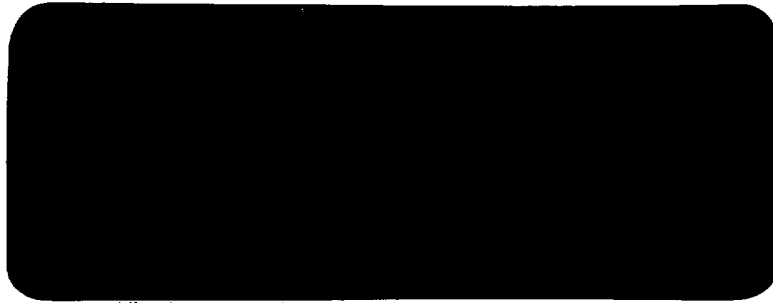


VAITR

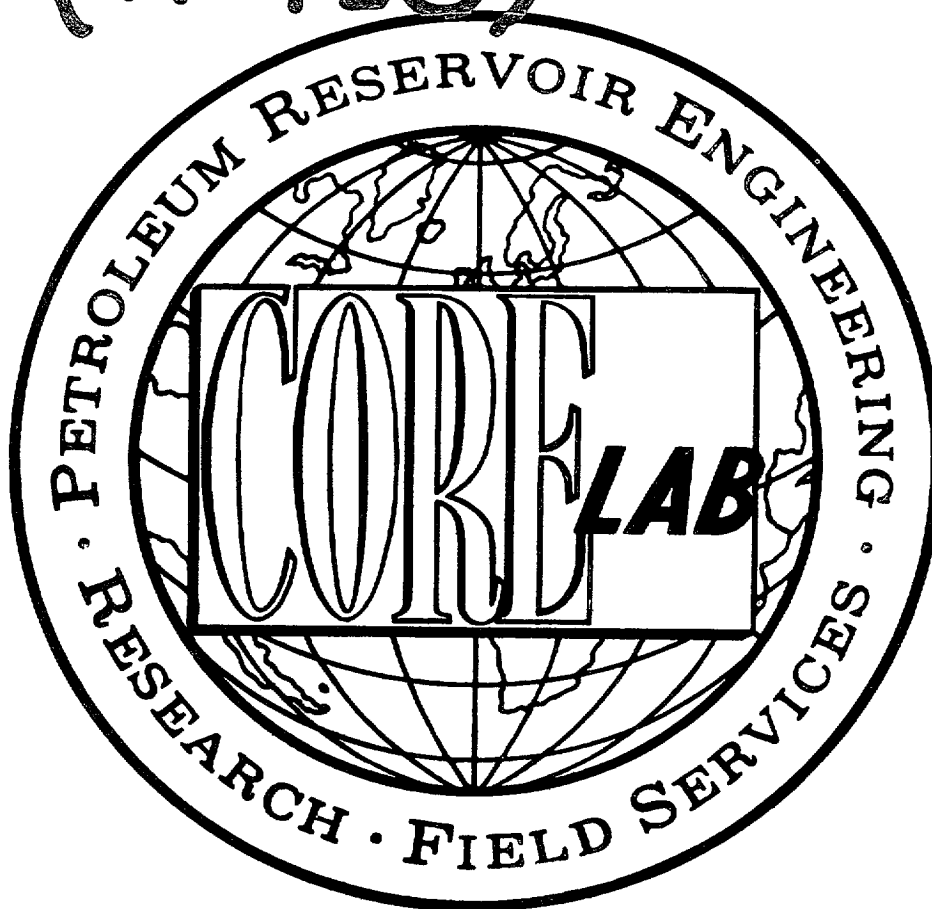
DEPT. NAT. RES & ENV



PE905518



ATTACHMENT TO WCR  
WHIPTAIL - 1A  
(W915)



OIL and GAS DIVISION

FINAL WELL REPORT

ESSO AUSTRALIA LIMITED 23 DEC 1985

WHIPTAIL #1A

INDEX

---

1. INTRODUCTION
  2. RIG SPECIFICATIONS
  3. WELL INFORMATION, PROGRESS AND HISTORY
  4. LITHOLOGY AND CORE-O-GRAPHS
  5. EXTENDED SERVICE PACKAGE :
    - A. INTRODUCTION
    - B. EQUIPMENT
    - C. MONITORING EQUIPMENT
  6. ESP PLOT DESCRIPTIONS AND CONCLUSIONS
  7. B.H.T. ESTIMATION
  8. OVERBURDEN GRADIENT CALCULATIONS AND PLOT
  9. GAS ANALYSES :
    - A. COMPOSITION GRAPHICS
    - B. SIDEWALL CORES
  10. SAMPLES COLLECTED
  11. CORELAB DATA SHEETS :
    - A. BIT RECORDS
    - B. MUD DATA
    - C. R.F.T. DATA
- COMPUTER DATA LISTINGS :
- BIT RECORD AND INITIALIZATION DATA
  - HYDRAULIC ANALYSES
  - DATA LIST A
  - DATA LIST B
  - DATA LIST C
  - DATA LIST D
- APPENDED PLOTS :
- DRILL DATA PLOT
  - TEMPERATURE PLOT
  - PRESSURE PLOT
  - GEO PLOT
  - GRAPHOLOG
  - TRITIUM PLOT

## INTRODUCTION

WHIPTAIL #1A was drilled by ESSO AUSTRALIA LIMITED, in the Bass Strait, Australia.

Well co-ordinates were :

Latitude : 38°19' 30"S  
Longitude : 147°31' 10"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.

WHIPTAIL #1A was spudded on 10th August 1985 and reached a total depth of 2821 metres on 26th August 1985, a total drilling time of 17 days. The main objectives of the well were to:

1. Test the hydrocarbon potential of a simple top of Latrobe "Coarse Clastics" anticlinal closure.
2. Test the hydrocarbon potential of faulted intra-Latrobe Group anticlinal closures.

Elevations were :

Kelly bushings to mean sea level ..... 21 metres  
Water depth ..... 39 metres  
Kelly bushings to mean sea bed ..... 60 metres

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

Core Laboratories personnel involved in the logging of WHIPTAIL #A were as follows :

B Paulet	-	Unit Supervisor
T Wyeth	-	Pressure Engineer
B Giftson	-	Logging Crew Chief
P Gribben	-	Well Logger
P Landry	-	Well Logger
D Mackay	-	Well Logger
R Poltorak	-	Tritium Operator
J Van Tienen	-	Tritium Operator
A Harwood	-	Tritium Operator
J Gibb	-	Tritium Operator

2. RIG SPECIFICATIONS

---

RIG INFORMATION SHEET

COMPANY ESSO AUSTRALIA LIMITED

WELL WHIPTAIL #1A

OWNER	SOUTH SEAS DRILLING COMPANY
NAME AND NUMBER	SOUTHERN CROSS (N <sup>O</sup> 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 5½" 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 6 x 8" CENTRIFUGAL BY TWO 100HP ELECTRIC MOTORS. DESANDER: 1 DEMCO 4 CONE 12" MODEL N <sup>O</sup> 124 DESILTER: 1 DEMCO 4"-16H 16 CONE DEGASSER: 1 SWACO MODEL N <sup>O</sup> 36 SHALE SHAKERS: 2 BRANDT DUAL UNIT TANDEM - GHI DUAL UNIT
BLOW OUT PREVENTORS	THREE SHAFFER L.W.S. 18 3/4" - 10,000 psi TWO HYDRIL G.L. 18 3/4" - 5,000 psi
WELL CONTROL EQUIP.	FOUR VALV CON ACCUMULATORS CHOKES: 2 C.I.W. ABJ H2 2 1/16" - 10,000 psi, 1 SWACO SUPER CHOKE 2" - 10,000 psi
TUBULAR DRILLING EQUIPMENT	DC: 6½" x 2 13/16" (4" IF TJ) 8" x 2 13/16" (6 5/8" H90 TJ) 9 3/4" x 3" (7 5/8" H90 YJ) HWDP: 5" 50lb/ft GRADE G (6½" ) 4½" IF TJ DP : 5" 19½lb/ft GRADE G & E (6 3/8" OO 4½" IF TJ)
CEMENTING UNIT MONITORING EQUIPMENT	HALLIBURTON HT-400 UNIT 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 13 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: 3 x 1570 cu ft. RISER TENSIONER: 6 WESTERN GEAR, 50' STROKE, 80,000 lbs.	
MUD BULK TANKS: 3 x 1570 cu ft. GUIDE LINE TENSIONERS: 4 WESTERN GEAR 16,000 lbs, 40' STROKE	

3. WELL INFORMATION, PROGRESS AND HISTORY

WELL INFORMATION SHEET

COMPANY Esso Australia Limited  
 WELL Whiptail #1A

Sheet No. 1

WELL NAME Whiptail #1A

OPERATOR Esso Australia Limited  
 PARTNERS BHP Petroleum

RIG OWNER South Seas Drilling Company  
 NAME OR NUMBER Southern Cross  
 TYPE Semi-submersible

LOCATION LATITUDE (X) 38°19'30"S LONGITUDE (Y) 147°31'10"E  
 FIELD Gippsland Basin AREA Bass Strait  
 COUNTY STATE Victoria  
 COUNTRY Australia  
 DESCRIPTION Wildcat

DATUM Mean Water Depth 39 m RKB to Water Level 21m

DATES SPUD 10th August, 1985 TOTAL DEPTH 2821 m

HOLE SIZES	Depth From	Depth To	Bit Size (Inches)	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged
	61	197	26	1	-	10/8/85	10/8/85	Y	N
	197	797	17½	1	-	11/8/85	12/8/85	Y	Y
	797	2821	12¼	6	-	13/8/85	27/8/85	Y	Y

DRILLING FLUIDS	Depth From	Depth To	Weights To	Type
	61	197	8.6 TO 8.9	Seawater
	197	797	8.9 TO 9.2	Seawater-Drill solids
	797	2821	9.2 TO 10.3	Seawater-Polymer-Gel

WIRELINE LOGGING	Depth From	Depth To	Hole Size	Date Run	Logs Run
	796	60	17½"	12/8/85	BHCS/GR
	2021	782	12¼"	18/8/85	DLT-E/MSFL/LDT-C/CNT-H/GR/CAL
	1210	782	12¼"	18/8/85	BHC/GR
	-	-	12¼"	18-19/8/85	RFT's No. 1 - 7
	2810	1950	12¼"	27/8/85	DLT-E/MSFL/LDT-C/CNT-H/GR/AMS/SP
	2815.5	1950	12¼"	28/8/85	BHC/GR
	-	-	12¼"	28/8/85	RFT's No. 8 - 9
	-	-	12¼"	28/8/85	WST-GR

RISER CASING & LINER	Depth From	Depth To	OD (Ins)	ID (Ins)	Weight	Grade	Thread	Date Run	Cement	Stages	Exces
	0	60	22	21	----- Riser -----						
	60	185	20	19.125	94.4	X52	JV Box	10/8/85	"G"	1	-
	60	782	13.375	12.615	54.5	K55	Butt	12/8/85	"G"	1	-

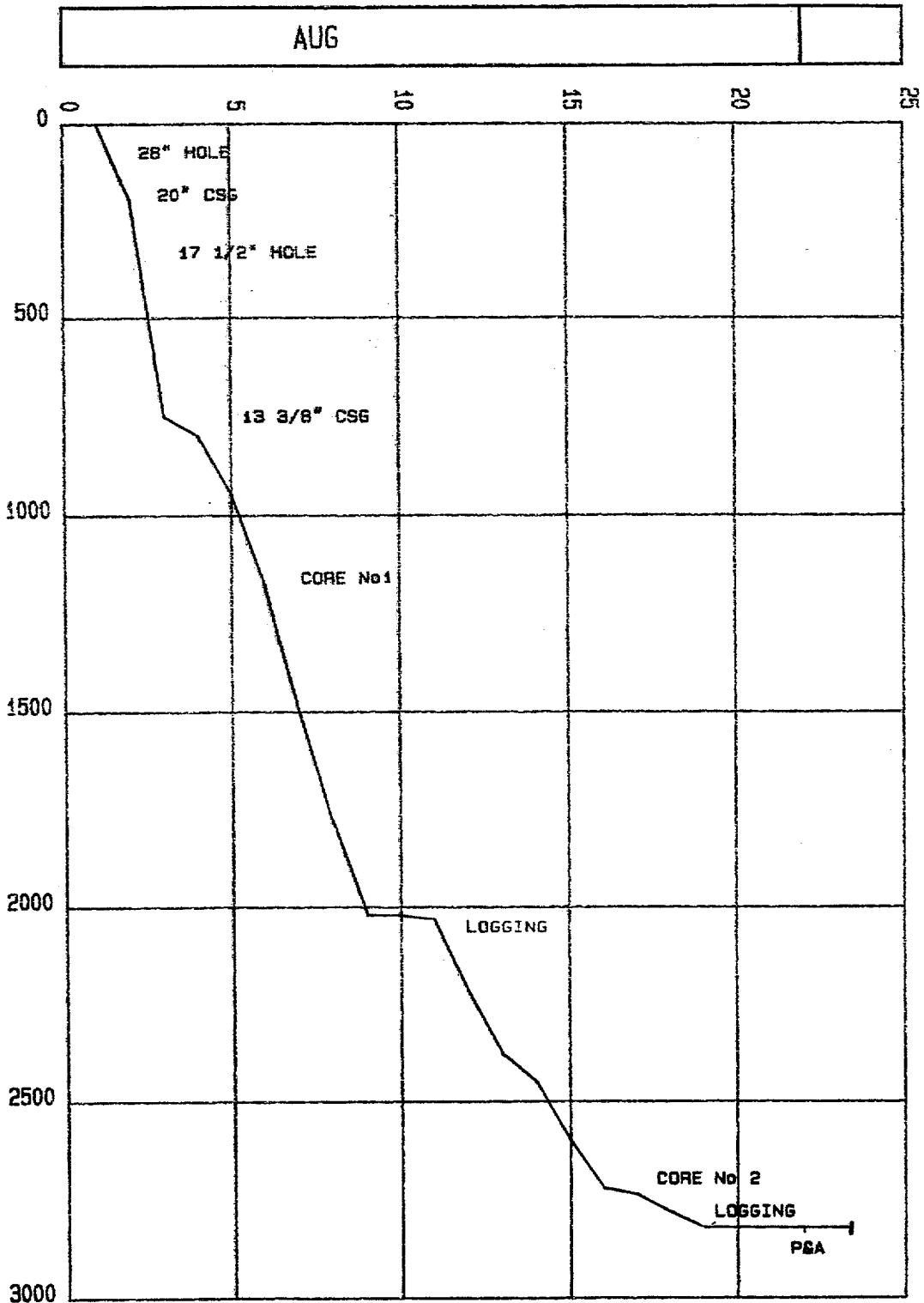


WELL INFORMATION SHEET  
(SUPPLEMENTARY)

COMPANY Esso Australia Limited  
WELL Whiptail #1A

Sheet No. 2

Depth from (m)	Depth to (m)	Hole size (ins.)	Date run	Logs run
-	-	12 $\frac{1}{4}$ "	29/8/85	CST-GR



WELL HISTORY  
WHIPTAIL #1 & #1A

5TH AUG -  
9TH AUG 1985 Whiptail #1 was spudded and 20" casing run; on pressure testing the casing, it would not hold due to a missing 'O' ring seal. Whiptail #1 was therefore abandoned, and the rig moved 50 feet for the spudding of Whiptail #1A.

10TH AUG 1985 The template was run to the seafloor and Whiptail #1A was spudded to 197 metres and the 20" casing run and cemented.

11TH AUG 1985 The B.O.P. stack was rigged up and landed on the seafloor. 17½" hole was then drilled to 749 metres.

12TH AUG 1985 17½" hole was drilled to 797 metres and the hole conditioned for logging. The GR-Sonic log was run from 797 - 60 metres prior to running and cementing the 13 3/8" casing.

13TH AUG 1985 The B.O.P. was tested prior to drilling out the cement and a phase II pressure integrity test was carried out after drilling six metres of new hole (12.4 ppg E.M.W.). A new 12½" B.H.A. was made up and new hole drilled to 941 metres.

14TH AUG 1985 Drilled 12½" hole to 1165.4 metres where the hole was circulated clean and it was decided to cut core #1. On pulling out of the hole a phase III pressure integrity test was carried out giving 13.29 ppg E.M.W. at the shoe and 12.31 ppg at 1165.4 metres. The core was cut from 1164.5 - 1175.4 metres (Rec 7.8m 77%).

15TH AUG 1985 Drilled new 12½" hole to 1502 metres.

16TH AUG 1985 Drilled new 12½" hole to 1789 metres where the bit was pulled due to increasing torque.

17TH AUG 1985 Drilled 12½" hole to 2021 metres where the bit was pulled to run logs.

18TH AUG 1985 Logging.  
  
DLT/E/MSFL/LDT-C/CNT/H/GR/CAL 2021 - 782 metres.  
BHC/GR 1210 - 782 metres.  
RFT #1-4.

19TH AUG 1985 RFT #5-7. A B.O.P. test was then carried out prior to drilling new hole to 2032 metres.

20TH AUG 1985 Drilled 12½" hole to 2217 metres.

21ST AUG 1985 Drilled 12 $\frac{1}{4}$ " hole to 2378 metres.

22ND AUG 1985 Drilled ahead to 2397 metres. Pulled bit due to low R.O.P.'s and high torque. Trip gas from 2397 metres was 0.1-1-0.4 units. R.I.H. with new bit HTC J22 and drilled 12 $\frac{1}{4}$ " hole to 2436.1 metres; checked drilling break for flow and circulated bottoms up. Drilled ahead to 2450 metres.

23RD AUG 1985 Drilled 12 $\frac{1}{4}$ " hole to 2598 metres.

24TH AUG 1985 Drilled ahead to 2719 metres, pulled the bit due to high hours and low R.O.P.'s.

25TH AUG 1985 R.I.H. with NB8 HTC J22. Trip gas from 2719 metres was 4-42-16 units. Drilled ahead to 2737 metres and circulated out drill break. P.O.O.H. to cut core #2. Trip gas from 2737 metres was 2-8-2 units.

26TH AUG 1985 Cut core #2 from 2737 metres to 2755 metres, recovered 9.8 metre (54.4%). R.I.H. with RR8 HTC J22, reamed rathole and drilled ahead to 2781 metres. Trip gas from 2755 metres was 12-30-6 units.

27TH AUG 1985 Drilled ahead to 2821 metres (T.D.) circulated out and P.O.O.H. Schlumberger logged the hole.

28TH AUG 1985 Logged the hole.

29TH AUG 1985 Ran C.S.T.'s, R.I.H. and circulated out. B.U. gas was 1-295-23 units. Set cement plug 1600-1500 metres. P.O.O.H. R.I.H. and milled cement to 1500 metres; bottoms up gas was 2-27-2 units. P.O.O.H.

30TH AUG 1985 Ran and set 9 5/8" casing at 1485 metres.

31ST AUG 1985 Plugged and abandoned the hole.

4. LITHOLOGY AND CORE-O-GRAPHS

## LITHOLOGY SUMMARY

The main objectives of Whiptail #1A were to test the hydrocarbon potentials of a simple top of Latrobe "Coarse Clastics" anticlinal closure, and faulted intra-Latrobe Group anticlinal closures.

All formation tops are open to speculation and are based entirely on the examination of cuttings. All depths are from RKB.

### Gippsland Limestone (200 metres - 700 metres)

The Gippsland Limestone consisted of a white to light grey, fine to medium grained, sub rounded to well rounded, moderately sorted calcarenite together with light grey calcisiltite. The calcarenite also contained shell fragments and fossilized bryozoa.

### Lakes Entrance (700 metres - 1165 metres)

Between 700 and 800 metres, calcarenite and siltstone predominated.

The calcarenite was white to light grey, fine and moderately sorted with minor shell fragments. The siltstone was grey to brown in colour, soft to firm, argillaceous and contained minor pyrite.

The siltstone generally made up 20 to 40 percent of the cuttings.

Calcisiltite then predominated to 1165 metres... this was generally light to medium grey, soft to firm, argillaceous, fossiliferous, and contained minor carbonaceous material.

Minor amounts of calcilutite were also encountered.

### Latrobe Group (1165 metres - 2821 metres T.D.)

The Latrobe Group consisted predominantly of sandstone with interbedded siltstone and minor coal bands.

From 1165 metres to 1370 metres the sandstone was interbedded with carbonaceous siltstone of varying thickness, the largest band extending between 1200 metres and 1230 metres and composing up to 70 percent of cuttings.

The siltstone was generally dark brown to black, moderately hard, and containing traces of pyrite. The sandstone consisted generally of white to clear loose quartz grains. These were medium to very coarse, sub angular to angular, and poor to moderately sorted. The sandstone exhibited no shows.

Bands of coal then occurred interbedded with the sandstone to 1455 metres. The amount of coal ranged between 10 and 50 percent, but was more consistent at the 20 percent level. The coal was found with 10 to 40 percent siltstone, which was dark brown to black, argillaceous, and contained traces of pyrite.

From 1500 metres to 2100 metres the sandstone was composed of clear to translucent quartz grains. These were angular to sub angular and moderately to well sorted and consistently contained traces of pyrite. No fluorescence was found.

Interbedded carbonaceous siltstone and sandstone then predominated to the total depth of 2821 metres. The bands had varying thicknesses; and may composed up to 80 percent of the cuttings, with the average approximately 40 percent.

The siltstone was generally pale brown, micaceous, argillaceous, carbonaceous, and moderate to firm.

The sandstone was consistent with that previously encountered. Generally no fluorescence was found, except from 2450 metres to T.D. where trace fluorescence was encountered at various depths.

#### GAS:

Total gas readings show a continuous rise from less than 0.5 units at 800 metres to approximately 50 units at 1100 metres.

From 1100 metres to 1445 metres the gas generally remained between 5 and 20 units. Peaks to 50 units were encountered in response to interbedded carbonaceous siltstone and coal, the majority of gas being made up of C<sub>1</sub>.

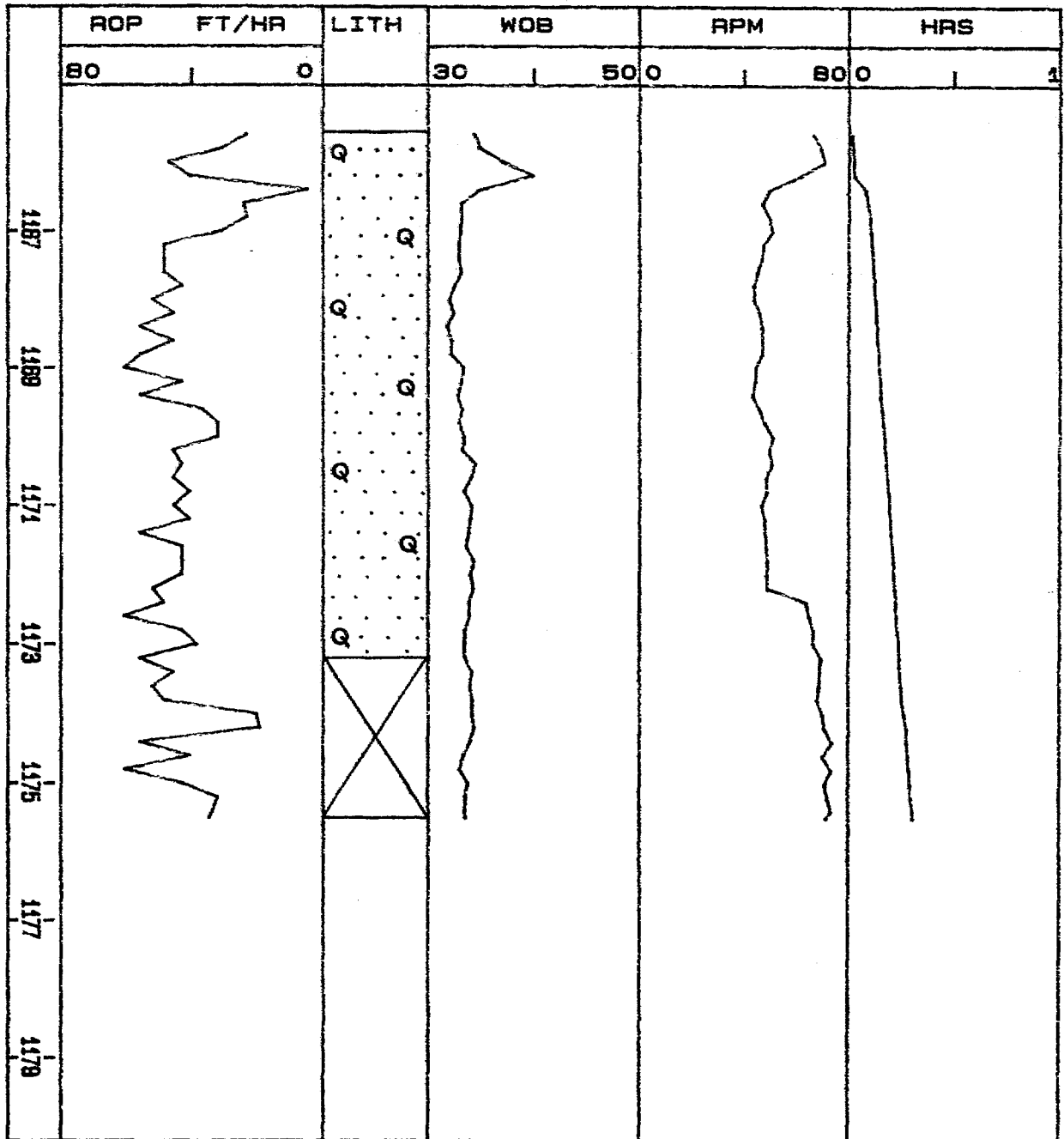
Between 1500 metres and 2050 metres total gas generally remained below 5 units.

From 2050 metres to a total depth of 2821 metres, the total gas remained between 5 and 50 units.

The gas rose wherever carbonaceous siltstone or coal occurred. However where siltstone was found the gas reading generally showed a decrease, though it fluctuated according to the percentage of siltstone encountered. The majority of the gas in this interval was C<sub>1</sub> to C<sub>3</sub>.

# CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	WHIPTAIL NO. 1A
CORE NO.:	1
INTERVAL CORED FROM	1185.4m. TO 1175.5m.
CUT: 10.1m.	RECOVERED: 7.8m. ( 77.2% )
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRIST RC4
CORE BARREL SIZE:	8.00in.x 4.75in.x 10.94m.
BIT SIZE: 9.88	MUD WT.: 10.3

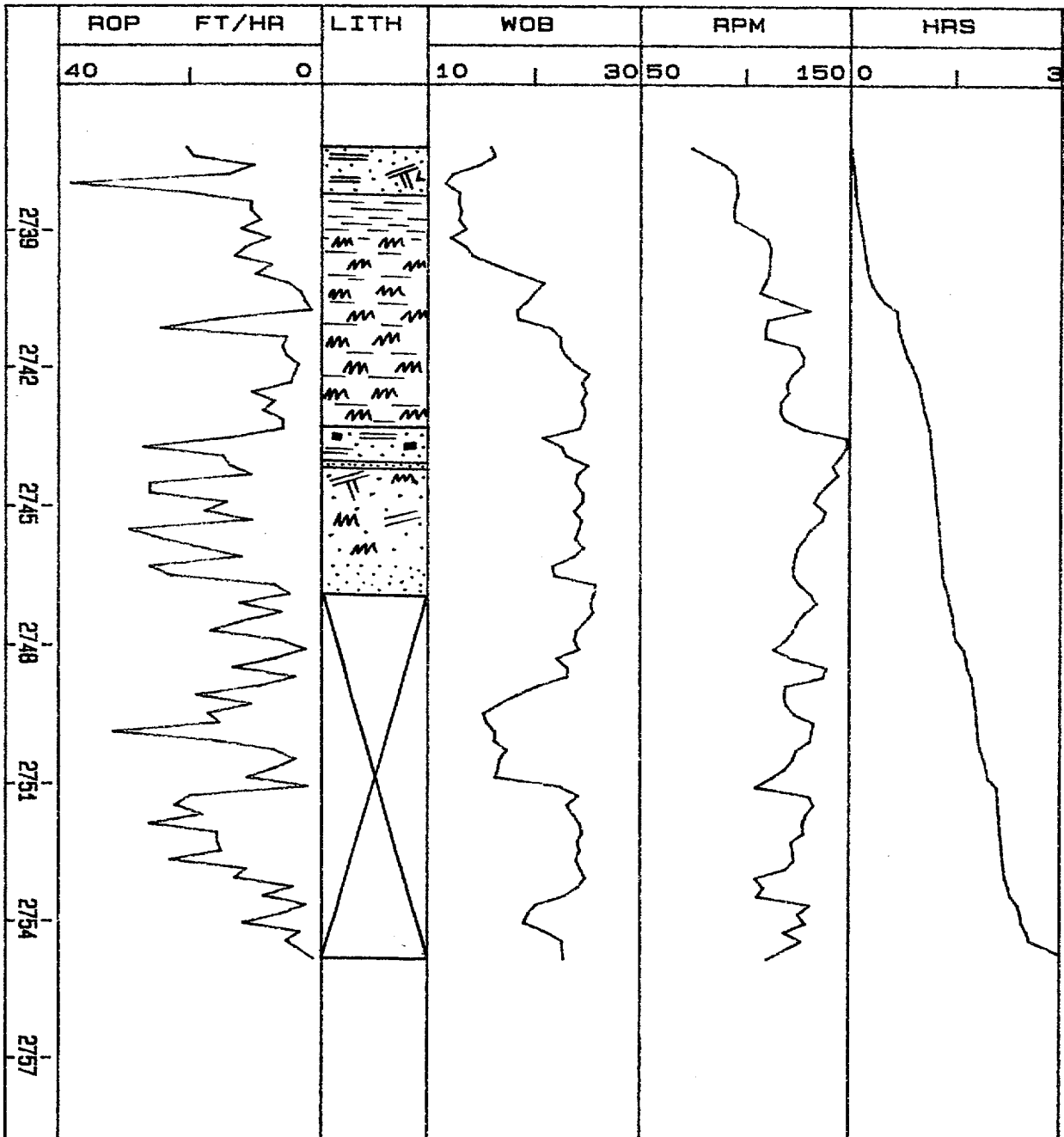


1stimer '81



# CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	WHIPTAIL No.1A
CORE NO.:	2
INTERVAL CORED FROM	2737.0m. TO 2755.0m.
CUT: 18.0m.	RECOVERED: 9.8m. ( 54.4% )
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRIS RC4
CORE BARREL SIZE:	8.00in.x 5.25in.x 19.70m.
BIT SIZE: 9.88	MUD WT.: 8.5



Jettimer '81

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 Jordan and Shirley in 1966 to assist in interpreting rate of penetration data by normalizing for rotary speed and weight-on-bit per inch of bit diameter.

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

$$dc' = \frac{\text{Log} \frac{(\text{ROP})}{(\text{RPM} \times 60)}}{\text{Log} \frac{(\text{WOB} \times 12)}{(\text{R} + \text{dis} \times 1000)}} \times \frac{10}{\text{MDI}}$$

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 the flowline temperature are disregarded.

#### ELECTRIC LOG PLOT

A plot of shale resistivity (ohm-metres squared/metre), sonic travel time (microseconds per foot), bulk density (gm/cc) and neutron porosity (%), 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 DISCUSSION AND CONCLUSIONS  
(with particular reference to Pore Pressure)

The main consideration during the drilling of Whiptail #1A 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 with any irregularities in rate of penetration, corrected 'd' exponent and gas levels being due to lithology changes. No connection gas was detected. Shale densities were not performed during the drilling of the well as no large beds of shale were encountered.

The "Temperature Plot" displays the flowline temperature in and out and their differential plotted against depth. The temperature plot of Whiptail #1A shows a temperature gradient of 1.77°F/100 feet. It shows a normal trend with depth, only differing from the expected gradient at points where the mud system was being treated to maintain specifications. The bottom hole temperature was extrapolated to 94°C at 2821 metres, from wireline logging data.

The "Pressure Plot" is a summary of the pressures found in the drilling of Whiptail #1A. On this plot, estimated pore pressure is plotted along with mud weight and the fracture gradient. The pore pressure of the well was estimated to be 8.4 ppg (E.M.W.) throughout. The fracture gradient curve was based on information obtained from a pressure integrity test performed after drilling out the 13-3/8" casing shoe (782 metres, 13.2 ppg). As there is no available Overburden Gradient curve for the Gippsland Basin the shape of the curve is based on that of the U.S. Gulf Coast Basin curve and offset to match local data.

7. B.H.T. ESTIMATION

CORE LAB

=====

STRAIGHT LINE LEAST SQUARES BEST FIT

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

ENTERED DATA:

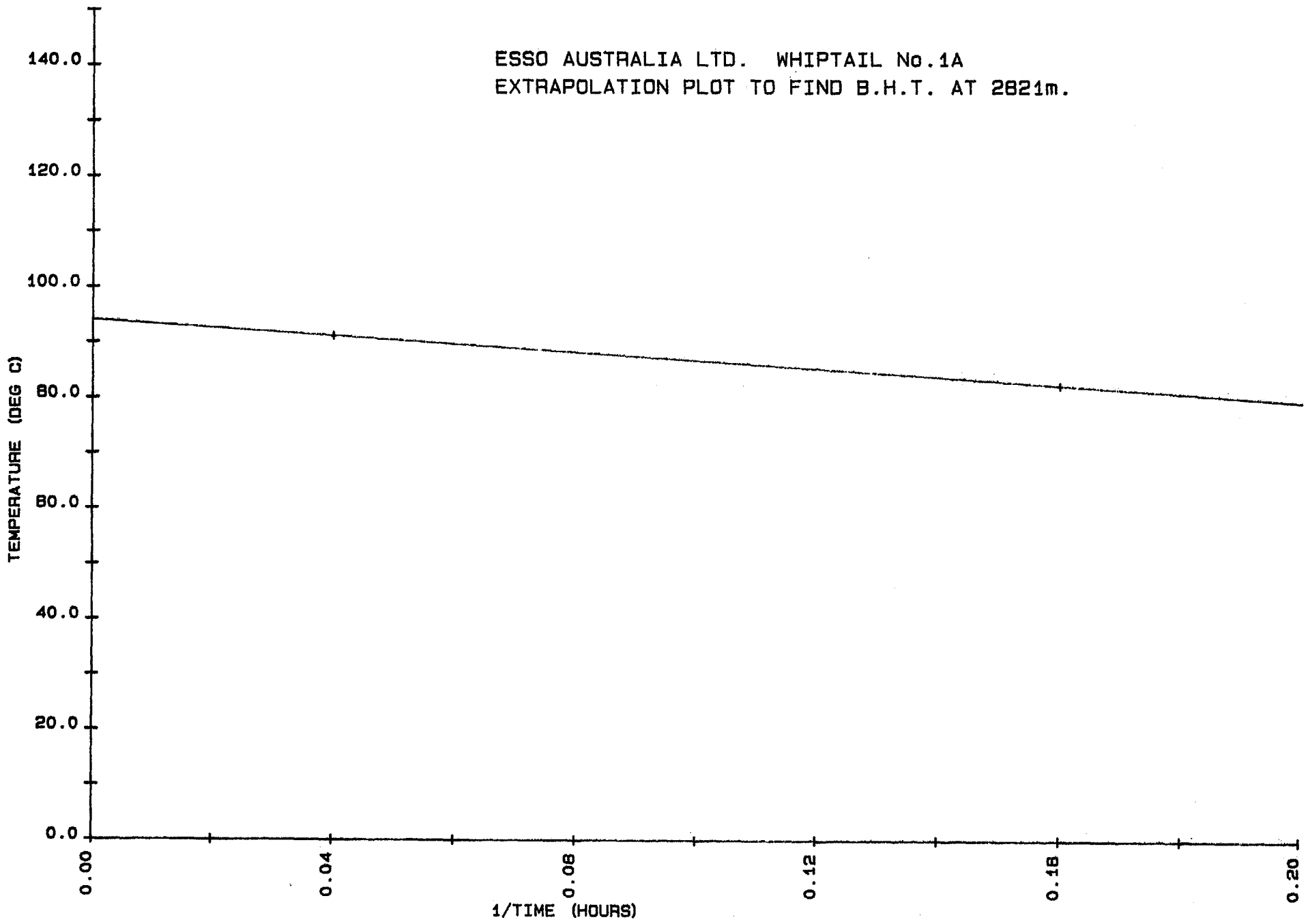
DATA SET #	1/TIME	TEMP.
1	0.04	91.0
2	0.16	82.0

COEFFICIENT & CONSTANT:

$Y = m.X + c$  where  $m = -7.5000000E 01$  and  $c = 9.4000000E 01$

INTERPOLATED DATA:

1/TIME	TEMP.
0.00	94.0



8. OVERBURDEN GRADIENT CALCULATIONS AND PLOT

OVERBURDEN GRADIENT CALCULATIONS

=====

DEPTH from	DEPTH to	AVR. BULK DENSITY	O/BURDEN INC.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
metres	metres	gm/cc	psi	psi	psi/ft	ppg
200	225	1.66	58.95	58.95	0.080	1.54
225	250	1.69	60.02	118.98	0.145	2.79
250	275	1.73	61.44	180.42	0.200	3.85
275	300	1.71	60.73	241.15	0.245	4.71
300	325	1.75	62.15	303.30	0.284	5.47
325	350	1.86	66.06	369.36	0.322	6.19
350	375	1.79	63.57	432.93	0.352	6.77
375	400	1.79	63.57	496.50	0.378	7.28
400	425	1.71	60.73	557.23	0.400	7.69
425	450	1.93	68.54	625.77	0.424	8.15
450	475	1.99	70.67	696.45	0.447	8.59
475	500	1.99	70.67	767.12	0.468	8.99
500	525	1.90	67.48	834.60	0.485	9.32
525	550	1.99	70.67	905.28	0.502	9.65
550	575	1.97	69.96	975.24	0.517	9.94
575	600	2.06	73.16	1048.40	0.533	10.24
600	625	2.10	74.58	1122.98	0.548	10.53
625	650	2.06	73.16	1196.14	0.561	10.79
650	675	1.99	70.67	1266.82	0.572	11.00
675	700	2.08	73.87	1340.69	0.584	11.23
700	725	2.08	73.87	1414.56	0.595	11.44
725	750	2.04	72.45	1487.01	0.604	11.62
750	775	2.04	72.45	1559.46	0.613	11.79
775	800	2.03	72.10	1631.56	0.622	11.95
800	825	1.79	63.57	1695.13	0.626	12.04
825	850	1.82	64.64	1759.77	0.631	12.14
850	875	1.86	66.06	1825.83	0.636	12.23
875	900	1.79	63.57	1889.40	0.640	12.31
900	925	1.75	62.15	1951.55	0.643	12.37
925	950	1.75	62.15	2013.70	0.646	12.42
950	975	1.75	62.15	2075.85	0.649	12.48
975	1000	1.79	63.57	2139.42	0.652	12.54
1000	1025	1.79	63.57	2202.99	0.655	12.60
1025	1050	1.79	63.57	2266.57	0.658	12.65
1050	1075	1.75	62.15	2328.72	0.660	12.70
1075	1100	1.71	60.73	2389.45	0.662	12.73
1100	1125	2.25	79.91	2469.36	0.669	12.87
1125	1150	2.28	80.97	2550.33	0.676	13.00
1150	1175	2.26	80.26	2630.59	0.682	13.12
1175	1200	2.21	78.49	2709.08	0.688	13.23
1200	1225	2.15	76.36	2785.44	0.693	13.33
1225	1250	2.18	77.42	2862.86	0.698	13.42
1250	1275	2.15	76.36	2939.22	0.703	13.51
1275	1300	2.17	77.07	3016.29	0.707	13.60
1300	1325	2.15	76.36	3092.64	0.711	13.68



DEPTH from	DEPTH to	AVR. BULK DENSITY	O/BURDEN INC.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
metres	metres	gm/cc	psi	psi	psi/ft	ppg
1325	1350	2.20	78.13	3170.78	0.716	13.77
1350	1375	2.14	76.00	3246.78	0.720	13.84
1375	1400	2.12	75.29	3322.07	0.723	13.91
1400	1425	2.18	77.42	3399.49	0.727	13.98
1425	1450	2.12	75.29	3474.79	0.730	14.05
1450	1475	2.21	78.49	3553.27	0.734	14.12
1475	1500	2.20	78.13	3631.41	0.738	14.19
1500	1525	2.18	77.42	3708.83	0.741	14.26
1525	1550	2.28	80.97	3789.80	0.745	14.33
1550	1575	2.30	81.68	3871.49	0.749	14.41
1575	1600	2.25	79.91	3951.40	0.753	14.48
1600	1625	2.26	80.26	4031.66	0.756	14.54
1625	1650	2.27	80.62	4112.28	0.760	14.61
1650	1675	2.27	80.62	4192.90	0.763	14.67
1675	1700	2.24	79.55	4272.45	0.766	14.73
1700	1725	2.28	80.97	4353.43	0.769	14.79
1725	1750	2.26	80.26	4433.69	0.772	14.85
1750	1775	2.26	80.26	4513.95	0.775	14.91
1775	1800	2.27	80.62	4594.57	0.778	14.96
1800	1825	2.30	81.68	4676.26	0.781	15.02
1825	1850	2.32	82.39	4758.65	0.784	15.08
1850	1875	2.33	82.75	4841.40	0.787	15.14
1875	1900	2.35	83.46	4924.86	0.790	15.19
1900	1925	2.34	83.11	5007.97	0.793	15.25
1925	1950	2.36	83.82	5091.78	0.796	15.31
1950	1975	2.37	84.17	5175.95	0.799	15.36
1975	2000	2.37	84.17	5260.12	0.802	15.42
2000	2025	2.15	76.36	5336.48	0.803	15.45
2025	2050	2.34	83.11	5419.59	0.806	15.50
2050	2075	2.36	83.82	5503.40	0.808	15.55
2075	2100	2.44	86.66	5590.06	0.811	15.60
2100	2125	2.40	85.24	5675.29	0.814	15.65
2125	2150	2.36	83.82	5759.11	0.816	15.70
2150	2175	2.24	79.55	5838.66	0.818	15.74
2175	2200	2.36	83.82	5922.48	0.821	15.78
2200	2225	2.37	84.17	6006.65	0.823	15.82
2225	2250	2.44	86.66	6093.31	0.825	15.87
2250	2275	2.36	83.82	6177.12	0.828	15.92
2275	2300	2.38	84.53	6261.65	0.830	15.96
2300	2325	2.38	84.53	6346.17	0.832	16.00
2325	2350	2.43	86.30	6432.47	0.834	16.04
2350	2375	2.42	85.95	6518.42	0.837	16.09
2375	2400	2.38	84.53	6602.95	0.839	16.13
2400	2425	2.39	84.88	6687.83	0.841	16.17
2425	2450	2.43	86.30	6774.13	0.843	16.21
2450	2475	2.39	84.88	6859.01	0.845	16.24
2475	2500	2.43	86.30	6945.31	0.847	16.28
2500	2525	2.47	87.72	7033.03	0.849	16.33
2525	2550	2.46	87.37	7120.40	0.851	16.37
2550	2575	2.46	87.37	7207.77	0.853	16.41

DEPTH from	DEPTH to	AVR. BULK DENSITY	O/BURDEN INC.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
metres	metres	gm/cc	psi	psi	psi/ft	ppg
2575	2600	2.50	88.79	7296.55	0.855	16.45
2600	2625	2.45	87.01	7383.57	0.857	16.49
2625	2650	2.42	85.95	7469.51	0.859	16.52
2650	2675	2.44	86.66	7556.17	0.861	16.56
2675	2700	2.41	85.59	7641.76	0.863	16.59
2700	2725	2.40	85.24	7727.00	0.864	16.62
2725	2750	2.45	87.01	7814.01	0.866	16.66
2750	2775	2.45	87.01	7901.02	0.868	16.69
2775	2800	2.46	87.37	7988.39	0.870	16.72
2800	2821	2.52	75.18	8063.56	0.871	16.75

0

1

2

3

DEPTH (in metres ) x 1000

ESSO AUSTRALIA LTD.

WHIPTAIL No.1A

OVERBURDEN GRADIENT

PSI/FT.

0.5

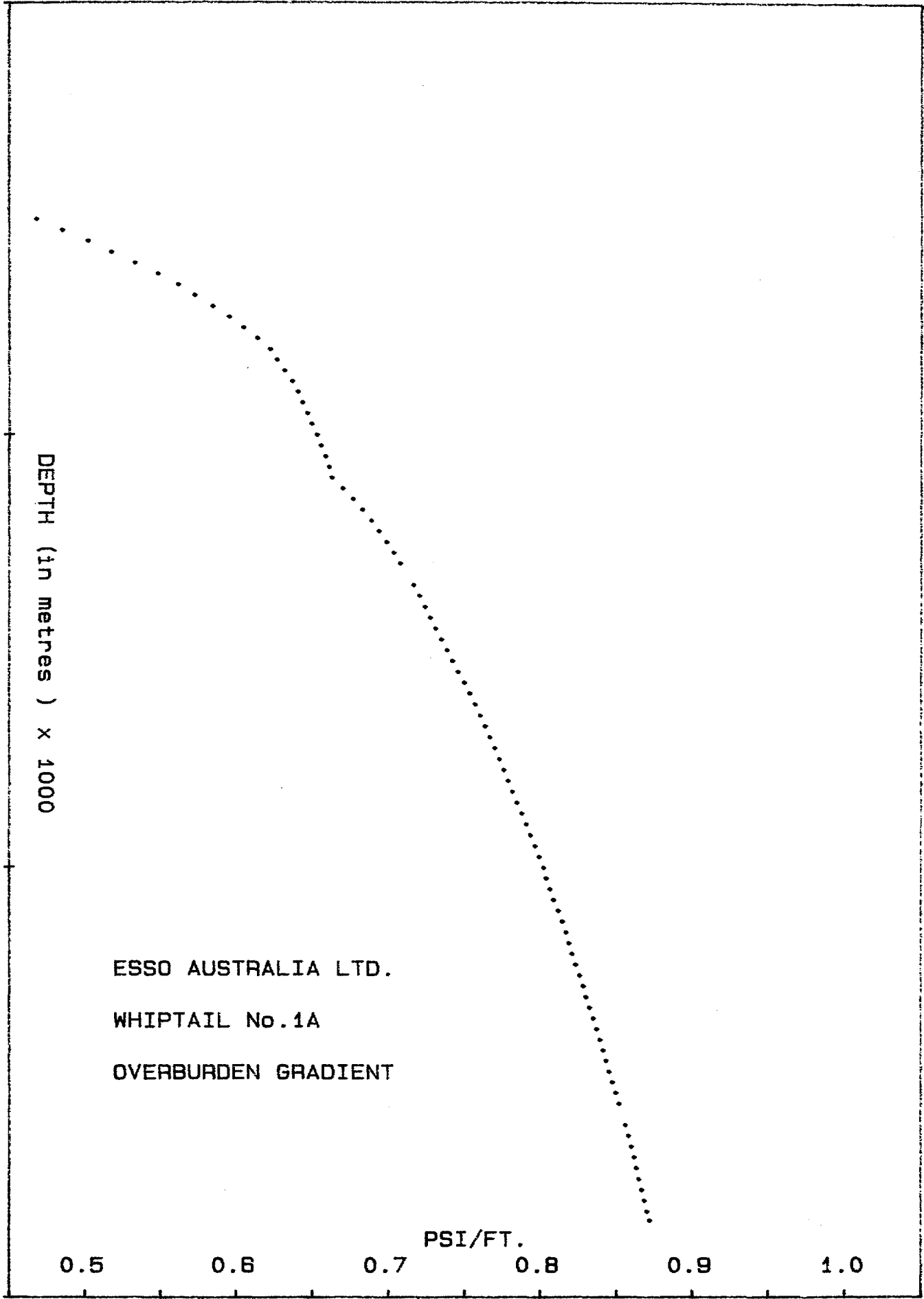
0.6

0.7

0.8

0.9

1.0



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

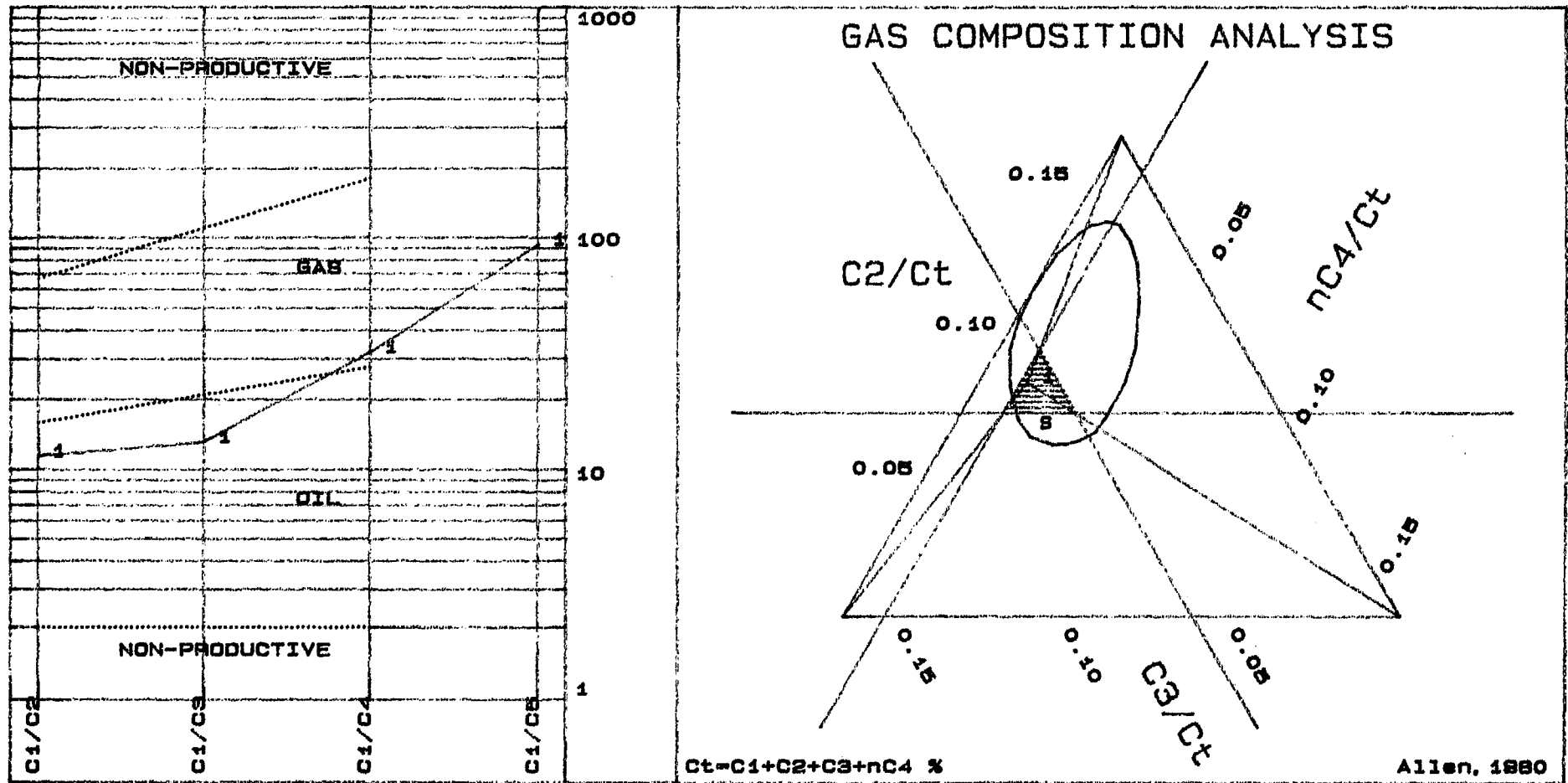
The triangulation diagram is obtained by tracing lines on three scales at 120 degrees to each other, corresponding respectively to the ratios of C2, C3 and normal C4 to the total gas (C1 to C4). The scales are arranged in such a way that if the apex of the triangle is upward, a gas zone is indicated, 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: WHIPTAIL No.1A



NO.	DEPTH	C1	C2	C3	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1390	0.530	0.048	0.040	0.008	0.008	0.004	0.825	11	13	32	93

CONCLUSION: PRODUCTIVE GAS/OIL ZONE

SIDEWALL CORE GAS ANALYSIS DATA SHEET

SHEET NO. 1

COMPANY Esso Australia Limited  
 WELL Whiptail #1A

LOGGING SUITE NO.

No.	DEPTH (M)	C1	C2	C3	C4	C5	C6	COMMENTS
		PPM	PPM	PPM	PPM	PPM	PPM	
4		1,133	36	16	Tr	-	-	
5		785	10	-	-	-	-	
6		1,918	35	10	Tr	-	-	
8		2,163	30	8	Tr	-	-	
12		2,420	33	8	Tr	-	-	
20		3,208	46	11	Tr	-	-	
22		2,371	31	8	Tr	-	-	
41		3,139	44	11	Tr	-	-	
42		2,232	39	11	Tr	-	-	
45		2,098	39	8	Tr	-	-	
15		802	14	Tr	-	-	-	
25		786	11	-	-	-	-	
26		3,139	52	12	Tr	-	-	
28		2,964	46	11	Tr	-	-	
29		2,092	30	8	Tr	-	-	
33		2,058	33	8	Tr	-	-	
23		1,918	35	8	Tr	-	-	
24		2,441	47	10	Tr	-	-	
19		Tr	-	-	-	-	-	
32		3,488	60	14	Tr	-	-	
16		2,232	33	8	Tr	-	-	

Total 21 samples

10. SAMPLES COLLECTED



SAMPLES COLLECTED ON WHIPTAIL #1A

Fission Track samples: 2 sets at 30 metre intervals from  
1000 metres to 2821 metres.

Geochemical: 1 set at 15 metre intervals from 200  
metres to 2821 metres.

Dry cuttings samples: 3 sets from 200 metres to 2821 metres.  
1 for Esso  
1 for BMR  
1 for VDITR

Air dried cuttings: 1 set from 200 metres to 2821 metres

Core #1: 9 lengths of PVC core from cored  
interval 1165.4 metres to 1175.5 metres.

Core #2: 11 boxes from cored interval 2737 metres  
to 2755 metres.

R.F.T. Samples: Total of 19 containers of fluid samples.

