29	8.2	18.6
1720.0	33.6	39.4	150	9.1	1.49	50.49	444449	108.55	227.15	8.2	18.6
1721.0	16.1	42.0	150	9.1	1.77	50.55	445009	227.24	227.15	8.2	18.6
1722.0	16.2	43.0	150	9.1	1.78	50.61	445564	225.21	227.15	8.2	18.6
1723.0	18.1	43.0	150	9.1	1.74	50.67	446062	201.87	227.12	8.2	18.6
1724.0	19.3	43.0	150	9.1	1.72	50.72	446529	189.70	227.08	8.2	18.6
1725.0	22.0	42.9	150	9.1	1.67	50.77	446939	166.37	227.02	8.2	18.6
1726.0	21.2	43.1	150	9.1	1.69	50.81	447364	172.46	226.96	8.2	18.6
1727.0	26.1	42.6	150	9.1	1.61	50.85	447709	139.99	226.86	8.2	18.6
1728.0	24.0	42.8	150	9.1	1.64	50.89	448084	152.17	226.78	8.2	18.6
1729.0	19.5	42.0	150	9.1	1.70	50.95	448547	187.67	226.74	8.2	18.6
1730.0	39.1	43.1	150	9.1	1.48	50.97	448777	93.33	226.59	8.2	18.6
1731.0	30.5	43.5	150	9.1	1.57	51.00	449072	119.70	226.47	8.2	18.6
1732.0	31.3	44.7	150	9.1	1.57	51.04	449359	116.66	226.35	8.2	18.6
1733.0	38.7	45.7	150	9.1	1.51	51.06	449592	94.34	226.21	8.2	18.6
1734.0	46.8	47.2	150	9.1	1.46	51.08	449784	78.11	226.05	8.2	18.6
1735.0	46.2	47.8	150	9.1	1.47	51.11	449979	79.13	225.89	8.2	18.6
1736.0	48.6	48.0	150	9.1	1.45	51.13	450164	75.07	225.72	8.2	18.6
1737.0	45.0	48.6	150	9.1	1.48	51.15	450364	81.16	225.57	8.2	18.6
1738.0	28.8	49.3	150	9.1	1.65	51.18	450677	126.81	225.46	8.2	18.6
1739.0	44.4	44.8	150	9.1	1.45	51.21	450879	82.17	225.30	8.2	18.6
1740.0	45.6	48.0	150	9.1	1.47	51.23	451077	80.14	225.15	8.2	18.6
1741.0	29.3	45.9	150	9.1	1.61	51.26	451384	124.78	225.04	8.2	18.6
1742.0	35.6	44.8	150	9.1	1.53	51.29	451637	102.46	224.91	8.2	18.6
1743.0	28.6	45.3	150	9.1	1.61	51.32	451952	127.82	224.80	8.2	18.6
1744.0	23.8	45.1	150	9.1	1.67	51.37	452329	153.18	224.72	8.2	18.6
1745.0	26.3	45.6	150	9.1	1.64	51.40	452672	138.98	224.63	8.2	18.6
1746.0	27.1	45.2	150	9.1	1.63	51.44	453004	134.92	224.54	8.2	18.6
1747.0	26.5	45.3	150	9.1	1.64	51.48	453344	137.96	224.44	8.2	18.6
1748.0	28.3	45.5	150	9.1	1.62	51.51	453662	128.83	224.34	8.2	18.6
1749.0	25.4	43.7	150	9.1	1.63	51.55	454017	144.05	224.25	8.2	18.6
1750.0	29.5	45.8	150	9.1	1.60	51.59	454322	123.76	224.15	8.2	18.6
1751.0	37.1	45.6	150	9.1	1.52	51.61	454564	98.40	224.01	8.2	18.6
1752.0	31.9	45.4	150	9.1	1.57	51.65	454847	114.63	223.90	8.2	18.6
1753.0	36.0	45.4	150	9.1	1.53	51.67	455097	101.44	223.76	8.2	18.6
1754.0	32.7	45.5	150	9.1	1.56	51.70	455372	111.59	223.65	8.2	18.6
1755.0	32.4	45.7	150	9.1	1.57	51.74	455649	112.60	223.53	8.2	18.6
1756.0	25.7	45.9	150	9.1	1.65	51.77	455999	142.02	223.44	8.2	18.6
1757.0	36.0	46.0	150	9.1	1.54	51.80	456249	101.44	223.31	8.2	18.6
1758.0	26.9	44.7	150	9.1	1.62	51.84	456584	135.94	223.22	8.2	18.6
1759.0	34.3	45.8	150	9.1	1.55	51.87	456847	106.52	223.09	8.2	18.6
1760.0	33.6	46.1	150	9.1	1.56	51.90	457114	108.55	222.97	8.2	18.6
1761.0	36.0	45.9	150	9.1	1.54	51.93	457364	101.44	222.84	8.2	18.7
1762.0	30.8	46.4	150	9.1	1.60	51.96	457657	118.69	222.73	8.2	18.7
1763.0	36.7	46.1	150	9.1	1.53	51.99	457902	99.42	222.60	8.2	18.7
1764.0	34.3	46.2	150	9.1	1.56	52.01	458164	106.52	222.48	8.2	18.7
1765.0	34.3	46.2	150	9.1	1.56	52.04	458427	106.52	222.36	8.2	18.7
1766.0	28.8	46.3	150	9.1	1.62	52.08	458739	126.81	222.26	8.2	18.7
1767.0	28.8	46.0	150	9.1	1.62	52.11	459052	126.81	222.16	8.2	18.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1768.0	34.0	46.5	150	9.1	1.56	52.14	459317	107.53	222.04	8.2	18.7
1769.0	27.5	46.9	150	9.1	1.64	52.18	459644	132.89	221.94	8.2	18.7
1770.0	31.3	44.5	150	9.1	1.57	52.21	459932	116.66	221.83	8.2	18.7
1771.0	21.3	44.5	150	9.1	1.70	52.26	460354	171.44	221.78	8.2	18.7
1772.0	32.1	44.5	150	9.1	1.56	52.29	460634	113.62	221.67	8.2	18.7
1773.0	32.7	45.0	150	9.1	1.56	52.32	460909	111.59	221.55	8.2	18.7
1774.0	29.5	45.3	150	9.1	1.60	52.35	461214	123.76	221.45	8.2	18.7
1775.0	24.5	45.1	150	9.1	1.66	52.39	461582	149.12	221.38	8.2	18.7
1776.0	24.2	45.2	150	9.1	1.67	52.44	461954	151.15	221.30	8.2	18.7
1777.0	32.1	44.7	150	9.1	1.56	52.47	462234	113.62	221.19	8.2	18.7
1778.0	28.6	45.7	150	9.1	1.62	52.50	462549	127.82	221.09	8.2	18.7
1779.0	28.8	46.1	150	9.1	1.62	52.54	462862	126.81	221.00	8.2	18.7
1780.0	30.8	45.7	150	9.1	1.59	52.57	463154	118.69	220.89	8.2	18.7
1781.0	24.2	46.0	150	9.1	1.68	52.61	463527	151.15	220.82	8.2	18.7
1782.0	25.9	46.6	150	9.1	1.66	52.65	463874	141.01	220.73	8.2	18.7
1783.0	29.5	46.1	150	9.1	1.61	52.68	464179	123.76	220.63	8.2	18.7
1784.0	26.7	46.0	150	9.1	1.64	52.72	464517	136.95	220.55	8.2	18.7
1785.0	31.3	46.1	150	9.1	1.59	52.75	464804	116.66	220.44	8.2	18.7
1786.0	25.9	44.3	150	9.1	1.63	52.79	465152	141.01	220.36	8.2	18.7
1787.0	31.0	45.6	150	9.1	1.58	52.82	465442	117.68	220.25	8.2	18.7
1788.0	34.3	45.8	150	9.1	1.55	52.85	465704	106.52	220.14	8.2	18.7
1789.0	29.5	46.2	150	9.1	1.61	52.89	466009	123.76	220.04	8.2	18.7
1790.0	22.4	47.1	150	9.1	1.72	52.93	466412	163.33	219.98	8.2	18.7
1791.0	27.9	46.7	150	9.1	1.63	52.97	466734	130.86	219.89	8.2	18.7
1792.0	25.9	46.6	150	9.1	1.66	53.01	467082	141.01	219.81	8.2	18.7
1793.0	29.5	46.6	150	9.1	1.61	53.04	467387	123.76	219.71	8.2	18.7
1794.0	24.2	46.8	150	9.1	1.69	53.08	467759	151.15	219.64	8.2	18.7
1795.0	33.0	46.6	150	9.1	1.57	53.11	468032	110.57	219.53	8.2	18.7
1796.0	29.8	44.5	150	9.1	1.59	53.14	468334	122.75	219.43	8.2	18.7
1797.0	33.0	45.4	150	9.1	1.56	53.18	468607	110.57	219.32	8.2	18.7
1798.0	38.7	45.5	150	9.1	1.51	53.20	468839	94.34	219.19	8.2	18.7
1799.0	30.8	45.6	150	9.1	1.59	53.23	469132	118.69	219.09	8.2	18.7
1800.0	31.3	45.8	150	9.1	1.58	53.27	469419	116.66	218.98	8.2	18.7
1801.0	29.8	46.4	150	9.1	1.61	53.30	469722	122.75	218.89	8.2	18.7
1802.0	25.4	46.1	150	9.1	1.66	53.34	470077	144.05	218.81	8.2	18.7
1803.0	31.0	45.6	150	9.1	1.58	53.37	470367	117.68	218.71	8.2	18.7
1804.0	32.7	46.1	150	9.1	1.57	53.40	470642	111.59	218.60	8.2	18.7
1805.0	30.0	44.6	150	9.1	1.59	53.43	470942	121.73	218.50	8.2	18.7
1806.0	39.6	45.3	150	9.1	1.49	53.46	471169	92.31	218.37	8.2	18.7
1807.0	41.9	46.7	150	9.1	1.49	53.48	471384	87.24	218.24	8.2	18.7
1808.0	30.5	47.6	150	9.1	1.61	53.52	471679	119.70	218.14	8.2	18.7
1809.0	30.0	46.4	150	9.1	1.61	53.55	471979	121.73	218.04	8.2	18.7
1810.0	24.0	46.3	150	9.1	1.68	53.59	472354	152.17	217.98	8.2	18.7
1811.0	24.2	46.4	150	9.1	1.68	53.63	472727	151.15	217.91	8.2	18.7
1812.0	26.1	46.0	150	9.1	1.65	53.67	473072	139.99	217.83	8.2	18.7
1813.0	29.3	45.9	150	9.1	1.61	53.71	473379	124.78	217.74	8.2	18.7
1814.0	22.6	44.1	150	9.1	1.68	53.75	473777	161.30	217.68	8.2	18.7
1815.0	25.9	48.2	150	9.1	1.68	53.79	474124	141.01	217.61	8.2	18.7
1816.0	27.3	47.4	150	9.1	1.65	53.82	474454	133.91	217.52	8.2	18.7
1817.0	25.2	46.5	150	9.1	1.67	53.86	474812	145.07	217.45	8.2	18.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1818.0	22.6	46.0	150	9.1	1.70	53.91	475209	161.30	217.39	8.2	18.7
1819.0	18.5	47.2	150	9.1	1.79	53.96	475697	197.82	217.37	8.2	18.7
1820.0	25.0	47.1	150	9.1	1.68	54.00	476057	146.08	217.30	8.2	18.7
1821.0	27.3	47.0	150	9.1	1.65	54.04	476387	133.91	217.22	8.2	18.7
1822.0	27.9	47.2	150	9.1	1.64	54.08	476709	130.86	217.13	8.2	18.8
1823.0	26.5	46.8	150	9.1	1.65	54.11	477049	137.96	217.06	8.2	18.8
1824.0	27.3	45.1	150	9.1	1.62	54.15	477379	133.91	216.97	8.2	18.8
1825.0	29.5	44.9	150	9.1	1.59	54.18	477684	123.76	216.88	8.2	18.8
1826.0	29.3	46.0	150	9.1	1.61	54.22	477992	124.78	216.79	8.2	18.8
1827.0	27.9	46.6	150	9.1	1.63	54.25	478314	130.86	216.71	8.2	18.8
1828.0	27.5	46.8	150	9.1	1.64	54.29	478642	132.89	216.62	8.2	18.8
1829.0	22.9	46.6	150	9.1	1.70	54.33	479034	159.27	216.57	8.2	18.8
1830.0	25.5	47.0	150	9.1	1.67	54.37	479387	143.04	216.49	8.2	18.8
1831.0	26.5	46.8	150	9.1	1.65	54.41	479727	137.96	216.42	8.2	18.8
1832.0	35.0	46.3	150	9.1	1.55	54.44	479984	104.49	216.31	8.2	18.8
1833.0	33.0	44.7	150	9.1	1.55	54.47	480257	110.57	216.20	8.2	18.8
1834.0	29.5	43.8	150	9.1	1.58	54.50	480562	123.76	216.11	8.2	18.8
1835.0	24.0	44.7	150	9.1	1.66	54.55	480937	152.17	216.05	8.2	18.8
1836.0	21.4	43.0	150	9.1	1.68	54.59	481357	170.43	216.00	8.2	18.8
1837.0	22.4	43.5	150	9.1	1.67	54.64	481759	163.33	215.95	8.2	18.8
1838.0	24.8	43.8	150	9.1	1.64	54.68	482122	147.09	215.88	8.2	18.8
1839.0	23.7	44.1	150	9.1	1.66	54.72	482502	154.20	215.82	8.2	18.8
1840.0	22.9	44.2	150	9.1	1.67	54.76	482894	159.27	215.77	8.2	18.8
1841.0	26.7	44.0	150	9.1	1.62	54.80	483232	136.95	215.69	8.2	18.8
1842.0	29.5	43.8	150	9.1	1.58	54.83	483537	123.76	215.60	8.2	18.8
1843.0	22.2	42.3	150	9.1	1.66	54.88	483942	164.34	215.55	8.2	18.8
1844.0	21.6	44.4	150	9.1	1.70	54.93	484359	169.41	215.51	8.2	18.8
1845.0	33.0	44.2	150	9.1	1.55	54.96	484632	110.57	215.41	8.2	18.8
1846.0	25.0	44.3	150	9.1	1.65	55.00	484992	146.08	215.34	8.2	18.8
1847.0	22.6	44.6	150	9.1	1.68	55.04	485389	161.30	215.29	8.2	18.8
1848.0	24.0	45.3	150	9.1	1.67	55.08	485764	152.17	215.22	8.2	18.8
1849.0	21.8	45.2	150	9.1	1.70	55.13	486177	167.38	215.18	8.2	18.8
1850.0	26.1	45.2	150	9.1	1.64	55.17	486522	139.99	215.11	8.2	18.8
1851.0	21.7	45.8	150	9.1	1.71	55.21	486937	168.40	215.06	8.2	18.8
1852.0	24.3	46.3	150	9.1	1.68	55.25	487307	150.14	215.00	8.2	18.8
1853.0	22.9	45.8	150	9.1	1.69	55.30	487699	159.27	214.94	8.2	18.8
1854.0	16.7	46.9	150	9.1	1.82	55.36	488239	219.12	214.95	8.2	18.8
1855.0	19.6	46.3	150	9.1	1.76	55.41	488699	186.66	214.92	8.2	18.8
1856.0	15.9	47.0	150	9.1	1.84	55.47	489264	229.26	214.93	8.2	18.8
1857.0	22.0	46.7	150	9.1	1.72	55.52	489674	166.37	214.89	8.2	18.8
1858.0	16.1	47.1	150	9.1	1.84	55.58	490234	227.24	214.90	8.2	18.8
1858.4	7.0	32.4	150	9.1	1.90	55.64	490747	519.90	215.02	8.2	18.8

BIT NUMBER	3	IADC CODE	116	INTERVAL	1858.0— 2418.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	3.8	BIT RUN	560.0
TOTAL HOURS	18.58	TOTAL TURNS	167237	CONDITION	T5 R8 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1859.0	14.8	36.2	150	9.1	1.72	0.07	610	248	16819	8.2	18.8
1860.0	25.9	34.5	150	9.1	1.51	0.11	958	141	8480	8.2	18.8
1861.0	18.9	32.5	150	9.1	1.59	0.16	1433	193	5718	8.2	18.8
1862.0	19.8	31.8	150	9.1	1.56	0.21	1888	185	4334	8.2	18.8
1863.0	26.3	34.2	150	9.1	1.50	0.25	2230	139	3495	8.2	18.8
1864.0	30.0	39.1	150	9.1	1.52	0.28	2530	122	2933	8.2	18.8
1865.0	34.6	39.7	150	9.1	1.48	0.31	2790	106	2529	8.2	18.8
1866.0	27.7	41.0	150	9.1	1.57	0.35	3115	132	2229	8.2	18.8
1867.0	34.3	39.8	150	9.1	1.48	0.38	3378	107	1994	8.2	18.8
1868.0	34.6	39.4	150	9.1	1.48	0.40	3638	106	1805	8.2	18.8
1869.0	32.7	40.1	150	9.1	1.50	0.43	3913	112	1651	8.2	18.8
1870.0	31.9	41.0	150	9.1	1.52	0.47	4195	115	1523	8.2	18.8
1871.0	36.7	36.3	150	9.1	1.42	0.49	4440	99	1413	8.2	18.8
1872.0	32.4	39.4	150	9.1	1.50	0.52	4718	113	1320	8.2	18.8
1873.0	33.3	39.4	150	9.1	1.49	0.55	4988	110	1240	8.2	18.8
1874.0	29.3	40.2	150	9.1	1.54	0.59	5295	125	1170	8.2	18.8
1875.0	40.9	39.9	150	9.1	1.43	0.61	5515	89	1106	8.2	18.8
1876.0	38.3	39.4	150	9.1	1.44	0.64	5750	95	1050	8.2	18.8
1877.0	33.0	39.4	150	9.1	1.49	0.67	6023	111	1001	8.2	18.8
1878.0	33.3	40.1	150	9.1	1.50	0.70	6293	109.56	956.25	8.2	18.8
1879.0	38.3	40.1	150	9.1	1.45	0.73	6528	95.36	915.25	8.2	18.8
1880.0	33.0	36.9	150	9.1	1.46	0.76	6800	110.57	878.68	8.2	18.8
1881.0	31.9	38.9	150	9.1	1.50	0.79	7083	114.63	845.46	8.2	18.8
1882.0	33.0	40.6	150	9.1	1.51	0.82	7355	110.57	814.84	8.2	18.8
1883.0	29.8	40.0	150	9.1	1.53	0.85	7658	122.75	787.15	8.2	18.8
1884.0	35.6	39.2	150	9.1	1.46	0.88	7910	102.46	760.82	8.2	18.8
1885.0	27.5	39.5	150	9.1	1.56	0.92	8238	132.89	737.56	8.2	18.9
1886.0	29.8	39.7	150	9.1	1.53	0.95	8540	122.75	715.61	8.2	18.9
1887.0	31.6	39.2	150	9.1	1.50	0.98	8825	115.65	694.92	8.2	18.9
1888.0	32.7	39.4	150	9.1	1.50	1.01	9100	111.59	675.47	8.2	18.9
1889.0	35.3	39.0	150	9.1	1.46	1.04	9355	103.47	657.02	8.2	18.9
1890.0	36.4	39.8	150	9.1	1.46	1.07	9603	100.43	639.63	8.2	18.9
1891.0	39.6	38.3	150	9.1	1.42	1.09	9830	92.31	623.04	8.2	18.9
1892.0	34.3	39.0	150	9.1	1.48	1.12	10093	106.52	607.85	8.2	18.9
1893.0	33.6	39.4	150	9.1	1.49	1.15	10360	108.55	593.58	8.2	18.9
1894.0	30.0	39.8	150	9.1	1.53	1.18	10660	121.73	580.48	8.2	18.9
1895.0	35.3	39.5	150	9.1	1.47	1.21	10915	103.47	567.59	8.2	18.9
1896.0	37.9	39.4	150	9.1	1.45	1.24	11153	96.37	555.19	8.2	18.9
1897.0	33.6	39.8	150	9.1	1.49	1.27	11420	108.55	543.73	8.2	18.9
1898.0	35.0	38.3	150	9.1	1.46	1.30	11678	104.49	532.75	8.2	18.9
1899.0	32.7	39.0	150	9.1	1.49	1.33	11953	111.59	522.48	8.2	18.9
1900.0	34.3	39.2	150	9.1	1.48	1.36	12215	106.52	512.58	8.2	18.9
1901.0	37.9	39.7	150	9.1	1.45	1.38	12453	96.37	502.90	8.2	18.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1902.0	39.6	39.3	150	9.1	1.43	1.41	12680	92.31	493.57	8.2	18.9
1903.0	33.3	40.0	150	9.1	1.50	1.44	12950	109.56	485.03	8.2	18.9
1904.0	46.2	39.3	150	9.1	1.38	1.46	13145	79.13	476.21	8.2	18.9
1905.0	37.1	39.7	150	9.1	1.46	1.49	13388	98.40	468.17	8.2	18.9
1906.0	35.6	40.1	150	9.1	1.47	1.52	13640	102.46	460.55	8.2	18.9
1907.0	39.1	39.8	150	9.1	1.44	1.54	13870	93.33	453.06	8.2	18.9
1908.0	42.4	38.0	150	9.1	1.39	1.56	14083	86.23	445.72	8.2	18.9
1909.0	40.9	38.0	150	9.1	1.40	1.59	14303	89.27	438.73	8.2	18.9
1910.0	47.4	37.2	150	9.1	1.35	1.61	14493	77.10	431.78	8.2	18.9
1911.0	36.4	40.2	150	9.1	1.47	1.64	14740	100.43	425.52	8.2	18.9
1912.0	35.3	38.4	150	9.1	1.46	1.67	14995	103.47	419.56	8.2	18.9
1913.0	39.6	38.5	150	9.1	1.42	1.69	15223	92.31	413.61	8.2	18.9
1914.0	40.0	38.5	150	9.1	1.42	1.72	15448	91.30	407.85	8.2	18.9
1915.0	40.4	38.3	150	9.1	1.41	1.74	15670	90.29	402.28	8.2	18.9
1916.0	37.5	38.4	150	9.1	1.44	1.77	15910	97.39	397.03	8.2	18.9
1917.0	36.4	38.7	150	9.1	1.45	1.80	16158	100.43	392.00	8.2	18.9
1918.0	36.0	37.3	150	9.1	1.44	1.82	16408	101.44	387.16	8.2	18.9
1919.0	40.0	39.3	150	9.1	1.43	1.85	16633	91.30	382.31	8.2	18.9
1920.0	40.9	39.0	150	9.1	1.41	1.87	16853	89.27	377.58	8.2	18.9
1921.0	35.3	39.3	150	9.1	1.47	1.90	17108	103.47	373.23	8.2	18.9
1922.0	34.6	39.5	150	9.1	1.48	1.93	17368	105.50	369.05	8.2	18.9
1923.0	37.5	39.7	150	9.1	1.45	1.96	17608	97.39	364.87	8.2	18.9
1924.0	30.8	39.9	150	9.1	1.52	1.99	17900	118.69	361.14	8.2	18.9
1925.0	35.0	40.1	150	9.1	1.48	2.02	18158	104.49	357.31	8.2	18.9
1926.0	39.6	39.6	150	9.1	1.43	2.04	18385	92.31	353.41	8.2	18.9
1927.0	35.0	38.8	150	9.1	1.47	2.07	18643	104.49	349.80	8.2	18.9
1928.0	35.3	38.1	150	9.1	1.45	2.10	18898	103.47	346.28	8.2	18.9
1929.0	32.1	39.0	150	9.1	1.50	2.13	19178	113.62	343.01	8.2	18.9
1930.0	21.4	38.2	150	9.1	1.62	2.18	19598	170.43	340.61	8.2	18.9
1931.0	19.9	38.1	150	9.1	1.65	2.23	20050	183.61	338.46	8.2	18.9
1932.0	23.1	37.7	150	9.1	1.59	2.27	20440	158.25	336.02	8.2	18.9
1933.0	25.0	37.7	150	9.1	1.57	2.31	20800	146.08	333.49	8.2	18.9
1934.0	19.9	38.2	150	9.1	1.65	2.36	21253	183.61	331.52	8.2	18.9
1935.0	21.4	38.7	150	9.1	1.63	2.41	21673	170.43	329.43	8.2	18.9
1936.0	21.3	40.0	150	9.1	1.65	2.46	22095	171.44	327.40	8.2	18.9
1937.0	22.5	36.2	150	9.1	1.58	2.50	22495	162.31	325.31	8.2	18.9
1938.0	35.0	37.1	150	9.1	1.45	2.53	22753	104.49	322.55	8.2	18.9
1939.0	27.3	38.2	150	9.1	1.54	2.56	23083	133.91	320.22	8.2	18.9
1940.0	28.6	38.7	150	9.1	1.53	2.60	23398	127.82	317.88	8.2	18.9
1941.0	30.5	38.7	150	9.1	1.51	2.63	23693	119.70	315.49	8.2	18.9
1942.0	24.0	38.8	150	9.1	1.59	2.67	24068	152.17	313.54	8.2	18.9
1943.0	31.6	38.4	150	9.1	1.50	2.71	24353	115.65	311.22	8.2	18.9
1944.0	28.6	38.7	150	9.1	1.53	2.74	24668	127.82	309.08	8.2	18.9
1945.0	35.6	38.7	150	9.1	1.46	2.77	24920	102.46	306.71	8.2	18.9
1946.0	27.1	36.8	150	9.1	1.53	2.81	25253	134.92	304.76	8.2	18.9
1947.0	30.8	39.0	150	9.1	1.51	2.84	25545	118.69	302.67	8.2	18.9
1948.0	32.7	39.7	150	9.1	1.50	2.87	25820	111.59	300.54	8.2	18.9
1949.0	31.3	40.2	150	9.1	1.52	2.90	26108	116.66	298.52	8.2	18.9
1950.0	34.0	39.4	150	9.1	1.48	2.93	26373	107.53	296.45	8.2	19.0
1951.0	35.6	39.3	150	9.1	1.47	2.96	26625	102.46	294.36	8.2	19.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1952.0	22.9	39.5	150	9.1	1.62	3.00	27018	159.27	292.92	8.2	19.0
1953.0	27.5	39.3	150	9.1	1.55	3.04	27345	132.89	291.24	8.2	19.0
1954.0	29.8	38.9	150	9.1	1.52	3.07	27648	122.75	289.48	8.2	19.0
1955.0	29.5	39.0	150	9.1	1.53	3.11	27953	123.76	287.77	8.2	19.0
1956.0	26.5	40.0	150	9.1	1.57	3.14	28293	137.96	286.25	8.2	19.0
1957.0	29.5	39.8	150	9.1	1.54	3.18	28598	123.76	284.60	8.2	19.0
1958.0	29.5	39.7	150	9.1	1.53	3.21	28903	123.76	283.00	8.2	19.0
1959.0	32.4	39.2	150	9.1	1.50	3.24	29180	112.60	281.31	8.2	19.0
1960.0	31.9	38.8	150	9.1	1.50	3.27	29463	114.63	279.67	8.2	19.0
1961.0	35.6	38.8	150	9.1	1.46	3.30	29715	102.46	277.95	8.2	19.0
1962.0	29.0	39.8	150	9.1	1.54	3.34	30025	125.79	276.49	8.2	19.0
1963.0	27.5	40.0	150	9.1	1.56	3.37	30353	132.89	275.12	8.2	19.0
1964.0	26.3	40.1	150	9.1	1.58	3.41	30695	138.98	273.84	8.2	19.0
1965.0	42.9	40.6	150	9.1	1.42	3.43	30905	85.21	272.08	8.2	19.0
1966.0	35.6	39.3	150	9.1	1.47	3.46	31158	102.46	270.51	8.2	19.0
1967.0	31.8	39.6	150	9.1	1.52	3.49	31448	117.68	269.10	8.2	19.0
1968.0	32.1	39.7	150	9.1	1.51	3.53	31728	113.62	267.69	8.2	19.0
1969.0	32.7	39.9	150	9.1	1.50	3.56	32003	111.59	266.28	8.2	19.0
1970.0	32.7	39.8	150	9.1	1.50	3.59	32278	111.59	264.90	8.2	19.0
1971.0	39.6	39.6	150	9.1	1.43	3.61	32505	92.31	263.38	8.2	19.0
1972.0	31.3	39.4	150	9.1	1.51	3.64	32793	116.66	262.09	8.2	19.0
1973.0	35.0	39.5	150	9.1	1.47	3.67	33050	104.49	260.72	8.2	19.0
1974.0	36.0	40.0	150	9.1	1.47	3.70	33300	101.44	259.34	8.2	19.0
1975.0	34.8	40.2	150	9.1	1.48	3.73	33559	104.94	258.03	8.2	19.0
1976.0	37.9	40.3	150	9.1	1.46	3.76	33796	96.37	256.66	8.2	19.0
1977.0	37.1	40.0	150	9.1	1.46	3.78	34039	98.40	255.33	8.2	19.0
1978.0	31.6	40.0	150	9.1	1.51	3.81	34324	115.65	254.16	8.2	19.0
1979.0	29.8	40.5	150	9.1	1.54	3.85	34626	122.75	253.08	8.2	19.0
1980.0	30.5	40.8	150	9.1	1.54	3.88	34921	119.70	251.98	8.2	19.0
1981.0	26.3	40.9	150	9.1	1.59	3.92	35264	138.98	251.06	8.2	19.0
1982.0	36.4	40.8	150	9.1	1.48	3.95	35511	100.43	249.85	8.2	19.0
1983.0	27.3	40.7	150	9.1	1.57	3.98	35841	133.91	248.92	8.2	19.0
1984.0	38.7	40.8	150	9.1	1.45	4.01	36074	94.34	247.69	8.2	19.0
1985.0	34.3	44.3	150	9.1	1.54	4.04	36336	106.52	246.58	8.2	19.0
1986.0	28.3	42.5	150	9.1	1.58	4.07	36654	128.83	245.66	8.2	19.0
1987.0	29.8	41.2	150	9.1	1.55	4.11	36956	122.75	244.71	8.2	19.0
1988.0	32.7	41.2	150	9.1	1.52	4.14	37231	111.59	243.69	8.2	19.0
1989.0	26.5	41.3	150	9.1	1.59	4.17	37571	137.96	242.88	8.2	19.0
1990.0	30.0	41.2	150	9.1	1.55	4.21	37871	121.73	241.96	8.2	19.0
1991.0	32.1	41.2	150	9.1	1.52	4.24	38151	113.62	241.00	8.2	19.0
1992.0	28.8	41.3	150	9.1	1.56	4.27	38464	126.81	240.14	8.2	19.0
1993.0	28.8	41.3	150	9.1	1.56	4.31	38776	126.81	239.30	8.2	19.0
1994.0	21.1	42.0	150	9.1	1.68	4.36	39204	173.47	238.82	8.2	19.0
1995.0	21.4	42.0	150	9.1	1.67	4.40	39624	170.43	238.32	8.2	19.0
1996.0	23.1	41.7	150	9.1	1.64	4.45	40014	158.25	237.74	8.2	19.0
1997.0	24.7	42.4	150	9.1	1.63	4.49	40379	148.11	237.10	8.2	19.0
1998.0	25.5	42.6	150	9.1	1.62	4.53	40731	143.04	236.42	8.2	19.0
1999.0	27.5	42.6	150	9.1	1.59	4.56	41059	132.89	235.69	8.2	19.0
2000.0	27.9	42.5	150	9.1	1.59	4.60	41381	130.86	234.95	8.2	19.0
2001.0	27.7	42.5	150	9.1	1.59	4.63	41706	131.88	234.23	8.2	19.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2002.0	32.7	43.6	150	9.1	1.54	4.66	41981	111.59	233.38	8.2	19.0
2003.0	23.2	43.8	150	9.1	1.67	4.71	42369	157.24	232.85	8.2	19.0
2004.0	37.1	41.5	150	9.1	1.48	4.73	42611	98.40	231.93	8.2	19.0
2005.0	36.0	41.3	150	9.1	1.48	4.76	42861	101.44	231.05	8.2	19.0
2006.0	36.0	41.7	150	9.1	1.49	4.79	43111	101.44	230.17	8.2	19.0
2007.0	34.6	42.1	150	9.1	1.51	4.82	43371	105.50	229.33	8.2	19.0
2008.0	26.5	42.2	150	9.1	1.60	4.86	43711	137.96	228.72	8.2	19.0
2009.0	30.8	42.5	150	9.1	1.55	4.89	44004	118.69	228.00	8.2	19.0
2010.0	35.0	42.0	150	9.1	1.50	4.92	44261	104.49	227.18	8.2	19.0
2011.0	42.4	41.2	150	9.1	1.43	4.94	44474	86.23	226.26	8.2	19.0
2012.0	41.4	41.1	150	9.1	1.44	4.97	44691	88.26	225.37	8.2	19.0
2013.0	25.0	42.2	150	9.1	1.62	5.01	45051	146.08	224.85	8.2	19.0
2014.0	34.6	42.1	150	9.1	1.51	5.03	45311	105.50	224.09	8.2	19.0
2015.0	31.0	41.8	150	9.1	1.54	5.07	45601	117.68	223.41	8.2	19.0
2016.0	34.0	42.3	150	9.1	1.52	5.10	45866	107.53	222.68	8.2	19.0
2017.0	36.7	42.2	150	9.1	1.49	5.12	46111	99.42	221.90	8.2	19.1
2018.0	33.3	42.4	150	9.1	1.52	5.15	46381	109.56	221.20	8.2	19.1
2019.0	37.1	42.1	150	9.1	1.48	5.18	46624	98.40	220.44	8.2	19.1
2020.0	34.0	42.0	150	9.1	1.51	5.21	46889	107.53	219.74	8.2	19.1
2021.0	33.3	42.4	150	9.1	1.52	5.24	47159	109.56	219.06	8.2	19.1
2022.0	34.0	44.0	150	9.1	1.53	5.27	47424	107.53	218.38	8.2	19.1
2023.0	36.7	42.8	150	9.1	1.49	5.30	47669	99.42	217.66	8.2	19.1
2024.0	42.4	42.7	150	9.1	1.44	5.32	47881	86.23	216.87	8.2	19.1
2025.0	40.0	42.8	150	9.1	1.47	5.35	48106	91.30	216.12	8.2	19 1
2026.0	36.0	42.9	150	9.1	1.50	5.37	48356	101.44	215.44	8.2	19.1
2027.0	36.0	42.8	150	9.1	1.50	5.40	48606	101.44	214.76	8.2	19 1
2028.0	36.0	42.6	150	9.1	1.50	5.43	48856	101.44	214.10	8.2	19.1
2029.0	34.6	42.6	150	9.1	1.51	5.46	49116	105.50	213.46	8.2	19.1
2030.0	40.4	42.6	150	9.1	1.46	5.48	49339	90.29	212.74	8.2	19.1
2031.0	36.7	42.2	150	9.1	1.49	5.51	49584	99.42	212.09	8.2	19.1
2032.0	36.7	43.4	150	9.1	1.50	5.54	49829	99.42	211.44	8.2	19.1
2033.0	31.0	43.6	150	9.1	1.56	5.57	50119	117.68	210.91	8.2	19.1
2034.0	34.0	43.5	150	9.1	1.53	5.60	50384	107.53	210.32	8.2	19.1
2035.0	32.7	43.7	150	9.1	1.54	5.63	50659	111.59	209.76	8.2	19.1
2036.0	37.5	43.6	150	9.1	1.50	5.66	50899	97.39	209.13	8.2	19.1
2037.0	30.8	43.8	150	9.1	1.57	5.69	51191	118.69	208.62	8.2	19.1
2038.0	36.0	43.6	150	9.1	1.51	5.72	51441	101.44	208.03	8.2	19.1
2039.0	36.0	43.1	150	9.1	1.50	5.74	51691	101.44	207.44	8.2	19.1
2040.0	26.9	43.4	150	9.1	1.61	5.78	52026	135.94	207.05	8.2	19.1
2041.0	34.6	45.3	150	9.1	1.54	5.81	52286	105.50	206.49	8.2	19.1
2042.0	30.8	44.3	150	9.1	1.57	5.84	52579	118.69	206.02	8.2	19.1
2043.0	34.3	44.1	150	9.1	1.53	5.87	52841	106.52	205.48	8.2	19.1
2044.0	27.9	41.3	150	9.1	1.57	5.91	53164	130.86	205.08	8.2	19.1
2045.0	30.5	42.1	150	9.1	1.55	5.94	53459	119.70	204.62	8.2	19.1
2046.0	30.8	43.7	150	9.1	1.57	5.97	53751	118.69	204.16	8.2	19.1
2047.0	34.0	43.9	150	9.1	1.53	6.00	54016	107.53	203.65	8.2	19.1
2048.0	26.3	44.2	150	9.1	1.63	6.04	54359	138.98	203.31	8.2	19.1
2049.0	25.5	44.9	150	9.1	1.65	6.08	54711	143.04	203.00	8.2	19.1
2050.0	33.6	39.8	150	9.1	1.49	6.11	54979	108.55	202.50	8.2	19.1
2051.0	33.6	38.3	150	9.1	1.47	6.14	55246	108.55	202.02	8.2	19 1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2052.0	34.0	39.8	150	9.1	1.49	6.17	55511	107.53	201.53	8.2	19.1
2053.0	28.6	39.8	150	9.1	1.55	6.20	55826	127.82	201.15	8.2	19.1
2054.0	28.1	40.2	150	9.1	1.56	6.24	56146	129.85	200.79	8.2	19.1
2055.0	36.7	39.6	150	9.1	1.46	6.27	56391	99.42	200.27	8.2	19.1
2056.0	32.4	39.8	150	9.1	1.50	6.30	56669	112.60	199.83	8.2	19.1
2057.0	34.6	39.8	150	9.1	1.48	6.33	56929	105.50	199.36	8.2	19.1
2058.0	30.0	39.7	150	9.1	1.53	6.36	57229	121.73	198.97	8.2	19.1
2059.0	41.4	39.5	150	9.1	1.42	6.38	57446	88.26	198.42	8.2	19.1
2060.0	26.5	41.6	150	9.1	1.59	6.42	57786	137.96	198.12	8.2	19.1
2061.0	32.7	40.5	150	9.1	1.51	6.45	58061	111.59	197.69	8.2	19.1
2062.0	41.4	41.7	150	9.1	1.44	6.48	58279	88.26	197.16	8.2	19.1
2063.0	35.3	39.5	150	9.1	1.47	6.50	58534	103.47	196.70	8.2	19.1
2064.0	37.9	41.1	150	9.1	1.46	6.53	58771	96.37	196.21	8.2	19.1
2065.0	33.0	41.3	150	9.1	1.51	6.56	59044	110.57	195.80	8.2	19.1
2066.0	29.0	41.7	150	9.1	1.56	6.59	59354	125.79	195.46	8.2	19.1
2067.0	34.0	41.3	150	9.1	1.51	6.62	59619	107.53	195.04	8.2	19.1
2068.0	40.4	41.1	150	9.1	1.44	6.65	59841	90.29	194.54	8.2	19.1
2069.0	32.7	40.8	150	9.1	1.51	6.68	60116	111.59	194.15	8.2	19.1
2070.0	31.0	42.2	150	9.1	1.55	6.71	60406	117.68	193.79	8.2	19.1
2071.0	35.0	41.5	150	9.1	1.50	6.74	60664	104.49	193.37	8.2	19.1
2072.0	34.6	41.1	150	9.1	1.50	6.77	60924	105.50	192.96	8.2	19.1
2073.0	34.3	41.6	150	9.1	1.50	6.80	61186	106.52	192.56	8.2	19.1
2074.0	34.6	42.6	150	9.1	1.51	6.83	61446	105.50	192.15	8.2	19.1
2075.0	43.4	44.3	150	9.1	1.45	6.85	61654	84.20	191.66	8.2	19.1
2076.0	48.0	44.2	150	9.1	1.42	6.87	61841	76.08	191.13	8.2	19.1
2077.0	34.0	44.3	150	9.1	1.54	6.90	62106	107.53	190.74	8.2	19.1
2078.0	36.4	42.2	150	9.1	1.49	6.93	62354	100.43	190.33	8.2	19.1
2079.0	26.7	41.3	150	9.1	1.59	6.97	62691	136.95	190.09	8.2	19.1
2080.0	30.5	41.8	150	9.1	1.55	7.00	62986	119.70	189.77	8.2	19.1
2081.0	30.5	41.8	150	9.1	1.55	7.03	63281	119.70	189.46	8.2	19.1
2082.0	35.0	42.0	150	9.1	1.50	7.06	63539	104.49	189.08	8.2	19.1
2083.0	40.9	41.7	150	9.1	1.44	7.08	63759	89.27	188.64	8.2	19.1
2084.0	38.7	41.5	150	9.1	1.46	7.11	63991	94.34	188.22	8.2	19.1
2085.0	34.3	41.5	150	9.1	1.50	7.14	64254	106.52	187.86	8.2	19.2
2086.0	30.8	41.5	150	9.1	1.54	7.17	64546	118.69	187.56	8.2	19.2
2087.0	37.9	41.4	150	9.1	1.47	7.20	64784	96.37	187.16	8.2	19.2
2088.0	18.9	42.2	150	9.1	1.72	7.25	65259	192.74	187.18	8.2	19.2
2089.0	30.5	41.7	150	9.1	1.55	7.28	65554	119.70	186.89	8.2	19.2
2090.0	35.0	41.3	150	9.1	1.49	7.31	65811	104.49	186.54	8.2	19.2
2091.0	33.0	40.7	150	9.1	1.51	7.34	66084	110.57	186.21	8.2	19.2
2092.0	34.6	34.1	150	9.1	1.41	7.37	66344	105.50	185.86	8.2	19.2
2093.0	34.6	40.8	150	9.1	1.49	7.40	66604	105.50	185.52	8.2	19.2
2094.0	38.3	40.3	150	9.1	1.45	7.43	66839	95.36	185.14	8.2	19.2
2095.0	40.4	41.4	150	9.1	1.45	7.45	67061	90.29	184.74	8.2	19.2
2096.0	35.6	40.9	150	9.1	1.48	7.48	67314	102.46	184.39	8.2	19.2
2097.0	36.0	40.9	150	9.1	1.48	7.51	67564	101.44	184.05	8.2	19.2
2098.0	43.1	42.1	150	9.1	1.43	7.53	67772	84.71	183.63	8.2	19.2
2099.0	36.4	42.8	150	9.1	1.50	7.56	68020	100.43	183.29	8.2	19.2
2100.0	36.0	44.8	150	9.1	1.52	7.59	68270	101.44	182.95	8.2	19.2
2101.0	46.2	45.2	150	9.1	1.44	7.61	68465	79.13	182.52	8.2	19.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2102.0	38.3	45.9	150	9.1	1.51	7.63	68700	95.36	182.17	8.2	19.2
2103.0	37.5	45.0	150	9.1	1.51	7.66	68940	97.39	181.82	8.2	19.2
2104.0	38.3	44.9	150	9.1	1.50	7.69	69175	95.36	181.47	8.2	19.2
2105.0	35.6	44.5	150	9.1	1.52	7.71	69427	102.46	181.15	8.2	19.2
2106.0	40.4	44.3	150	9.1	1.48	7.74	69650	90.29	180.78	8.2	19.2
2107.0	35.0	43.3	150	9.1	1.52	7.77	69907	104.49	180.48	8.2	19.2
2108.0	33.6	46.7	150	9.1	1.57	7.80	70175	108.55	180.19	8.2	19.2
2109.0	38.7	46.9	150	9.1	1.52	7.82	70407	94.34	179.85	8.2	19.2
2110.0	37.9	45.2	150	9.1	1.51	7.85	70645	96.37	179.51	8.2	19.2
2111.0	31.9	42.4	150	9.1	1.54	7.88	70927	114.63	179.26	8.2	19.2
2112.0	33.0	43.4	150	9.1	1.54	7.91	71200	110.57	178.99	8.2	19.2
2113.0	48.6	44.4	150	9.1	1.41	7.93	71385	75.07	178.58	8.2	19.2
2114.0	46.8	46.7	150	9.1	1.45	7.95	71577	78.11	178.19	8.2	19.2
2115.0	54.5	46.7	150	9.1	1.40	7.97	71742	66.95	177.76	8.2	19.2
2116.0	53.7	46.4	150	9.1	1.40	7.99	71910	67.97	177.33	8.2	19.2
2117.0	23.8	45.9	150	9.1	1.68	8.03	72287	153.18	177.24	8.2	19.2
2118.0	35.3	44.1	150	9.1	1.52	8.06	72542	103.47	176.95	8.2	19.2
2119.0	43.9	45.4	150	9.1	1.46	8.08	72747	83.18	176.59	8.2	19.2
2120.0	31.9	45.3	150	9.1	1.57	8.11	73030	114.63	176.36	8.2	19.2
2121.0	41.4	44.9	150	9.1	1.48	8.14	73247	88.26	176.02	8.2	19.2
2122.0	46.2	45.0	150	9.1	1.44	8.16	73442	79.13	175.65	8.2	19.2
2123.0	34.0	45.8	150	9.1	1.56	8.19	73707	107.53	175.40	8.2	19.2
2124.0	43.4	45.4	150	9.1	1.46	8.21	73915	84.20	175.05	8.2	19.2
2125.0	45.6	45.1	150	9.1	1.44	8.23	74112	80.14	174.70	8.2	19.2
2126.0	36.7	44.2	150	9.1	1.51	8.26	74357	99.42	174.42	8.2	19.2
2127.0	41.4	39.7	150	9.1	1.42	8.29	74575	88.26	174.10	8.2	19.2
2128.0	37.1	39.7	150	9.1	1.46	8.31	74817	98.40	173.82	8.2	19.2
2129.0	41.9	39.9	150	9.1	1.42	8.34	75032	87.24	173.50	8.2	19.2
2130.0	38.3	37.9	150	9.1	1.43	8.36	75267	95.36	173.21	8.2	19.2
2131.0	46.2	38.3	150	9.1	1.37	8.38	75462	79.13	172.87	8.2	19.2
2132.0	34.6	40.9	150	9.1	1.49	8.41	75722	105.50	172.62	8.2	19.2
2133.0	25.2	38.0	150	9.1	1.57	8.45	76080	145.07	172.52	8.2	19.2
2134.0	31.9	38.6	150	9.1	1.49	8.48	76362	114.63	172.31	8.2	19.2
2135.0	33.3	37.8	150	9.1	1.47	8.51	76632	109.56	172.08	8.2	19.2
2136.0	50.7	44.0	150	9.1	1.39	8.53	76810	72.03	171.72	8.2	19.2
2137.0	32.4	40.0	150	9.1	1.51	8.57	77087	112.60	171.51	8.2	19.2
2138.0	49.3	43.4	150	9.1	1.40	8.59	77270	74.05	171.16	8.2	19.2
2139.0	41.4	42.8	150	9.1	1.45	8.61	77487	88.26	170.87	8.2	19.2
2140.0	35.3	42.7	150	9.1	1.51	8.64	77742	103.47	170.63	8.2	19.2
2141.0	38.7	42.7	150	9.1	1.48	8.66	77975	94.34	170.36	8.2	19.2
2142.0	37.5	42.9	150	9.1	1.49	8.69	78215	97.39	170.10	8.2	19.2
2143.0	36.4	42.8	150	9.1	1.50	8.72	78462	100.43	169.86	8.2	19.2
2144.0	35.0	43.2	150	9.1	1.52	8.75	78720	104.49	169.63	8.2	19.2
2145.0	36.7	43.4	150	9.1	1.50	8.77	78965	99.42	169.39	8.2	19.2
2146.0	30.5	42.6	150	9.1	1.56	8.81	79260	119.70	169.21	8.2	19.2
2147.0	35.6	43.5	150	9.1	1.51	8.83	79512	102.46	168.98	8.2	19.2
2148.0	40.0	43.1	150	9.1	1.47	8.86	79737	91.30	168.71	8.2	19.2
2149.0	38.3	43.2	150	9.1	1.48	8.89	79972	95.36	168.46	8.2	19.2
2150.0	44.4	43.1	150	9.1	1.43	8.91	80175	82.17	168.17	8.2	19.2
2151.0	39.1	43.2	150	9.1	1.48	8.93	80405	93.33	167.91	8.2	19.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2152.0	42.9	43.2	150	9.1	1.44	8.96	80615	85.21	167.63	8.2	19.2
2153.0	36.4	43.3	150	9.1	1.50	8.98	80862	100.43	167.40	8.2	19.2
2154.0	32.1	44.2	150	9.1	1.56	9.02	81142	113.62	167.22	8.2	19.2
2155.0	27.5	44.6	150	9.1	1.62	9.05	81470	132.89	167.11	8.2	19.2
2156.0	37.5	44.6	150	9.1	1.51	9.08	81710	97.39	166.87	8.2	19.3
2157.0	38.3	44.1	150	9.1	1.49	9.10	81945	95.36	166.63	8.2	19.3
2158.0	40.0	44.0	150	9.1	1.48	9.13	82170	91.30	166.38	8.2	19.3
2159.0	41.9	43.8	150	9.1	1.46	9.15	82385	87.24	166.12	8.2	19.3
2160.0	43.9	43.9	150	9.1	1.44	9.18	82590	83.18	165.84	8.2	19.3
2161.0	42.9	43.7	150	9.1	1.45	9.20	82800	85.21	165.58	8.2	19.3
2162.0	35.6	45.7	150	9.1	1.54	9.23	83052	102.46	165.37	8.2	19.3
2163.0	41.9	45.0	150	9.1	1.47	9.25	83267	87.24	165.11	8.2	19.3
2164.0	55.4	44.8	150	9.1	1.37	9.27	83430	65.94	164.79	8.2	19.3
2165.0	34.6	47.3	150	9.1	1.56	9.30	83690	105.50	164.60	8.2	19.3
2166.0	48.6	45.9	150	9.1	1.43	9.32	83875	75.07	164.31	8.2	19.3
2167.0	42.9	45.9	150	9.1	1.47	9.34	84085	85.21	164.05	8.2	19.3
2168.0	46.8	46.2	150	9.1	1.45	9.36	84277	78.11	163.77	8.2	19.3
2169.0	41.9	46.4	150	9.1	1.49	9.39	84492	87.24	163.53	8.2	19.3
2170.0	40.4	46.4	150	9.1	1.50	9.41	84715	90.29	163.29	8.2	19.3
2171.0	40.4	46.7	150	9.1	1.50	9.44	84937	90.29	163.06	8.2	19.3
2172.0	36.4	46.3	150	9.1	1.54	9.46	85185	100.43	162.86	8.2	19.3
2173.0	48.0	45.6	150	9.1	1.43	9.49	85372	76.08	162.58	8.2	19.3
2174.0	40.4	45.0	150	9.1	1.48	9.51	85595	90.29	162.35	8.2	19.3
2175.0	50.7	45.5	150	9.1	1.41	9.53	85772	72.03	162.07	8.2	19.3
2176.0	50.0	45.6	150	9.1	1.42	9.55	85952	73.04	161.79	8.2	19.3
2177.0	53.7	45.9	150	9.1	1.39	9.57	86120	67.97	161.50	8.2	19.3
2178.0	42.9	46.3	150	9.1	1.48	9.59	86330	85.21	161.26	8.2	19.3
2179.0	45.6	46.9	150	9.1	1.46	9.61	86527	80.14	161.00	8.2	19.3
2180.0	43.5	46.5	150	9.1	1.47	9.64	86734	83.95	160.77	8.2	19.3
2181.0	41.6	46.5	150	9.1	1.49	9.66	86951	87.75	160.54	8.2	19.3
2182.0	45.0	46.6	150	9.1	1.46	9.68	87151	81.16	160.29	8.2	19.3
2183.0	43.4	44.6	150	9.1	1.46	9.71	87358	84.20	160.06	8.2	19.3
2184.0	53.7	45.7	150	9.1	1.39	9.73	87526	67.97	159.78	8.2	19.3
2185.0	35.3	46.4	150	9.1	1.55	9.75	87781	103.47	159.61	8.2	19.3
2186.0	33.3	46.3	150	9.1	1.57	9.78	88051	109.56	159.45	8.2	19.3
2187.0	38.7	46.5	150	9.1	1.52	9.81	88283	94.34	159.25	8.2	19.3
2188.0	38.7	46.1	150	9.1	1.51	9.84	88516	94.34	159.06	8.2	19.3
2189.0	58.1	45.2	150	9.1	1.36	9.85	88671	62.90	158.77	8.2	19.3
2190.0	43.4	44.5	150	9.1	1.46	9.88	88878	84.20	158.54	8.2	19.3
2191.0	50.0	43.7	150	9.1	1.40	9.90	89058	73.04	158.29	8.2	19.3
2192.0	42.4	44.2	150	9.1	1.46	9.92	89271	86.23	158.07	8.2	19.3
2193.0	51.4	44.8	150	9.1	1.40	9.94	89446	71.01	157.81	8.2	19.3
2194.0	39.1	45.9	150	9.1	1.51	9.96	89676	93.33	157.62	8.2	19.3
2195.0	51.4	46.2	150	9.1	1.41	9.98	89851	71.01	157.36	8.2	19.3
2196.0	36.0	46.8	150	9.1	1.54	10.01	90101	101.44	157.20	8.2	19.3
2197.0	43.9	47.0	150	9.1	1.48	10.03	90306	83.18	156.98	8.2	19.3
2198.0	52.2	47.3	150	9.1	1.42	10.05	90478	70.00	156.72	8.2	19.3
2199.0	46.8	46.4	150	9.1	1.45	10.07	90671	78.11	156.49	8.2	19.3
2200.0	52.2	46.0	150	9.1	1.41	10.09	90843	70.00	156.24	8.2	19.3
2201.0	46.8	46.2	150	9.1	1.45	10.12	91036	78.11	156.01	8.2	19.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2202.0	40.0	44.3	150	9.1	1.48	10.14	91261	91.30	155.82	8.2	19.3
2203.0	52.9	45.7	150	9.1	1.40	10.16	91431	68.98	155.57	8.2	19.3
2204.0	52.2	45.6	150	9.1	1.40	10.18	91603	70.00	155.32	8.2	19.3
2205.0	55.4	46.1	150	9.1	1.38	10.20	91766	65.94	155.07	8.2	19.3
2206.0	45.6	46.5	150	9.1	1.46	10.22	91963	80.14	154.85	8.2	19.3
2207.0	46.8	47.5	150	9.1	1.46	10.24	92156	78.11	154.63	8.2	19.3
2208.0	42.9	47.3	150	9.1	1.49	10.26	92366	85.21	154.43	8.2	19.3
2209.0	60.0	46.4	150	9.1	1.36	10.28	92516	60.87	154.17	8.2	19.3
2210.0	61.0	46.6	150	9.1	1.35	10.30	92663	59.85	153.90	8.2	19.3
2211.0	32.1	45.9	150	9.1	1.57	10.33	92943	113.62	153.78	8.2	19.3
2212.0	50.0	45.3	150	9.2	1.40	10.35	93123	73.04	153.56	8.2	19.3
2213.0	48.0	46.6	150	9.2	1.42	10.37	93311	76.08	153.34	8.2	19.3
2214.0	37.9	48.0	150	9.2	1.52	10.39	93548	96.37	153.18	8.2	19.3
2215.0	33.0	48.2	150	9.2	1.57	10.42	93821	110.57	153.06	8.2	19.3
2216.0	27.7	45.7	150	9.2	1.61	10.46	94146	131.88	153.00	8.2	19.3
2217.0	26.7	45.5	150	9.2	1.62	10.50	94483	136.95	152.95	8.2	19.3
2218.0	39.6	45.4	150	9.2	1.48	10.52	94711	92.31	152.79	8.2	19.3
2219.0	35.3	47.7	150	9.2	1.54	10.55	94966	103.47	152.65	8.2	19.3
2220.0	22.2	46.1	150	9.2	1.69	10.60	95371	164.34	152.68	8.2	19.3
2221.0	34.6	43.6	150	9.2	1.51	10.63	95631	105.50	152.55	8.2	19.3
2222.0	23.8	45.2	150	9.2	1.66	10.67	96008	153.18	152.55	8.2	19.3
2223.0	29.5	44.4	150	9.2	1.57	10.70	96313	123.76	152.47	8.2	19.3
2224.0	30.5	45.1	150	9.2	1.57	10.73	96608	119.70	152.39	8.2	19.3
2225.0	36.0	44.7	150	9.2	1.51	10.76	96858	101.44	152.25	8.2	19.3
2226.0	36.0	43.9	150	9.2	1.50	10.79	97108	101.44	152.11	8.2	19.3
2227.0	31.6	44.4	150	9.2	1.55	10.82	97393	115.65	152.01	8.2	19.3
2228.0	31.0	44.1	150	9.2	1.55	10.85	97683	117.68	151.92	8.2	19.4
2229.0	28.8	43.3	150	9.2	1.57	10.89	97996	126.81	151.85	8.2	19.4
2230.0	20.7	44.4	150	9.2	1.69	10.94	98431	176.51	151.92	8.2	19.4
2231.0	43.4	42.5	150	9.2	1.42	10.96	98638	84.20	151.73	8.2	19.4
2232.0	30.3	43.5	150	9.2	1.55	10.99	98936	120.72	151.65	8.2	19.4
2233.0	40.0	44.1	150	9.2	1.46	11.02	99161	91.30	151.49	8.2	19.4
2234.0	34.6	43.8	150	9.2	1.51	11.05	99421	105.50	151.37	8.2	19.4
2235.0	34.3	44.4	150	9.2	1.52	11.08	99683	106.52	151.25	8.2	19.4
2236.0	24.8	45.1	150	9.2	1.64	11.12	100046	147.09	151.24	8.2	19.4
2237.0	27.3	45.8	150	9.2	1.61	11.15	100376	133.91	151.19	8.2	19.4
2238.0	32.4	44.4	150	9.2	1.54	11.18	100653	112.60	151.09	8.2	19.4
2239.0	24.5	45.3	150	9.2	1.65	11.22	101021	149.12	151.09	8.2	19.4
2240.0	34.3	44.4	150	9.2	1.52	11.25	101283	106.52	150.97	8.2	19.4
2241.0	42.9	43.3	150	9.2	1.43	11.28	101493	85.21	150.80	8.2	19.4
2242.0	32.7	43.7	150	9.2	1.53	11.31	101768	111.59	150.69	8.2	19.4
2243.0	27.7	44.0	150	9.2	1.59	11.34	102093	131.88	150.65	8.2	19.4
2244.0	27.7	44.1	150	9.2	1.59	11.38	102418	131.88	150.60	8.2	19.4
2245.0	32.1	43.4	150	9.2	1.53	11.41	102698	113.62	150.50	8.2	19.4
2246.0	27.7	43.3	150	9.2	1.58	11.45	103023	131.88	150.45	8.2	19.4
2247.0	27.7	43.3	150	9.2	1.58	11.48	103348	131.88	150.41	8.2	19.4
2248.0	28.0	43.2	150	9.2	1.58	11.52	103669	130.43	150.35	8.2	19.4
2249.0	30.2	43.5	150	9.2	1.55	11.55	103967	120.93	150.28	8.2	19.4
2250.0	32.1	46.3	150	9.2	1.56	11.58	104247	113.62	150.19	8.2	19.4
2251.0	31.9	44.7	150	9.2	1.55	11.61	104530	114.63	150.10	8.2	19.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2252.0	31.9	46.3	150	9.2	1.57	11.65	104812	114.63	150.01	8.2	19.4
2253.0	38.3	48.1	150	9.2	1.52	11.67	105047	95.36	149.87	8.2	19.4
2254.0	41.4	46.8	150	9.2	1.48	11.70	105265	88.26	149.71	8.2	19.4
2255.0	40.9	45.2	150	9.2	1.47	11.72	105485	89.27	149.56	8.2	19.4
2256.0	38.3	45.1	150	9.2	1.49	11.75	105720	95.36	149.42	8.2	19.4
2257.0	35.0	46.1	150	9.2	1.53	11.78	105977	104.49	149.31	8.2	19.4
2258.0	29.5	46.9	150	9.2	1.60	11.81	106282	123.76	149.25	8.2	19.4
2259.0	24.5	46.8	150	9.2	1.66	11.85	106650	149.12	149.25	8.2	19.4
2260.0	29.0	47.0	150	9.2	1.61	11.88	106960	125.79	149.19	8.2	19.4
2261.0	36.7	47.1	150	9.2	1.52	11.91	107205	99.42	149.06	8.2	19.4
2262.0	52.2	45.6	150	9.2	1.39	11.93	107377	70.00	148.87	8.2	19.4
2263.0	41.9	45.4	150	9.2	1.46	11.95	107592	87.24	148.72	8.2	19.4
2264.0	47.4	43.9	150	9.2	1.40	11.98	107782	77.10	148.54	8.2	19.4
2265.0	64.3	41.7	150	9.2	1.28	11.99	107922	56.81	148.31	8.2	19.4
2266.0	38.7	43.6	150	9.2	1.47	12.02	108155	94.34	148.18	8.2	19.4
2267.0	43.9	44.3	150	9.2	1.43	12.04	108360	83.18	148.02	8.2	19.4
2268.0	48.0	39.0	150	9.2	1.35	12.06	108547	76.08	147.85	8.2	19.4
2269.0	42.4	56.8	150	9.2	1.57	12.08	108760	86.23	147.70	8.2	19.4
2270.0	45.3	50.0	150	9.2	1.48	12.11	108959	80.62	147.54	8.2	19.4
2271.0	33.6	48.9	150	9.2	1.57	12.14	109226	108.55	147.44	8.2	19.4
2272.0	35.3	48.1	150	9.2	1.55	12.16	109481	103.47	147.33	8.2	19.4
2273.0	52.2	48.2	150	9.2	1.41	12.18	109654	70.00	147.15	8.2	19.4
2274.0	69.2	47.3	150	9.2	1.30	12.20	109784	52.75	146.92	8.2	19.4
2275.0	37.9	47.9	150	9.2	1.52	12.22	110021	96.37	146.80	8.2	19.4
2276.0	43.4	48.6	150	9.2	1.48	12.25	110229	84.20	146.65	8.2	19.4
2277.0	65.5	48.3	150	9.2	1.33	12.26	110366	55.79	146.43	8.2	19.4
2278.0	43.4	43.5	150	9.2	1.43	12.29	110574	84.20	146.29	8.2	19.4
2279.0	38.7	42.6	150	9.2	1.46	12.31	110806	94.34	146.16	8.2	19.4
2280.0	31.0	42.2	150	9.2	1.53	12.34	111096	117.68	146.09	8.2	19.4
2281.0	33.6	39.9	150	9.2	1.47	12.37	111364	108.55	146.01	8.2	19.4
2282.0	35.6	41.8	150	9.2	1.48	12.40	111616	102.46	145.90	8.2	19.4
2283.0	27.1	42.2	150	9.2	1.58	12.44	111949	134.92	145.88	8.2	19.4
2284.0	31.0	41.2	150	9.2	1.52	12.47	112239	117.68	145.81	8.2	19.4
2285.0	31.9	41.7	150	9.2	1.51	12.50	112521	114.63	145.74	8.2	19.4
2286.0	25.7	40.9	150	9.2	1.58	12.54	112871	142.02	145.73	8.2	19.4
2287.0	26.9	41.1	150	9.2	1.57	12.58	113206	135.94	145.71	8.2	19.4
2288.0	26.9	41.4	150	9.2	1.57	12.62	113541	135.94	145.68	8.2	19.4
2289.0	22.1	42.4	150	9.2	1.65	12.66	113949	165.35	145.73	8.2	19.4
2290.0	28.8	41.5	150	9.2	1.55	12.70	114261	126.81	145.69	8.2	19.4
2291.0	19.1	42.7	150	9.2	1.70	12.75	114731	190.72	145.79	8.2	19.4
2292.0	27.7	42.4	150	9.2	1.57	12.78	115056	131.88	145.76	8.2	19.4
2293.0	21.4	42.4	150	9.2	1.66	12.83	115476	170.43	145.81	8.2	19.4
2294.0	26.1	43.6	150	9.2	1.60	12.87	115821	139.99	145.80	8.2	19.4
2295.0	23.7	42.4	150	9.2	1.62	12.91	116201	154.20	145.82	8.2	19.4
2296.0	23.4	42.1	150	9.2	1.62	12.95	116586	156.22	145.84	8.2	19.4
2297.0	22.8	43.4	150	9.2	1.65	13.00	116981	160.28	145.88	8.2	19.4
2298.0	25.4	43.1	150	9.2	1.61	13.04	117336	144.05	145.87	8.2	19.4
2299.0	24.7	42.3	150	9.2	1.61	13.08	117701	148.11	145.88	8.2	19.4
2300.0	27.1	42.2	150	9.2	1.58	13.11	118034	134.92	145.85	8.2	19.4
2301.0	25.2	42.6	150	9.2	1.61	13.15	118391	145.07	145.85	8.2	19.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2302.0	30.0	43.3	150	9.2	1.55	13.19	118691	121.73	145.80	8.2	19.4
2303.0	32.1	45.3	150	9.2	1.55	13.22	118971	113.62	145.72	8.2	19.5
2304.0	27.5	43.6	150	9.2	1.59	13.26	119299	132.89	145.70	8.2	19.5
2305.0	27.1	43.5	150	9.2	1.59	13.29	119631	134.92	145.67	8.2	19.5
2306.0	23.8	43.1	150	9.2	1.63	13.33	120009	153.18	145.69	8.2	19.5
2307.0	20.0	42.0	150	9.2	1.68	13.38	120459	182.60	145.77	8.2	19.5
2308.0	21.3	41.5	150	9.2	1.65	13.43	120881	171.44	145.83	8.2	19.5
2309.0	17.8	40.3	150	9.2	1.69	13.49	121386	204.92	145.96	8.2	19.5
2310.0	21.2	39.9	150	9.2	1.63	13.53	121811	172.46	146.02	8.2	19.5
2311.0	25.2	39.8	150	9.2	1.57	13.57	122169	145.07	146.02	8.2	19.5
2312.0	19.8	40.5	150	9.2	1.66	13.62	122624	184.63	146.10	8.2	19.5
2313.0	22.6	40.9	150	9.2	1.62	13.67	123021	161.30	146.13	8.2	19.5
2314.0	19.5	41.0	150	9.2	1.67	13.72	123484	187.67	146.22	8.2	19.5
2315.0	32.1	42.0	150	9.2	1.52	13.75	123764	113.77	146.15	8.2	19.5
2316.0	31.0	40.6	150	9.2	1.51	13.78	124054	117.68	146.09	8.2	19.5
2317.0	25.5	40.9	150	9.2	1.58	13.82	124407	143.04	146.08	8.2	19.5
2318.0	22.0	42.2	150	9.2	1.65	13.87	124817	166.37	146.13	8.2	19.5
2319.0	25.7	42.2	150	9.2	1.59	13.91	125167	142.02	146.12	8.2	19.5
2320.0	36.7	42.2	150	9.2	1.47	13.93	125412	99.42	146.02	8.2	19.5
2321.0	24.7	44.0	150	9.2	1.63	13.98	125777	148.11	146.02	8.2	19.5
2322.0	27.7	44.2	150	9.2	1.59	14.01	126102	131.88	145.99	8.2	19.5
2323.0	25.0	43.9	150	9.2	1.62	14.05	126462	146.08	145.99	8.2	19.5
2324.0	29.3	43.9	150	9.2	1.57	14.09	126769	124.78	145.95	8.2	19.5
2325.0	40.9	43.3	150	9.2	1.45	14.11	126989	89.27	145.83	8.2	19.5
2326.0	35.3	48.3	150	9.2	1.55	14.14	127244	103.47	145.74	8.2	19.5
2327.0	23.2	46.1	150	9.2	1.67	14.18	127632	157.24	145.76	8.2	19.5
2328.0	31.9	47.4	150	9.2	1.58	14.21	127914	114.63	145.69	8.2	19.5
2329.0	26.3	47.5	150	9.2	1.65	14.25	128257	138.98	145.68	8.2	19.5
2330.0	28.3	47.3	150	9.2	1.62	14.29	128574	128.83	145.64	8.2	19.5
2331.0	27.3	47.5	150	9.2	1.63	14.32	128904	133.91	145.62	8.2	19.5
2332.0	25.9	47.4	150	9.2	1.65	14.36	129252	141.01	145.61	8.2	19.5
2333.0	23.4	47.4	150	9.2	1.69	14.40	129637	156.22	145.63	8.2	19.5
2334.0	22.4	47.8	150	9.2	1.71	14.45	130039	163.33	145.67	8.2	19.5
2335.0	20.2	46.0	150	9.2	1.72	14.50	130484	180.57	145.74	8.2	19.5
2336.0	30.0	46.2	150	9.2	1.59	14.53	130784	121.73	145.69	8.2	19.5
2337.0	20.5	45.6	150	9.2	1.71	14.58	131224	178.54	145.76	8.2	19.5
2338.0	26.7	44.1	150	9.2	1.60	14.62	131562	136.95	145.74	8.2	19.5
2339.0	22.6	45.1	150	9.2	1.67	14.66	131959	161.30	145.77	8.2	19.5
2340.0	24.2	44.5	150	9.2	1.64	14.70	132332	151.15	145.79	8.2	19.5
2341.0	23.7	44.9	150	9.2	1.65	14.75	132712	154.20	145.80	8.2	19.5
2342.0	21.6	45.5	150	9.2	1.69	14.79	133129	169.41	145.85	8.2	19.5
2343.0	22.5	45.4	150	9.2	1.68	14.84	133529	162.31	145.89	8.2	19.5
2344.0	22.2	45.4	150	9.2	1.68	14.88	133934	164.34	145.92	8.2	19.5
2345.0	21.2	44.0	150	9.2	1.68	14.93	134359	172.46	145.98	8.2	19.5
2346.0	24.5	46.0	150	9.2	1.65	14.97	134727	149.12	145.98	8.2	19.5
2347.0	27.9	47.0	150	9.2	1.62	15.01	135049	130.86	145.95	8.2	19.5
2348.0	26.7	47.8	150	9.2	1.65	15.04	135387	136.95	145.94	8.2	19.5
2349.0	25.4	47.8	150	9.2	1.66	15.08	135742	144.05	145.93	8.2	19.5
2350.0	24.3	47.8	150	9.2	1.68	15.12	136112	150.14	145.94	8.2	19.5
2351.0	22.4	48.2	150	9.2	1.71	15.17	136514	163.33	145.98	8.2	19.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2352.0	28.3	47.9	150	9.2	1.62	15.20	136832	128.83	145.94	8.2	19.5
2353.0	24.0	48.1	150	9.2	1.69	15.25	137207	152.17	145.95	8.2	19.5
2354.0	15.0	43.1	150	9.2	1.79	15.31	137807	243.47	146.15	8.2	19.5
2355.0	19.6	42.1	150	9.2	1.68	15.36	138267	186.66	146.23	8.2	19.5
2356.0	23.7	44.4	150	9.2	1.65	15.41	138647	154.20	146.25	8.2	19.5
2357.0	18.8	44.5	150	9.2	1.73	15.46	139127	194.77	146.34	8.2	19.5
2358.0	19.1	44.7	150	9.2	1.72	15.51	139597	190.72	146.43	8.2	19.5
2359.0	19.9	44.7	150	9.2	1.71	15.56	140049	183.61	146.51	8.2	19.5
2360.0	22.6	44.6	150	9.2	1.67	15.61	140447	161.30	146.54	8.2	19.5
2361.0	17.1	44.2	150	9.2	1.76	15.66	140972	213.03	146.67	8.2	19.5
2362.0	23.2	44.4	150	9.2	1.65	15.71	141359	157.24	146.69	8.2	19.5
2363.0	22.0	44.7	150	9.2	1.68	15.75	141769	166.37	146.73	8.2	19.5
2364.0	15.9	43.8	150	9.3	1.76	15.82	142337	230.28	146.89	8.2	19.5
2365.0	22.0	44.3	150	9.3	1.65	15.86	142747	166.37	146.93	8.2	19.5
2366.0	21.3	45.5	150	9.3	1.68	15.91	143169	171.44	146.98	8.2	19.5
2367.0	18.8	44.2	150	9.3	1.71	15.96	143649	194.77	147.08	8.2	19.5
2368.0	18.8	43.8	150	9.3	1.70	16.01	144127	193.76	147.17	8.2	19.5
2369.0	17.9	41.9	150	9.3	1.69	16.07	144629	203.90	147.28	8.2	19.5
2370.0	18.7	42.7	150	9.3	1.69	16.12	145112	195.79	147.37	8.2	19.5
2371.0	16.7	44.0	150	9.3	1.74	16.18	145652	219.12	147.51	8.2	19.5
2372.0	15.7	47.9	150	9.3	1.82	16.25	146227	233.32	147.68	8.2	19.5
2373.0	16.7	48.5	150	9.3	1.80	16.31	146767	219.12	147.82	8.2	19.5
2374.0	17.3	44.6	150	9.3	1.74	16.37	147287	211.00	147.94	8.2	19.5
2375.0	16.9	45.2	150	9.3	1.76	16.42	147819	216.08	148.07	8.2	19.5
2376.0	16.6	45.2	150	9.3	1.76	16.48	148362	220.13	148.21	8.2	19.5
2377.0	22.2	45.5	150	9.3	1.66	16.53	148767	164.34	148.24	8.2	19.5
2378.0	17.4	45.5	150	9.3	1.75	16.59	149284	209.99	148.36	8.2	19.5
2379.0	18.0	45.8	150	9.3	1.74	16.64	149784	202.89	148.47	8.2	19.6
2380.0	19.0	47.3	150	9.3	1.74	16.70	150257	191.73	148.55	8.2	19.6
2381.0	17.9	49.1	150	9.3	1.78	16.75	150759	203.90	148.65	8.2	19.6
2382.0	18.2	46.0	150	9.3	1.74	16.81	151254	200.66	148.75	8.2	19.6
2383.0	26.7	47.0	150	9.3	1.62	16.84	151591	136.95	148.73	8.2	19.6
2384.0	23.2	47.3	150	9.3	1.67	16.89	151979	157.24	148.75	8.2	19.6
2385.0	23.5	47.9	150	9.3	1.67	16.93	152361	155.21	148.76	8.2	19.6
2386.0	23.5	48.2	150	9.3	1.68	16.97	152744	155.21	148.77	8.2	19.6
2387.0	18.8	47.4	150	9.3	1.74	17.02	153221	193.76	148.86	8.2	19.6
2388.0	22.2	46.8	150	9.3	1.68	17.07	153626	164.34	148.89	8.2	19.6
2389.0	19.5	47.4	150	9.3	1.73	17.12	154089	187.67	148.96	8.2	19.6
2390.0	15.5	46.7	150	9.3	1.81	17.19	154671	236.37	149.12	8.2	19.6
2391.0	22.9	45.6	150	9.3	1.66	17.23	155064	159.27	149.14	8.2	19.6
2392.0	21.1	47.7	150	9.3	1.71	17.28	155491	173.47	149.19	8.2	19.6
2393.0	25.4	45.9	150	9.3	1.62	17.32	155846	144.05	149.18	8.2	19.6
2394.0	13.9	42.3	150	9.3	1.78	17.39	156494	262.74	149.39	8.2	19.6
2395.0	14.9	43.8	150	9.3	1.78	17.46	157099	245.50	149.57	8.2	19.6
2396.0	17.4	44.4	150	9.3	1.74	17.51	157616	209.99	149.68	8.2	19.6
2397.0	25.2	45.6	150	9.3	1.62	17.55	157974	145.07	149.67	8.2	19.6
2398.0	21.7	47.2	150	9.3	1.69	17.60	158389	168.40	149.71	8.2	19.6
2399.0	19.4	47.8	150	9.3	1.74	17.65	158854	188.69	149.78	8.2	19.6
2400.0	19.3	46.9	150	9.3	1.73	17.70	159321	189.70	149.85	8.2	19.6
2401.0	23.8	46.3	150	9.3	1.65	17.74	159699	153.18	149.86	8.2	19.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2402.0	10.6	26.8	150	9.3	1.64	17.84	160551	345.93	150.22	8.2	19.6
2403.0	17.6	43.8	150	9.3	1.73	17.90	161064	207.96	150.33	8.2	19.6
2404.0	24.2	47.8	150	9.3	1.66	17.94	161436	151.15	150.33	8.2	19.6
2405.0	20.1	47.9	150	9.3	1.73	17.99	161884	181.59	150.38	8.2	19.6
2406.0	23.5	48.2	150	9.3	1.68	18.03	162266	155.21	150.39	8.2	19.6
2407.0	24.7	47.4	150	9.3	1.65	18.07	162631	148.11	150.39	8.2	19.6
2408.0	20.3	48.0	150	9.3	1.73	18.12	163074	179.56	150.44	8.2	19.6
2409.0	22.0	50.1	150	9.3	1.73	18.16	163482	165.69	150.47	8.2	19.6
2410.0	24.0	48.9	150	9.3	1.68	18.21	163857	152.17	150.47	8.2	19.6
2411.0	36.0	48.9	150	9.3	1.54	18.23	164107	101.44	150.38	8.2	19.6
2412.0	17.3	48.7	150	9.3	1.80	18.29	164627	211.00	150.49	8.2	19.6
2413.0	13.7	49.1	150	9.3	1.89	18.36	165284	266.80	150.70	8.2	19.6
2414.0	14.3	47.7	150	9.2	1.85	18.43	165912	254.63	150.89	8.2	19.6
2415.0	14.4	47.9	150	9.3	1.85	18.50	166537	253.61	151.07	8.2	19.6
2416.0	6.4	50.8	150	9.2	2.18	18.66	167937	568.09	151.82	8.2	19.6
2417.0	10.2	50.0	150	9.3	1.99	18.76	168819	358.04	152.19	8.2	19.6
2418.0	10.3	50.2	150	9.3	1.99	18.85	169693	354.56	152.55	8.2	19.6