11. CORELAB DATA SHEETS

---

## BIT RECORD

COMPANY Esso Australia Limited  
WELL Whiptail #1A

Sheet No. 1

Ser No.	Bit No.	Make	Type	IADC Code	Size (Inches)	Jets	Depth In Metres	Hole Made (m)	Drill Time	On Bottom		Condition T B G	Remarks
										Hours	Turns K		
LJ321	RR1	HTC	OSC 31J + H0	111	26	20/20/20	61	136	6	3.87	23.4	1-1-I	Pulled to run 20" CSG
BC886	2	HTC	X3A	114	17½	20/20/20	197	600	18	12.7	114.3	1-1-I	Pulled to run 13 3/8" CSG
407XF	3	HTC	X3A	114	12½	18/18/18	797	368.4	15.5	10.54	72.7	3-3-I	Pulled to cut Core #1
1450678	3	CHRIS	RC4	4	9 7/8	15/15/16	1165.4	10.1	0.25	0.31	1.0	5% worn	Core #1
318DS	4	HTC	J22	517	12¼	18/18/16	1175.5	613.5	41.75	33.91	139.6	4-6-3/16	Pulled due to high torque
633GM	5	HTC	J22	517	12¼	16/16/18	1789	232	19.22	16.95	59.5	2-3-1/8	Pulled at T.D. (tentative)
178FS	6	HTC	J33	537	12¼	16/16/18	2021	376	53.08	48.06	154.1	5-5-¼	Pulled due to high torque
796FM	7	HTC	J22	517	12¼	16/16/18	2397	322	58.50	53.62	162.1	6-6-¼	Pulled due to low ROP's
656FM	8	HTC	J22	517	12¼	16/16/18	2719	18	5.33	4.45	13.4	1-1-I	Pulled to cut Core #2
83B0332	8	CHRIS	RC4	4	9 7/8	15/15/16	2737	18	2.83	2.70	19.5	20%	Core #2
656FM	RR8	HTC	J22	517	12¼	16/16/18	2755	66	15.50	14.24	40.3	13 1/8	Pulled at T.D.

## BIT RECORD

COMPANY Esso Australia Limited  
WELL Whiptail #1A

Sheet No. 1

Ser No.	Bit No.	Make	Type	IADC Code	Size (Inches)	Cost A\$	Jets	Depth In (m)	Depth Out (m)	Hole Made m	Drill Time	On Bottom		Avg ROP	Avg Cost/m	Condition T B G
												Hours	TurnsK			
LJ321	RR1	HTC	OSC 3AJ + HO	111	26	0	20/20/20	61	197	136	6	3.87	23.4	35.1	172.81	1-1-I
BC886	2	HTC	X3A	114	17½	4978	20/20/20	197	797	600	18	12.7	114.3	47.2	97.8	1-1-I
407XF	3	HTC	X3A	114	12½	2445	18/18/18	797	1165.4	368.4	15.5	10.54	72.7	35.0	140.89	3-3-I
1450678	3	CHRIS	RC4	4	9 7/8	0	15/15/16	1165.4	1175.5	10.1	0.25	0.31	1.0	32.6	833.65	5%
318DS	4	HTC	J22	517	12½	8520	18/18/16	1175.5	1789	613.5	41.75	33.91	139.6	18.1	242.33	4-6-3/16
633GM	5	HTC	J22	517	12½	8520	16/16/18	1789	2021	232	19.22	16.95	59.5	13.7	402.69	2-3-1/8
178FS	6	HTC	J33	537	12½	8266	16/16/18	2021	2397	376	53.08	48.06	154.1	7.8	556.81	5-5-¼
796FM	7	HTC	J22	517	12½	8520	16/16/18	2397	2719	322	58.50	53.62	162.1	6.0	715.11	6-6-¼
656FM	8	HTC	J22	517	12½	8520	16/16/18	2719	2737	18	5.33	4.45	13.4	4.0	2958	1-1-I
8380332	8	CHRIS	RC4	4	9 7/8	0	15/15/16	2737	2755	18	2.83	2.70	19.5	6.7	2167	20%
656FM	RR8	HTC	J22	517	12½	0	16/16/18	2755	2821	66	15.50	14.24	40.3	3.5	1152	1-3-1/8

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

## MUD INFORMATION SHEET

COMPANY Esso Australia Limited  
WELL Whiptail #1A

Sheet No. 1

DEPTH	197	689	764	849	1164	1366
DATE	10/8/85	11/8/85	12/8/85	13/8/85	14/8/85	15/8/85
TIME		20:00	01:00	20:00	11:00	14:00
WEIGHT		8.9	9.0+	8.8	10.3	10.3
FUNNEL VISCOSITY	S	32	34	29	41	42
PV/YP	E	3/10	3/23	5/9	9/21	8/25
N/K	A	0.30/2.01	0.16/9.74	0.44/0.90	0.38/2.83	0.31/4.69
GEL: INITIAL/10 MIN	A	5/6	12/14	12/16	11/20	21/36
pH	W	9.6	9.5	10.9	10.5	10.4
FILTRATE:API/API HTHP	A	13.5/-	13.5/-	12/18	11/19	14/22
CAKE	T	1	1	1	1	1
SALINITY (PPM)	E	21,000	20,000	21,000	20,000	18,000
SAND	R	TR	TR	TR	TR	TR
SOLIDS		6	6	4	7	7
OIL						
TRITIUM (DPM)				3272	3164	3143

REMARKS: Spud 17½" Logging ----- Drilled 12¼" hole -----  
+20" CSG Hole 13 3/8"CSG

DEPTH	1731	2015	2021	2021	2154	2220
DATE	16/8/85	17/8/85	18/8/85	19/8/85	20/8/85	21/8/85
TIME	16:00	22:00	14:00	22:15	15:15	01:00
WEIGHT	10.2+	9.8	9.8	10.0+	9.6	9.5
FUNNEL VISCOSITY	40	39	40	44	44	47
PV/YP	9/20	6/20	6/20	10/24	7/21	7/23
N/K	0.39/2.55	0.30/4.02	0.30/4.02	0.37/3.35	0.32/3.76	0.30/4.55
GEL: INITIAL/10 MIN	11/22	11/22	11/21	12/30	12/18	15/24
pH	10.5	10.9	10.5	10.2	10.6	10.6
FILTRATE:API/API HTHP	13/21	12/20	12/20	11/22	9.5/20	9/19
CAKE	1	1	1	1	1	1
SALINITY (PPM)	18,000	17,000	17,000	16,000	16,000	17,000
SAND	TR	TR	TR	TR	TR	0.1
SOLIDS	7	7	7	7	7	7
OIL	-	-	-	-	-	-
TRITIUM (DPM)	3125	3194	3112	2877	3226	3220

REMARKS: ----- 12¼" hole ----- Logging ----- Drilled 12¼"hole

## MUD INFORMATION SHEET

COMPANY Esso Australia Limited  
WELL Whiptail #1A

Sheet No. 2

DEPTH	2413	2553	2669	2736	2751	2821
DATE	22/8/85	23/8/85	24/8/85	25/8/85	26/8/85	27/8/85
TIME	15:30	15:00	15:00	13:55	19:00	11:15
WEIGHT	9.5+	9.5	9.5	9.5	9.5+	9.5
FUNNEL VISCOSITY	53	38	38	41	42	37
PV/YP	7/23	6/21	6/28	6/29	7/27	6/26
N/K	0.30/4.55	0.29/4.44	0.23/7.89	0.23/8.44	0.27/6.32	0.25/6.82
GEL: INITIAL/10 MIN	15/25	13/22	15/25	18/27	16/25	18/24
pH	10.7	10.7	10.7	10.6	10.5	10.5
FILTRATE:API/API HTHP	7.5/17	7.8/16.5	7.6/17.5	8/18	8.8/20	8.5/8.5
CAKE	1	1	1	1	1	1
SALINITY (PPM)	17,000	18,000	18,500	19,000	19,000	19,000
SAND	TR	TR	TR	TR	TR	TR
SOLIDS	7	7	7	7	7	7
OIL	-	-	-	-	-	-
TRITIUM (DPM)	2998	3108	3204	3126	3171	3192

REMARKS: ----- Drilled 12 $\frac{1}{4}$ " hole ----- Core #2 12 $\frac{1}{4}$ " hole

DEPTH	PIT
DATE	28/8/85
TIME	18:30
WEIGHT	9.5
FUNNEL VISCOSITY	44
PV/YP	8/28
N/K	0.29/5.92
GEL: INITIAL/10 MIN	18/29
pH	10.4
FILTRATE:API/API HTHP	10/22
CAKE	1
SALINITY (PPM)	19,000
SAND	TR
SOLIDS	7
OIL	-
TRITIUM (DPM)	-

REMARKS: Logging  
at T.D.

R.F.T. DATA



R.F.T. SAMPLING DATA SHEET

COMPANY Esso Australia Limited  
WELL Whiptail #1A

Sheet No. 1

RUN No.	1	1	2	2	3	3
SEAT No.	1	1	2	2	3	3
CHAMBER CAPACITY (L)	22.2	10.4	22.2		22.2	10.4
DEPTH (metres)	1397.5	1397.5	1380.2	1380.2	1285.5	1285.5

RECOVERY VOLUMES

GAS (Cu Ft)	0.71	None	0.2	Pre-	None	None
OIL (cc)	22,000	9,600	16,300	served	None	None
WATER/FILTRATE (cc)	30	None	5,250		21,500	9,700
OTHER (cc)	-	-	-	-	-	-
SURFACE PRESSURE (PSI)	325	-	575		600	-

GAS COMPOSITION

C1 (PPM)	45,043	-			26,790
C2 (PPM)	4,220	-		Pre-	2,863
C3 (PPM)	4,493	-		served	2,246
C4 (PPM)	1,997	-			873
C5 (PPM)	441	-			307
C6 (PPM)	110	-			190
CO2 (%)	-	-			-
H2S (PPM)	-	-			-

OIL PROPERTIES

DENSITY (°API at 60°)	37.1	42.0	41.1	Pre-
COLOUR	Reddish brown	Reddish brown	Reddish brown	served
FLUORESCENCE	Bright wh	Bright wh	Bright wh	
POUR POINT (°C)				

WATER PROPERTIES

RESISTIVITY (Ωm)	.377		.364	Pre-	1.05	0.68
	@ 14°C		@ 15°C	served	@ 17°C	@ 19°C
C1 (frm resis) (PPM)	21,000		23,000		6,800	10,000
C1 (frm titrat) (PPM)	12,500		14,000		7,000	9,000
TRITIUM (DPM)	2,876	-	3,091		1,467	855
pH						

COMMENTS

	DPM		DPM		DPM	DPM
	during		during		during	during
	drilling		drilling		drilling	drilling
	3179		3088		3052	3052

R.F.T. SAMPLING DATA SHEET

COMPANY Esso Australia Limited  
WELL Whiptail #1A

Sheet No. 2

RUN No.	4	4	5	5	6	6
SEAT No.	4	4	7	7	10	10
CHAMBER CAPACITY (L)	22.2	10.4	22.2	10.4	22.2	10.4
DEPTH (metres)	1295	1295	1158	1158	1497	1497

RECOVERY VOLUMES

GAS (Cu Ft)	None	None	None	None	None	None
OIL (cc)	None	None	None	None	None	None
WATER/FILTRATE (cc)	21,500	9,750	22,000	10,200	20,500	9,000
OTHER (cc)	-	-	-	-	-	-
SURFACE PRESSURE (PSI)	600	-	650	-	150	-

GAS COMPOSITION

C1 (PPM)  
C2 (PPM)  
C3 (PPM)  
C4 (PPM)  
C5 (PPM)  
C6 (PPM)  
CO2 (%)  
H2S (PPM)

OIL PROPERTIES

DENSITY (°API at 60°F)  
COLOUR  
FLUORESCENCE  
POUR POINT (°C)

WATER PROPERTIES

RESISTIVITY ( $\Omega$ m)	1.66	2.71	1.3	2.35	0.613	1.7
	@ 21°C	@ 19°C	@ 19°C	@ 19°C	@ 20°C	@ 18°C
C1 (frm resis) (PPM)	3,800	2,400	5,000	3,500	10,000	3,700
C1 (frm titrat) (PPM)	4,500	5,000	5,500	5,000	10,000	4,500
TRITIUM (DPM)	492	295	616	532	1,594	400
pH						

COMMENTS

DPM during drilling 3202	DPM during drilling 3202	DPM during drilling 3098	DPM during drilling 3098	DPM during drilling 3130	DPM during drilling 3130
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

R.F.T. SAMPLING DATA SHEET

COMPANY Esso Australia Limited  
WELL Whiptail #1A

Sheet No. 3

RUN No.	7	7	8	9	9
SEAT No.	24	24	32	40	40
CHAMBER CAPACITY (L)	22.2	10.4	44.8	44.8	10.4
DEPTH (metres)	1363.5	1363.5	2651	2664.5	2664.5

RECOVERY VOLUMES

GAS (Cu Ft)	None	None	0.8	0.6	Sml amount
OIL (cc)	None	None	None	None	None
WATER/FILTRATE (cc)	22,000	10,000	20,000	7,300	3,000
OTHER (cc)	-	-	-	-	-
SURFACE PRESSURE (PSI)	450	-	0	0	0

GAS COMPOSITION

C1 (PPM)	Insufficient	147,333
C2 (PPM)	Sample	6,028
C3 (PPM)		691
C4 (PPM)		249
C5 (PPM)		80
C6 (PPM)		30
CO2 (%)		Nil
H2S (PPM)		Nil

OIL PROPERTIES

DENSITY (°API at 60°F)  
COLOUR  
FLUORESCENCE  
POUR POINT (°C)

WATER PROPERTIES

RESISTIVITY (Ωm)	0.455	0.710	0.23	0.265	0.268
	@ 20°C	@ 20°C	@ 16°C	@ 16.5°C	@ 16.5°C
Cl (frm resis) (PPM)	14,000	9,000	30,000	28,000	27,000
Cl (frm titrat) (PPM)			18,000	17,500	18,000
TRITIUM (DPM)	160	92	3,020	2,801	2,692
pH					

COMMENTS

DPM during drilling 3139	DPM during drilling 3139	DPM during drilling 3260	DPM during drilling 3250	DPM during drilling 3250
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

P O R E P R E S S U R E D A T A S H E E T

COMPANY : ESSO AUSTRALIA LTD.

DATA FROM RFT'S

WELL : WHIPTAIL No.1A

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
1331.0	1310.0	1872.10	8.377	1.429
1352.5	1331.5	1902.10	8.374	1.429
1369.0	1348.0	1924.50	8.368	1.428
1380.0	1359.0	1948.50	8.404	1.434
1385.5	1364.5	1954.20	8.395	1.432
1392.0	1371.0	1961.10	8.385	1.430
1397.5	1376.5	1967.30	8.377	1.429
1403.5	1382.5	1976.80	8.381	1.430
1407.0	1386.0	1981.30	8.379	1.430
1420.0	1399.0	1999.60	8.378	1.429
1436.0	1415.0	2023.60	8.383	1.430
1454.0	1433.0	2049.60	8.384	1.430
1467.0	1446.0	2067.20	8.388	1.430
1497.0	1476.0	2109.60	8.378	1.429
2648.5	2627.5	3735.30	8.333	1.422
2649.5	2628.5	3739.30	8.339	1.423
2651.0	2630.0	3739.30	8.334	1.422
2664.5	2643.5	3775.30	8.371	1.428
2665.0	2644.0	3769.30	8.356	1.426

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, the following plots have been drawn for this well :

GEO PLOT - 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: WHIPTAIL NO.1A

## BIT RECORD

BIT IADC		SIZE	COST	NOZZLES	DEPTH		BIT RUN	TOTAL		TRIP		TOTAL CCOST	TOTAL CONDITION	
No.	CODE MAKE & TYPE				IN	OUT		HOURS	AROP	TIME	TURNS		T B G	
1	111 HTC OSC3AJ	26.000	0.00	20 20 20	61.0	197.0	136.0	3.87	35.1	1.2	136.14	23470	1 1	0.000
2	114 HTC X3A	17.500	4978.00	20 20 20	197.0	797.0	600.0	12.70	47.2	2.0	97.77	114343	1 1	0.000
3	114 HTC X3A	12.250	2445.00	18 18 18	797.0	1165.4	368.4	10.54	35.0	3.0	140.86	72677	3 3	0.000
3	4 CHRIS RCA4	9.875	0.00	15 15 14	1165.4	1175.5	10.1	0.31	32.6	4.5	1739.22	1029	0 0	0.005
4	517 HTC J22	12.250	8520.00	18 18 16	1175.5	1789.0	613.5	33.91	18.1	4.5	242.53	139627	4 6	0.188
5	517 HTC J22	12.250	8520.00	16 16 18	1789.0	2021.0	232.0	16.95	13.7	6.3	402.71	59491	2 3	0.125
6	537 HTC J33	12.250	8266.00	16 16 18	2021.0	2397.0	376.0	48.06	7.8	7.0	556.77	154094	5 5	0.250

## WELL: WHIPTAIL 1A

## BIT RECORD

BIT IADC		SIZE	COST	NOZZLES	DEPTH		BIT RUN	TOTAL		TRIP		TOTAL CCOST	TOTAL CONDITION	
No.	CODE MAKE & TYPE				IN	OUT		HOURS	AROP	TIME	TURNS		T B G	
7	517 HTC J22	12.250	8520.00	16 16 18	2397.0	2719.0	322.0	53.62	6.0	7.1	715.12	162095	6 6	0.250
8	517 HTC J22	12.250	8520.00	16 16 18	2719.0	2737.0	18.0	4.45	4.0	7.8	2958.72	13405	1 1	0.000
9	4 CHRIS RCA	9.875	0.00	15 15 16	2737.0	2755.0	18.0	2.71	6.6	7.8	2131.97	19526	0 0	0.020
9	517 HTC J22	12.250	0.00	16 16 18	2755.0	2821.0	66.0	14.24	6.7	7.8	958.22	40290	1 3	0.125



BIT NUMBER: 1 IADC CODE 111 HTC OSC3AJ

STARTING DEPTH, TVD.....	61.0	61.0	
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	1.2		
BIT DIAMETER.....	26.000		
NOZZLES.....	20	20	20
HW DRILL COLLAR LENGTH, OD, ID....	18.96	9.750	2.813
DRILL COLLAR LENGTH, OD, ID.....	0.00	0.000	0.000
HW DRILL PIPE LENGTH, OD, ID.....	32.00	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.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.0	1.20	
FINISHING DEPTH.....	197.0		
CUMULATIVE HOURS, TURNS.....	3.9	23470	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 2 IADC CODE 114 HTC X3A

STARTING DEPTH, TVD.....	197.0	197.0	
BIT COST, RIG COST/HOUR.....	4978.00	3652.00	
TRIP TIME.....	2.0		
BIT DIAMETER.....	17.500		
NOZZLES.....	20	20	20
HW DRILL COLLAR LENGTH, OD, ID....	20.90	9.750	2.813
DRILL COLLAR LENGTH, OD, ID.....	94.30	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	55.20	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	182.00	19.124	
RISER LENGTH, ID.....	61.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.0	1.50	
FINISHING DEPTH.....	797.0		
CUMULATIVE HOURS, TURNS.....	12.7	114343	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 3 IADC CODE 114 HTC X3A

STARTING DEPTH, TVD.....	797.0	797.0	
BIT COST, RIG COST/HOUR.....	2445.00	3652.00	
TRIP TIME.....	3.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	181.18	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	782.00	12.615	
RISER LENGTH, ID.....	60.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.8	2.00	
FINISHING DEPTH.....	1165.4		
CUMULATIVE HOURS, TURNS.....	10.5	72677	
BIT CONDITION OUT.....	T 3	B 3	G 0.000

BIT NUMBER: 3 IADC CODE 4 CHRIS RC44

STARTING DEPTH, TVD.....	1165.4	1165.3	
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	4.5		
BIT DIAMETER.....	9.875		
NOZZLES.....	15	15	14
DRILL COLLAR LENGTH, OD, ID.....	172.40	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	782.00	12.615	
RISER LENGTH, ID.....	60.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.0	2.00	
FINISHING DEPTH.....	1175.5		
CUMULATIVE HOURS, TURNS.....	0.3	1029	
BIT CONDITION OUT.....	T 0	B 0	G 0.005

BIT NUMBER: 4 IADC CODE 517 HTC J22

STARTING DEPTH, TVD.....	1175.5	1175.4	
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	4.5		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	172.40	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	782.00	12.615	
RISER LENGTH, ID.....	60.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.10	

FINISHING DEPTH.....	1789.0		
CUMULATIVE HOURS, TURNS.....	33.9	139627	
BIT CONDITION OUT.....	T 4	B 6	G 0.188

BIT NUMBER: 5 IADC CODE 517 HTC J22

STARTING DEPTH, TVD.....	1789.0	1788.8	
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	6.3		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	172.40	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	782.00	12.615	
RISER LENGTH, ID.....	60.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	

FINISHING DEPTH.....	2021.0		
CUMULATIVE HOURS, TURNS.....	17.0	59491	
BIT CONDITION OUT.....	T 2	B 3	G 0.125

BIT NUMBER: 6 IADC CODE 537 HTC J33

STARTING DEPTH, TVD.....	2021.0	2020.8	
BIT COST, RIG COST/HOUR.....	8266.00	3652.00	
TRIP TIME.....	7.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	172.40	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	782.00	12.615	
RISER LENGTH, ID.....	60.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.5	2.10	
FINISHING DEPTH.....	2397.0		
CUMULATIVE HOURS, TURNS.....	48.1	154094	
BIT CONDITION OUT.....	T 5	8 5	G 0.250

BIT NUMBER: 7 IADC CODE 517 HTC J22

STARTING DEPTH, TVD.....	2397.0	2396.3	
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	7.1		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	172.53	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	782.00	12.615	
RISER LENGTH, ID.....	60.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.10	

FINISHING DEPTH.....	2719.0		
CUMULATIVE HOURS, TURNS.....	53.6	162095	
BIT CONDITION OUT.....	T 6	B 6	G 0.250

BIT NUMBER: 8 IADC CODE 517 HTC J22

STARTING DEPTH, TVD.....	2719.0	2718.3	
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	7.8		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	173.51	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	782.00	12.615	
RISER LENGTH, ID.....	60.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.00		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	

FINISHING DEPTH.....	2737.0		
CUMULATIVE HOURS, TURNS.....	4.5	13405	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 8 IADC CODE 4 CHRIS RC4

STARTING DEPTH, TVD.....	2737.0	2736.3		
BIT COST, RIG COST/HOUR.....	0.00	3652.00		
TRIP TIME.....	7.8			
BIT DIAMETER.....	9.875			
NOZZLES.....	15	15	16	
DRILL COLLAR LENGTH, OD, ID.....	162.11	8.000	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	782.00	12.615		
RISER LENGTH, ID.....	60.00	21.000		
PUMP VOLUMES 1 AND 2.....	0.119	0.119		
PORE PRESSURE CALC EXPONENT.....	1.20			
NORMAL PORE PRESSURE.....	8.4			
OVERBURDEN GRADIENT MODIFIER.....	0.00			
STRESS RATIO MODIFIER.....	0.00			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	1.0	2.20		
FINISHING DEPTH.....	2755.0			
CUMULATIVE HOURS, TURNS.....	2.7	19526		
BIT CONDITION OUT.....	T 0	B 0	G 0.020	

BIT NUMBER: 9 IADC CODE 517 HTC J22

STARTING DEPTH, TVD.....	2755.0	2754.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00		
TRIP TIME.....	7.8			
PREVIOUS HOURS, TURNS.....	4.45	13405		
PREVIOUS HOLE MADE.....	18.0			
BIT DIAMETER.....	12.250			
NOZZLES.....	16	16	18	
DRILL COLLAR LENGTH, OD, ID.....	172.83	8.000	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	82.95	5.000	3.125	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	782.00	12.615		
RISER LENGTH, ID.....	60.00	21.000		
PUMP VOLUMES 1 AND 2.....	0.119	0.119		
PORE PRESSURE CALC EXPONENT.....	1.20			
NORMAL PORE PRESSURE.....	8.4			
OVERBURDEN GRADIENT MODIFIER.....	0.00			
STRESS RATIO MODIFIER.....	0.00			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20		
FINISHING DEPTH.....	2821.0			
CUMULATIVE HOURS, TURNS.....	14.2	40290		
BIT CONDITION OUT.....	T 1	B 3	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 60            SPM 2 67            FLOW RATE 635

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	35	8	64	LAMINAR	0	8	0.0
HWDP/OH	2.074	66	7	62	LAMINAR	0	7	0.0
DP/OH	2.074	102	7	62	LAMINAR	0	7	0.0
TOTAL VOLUME		203			TOTAL PRESSURE DROP			0.1

LAG: 13.4 MINUTES            807 STROKES #1 AND 901 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 376.7            NHP 140            IMPACT FORCE 625  
% SURFACE PRESSURE 83.7            NHP/sqin 0.26            JET VELOCITY 67

PRESSURE BREAKDOWN:

SURFACE 31.7  
STRING 61.1  
BIT 376.7  
ANNULUS 0.1  
TOTAL 469.5            PUMP PRESSURE 450.0            % DIFFERENCE 4.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	8.60	HYDROSTATIC PRESSURE 146.7
CIRCULATING: ECD	8.61	CIRCULATING PRESSURE 146.8
PULLING OUT: TRIP MARGIN	0.01	ESTIMATED SWAB 0.2
EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE 146.5



CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 200.0 AND TVD 200.0

SPM 1 99 SPM 2 98 FLOW RATE 985

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	12	35	69	LAMINAR	0	35	0.1
HWDC/CSG	0.862	3	27	68	LAMINAR	0	27	0.0
DC/CSG	0.961	91	24	66	LAMINAR	0	24	0.3
HWDP/CSG	1.085	26	22	64	LAMINAR	0	22	0.1
HWDP/RIS	1.325	42	18	63	LAMINAR	0	18	0.1
DP/RIS	1.325	39	18	63	LAMINAR	0	18	0.1
TOTAL VOLUME		212			TOTAL PRESSURE DROP		0.6	

LAG: 9.0 MINUTES 895 STROKES #1 AND 886 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 917.0 HHP 527 IMPACT FORCE 1522  
 % SURFACE PRESSURE 61.1 HHP/sqin 2.19 JET VELOCITY 104

PRESSURE BREAKDOWN:

SURFACE 70.4  
 STRING 461.9  
 BIT 917.0  
 ANNULUS 0.6  
 TOTAL 1449.9 PUMP PRESSURE 1500.0 % DIFFERENCE 3.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 296.8
CIRCULATING:	ECD 8.72	CIRCULATING PRESSURE 297.4
PULLING OUT:	TRIP MARGIN 0.03	ESTIMATED SWAB 1.2
	EFFECTIVE MUD WEIGHT 8.67	BOTTOM HOLE PRESSURE 295.7

CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 101          SPM 2 98          FLOW RATE 995

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP	
HWDC/OH	0.673	14	35	69	LAMINAR	0	35	0.1	
DC/OH	0.772	73	31	68	LAMINAR	0	30	0.4	
HWDP/OH	0.896	3	26	65	LAMINAR	0	26	0.0	
HWDP/CSG	1.085	57	22	64	LAMINAR	0	22	0.1	
DP/CSG	1.085	74	22	64	LAMINAR	0	22	0.2	
DP/RIS	1.325	81	18	63	LAMINAR	0	18	0.1	
TOTAL VOLUME		302	TOTAL PRESSURE DROP				0.9		

LAG: 12.7 MINUTES          1286 STROKES #1 AND 1248 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 935.7          HHP 543          IMPACT FORCE 1553  
% SURFACE PRESSURE 50.7          HHP/sqin 2.26          JET VELOCITY 105