BIT NUMBER	4	IADC CODE	517	INTERVAL	2419.0- 2671.0
HTC J22		SIZE	12.250	NOZZLES	18 18 18
COST	8516.00	TRIP TIME	4.7	BIT RUN	253.0
TOTAL HOURS	26.35	TOTAL TURNS	102049	CONDITION	T3 B2 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2419.0	8.6	29.0	150	9.2	1.75	0.12	1044	424	26104	8.2	19.6
2420.0	4.0	25.0	150	9.2	1.90	0.37	3292	912	13508	8.2	19.6
2421.0	7.0	27.9	150	9.2	1.79	0.51	4579	522	9180	8.2	19.6
2422.0	7.5	27.4	150	9.3	1.76	0.64	5782	488	7007	8.2	19.6
2423.0	5.6	30.2	150	9.3	1.90	0.82	7397	655	5736	8.2	19.6
2424.0	3.5	33.3	150	9.2	2.11	1.11	9989	1052	4956	8.2	19.6
2425.0	10.4	31.2	150	9.3	1.73	1.21	10854	351	4298	8.2	19.6
2426.0	10.2	27.9	150	9.3	1.68	1.30	11739	359	3806	8.2	19.6
2427.0	8.8	31.7	150	9.2	1.79	1.42	12757	413	3429	8.2	19.6
2428.0	23.2	27.0	64	9.3	1.16	1.46	12922	157	3101	8.2	19.6
2429.0	22.9	43.0	150	9.3	1.63	1.50	13316	160	2834	8.2	19.6
2430.0	25.0	13.6	66	9.3	0.97	1.54	13474	146	2610	8.2	19.6
2431.0	23.7	40.5	64	9.2	1.31	1.59	13635	154	2421	8.2	19.6
2432.0	22.6	41.2	64	9.3	1.33	1.63	13805	161	2260	8.2	19.6
2433.0	17.6	38.9	54	9.3	1.33	1.69	13989	207	2123	8.2	19.6
2434.0	22.9	40.1	62	9.3	1.30	1.73	14151	159	2000	8.2	19.6
2435.0	16.8	40.8	62	9.3	1.42	1.79	14373	217	1895	8.2	19.6
2436.0	22.6	40.7	63	9.3	1.32	1.83	14540	161	1799	8.2	19.6
2437.0	13.5	41.3	63	9.2	1.50	1.91	14821	271	1718	8.2	19.6
2438.0	14.5	41.2	63	9.3	1.48	1.98	15085	253	1645	8.2	19.6
2439.0	8.9	42.4	64	9.2	1.66	2.09	15515	410	1586	8.2	19.6
2440.0	6.8	41.8	64	9.3	1.74	2.24	16081	534	1539	8.2	19.6
2441.0	11.8	41.8	63	9.3	1.55	2.32	16400	310	1485	8.2	19.6
2442.0	10.4	41.8	58	9.3	1.57	2.42	16737	351	1438	8.2	19.6
2443.0	10.6	43.2	49	9.3	1.52	2.51	17014	345	1394	8.2	19.6
2444.0	7.8	43.6	50	9.2	1.63	2.64	17400	471	1359	8.2	19.6
2445.0	5.3	44.5	52	9.2	1.79	2.83	17994	690	1334	8.2	19.6
2446.0	14.2	42.1	50	9.3	1.41	2.90	18203	257	1295	8.2	19.6
2447.0	16.4	41.4	52	9.3	1.37	2.96	18393	223	1258	8.2	19.6
2448.0	22.2	43.1	60	9.3	1.33	3.01	18555	164	1222	8.2	19.6
2449.0	18.6	41.5	63	9.3	1.39	3.06	18757	197	1189	8.2	19.6
2450.0	14.8	41.7	54	9.3	1.42	3.13	18978	247	1159	8.2	19.6
2451.0	12.0	42.6	50	9.3	1.48	3.21	19230	304	1134	8.2	19.6
2452.0	14.0	42.2	50	9.3	1.42	3.28	19444	262	1108	8.1	19.7
2453.0	20.8	42.1	62	9.2	1.35	3.33	19623	175	1081	8.1	19.7
2454.0	16.3	42.0	62	9.2	1.44	3.39	19851	224	1057	8.1	19.7
2455.0	16.0	42.2	63	9.3	1.45	3.45	20086	228	1035	8.1	19.7
2456.0	12.9	44.2	63	9.2	1.54	3.53	20377	282	1015	8.1	19.7
2457.0	16.9	42.5	63	9.3	1.44	3.59	20600	216.08	994.72	8.1	19.7
2458.0	13.0	42.8	62	9.3	1.53	3.67	20888	281.00	976.87	8.1	19.7
2459.0	22.0	41.1	53	9.2	1.28	3.71	21034	166.37	957.10	8.1	19.7
2460.0	35.0	39.6	68	9.3	1.19	3.74	21151	104.49	936.80	8.1	19.7
2461.0	36.7	41.0	67	9.2	1.18	3.77	21260	99.42	917.33	8.1	19.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2462.0	33.0	42.9	66	9.3	1.23	3.80	21381	110.57	898.99	8.1	19.7
2463.0	38.3	43.6	60	9.3	1.15	3.83	21475	95.36	881.14	8.1	19.7
2464.0	27.9	41.3	60	9.3	1.24	3.86	21605	130.86	864.83	8.1	19.7
2465.0	27.1	39.7	62	9.3	1.24	3.90	21742	134.92	849.30	8.1	19.7
2466.0	36.7	39.8	61	9.2	1.14	3.93	21842	99.42	833.67	8.1	19.7
2467.0	38.3	45.0	62	9.3	1.17	3.95	21939	95.36	818.61	8.1	19.7
2468.0	21.8	42.4	62	9.3	1.34	4.00	22109	167.38	805.58	8.1	19.7
2469.0	20.2	39.9	53	9.3	1.29	4.05	22267	180.57	793.33	8.1	19.7
2470.0	21.4	40.0	63	9.3	1.32	4.09	22443	170.65	781.35	8.1	19.7
2471.0	22.4	42.4	61	9.2	1.33	4.14	22607	163.23	769.69	8.1	19.7
2472.0	30.5	41.9	63	9.3	1.23	4.17	22730	119.70	757.65	8.1	19.7
2473.0	29.5	42.4	61	9.2	1.24	4.20	22855	123.76	746.13	8.1	19.7
2474.0	22.0	42.9	65	9.2	1.36	4.25	23032	166.37	735.77	8.1	19.7
2475.0	11.0	44.2	54	9.3	1.54	4.34	23323	330.71	728.67	8.1	19.7
2476.0	10.5	44.5	55	9.3	1.57	4.44	23635	346.94	722.09	8.1	19.7
2477.0	16.6	44.9	55	9.3	1.42	4.50	23832	220.13	713.58	8.1	19.7
2478.0	18.2	46.2	55	9.3	1.40	4.55	24012	200.86	705.03	8.1	19.7
2479.0	22.0	40.3	62	9.3	1.32	4.60	24180	165.69	696.19	8.1	19.7
2480.0	16.6	42.4	62	9.3	1.43	4.66	24403	220.13	688.51	8.1	19.7
2481.0	19.4	43.9	62	9.3	1.40	4.71	24594	188.69	680.58	8.1	19.7
2482.0	16.5	43.7	61	9.2	1.45	4.77	24817	221.15	673.40	8.1	19.7
2483.0	23.8	45.4	61	9.3	1.33	4.81	24969	153.18	665.40	8.1	19.7
2484.0	18.0	44.5	62	9.2	1.43	4.87	25178	202.89	658.39	8.1	19.7
2485.0	23.5	43.9	65	9.3	1.35	4.91	25342	155.21	650.88	8.1	19.7
2486.0	21.7	43.2	65	9.3	1.37	4.96	25523	168.40	643.78	8.1	19.7
2487.0	47.4	46.9	63	9.3	1.12	4.98	25603	77.10	635.57	8.1	19.7
2488.0	31.9	42.9	63	9.2	1.22	5.01	25721	114.63	628.13	8.1	19.7
2489.0	20.8	43.7	65	9.2	1.39	5.06	25908	175.50	621.75	8.1	19.7
2490.0	19.3	44.6	65	9.3	1.42	5.11	26109	189.70	615.75	8.1	19.7
2491.0	14.2	44.6	63	9.3	1.52	5.18	26376	256.65	610.83	8.1	19.7
2492.0	15.8	44.4	49	9.3	1.39	5.24	26561	231.29	605.71	8.1	19.7
2493.0	17.6	44.7	63	9.3	1.45	5.30	26777	207.96	600.40	8.1	19.7
2494.0	17.4	44.9	63	9.3	1.45	5.36	26994	209.99	595.27	8.1	19.7
2495.0	20.1	44.9	63	9.2	1.40	5.41	27183	181.59	589.89	8.1	19.7
2496.0	18.8	45.4	64	9.2	1.43	5.46	27385	193.76	584.81	8.1	19.7
2497.0	5.5	44.6	21	9.2	1.47	5.64	27616	668.52	585.87	8.1	19.7
2498.0	6.4	43.2	64	9.3	1.77	5.80	28216	570.63	585.68	8.1	19.7
2499.0	19.1	42.6	69	9.3	1.42	5.85	28431	191.22	580.81	7.8	19.8
2500.0	20.1	40.6	70	9.2	1.39	5.90	28640	181.59	575.94	7.8	19.8
2501.0	22.4	40.8	68	9.2	1.35	5.94	28824	163.33	570.97	7.8	19.8
2502.0	30.0	38.5	70	9.3	1.24	5.98	28964	121.73	565.63	7.8	19.8
2503.0	14.5	39.5	70	9.2	1.49	6.05	29253	251.58	561.93	7.8	19.8
2504.0	7.3	40.6	70	9.2	1.73	6.18	29822	498.09	561.19	7.8	19.8
2505.0	4.4	40.0	64	9.2	1.86	6.41	30695	823.73	564.21	7.8	19.8
2506.0	9.1	41.5	61	9.3	1.62	6.52	31097	402.73	562.37	7.8	19.8
2507.0	14.3	41.7	59	9.3	1.46	6.59	31343	255.64	558.92	7.8	19.8
2508.0	21.6	40.8	67	9.2	1.35	6.64	31529	169.41	554.60	7.8	19.8
2509.0	15.9	39.6	61	9.3	1.41	6.70	31759	229.26	551.02	7.8	19.8
2510.0	12.3	39.8	59	9.3	1.49	6.78	32049	297.23	548.26	7.8	19.8
2511.0	14.4	41.6	60	9.3	1.46	6.85	32299	253.61	545.09	7.8	19.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2512.0	14.3	42.3	60	9.3	1.48	6.92	32553	255.64	542.02	7.8	19.8
2513.0	13.8	42.2	61	9.3	1.49	6.99	32817	264.77	539.10	7.8	19.8
2514.0	12.6	42.5	63	9.3	1.54	7.07	33117	289.12	536.49	7.8	19.8
2515.0	20.2	41.7	59	9.3	1.34	7.12	33290	180.57	532.82	7.8	19.8
2516.0	8.2	44.0	60	9.3	1.68	7.24	33726	445.34	531.93	7.8	19.8
2517.0	13.4	42.9	65	9.4	1.50	7.32	34016	271.87	529.30	7.8	19.8
2518.0	5.8	43.2	64	9.4	1.79	7.49	34679	633.01	530.34	7.8	19.8
2519.0	12.1	43.1	71	9.4	1.57	7.57	35033	302.30	528.08	7.8	19.8
2520.0	15.3	41.8	72	9.4	1.48	7.64	35315	239.41	525.25	7.8	19.8
2521.0	7.1	46.7	74	9.4	1.81	7.78	35936	512.29	525.13	7.8	19.8
2522.0	23.5	45.8	74	9.4	1.39	7.82	36125	155.21	521.57	7.8	19.8
2523.0	13.0	46.2	74	9.4	1.60	7.90	36465	279.99	519.27	7.8	19.8
2524.0	12.0	46.0	71	9.4	1.61	7.98	36821	304.33	517.24	7.8	19.8
2525.0	10.2	46.4	70	9.4	1.66	8.08	37234	357.08	515.75	7.8	19.8
2526.0	14.2	43.1	72	9.4	1.52	8.15	37539	257.67	513.36	7.8	19.8
2527.0	12.4	44.7	70	9.4	1.58	8.23	37881	295.20	511.35	7.8	19.8
2528.0	14.2	48.5	69	9.4	1.56	8.30	38171	257.67	509.05	7.8	19.8
2529.0	11.4	47.2	67	9.4	1.62	8.39	38525	321.58	507.36	7.8	19.8
2530.0	21.3	45.2	64	9.4	1.37	8.44	38707	171.44	504.36	7.8	19.8
2531.0	14.3	45.3	65	9.4	1.51	8.51	38980	255.64	502.16	7.8	19.8
2532.0	12.5	45.0	65	9.4	1.55	8.59	39291	291.15	500.31	7.8	19.8
2533.0	15.1	45.8	64	9.4	1.49	8.65	39547	242.45	498.07	7.8	19.8
2534.0	15.9	44.6	62	9.4	1.45	8.71	39780	229.26	495.75	7.8	19.8
2535.0	18.6	45.3	63	9.4	1.41	8.77	39984	196.80	493.19	7.8	19.8
2536.0	13.7	48.5	66	9.4	1.56	8.84	40272	266.80	491.27	7.8	19.8
2537.0	15.7	40.9	67	9.4	1.44	8.91	40527	233.32	489.11	7.8	19.8
2538.0	13.5	40.9	68	9.4	1.49	8.98	40827	269.84	487.28	7.8	19.8
2539.0	14.8	40.8	67	9.4	1.46	9.05	41099	246.51	485.29	7.8	19.8
2540.0	14.1	40.5	67	9.4	1.47	9.12	41382	258.68	483.43	7.8	19.8
2541.0	22.4	40.5	67	9.4	1.32	9.16	41562	163.33	480.83	7.8	19.8
2542.0	15.7	40.7	67	9.4	1.44	9.23	41820	233.32	478.83	7.8	19.8
2543.0	25.7	38.8	71	9.4	1.28	9.27	41987	142.02	476.14	7.8	19.8
2544.0	8.7	42.7	69	9.4	1.67	9.38	42463	422.01	475.71	7.8	19.8
2545.0	4.9	43.3	65	9.4	1.85	9.58	43257	744.60	477.83	7.8	19.8
2546.0	7.3	42.1	62	9.4	1.68	9.72	43763	499.11	477.99	7.8	19.8
2547.0	7.9	40.3	55	9.4	1.60	9.85	44183	463.60	477.88	7.8	19.8
2548.0	18.8	41.4	66	9.4	1.38	9.90	44392	193.76	475.70	7.8	19.8
2549.0	14.0	40.7	67	9.4	1.48	9.97	44680	261.73	474.06	7.8	19.8
2550.0	11.1	40.5	67	9.4	1.55	10.06	45043	329.69	472.97	7.8	19.8
2551.0	11.5	41.0	66	9.4	1.54	10.15	45387	318.54	471.81	7.8	19.8
2552.0	10.8	41.6	66	9.4	1.57	10.24	45754	338.82	470.82	7.8	19.8
2553.0	12.8	43.4	65	9.4	1.53	10.32	46059	285.06	469.44	7.8	19.8
2554.0	14.3	42.4	63	9.4	1.47	10.39	46323	254.63	467.86	7.8	19.8
2555.0	13.0	42.4	64	9.4	1.51	10.47	46619	281.00	466.50	7.8	19.8
2556.0	12.0	42.2	64	9.4	1.53	10.55	46940	303.32	465.31	7.8	19.8
2557.0	3.9	42.4	65	9.4	1.91	10.81	47942	943.43	468.75	7.8	19.8
2558.0	4.3	42.7	65	9.4	1.88	11.04	48849	854.16	471.51	7.8	19.8
2559.0	4.0	42.5	64	9.4	1.90	11.30	49814	921.12	474.70	8.1	19.8
2560.0	13.6	41.9	64	9.4	1.49	11.37	50097	268.83	473.25	8.1	19.8
2561.0	10.3	42.3	64	9.4	1.59	11.47	50474	356.07	472.43	8.1	19.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2562.0	4.6	43.3	64	9.4	1.86	11.68	51302	790.25	474.63	8.1	19.8
2563.0	5.7	42.8	61	9.4	1.77	11.86	51949	643.16	475.80	8.1	19.8
2564.0	4.1	43.3	64	9.4	1.90	12.10	52884	891.70	478.64	8.1	19.8
2565.0	10.2	41.9	63	9.4	1.58	12.20	53256	358.10	477.82	8.1	19.8
2566.0	6.5	42.9	63	9.4	1.74	12.36	53839	562.00	478.39	8.1	19.8
2567.0	5.3	43.9	63	9.4	1.82	12.55	54558	693.88	479.84	8.1	19.8
2568.0	5.4	42.1	63	9.4	1.79	12.73	55260	678.66	481.16	8.1	19.8
2569.0	6.0	42.9	63	9.4	1.77	12.90	55897	613.74	482.04	8.1	19.8
2570.0	5.9	42.4	63	9.4	1.76	13.07	56534	614.75	482.92	8.1	19.8
2571.0	9.1	41.7	63	9.4	1.61	13.18	56949	400.71	482.38	8.1	19.8
2572.0	8.8	42.6	63	9.4	1.63	13.29	57379	414.91	481.94	8.1	19.8
2573.0	12.4	40.1	58	9.4	1.46	13.37	57661	295.20	480.74	8.1	19.8
2574.0	6.2	43.6	63	9.4	1.76	13.53	58270	587.36	481.42	8.1	19.8
2575.0	6.9	43.3	63	9.4	1.72	13.68	58819	528.53	481.72	8.1	19.8
2576.0	4.7	43.6	63	9.4	1.86	13.89	59635	785.18	483.64	8.1	19.8
2577.0	5.9	43.3	65	9.4	1.79	14.06	60297	617.80	484.48	8.1	19.8
2578.0	5.4	42.9	66	9.4	1.81	14.25	61023	673.59	485.67	8.1	19.8
2579.0	7.9	43.1	65	9.4	1.69	14.37	61522	464.62	485.53	8.1	19.8
2580.0	6.2	43.4	66	9.4	1.77	14.54	62159	591.42	486.19	8.1	19.8
2581.0	13.0	41.2	66	9.4	1.50	14.61	62461	279.99	484.92	8.1	19.8
2582.0	15.1	42.0	65	9.4	1.46	14.68	62720	241.44	483.44	8.1	19.8
2583.0	6.2	43.4	63	9.4	1.76	14.84	63325	587.36	484.07	8.1	19.8
2584.0	6.3	44.1	63	9.4	1.77	15.00	63928	579.25	484.64	8.1	19.8
2585.0	6.6	43.6	63	9.4	1.74	15.15	64506	553.89	485.06	8.1	19.8
2586.0	7.2	43.4	63	9.4	1.71	15.29	65038	510.27	485.21	8.1	19.8
2587.0	5.0	43.5	62	9.4	1.83	15.49	65781	733.44	486.68	8.1	19.8
2588.0	11.3	42.8	62	9.4	1.55	15.58	66112	324.62	485.72	8.1	19.8
2589.0	6.5	43.4	62	9.4	1.74	15.73	66683	559.97	486.16	8.1	19.8
2590.0	4.7	43.9	62	9.4	1.85	15.94	67471	770.98	487.81	8.1	19.8
2591.0	5.6	43.5	56	9.4	1.76	16.12	68070	650.26	488.75	8.1	19.8
2592.0	4.4	43.7	44	9.4	1.75	16.35	68658	821.70	490.66	8.1	19.8
2593.0	6.2	43.8	45	9.4	1.65	16.51	69087	585.33	491.21	8.1	19.8
2594.0	6.6	42.2	57	9.4	1.69	16.66	69603	552.87	491.56	8.1	19.8
2595.0	5.8	44.3	46	9.4	1.69	16.83	70086	633.01	492.36	8.1	19.8
2596.0	8.1	42.2	61	9.4	1.64	16.95	70536	450.41	492.12	8.1	19.8
2597.0	5.8	42.5	44	9.4	1.65	17.13	70995	628.96	492.88	8.1	19.8
2598.0	5.1	43.8	46	9.4	1.73	17.32	71540	718.23	494.14	8.1	19.8
2599.0	6.3	46.9	50	9.4	1.72	17.48	72013	578.23	494.60	8.1	19.8
2600.0	5.8	46.4	49	9.4	1.74	17.65	72525	630.98	495.35	8.1	19.8
2601.0	4.6	51.4	44	9.4	1.84	17.87	73104	801.41	497.02	8.1	19.8
2602.0	6.7	51.5	45	9.4	1.72	18.02	73513	548.81	497.30	8.1	19.8
2603.0	6.4	51.5	45	9.4	1.73	18.18	73937	571.13	497.70	8.1	19.9
2604.0	6.6	51.2	45	9.4	1.72	18.33	74351	555.92	498.02	8.1	19.9
2605.0	4.7	51.7	45	9.4	1.84	18.55	74930	776.05	499.50	8.1	19.9
2606.0	10.9	51.0	45	9.4	1.53	18.64	75177	333.75	498.62	8.1	19.9
2607.0	6.7	51.4	45	9.4	1.71	18.78	75580	541.71	498.85	8.1	19.9
2608.0	7.1	51.5	45	9.4	1.69	18.92	75961	511.28	498.91	8.1	19.9
2609.0	8.1	51.5	45	9.4	1.65	19.05	76297	449.40	498.66	8.1	19.9
2610.0	10.8	51.2	45	9.4	1.54	19.14	76547	338.82	497.82	8.1	19.9
2611.0	30.8	45.8	38	9.4	1.07	19.17	76621	118.69	495.86	8.1	19.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2612.0	4.3	47.6	51	9.4	1.87	19.41	77345	857.21	497.72	8.1	19.9
2613.0	4.3	48.4	46	9.4	1.84	19.64	77991	848.08	499.52	8.1	19.9
2614.0	10.2	47.8	46	9.4	1.54	19.74	78263	358.10	498.80	8.1	19.9
2615.0	9.0	47.7	48	9.4	1.59	19.85	78580	405.78	498.32	8.1	19.9
2616.0	4.7	48.4	48	9.4	1.82	20.06	79193	783.15	499.76	8.1	19.9
2617.0	9.7	47.8	47	9.4	1.56	20.17	79487	377.37	499.15	8.1	19.9
2618.0	5.3	48.4	61	9.4	1.87	20.36	80187	693.88	500.12	8.1	19.9
2619.0	6.1	48.6	61	9.4	1.82	20.52	80794	600.55	500.62	8.1	19.9
2620.0	17.8	46.9	62	9.4	1.43	20.58	81001	204.92	499.16	8.1	19.9
2621.0	10.0	52.3	54	9.4	1.64	20.68	81325	364.19	498.49	8.1	19.9
2622.0	12.7	54.7	61	9.4	1.63	20.76	81615	288.10	497.46	8.1	19.9
2623.0	9.0	55.4	61	9.4	1.76	20.87	82026	406.79	497.02	8.1	19.9
2624.0	17.1	54.7	61	9.4	1.52	20.93	82240	213.03	495.64	8.1	19.9
2625.0	16.3	54.6	61	9.4	1.54	20.99	82465	224.19	494.33	8.1	19.9
2626.0	16.6	54.8	61	9.4	1.53	21.05	82686	220.13	493.01	8.1	19.9
2627.0	16.7	54.5	61	9.4	1.53	21.11	82906	219.12	491.70	8.1	19.9
2628.0	9.0	55.3	61	9.4	1.76	21.22	83317	406.79	491.30	8.1	19.9
2629.0	10.4	55.8	61	9.4	1.71	21.31	83669	349.98	490.63	8.1	19.9
2630.0	16.8	55.0	61	9.4	1.53	21.37	83886	217.09	489.34	8.1	19.9
2631.0	12.9	57.3	59	9.4	1.63	21.45	84160	282.02	488.36	8.1	19.9
2632.0	11.1	57.8	59	9.4	1.70	21.54	84482	329.69	487.62	8.1	19.9
2633.0	5.1	51.4	60	9.4	1.91	21.74	85182	710.11	488.66	8.1	19.9
2634.0	6.6	49.6	61	9.4	1.80	21.89	85736	549.83	488.94	8.1	19.9
2635.0	4.4	49.9	61	9.4	1.96	22.12	86578	833.87	490.53	8.1	19.9
2636.0	4.2	50.3	58	9.4	1.95	22.35	87405	865.32	492.25	8.1	19.9
2637.0	5.7	49.9	60	9.4	1.85	22.53	88037	636.06	492.90	8.1	19.9
2638.0	15.1	49.2	60	9.4	1.51	22.59	88277	242.45	491.77	8.1	19.9
2639.0	17.4	48.4	60	9.4	1.45	22.65	88485	209.99	490.49	8.1	19.9
2640.0	15.9	47.5	59	9.4	1.47	22.71	88706	229.26	489.31	8.1	19.9
2641.0	11.7	44.2	61	9.3	1.56	22.80	89017	312.45	488.52	8.1	19.9
2642.0	12.5	42.5	61	9.3	1.52	22.88	89311	293.17	487.65	8.1	19.9
2643.0	6.0	42.8	40	9.3	1.63	23.05	89710	611.71	488.20	8.1	19.9
2644.0	9.0	42.9	61	9.3	1.63	23.16	90113	403.75	487.83	8.1	19.9
2645.0	10.5	42.1	61	9.3	1.57	23.25	90462	348.97	487.21	8.1	19.9
2646.0	5.9	44.0	61	9.3	1.79	23.42	91083	618.81	487.79	8.1	19.9
2647.0	10.5	43.8	61	9.3	1.59	23.52	91433	347.95	487.18	8.1	19.9
2648.0	9.0	43.8	61	9.3	1.65	23.63	91840	403.75	486.82	8.1	19.9
2649.0	9.0	43.7	61	9.3	1.65	23.74	92247	403.75	486.46	8.1	19.9
2650.0	4.4	43.9	60	9.3	1.88	23.97	93058	829.82	487.94	8.1	19.9
2651.0	10.2	41.5	61	9.3	1.58	24.06	93417	359.11	487.39	8.1	19.9
2652.0	10.9	41.7	61	9.3	1.56	24.16	93753	335.78	486.74	8.1	19.9
2653.0	10.2	41.7	61	9.3	1.58	24.25	94112	359.11	486.20	8.1	19.9
2654.0	6.2	42.1	61	9.3	1.75	24.42	94703	590.41	486.64	8.1	19.9
2655.0	5.8	42.3	61	9.3	1.77	24.59	95330	626.93	487.23	8.1	19.9
2656.0	6.3	42.3	62	9.3	1.76	24.75	95926	581.28	487.62	8.1	19.9
2657.0	6.7	47.1	62	9.3	1.80	24.90	96484	545.77	487.87	8.1	19.9
2658.0	4.0	45.4	62	9.3	1.95	25.15	97415	910.97	489.63	8.1	19.9
2659.0	7.9	41.9	61	9.3	1.67	25.27	97877	464.62	489.53	8.1	19.9
2660.0	8.2	40.3	61	9.3	1.63	25.39	98323	446.36	489.35	8.1	19.9
2661.0	15.1	39.5	61	9.3	1.42	25.46	98565	241.44	488.33	8.1	19.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2662.0	14.1	39.7	61	9.3	1.45	25.53	98823	258.68	487.39	8.1	19.9
2663.0	15.1	39.6	61	9.3	1.42	25.60	99064	242.45	486.39	8.1	19.9
2664.0	15.3	39.6	61	9.3	1.42	25.66	99302	239.41	485.38	8.1	19.9
2665.0	13.5	40.2	61	9.3	1.47	25.74	99573	270.86	484.51	8.1	19.9
2666.0	14.8	39.7	61	9.3	1.43	25.81	99819	246.51	483.55	8.1	19.9
2667.0	12.7	40.1	61	9.3	1.49	25.88	100106	287.09	482.77	8.1	19.9
2668.0	12.3	37.8	61	9.3	1.47	25.97	100403	296.22	482.02	8.1	19.9
2669.0	14.1	39.5	66	9.3	1.47	26.04	100683	259.70	481.13	8.1	19.9
2670.0	11.2	35.0	71	9.3	1.52	26.13	101065	326.65	480.52	8.1	19.9
2671.0	4.4	35.8	72	9.3	1.83	26.35	102049	831.84	481.91	8.1	19.9