PRESSURE BREAKDOWN:

SURFACE 71.7  
STRING 511.8  
BIT 935.7  
ANNULUS 0.9  
TOTAL 1520.1          PUMP PRESSURE 1847.0          % DIFFERENCE 17.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 445.3
CIRCULATING:	ECD 8.72	CIRCULATING PRESSURE 446.2
PULLING OUT:	TRIP MARGIN 0.04	ESTIMATED SWAB 1.8
	EFFECTIVE MUD WEIGHT 8.66	BOTTOM HOLE PRESSURE 443.4

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 101            SPM 2 98            FLOW RATE 995

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	35	69	LAMINAR	0	35	0.1
DC/OH	0.772	73	31	68	LAMINAR	0	30	0.4
HWDP/OH	0.896	49	26	65	LAMINAR	0	26	0.2
DP/OH	0.896	43	26	65	LAMINAR	0	26	0.1
DP/CSG	1.085	131	22	64	LAMINAR	0	22	0.3
DP/RIS	1.325	81	18	63	LAMINAR	0	18	0.1
TOTAL VOLUME		391			TOTAL PRESSURE DROP		1.2	

LAG: 16.5 MINUTES            1668 STROKES #1 AND 1619 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP            935.7            HHP            543            IMPACT FORCE    1553  
 % SURFACE PRESSURE    49.8            HHP/sqin    2.26            JET VELOCITY    105

PRESSURE BREAKDOWN:

SURFACE            71.7  
 STRING            553.1  
 BIT                935.7  
 ANNULUS            1.2  
 TOTAL            1561.7            PUMP PRESSURE    1880.0            % DIFFERENCE    16.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 593.7
CIRCULATING:	ECD 8.72	CIRCULATING PRESSURE 594.9
PULLING OUT:	TRIP MARGIN 0.04	ESTIMATED SWAB 2.4
	EFFECTIVE MUD WEIGHT 8.66	BOTTOM HOLE PRESSURE 591.3

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 100            SPM 2 98            FLOW RATE 991

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	69	LAMINAR	0	35	0.1
DC/OH	0.772	73	31	67	LAMINAR	0	30	0.4
HWDP/OH	0.896	49	26	65	LAMINAR	0	26	0.2
DP/OH	0.896	132	26	65	LAMINAR	0	26	0.4
DP/CSG	1.085	131	22	64	LAMINAR	0	22	0.3
DP/RIS	1.325	81	10	63	LAMINAR	0	18	0.1
TOTAL VOLUME		481	TOTAL PRESSURE DROP			1.5		

LAG: 20.4 MINUTES            2036 STROKES #1 AND 2003 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP            950.9            HHP            550            IMPACT FORCE    1579  
% SURFACE PRESSURE    45.4            HHP/sqin    2.29            JET VELOCITY    105

PRESSURE BREAKDOWN:

SURFACE            72.6  
STRING            601.8  
BIT                950.9  
ANNULUS            1.5  
TOTAL            1626.8            PUMP PRESSURE    2094.7            % DIFFERENCE    22.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.90	HYDROSTATIC PRESSURE 759.2
CIRCULATING:	ECD 8.92	CIRCULATING PRESSURE 760.7
PULLING OUT:	TRIP MARGIN 0.03	ESTIMATED SWAB 3.0
	EFFECTIVE MUD WEIGHT 8.87	BOTTOM HOLE PRESSURE 756.2

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 100          SPM 2 98          FLOW RATE 991

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	69	LAMINAR	0	35	0.1
DC/OH	0.772	73	31	67	LAMINAR	0	30	0.4
HWDP/OH	0.896	49	26	65	LAMINAR	0	26	0.2
DP/OH	0.896	222	26	65	LAMINAR	0	26	0.7
DP/CSG	1.085	131	22	64	LAMINAR	0	22	0.3
DP/RIS	1.325	81	18	63	LAMINAR	0	18	0.1
TOTAL VOLUME		570	TOTAL PRESSURE DROP					1.8

LAG: 24.2 MINUTES          2413 STROKES #1 AND 2379 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 950.1          HHP 549          IMPACT FORCE 1577  
% SURFACE PRESSURE 47.8          HHP/sqin 2.28          JET VELOCITY 105

PRESSURE BREAKDOWN:

SURFACE 72.5  
STRING 643.1  
BIT 950.1  
ANNULUS 1.8  
TOTAL 1667.6          PUMP PRESSURE 1988.9          % DIFFERENCE 16.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.90	HYDROSTATIC PRESSURE 911.0
CIRCULATING:	ECD 8.92	CIRCULATING PRESSURE 912.8
PULLING OUT:	TRIP MARGIN 0.03	ESTIMATED SWAB 3.5
	EFFECTIVE MUD WEIGHT 8.87	BOTTOM HOLE PRESSURE 907.5

CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 99 SPM 2 98 FLOW RATE 988

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	35	69	LAMINAR	0	35	0.1
DC/OH	0.772	73	30	67	LAMINAR	0	30	0.4
HWDP/OH	0.896	49	26	65	LAMINAR	0	26	0.2
DP/OH	0.896	311	26	65	LAMINAR	0	26	1.0
DP/CSG	1.065	131	22	64	LAMINAR	0	22	0.3
DP/RIS	1.325	81	15	63	LAMINAR	0	18	0.1
TOTAL VOLUME		660			TOTAL PRESSURE DROP			2.0

LAG: 28.1 MINUTES 2784 STROKES #1 AND 2762 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 944.4 HHP 544 IMPACT FORCE 1568  
% SURFACE PRESSURE 46.6 HHP/sqin 2.26 JET VELOCITY 105

PRESSURE BREAKDOWN:

SURFACE 72.2  
STRING 681.2  
BIT 944.4  
ANNULUS 2.0  
TOTAL 1699.9 PUMP PRESSURE 2028.4 % DIFFERENCE 16.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.90	HYDROSTATIC PRESSURE 1062.9
CIRCULATING:	ECD 8.92	CIRCULATING PRESSURE 1064.9
PULLING OUT:	TRIP MARGIN 0.03	ESTIMATED SWAB 4.1
	EFFECTIVE MUD WEIGHT 8.87	BOTTOM HOLE PRESSURE 1058.8

CORE LAB

\*\*\*\*\*

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 90 SPM 2 90 FLOW RATE 901

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	5	78	107	LAMINAR	0	78	0.6
DC/CSG	0.303	49	71	107	LAMINAR	0	70	4.7
HWDP/CSG	0.427	35	50	104	LAMINAR	0	50	1.2
DP/CSG	0.427	203	50	104	LAMINAR	0	50	6.7
DP/RIS	1.325	80	16	101	LAMINAR	0	16	0.2

TOTAL VOLUME 373 TOTAL PRESSURE DROP 13.4

LAG: 17.4 MINUTES 1564 STROKES #1 AND 1568 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1196.7 HHP 629 IMPACT FORCE 1609  
% SURFACE PRESSURE 54.4 HHP/sqin 5.34 JET VELOCITY 118

PRESSURE BREAKDOWN:

SURFACE 61.1  
STRING 796.6  
BIT 1196.7  
ANNULUS 13.4  
TOTAL 2067.7 PUMP PRESSURE 2198.9 % DIFFERENCE 6.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.90	HYDROSTATIC PRESSURE 1214.7
CIRCULATING:	ECD 9.00	CIRCULATING PRESSURE 1228.1
PULLING OUT:	TRIP MARGIN 0.20	ESTIMATED SWAB 26.8
	EFFECTIVE MUD WEIGHT 8.70	BOTTOM HOLE PRESSURE 1187.9

CORE LAB

HYDRAULICS ANALYSIS PROGRAM.

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 98 SPM 2 97 FLOW RATE 972

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	84	107	LAMINAR	0	84	4.0
DC/CSG	0.303	19	76	107	LAMINAR	0	76	1.9
HWDP/CSG	0.427	35	54	104	LAMINAR	0	54	1.2
DP/CSG	0.427	246	54	104	LAMINAR	0	54	8.3
DP/RIS	1.325	80	17	101	LAMINAR	0	17	0.2

TOTAL VOLUME 413 TOTAL PRESSURE DROP 15.5

LAG: 17.8 MINUTES 1744 STROKES #1 AND 1723 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1392.4 HHP 789 IMPACT FORCE 1872  
 % SURFACE PRESSURE 54.3 HHP/sqin 6.70 JET VELOCITY 127

PRESSURE BREAKDOWN:

SURFACE 70.0  
 STRING 953.2  
 BIT 1392.4  
 ANNULUS 15.5  
 TOTAL 2431.1 PUMP PRESSURE 2564.5 % DIFFERENCE 5.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.90	HYDROSTATIC PRESSURE 1366.5
CIRCULATING:	ECD 9.00	CIRCULATING PRESSURE 1382.0
PULLING OUT:	TRIP MARGIN 0.20	ESTIMATED SWAB 31.0
	EFFECTIVE MUD WEIGHT 8.70	BOTTOM HOLE PRESSURE 1335.5



CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 97            SPM 2 97            FLOW RATE 972

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	50	84	98	LAMINAR	0	84	6.0
HWDP/OH	0.398	15	58	90	LAMINAR	0	58	0.5
HWDP/CSG	0.427	20	54	89	LAMINAR	0	54	0.6
DP/CSG	0.427	289	54	89	LAMINAR	0	54	8.2
DP/RIS	1.325	80	17	80	LAMINAR	0	17	0.2
TOTAL VOLUME		452			TOTAL PRESSURE DROP			15.4

LAG: 19.5 MINUTES            1897 STROKES #1 AND 1904 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1406.4            HHP 797            IMPACT FORCE 1891  
 % SURFACE PRESSURE 50.0            HHP/sqin 6.77            JET VELOCITY 127

PRESSURE BREAKDOWN:

SURFACE 81.1  
 STRING 1150.6  
 BIT 1406.4  
 ANNULUS 15.4  
 TOTAL 2653.5            PUMP PRESSURE 2810.7            % DIFFERENCE 5.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.98	HYDROSTATIC PRESSURE 1532.7
CIRCULATING:	ECD 9.07	CIRCULATING PRESSURE 1548.1
PULLING OUT:	TRIP MARGIN 0.18	ESTIMATED SWAB 30.9
	EFFECTIVE MUD WEIGHT 8.80	BOTTOM HOLE PRESSURE 1501.8

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1100.0

SPM 1 88 SPM 2 94 FLOW RATE 909

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL / UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	50	79	123	LAMINAR	0	79	9.8
HWDP/OH	0.398	33	54	115	LAMINAR	0	54	1.8
DP/OH	0.398	21	54	115	LAMINAR	0	54	1.2
DP/CSC	0.427	309	51	114	LAMINAR	0	51	14.6
DP/RIS	1.325	80	16	103	LAMINAR	0	16	0.3
TOTAL VOLUME		492			TOTAL PRESSURE DROP			27.7

LAG: 22.8 MINUTES 2007 STROKES #1 AND 2130 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1395.4	HHP	740	IMPACT FORCE	1876
% SURFACE PRESSURE	46.3	HHP/sqin	6.28	JET VELOCITY	119

PRESSURE BREAKDOWN:

SURFACE	86.2		
STRING	1273.1		
BIT	1395.4		
ANNULUS	27.7		
TOTAL	2782.4	PUMP PRESSURE	3016.6
		% DIFFERENCE	7.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.20	HYDROSTATIC PRESSURE 1914.1
CIRCULATING:	ECD 10.35	CIRCULATING PRESSURE 1941.8
PULLING OUT:	TRIP MARGIN 0.29	ESTIMATED SWAB 55.3
	EFFECTIVE MUD WEIGHT 9.91	BOTTOM HOLE PRESSURE 1858.8

CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1199.9

SPM 1 85 SPM 2 84 FLOW RATE 848

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	74	122	LAMINAR	0	73	9.0
HWDP/OH	0.398	33	51	112	LAMINAR	0	51	1.7
DP/OH	0.398	65	51	112	LAMINAR	0	51	3.4
DP/CSG	0.427	309	47	111	LAMINAR	0	47	13.8
DP/RIS	1.325	80	15	99	LAMINAR	0	15	0.3
TOTAL VOLUME		533	TOTAL PRESSURE DROP			28.2		

LAG: 26.4 MINUTES 2251 STROKES #1 AND 2229 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1420.5 HHP 703 IMPACT FORCE 1777  
% SURFACE PRESSURE 50.3 HHP/sqin 5.97 JET VELOCITY 119

PRESSURE BREAKDOWN:

SURFACE 78.5  
STRING 1178.0  
BIT 1420.5  
ANNULUS 28.2  
TOTAL 2705.1 PUMP PRESSURE 2824.0 % DIFFERENCE 4.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.30	HYDROSTATIC PRESSURE 2108.5
CIRCULATING:	ECD 10.44	CIRCULATING PRESSURE 2136.7
PULLING OUT:	TRIP MARGIN 0.28	ESTIMATED SWAR 56.5
	EFFECTIVE MUD WEIGHT 10.02	BOTTOM HOLE PRESSURE 2052.0

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1299.9

SPM 1 109          SPM 2    0          FLOW RATE    547

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	47	122	LAMINAR	0	47	7.5
HWDP/OH	0.398	33	33	112	LAMINAR	0	33	1.5
DP/OH	0.398	105	33	112	LAMINAR	0	33	4.6
DP/CSG	0.427	309	30	112	LAMINAR	0	30	11.5
DP/RIS	1.325	80	10	100	LAMINAR	0	10	0.2
TOTAL VOLUME		573	TOTAL PRESSURE DROP			25.3		

LAG: 44.0 MINUTES          4815 STROKES #1 AND          0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP          584.1          HHP          186          IMPACT FORCE          730  
% SURFACE PRESSURE    46.0          HHP/sq.in    1.58          JET VELOCITY          77

PRESSURE BREAKDOWN:

SURFACE          35.3  
STRING          550.2  
BIT              584.1  
ANNULUS          25.3  
TOTAL          1194.9          PUMP PRESSURE    1270.3          % DIFFERENCE    5.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:          MUD WEIGHT	10.20	HYDROSTATIC PRESSURE    2262.0
CIRCULATING:              ECD	10.31	CIRCULATING PRESSURE    2287.3
PULLING OUT:              TRIP MARGIN	0.23	ESTIMATED SWAB          50.6
EFFECTIVE MUD WEIGHT	9.97	BOTTOM HOLE PRESSURE    2211.4

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1400.0 AND TVD 1399.9

SPM 1 111          SPM 2    0          FLOW RATE    554

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	48	122	LAMINAR	0	48	7.6
HWD/PH	0.398	33	33	112	LAMINAR	0	33	1.5
DP/OH	0.398	144	33	112	LAMINAR	0	33	6.4
DP/CSG	0.427	309	31	112	LAMINAR	0	31	11.6
DP/RIS	1.325	80	10	100	LAMINAR	0	10	0.2

TOTAL VOLUME          613                                  TOTAL PRESSURE DROP          27.2

LAG: 46.5 MINUTES          5150 STROKES #1 AND          0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP          599.9                  HHP          194                  IMPACT FORCE          750  
% SURFACE PRESSURE    45.3                  HHP/sqin    1.65                  JET VELOCITY          78

PRESSURE BREAKDOWN:

SURFACE          36.2  
STRING          584.5  
BIT              599.9  
ANNULUS          27.2  
TOTAL          1247.8          PUMP PRESSURE    1325.2          % DIFFERENCE    5.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:          MUD WEIGHT	10.20	HYDROSTATIC PRESSURE    2436.0
CIRCULATING:                  ECD	10.31	CIRCULATING PRESSURE    2463.2
PULLING OUT:                  TRIP MARGIN	0.23	ESTIMATED SWAB          54.4
EFFECTIVE MUD WEIGHT	9.97	BOTTOM HOLE PRESSURE    2381.6

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1499.9

SPM 1 84 SPM 2 89 FLOW RATE 864

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	75	122	LAMINAR	0	75	9.1
HWDP/OH	0.398	33	52	112	LAMINAR	0	51	1.8
DP/OH	0.398	184	52	112	LAMINAR	0	51	9.8
DP/CSG	0.427	309	40	112	LAMINAR	0	48	13.9
DP/RIS	1.325	80	16	100	LAMINAR	0	16	0.3
TOTAL VOLUME		653	TOTAL PRESSURE DROP			34.8		

LAG: 31.7 MINUTES 2667 STROKES #1 AND 2818 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1457.8 HHP 735 IMPACT FORCE 1823  
% SURFACE PRESSURE 49.2 HHP/sqin 6.23 JET VELOCITY 122

PRESSURE BREAKDOWN:

SURFACE 80.4  
STRING 1346.0  
BIT 1457.8  
ANNULUS 34.8  
TOTAL 2919.0 PUMP PRESSURE 2961.9 % DIFFERENCE 1.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.20	HYDROSTATIC PRESSURE 2610.0
CIRCULATING:	ECD 10.34	CIRCULATING PRESSURE 2644.8
PULLING OUT:	TRIP MARGIN 0.27	ESTIMATED SWAB 69.7
	EFFECTIVE MUD WEIGHT 9.93	BOTTOM HOLE PRESSURE 2540.3

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1599.8

SPM 1 89 SPM 2 84 FLOW RATE 864

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	75	142	LAMINAR	0	75	11.5
HWDP/OH	0.398	33	52	133	LAMINAR	0	52	2.3
DP/OH	0.398	224	52	133	LAMINAR	0	52	15.8
DP/CSG	0.427	309	48	133	LAMINAR	0	48	18.5
DP/RIS	1.325	80	16	122	LAMINAR	0	16	0.4
TOTAL VOLUME		693				TOTAL PRESSURE DROP		48.4

LAG: 33.6 MINUTES 2982 STROKES #1 AND 2838 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1445.7	HHP	729	IMPACT FORCE	1808
% SURFACE PRESSURE	48.7	HHP/sqin	6.19	JET VELOCITY	122

PRESSURE BREAKDOWN:

SURFACE	79.9		
STRING	1383.2		
BIT	1445.7		
ANNULUS	48.4		
TOTAL	2957.2	PUMP PRESSURE	2967.4
		% DIFFERENCE	0.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.10	HYDROSTATIC PRESSURE 2756.7
CIRCULATING:	ECD 10.28	CIRCULATING PRESSURE 2805.0
PULLING OUT:	TRIP MARGIN 0.35	ESTIMATED SWAB 96.7
	EFFECTIVE MUD WEIGHT 9.75	BOTTOM HOLE PRESSURE 2659.9

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1699.8

SPM 1 87 SPM 2 85 FLOW RATE 859

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	75	142	LAMINAR	0	74	11.4
HWDP/OH	0.398	33	51	134	LAMINAR	0	51	2.3
DP/OH	0.398	264	51	134	LAMINAR	0	51	18.5
DP/CSG	0.427	309	48	133	LAMINAR	0	48	18.4
DP/RIS	1.325	80	15	123	LAMINAR	0	15	0.4
TOTAL VOLUME		732			TOTAL PRESSURE DROP		51.0	

LAG: 35.8 MINUTES 3124 STROKES #1 AND 3030 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1412.4	HHP	708	IMPACT FORCE	1766
% SURFACE PRESSURE	48.3	HHP/sqin	6.00	JET VELOCITY	121

PRESSURE BREAKDOWN:

SURFACE	78.3		
STRING	1400.9		
BIT	1412.4		
ANNULUS	51.0		
TOTAL	2942.6	PUMP PRESSURE	2922.5
		% DIFFERENCE	0.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.00	HYDROSTATIC PRESSURE 2899.9
CIRCULATING:	ECD 10.18	CIRCULATING PRESSURE 2951.0
PULLING OUT:	TRIP MARGIN 0.35	ESTIMATED SWAB 102.1
EFFECTIVE MUD WEIGHT	9.65	BOTTOM HOLE PRESSURE 2797.9



CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1799.8

SPM 1 82 SPM 2 76 FLOW RATE 791

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	69	122	LAMINAR	0	68	8.8
HWD/PH	0.398	33	47	112	LAMINAR	0	47	1.7
DP/OH	0.398	304	47	112	LAMINAR	0	47	15.6
DP/CSG	0.427	309	44	111	LAMINAR	0	44	13.4
DP/RIS	1.325	80	14	99	LAMINAR	0	14	0.2

TOTAL VOLUME 772 TOTAL PRESSURE DROP 39.7

LAG: 41.0 MINUTES 3372 STROKES #1 AND 3117 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1444.5 HHP 667 IMPACT FORCE 1671  
% SURFACE PRESSURE 49.8 HHP/sqin 5.66 JET VELOCITY 120

PRESSURE BREAKDOWN:

SURFACE 69.2  
STRING 1278.1  
BIT 1444.5  
ANNULUS 39.7  
TOTAL 2831.6 PUMP PRESSURE 2900.8 % DIFFERENCE 2.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.30	HYDROSTATIC PRESSURE 3162.6
CIRCULATING:	ECD 10.43	CIRCULATING PRESSURE 3202.4
PULLING OUT:	TRIP MARGIN 0.26	ESTIMATED SWAB 79.4
	EFFECTIVE MUD WEIGHT 10.04	BOTTOM HOLE PRESSURE 3083.2

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1899.8

SPM 1 0 SPM 2 110 FLOW RATE 550

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	48	124	LAMINAR	0	48	7.5
HWDP/OH	0.398	33	33	114	LAMINAR	0	33	1.5
DP/OH	0.398	344	33	114	LAMINAR	0	33	15.2
DP/CSG	0.427	309	31	113	LAMINAR	0	31	11.5
DP/RIS	1.325	80	10	101	LAMINAR	0	10	0.2

TOTAL VOLUME 812 TOTAL PRESSURE DROP 35.9

LAG: 62.0 MINUTES 0 STROKES #1 AND 6824 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	677.1	MHP	217	IMPACT FORCE	783
% SURFACE PRESSURE	46.1	HHP/sq in	1.84	JET VELOCITY	84

PRESSURE BREAKDOWN:

SURFACE	35.1				
STRING	668.4				
BIT	677.1				
ANNULUS	35.9				
TOTAL	1416.5	PUMP PRESSURE	1470.0	% DIFFERENCE	3.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.00	HYDROSTATIC PRESSURE 3241.1
CIRCULATING:	ECD 10.11	CIRCULATING PRESSURE 3277.0
PULLING OUT:	TRIP MARGIN 0.22	ESTIMATED SWAB 71.8
	EFFECTIVE MUD WEIGHT 9.78	BOTTOM HOLE PRESSURE 3169.3

CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 1999.8

SPM 1 82 SPM 2 81 FLOW RATE 815

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	71	124	LAMINAR	0	70	8.9
HWDP/OH	0.398	33	49	114	LAMINAR	0	49	1.7
DP/OH	0.398	384	49	114	LAMINAR	0	49	20.0
DP/CSG	0.427	309	45	113	LAMINAR	0	45	13.6
DP/RIS	1.325	80	15	101	LAMINAR	0	15	0.2
TOTAL VOLUME		852	TOTAL PRESSURE DROP					44.4

LAG: 43.9 MINUTES 3591 STROKES #1 AND 3568 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1480.1 HHP 704 IMPACT FORCE 1712  
% SURFACE PRESSURE 51.1 HHP/sqin 5.97 JET VELOCITY 124

PRESSURE BREAKDOWN:

SURFACE 71.0  
STRING 1392.7  
BIT 1480.1  
ANNULUS 44.4  
TOTAL 2988.2 PUMP PRESSURE 2899.0 % DIFFERENCE 3.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.95	HYDROSTATIC PRESSURE 3394.6
CIRCULATING:	ECD 10.08	CIRCULATING PRESSURE 3439.0
PULLING OUT:	TRIP MARGIN 0.26	ESTIMATED SWAB 88.7
	EFFECTIVE MUD WEIGHT 9.69	BOTTOM HOLE PRESSURE 3305.9

CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2099.6

SPM 1 81 SPM 2 80 FLOW RATE 804

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	70	136	LAMINAR	0	70	10.0
HWDP/OH	0.398	33	48	131	LAMINAR	0	48	2.1
DP/OH	0.398	423	48	131	LAMINAR	0	48	27.1
DP/CSG	0.427	309	45	130	LAMINAR	0	45	16.9
DP/RIS	1.325	80	14	123	LAMINAR	0	14	0.4

TOTAL VOLUME 892 TOTAL PRESSURE DROP 56.4

LAG: 46.6 MINUTES 3777 STROKES #1 AND 3717 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1426.5 HHP 669 IMPACT FORCE 1650  
% SURFACE PRESSURE 48.8 HHP/sqin 5.68 JET VELOCITY 122

PRESSURE BREAKDOWN:

SURFACE 64.0  
STRING 1292.7  
BIT 1426.5  
ANNULUS 56.4  
TOTAL 2839.6 PUMP PRESSURE 2923.4 % DIFFERENCE 2.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.85	HYDROSTATIC PRESSURE 3528.3
CIRCULATING: ECD	10.01	CIRCULATING PRESSURE 3584.7
PULLING OUT: TRIP MARGIN	0.32	ESTIMATED SWAB 112.9
EFFECTIVE MUD WEIGHT	9.53	BOTTOM HOLE PRESSURE 3415.4

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2199.4

SPM 1 82 SPM 2 81 FLOW RATE 814

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	71	135	LAMINAR	0	71	9.5
HWDP/OH	0.398	33	49	129	LAMINAR	0	49	2.0
DP/OH	0.398	463	49	129	LAMINAR	0	49	28.1
DP/CSG	0.427	309	45	128	LAMINAR	0	45	16.0
DP/RIS	1.325	80	15	121	LAMINAR	0	15	0.3
TOTAL VOLUME		932			TOTAL PRESSURE DROP			55.9

LAG: 48.1 MINUTES 3937 STROKES #1 AND 3891 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1417.6 HHP 673 IMPACT FORCE 1640  
 % SURFACE PRESSURE 49.8 HHP/sqin 5.71 JET VELOCITY 124

PRESSURE BREAKDOWN:

SURFACE 63.8  
 STRING 1326.2  
 BIT 1417.6  
 ANNULUS 55.9  
 TOTAL 2863.5 PUMP PRESSURE 2847.5 % DIFFERENCE 0.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.55	HYDROSTATIC PRESSURE 3583.3
CIRCULATING:	ECD 9.70	CIRCULATING PRESSURE 3639.3
PULLING OUT:	TRIP MARGIN 0.30	ESTIMATED SWAB 111.8
	EFFECTIVE MUD WEIGHT 9.25	BOTTOM HOLE PRESSURE 3471.5

CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2299.3

SPM 1 82 SPM 2 81 FLOW RATE 816

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL / UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	71	142	LAMINAR	0	71	10.5
HWDP/OH	0.398	33	49	137	LAMINAR	0	49	2.2
DP/OH	0.398	503	49	137	LAMINAR	0	49	34.2
DP/CSC	0.427	309	45	137	LAMINAR	0	45	18.0
DP/RIS	1.325	80	15	130	LAMINAR	0	15	0.4
TOTAL VOLUME		971			TOTAL PRESSURE DROP			65.3

LAG: 50.0 MINUTES 4116 STROKES #1 AND 4047 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1424.7 HHP 678 IMPACT FORCE 1648  
% SURFACE PRESSURE 49.3 HHP/sqin 5.76 JET VELOCITY 124

PRESSURE BREAKDOWN:

SURFACE 64.1  
STRING 1369.1  
BIT 1424.7  
ANNULUS 65.3  
TOTAL 2923.2 PUMP PRESSURE 2888.9 % DIFFERENCE 1.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.55	HYDROSTATIC PRESSURE 3746.2
CIRCULATING:	ECD 9.72	CIRCULATING PRESSURE 3811.5
PULLING OUT:	TRIP MARGIN 0.33	ESTIMATED SWAB 130.6
	EFFECTIVE MUD WEIGHT 9.22	BOTTOM HOLE PRESSURE 3615.5

CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2399.3

SPM 1 79            SPM 2 80            FLOW RATE 791

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	69	135	LAMINAR	0	68	9.4
HWDP/OH	0.398	33	47	129	LAMINAR	0	47	2.0
DP/OH	0.398	543	47	129	LAMINAR	0	47	32.6
DP/CSG	0.427	309	44	129	LAMINAR	0	44	15.8
DP/RIS	1.325	80	14	121	LAMINAR	0	14	0.3
TOTAL VOLUME		1011	TOTAL PRESSURE DROP			60.2		

LAG: 53.7 MINUTES            4227 STROKES #1 AND 4271 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP            1331.8            HHP            615            IMPACT FORCE            1540  
% SURFACE PRESSURE    45.4            HHP/sqin    5.22            JET VELOCITY            120

PRESSURE BREAKDOWN:

SURFACE            60.4  
STRING            1324.2  
BIT                1331.8  
ANNULUS            60.2  
TOTAL            2776.6            PUMP PRESSURE    2935.1            % DIFFERENCE    5.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.50	HYDROSTATIC PRESSURE 3888.6
CIRCULATING:	ECD 9.65	CIRCULATING PRESSURE 3948.8
PULLING OUT:	TRIP MARGIN 0.29	ESTIMATED SWAB 120.4
	EFFECTIVE MUD WEIGHT 9.21	BOTTOM HOLE PRESSURE 3768.2

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2499.3

SPM 1 80 SPM 2 80 FLOW RATE 799

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	69	135	LAMINAR	0	69	9.5
HWDP/OH	0.398	33	48	129	LAMINAR	0	48	2.0
DP/OH	0.398	583	48	129	LAMINAR	0	48	35.1
DP/CSC	0.427	309	45	128	LAMINAR	0	44	15.9
DP/RIS	1.325	80	14	121	LAMINAR	0	14	0.3

TOTAL VOLUME 1051 TOTAL PRESSURE DROP 62.8

LAG: 55.2 MINUTES 4406 STROKES #1 AND 4426 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1367.4 GHP 638 IMPACT FORCE 1581  
% SURFACE PRESSURE 47.4 HHP/sqin 5.41 JET VELOCITY 122

PRESSURE BREAKDOWN:

SURFACE 61.8  
STRING 1390.9  
BIT 1367.4  
ANNULUS 62.8  
TOTAL 2882.9 PUMP PRESSURE 2886.3 % DIFFERENCE 0.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.55	HYDROSTATIC PRESSURE 4072.0
CIRCULATING:	ECD 9.70	CIRCULATING PRESSURE 4134.8
PULLING OUT:	TRIP MARGIN 0.29	ESTIMATED SWAB 125.6
	EFFECTIVE MUD WEIGHT 9.26	BOTTOM HOLE PRESSURE 3946.4



CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2600.0 AND TVD 2599.3

SPM 1 79            SPM 2 78            FLOW RATE 787

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	68	137	LAMINAR	0	68	9.8
HWDP/OH	0.398	33	47	130	LAMINAR	0	47	2.0
DP/OH	0.398	623	47	130	LAMINAR	0	47	38.2
DP/CSG	0.427	309	44	130	LAMINAR	0	44	16.1
DP/RIS	1.325	80	14	121	LAMINAR	0	14	0.3
TOTAL VOLUME		1091				TOTAL PRESSURE DROP		66.5

LAG: 58.2 MINUTES            4602 STROKES #1 AND 4565 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1325.9            HHP 609            IMPACT FORCE 1533  
% SURFACE PRESSURE 45.9            HHP/sqin 5.17            JET VELOCITY 120

PRESSURE BREAKDOWN:

SURFACE 61.7  
STRING 1425.1  
BIT 1325.9  
ANNULUS 66.5  
TOTAL 2879.2            PUMP PRESSURE 2887.6            % DIFFERENCE 0.3

BOTTOM-HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.55	HYDROSTATIC PRESSURE 4234.9
CIRCULATING:	ECD 9.70	CIRCULATING PRESSURE 4301.5
PULLING OUT:	TRIP MARGIN 0.30	ESTIMATED SWAB 133.1
	EFFECTIVE MUD WEIGHT 9.25	BOTTOM HOLE PRESSURE 4101.9

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2700.0 AND TVD 2699.3

SPM 1 80 SPM 2 79 FLOW RATE 792

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	69	138	LAMINAR	0	68	9.9
HWDP/OH	0.398	33	47	133	LAMINAR	0	47	2.1
DP/OH	0.398	662	47	133	LAMINAR	0	47	42.2
DP/CSG	0.427	309	44	133	LAMINAR	0	44	16.8
DP/RIS	1.325	80	14	125	LAMINAR	0	14	0.4
TOTAL VOLUME		1131			TOTAL PRESSURE DROP			71.4

LAG: 60.0 MINUTES 4784 STROKES #1 AND 4718 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1341.2 HHP 620 IMPACT FORCE 1551  
% SURFACE PRESSURE 45.4 HHP/sqin 5.26 JET VELOCITY 120

PRESSURE BREAKDOWN:

SURFACE 60.7  
STRING 1437.0  
BIT 1341.2  
ANNULUS 71.4  
TOTAL 2910.3 PUMP PRESSURE 2956.6 % DIFFERENCE 1.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.55	HYDROSTATIC PRESSURE 4397.9
CIRCULATING:	ECD 9.71	CIRCULATING PRESSURE 4469.3
PULLING OUT:	TRIP MARGIN 0.31	ESTIMATED SWAB 142.8
	EFFECTIVE MUD WEIGHT 9.24	BOTTOM HOLE PRESSURE 4255.0

CORE LAB  
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2800.0 AND TVD 2799.0

SPM 1 78 SPM 2 77 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	0.274	47	67	167	LAMINAR	0	67	13.7
HWDP/OH	0.398	33	46	164	LAMINAR	0	46	3.1
DP/OH	0.398	702	46	164	LAMINAR	0	46	65.5
DP/CSG	0.427	309	43	164	LAMINAR	0	43	24.8
DP/RIS	1.325	80	14	160	LAMINAR	0	14	0.6

TOTAL VOLUME 1171 TOTAL PRESSURE DROP 107.7

LAG: 63.7 MINUTES 4956 STROKES #1 AND 4880 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1275.2 HHP 574 IMPACT FORCE 1475  
% SURFACE PRESSURE 44.2 HHP/sqin 4.87 JET VELOCITY 117

PRESSURE BREAKDOWN:

SURFACE 58.0  
STRING 1407.2  
BIT 1275.2  
ANNULUS 107.7  
TOTAL 2848.1 PUMP PRESSURE 2885.4 % DIFFERENCE 1.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.55	HYDROSTATIC PRESSURE 4560.3
CIRCULATING:	ECD 9.78	CIRCULATING PRESSURE 4668.0
PULLING OUT:	TRIP MARGIN 0.45	ESTIMATED SWAB 215.4
	EFFECTIVE MUD WEIGHT 9.10	BOTTOM HOLE PRESSURE 4344.9

(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.

URNS. . . . . 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	61.0- 197.0
HTC OSC3AJ		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	1.2	BIT RUN	136.0
TOTAL HOURS	3.87	TOTAL TURNS	23470	CONDITION	T1 R1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
62.0	8.9	2.0	53	8.6	0.78	0.11	357	410	4793	8.4	10.7
64.0	14.6	5.0	53	8.6	0.80	0.25	793	250	1764	8.4	10.7
66.0	14.6	5.0	53	8.6	0.80	0.39	1229	250	1159	8.4	10.7
68.0	13.6	1.2	103	8.6	0.76	0.53	2137	268.53	904.33	8.4	10.7
70.0	24.0	0.7	110	8.6	0.64	0.62	2687	152.17	737.19	8.4	10.7
72.0	12.2	0.9	110	8.6	0.76	0.78	3769	299.34	657.58	8.4	10.7
74.0	20.1	1.4	110	8.6	0.73	0.88	4426	181.69	584.37	8.4	10.7
76.0	22.0	0.5	110	8.6	0.63	0.97	5026	166.00	528.58	8.4	10.8
78.0	40.0	0.5	110	8.6	0.54	1.02	5356	91.30	477.14	8.4	10.8
80.0	19.0	0.7	110	8.6	0.67	1.13	6051	192.21	447.15	8.4	10.8
82.0	71.0	0.7	110	8.6	0.48	1.15	6237	51.44	409.46	8.4	10.8
84.0	6.0	1.0	110	8.6	0.88	1.49	8437	608.67	426.78	8.4	10.8
86.0	13.0	1.0	110	8.6	0.76	1.64	9452	280.92	415.11	8.4	10.8
88.0	68.0	1.0	100	8.6	0.50	1.67	9629	53.71	388.34	8.4	10.8
90.0	36.0	0.6	100	8.6	0.56	1.73	9962	101.44	368.56	8.4	10.8
92.0	16.0	1.9	100	8.6	0.78	1.85	10712	228.25	359.50	8.4	10.8
94.0	36.0	1.9	100	8.6	0.65	1.91	11045	101.44	343.86	8.4	10.8
96.0	56.0	0.3	100	8.6	0.46	1.94	11260	65.21	327.94	8.4	10.8
98.0	55.0	0.3	100	8.6	0.46	1.98	11478	66.40	313.80	8.4	10.8
100.0	27.0	0.2	100	8.6	0.53	2.05	11922	135.26	304.65	8.4	10.9
102.0	26.0	0.6	95	8.6	0.60	2.13	12361	140.46	296.64	8.4	10.9
104.0	60.0	3.1	95	8.6	0.60	2.16	12551	60.87	285.67	8.4	10.9
106.0	64.0	3.3	95	8.6	0.59	2.19	12729	57.06	275.51	8.4	10.9
108.0	49.0	3.4	96	8.6	0.64	2.24	12964	74.53	266.96	8.4	10.9
110.0	49.0	3.4	96	8.6	0.64	2.28	13199	74.53	259.11	8.4	10.9
112.0	70.0	3.4	96	8.6	0.58	2.31	13363	52.17	250.99	8.4	10.9
114.0	33.0	3.2	110	8.6	0.73	2.37	13763	110.67	245.70	8.4	10.9
116.0	65.0	3.5	110	8.6	0.62	2.40	13967	56.18	238.80	8.4	10.9
118.0	57.0	4.2	110	8.6	0.66	2.43	14198	64.07	232.67	8.4	10.9
120.0	58.0	4.4	110	8.6	0.67	2.47	14426	62.97	226.92	8.4	10.9
122.0	62.0	4.5	110	8.6	0.66	2.50	14639	58.90	221.41	8.4	10.9
124.0	49.0	5.0	110	8.6	0.71	2.54	14908	74.53	216.75	8.4	10.9
126.0	49.0	5.0	110	8.6	0.71	2.58	15177	74.53	212.37	8.4	11.0
128.0	45.0	4.6	108	8.6	0.71	2.62	15465	81.16	208.46	8.4	11.0
130.0	46.0	4.4	108	8.6	0.71	2.67	15747	79.39	204.71	8.4	11.0
132.0	62.0	3.0	108	8.6	0.61	2.70	15956	58.90	200.61	8.4	11.0
134.0	77.0	2.5	108	8.6	0.56	2.73	16124	47.43	196.41	8.4	11.0
136.0	81.0	2.3	96	8.6	0.52	2.75	16267	45.09	192.38	8.4	11.0
138.0	82.0	2.5	96	8.6	0.53	2.78	16407	44.54	188.54	8.4	11.0
140.0	56.0	2.8	107	8.7	0.62	2.81	16637	65.21	185.41	8.4	11.0
142.0	71.3	3.6	101	8.7	0.58	2.84	16807	51.23	182.10	8.4	11.0
144.0	98.6	4.2	113	8.7	0.56	2.86	16944	37.03	178.60	8.4	11.0
146.0	65.5	3.9	112	8.7	0.63	2.89	17150	55.79	175.71	8.4	11.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
148.0	26.3	3.1	98	8.7	0.74	2.97	17597	138.64	174.86	8.4	11.0
150.0	25.3	4.7	102	8.7	0.80	3.04	18079	144.56	174.18	8.4	11.1
152.0	47.1	5.4	111	8.7	0.72	3.09	18362	77.61	172.06	8.4	11.1
154.0	38.5	5.2	112	8.7	0.76	3.14	18712	94.85	170.40	8.4	11.1
156.0	43.6	5.5	118	8.7	0.75	3.19	19038	83.69	168.57	8.4	11.1
158.0	55.4	5.6	108	8.7	0.69	3.22	19271	65.94	166.46	8.4	11.1
160.0	360.0	1.1	121	8.7	0.27	3.23	19312	10.14	163.30	8.4	11.1
162.0	52.9	1.9	108	8.7	0.59	3.26	19556	68.98	161.43	8.4	11.1
164.0	63.7	3.4	105	8.7	0.61	3.30	19754	57.32	159.41	8.4	11.1
166.0	62.0	3.0	105	8.7	0.60	3.33	19958	58.90	157.50	8.4	11.1
168.0	75.2	3.7	107	8.7	0.59	3.35	20129	48.59	155.46	8.4	11.1
170.0	61.0	2.3	104	8.7	0.58	3.39	20333	59.85	153.71	8.4	11.1
172.0	66.7	3.4	111	8.7	0.61	3.42	20533	54.78	151.92	8.4	11.1
174.0	55.4	4.3	98	8.7	0.64	3.45	20744	65.94	150.40	8.4	11.1
176.0	52.0	5.0	110	8.7	0.69	3.49	20998	70.23	149.01	8.4	11.2
178.0	46.7	5.3	110	8.7	0.72	3.54	21281	78.26	147.80	8.4	11.2
180.0	46.0	6.0	104	8.7	0.73	3.58	21552	79.39	146.65	8.4	11.2
182.0	59.3	7.3	104	8.7	0.70	3.61	21763	61.59	145.24	8.4	11.2
184.0	55.8	5.3	106	8.7	0.68	3.65	21992	65.43	143.94	8.4	11.2
186.0	52.0	5.0	110	8.7	0.69	3.69	22245	70.23	142.76	8.4	11.2
188.0	67.1	5.4	110	8.7	0.67	3.72	22456	54.41	141.37	8.4	11.2
190.0	55.8	5.1	100	8.7	0.66	3.75	22670	65.43	140.20	8.4	11.2
192.0	58.8	1.3	113	8.7	0.55	3.79	22901	62.13	139.00	8.4	11.2
194.0	61.5	2.9	110	8.7	0.61	3.82	23116	59.35	137.81	8.4	11.2
196.0	61.5	2.9	108	8.7	0.60	3.85	23327	59.42	136.64	8.4	11.2
197.0	47.1	3.3	102	8.7	0.65	3.87	23457	77.47	136.21	8.4	11.2

BIT NUMBER	2	TADC CODE	114	INTERVAL	197.0-	797.0	
HTC X3A		SIZE	17.500	NOZZLES	20	20	20
COST	4978.00	TRIP TIME	2.0	BIT RUN	600.0		
TOTAL HOURS	12.70	TOTAL TURNS	114343	CONDITION	T1	B1	G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
198.0	205.0	4.0	150	8.7	0.51	0.00	44	18	12300	8.4	11.2
200.0	126.0	6.0	150	8.7	0.64	0.02	187	29	4119	8.4	11.2
202.0	184.0	10.2	150	8.7	0.63	0.03	285	20	2479	8.4	11.3
204.0	162.0	6.0	150	8.7	0.59	0.04	396	23	1778	8.4	11.3
206.0	185.0	7.5	150	8.7	0.59	0.05	493	20	1387	8.4	11.3
208.0	61.0	4.0	150	8.7	0.74	0.09	788	60	1146	8.4	11.3
210.0	192.0	10.0	150	8.7	0.61	0.10	882	19.02	972.29	8.4	11.3
212.0	171.0	13.0	150	8.7	0.68	0.11	987	21.36	845.50	8.4	11.3
214.0	176.0	12.0	150	8.7	0.66	0.12	1089	20.75	748.47	8.4	11.3
216.0	231.0	12.0	150	8.7	0.59	0.13	1167	15.81	671.35	8.4	11.3
218.0	108.0	9.0	150	8.7	0.73	0.15	1334	33.81	610.63	8.4	11.3
220.0	115.0	11.0	150	8.7	0.75	0.17	1490	31.76	560.30	8.4	11.3
222.0	128.0	15.0	150	8.7	0.77	0.18	1631	28.53	517.75	8.4	11.3
224.0	159.0	11.0	150	8.7	0.67	0.19	1744	22.97	481.10	8.4	11.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
226.0	132.0	8.0	150	8.7	0.67	0.21	1881	27.67	449.83	8.4	11.3
228.0	148.0	10.0	150	8.7	0.67	0.22	2002	24.68	422.40	8.4	11.4
230.0	102.0	7.0	150	8.7	0.71	0.24	2179	35.80	398.97	8.4	11.4
232.0	146.0	6.0	150	8.7	0.61	0.26	2302	25.01	377.60	8.4	11.4
234.0	156.0	5.0	150	8.7	0.58	0.27	2417	23.41	358.46	8.4	11.4
236.0	225.0	7.0	150	8.7	0.54	0.28	2497	16.23	340.91	8.4	11.4
238.0	401.0	12.0	150	8.7	0.46	0.28	2542	9.11	324.72	8.4	11.4
240.0	408.0	16.0	150	8.7	0.49	0.29	2586	8.95	310.04	8.4	11.4
242.0	452.0	16.0	150	8.7	0.46	0.29	2626	8.08	296.62	8.4	11.4
244.0	265.0	5.0	150	8.7	0.47	0.30	2694	13.78	284.58	8.4	11.4
246.0	308.0	12.0	150	8.7	0.52	0.31	2753	11.86	273.45	8.4	11.4
248.0	324.0	16.0	150	8.7	0.54	0.31	2808	11.27	263.17	8.4	11.4
250.0	212.0	15.0	150	8.7	0.64	0.32	2893	17.23	253.89	8.4	11.4
252.0	211.0	8.0	150	8.7	0.57	0.33	2978	17.31	245.28	8.4	11.4
254.0	221.0	9.0	150	8.7	0.57	0.34	3060	16.52	237.26	8.4	11.4
256.0	289.0	15.0	150	8.7	0.57	0.35	3122	12.64	229.64	8.4	11.5
258.0	262.0	15.0	150	8.7	0.59	0.35	3191	13.94	222.57	8.4	11.5
260.0	221.0	15.0	150	8.7	0.63	0.36	3272	16.52	216.03	8.4	11.5
262.0	221.0	15.0	150	8.7	0.63	0.37	3354	16.52	209.89	8.4	11.5
264.0	236.0	12.0	150	8.7	0.59	0.38	3430	15.47	204.09	8.4	11.5
266.0	300.0	12.6	150	8.7	0.54	0.39	3490	12.17	198.52	8.4	11.5
268.0	320.0	14.0	150	8.7	0.53	0.39	3546	11.41	193.25	8.4	11.5
270.0	233.0	13.0	150	8.7	0.60	0.40	3624	15.67	188.39	8.4	11.5
272.0	155.0	13.0	150	8.7	0.70	0.42	3740	23.56	183.99	8.4	11.5
274.0	336.0	13.0	150	8.7	0.51	0.42	3793	10.87	179.50	8.4	11.5
276.0	256.0	16.0	150	8.7	0.60	0.43	3864	14.27	175.31	8.4	11.5
278.0	247.0	14.0	150	8.7	0.60	0.44	3936	14.79	171.35	8.4	11.5
280.0	184.0	17.0	150	8.7	0.70	0.45	4034	19.85	167.70	8.4	11.5
282.0	238.0	14.0	150	8.7	0.60	0.46	4110	15.34	164.11	8.4	11.5
284.0	271.0	12.0	150	8.7	0.55	0.46	4176	13.48	160.65	8.4	11.6
286.0	224.0	15.0	150	8.7	0.63	0.47	4257	16.30	157.41	8.4	11.6
288.0	231.0	17.0	150	8.7	0.64	0.48	4335	15.81	154.30	8.4	11.6
290.0	209.0	17.0	150	8.7	0.66	0.49	4421	17.47	151.35	8.4	11.6
292.0	192.0	11.0	150	8.7	0.63	0.50	4514	19.02	148.57	8.4	11.6
294.0	178.0	9.0	150	8.7	0.62	0.51	4616	20.52	145.93	8.4	11.6
296.0	228.0	13.0	150	8.7	0.61	0.52	4694	16.02	143.30	8.4	11.6
298.0	143.0	14.0	150	8.7	0.73	0.54	4820	25.54	140.97	8.4	11.6
300.0	108.0	14.0	150	8.7	0.80	0.55	4987	33.81	138.89	8.4	11.6
302.0	114.0	16.0	150	8.7	0.81	0.57	5145	32.04	136.85	8.4	11.6
304.0	179.0	9.0	150	8.7	0.62	0.58	5245	20.40	134.68	8.4	11.6
306.0	156.0	9.0	150	8.7	0.65	0.60	5361	23.41	132.64	8.4	11.6
308.0	126.0	6.0	150	8.7	0.64	0.61	5504	28.98	130.77	8.4	11.6
310.0	144.0	8.0	150	8.7	0.65	0.63	5629	25.36	128.90	8.4	11.6
312.0	102.0	12.0	150	8.7	0.79	0.65	5805	35.80	127.28	8.4	11.7
314.0	94.0	6.0	150	8.7	0.71	0.67	5997	38.85	125.77	8.4	11.7
316.0	147.0	8.0	150	8.7	0.65	0.68	6119	24.84	124.08	8.4	11.7
318.0	184.0	7.0	150	8.7	0.58	0.69	6217	19.85	122.35	8.4	11.7
320.0	156.0	10.0	150	8.7	0.66	0.70	6332	23.41	120.74	8.4	11.7
322.0	115.0	8.0	150	8.7	0.70	0.72	6489	31.76	119.32	8.4	11.7
324.0	110.0	8.0	150	8.7	0.71	0.74	6653	33.20	117.96	8.4	11.7

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
326.0	161.0	11.0	150	8.7	0.67	0.75	6764	22.68	116.49	8.4	11.7
328.0	155.0	10.0	150	8.7	0.66	0.76	6880	23.56	115.07	8.4	11.7
330.0	183.0	10.0	150	8.7	0.62	0.78	6979	19.96	113.64	8.4	11.7
332.0	212.0	10.0	150	8.7	0.59	0.78	7064	17.23	112.21	8.4	11.7
334.0	164.0	8.0	150	8.7	0.62	0.80	7173	22.27	110.90	8.4	11.7
336.0	155.0	7.0	150	8.7	0.62	0.81	7290	23.56	109.64	8.4	11.7
338.0	182.0	10.0	150	8.7	0.63	0.82	7388	20.07	108.37	8.4	11.7
340.0	208.0	11.0	150	8.7	0.61	0.83	7475	17.56	107.10	8.4	11.8
342.0	107.0	4.0	150	8.7	0.63	0.85	7643	34.13	106.09	8.4	11.8
344.0	102.0	8.0	150	8.7	0.73	0.87	7820	35.60	105.14	8.4	11.8
346.0	98.0	8.0	150	8.7	0.74	0.87	8003	37.27	104.23	8.4	11.8
348.0	76.0	7.0	150	8.7	0.77	0.92	8240	48.05	103.48	8.4	11.8
350.0	125.0	11.0	150	8.7	0.73	0.93	8384	29.22	102.51	8.4	11.8
352.0	113.0	10.0	150	8.7	0.74	0.95	8544	32.32	101.60	8.4	11.8
354.0	122.0	12.0	150	8.7	0.75	0.97	8691	29.93	100.69	8.4	11.8
356.0	126.0	11.0	150	8.7	0.72	0.98	8834	28.98	99.79	8.4	11.8
358.0	106.0	8.0	150	8.7	0.72	1.00	9004	34.45	98.98	8.4	11.8
360.0	123.0	8.0	150	8.7	0.69	1.02	9150	29.69	98.13	8.4	11.8
362.0	144.0	12.0	150	8.7	0.71	1.03	9275	25.36	97.25	8.4	11.8
364.0	134.0	9.0	150	8.7	0.68	1.05	9409	27.25	96.41	8.4	11.8
366.0	136.0	9.0	150	8.7	0.68	1.06	9542	26.85	95.58	8.4	11.8
368.0	195.0	10.0	150	8.7	0.61	1.07	9634	18.73	94.69	8.4	11.8
370.0	231.0	6.0	150	8.7	0.52	1.08	9712	15.81	93.77	8.4	11.9
372.0	562.0	3.0	150	8.7	0.29	1.08	9744	6.50	92.73	8.4	11.9
374.0	385.0	3.0	150	8.7	0.36	1.09	9791	9.49	91.84	8.4	11.9
376.0	462.0	5.0	150	8.7	0.36	1.09	9830	7.90	90.90	8.4	11.9
378.0	594.0	6.0	150	8.7	0.32	1.10	9860	6.15	89.96	8.4	11.9
380.0	286.0	5.0	150	8.7	0.46	1.10	9923	12.77	89.12	8.4	11.9
382.0	210.0	7.0	150	8.7	0.55	1.11	10009	17.39	88.34	8.4	11.9
384.0	170.0	9.0	150	8.7	0.63	1.12	10115	21.48	87.63	8.4	11.9
386.0	201.0	9.0	150	8.7	0.59	1.13	10204	18.17	86.89	8.4	11.9
388.0	136.0	3.0	150	8.7	0.56	1.15	10336	26.85	86.26	8.4	11.9
390.0	155.0	3.0	150	8.7	0.53	1.16	10453	23.56	85.61	8.4	11.9
392.0	206.0	3.0	150	8.7	0.48	1.17	10540	17.73	84.92	8.4	11.9
394.0	274.0	3.0	150	8.7	0.43	1.18	10606	13.33	84.19	8.4	11.9
396.0	291.0	3.0	150	8.7	0.42	1.19	10668	12.55	83.47	8.4	11.9
398.0	428.0	8.0	150	8.7	0.41	1.19	10710	8.53	82.72	8.4	12.0
400.0	461.0	6.0	150	8.7	0.37	1.19	10749	7.92	81.97	8.4	12.0
402.0	325.0	5.0	150	8.7	0.43	1.20	10804	11.24	81.30	8.4	12.0
404.0	219.0	2.0	150	8.7	0.44	1.21	10886	16.68	80.67	8.4	12.0
406.0	251.0	2.0	150	8.7	0.42	1.22	10958	14.55	80.04	8.4	12.0
408.0	352.0	4.0	150	8.7	0.40	1.22	11009	10.38	79.38	8.4	12.0
410.0	168.0	4.0	150	8.7	0.54	1.24	11116	21.74	78.84	8.4	12.0
412.0	363.0	6.0	150	8.7	0.42	1.24	11166	10.06	78.20	8.4	12.0
414.0	446.0	6.0	150	8.7	0.38	1.25	11206	8.19	77.55	8.4	12.0
416.0	418.0	6.0	150	8.7	0.39	1.25	11249	8.74	76.93	8.4	12.0
417.0	208.4	7.2	150	8.9	0.54	1.25	11292	17.52	76.66	8.4	12.0
418.0	180.0	6.1	150	8.9	0.56	1.26	11342	20.29	76.40	8.4	12.0
419.0	200.0	7.0	150	8.9	0.55	1.27	11387	18.26	76.14	8.4	12.0
420.0	200.0	5.8	150	8.9	0.53	1.27	11432	18.26	75.88	8.4	12.0