(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	86.0- 223.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	137.0
TOTAL HOURS	3.38	TOTAL TURNS	17844	CONDITION	T3 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
90.0	25.3	4.0	0.16	604	9707.22	144	2427	-
100.0	73.5	14.0	0.29	1365	10204.35	49.71	728.88	-
110.0	67.8	24.0	0.44	2149	10743.02	53.87	447.63	-
120.0	72.6	34.0	0.58	2868	11246.18	50.32	330.77	-
130.0	64.3	44.0	0.74	3547	11814.27	56.81	268.51	-
140.0	85.1	54.0	0.85	4143	12243.38	42.91	226.73	-
150.0	73.0	64.0	0.99	4803	12743.50	50.01	199.12	-
160.0	68.4	74.0	1.14	5557	13277.10	53.36	179.42	-
170.0	87.0	84.0	1.25	6146	13697.08	42.00	163.06	-
180.0	31.8	94.0	1.57	7867	14845.43	114.84	157.93	-
190.0	34.6	104.0	1.85	9468	15900.27	105.48	152.89	-
200.0	17.0	114.0	2.44	12558	18045.82	214.56	158.30	+
210.0	17.5	124.0	3.01	15741	20133.55	208.77	162.37	+
220.0	35.1	134.0	3.30	17359	21174.37	104.08	158.02	-
223.0	36.0	137.0	3.38	17844	21478.89	101.51	156.78	-