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
421.0	171.4	5.4	150	8.9	0.56	1.28	11485	21.30	75.64	8.4	12.0
422.0	288.0	4.0	150	8.9	0.43	1.28	11516	12.68	75.36	8.4	12.0
423.0	156.5	5.9	150	8.9	0.58	1.29	11574	23.33	75.13	8.4	12.0
424.0	163.6	6.5	150	8.9	0.58	1.29	11629	22.32	74.89	8.4	12.0
425.0	138.5	5.4	150	8.9	0.60	1.30	11694	26.38	74.68	8.4	12.0
426.0	156.5	9.6	150	8.9	0.64	1.31	11751	23.33	74.46	8.4	12.0
427.0	171.4	14.0	150	8.9	0.67	1.31	11804	21.30	74.22	8.4	12.0
428.0	171.4	12.3	150	8.9	0.65	1.32	11856	21.30	74.00	8.4	12.0
429.0	138.5	9.6	150	8.9	0.67	1.32	11921	26.38	73.79	8.4	12.1
430.0	150.0	12.0	150	8.9	0.68	1.33	11981	24.35	73.58	8.4	12.1
431.0	180.0	11.8	150	8.9	0.64	1.34	12031	20.29	73.35	8.4	12.1
432.0	180.0	10.3	150	8.9	0.62	1.34	12081	20.29	73.12	8.4	12.1
433.0	163.6	12.1	150	8.9	0.66	1.35	12136	22.32	72.91	8.4	12.1
434.0	171.4	12.8	150	8.9	0.66	1.35	12189	21.30	72.69	8.4	12.1
435.0	185.0	16.0	150	8.9	0.67	1.36	12237	19.74	72.47	8.4	12.1
436.0	196.4	15.8	150	8.9	0.65	1.36	12283	18.60	72.24	8.4	12.1
437.0	171.4	18.3	150	8.9	0.71	1.37	12336	21.30	72.03	8.4	12.1
438.0	171.4	16.6	150	8.9	0.70	1.38	12388	21.30	71.82	8.4	12.1
439.0	133.3	16.4	150	8.9	0.76	1.38	12456	27.39	71.64	8.4	12.1
440.0	180.0	16.7	150	8.9	0.69	1.39	12506	20.29	71.43	8.4	12.1
441.0	163.6	16.6	150	8.9	0.71	1.40	12561	22.32	71.22	8.4	12.1
442.0	171.4	15.3	150	8.9	0.68	1.40	12613	21.30	71.02	8.4	12.1
443.0	150.0	14.7	150	8.9	0.71	1.41	12673	24.35	70.83	8.4	12.1
444.0	171.4	16.5	150	8.9	0.70	1.41	12726	21.30	70.63	8.4	12.1
445.0	120.0	15.0	150	8.9	0.77	1.42	12801	30.43	70.47	8.4	12.1
446.0	276.9	24.0	150	8.9	0.63	1.43	12833	13.19	70.24	8.4	12.1
447.0	138.5	23.4	150	8.9	0.81	1.43	12898	26.38	70.06	8.4	12.1
448.0	124.1	20.5	150	8.9	0.82	1.44	12971	29.42	69.90	8.4	12.1
449.0	144.0	19.6	150	8.9	0.77	1.45	13033	25.36	69.72	8.4	12.1
450.0	138.5	19.1	150	8.9	0.77	1.46	13098	26.38	69.55	8.4	12.1
451.0	156.5	18.7	150	8.9	0.74	1.46	13156	23.33	69.37	8.4	12.1
452.0	156.5	17.7	150	8.9	0.73	1.47	13213	23.33	69.19	8.4	12.1
453.0	171.4	17.0	150	8.9	0.70	1.47	13266	21.30	69.00	8.4	12.1
454.0	211.8	14.6	150	8.9	0.63	1.48	13308	17.25	68.80	8.4	12.1
455.0	360.0	14.9	150	8.9	0.50	1.48	13333	10.14	68.57	8.4	12.1
456.0	211.8	17.6	150	8.9	0.65	1.49	13376	17.25	68.38	8.4	12.1
457.0	360.0	16.4	150	8.9	0.51	1.49	13401	10.14	68.15	8.4	12.1
458.0	250.0	17.0	150	8.9	0.60	1.49	13437	14.61	67.95	8.4	12.1
459.0	300.0	18.0	150	8.9	0.57	1.50	13467	12.17	67.73	8.4	12.1
460.0	270.0	17.3	150	8.9	0.59	1.50	13500	13.53	67.53	8.4	12.2
461.0	240.0	16.6	150	8.9	0.61	1.50	13537	15.22	67.33	8.4	12.2
462.0	270.0	17.6	150	8.9	0.59	1.51	13571	13.53	67.13	8.4	12.2
463.0	257.1	18.2	150	8.9	0.61	1.51	13606	14.20	66.93	8.4	12.2
464.0	130.0	15.0	150	8.9	0.75	1.52	13675	28.09	66.78	8.4	12.2
465.0	160.0	13.8	150	8.9	0.69	1.53	13731	22.83	66.62	8.4	12.2
466.0	276.9	15.7	150	8.9	0.57	1.53	13764	13.19	66.42	8.4	12.2
467.0	189.5	12.3	150	8.9	0.63	1.53	13811	19.27	66.25	8.4	12.2
468.0	171.4	14.3	150	8.9	0.67	1.54	13864	21.30	66.08	8.4	12.2
469.0	211.8	17.1	150	8.9	0.65	1.55	13906	17.25	65.90	8.4	12.2
470.0	163.6	16.4	150	8.9	0.71	1.55	13961	22.32	65.74	8.4	12.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
471.0	171.4	16.9	150	8.9	0.70	1.56	14014	21.30	65.58	8.4	12.2
472.0	171.4	16.9	150	8.9	0.70	1.56	14066	21.30	65.42	8.4	12.2
473.0	171.4	17.9	150	8.9	0.71	1.57	14119	21.30	65.26	8.4	12.2
474.0	120.0	21.4	150	8.9	0.83	1.58	14194	30.43	65.13	8.4	12.2
475.0	144.0	17.5	150	8.9	0.75	1.58	14256	25.36	64.99	8.4	12.2
476.0	163.6	17.5	150	8.9	0.72	1.59	14311	22.32	64.84	8.4	12.2
477.0	156.5	17.8	150	8.9	0.73	1.60	14369	23.33	64.69	8.4	12.2
478.0	156.5	18.1	150	8.9	0.73	1.60	14426	23.33	64.54	8.4	12.2
479.0	163.6	18.0	150	8.9	0.72	1.61	14481	22.32	64.39	8.4	12.2
480.0	124.1	18.0	150	8.9	0.79	1.62	14554	29.42	64.27	8.4	12.2
481.0	133.3	17.8	150	8.9	0.77	1.62	14621	27.39	64.14	8.4	12.2
482.0	120.0	16.8	150	8.9	0.79	1.63	14696	30.43	64.02	8.4	12.2
483.0	138.5	17.7	150	8.9	0.76	1.64	14761	26.38	63.89	8.4	12.2
484.0	130.9	16.3	150	8.9	0.76	1.65	14830	27.90	63.76	8.4	12.2
485.0	128.6	16.9	150	8.9	0.77	1.66	14900	28.40	63.64	8.4	12.2
486.0	163.6	17.2	150	8.9	0.71	1.66	14955	22.32	63.50	8.4	12.2
487.0	163.6	16.7	150	8.9	0.71	1.67	15010	22.32	63.35	8.4	12.2
488.0	150.0	17.0	150	8.9	0.73	1.67	15070	24.35	63.22	8.4	12.2
489.0	144.0	17.0	150	8.9	0.74	1.68	15133	25.36	63.09	8.4	12.2
490.0	133.3	16.7	150	8.9	0.76	1.69	15200	27.39	62.97	8.4	12.2
491.0	144.0	16.0	150	8.9	0.73	1.70	15263	25.36	62.84	8.4	12.3
492.0	144.0	15.7	150	8.9	0.73	1.70	15325	25.36	62.71	8.4	12.3
493.0	156.5	16.8	150	8.9	0.72	1.71	15383	23.33	62.58	8.4	12.3
494.0	38.7	15.0	150	8.9	1.05	1.74	15615	94.34	62.69	8.4	12.3
495.0	156.5	15.2	150	8.9	0.71	1.74	15673	23.33	62.56	8.4	12.3
496.0	171.4	15.1	150	8.9	0.68	1.75	15725	21.30	62.42	8.4	12.3
497.0	189.5	15.7	150	8.9	0.66	1.75	15773	19.27	62.27	8.4	12.3
498.0	128.6	15.1	150	8.9	0.75	1.76	15843	28.40	62.16	8.4	12.3
499.0	116.1	15.3	150	8.9	0.78	1.77	15920	31.45	62.06	8.4	12.3
500.0	112.5	16.6	150	8.9	0.80	1.78	16000	32.46	61.96	8.4	12.3
501.0	133.3	16.0	150	8.9	0.75	1.79	16068	27.39	61.85	8.4	12.3
502.0	116.1	14.5	150	8.9	0.77	1.79	16145	31.45	61.75	8.4	12.3
503.0	120.0	15.5	150	8.9	0.77	1.80	16220	30.43	61.65	8.4	12.3
504.0	144.0	18.0	150	8.9	0.75	1.81	16283	25.36	61.53	8.4	12.3
505.0	128.6	17.6	150	8.9	0.78	1.82	16353	28.40	61.42	8.4	12.3
506.0	130.0	17.6	150	8.9	0.78	1.82	16422	28.09	61.31	8.4	12.3
507.0	157.5	17.4	150	8.9	0.72	1.83	16479	23.19	61.19	8.4	12.3
508.0	180.0	18.9	150	8.9	0.70	1.84	16529	20.29	61.06	8.4	12.3
509.0	150.0	17.4	150	8.9	0.74	1.84	16589	24.35	60.94	8.4	12.3
510.0	120.0	17.5	150	8.9	0.80	1.85	16664	30.43	60.84	8.4	12.4
511.0	132.6	17.5	150	8.9	0.77	1.86	16732	27.53	60.74	8.4	12.3
512.0	24.4	17.3	150	8.9	1.20	1.90	17101	149.91	61.02	8.4	12.3
513.0	120.0	17.0	150	8.9	0.79	1.91	17176	30.43	60.92	8.4	12.3
514.0	85.0	17.8	150	8.9	0.89	1.92	17282	42.96	60.87	8.4	12.3
515.0	90.0	17.3	150	8.9	0.87	1.93	17382	40.58	60.80	8.4	12.3
516.0	140.0	17.1	150	8.9	0.75	1.94	17446	26.09	60.69	8.4	12.3
517.0	163.6	16.2	150	8.9	0.70	1.94	17501	22.32	60.57	8.4	12.3
518.0	144.0	13.2	150	8.9	0.70	1.95	17564	25.36	60.46	8.4	12.3
519.0	200.0	12.2	150	8.9	0.61	1.96	17609	18.26	60.33	8.4	12.3
520.0	276.9	11.1	150	8.9	0.53	1.96	17641	13.19	60.19	8.4	12.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
521.0	189.5	13.5	150	8.9	0.64	1.97	17689	19.27	60.06	8.4	12.3
522.0	171.4	13.8	150	8.9	0.67	1.97	17741	21.30	59.94	8.4	12.3
523.0	216.0	12.5	150	8.9	0.60	1.98	17783	16.91	59.81	8.4	12.4
524.0	200.0	14.0	150	8.9	0.63	1.98	17828	18.26	59.68	8.4	12.4
525.0	360.0	16.1	150	8.9	0.51	1.98	17853	10.14	59.53	8.4	12.4
526.0	171.4	15.1	150	8.9	0.68	1.99	17906	21.30	59.42	8.4	12.4
527.0	128.6	18.0	150	8.9	0.78	2.00	17976	28.40	59.32	8.4	12.4
528.0	98.0	18.0	150	8.9	0.85	2.01	18067	37.27	59.25	8.4	12.4
529.0	60.0	16.7	150	8.9	0.96	2.02	18217	60.87	59.26	8.4	12.4
530.0	112.5	17.8	150	8.9	0.81	2.03	18297	32.46	59.18	8.4	12.4
531.0	102.9	17.4	150	8.9	0.83	2.04	18385	35.51	59.11	8.4	12.4
532.0	81.8	16.3	150	8.9	0.88	2.05	18495	44.64	59.07	8.4	12.4
533.0	105.9	16.5	150	8.9	0.82	2.06	18580	34.49	58.99	8.4	12.4
534.0	87.8	15.6	150	8.9	0.85	2.08	18682	41.59	58.94	8.4	12.4
535.0	102.9	15.6	150	8.9	0.81	2.09	18770	35.51	58.87	8.4	12.4
536.0	92.3	15.9	150	8.9	0.84	2.10	18867	39.56	58.81	8.4	12.4
537.0	360.0	15.6	150	8.9	0.50	2.10	18892	10.14	58.67	8.4	12.4
538.0	116.1	13.9	150	8.9	0.76	2.11	18970	31.45	58.59	8.4	12.4
539.0	83.7	11.8	150	8.9	0.81	2.12	19077	43.62	58.55	8.4	12.4
540.0	128.6	18.3	150	8.9	0.79	2.13	19147	28.40	58.46	8.4	12.4
541.0	83.7	18.4	150	8.9	0.90	2.14	19255	43.62	58.42	8.4	12.4
542.0	76.6	14.2	150	8.9	0.87	2.15	19372	47.68	58.39	8.4	12.4
543.0	257.1	16.0	150	8.9	0.59	2.16	19407	14.20	58.26	8.4	12.4
544.0	225.0	17.4	150	8.9	0.63	2.16	19447	16.23	58.14	8.4	12.4
545.0	138.5	16.6	150	8.9	0.75	2.17	19512	26.38	58.05	8.4	12.4
546.0	109.1	14.9	150	8.9	0.79	2.18	19595	33.48	57.97	8.4	12.4
547.0	97.3	18.3	150	8.9	0.86	2.19	19687	37.53	57.92	8.4	12.4
548.0	102.9	16.9	150	8.9	0.83	2.20	19775	35.51	57.85	8.4	12.4
549.0	97.3	18.8	150	8.9	0.88	2.21	19872	39.56	57.80	8.4	12.4
550.0	360.0	15.4	150	8.9	0.50	2.21	19897	10.14	57.67	8.4	12.4
551.0	110.0	17.0	150	8.9	0.81	2.22	19979	33.20	57.60	8.4	12.4
552.0	112.5	17.4	150	8.9	0.81	2.23	20059	32.46	57.53	8.4	12.4
553.0	105.9	19.2	150	8.9	0.84	2.24	20144	34.49	57.46	8.4	12.4
554.0	76.6	17.1	150	8.9	0.90	2.25	20262	47.68	57.43	8.4	12.4
555.0	83.7	18.2	150	8.9	0.89	2.26	20369	43.62	57.39	8.4	12.4
556.0	92.3	19.4	150	8.9	0.88	2.27	20467	39.56	57.35	8.4	12.5
557.0	64.3	19.2	150	8.9	0.97	2.29	20607	56.81	57.34	8.4	12.5
558.0	73.5	20.8	150	8.9	0.96	2.30	20729	49.71	57.32	8.4	12.5
559.0	52.9	28.7	150	8.9	1.13	2.32	20899	68.98	57.35	8.4	12.5
560.0	116.1	32.4	150	8.9	0.93	2.33	20977	31.45	57.28	8.4	12.5
561.0	78.3	30.3	150	8.9	1.03	2.34	21092	46.66	57.25	8.4	12.5
562.0	92.3	29.7	150	8.9	0.98	2.35	21189	39.56	57.21	8.4	12.5
563.0	66.7	29.9	150	8.9	1.07	2.37	21324	54.78	57.20	8.4	12.5
564.0	70.6	30.3	150	8.9	1.06	2.38	21452	51.74	57.18	8.4	12.5
565.0	48.6	29.8	150	8.9	1.16	2.40	21637	75.07	57.23	8.4	12.5
566.0	60.0	32.0	150	8.9	1.12	2.42	21787	60.87	57.24	8.4	12.5
567.0	83.7	31.5	150	8.9	1.02	2.43	21894	43.62	57.21	8.4	12.5
568.0	80.0	30.2	150	8.9	1.02	2.45	22007	45.65	57.17	8.4	12.5
569.0	69.2	29.5	150	8.9	1.06	2.46	22137	52.75	57.16	8.4	12.5
570.0	50.7	29.7	150	8.9	1.15	2.48	22314	72.03	57.20	8.4	12.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
571.0	36.7	29.5	150	8.9	1.24	2.51	22559	99.42	57.32	8.4	12.5
572.0	102.9	31.4	150	8.9	0.96	2.52	22647	35.51	57.26	8.4	12.5
573.0	225.0	29.7	150	8.9	0.72	2.52	22687	16.23	57.15	8.4	12.5
574.0	112.5	28.8	150	8.9	0.91	2.53	22767	32.46	57.08	8.4	12.5
575.0	69.2	29.8	150	8.9	1.06	2.54	22897	52.75	57.07	8.4	12.5
576.0	48.0	30.4	150	8.9	1.17	2.56	23084	76.08	57.12	8.4	12.5
577.0	70.6	32.0	150	8.9	1.08	2.58	23212	51.74	57.11	8.4	12.5
578.0	78.3	31.1	150	8.9	1.04	2.59	23327	46.66	57.08	8.4	12.5
579.0	48.0	30.3	150	8.9	1.17	2.61	23514	76.08	57.13	8.4	12.5
580.0	56.0	30.0	150	8.9	1.13	2.63	23675	65.21	57.15	8.4	12.5
581.0	37.5	31.3	150	8.9	1.26	2.66	23915	97.39	57.26	8.4	12.5
582.0	52.9	30.2	150	8.9	1.14	2.68	24085	68.98	57.29	8.4	12.5
583.0	50.7	29.9	150	8.9	1.15	2.70	24262	72.03	57.32	8.4	12.5
584.0	49.3	29.9	150	8.9	1.16	2.72	24445	74.05	57.37	8.4	12.5
585.0	46.8	29.7	150	8.9	1.18	2.74	24637	78.11	57.42	8.4	12.5
586.0	48.0	29.3	150	8.9	1.16	2.76	24825	76.08	57.47	8.4	12.5
587.0	41.9	28.7	150	8.9	1.20	2.78	25040	87.24	57.55	8.4	12.5
588.0	40.0	29.6	150	8.9	1.22	2.81	25265	91.30	57.63	8.4	12.5
589.0	42.4	30.8	150	8.9	1.21	2.83	25477	86.23	57.70	8.4	12.5
590.0	59.0	30.5	150	8.9	1.12	2.85	25630	61.88	57.72	8.4	12.6
591.0	58.8	27.7	150	8.9	1.09	2.86	25783	62.13	57.73	8.4	12.6
592.0	73.5	26.3	150	8.9	1.01	2.88	25906	49.71	57.71	8.4	12.6
593.0	55.4	24.1	150	8.9	1.07	2.90	26068	65.94	57.73	8.4	12.6
594.0	54.5	24.6	150	8.9	1.08	2.91	26233	66.95	57.75	8.4	12.6
595.0	61.0	24.1	150	8.9	1.04	2.93	26381	59.85	57.76	8.4	12.6
596.0	41.9	24.9	150	8.9	1.15	2.96	26596	87.24	57.83	8.4	12.6
597.0	46.8	24.8	150	8.9	1.12	2.98	26788	78.11	57.88	8.4	12.6
598.0	36.7	24.5	150	8.9	1.19	3.00	27033	99.42	57.98	8.4	12.6
599.0	40.0	24.8	150	8.9	1.17	3.03	27258	91.30	58.07	8.4	12.6
600.0	40.0	27.1	150	8.9	1.19	3.05	27483	91.30	58.15	8.4	12.6
601.0	34.6	30.2	150	8.9	1.27	3.08	27743	105.50	58.27	8.4	12.6
602.0	39.1	30.2	150	8.9	1.23	3.11	27973	93.33	58.35	8.4	12.6
603.0	36.7	30.9	150	8.9	1.26	3.14	28218	99.42	58.45	8.4	12.6
604.0	26.5	30.1	150	8.9	1.34	3.17	28558	137.96	58.65	8.4	12.6
605.0	31.0	30.8	150	8.9	1.31	3.21	28848	117.68	58.79	8.4	12.6
606.0	33.0	30.5	150	8.9	1.28	3.24	29121	110.57	58.92	8.4	12.6
607.0	34.0	30.5	150	8.9	1.28	3.27	29386	107.53	59.04	8.4	12.6
608.0	13.7	30.9	150	8.9	1.54	3.34	30041	265.78	59.54	8.4	12.6
609.0	37.9	30.5	150	8.9	1.24	3.36	30278	96.37	59.63	8.4	12.6
610.0	36.0	27.3	150	8.9	1.22	3.39	30528	101.44	59.73	8.4	12.6
611.0	25.2	27.8	150	8.9	1.33	3.43	30886	145.07	59.94	8.4	12.6
612.0	21.2	29.4	150	8.9	1.40	3.48	31311	172.46	60.21	8.4	12.6
613.0	34.3	31.0	150	8.9	1.28	3.51	31573	106.52	60.32	8.4	12.6
614.0	52.9	30.1	150	8.9	1.14	3.53	31743	68.98	60.34	8.4	12.6
615.0	61.0	30.2	150	8.9	1.10	3.54	31891	59.85	60.34	8.4	12.6
616.0	35.0	30.9	150	8.9	1.27	3.57	32148	104.49	60.45	8.4	12.6
617.0	26.9	30.7	150	8.9	1.35	3.61	32483	135.94	60.63	8.4	12.6
618.0	35.3	30.4	150	8.9	1.26	3.64	32738	103.47	60.73	8.4	12.6
619.0	30.3	30.4	150	8.9	1.31	3.67	33036	120.72	60.87	8.4	12.6
620.0	30.0	30.4	150	8.9	1.31	3.70	33336	121.73	61.01	8.4	12.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
621.0	36.4	31.9	150	8.9	1.27	3.73	33583	100.43	61.11	8.4	12.6
622.0	37.1	30.7	150	8.9	1.25	3.76	33826	98.40	61.19	8.4	12.6
623.0	32.7	30.7	150	8.9	1.29	3.79	34101	111.59	61.31	8.4	12.6
624.0	33.3	29.5	150	8.9	1.27	3.82	34371	109.56	61.43	8.4	12.7
625.0	33.3	30.5	150	8.9	1.28	3.85	34641	109.56	61.54	8.4	12.7
626.0	29.3	30.4	150	8.9	1.32	3.88	34948	124.78	61.69	8.4	12.7
627.0	39.6	30.7	150	8.9	1.23	3.91	35176	92.31	61.76	8.4	12.7
628.0	48.6	31.2	150	8.9	1.18	3.93	35361	75.07	61.79	8.4	12.7
629.0	55.4	29.7	150	8.9	1.13	3.95	35523	65.94	61.80	8.4	12.7
630.0	36.7	28.6	150	8.9	1.23	3.97	35768	99.42	61.88	8.4	12.7
631.0	33.0	29.0	150	8.9	1.27	4.00	36041	110.57	62.00	8.4	12.7
632.0	45.0	28.2	150	8.9	1.17	4.03	36241	81.16	62.04	8.4	12.7
633.0	38.3	29.4	150	8.9	1.23	4.05	36476	95.36	62.12	8.4	12.7
634.0	27.1	29.4	150	8.9	1.33	4.09	36808	134.92	62.28	8.4	12.7
635.0	28.8	29.4	150	8.9	1.31	4.12	37121	126.81	62.43	8.4	12.7
636.0	23.1	28.3	150	8.9	1.36	4.17	37511	158.25	62.65	8.4	12.7
637.0	20.8	27.8	150	8.9	1.39	4.22	37943	175.50	62.91	8.4	12.7
638.0	37.1	28.8	150	8.9	1.23	4.24	38186	98.40	62.99	8.4	12.7
639.0	25.7	28.1	150	8.9	1.33	4.28	38536	142.02	63.16	8.4	12.7
640.0	31.3	28.1	150	8.9	1.27	4.31	38823	116.66	63.29	8.4	12.7
641.0	24.3	29.0	150	8.9	1.35	4.35	39193	150.14	63.48	8.4	12.7
642.0	23.1	28.8	150	8.9	1.37	4.40	39583	158.25	63.69	8.4	12.7
643.0	18.5	29.5	150	8.9	1.44	4.45	40071	197.82	63.99	8.4	12.7
644.0	20.9	29.4	150	8.9	1.40	4.50	40501	174.48	64.24	8.4	12.7
645.0	20.1	30.1	150	8.9	1.42	4.55	40948	181.59	64.50	8.4	12.7
646.0	21.2	29.7	150	8.9	1.40	4.60	41373	172.46	64.74	8.4	12.7
647.0	22.1	30.3	150	8.9	1.40	4.64	41781	165.35	64.97	8.4	12.7
648.0	24.3	31.0	150	8.9	1.38	4.68	42151	150.14	65.16	8.4	12.7
649.0	23.2	29.1	150	8.9	1.37	4.73	42538	157.24	65.36	8.4	12.7
650.0	19.8	29.9	150	8.9	1.43	4.78	42993	184.63	65.62	8.4	12.7
651.0	16.1	29.6	150	8.9	1.48	4.84	43553	227.24	65.98	8.4	12.7
652.0	21.1	29.7	150	8.9	1.40	4.89	43981	173.47	66.22	8.4	12.7
653.0	21.8	30.0	150	8.9	1.40	4.93	44393	167.38	66.44	8.4	12.7
654.0	25.9	29.9	150	8.9	1.35	4.97	44741	141.01	66.60	8.4	12.7
655.0	28.1	29.3	150	8.9	1.32	5.01	45061	129.85	66.74	8.4	12.7
656.0	27.9	29.9	150	8.9	1.33	5.04	45383	130.86	66.88	8.4	12.7
657.0	30.3	29.9	150	8.9	1.30	5.08	45681	120.72	67.00	8.4	12.7
658.0	33.6	30.5	150	8.9	1.28	5.11	45948	108.55	67.09	8.4	12.7
659.0	36.7	29.3	150	8.9	1.24	5.13	46193	99.42	67.16	8.4	12.8
660.0	27.9	29.7	150	8.9	1.32	5.17	46516	130.86	67.29	8.4	12.8
661.0	25.7	29.7	150	8.9	1.35	5.21	46866	142.02	67.45	8.4	12.8
662.0	31.3	30.1	150	8.9	1.30	5.24	47153	116.66	67.56	8.4	12.8
663.0	27.5	30.4	150	8.9	1.34	5.28	47481	132.89	67.70	8.4	12.8
664.0	35.3	30.0	150	8.9	1.26	5.30	47736	103.47	67.78	8.4	12.8
665.0	32.7	30.1	150	8.9	1.28	5.33	48011	111.59	67.87	8.4	12.8
666.0	33.0	31.6	150	8.9	1.30	5.36	48283	110.57	67.96	8.4	12.8
667.0	27.7	31.4	150	8.9	1.35	5.40	48608	131.88	68.10	8.4	12.8
668.0	27.2	28.2	150	8.9	1.31	5.44	48939	134.41	68.24	8.4	12.8
669.0	26.7	28.0	150	8.9	1.32	5.48	49277	136.95	68.38	8.4	12.8
670.0	22.4	27.7	150	8.9	1.36	5.52	49679	163.33	68.59	8.4	12.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
671.0	25.0	28.2	150	8.9	1.34	5.56	50039	146.08	68.75	8.4	12.8
672.0	23.1	28.3	150	8.9	1.36	5.60	50429	158.25	68.94	8.4	12.8
673.0	20.5	28.4	150	8.9	1.40	5.65	50869	178.54	69.17	8.4	12.8
674.0	19.4	28.5	150	8.9	1.41	5.70	51334	188.69	69.42	8.4	12.8
675.0	18.3	28.6	150	8.9	1.43	5.76	51827	199.85	69.69	8.4	12.8
676.0	17.4	28.5	150	8.9	1.44	5.82	52344	209.99	69.98	8.4	12.8
677.0	18.5	28.4	150	8.9	1.43	5.87	52832	197.82	70.25	8.4	12.8
678.0	17.4	26.2	150	8.9	1.41	5.93	53349	209.99	70.54	8.4	12.8
679.0	20.9	26.4	150	8.9	1.37	5.98	53779	174.48	70.76	8.4	12.8
680.0	21.2	27.3	150	8.9	1.37	6.02	54204	172.46	70.97	8.4	12.8
681.0	18.6	27.1	150	8.9	1.41	6.08	54689	196.80	71.23	8.4	12.8
682.0	21.2	26.9	150	8.9	1.37	6.12	55114	172.46	71.44	8.4	12.8
683.0	20.9	27.2	150	8.9	1.38	6.17	55544	174.48	71.65	8.4	12.8
684.0	11.3	18.8	150	8.9	1.42	6.26	56342	323.61	72.16	8.4	12.8
685.0	19.9	28.0	150	8.9	1.40	6.31	56794	183.61	72.39	8.4	12.8
686.0	23.5	26.9	150	8.9	1.34	6.35	57177	155.21	72.56	8.4	12.8
687.0	26.7	25.8	150	8.9	1.29	6.39	57514	136.95	72.69	8.4	12.8
688.0	24.7	26.4	150	8.9	1.32	6.43	57879	148.11	72.85	8.4	12.8
689.0	27.3	29.0	150	8.9	1.32	6.47	58209	133.91	72.97	8.4	12.8
690.0	26.1	26.3	150	8.9	1.28	6.50	58529	129.85	73.09	8.4	12.8
691.0	20.2	27.1	150	8.9	1.38	6.55	58974	180.57	73.30	8.4	12.8
692.0	18.5	27.1	150	8.9	1.41	6.61	59462	197.82	73.56	8.4	12.8
693.0	17.2	26.3	150	8.9	1.42	6.66	59984	212.02	73.84	8.4	12.8
694.0	18.3	27.3	150	8.9	1.42	6.72	60477	199.85	74.09	8.4	12.8
695.0	22.5	27.4	150	8.9	1.36	6.76	60877	162.31	74.27	8.4	12.9
696.0	25.0	27.0	150	8.9	1.32	6.80	61237	146.08	74.41	8.4	12.9
697.0	27.2	26.2	150	8.9	1.29	6.84	61568	134.41	74.53	8.4	12.9
698.0	21.2	27.1	150	8.9	1.37	6.89	61993	172.46	74.73	8.4	12.9
699.0	24.7	27.2	150	8.9	1.33	6.93	62358	148.11	74.87	8.4	12.9
700.0	22.2	26.7	150	8.9	1.35	6.97	62763	164.34	75.05	8.4	12.9
701.0	19.0	26.9	150	8.9	1.40	7.03	63236	191.73	75.28	8.4	12.9
702.0	25.7	27.9	150	8.9	1.33	7.07	63586	142.02	75.41	8.4	12.9
703.0	24.5	27.2	150	8.9	1.31	7.10	63926	137.96	75.54	8.4	12.9
704.0	29.3	27.1	150	8.9	1.28	7.14	64233	124.78	75.63	8.4	12.9
705.0	19.0	26.9	150	8.9	1.40	7.19	64706	191.73	75.86	8.4	12.9
706.0	26.1	25.6	150	8.9	1.29	7.23	65051	139.99	75.99	8.4	12.9
707.0	21.4	26.4	150	8.9	1.36	7.27	65471	170.43	76.17	8.4	12.9
708.0	16.1	26.4	150	8.9	1.44	7.34	66028	226.22	76.47	8.4	12.9
709.0	15.8	25.6	150	8.9	1.43	7.40	66598	231.29	76.77	8.4	12.9
710.0	17.0	29.9	150	8.9	1.47	7.46	67128	215.06	77.04	8.4	12.9
711.0	17.7	29.6	150	8.9	1.45	7.52	67636	205.93	77.29	8.4	12.9
712.0	14.8	29.3	150	8.9	1.50	7.58	68243	246.51	77.62	8.4	12.9
713.0	18.5	29.6	150	8.9	1.44	7.64	68731	197.82	77.85	8.4	12.9
714.0	19.4	29.3	150	8.9	1.42	7.69	69196	188.69	78.07	8.4	12.9
715.0	30.3	29.7	150	8.9	1.30	7.72	69493	120.72	78.15	8.4	12.9
716.0	20.7	27.3	150	8.9	1.38	7.77	69928	176.51	78.34	8.4	12.9
717.0	19.1	27.1	150	8.9	1.40	7.82	70398	190.72	78.55	8.4	12.9
718.0	23.7	26.3	150	8.9	1.33	7.86	70778	154.20	78.70	8.4	12.9
719.0	15.9	26.3	150	8.9	1.44	7.93	71346	230.28	78.99	8.4	12.9
720.0	17.3	26.2	150	8.9	1.42	7.99	71866	211.00	79.24	8.4	12.9