BIT NUMBER	1	IADC CODE	111	INTERVAL	223.0- 816.0
HTC OSC3AJ		SIZE	17.500	NOZZLES	20 20 16
COST	4857.00	TRIP TIME	3.7	BIT RUN	593.0
TOTAL HOURS	10.01	TOTAL TURNS	89575	CONDITION	T0 B0 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
230.0	117.2	7.0	0.06	298	18587.59	31	2655	-
240.0	131.4	17.0	0.14	734	18865.55	28	1110	-
250.0	219.5	27.0	0.18	1144	19031.92	16.64	704.89	-
260.0	156.9	37.0	0.25	1717	19264.70	23.28	520.67	-
270.0	124.6	47.0	0.33	2440	19557.87	29.32	416.12	-
280.0	169.0	57.0	0.38	2972	19773.95	21.61	346.91	-
290.0	84.5	67.0	0.50	4037	20206.10	43.22	301.58	-
300.0	164.3	77.0	0.56	4585	20428.43	22.23	265.30	-
310.0	168.2	87.0	0.62	5120	20645.53	21.71	237.30	-
320.0	166.7	97.0	0.68	5660	20864.65	21.91	215.10	-
330.0	204.5	107.0	0.73	6100	21043.19	17.85	196.67	-
340.0	220.9	117.0	0.78	6508	21208.54	16.54	181.27	-
350.0	193.5	127.0	0.83	6973	21397.23	18.87	168.48	-
360.0	105.6	137.0	0.92	7825	21743.15	34.59	158.71	
370.0	109.8	147.0	1.01	8645	22075.89	33.27	150.18	-
380.0	95.3	157.0	1.12	9589	22459.00	38.31	143.05	-
390.0	96.5	167.0	1.22	10522	22837.50	37.85	136.75	
400.0	100.8	177.0	1.32	11414	23199.66	36.22	131.07	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
410.0	117.1	187.0	1.41	12183	23511.60	31.19	125.73	-
420.0	228.5	197.0	1.45	12577	23671.43	15.98	120.16	
430.0	116.7	207.0	1.54	13348	23984.37	31.29	115.87	-
440.0	76.9	217.0	1.67	14518	24459.13	47.48	112.71	-
450.0	68.7	227.0	1.81	15828	24990.70	53.16	110.09	-
460.0	94.8	237.0	1.92	16778	25375.88	38.52	107.07	-
470.0	96.8	247.0	2.02	17708	25753.25	37.74	104.26	-
480.0	110.1	257.0	2.11	18525	26084.97	33.17	101.50	-
490.0	84.3	267.0	2.23	19592	26517.98	43.30	99.32	-
500.0	87.7	277.0	2.35	20619	26934.56	41.66	97.24	-
520.0	150.7	297.0	2.48	21813	27419.19	24.23	92.32	-
530.0	58.0	307.0	2.65	23366	28049.31	63.01	91.37	-
540.0	61.0	317.0	2.81	24841	28647.79	59.85	90.37	-
550.0	46.3	327.0	3.03	26783	29436.01	78.82	90.02	-
560.0	69.2	337.0	3.17	28084	29963.64	52.76	88.91	-
570.0	43.7	347.0	3.40	30143	30799.25	83.56	88.76	-
580.0	45.0	357.0	3.63	32144	31611.39	81.21	88.55	-
590.0	35.6	367.0	3.91	34676	32638.57	102.72	88.93	+
600.0	48.6	377.0	4.11	36528	33389.98	75.14	88.57	-
610.0	51.3	387.0	4.31	38283	34102.12	71.21	88.12	-
620.0	57.1	397.0	4.48	39860	34742.24	64.01	87.51	-
630.0	59.8	407.0	4.65	41365	35352.93	61.07	86.86	-
640.0	51.4	417.0	4.85	43116	36063.61	71.07	86.48	-
650.0	57.2	427.0	5.02	44691	36702.37	63.88	85.95	-
660.0	42.5	437.0	5.26	46811	37562.65	86.03	85.96	+
670.0	52.2	447.0	5.45	48536	38262.61	70.00	85.60	-
680.0	38.4	457.0	5.71	50882	39214.61	95.20	85.81	+
690.0	43.6	467.0	5.94	52944	40051.53	83.69	85.76	-
700.0	37.7	477.0	6.20	55333	41020.75	96.92	86.00	+
710.0	43.3	487.0	6.43	57410	41863.75	84.30	85.96	-
720.0	41.2	497.0	6.68	59597	42751.19	88.74	86.02	+
730.0	26.2	507.0	7.06	63033	44145.35	139.42	87.07	+
740.0	25.6	517.0	7.45	66542	45569.29	142.39	88.14	+
750.0	31.4	527.0	7.77	69410	46732.86	116.36	88.68	+
760.0	34.8	537.0	8.05	71997	47782.81	105.00	88.98	+
770.0	33.6	547.0	8.35	74672	48868.27	108.55	89.34	+
780.0	30.8	557.0	8.68	77598	50055.31	118.70	89.87	+
790.0	33.6	567.0	8.97	80280	51143.81	108.85	90.20	+
800.0	27.3	577.0	9.34	83580	52482.88	133.91	90.96	+
810.0	26.1	587.0	9.72	87030	53882.81	139.99	91.79	+
816.0	21.2	593.0	10.01	89575	54915.52	172.12	92.61	+