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
721.0	19.4	25.8	150	8.9	1.38	8.04	72331	188.69	79.45	8.4	12.9
722.0	22.5	25.8	150	8.9	1.34	8.08	72731	162.31	79.61	8.4	12.9
723.0	20.9	25.9	150	8.9	1.36	8.13	73161	174.48	79.79	8.4	12.9
724.0	21.6	26.2	150	8.9	1.35	8.18	73578	169.41	79.96	8.4	12.9
725.0	22.9	29.2	150	8.9	1.38	8.22	73971	159.27	80.11	8.4	12.9
726.0	15.9	27.7	150	8.9	1.46	8.28	74536	229.26	80.39	8.4	12.9
727.0	18.7	29.3	150	8.9	1.44	8.34	75018	195.79	80.61	8.4	12.9
728.0	16.6	28.8	150	8.9	1.46	8.40	75561	220.13	80.87	8.4	12.9
729.0	14.6	28.2	150	8.9	1.49	8.46	76178	250.57	81.19	8.4	12.9
730.0	17.9	29.9	150	8.9	1.45	8.52	76681	203.90	81.42	8.4	12.9
731.0	14.6	29.7	150	8.9	1.51	8.59	77298	250.57	81.74	8.4	12.9
732.0	14.8	29.0	150	8.9	1.50	8.66	77906	246.51	82.05	8.4	13.0
733.0	12.5	29.8	150	8.9	1.56	8.74	78626	292.16	82.44	8.4	13.0
734.0	13.1	29.1	150	8.9	1.53	8.81	79313	278.97	82.80	8.4	13.0
735.0	11.1	28.3	150	8.9	1.57	8.90	80121	327.67	83.26	8.4	13.0
736.0	14.1	25.4	150	8.9	1.46	8.97	80761	259.70	83.59	8.4	13.0
737.0	17.1	26.7	150	8.9	1.43	9.03	81286	213.03	83.83	8.4	13.0
738.0	16.2	32.6	150	8.9	1.52	9.09	81841	225.21	84.09	8.4	13.0
739.0	24.3	33.9	150	8.9	1.41	9.13	82211	150.14	84.21	8.4	13.0
740.0	19.7	34.2	150	8.9	1.48	9.19	82668	185.64	84.40	8.4	13.0
741.0	19.3	34.9	150	8.9	1.49	9.24	83136	189.70	84.59	8.4	13.0
742.0	21.6	34.9	150	8.9	1.46	9.28	83553	169.41	84.74	8.4	13.0
743.0	25.2	35.3	150	8.9	1.42	9.32	83911	145.07	84.86	8.4	13.0
744.0	13.7	35.4	150	8.9	1.60	9.40	84568	266.80	85.19	8.4	13.0
745.0	18.1	34.9	150	8.9	1.51	9.45	85066	201.87	85.40	8.4	13.0
746.0	20.3	31.8	150	8.9	1.44	9.50	85508	179.56	85.57	8.4	13.0
747.0	20.5	33.0	150	8.9	1.45	9.55	85948	178.54	85.74	8.4	13.0
748.0	22.1	33.9	150	8.9	1.44	9.60	86356	165.35	85.89	8.4	13.0
749.0	17.2	32.9	150	8.9	1.50	9.65	86878	212.02	86.11	8.4	13.0
750.0	20.2	34.1	150	8.9	1.47	9.70	87323	180.57	86.29	8.4	13.0
751.0	24.8	34.6	150	8.9	1.41	9.74	87686	147.09	86.40	8.4	13.0
752.0	37.9	33.8	150	8.9	1.28	9.77	87923	96.37	86.41	8.4	13.0
753.0	18.7	35.0	150	8.9	1.50	9.82	88406	195.79	86.61	8.4	13.0
754.0	16.1	34.8	150	8.9	1.54	9.88	88963	226.22	86.86	8.4	13.0
755.0	20.9	34.3	150	8.9	1.46	9.93	89393	174.48	87.02	8.4	13.0
756.0	19.5	33.6	150	8.9	1.47	9.98	89856	187.67	87.20	8.4	13.0
757.0	27.5	33.3	150	8.9	1.37	10.02	90183	132.89	87.28	8.4	13.0
758.0	23.4	33.1	150	8.9	1.41	10.06	90568	156.22	87.40	8.4	13.0
759.0	18.2	32.2	150	8.9	1.48	10.12	91063	200.86	87.60	8.4	13.0
760.0	20.3	32.0	150	8.9	1.44	10.17	91506	179.56	87.77	8.4	13.0
761.0	23.5	34.3	150	8.9	1.43	10.21	91888	155.21	87.89	8.4	13.0
762.0	28.8	35.0	150	8.9	1.37	10.24	92201	126.81	87.96	8.4	13.0
763.0	43.4	34.6	150	8.9	1.25	10.27	92408	84.20	87.95	8.4	13.0
764.0	21.7	36.1	150	8.9	1.47	10.31	92823	168.40	88.09	8.4	13.0
765.0	7.9	36.6	150	8.9	1.78	10.44	93958	460.56	88.75	8.4	13.0
766.0	17.9	36.4	150	8.9	1.53	10.50	94461	203.90	88.95	8.4	13.0
767.0	9.3	37.1	150	8.9	1.74	10.60	95431	393.60	89.48	8.4	13.0
768.0	9.6	37.1	150	8.9	1.73	10.71	96368	380.42	89.99	8.4	13.0
769.0	15.2	36.0	150	8.9	1.58	10.77	96960	240.26	90.26	8.4	13.0
770.0	14.5	37.2	150	8.9	1.61	10.84	97581	251.86	90.54	8.4	13.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
771.0	13.2	37.1	150	8.9	1.63	10.92	98263	276.67	90.86	8.4	13.1
772.0	15.6	37.5	150	8.9	1.59	10.98	98840	234.10	91.11	8.4	13.1
773.0	12.3	37.4	150	8.9	1.66	11.06	99571	296.91	91.47	8.4	13.1
774.0	12.8	37.5	150	8.9	1.65	11.14	100274	285.31	91.80	8.4	13.1
775.0	16.8	37.5	150	8.9	1.56	11.20	100810	217.38	92.02	8.4	13.1
776.0	15.2	37.5	150	8.9	1.59	11.27	101402	240.26	92.28	8.4	13.1
777.0	14.2	37.4	150	8.9	1.61	11.34	102036	257.18	92.56	8.4	13.1
778.0	15.4	37.2	150	8.9	1.59	11.40	102620	237.14	92.81	8.4	13.1
779.0	16.5	37.1	150	8.9	1.56	11.46	103166	221.33	93.03	8.4	13.1
780.0	14.5	37.4	150	8.9	1.61	11.53	103787	251.86	93.30	8.4	13.1
781.0	18.4	37.6	150	8.9	1.54	11.59	104276	198.48	93.48	8.4	13.1
782.0	13.2	37.1	150	8.9	1.63	11.66	104958	276.67	93.80	8.4	13.1
783.0	13.2	37.2	150	8.9	1.63	11.74	105639	276.67	94.11	8.4	13.1
784.0	16.2	37.5	150	8.9	1.58	11.80	106195	225.43	94.33	8.4	13.1
785.0	12.2	37.2	150	8.9	1.66	11.88	106933	299.34	94.68	8.4	13.1
786.0	15.2	37.4	150	8.9	1.59	11.95	107525	240.26	94.93	8.4	13.1
787.0	12.0	37.5	150	8.9	1.67	12.03	108275	304.33	95.28	8.4	13.1
788.0	14.2	37.0	150	8.9	1.61	12.10	108907	256.65	95.56	8.4	13.1
789.0	16.4	35.7	150	8.9	1.55	12.16	109455	222.16	95.77	8.4	13.1
790.0	12.5	33.7	150	8.9	1.61	12.24	110177	293.17	96.10	8.4	13.1
791.0	19.5	33.9	150	8.9	1.48	12.29	110640	187.67	96.26	8.4	13.1
792.0	12.8	33.4	150	8.9	1.60	12.37	111345	286.07	96.58	8.4	13.1
793.0	13.0	33.5	150	8.9	1.59	12.45	112037	280.92	96.89	8.4	13.1
794.0	18.4	33.8	150	8.9	1.49	12.50	112526	198.48	97.06	8.4	13.1
795.0	12.5	33.8	150	8.9	1.61	12.58	113246	292.16	97.38	8.4	13.1
796.0	14.8	32.9	150	8.9	1.55	12.65	113854	246.76	97.63	8.4	13.1
797.0	18.4	33.8	150	8.9	1.49	12.70	114343	198.48	97.80	8.4	13.1

BIT NUMBER	3	IADC CODE	114	INTERVAL	797.0- 1165.4
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2445.00	TRIP TIME	3.0	BIT RUN	368.4
TOTAL HOURS	10.54	TOTAL TURNS	72677	CONDITION	T3 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
798.0	85.7	12.2	68	8.9	0.68	0.01	48	43	13444	8.4	13.1
799.0	26.3	14.5	91	8.9	1.09	0.05	255	139	6791	8.4	13.1
800.0	29.8	17.9	92	8.9	1.12	0.08	441	123	4568	8.4	13.1
801.0	35.0	19.0	81	8.9	1.06	0.11	581	104	3452	8.4	13.1
802.0	58.1	17.2	118	8.9	0.99	0.13	703	63	2774	8.4	13.1
803.0	55.4	17.8	125	8.9	1.03	0.15	838	66	2323	8.4	13.1
804.0	51.4	13.0	90	8.9	0.89	0.17	943	71	2001	8.4	13.1
805.0	70.6	19.6	122	8.9	0.98	0.18	1047	52	1758	8.4	13.1
806.0	50.7	18.5	120	8.9	1.06	0.20	1189	72	1570	8.4	13.1
807.0	67.9	19.4	117	8.9	0.98	0.22	1292	54	1419	8.4	13.1
808.0	72.0	21.2	113	8.9	0.97	0.23	1386	51	1294	8.4	13.1
809.0	70.6	23.3	109	8.9	0.99	0.24	1479	52	1191	8.4	13.2
810.0	66.7	25.8	107	8.9	1.03	0.26	1576	55	1103	8.4	13.2