BIT NUMBER	2	IADC CODE	116	INTERVAL	816.0- 1858.4
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	5.0	BIT RUN	1042.4
TOTAL HOURS	55.64	TOTAL TURNS	490747	CONDITION	T5 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
820.0	16.2	4.0	0.25	1037	21855.81	225	5464	-
830.0	29.5	14.0	0.59	2926	23093.04	124	1650	-
840.0	34.1	24.0	0.88	5040	24165.31	107	1007	-
850.0	43.6	34.0	1.11	6690	25002.23	83.69	735.36	-
860.0	22.5	44.0	1.55	9886	26623.31	162.11	605.08	-
870.0	25.1	54.0	1.95	12756	28079.04	145.57	519.98	-
880.0	25.8	64.0	2.34	15542	29492.16	141.31	460.81	
890.0	27.6	74.0	2.70	18153	30816.51	132.44	416.44	-
900.0	32.8	84.0	3.01	20347	31929.36	111.28	380.11	-
910.0	25.1	94.0	3.40	23219	33386.10	145.67	355.17	-
920.0	28.1	104.0	3.76	25785	34687.63	130.15	333.53	-
930.0	22.7	114.0	4.20	28951	36293.50	160.59	318.36	-
940.0	23.0	124.0	4.64	32085	37883.13	158.96	305.51	-
950.0	30.4	134.0	4.96	34708	39083.22	120.01	291.67	-
960.0	34.6	144.0	5.25	37309	40138.63	105.54	278.74	-
970.0	27.7	154.0	5.61	40559	41457.41	131.88	269.20	-
980.0	29.4	164.0	5.95	43616	42698.07	124.07	260.35	-
990.0	29.3	174.0	6.30	46691	43945.84	124.78	252.56	-
1000.0	26.6	184.0	6.67	50071	45317.37	137.15	246.29	-
1010.0	26.4	194.0	7.05	53486	46703.10	138.57	240.74	-
1020.0	35.7	204.0	7.33	56009	47726.67	102.36	233.95	-
1030.0	22.4	214.0	7.78	60026	49356.89	163.02	230.64	-
1040.0	29.3	224.0	8.12	63096	50602.54	124.57	225.90	-
1050.0	20.2	234.0	8.61	67561	52414.34	181.18	223.99	-
1060.0	21.5	244.0	9.08	71741	54110.49	169.62	221.76	-
1070.0	27.8	254.0	9.44	74973	55421.99	131.15	218.20	-
1080.0	31.2	264.0	9.76	77861	56593.68	117.17	214.37	-
1090.0	29.8	274.0	10.09	80883	57820.14	122.65	211.02	-
1100.0	18.9	284.0	10.62	85641	59750.63	193.05	210.39	-
1110.0	19.6	294.0	11.13	90243	61618.22	186.76	209.59	-
1120.0	20.3	304.0	11.63	94668	63413.79	179.56	208.60	-
1130.0	21.5	314.0	12.09	98846	65108.92	169.51	207.35	-
1140.0	24.5	324.0	12.50	102513	66597.11	148.82	205.55	-
1150.0	20.7	334.0	12.98	106871	68365.29	176.82	204.69	-
1160.0	17.9	344.0	13.54	111903	70407.37	204.21	204.67	-
1170.0	19.7	354.0	14.05	116481	72264.81	185.74	204.14	-
1180.0	20.3	364.0	14.54	120911	74062.41	179.76	203.47	-
1190.0	16.4	374.0	15.15	126408	76293.17	223.08	203.99	+
1200.0	23.9	384.0	15.57	130173	77820.93	152.78	202.66	-
1210.0	15.5	394.0	16.22	135978	80176.47	235.55	203.49	+
1220.0	19.1	404.0	16.74	140679	82084.13	190.77	203.18	-
1230.0	16.5	414.0	17.35	146142	84300.69	221.66	203.62	+
1240.0	13.8	424.0	18.07	152674	86951.43	265.07	205.07	+

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1250.0	13.5	434.0	18.81	159359	89664.06	271.26	206.60	+
1260.0	11.3	444.0	19.70	167289	92881.88	321.78	209.19	+
1270.0	15.3	454.0	20.35	173174	95269.88	238.80	209.85	+
1280.0	11.5	464.0	21.22	181027	98456.25	318.64	212.19	+
1290.0	10.9	474.0	22.14	189319	101821.16	336.49	214.81	+
1300.0	15.1	484.0	22.81	195289	104243.65	242.25	215.38	+
1310.0	12.6	494.0	23.60	202419	107136.85	289.32	216.88	+
1320.0	14.6	504.0	24.28	208594	109642.53	250.57	217.54	+
1330.0	12.5	514.0	25.09	215817	112573.26	293.07	219.01	+
1340.0	12.3	524.0	25.90	223109	115532.39	295.91	220.48	+
1350.0	14.1	534.0	26.61	229507	118128.35	259.60	221.21	+
1360.0	13.1	544.0	27.37	236382	120918.08	278.97	222.28	+
1370.0	11.2	554.0	28.27	244432	124184.59	326.65	224.16	+
1380.0	12.8	564.0	29.05	251449	127032.13	284.75	225.23	+
1390.0	15.1	574.0	29.71	257396	129444.99	241.29	225.51	+
1400.0	16.0	584.0	30.33	263019	131726.81	228.18	225.56	+
1410.0	14.8	594.0	31.01	269116	134201.04	247.42	225.93	+
1420.0	15.9	604.0	31.64	274786	136501.80	230.08	226.00	+
1430.0	16.1	614.0	32.26	280376	138770.10	226.83	226.01	+
1440.0	18.5	624.0	32.80	285246	140746.24	197.61	225.55	-
1450.0	19.7	634.0	33.31	289814	142599.63	185.34	224.92	-
1460.0	18.3	644.0	33.85	294719	144589.97	199.03	224.52	-
1470.0	15.4	654.0	34.50	300563	146961.15	237.12	224.71	+
1480.0	21.4	664.0	34.97	304778	148671.55	171.04	223.90	-
1490.0	16.3	674.0	35.59	310310	150916.52	224.50	223.91	+
1500.0	19.1	684.0	36.11	315028	152830.77	191.43	223.44	-
1510.0	16.1	694.0	36.73	320610	155096.03	226.53	223.48	+
1520.0	15.5	704.0	37.38	326410	157449.54	235.35	223.65	+
1530.0	17.6	714.0	37.95	331535	159529.15	207.96	223.43	-
1540.0	15.7	724.0	38.58	337280	161860.34	233.12	223.56	+
1550.0	15.6	734.0	39.22	343040	164197.62	233.73	223.70	+
1560.0	14.3	744.0	39.92	349333	166750.98	255.34	224.13	+
1570.0	20.5	754.0	40.41	353718	168530.31	177.93	223.52	-
1580.0	14.8	764.0	41.09	359798	170997.44	246.71	223.82	+
1590.0	14.3	774.0	41.78	366088	173549.79	255.23	224.22	+
1600.0	14.9	784.0	42.45	372120	175997.64	244.79	224.49	+
1610.0	14.5	794.0	43.14	378313	178510.42	251.28	224.82	+
1620.0	16.1	804.0	43.76	383900	180777.70	226.73	224.85	+
1630.0	13.8	814.0	44.49	390443	183432.50	265.48	225.35	+
1640.0	14.8	824.0	45.16	396513	185895.57	246.31	225.60	+
1650.0	14.3	834.0	45.86	402800	188446.90	255.13	225.96	+
1660.0	15.3	844.0	46.52	408698	190839.98	239.31	226.11	+
1670.0	13.2	854.0	47.28	415505	193602.31	276.23	226.70	+
1680.0	14.5	864.0	47.96	421693	196113.06	251.08	226.98	+
1690.0	14.5	874.0	48.65	427898	198630.91	251.79	227.27	+
1700.0	15.4	884.0	49.30	433733	200998.62	236.77	227.37	+
1710.0	15.8	894.0	49.93	439437	203313.29	231.47	227.42	+
1720.0	18.0	904.0	50.49	444449	205347.25	203.40	227.15	-
1730.0	20.8	914.0	50.97	448777	207103.25	175.60	226.59	-
1740.0	39.1	924.0	51.23	451077	208036.54	93.33	225.15	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1750.0	27.7	934.0	51.59	454322	209353.29	131.67	224.15	-
1760.0	32.2	944.0	51.90	457114	210486.42	113.31	222.97	-
1770.0	31.9	954.0	52.21	459932	211629.70	114.33	221.83	-
1780.0	27.9	964.0	52.57	463154	212937.32	130.76	220.89	-
1790.0	27.6	974.0	52.93	466412	214259.14	132.18	219.98	-
1800.0	29.9	984.0	53.27	469419	215479.52	122.04	218.98	-
1810.0	30.7	994.0	53.59	472354	216670.48	119.10	217.98	-
1820.0	24.3	1004.0	54.00	476057	218172.87	150.24	217.30	-
1830.0	27.0	1014.0	54.37	479387	219524.11	135.12	216.49	-
1840.0	25.7	1024.0	54.76	482894	220947.38	142.33	215.77	-
1850.0	24.8	1034.0	55.17	486522	222419.33	147.20	215.11	-
1858.4	17.9	1042.4	55.64	490747	224133.75	204.10	215.02	-

BIT NUMBER	3	IADC CODE	116	INTERVAL	1858.0- 2418.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	3.8	BIT RUN	560.0
TOTAL HOURS	18.58	TOTAL TURNS	167237	CONDITION	T5 B8 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1860.0	18.8	2.0	0.11	958	16960.13	194	8480	-
1870.0	27.8	12.0	0.47	4195	18273.84	131	1523	-
1880.0	34.5	22.0	0.76	6800	19330.89	105.71	878.68	-
1890.0	32.1	32.0	1.07	9603	20468.08	113.72	639.63	-
1900.0	34.4	42.0	1.36	12215	21528.18	106.01	512.58	-
1910.0	39.5	52.0	1.61	14493	22452.33	92.42	431.78	-
1920.0	38.1	62.0	1.87	16853	23409.97	95.76	377.58	-
1930.0	32.8	72.0	2.18	19598	24523.83	111.39	340.61	-
1940.0	23.7	82.0	2.60	23398	26065.79	154.20	317.88	
1950.0	30.3	92.0	2.93	26373	27272.97	120.72	296.45	-
1960.0	29.1	102.0	3.27	29463	28526.83	125.39	279.67	-
1970.0	32.0	112.0	3.59	32278	29669.09	114.23	264.90	-
1980.0	34.0	122.0	3.88	34921	30741.81	107.27	251.98	-
1990.0	30.5	132.0	4.21	37871	31938.86	119.70	241.96	-
2000.0	25.6	142.0	4.60	41381	33363.14	142.43	234.95	-
2010.0	31.3	152.0	4.92	44261	34531.78	116.86	227.18	-
2020.0	34.3	162.0	5.21	46889	35597.96	106.62	219.74	-
2030.0	36.7	172.0	5.48	49339	36592.12	99.42	212.74	
2040.0	33.5	182.0	5.78	52026	37682.64	109.05	207.05	-
2050.0	30.5	192.0	6.11	54979	38880.70	119.81	202.50	-
2060.0	32.1	202.0	6.42	57786	40019.92	113.92	198.12	-
2070.0	34.4	212.0	6.71	60406	41083.06	106.31	193.79	-
2080.0	34.9	222.0	7.00	62986	42129.97	104.69	189.77	-
2090.0	31.9	232.0	7.31	65811	43276.29	114.63	186.54	-
2100.0	36.6	242.0	7.59	68270	44274.00	99.77	182.95	-
2110.0	37.9	252.0	7.85	70645	45237.72	96.37	179.51	-
2120.0	37.7	262.0	8.11	73030	46205.50	96.78	176.36	-
2130.0	40.2	272.0	8.36	75267	47113.43	90.79	173.21	-
2140.0	36.4	282.0	8.64	77742	48117.73	100.43	170.63	-
2150.0	37.0	292.0	8.91	80175	49104.78	98.71	168.17	-
2160.0	37.3	302.0	9.18	82590	50084.73	98.00	165.84	-
2170.0	42.4	312.0	9.41	84715	50947.01	86.23	163.29	-
2180.0	44.6	322.0	9.64	86734	51766.44	81.94	160.77	-
2190.0	42.0	332.0	9.88	88878	52636.32	86.99	158.54	-
2200.0	45.8	342.0	10.09	90843	53433.68	79.74	156.24	-
2210.0	49.5	352.0	10.30	92663	54172.19	73.85	153.90	-
2220.0	33.2	362.0	10.60	95371	55270.84	109.86	152.68	-
2230.0	29.4	372.0	10.94	98431	56512.52	124.17	151.92	-
2240.0	31.6	382.0	11.25	101283	57670.00	115.75	150.97	-
2250.0	30.4	392.0	11.58	104247	58872.90	120.29	150.19	-
2260.0	33.2	402.0	11.88	106960	59973.57	110.07	149.19	-
2270.0	45.0	412.0	12.11	108959	60784.59	81.10	147.54	-
2280.0	42.1	422.0	12.34	111096	61651.94	86.74	146.09	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2290.0	28.4	432.0	12.70	114261	62936.23	128.43	145.69	-
2300.0	23.9	442.0	13.11	118034	64467.03	153.08	145.85	+
2310.0	23.8	452.0	13.53	121811	65999.85	153.28	146.02	+
2320.0	25.0	462.0	13.93	125412	67460.80	146.10	146.02	+
2330.0	28.5	472.0	14.29	128574	68744.08	128.33	145.64	-
2340.0	24.0	482.0	14.70	132332	70268.79	152.47	145.79	+
2350.0	23.8	492.0	15.12	136112	71802.63	153.38	145.94	+
2360.0	20.8	502.0	15.61	140447	73561.67	175.90	146.54	+
2370.0	19.3	512.0	16.12	145112	75454.63	189.30	147.37	+
2380.0	17.5	522.0	16.70	150257	77542.35	208.77	148.55	+
2390.0	20.4	532.0	17.19	154671	79333.66	179.13	149.12	+
2400.0	19.4	542.0	17.70	159321	81220.53	188.69	149.85	+
2410.0	19.8	552.0	18.21	163857	83061.07	184.05	150.47	+
2418.0	12.3	560.0	18.85	169693	85429.24	296.02	152.55	+

BIT NUMBER	4	IADC CODE	517	INTERVAL	2418.0- 2671.0
HTC J22		SIZE	12.250	NOZZLES	18 18 18
COST	8516.00	TRIP TIME	4.7	BIT RUN	253.0
TOTAL HOURS	26.35	TOTAL TURNS	102049	CONDITION	T3 B2 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2420.0	5.5	2.0	0.37	3292	27016.20	668	13508	-
2430.0	8.5	12.0	1.54	13474	31320.15	430	2610	-
2440.0	14.5	22.0	2.24	16081	33847.47	253	1539	-
2450.0	11.2	32.0	3.13	18978	37101.81	325	1159	-
2460.0	16.3	42.0	3.74	21151	39345.76	224.40	936.80	-
2470.0	28.4	52.0	4.09	22443	40630.28	128.45	781.35	-
2480.0	17.7	62.0	4.66	24403	42687.81	205.75	688.51	-
2490.0	22.2	72.0	5.11	26109	44334.26	164.64	615.75	-
2500.0	12.6	82.0	5.90	28640	47227.45	289.32	575.94	-
2510.0	11.4	92.0	6.78	32049	50440.20	321.27	548.26	-
2520.0	11.6	102.0	7.64	35315	53575.85	313.56	525.25	-
2530.0	12.5	112.0	8.44	38707	56488.32	291.25	504.36	-
2540.0	14.7	122.0	9.12	41382	58978.78	249.05	483.43	-
2550.0	10.6	132.0	10.06	45043	62431.95	345.32	472.97	-
2560.0	7.7	142.0	11.37	50097	67200.85	476.89	473.25	+
2570.0	5.9	152.0	13.07	56534	73403.16	620.23	482.92	+
2580.0	6.8	162.0	14.54	62159	78762.47	535.93	486.19	+
2590.0	7.1	172.0	15.94	67471	83903.68	514.12	487.81	+
2600.0	5.8	182.0	17.65	72525	90153.67	625.00	495.35	+
2610.0	6.7	192.0	19.14	76547	95581.96	542.83	497.82	+
2620.0	7.0	202.0	20.58	81001	100829.68	524.77	499.16	+
2630.0	12.6	212.0	21.37	83886	103739.11	290.94	489.34	-
2640.0	7.5	222.0	22.71	88706	108627.72	488.86	489.31	-
2650.0	8.0	232.0	23.97	93058	113201.85	457.41	487.94	-
2660.0	7.0	242.0	25.39	98323	118422.18	522.03	489.35	+
2670.0	13.7	252.0	26.13	101065	121091.18	266.90	480.52	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2671.0	4.4	253.0	26.35	102049	121923.03	831.84	481.91	+

(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	86.0- 223.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	137.0
TOTAL HOURS	3.38	TOTAL TURNS	17844	CONDITION	T3 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
90.0	898	806.5	762.3	94.5	399	0.75	1266	95
100.0	863	1110.0	704.9	63.5	355	0.67	1170	91
110.0	984	1240.5	916.6	73.9	526	0.99	1522	104
120.0	1005	980.9	955.4	97.4	560	1.06	1586	107
130.0	1016	683.0	976.9	143.0	579	1.09	1622	108
140.0	989	587.6	925.6	157.5	534	1.01	1537	105
150.0	1018	1286.7	980.3	76.2	582	1.10	1627	108
160.0	1024	1358.1	991.5	73.0	592	1.12	1646	108
170.0	1019	1382.1	981.8	71.0	584	1.10	1630	108
180.0	1010	1396.4	964.0	69.0	568	1.07	1600	107
190.0	1018	1421.0	981.0	69.0	583	1.10	1629	108
200.0	1007	1383.3	958.4	69.3	563	1.06	1591	107
210.0	1014	1415.5	972.4	68.7	575	1.08	1614	107
220.0	1020	1444.0	983.2	68.1	585	1.10	1632	108
223.0	1020	1445.0	984.5	68.1	586	1.10	1634	108

BIT NUMBER	1	IADC CODE	111	INTERVAL	223.0- 816.0
HTC OSC3AJ		SIZE	17.500	NOZZLES	20 20 16
COST	4857.00	TRIP TIME	3.7	BIT RUN	593.0
TOTAL HOURS	10.01	TOTAL TURNS	89575	CONDITION	T0 B0 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
230.0	1009	2194.0	1243.9	56.7	732	3.05	1817	122
240.0	939	2469.1	1076.8	43.6	590	2.45	1573	113
250.0	846	2946.6	874.1	29.7	431	1.79	1277	102
260.0	846	2962.9	874.3	29.5	432	1.79	1277	102
270.0	837	2891.1	856.3	29.6	418	1.74	1251	101
280.0	976	2989.9	1164.3	38.9	663	2.76	1701	118
290.0	1006	2320.1	1235.7	53.3	725	3.01	1805	121
300.0	980	2224.0	1172.1	52.7	670	2.79	1712	118
310.0	1000	2306.1	1220.8	52.9	712	2.96	1784	120
320.0	1014	2429.1	1255.2	51.7	742	3.09	1834	122
330.0	1017	2463.3	1264.1	51.3	750	3.12	1847	123
340.0	975	2232.0	1160.8	52.0	660	2.74	1696	117
350.0	1029	2479.3	1293.2	52.2	776	3.23	1889	124
360.0	1013	2420.2	1254.3	51.8	742	3.08	1832	122
370.0	1019	2466.4	1268.1	51.4	754	3.13	1853	123
380.0	1000	2455.0	1220.4	49.7	712	2.96	1783	120
390.0	1000	2438.0	1220.4	50.1	712	2.96	1783	120
400.0	1006	2479.9	1237.3	49.9	727	3.02	1808	121

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
410.0	1005	2475.0	1232.7	49.8	722	3.00	1801	121
420.0	1010	2512.2	1245.8	49.6	734	3.05	1820	122
430.0	1000	2481.2	1220.5	49.2	712	2.96	1783	120
440.0	998	2496.8	1217.0	48.7	709	2.95	1778	120
450.0	1008	2544.4	1240.6	48.8	729	3.03	1812	121
460.0	1009	2558.3	1257.5	49.2	740	3.08	1837	121
470.0	1009	2582.0	1258.5	48.7	741	3.08	1839	122
480.0	1001	2547.7	1238.0	48.6	723	3.01	1809	121
490.0	1012	2598.5	1265.8	48.7	748	3.11	1849	122
500.0	1001	2561.6	1238.7	48.4	724	3.01	1810	121
520.0	985	2538.0	1211.3	47.7	696	2.89	1770	119
530.0	1020	2568.1	1299.2	50.6	773	3.21	1898	123
540.0	1011	2702.0	1276.8	47.3	753	3.13	1865	122
550.0	1001	2657.0	1250.8	47.1	730	3.04	1827	120
560.0	1000	2658.3	1249.8	47.0	729	3.03	1826	120
570.0	1005	2650.0	1275.2	48.1	747	3.11	1863	121
580.0	1001	2678.1	1265.1	47.2	739	3.07	1848	120
590.0	1014	2742.8	1300.2	47.4	769	3.20	1899	122
600.0	990	2628.0	1238.6	47.1	716	2.97	1810	119
610.0	996	2584.5	1254.6	48.5	729	3.03	1833	120
620.0	1020	2727.4	1313.6	48.2	781	3.25	1919	123
630.0	1004	2655.8	1273.8	48.0	746	3.10	1861	121
640.0	992	2653.4	1242.7	46.8	719	2.99	1815	119
650.0	1006	2723.4	1277.9	46.9	750	3.12	1867	121
660.0	993	2617.2	1245.6	47.6	722	3.00	1820	120
670.0	995	2614.6	1265.3	48.4	735	3.05	1848	120
680.0	1004	2738.8	1286.7	47.0	753	3.13	1880	121
690.0	1007	2755.4	1296.8	47.1	762	3.17	1895	121
700.0	1013	2708.3	1310.4	48.4	774	3.22	1914	122
710.0	1004	2697.5	1287.5	47.7	754	3.14	1881	121
720.0	1013	2777.8	1310.3	47.2	774	3.22	1914	122
730.0	997	2699.5	1270.1	47.0	739	3.07	1855	120
740.0	1000	2700.3	1278.2	47.3	746	3.10	1867	120
750.0	1006	2756.0	1292.4	46.9	758	3.15	1888	121
760.0	1010	2795.2	1303.7	46.6	768	3.19	1905	122
770.0	1002	2779.0	1281.7	46.1	749	3.11	1872	121
780.0	1000	2756.8	1277.6	46.3	745	3.10	1867	120
790.0	1008	2809.7	1297.9	46.2	763	3.17	1896	121
800.0	999	2774.9	1275.4	46.0	743	3.09	1863	120
810.0	1010	2843.8	1303.6	45.8	768	3.19	1904	122
816.0	1010	2843.9	1304.1	45.9	769	3.20	1905	122

BIT NUMBER	2	IADC CODE	116	INTERVAL	816.0- 1858.4
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	5.0	BIT RUN	1042.4
TOTAL HOURS	55.64	TOTAL TURNS	490747	CONDITION	T5 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
820.0	950	2825.0	1359.8	48.1	753	6.39	1829	124
830.0	967	2881.6	1410.0	48.9	795	6.75	1896	127
840.0	964	2886.3	1402.4	48.6	789	6.69	1886	126
850.0	960	2874.7	1390.2	48.4	779	6.61	1869	126
860.0	559	992.1	471.6	47.5	154	1.31	634	73
870.0	969	2953.6	1416.0	47.9	801	6.79	1904	127
880.0	974	2989.0	1430.0	47.8	812	6.89	1923	127
890.0	966	2963.1	1406.0	47.5	792	6.72	1891	126
900.0	964	2960.5	1400.6	47.3	788	6.68	1883	126
910.0	970	2982.4	1418.3	47.6	803	6.81	1907	127
920.0	962	2955.9	1395.7	47.2	783	6.65	1877	126
930.0	960	2954.8	1389.6	47.0	778	6.60	1869	126
940.0	977	2991.1	1438.2	48.1	819	6.95	1934	128
950.0	973	3013.6	1426.7	47.3	810	6.87	1919	127
960.0	951	2936.2	1363.3	46.4	756	6.42	1833	124
970.0	960	2977.5	1389.5	46.7	778	6.60	1868	126
980.0	951	1983.1	1362.7	68.7	756	6.41	1832	124
990.0	939	2897.7	1329.5	45.9	728	6.18	1788	123
1000.0	944	2927.9	1342.9	45.9	739	6.27	1806	123
1010.0	939	2899.6	1329.6	45.9	728	6.18	1788	123
1020.0	937	2908.0	1323.9	45.5	724	6.14	1780	123
1030.0	936	2891.7	1321.4	45.7	722	6.12	1777	122
1040.0	937	2905.5	1323.5	45.6	723	6.14	1780	123
1050.0	942	2957.2	1338.8	45.3	736	6.24	1800	123
1060.0	939	2936.3	1329.1	45.3	728	6.18	1787	123
1070.0	921	2860.9	1278.3	44.7	687	5.83	1719	120
1080.0	929	2913.1	1302.4	44.7	706	5.99	1751	122
1090.0	925	2914.2	1289.3	44.2	696	5.90	1734	121
1100.0	932	2934.7	1309.6	44.6	712	6.04	1761	122
1110.0	928	2931.3	1299.4	44.3	704	5.97	1747	121
1120.0	923	2904.9	1284.3	44.2	691	5.87	1727	121
1130.0	928	2931.9	1299.6	44.3	704	5.97	1748	121
1140.0	923	2921.2	1284.6	44.0	692	5.87	1727	121
1150.0	928	2936.4	1298.4	44.2	703	5.96	1746	121
1160.0	920	2906.1	1276.0	43.9	685	5.81	1716	120
1170.0	922	2925.5	1281.0	43.8	689	5.84	1723	121
1180.0	919	2920.9	1273.8	43.6	683	5.80	1713	120
1190.0	915	2904.8	1263.4	43.5	675	5.72	1699	120
1200.0	916	2928.5	1266.0	43.2	677	5.74	1702	120
1210.0	910	2926.0	1247.7	42.6	662	5.62	1678	119
1220.0	912	2926.4	1254.8	42.9	668	5.67	1687	119
1230.0	910	2915.0	1249.1	42.8	663	5.63	1680	119
1240.0	911	2927.4	1251.2	42.7	665	5.64	1683	119

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1250.0	589	1228.4	522.6	42.5	180	1.52	703	77
1260.0	905	2919.3	1234.4	42.3	652	5.53	1660	118
1270.0	906	2930.6	1237.7	42.2	654	5.55	1664	119
1280.0	907	2943.7	1241.5	42.2	657	5.58	1669	119
1290.0	621	1375.8	582.4	42.3	211	1.79	783	81
1300.0	904	2923.2	1231.3	42.1	649	5.51	1656	118
1310.0	903	2930.5	1230.4	42.0	648	5.50	1654	118
1320.0	899	2910.0	1217.8	41.8	639	5.42	1638	118
1330.0	906	2960.6	1250.3	42.2	661	5.61	1681	118
1340.0	899	2916.2	1231.3	42.2	646	5.48	1656	118
1350.0	905	2966.8	1248.8	42.1	659	5.60	1679	118
1360.0	900	2941.7	1236.1	42.0	649	5.51	1662	118
1370.0	896	2907.7	1223.6	42.1	640	5.43	1645	117
1380.0	898	2948.7	1229.9	41.7	645	5.47	1654	118
1390.0	892	2901.6	1212.2	41.8	631	5.35	1630	117
1400.0	894	2913.9	1218.7	41.8	636	5.39	1639	117
1410.0	923	2909.8	1299.7	44.7	700	5.94	1748	121
1420.0	938	2872.3	1342.6	46.7	735	6.24	1805	123
1430.0	950	2843.6	1374.7	48.3	762	6.46	1849	124
1440.0	597	1041.7	542.6	52.1	189	1.60	730	78
1450.0	594	1021.6	537.7	52.6	186	1.58	723	78
1460.0	998	2860.6	1519.8	53.1	885	7.51	2044	131
1470.0	1005	2694.0	1538.5	57.1	902	7.65	2069	131
1480.0	862	2892.0	1132.6	39.2	570	4.83	1523	113
1490.0	876	2898.1	1169.6	40.4	598	5.07	1573	115
1500.0	873	2866.4	1163.0	40.6	593	5.03	1564	114
1510.0	878	2913.6	1175.6	40.3	602	5.11	1581	115
1520.0	877	2881.2	1172.9	40.7	600	5.09	1577	115
1530.0	874	2879.2	1165.4	40.5	594	5.04	1567	114
1540.0	874	2904.1	1164.5	40.1	594	5.04	1566	114
1550.0	875	2879.9	1167.8	40.6	596	5.06	1570	115
1560.0	876	2897.9	1169.8	40.4	598	5.07	1573	115
1570.0	874	2895.3	1164.5	40.2	594	5.04	1566	114
1580.0	873	2870.7	1162.5	40.5	592	5.03	1563	114
1590.0	875	2901.9	1168.0	40.2	596	5.06	1571	115
1600.0	872	2913.8	1160.2	39.8	591	5.01	1560	114
1610.0	872	2880.3	1160.2	40.3	590	5.01	1560	114
1620.0	879	2941.3	1178.1	40.1	604	5.13	1584	115
1630.0	880	2949.3	1181.9	40.1	607	5.15	1589	115
1640.0	877	2922.7	1159.5	39.7	593	5.03	1559	115
1650.0	877	2915.8	1159.4	39.8	593	5.03	1559	115
1660.0	877	2932.9	1159.3	39.5	593	5.03	1559	115
1670.0	872	2900.2	1145.5	39.5	582	4.94	1540	114
1680.0	878	2942.7	1162.6	39.5	596	5.05	1563	115
1690.0	871	2913.2	1144.8	39.3	582	4.94	1539	114
1700.0	865	2886.7	1127.1	39.0	568	4.82	1516	113
1710.0	865	2897.2	1127.6	38.9	569	4.83	1516	113
1720.0	863	2898.5	1123.3	38.8	566	4.80	1510	113
1730.0	859	2893.8	1113.6	38.5	558	4.74	1497	112
1740.0	862	2928.8	1119.3	38.2	563	4.77	1505	113

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1750.0	864	2946.0	1124.7	38.2	567	4.81	1512	113
1760.0	857	2907.0	1106.5	38.1	553	4.69	1488	112
1770.0	862	2925.3	1120.6	38.3	564	4.78	1507	113
1780.0	859	2920.7	1112.1	38.1	557	4.73	1495	112
1790.0	857	2928.9	1106.8	37.8	553	4.69	1488	112
1800.0	854	2900.0	1099.0	37.9	547	4.64	1478	112
1810.0	860	2960.9	1115.1	37.7	559	4.75	1499	113
1820.0	858	2928.7	1111.1	37.9	556	4.72	1494	112
1830.0	856	2940.5	1105.5	37.6	552	4.69	1487	112
1840.0	851	2910.3	1090.8	37.5	541	4.59	1467	111
1850.0	852	2935.6	1094.0	37.3	544	4.61	1471	111
1858.4	773	2428.8	902.0	37.1	407	3.45	1213	101

BIT NUMBER	3	IADC CODE	116	INTERVAL	1858.0- 2418.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	3.8	BIT RUN	560.0
TOTAL HOURS	18.58	TOTAL TURNS	167237	CONDITION	T5 B8 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1860.0	848	2975.3	1085.0	36.5	537	4.56	1459	111
1870.0	844	2868.8	1075.0	37.5	530	4.49	1446	110
1880.0	855	2929.3	1101.2	37.6	549	4.66	1481	112
1890.0	851	2959.7	1093.2	36.9	543	4.61	1470	111
1900.0	846	2988.4	1080.3	36.1	533	4.53	1453	111
1910.0	855	2963.8	1101.6	37.2	549	4.66	1481	112
1920.0	859	2957.1	1113.4	37.7	558	4.74	1497	112
1930.0	854	2961.8	1099.4	37.1	548	4.65	1478	112
1940.0	845	2944.9	1077.1	36.6	531	4.51	1448	111
1950.0	843	2868.7	1072.8	37.4	528	4.48	1443	110
1960.0	852	2934.8	1094.2	37.3	544	4.61	1471	111
1970.0	835	2862.8	1050.5	36.7	512	4.34	1413	109
1980.0	838	2852.8	1059.6	37.1	518	4.40	1425	110
1990.0	836	2901.3	1054.1	36.3	514	4.36	1417	109
2000.0	834	2904.4	1048.0	36.1	510	4.33	1409	109
2010.0	842	2899.4	1067.9	36.8	524	4.45	1436	110
2020.0	838	2875.5	1059.1	36.8	518	4.39	1424	110
2030.0	839	2890.4	1060.6	36.7	519	4.40	1426	110
2040.0	838	2891.3	1057.8	36.6	517	4.39	1422	110
2050.0	836	2903.8	1053.7	36.3	514	4.36	1417	109
2060.0	838	2949.4	1058.1	35.9	517	4.39	1423	110
2070.0	821	2849.9	1016.7	35.7	487	4.13	1367	107
2080.0	836	2912.9	1053.0	36.1	513	4.36	1416	109
2090.0	833	2957.6	1046.5	35.4	509	4.32	1407	109
2100.0	823	2906.8	1020.8	35.1	490	4.16	1373	108
2110.0	823	2889.2	1020.6	35.3	490	4.16	1372	108
2120.0	829	2911.9	1037.3	35.6	502	4.26	1395	109
2130.0	823	2914.2	1020.7	35.0	490	4.16	1373	108
2140.0	820	2953.1	1014.1	34.3	485	4.12	1364	107
2150.0	813	2905.5	997.0	34.3	473	4.01	1341	106
2160.0	816	2916.6	1004.9	34.5	479	4.06	1351	107
2170.0	804	2892.5	975.8	33.7	458	3.89	1312	105
2180.0	805	2926.0	976.4	33.4	458	3.89	1313	105
2190.0	800	2888.6	965.5	33.4	451	3.82	1298	105
2200.0	805	2874.0	976.5	34.0	458	3.89	1313	105
2210.0	809	2900.0	986.2	34.0	465	3.95	1326	106
2220.0	808	2904.0	995.2	34.3	469	3.98	1338	106
2230.0	800	2906.5	974.9	33.5	455	3.86	1311	105
2240.0	805	2893.2	987.8	34.1	464	3.94	1328	105
2250.0	796	2900.7	965.1	33.3	448	3.80	1298	104
2260.0	801	2901.2	978.2	33.7	457	3.88	1315	105
2270.0	805	2945.0	987.1	33.5	463	3.93	1327	105
2280.0	797	2965.8	969.0	32.7	451	3.82	1303	104

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2290.0	799	2971.4	972.1	32.7	453	3.84	1307	104
2300.0	796	2954.1	966.0	32.7	449	3.81	1299	104
2310.0	788	2931.1	947.8	32.3	436	3.70	1275	103
2320.0	788	2939.5	946.4	32.2	435	3.69	1273	103
2330.0	789	2965.8	949.2	32.0	437	3.71	1276	103
2340.0	785	2934.8	939.8	32.0	430	3.65	1264	103
2350.0	792	2970.0	955.8	32.2	442	3.75	1285	104
2360.0	674	2155.2	693.4	32.2	273	2.31	932	88
2370.0	794	3003.4	970.4	32.3	449	3.81	1305	104
2380.0	771	2874.7	917.2	31.9	413	3.50	1233	101
2390.0	778	2899.2	933.5	32.2	424	3.60	1255	102
2400.0	778	2895.1	931.8	32.2	423	3.59	1253	102
2410.0	775	2900.0	924.9	31.9	418	3.55	1244	101
2418.0	765	2876.0	901.1	31.3	402	3.41	1212	100

BIT NUMBER	4	IADC CODE	517	INTERVAL	2418.0- 2671.0
HTC J22		SIZE	12.250	NOZZLES	18 18 18
COST	8516.00	TRIP TIME	4.7	BIT RUN	253.0
TOTAL HOURS	26.35	TOTAL TURNS	102049	CONDITION	T3 B2 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2420.0	747	2868.3	856.2	29.8	373	3.17	1151	98
2430.0	694	2405.0	738.0	30.7	299	2.53	992	91
2440.0	766	2912.1	899.4	30.9	402	3.41	1209	100
2450.0	769	2902.6	905.6	31.2	406	3.45	1218	101
2460.0	762	2835.0	890.0	31.4	396	3.36	1197	100
2470.0	765	2896.0	901.1	31.1	402	3.41	1212	100
2480.0	765	2877.0	897.4	31.2	401	3.40	1207	100
2490.0	764	2885.7	894.1	31.0	398	3.38	1202	100
2500.0	764	2874.4	894.8	31.1	399	3.38	1203	100
2510.0	774	2936.9	918.2	31.3	415	3.52	1235	101
2520.0	773	2924.2	931.1	31.8	420	3.56	1252	101
2530.0	773	2945.4	931.6	31.6	420	3.57	1253	101
2540.0	772	2931.5	927.7	31.6	418	3.54	1247	101
2550.0	655	2106.4	668.9	31.8	256	2.17	899	86
2560.0	779	2966.2	944.1	31.8	429	3.64	1270	102
2570.0	778	2956.3	941.8	31.9	427	3.63	1266	102
2580.0	761	2846.8	902.2	31.7	401	3.40	1213	100
2590.0	776	2943.0	938.1	31.9	425	3.60	1261	102
2600.0	772	2903.6	927.3	31.9	417	3.54	1247	101
2610.0	771	2906.7	925.5	31.8	416	3.53	1245	101
2620.0	771	2898.0	925.3	31.9	416	3.53	1244	101
2630.0	774	2927.6	932.9	31.9	421	3.57	1255	101
2640.0	615	1884.7	586.7	31.1	210	1.79	789	80
2650.0	831	1735.5	1064.0	61.3	516	4.38	1431	109
2660.0	650	2288.3	651.8	28.5	247	2.10	876	85
2670.0	709	2971.9	773.9	26.0	320	2.71	1041	93

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2671.0	708	2928.2	772.2	26.4	319	2.71	1038	93

(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	86.0- 223.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	137.0
TOTAL HOURS	3.38	TOTAL TURNS	17844	CONDITION	T3 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
90.0	89	91	898	11		10				
100.0	89	84	863	11		10				
110.0	96	101	984	12		11				
120.0	97	104	1005	12		12				
130.0	99	104	1016	12		12				
140.0	96	102	989	12		11				
150.0	99	105	1018	12		12				
160.0	101	104	1024	13		12				
170.0	101	102	1019	12		12				
180.0	101	101	1010	12		12		12		
190.0	102	102	1018	12		12		12		
200.0	99	102	1007	12		12		12		
210.0	101	102	1014	12		12		12		
220.0	102	102	1020	12		12		12		
223.0	102	102	1020	12		12		12		

BIT NUMBER	1	IADC CODE	111	INTERVAL	223.0- 816.0
HTC OSC3AJ		SIZE	17.500	NOZZLES	20 20 16
COST	4857.00	TRIP TIME	3.7	BIT RUN	593.0
TOTAL HOURS	10.01	TOTAL TURNS	89575	CONDITION	T0 B0 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
230.0	100	102	1009	31	25		22			18
240.0	86	102	939	29	23		21			17
250.0	74	95	846	26	21		19			15
260.0	71	98	846	26	21		19			15
270.0	65	103	837	26	21		18			15
280.0	100	95	976	30	24		21			18
290.0	101	100	1006	31	25		22			18
300.0	99	97	980	30	24		21			18
310.0	99	101	1000	31	25		22			18
320.0	101	102	1014	31	25		22		22	18
330.0	102	102	1017	31	25		22		22	18
340.0	98	97	975	30	24		21		21	18
350.0	103	103	1029	32		27	23		23	18
360.0	102	101	1013	31		27	22		22	18
370.0	103	101	1019	31		27	22		22	18
380.0	101	99	1000	31		27	22		22	18
390.0	101	99	1000	31		27	22		22	18
400.0	101	100	1006	31		27	22		22	18

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
410.0	101	100	1005	31		27	22		22	18
420.0	101	101	1010	31		27	22		22	18
430.0	101	99	1000	31		27	22		22	18
440.0	100	100	998	31		27		27	22	18
450.0	101	100	1008	31		27		27	22	18
460.0	102	100	1009	31		27		27	22	18
470.0	101	101	1009	31		27		27	22	18
480.0	100	100	1001	31		27		27	22	18
490.0	101	101	1012	31		27		27	22	18
500.0	100	100	1001	31		27		27	22	18
520.0	96	101	985	30		26		26	22	18
530.0	102	102	1020	31		27		27	22	18
540.0	101	101	1011	31		27		27	22	18
550.0	103	98	1001	31		27		27	22	18
560.0	103	98	1000	31		27		27	22	18
570.0	99	102	1005	31		27		27	22	18
580.0	99	101	1001	31		27		27	22	18
590.0	102	101	1014	31		27		27	22	18
600.0	98	100	990	31		26		26	22	18
610.0	99	100	996	31		26		26	22	18
620.0	103	101	1020	31		27		27	22	18
630.0	101	100	1004	31		27		27	22	18
640.0	98	100	992	31		26		26	22	18
650.0	101	100	1006	31		27		27	22	18
660.0	99	100	993	31		26		26	22	18
670.0	99	100	995	31		26		26	22	18
680.0	101	100	1004	31		27		27	22	18
690.0	101	100	1007	31		27		27	22	18
700.0	102	101	1013	31		27		27	22	18
710.0	100	101	1004	31		27		27	22	18
720.0	101	101	1013	31		27		27	22	18
730.0	100	99	997	31		26		26	22	18
740.0	101	100	1000	31		27		27	22	18
750.0	101	100	1006	31		27		27	22	18
760.0	101	101	1010	31		27		27	22	18
770.0	101	100	1002	31		27		27	22	18
780.0	100	100	1000	31		27		27	22	18
790.0	101	101	1008	31		27		27	22	18
800.0	100	100	999	31		27		27	22	18
810.0	101	101	1010	31		27		27	22	18
816.0	101	101	1010	31		27		27	22	18

BIT NUMBER	2	IADC CODE	116	INTERVAL	816.0- 1858.4
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	5.0	BIT RUN	1042.4
TOTAL HOURS	55.64	TOTAL TURNS	490747	CONDITION	T5 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
820.0	96	94	950	79	72		53		53	17
830.0	98	95	967	80	73		54		54	17
840.0	99	94	964	80	73		54		54	17
850.0	98	94	960	80	72		53		53	17
860.0	112	0	559	46	42		31		31	10
870.0	97	96	969	80	73		54		54	17
880.0	98	97	974	81	73		54		54	17
890.0	98	95	966	80	73		54		54	17
900.0	99	94	964	80	73		54		54	17
910.0	100	94	970	81	73		54		54	17
920.0	100	92	962	80	73		54		54	17
930.0	97	95	960	80	72		53		53	17
940.0	99	97	977	81	74		54		54	18
950.0	97	97	973	81	73		54		54	17
960.0	100	90	951	79	72		53		53	17
970.0	102	90	960	80		57	53		53	17
980.0	98	92	951	79		57	53		53	17
990.0	97	91	939	78		56	52		52	17
1000.0	98	91	944	78		56	53		53	17
1010.0	98	90	939	78		56	52		52	17
1020.0	98	90	937	78		56	52		52	17
1030.0	97	90	936	78		56	52		52	17
1040.0	97	90	937	78		56	52		52	17
1050.0	99	89	942	78		56	52		52	17
1060.0	98	90	939	78		56		56	52	17
1070.0	97	87	921	76		55		55	51	17
1080.0	99	87	929	77		56		56	52	17
1090.0	98	87	925	77		55		55	52	17
1100.0	97	89	932	77		56		56	52	17
1110.0	96	90	928	77		55		55	52	17
1120.0	95	90	923	77		55		55	51	17
1130.0	96	90	928	77		55		55	52	17
1140.0	95	90	923	77		55		55	51	17
1150.0	96	90	928	77		55		55	52	17
1160.0	94	90	920	76		55		55	51	17
1170.0	96	89	922	77		55		55	51	17
1180.0	96	88	919	76		55		55	51	17
1190.0	95	88	915	76		55		55	51	16
1200.0	95	88	916	76		55		55	51	16
1210.0	93	89	910	76		54		54	51	16
1220.0	93	89	912	76		55		55	51	16
1230.0	95	87	910	76		54		54	51	16
1240.0	92	90	911	76		54		54	51	16

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1250.0	118	0	589	49		35		35	33	11
1260.0	92	89	905	75		54		54	50	16
1270.0	89	92	906	75		54		54	50	16
1280.0	89	92	907	75		54		54	51	16
1290.0	124	0	621	52		37		37	35	11
1300.0	88	93	904	75		54		54	50	16
1310.0	89	92	903	75		54		54	50	16
1320.0	90	90	899	75		54		54	50	16
1330.0	89	92	906	75		54		54	50	16
1340.0	88	91	899	75		54		54	50	16
1350.0	89	92	905	75		54		54	50	16
1360.0	89	92	900	75		54		54	50	16
1370.0	89	91	896	74		54		54	50	16
1380.0	89	91	898	75		54		54	50	16
1390.0	88	90	892	74		53		53	50	16
1400.0	89	90	894	74		53		53	50	16
1410.0	92	93	923	77		55		55	51	17
1420.0	93	95	938	78		56		56	52	17
1430.0	95	95	950	79		57		57	53	17
1440.0	119	0	597	50		36		36	33	11
1450.0	119	0	594	49		35		35	33	11
1460.0	99	100	998	83		60		60	56	18
1470.0	99	102	1005	83		60		60	56	18
1480.0	87	86	862	72		52		52	48	15
1490.0	89	86	876	73		52		52	49	16
1500.0	88	87	873	73		52		52	49	16
1510.0	88	87	878	73		52		52	49	16
1520.0	88	87	877	73		52		52	49	16
1530.0	88	87	874	73		52		52	49	16
1540.0	88	87	874	73		52		52	49	16
1550.0	89	86	875	73		52		52	49	16
1560.0	88	87	876	73		52		52	49	16
1570.0	87	87	874	73		52		52	49	16
1580.0	87	87	873	73		52		52	49	16
1590.0	88	87	875	73		52		52	49	16
1600.0	87	87	872	72		52		52	49	16
1610.0	88	86	872	72		52		52	49	16
1620.0	89	87	879	73		53		53	49	16
1630.0	88	88	880	73		53		53	49	16
1640.0	88	87	877	73		52		52	49	16
1650.0	89	86	877	73		52		52	49	16
1660.0	89	87	877	73		52		52	49	16
1670.0	89	85	872	72		52		52	49	16
1680.0	89	87	878	73		52		52	49	16
1690.0	89	85	871	72		52		52	49	16
1700.0	88	85	865	72		52		52	48	16
1710.0	88	85	865	72		52		52	48	16
1720.0	87	85	863	72		52		52	48	16
1730.0	88	84	859	71		51		51	48	15
1740.0	87	85	862	72		51		51	48	15

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1750.0	88	85	864	72		52		52	48	16
1760.0	86	85	857	71		51		51	48	15
1770.0	87	85	862	72		52		52	48	15
1780.0	88	84	859	71		51		51	48	15
1790.0	88	84	857	71		51		51	48	15
1800.0	87	84	854	71		51		51	48	15
1810.0	88	84	860	71		51		51	48	15
1820.0	87	84	858	71		51		51	48	15
1830.0	89	82	856	71		51		51	48	15
1840.0	89	81	851	71		51		51	47	15
1850.0	87	83	852	71		51		51	47	15
1858.4	75	79	773	64		46		46	43	14

BIT NUMBER	3	IADC CODE	116	INTERVAL	1858.0- 2418.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	3.8	BIT RUN	560.0
TOTAL HOURS	18.58	TOTAL TURNS	167237	CONDITION	T5 B8 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1860.0	84	85	848	70		51		51	47	15
1870.0	85	84	844	70		50		50	47	15
1880.0	88	83	855	71		51		51	48	15
1890.0	88	82	851	71		51		51	47	15
1900.0	87	82	846	70		51		51	47	15
1910.0	89	82	855	71		51		51	48	15
1920.0	90	82	859	71		51		51	48	15
1930.0	88	83	854	71		51		51	48	15
1940.0	87	82	845	70		51		51	47	15
1950.0	86	82	843	70		50		50	47	15
1960.0	88	82	852	71		51		51	47	15
1970.0	84	83	835	69		50		50	47	15
1980.0	84	83	838	70		50		50	47	15
1990.0	84	83	836	69		50		50	47	15
2000.0	84	83	834	69		50		50	46	15
2010.0	85	83	842	70		50		50	47	15
2020.0	84	84	838	70		50		50	47	15
2030.0	84	84	839	70		50		50	47	15
2040.0	84	83	838	70		50		50	47	15
2050.0	84	83	836	69		50		50	47	15
2060.0	85	83	838	70		50		50	47	15
2070.0	83	81	821	68		49		49	46	15
2080.0	84	83	836	69		50		50	47	15
2090.0	84	83	833	69		50		50	46	15
2100.0	85	80	823	68		49		49	46	15
2110.0	84	81	823	68		49		49	46	15
2120.0	84	82	829	69		50		50	46	15
2130.0	84	80	823	68		49		49	46	15
2140.0	84	80	820	68		49		49	46	15
2150.0	83	80	813	68		49		49	45	15
2160.0	83	80	816	68		49		49	45	15
2170.0	82	79	804	67		48		48	45	14
2180.0	79	82	805	67		48		48	45	14
2190.0	79	81	800	66		48		48	45	14
2200.0	79	82	805	67		48		48	45	14
2210.0	81	81	809	67		48		48	45	15
2220.0	80	81	808	67		48		48	45	15
2230.0	78	82	800	66		48		48	45	14
2240.0	80	81	805	67		48		48	45	14
2250.0	79	80	796	66		48		48	44	14
2260.0	79	81	801	67		48		48	45	14
2270.0	79	82	805	67		48		48	45	14
2280.0	79	81	797	66		48		48	44	14

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2290.0	79	80	799	66		48		48	44	14
2300.0	78	81	796	66		48		48	44	14
2310.0	78	80	788	65		47		47	44	14
2320.0	78	79	788	65		47		47	44	14
2330.0	78	80	789	66		47		47	44	14
2340.0	78	79	785	65		47		47	44	14
2350.0	78	80	792	66		47		47	44	14
2360.0	82	53	674	56		40		40	38	12
2370.0	80	79	794	66		47		47	44	14
2380.0	74	80	771	64		46		46	43	14
2390.0	75	80	778	65		47		47	43	14
2400.0	75	80	778	65		46		46	43	14
2410.0	75	80	775	64		46		46	43	14
2418.0	75	78	765	64		46		46	43	14

BIT NUMBER	4	IADC CODE	517	INTERVAL	2418.0- 2671.0
HTC J22		SIZE	12.250	NOZZLES	18 18 18
COST	8516.00	TRIP TIME	4.7	BIT RUN	253.0
TOTAL HOURS	26.35	TOTAL TURNS	102049	CONDITION	T3 B2 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2420.0	74	76	747	62		45		45	42	13
2430.0	69	70	694	58		41		41	39	12
2440.0	76	77	766	64		46		46	43	14
2450.0	76	78	769	64		46		46	43	14
2460.0	76	76	762	63		46		46	42	14
2470.0	76	77	765	64		46		46	43	14
2480.0	76	77	765	64		46		46	43	14
2490.0	75	77	764	63		46		46	43	14
2500.0	75	78	764	63		46		46	43	14
2510.0	75	79	774	64		46		46	43	14
2520.0	75	79	773	64		46		46	43	14
2530.0	75	79	773	64		46		46	43	14
2540.0	75	79	772	64		46		46	43	14
2550.0	33	98	655	54		39		39	37	12
2560.0	76	80	779	65		47		47	43	14
2570.0	76	79	778	65		46		46	43	14
2580.0	74	78	761	63		45		45	42	14
2590.0	75	80	776	64		46		46	43	14
2600.0	75	79	772	64		46		46	43	14
2610.0	76	79	771	64		46		46	43	14
2620.0	76	78	771	64		46		46	43	14
2630.0	76	79	774	64		46		46	43	14
2640.0	64	59	615	51		37		37	34	11
2650.0	81	85	831	69		50		50	46	15
2660.0	48	82	650	54		39		39	36	12
2670.0	73	69	709	59		42		42	39	13

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2671.0	73	68	708	59		42		42	39	13

PE603887

This is an enclosure indicator page.
The enclosure PE603887 is enclosed within the container PE905502 at this location in this document.

The enclosure PE603887 has the following characteristics:

ITEM_BARCODE	= PE603887
CONTAINER_BARCODE	= PE905502
NAME	= Temperature Plot
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= TemperaturePlot for West Fortescue-1
REMARKS	=
DATE_CREATED	= 10/05/84
DATE_RECEIVED	= 29/08/84
W_NO	= W886
WELL_NAME	= WEST FORTESCUE-1
CONTRACTOR	= CORE LABORATORIES
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603888

This is an enclosure indicator page.
The enclosure PE603888 is enclosed within the container PE905502 at this location in this document.

The enclosure PE603888 has the following characteristics:

ITEM_BARCODE	= PE603888
CONTAINER_BARCODE	= PE905502
NAME	= Drill Data Plot
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Drill Data Plot from West Fortescue-1
REMARKS	=
DATE_CREATED	= 10/05/84
DATE_RECEIVED	= 29/08/84
W_NO	= W886
WELL_NAME	= WEST FORTESCUE-1
CONTRACTOR	= CORE LABORATORIES
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603889

This is an enclosure indicator page.
The enclosure PE603889 is enclosed within the container PE905502 at this location in this document.

The enclosure PE603889 has the following characteristics:

ITEM_BARCODE	= PE603889
CONTAINER_BARCODE	= PE905502
NAME	= Pressure Plot
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Pressure Plot for West Fortescue-1
REMARKS	=
DATE_CREATED	= 10/05/84
DATE_RECEIVED	= 29/08/84
W_NO	= W886
WELL_NAME	= WEST FORTESCUE-1
CONTRACTOR	= CORE LABORATORIES
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603890

This is an enclosure indicator page.
The enclosure PE603890 is enclosed within the container PE905502 at this location in this document.

The enclosure PE603890 has the following characteristics:

ITEM_BARCODE	= PE603890
CONTAINER_BARCODE	= PE905502
NAME	= Geo-plot
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Geo-plot for West Fortescue-1
REMARKS	=
DATE_CREATED	= 10/05/84
DATE_RECEIVED	= 29/08/84
W_NO	= W886
WELL_NAME	= WEST FORTESCUE-1
CONTRACTOR	= CORE LABORATORIES
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603891

This is an enclosure indicator page.
The enclosure PE603891 is enclosed within the container PE905502 at this location in this document.

The enclosure PE603891 has the following characteristics:

ITEM_BARCODE	= PE603891
CONTAINER_BARCODE	= PE905502
NAME	= Grapholog
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Grapholog for West Fortescue-1
REMARKS	=
DATE_CREATED	= 10/05/84
DATE_RECEIVED	= 29/08/84
W_NO	= W886
WELL_NAME	= WEST FORTESCUE-1
CONTRACTOR	= CORE LABORATORIES
CLIENT_OP_CO	= ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)