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
811.0	55.4	25.6	83	8.9	1.01	0.28	1665	66	1029	8.4	13.2
812.0	72.0	26.6	132	8.9	1.08	0.29	1775	50.72	964.05	8.4	13.2
813.0	72.0	26.6	137	8.9	1.09	0.30	1889	50.72	906.97	8.4	13.2
814.0	64.3	26.3	138	8.9	1.13	0.32	2018	56.81	856.96	8.4	13.2
815.0	58.1	27.5	143	8.9	1.18	0.34	2166	62.90	812.84	8.4	13.2
816.0	45.0	27.2	140	8.9	1.25	0.36	2353	81.16	774.33	8.4	13.2
817.0	50.0	26.6	139	8.9	1.21	0.38	2520	73.04	739.27	8.4	13.2
818.0	49.3	26.9	137	8.9	1.21	0.40	2687	74.05	707.59	8.4	13.2
819.0	67.9	26.6	134	8.9	1.10	0.41	2805	53.77	677.87	8.4	13.2
820.0	20.1	18.2	68	8.9	1.15	0.46	3007	181.59	656.29	8.4	13.2
821.0	47.4	28.7	157	8.9	1.29	0.48	3206	77.10	632.16	8.4	13.2
822.0	45.0	28.4	160	8.9	1.31	0.51	3419	81.16	610.12	8.4	13.2
823.0	40.4	27.1	156	8.9	1.32	0.53	3651	90.29	590.13	8.4	13.2
824.0	24.3	27.9	146	8.9	1.47	0.57	4012	150.14	573.83	8.4	13.2
825.0	55.4	28.5	140	8.9	1.20	0.59	4163	65.94	555.69	8.4	13.2
826.0	63.2	28.2	144	8.9	1.17	0.61	4300	57.82	538.52	8.4	13.2
827.0	66.7	28.0	144	8.9	1.15	0.62	4430	54.78	522.40	8.4	13.2
828.0	66.7	27.7	143	8.9	1.14	0.64	4558	54.78	507.32	8.4	13.2
829.0	18.8	27.6	52	8.9	1.22	0.69	4723	193.76	497.52	8.4	13.2
830.0	51.4	27.8	121	8.9	1.17	0.71	4864	71.01	484.59	8.4	13.2
831.0	55.4	26.9	128	8.9	1.16	0.73	5003	65.94	472.28	8.4	13.2
832.0	69.2	26.6	136	8.9	1.10	0.74	5121	52.75	460.29	8.4	13.2
833.0	63.2	26.5	138	8.9	1.13	0.76	5252	57.82	449.11	8.4	13.2
834.0	55.4	27.8	137	8.9	1.19	0.78	5401	65.94	438.76	8.4	13.2
835.0	67.9	27.5	137	8.9	1.12	0.79	5522	53.77	428.63	8.4	13.2
836.0	29.8	27.9	135	8.9	1.38	0.82	5794	122.75	420.78	8.4	13.2
837.0	52.9	28.4	135	8.9	1.21	0.84	5947	68.98	411.99	8.4	13.2
838.0	50.7	28.4	133	8.9	1.21	0.86	6104	72.03	403.70	8.4	13.2
839.0	52.9	26.5	132	8.9	1.18	0.88	6254	68.98	395.73	8.4	13.2
840.0	53.3	26.5	112	8.9	1.12	0.90	6380	68.48	388.12	8.4	13.2
841.0	75.0	29.4	136	8.9	1.11	0.91	6489	48.69	380.40	8.4	13.2
842.0	73.5	27.5	139	8.9	1.10	0.93	6603	49.71	373.05	8.4	13.2
843.0	72.0	27.8	141	8.9	1.12	0.94	6720	50.72	366.05	8.4	13.2
844.0	56.2	28.0	141	8.9	1.28	0.96	6871	64.92	359.64	8.4	13.2
845.0	76.6	27.9	142	8.9	1.10	0.97	6982	47.68	353.14	8.4	13.2
846.0	70.6	27.7	143	8.9	1.12	0.99	7103	51.74	346.99	8.4	13.2
847.0	64.3	28.1	143	8.9	1.16	1.00	7237	56.81	341.19	8.4	13.2
848.0	64.3	26.7	144	8.9	1.15	1.02	7372	56.81	335.61	8.4	13.2
849.0	47.4	28.3	145	8.9	1.26	1.04	7556	77.10	330.64	8.4	13.3
850.0	30.0	25.8	129	8.9	1.33	1.07	7814	121.73	326.70	8.4	13.3
851.0	63.2	26.9	133	8.9	1.13	1.09	7940	57.82	321.72	8.4	13.3
852.0	64.3	26.9	135	8.9	1.13	1.10	8066	56.81	316.90	8.4	13.3
853.0	64.3	26.0	143	8.9	1.13	1.12	8200	56.81	312.26	8.4	13.3
854.0	76.6	27.0	152	8.9	1.11	1.13	8319	47.68	307.61	8.4	13.3
855.0	75.0	28.5	156	8.9	1.14	1.15	8444	48.69	303.15	8.4	13.3
856.0	73.5	28.3	162	8.9	1.16	1.16	8576	49.71	298.85	8.4	13.3
857.0	59.0	25.8	166	8.9	1.20	1.18	8745	61.88	294.90	8.4	13.3
858.0	78.3	26.6	177	8.9	1.15	1.19	8881	46.66	290.84	8.4	13.3
859.0	72.0	27.4	191	8.9	1.21	1.20	9040	50.72	286.96	8.4	13.3
860.0	45.6	26.2	150	8.9	1.26	1.22	9237	80.14	283.68	8.4	13.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
861.0	67.9	26.8	182	8.9	1.20	1.24	9397	53.77	280.09	8.4	13.3
862.0	63.2	27.1	184	8.9	1.23	1.25	9572	57.82	276.67	8.4	13.3
863.0	64.3	28.3	170	8.9	1.22	1.27	9730	56.81	273.34	8.4	13.3
864.0	65.5	28.1	136	8.9	1.14	1.29	9855	55.79	270.09	8.4	13.3
865.0	59.0	28.4	136	8.9	1.17	1.30	9993	61.88	267.03	8.4	13.3
866.0	59.0	27.4	136	8.9	1.16	1.32	10131	61.88	264.05	8.4	13.3
867.0	43.4	29.4	136	8.9	1.28	1.34	10319	84.20	261.49	8.4	13.3
868.0	42.9	29.3	136	8.9	1.29	1.37	10509	85.21	259.00	8.4	13.3
869.0	49.7	30.0	56	8.9	0.96	1.39	10577	73.55	256.43	8.4	13.3
870.0	40.0	29.7	44	8.9	0.96	1.41	10644	91.30	254.16	8.4	13.3
871.0	30.3	29.6	49	8.9	1.07	1.44	10740	120.72	252.36	8.4	13.3
872.0	33.3	30.4	54	8.9	1.08	1.47	10838	109.56	250.46	8.4	13.3
873.0	55.4	28.5	99	8.9	1.09	1.49	10945	65.94	248.03	8.4	13.3
874.0	67.9	30.5	100	8.9	1.05	1.51	11033	53.77	245.51	8.4	13.3
875.0	50.7	30.2	103	8.9	1.15	1.53	11154	72.03	243.28	8.4	13.3
876.0	37.5	30.7	103	8.9	1.26	1.55	11320	97.39	241.44	8.4	13.3
877.0	39.1	30.7	104	8.9	1.25	1.58	11480	93.33	239.58	8.4	13.3
878.0	70.6	28.7	105	8.9	1.04	1.59	11569	51.74	237.27	8.4	13.3
879.0	40.9	29.0	90	8.9	1.17	1.62	11701	89.27	235.46	8.4	13.3
880.0	48.0	27.8	92	8.9	1.11	1.64	11816	76.08	233.54	8.4	13.3
881.0	53.7	27.9	96	8.9	1.09	1.66	11923	67.97	231.57	8.4	13.3
882.0	40.9	28.4	98	8.9	1.18	1.68	12067	89.27	229.90	8.4	13.3
883.0	67.9	28.9	100	8.9	1.04	1.70	12155	53.77	227.85	8.4	13.3
884.0	57.1	28.3	102	8.9	1.09	1.71	12262	63.91	225.96	8.4	13.3
885.0	61.0	26.9	103	8.9	1.06	1.73	12364	59.85	224.08	8.4	13.3
886.0	58.1	27.3	104	8.9	1.08	1.75	12472	62.90	222.26	8.4	13.3
887.0	85.7	27.9	105	8.9	0.97	1.76	12545	42.61	220.27	8.4	13.3
888.0	43.4	27.8	60	8.9	1.01	1.78	12628	84.20	218.77	8.4	13.3
889.0	73.5	25.0	74	8.9	0.88	1.80	12688	49.71	216.94	8.4	13.4
890.0	67.9	27.0	78	8.9	0.94	1.81	12757	53.77	215.18	8.4	13.4
891.0	69.2	28.1	87	8.9	0.98	1.82	12833	52.75	213.45	8.4	13.4
892.0	64.3	28.9	124	8.9	1.12	1.84	12948	56.81	211.80	8.4	13.4
893.0	67.9	31.2	124	8.9	1.13	1.85	13058	53.77	210.16	8.4	13.4
894.0	72.0	29.8	123	8.9	1.09	1.87	13161	50.72	208.51	8.4	13.4
895.0	60.0	29.0	123	8.9	1.14	1.89	13283	60.87	207.01	8.4	13.4
896.0	53.7	26.5	118	8.9	1.14	1.90	13416	67.97	205.60	8.4	13.4
897.0	70.6	29.6	111	8.9	1.07	1.92	13510	51.74	204.06	8.4	13.4
898.0	60.0	29.6	77	8.9	1.00	1.93	13587	60.87	202.65	8.4	13.4
899.0	70.6	28.2	74	8.9	0.92	1.95	13650	51.74	201.17	8.4	13.4
900.0	70.6	27.9	66	8.9	0.89	1.96	13707	51.74	199.72	8.4	13.4
901.0	70.6	26.5	67	8.9	0.88	1.98	13764	51.74	198.29	8.4	13.4
902.0	52.9	28.2	89	8.9	1.07	2.00	13865	68.98	197.06	8.4	13.4
903.0	67.9	26.3	100	8.9	1.01	2.01	13953	53.77	195.71	8.4	13.4
904.0	46.8	29.0	120	8.9	1.21	2.03	14107	78.11	194.61	8.4	13.4
905.0	72.0	28.4	122	8.9	1.08	2.05	14209	50.72	193.28	8.4	13.4
906.0	50.7	28.0	120	8.9	1.18	2.07	14352	72.03	192.17	8.4	13.4
907.0	76.6	28.3	122	8.9	1.06	2.08	14447	47.68	190.85	8.4	13.4
908.0	68.6	29.6	88	8.9	1.00	2.09	14524	53.26	189.61	8.4	13.4
909.0	58.1	29.6	91	8.9	1.06	2.11	14618	62.90	188.48	8.4	13.4
910.0	76.6	29.0	95	8.9	0.99	2.12	14692	47.68	187.24	8.4	13.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
911.0	66.7	29.0	99	8.9	1.04	2.14	14781	54.78	186.07	8.4	13.4
912.0	72.0	28.8	100	8.9	1.02	2.15	14864	50.72	184.90	8.4	13.4
913.0	76.6	29.4	101	8.9	1.01	2.17	14943	47.68	183.71	8.4	13.4
914.0	73.5	30.1	102	8.9	1.03	2.18	15027	49.71	182.57	8.4	13.4
915.0	46.2	28.5	103	8.9	1.17	2.20	15161	79.13	181.69	8.4	13.4
916.0	72.0	30.2	102	8.9	1.04	2.22	15245	50.72	180.59	8.4	13.4
917.0	68.0	30.2	98	8.9	1.04	2.23	15332	53.71	179.53	8.4	13.4
918.0	67.9	28.0	95	8.9	1.01	2.24	15416	53.77	178.49	8.4	13.4
919.0	55.4	27.5	95	8.9	1.07	2.26	15519	65.94	177.57	8.4	13.4
920.0	58.1	26.6	97	8.9	1.05	2.28	15619	62.90	176.64	8.4	13.4
921.0	57.1	27.4	99	8.9	1.07	2.30	15723	63.91	175.73	8.4	13.4
922.0	52.9	26.5	100	8.9	1.09	2.32	15836	68.98	174.88	8.4	13.4
923.0	50.0	26.9	103	8.9	1.12	2.34	15959	73.04	174.07	8.4	13.4
924.0	65.5	26.8	105	8.9	1.04	2.35	16056	55.79	173.14	8.4	13.4
925.0	62.1	26.9	106	8.9	1.06	2.37	16158	58.84	172.24	8.4	13.4
926.0	65.5	27.3	106	8.9	1.05	2.38	16255	55.79	171.34	8.4	13.4
927.0	90.0	24.1	84	8.9	0.85	2.39	16311	40.58	170.34	8.4	13.4
928.0	64.3	24.1	91	8.9	0.98	2.41	16396	56.81	169.47	8.4	13.4
929.0	67.9	24.6	103	8.9	1.00	2.42	16487	53.77	168.59	8.4	13.4
930.0	64.3	24.7	115	8.9	1.05	2.44	16595	56.81	167.75	8.4	13.4
931.0	57.1	22.9	125	8.9	1.09	2.46	16727	63.91	166.98	8.4	13.4
932.0	63.2	23.9	127	8.9	1.08	2.47	16848	57.82	166.17	8.4	13.5
933.0	55.4	24.0	128	8.9	1.12	2.49	16987	65.94	165.43	8.4	13.5
934.0	52.9	22.5	127	8.9	1.11	2.51	17131	68.98	164.73	8.4	13.5
935.0	48.6	22.3	126	8.9	1.13	2.53	17287	75.07	164.08	8.4	13.5
936.0	53.7	24.2	125	8.9	1.13	2.55	17426	67.97	163.39	8.4	13.5
937.0	25.7	19.6	122	8.9	1.27	2.59	17710	142.02	163.23	8.4	13.5
938.0	52.9	21.8	118	8.9	1.08	2.61	17844	68.98	162.57	8.4	13.5
939.0	54.5	20.5	117	8.9	1.05	2.63	17972	66.95	161.89	8.4	13.5
940.0	48.0	19.7	114	8.9	1.07	2.65	18115	76.08	161.29	8.4	13.5
941.0	41.9	20.4	112	8.9	1.12	2.67	18275	87.24	160.78	8.4	13.5
942.0	36.0	19.0	120	8.9	1.16	2.70	18475	101.44	160.37	8.4	13.5
943.0	32.1	20.4	120	8.9	1.21	2.73	18699	113.77	160.05	8.4	13.5
944.0	34.2	20.3	120	8.9	1.19	2.76	18910	106.78	159.69	8.4	13.5
945.0	54.2	21.1	120	8.9	1.07	2.78	19043	67.38	159.06	8.4	13.5
946.0	36.5	20.8	120	8.9	1.18	2.80	19240	100.05	158.67	8.4	13.5
947.0	42.1	20.5	120	8.9	1.14	2.83	19411	86.75	158.19	8.4	13.5
948.0	41.1	21.1	120	8.9	1.15	2.85	19586	88.86	157.73	8.4	13.5
949.0	26.9	22.1	120	8.9	1.29	2.89	19854	135.76	157.58	8.4	13.5
950.0	25.5	20.4	120	8.9	1.28	2.93	20136	143.22	157.49	8.4	13.5
951.0	45.5	21.1	120	8.9	1.12	2.95	20295	80.26	156.99	8.4	13.5
952.0	36.2	20.1	120	8.9	1.17	2.98	20493	100.88	156.63	8.4	13.5
953.0	52.2	21.2	120	8.9	1.08	3.00	20631	69.96	156.07	8.4	13.5
954.0	32.6	20.1	120	8.9	1.20	3.03	20852	112.02	155.79	8.4	13.5
955.0	42.2	21.8	120	8.9	1.15	3.05	21023	86.54	155.35	8.4	13.5
956.0	47.7	20.5	120	8.9	1.10	3.07	21174	76.56	154.86	8.4	13.5
957.0	46.2	20.4	120	8.9	1.11	3.09	21330	79.05	154.38	8.4	13.5
958.0	49.5	21.4	120	8.9	1.10	3.11	21475	73.78	153.88	8.4	13.5
959.0	36.5	20.4	120	8.9	1.18	3.14	21672	100.05	153.55	8.4	13.5
960.0	39.5	20.9	120	8.9	1.16	3.17	21855	92.46	153.18	8.4	13.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
961.0	36.6	21.0	120	8.9	1.18	3.19	22051	99.78	152.85	8.4	13.5
962.0	45.5	21.1	120	8.9	1.12	3.22	22210	80.26	152.41	8.4	13.5
963.0	50.0	20.0	120	8.9	1.08	3.24	22354	73.04	151.93	8.4	13.5
964.0	49.1	21.0	127	8.9	1.11	3.26	22508	74.39	151.47	8.4	13.5
965.0	39.1	20.1	123	8.9	1.16	3.28	22697	93.33	151.12	8.4	13.5
966.0	34.0	19.7	98	8.9	1.13	3.31	22870	107.53	150.86	8.4	13.5
967.0	83.7	25.3	72	8.9	0.84	3.32	22922	43.62	150.23	8.4	13.5
968.0	76.6	24.4	85	8.9	0.91	3.34	22989	47.68	149.63	8.4	13.5
969.0	64.3	23.8	90	8.9	0.97	3.35	23073	56.81	149.09	8.4	13.5
970.0	39.1	20.4	93	8.9	1.08	3.38	23216	93.33	148.77	8.4	13.5
971.0	69.2	26.3	103	8.9	1.01	3.39	23305	52.75	148.22	8.4	13.5
972.0	70.6	26.4	105	8.9	1.01	3.41	23394	51.74	147.67	8.4	13.5
973.0	63.2	25.7	101	8.9	1.03	3.42	23490	57.82	147.16	8.4	13.5
974.0	48.6	22.4	100	8.9	1.07	3.44	23614	75.07	146.75	8.4	13.5
975.0	62.1	25.0	103	8.9	1.03	3.46	23714	58.84	146.26	8.4	13.6
976.0	54.5	23.8	62	8.9	0.90	3.48	23781	66.95	145.81	8.4	13.6
977.0	69.2	26.6	86	8.9	0.96	3.49	23856	52.75	145.30	8.4	13.6
978.0	78.3	25.9	99	8.9	0.96	3.50	23931	46.66	144.75	8.4	13.6
979.0	66.7	24.6	104	8.9	1.01	3.52	24024	54.78	144.26	8.4	13.6
980.0	63.2	23.6	117	8.9	1.05	3.54	24135	57.82	143.78	8.4	13.6
981.0	63.2	25.2	129	8.9	1.10	3.55	24258	57.82	143.32	8.4	13.6
982.0	54.5	22.5	126	8.9	1.10	3.57	24397	66.95	142.90	8.4	13.6
983.0	51.4	24.2	122	8.9	1.13	3.59	24539	71.01	142.52	8.4	13.6
984.0	53.7	23.7	120	8.9	1.11	3.61	24674	67.97	142.12	8.4	13.6
985.0	45.0	22.8	121	8.9	1.15	3.63	24835	81.16	141.79	8.4	13.6
986.0	49.3	26.7	124	8.9	1.18	3.65	24985	74.05	141.44	8.4	13.6
987.0	33.0	26.2	129	8.9	1.31	3.68	25220	110.57	141.27	8.4	13.6
988.0	39.6	26.3	124	8.9	1.24	3.71	25408	92.31	141.02	8.4	13.6
989.0	39.6	25.2	121	8.9	1.22	3.73	25591	92.31	140.76	8.4	13.6
990.0	52.2	25.2	115	8.9	1.12	3.75	25724	70.00	140.40	8.4	13.6
991.0	51.4	24.4	112	8.9	1.11	3.77	25854	71.01	140.04	8.4	13.6
992.0	41.4	26.2	112	8.9	1.20	3.79	26016	88.26	139.77	8.4	13.6
993.0	43.9	25.3	113	8.9	1.17	3.82	26170	83.18	139.49	8.4	13.6
994.0	40.0	26.4	116	8.9	1.22	3.84	26343	91.30	139.24	8.4	13.6
995.0	50.7	23.7	78	8.9	1.00	3.86	26435	72.03	138.90	8.4	13.6
996.0	56.2	23.1	89	8.9	1.00	3.88	26530	64.92	138.53	8.4	13.6
997.0	52.2	21.2	93	8.9	1.01	3.90	26638	70.00	138.19	8.4	13.6
998.0	59.0	24.3	93	8.9	1.01	3.92	26732	61.88	137.81	8.4	13.6
999.0	57.1	22.4	93	8.9	1.00	3.93	26830	63.91	137.44	8.4	13.6
1000.0	47.4	21.8	96	9.0	1.05	3.95	26952	77.10	137.14	8.4	13.6
1001.0	50.0	22.8	100	9.0	1.05	3.97	27072	73.04	136.83	8.4	13.6
1002.0	41.4	22.2	104	9.0	1.11	4.00	27222	88.26	136.59	8.4	13.6
1003.0	50.7	23.8	105	9.0	1.07	4.02	27347	72.03	136.28	8.4	13.6
1004.0	47.4	22.2	103	9.0	1.07	4.04	27478	77.10	135.99	8.4	13.6
1005.0	41.9	22.3	85	9.0	1.05	4.06	27600	87.24	135.76	8.4	13.6
1006.0	47.4	23.4	95	9.0	1.06	4.08	27721	77.10	135.48	8.4	13.6
1007.0	40.9	24.7	106	9.0	1.15	4.11	27876	89.27	135.26	8.4	13.6
1008.0	38.7	21.1	111	9.0	1.13	4.13	28048	94.34	135.06	8.4	13.6
1009.0	20.6	15.7	113	9.0	1.23	4.18	28376	177.53	135.26	8.4	13.6
1010.0	47.4	24.0	112	9.0	1.12	4.20	28518	77.10	134.99	8.4	13.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1011.0	48.6	24.7	114	9.0	1.12	4.22	28658	75.07	134.71	8.4	13.6
1012.0	38.7	22.6	115	9.0	1.16	4.25	28836	94.34	134.52	8.4	13.6
1013.0	37.5	22.8	117	9.1	1.17	4.28	29023	97.39	134.35	8.4	13.6
1014.0	32.7	25.5	74	9.1	1.11	4.31	29159	111.59	134.25	8.4	13.6
1015.0	48.6	25.4	82	9.1	1.02	4.33	29260	75.07	133.98	8.4	13.6
1016.0	38.3	24.2	95	9.1	1.12	4.35	29408	95.36	133.80	8.4	13.6
1017.0	22.8	22.1	112	9.1	1.29	4.40	29702	160.28	133.92	8.4	13.6
1018.0	25.4	20.4	110	9.1	1.23	4.44	29963	144.05	133.97	8.4	13.6
1019.0	29.5	21.3	108	9.1	1.20	4.47	30184	123.76	133.92	8.4	13.7
1020.0	46.8	23.4	119	9.1	1.12	4.49	30336	78.11	133.67	8.4	13.7
1021.0	50.7	24.9	125	9.1	1.13	4.51	30483	72.03	133.39	8.4	13.7
1022.0	41.9	22.3	124	9.1	1.15	4.54	30662	87.24	133.19	8.4	13.7
1023.0	41.9	24.3	125	9.1	1.18	4.56	30841	87.24	132.99	8.4	13.7
1024.0	45.0	23.1	86	9.1	1.03	4.58	30955	81.16	132.76	8.4	13.7
1025.0	39.1	21.2	87	9.1	1.05	4.61	31088	93.33	132.58	8.4	13.7
1026.0	32.1	17.9	89	9.1	1.06	4.64	31253	113.62	132.50	8.4	13.7
1027.0	49.7	26.5	95	9.1	1.07	4.66	31368	73.55	132.25	8.4	13.7
1028.0	36.0	23.8	95	9.1	1.13	4.69	31526	101.44	132.11	8.4	13.7
1029.0	14.8	17.8	97	9.1	1.30	4.75	31918	246.51	132.61	8.4	13.7
1030.0	44.4	20.5	99	9.1	1.04	4.78	32051	82.17	132.39	8.4	13.7
1031.0	39.1	18.4	100	9.1	1.05	4.80	32204	93.33	132.22	8.4	13.7
1032.0	35.0	20.0	100	9.1	1.11	4.83	32375	104.34	132.10	8.4	13.7
1033.0	33.0	18.1	101	9.1	1.10	4.86	32559	110.57	132.01	8.4	13.7
1034.0	48.6	21.2	95	9.1	1.01	4.88	32676	75.07	131.77	8.4	13.7
1035.0	33.3	21.7	102	9.1	1.15	4.91	32860	109.56	131.68	8.4	13.7
1036.0	28.8	19.3	101	9.1	1.15	4.95	33071	126.81	131.66	8.4	13.7
1037.0	34.3	19.3	106	9.1	1.12	4.98	33257	106.52	131.55	8.4	13.7
1038.0	28.8	17.9	124	9.1	1.19	5.01	33514	126.81	131.53	8.4	13.7
1039.0	35.3	19.0	125	9.1	1.15	5.04	33727	103.47	131.42	8.4	13.7
1040.0	33.3	18.8	123	9.1	1.16	5.07	33948	109.56	131.33	8.4	13.7
1041.0	26.7	18.2	122	9.1	1.21	5.11	34223	136.95	131.35	8.4	13.7
1042.0	27.3	19.0	118	9.1	1.21	5.14	34481	133.91	131.36	8.4	13.7
1043.0	37.9	19.5	112	9.1	1.11	5.17	34658	96.37	131.22	8.4	13.7
1044.0	24.2	20.1	89	9.1	1.18	5.21	34878	151.15	131.30	8.4	13.7
1045.0	34.3	20.1	95	9.1	1.10	5.24	35044	106.52	131.20	8.4	13.7
1046.0	41.5	25.3	114	9.2	1.15	5.26	35209	87.92	131.03	8.4	13.7
1047.0	32.0	20.0	110	9.4	1.12	5.30	35415	114.13	130.96	8.4	13.7
1048.0	32.0	21.0	115	9.4	1.15	5.33	35631	114.13	130.89	8.4	13.7
1049.0	33.0	22.0	115	9.6	1.13	5.36	35840	110.67	130.81	8.4	13.7
1050.0	31.3	20.3	123	9.7	1.12	5.39	36076	116.66	130.75	8.4	13.7
1051.0	31.6	20.7	118	9.7	1.12	5.42	36301	115.65	130.70	8.4	13.7
1052.0	5.5	15.0	122	9.9	1.44	5.60	37647	669.53	132.81	8.4	13.7
1053.0	24.3	15.1	98	9.9	1.03	5.64	37889	150.14	132.88	8.4	13.7
1054.0	8.6	12.8	119	9.9	1.28	5.76	38717	425.05	134.01	8.4	13.7
1055.0	24.8	16.9	122	9.9	1.11	5.80	39013	147.09	134.06	8.4	13.7
1056.0	6.6	14.0	113	10.0	1.35	5.95	40038	551.86	135.68	8.4	13.7
1057.0	14.0	14.5	106	10.0	1.16	6.02	40492	261.22	136.16	8.4	13.7
1058.0	7.1	12.6	100	10.0	1.26	6.16	41336	512.29	137.60	8.4	13.7
1059.0	6.3	12.5	126	10.0	1.34	6.32	42544	584.32	139.31	8.4	13.7
1060.0	7.1	13.9	118	10.0	1.33	6.47	43545	517.37	140.74	8.4	13.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1061.0	9.7	14.6	119	10.0	1.28	6.57	44280	375.34	141.63	8.4	13.7
1062.0	10.0	13.0	119	10.0	1.23	6.67	44994	365.20	142.48	8.4	13.7
1063.0	45.6	27.3	108	10.2	1.02	6.69	45136	80.03	142.24	8.4	13.7
1064.0	37.1	25.3	114	10.2	1.07	6.72	45322	98.40	142.08	8.4	13.7
1065.0	46.2	27.5	115	10.2	1.04	6.74	45471	79.13	141.84	8.4	13.8
1066.0	42.4	27.0	115	10.2	1.05	6.76	45634	86.23	141.64	8.4	13.8
1067.0	47.4	27.6	117	10.2	1.03	6.78	45782	77.10	141.40	8.4	13.8
1068.0	35.0	26.0	117	10.2	1.10	6.81	45982	104.49	141.26	8.4	13.8
1069.0	37.5	24.8	116	10.2	1.06	6.84	46167	97.39	141.10	8.4	13.8
1070.0	38.7	25.9	115	10.2	1.06	6.87	46345	94.34	140.93	8.4	13.8
1071.0	40.4	24.4	114	10.2	1.04	6.89	46514	90.29	140.74	8.4	13.8
1072.0	27.9	22.1	102	10.2	1.07	6.93	46732	130.86	140.71	8.4	13.8
1073.0	46.2	27.8	90	10.2	0.97	6.95	46850	79.13	140.48	8.4	13.8
1074.0	40.4	25.8	99	10.2	1.01	6.97	46997	90.29	140.30	8.4	13.8
1075.0	42.9	25.5	121	10.2	1.05	7.00	47166	85.21	140.10	8.4	13.8
1076.0	32.1	23.1	129	10.2	1.11	7.03	47407	113.62	140.01	8.4	13.8
1077.0	53.7	29.4	130	10.2	1.05	7.05	47552	67.97	139.75	8.4	13.8
1078.0	46.8	27.0	126	10.2	1.05	7.07	47714	78.11	139.53	8.4	13.8
1079.0	47.4	26.5	124	10.2	1.04	7.09	47871	77.10	139.31	8.4	13.8
1080.0	46.8	27.1	119	10.2	1.04	7.11	48024	78.11	139.09	8.4	13.8
1081.0	35.0	26.0	112	10.2	1.09	7.14	48216	104.34	138.97	8.4	13.8
1082.0	32.7	26.6	60	10.2	0.94	7.17	48326	111.59	138.88	8.4	13.8
1083.0	47.4	24.3	96	10.2	0.95	7.19	48448	77.10	138.66	8.4	13.8
1084.0	46.8	22.9	115	10.2	0.98	7.21	48596	78.11	138.45	8.4	13.8
1085.0	47.4	24.4	135	10.2	1.04	7.23	48767	77.10	138.24	8.4	13.8
1086.0	48.6	24.1	130	10.2	1.02	7.25	48927	75.07	138.02	8.4	13.8
1087.0	28.6	21.0	125	10.2	1.11	7.29	49189	127.82	137.98	8.4	13.8
1088.0	34.0	19.9	121	10.2	1.04	7.32	49404	107.53	137.88	8.4	13.8
1089.0	50.7	24.0	115	10.2	0.97	7.34	49540	72.03	137.65	8.4	13.8
1090.0	51.4	30.8	118	10.2	1.05	7.36	49678	71.01	137.43	8.4	13.8
1091.0	34.3	27.9	123	10.2	1.14	7.39	49893	106.52	137.32	8.4	13.8
1092.0	37.1	23.7	61	10.2	0.89	7.41	49991	98.40	137.19	8.4	13.8
1093.0	48.6	25.8	105	10.2	0.98	7.43	50121	75.07	136.98	8.4	13.8
1094.0	40.4	25.2	125	10.2	1.07	7.46	50307	90.29	136.82	8.4	13.8
1095.0	36.4	25.0	143	10.2	1.13	7.49	50542	100.43	136.70	8.4	13.8
1096.0	51.4	27.4	134	10.2	1.05	7.50	50699	71.01	136.48	8.4	13.8
1097.0	46.8	28.1	131	10.2	1.07	7.53	50866	78.11	136.28	8.4	13.8
1098.0	45.6	26.6	131	10.2	1.06	7.55	51039	80.14	136.10	8.4	13.8
1099.0	44.4	27.2	128	10.2	1.07	7.57	51211	82.17	135.92	8.4	13.8
1100.0	47.4	27.2	127	10.2	1.05	7.59	51372	77.10	135.73	8.4	13.8
1101.0	31.6	23.7	117	10.2	1.09	7.62	51593	115.65	135.66	8.4	13.8
1102.0	25.0	19.1	110	10.3	1.07	7.66	51858	146.08	135.69	8.4	13.8
1103.0	29.8	21.9	113	10.3	1.07	7.70	52087	122.75	135.65	8.4	13.8
1104.0	31.9	21.8	119	10.3	1.07	7.73	52311	114.63	135.58	8.4	13.8
1105.0	26.5	22.4	118	10.3	1.12	7.77	52580	137.96	135.59	8.4	13.8
1106.0	18.4	22.8	122	10.3	1.22	7.82	52977	198.83	135.80	8.4	13.8
1107.0	13.4	21.9	100	10.3	1.24	7.90	53426	272.89	136.24	8.4	13.8
1108.0	29.3	23.6	86	10.3	1.03	7.93	53603	124.78	136.20	8.4	13.8
1109.0	28.1	23.9	105	10.3	1.09	7.96	53828	129.85	136.18	8.4	13.8
1110.0	39.1	25.2	119	10.3	1.05	7.99	54010	93.33	136.04	8.4	13.8

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1111.0	36.0	25.0	100	10.3	1.03	8.02	54176	101.44	135.93	8.4	13.8
1112.0	35.6	25.0	95	10.3	1.02	8.05	54336	102.46	135.83	8.4	13.8
1113.0	33.3	23.6	120	10.3	1.08	8.08	54552	109.56	135.74	8.4	13.9
1114.0	29.0	22.7	131	10.3	1.13	8.11	54824	125.79	135.71	8.4	13.9
1115.0	34.3	24.3	127	10.3	1.10	8.14	55046	106.52	135.62	8.4	13.9
1116.0	27.7	26.0	123	10.3	1.16	8.18	55313	131.88	135.61	8.4	13.9
1117.0	24.7	23.8	129	10.3	1.18	8.22	55628	148.11	135.65	8.4	13.9
1118.0	28.1	24.8	132	10.3	1.16	8.25	55909	129.85	135.63	8.4	13.9
1119.0	25.2	25.3	131	10.3	1.20	8.29	56220	145.07	135.66	8.4	13.9
1120.0	25.4	24.7	121	10.3	1.17	8.33	56507	144.05	135.68	8.4	13.9
1121.0	23.5	28.4	80	10.3	1.12	8.37	56710	155.55	135.75	8.4	13.9
1122.0	27.7	26.4	127	10.3	1.18	8.41	56985	131.88	135.73	8.4	13.9
1123.0	28.8	26.2	125	10.3	1.16	8.44	57245	126.81	135.71	8.4	13.9
1124.0	28.6	26.6	126	10.3	1.17	8.48	57510	127.82	135.68	8.4	13.9
1125.0	21.4	26.3	138	10.3	1.26	8.53	57895	170.43	135.79	8.4	13.9
1126.0	15.5	23.7	132	10.3	1.30	8.59	58406	235.35	136.09	8.4	13.9
1127.0	14.2	27.9	128	10.3	1.38	8.66	58946	256.65	136.46	8.4	13.9
1128.0	14.9	27.2	133	10.3	1.36	8.73	59481	245.50	136.79	8.4	13.9
1129.0	19.4	25.7	136	10.3	1.28	8.78	59904	188.69	136.94	8.4	13.9
1130.0	13.6	25.6	122	10.3	1.34	8.85	60444	248.83	137.34	8.4	13.9
1131.0	19.1	27.4	137	10.3	1.31	8.91	60874	190.72	137.50	8.4	13.9
1132.0	22.2	25.0	185	10.3	1.32	8.95	61374	164.34	137.58	8.4	13.9
1133.0	21.6	27.8	154	10.3	1.31	9.00	61803	169.41	137.67	8.4	13.9
1134.0	16.7	29.5	141	10.3	1.38	9.06	62309	218.11	137.91	8.4	13.9
1135.0	29.0	28.7	131	10.3	1.20	9.09	62580	125.79	137.88	8.4	13.9
1136.0	28.3	27.9	125	10.3	1.18	9.13	62844	128.83	137.85	8.4	13.9
1137.0	25.2	27.8	118	10.3	1.20	9.17	63126	145.07	137.87	8.4	13.9
1138.0	26.1	28.6	114	10.3	1.19	9.20	63389	139.99	137.88	8.4	13.9
1139.0	26.3	27.3	109	10.3	1.16	9.24	63638	138.98	137.88	8.4	13.9
1140.0	30.0	27.5	95	10.3	1.09	9.28	63829	121.73	137.83	8.4	13.9
1141.0	23.4	25.5	143	10.3	1.24	9.32	64197	156.22	137.89	8.4	13.9
1142.0	8.4	22.0	70	10.3	1.27	9.44	64695	433.17	138.74	8.4	13.9
1143.0	8.4	27.4	56	10.3	1.29	9.56	65092	433.17	139.59	8.4	13.9
1144.0	20.0	26.2	128	10.3	1.26	9.61	65477	182.60	139.72	8.4	13.9
1145.0	20.1	24.8	113	10.3	1.21	9.66	65813	181.59	139.84	8.4	13.9
1146.0	22.4	26.2	115	10.3	1.21	9.70	66123	163.33	139.90	8.4	13.9
1147.0	17.4	24.2	112	10.3	1.24	9.76	66509	209.99	140.11	8.4	13.9
1148.0	12.8	21.0	95	10.3	1.23	9.84	66954	285.06	140.52	8.4	13.9
1149.0	16.4	23.2	96	10.3	1.20	9.90	67304	222.16	140.75	8.4	13.9
1150.0	19.4	21.2	116	10.3	1.18	9.95	67663	188.69	140.89	8.4	13.9
1151.0	17.4	26.2	109	10.3	1.26	10.01	68038	209.99	141.08	8.4	13.9
1152.0	20.0	26.7	117	10.3	1.25	10.06	68390	182.60	141.20	8.4	13.9
1153.0	21.3	24.9	125	10.3	1.22	10.10	68744	171.44	141.28	8.4	13.9
1154.0	27.3	24.5	129	10.3	1.16	10.14	69027	133.91	141.26	8.4	13.9
1155.0	21.7	22.6	169	10.3	1.26	10.19	69494	168.40	141.34	8.4	13.9
1156.0	30.0	23.4	176	10.3	1.20	10.22	69847	121.73	141.28	8.4	13.9
1157.0	24.0	23.0	166	10.3	1.24	10.26	70261	152.17	141.31	8.4	13.9
1158.0	21.3	23.6	157	10.3	1.26	10.31	70704	171.44	141.40	8.4	13.9
1159.0	32.4	21.5	151	10.3	1.12	10.34	70983	112.60	141.32	8.4	13.9
1160.0	21.4	17.6	143	10.3	1.15	10.39	71383	170.43	141.40	8.4	13.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1161.0	30.3	20.8	135	10.3	1.10	10.42	71652	120.72	141.34	8.4	13.9
1162.0	30.3	24.4	128	10.3	1.13	10.45	71906	120.72	141.28	8.4	14.0
1163.0	45.0	18.2	153	10.3	1.00	10.47	72111	81.16	141.12	8.4	14.0
1164.0	39.1	17.4	150	10.3	1.01	10.50	72341	93.33	140.99	8.4	14.0
1165.0	34.0	21.1	141	10.3	1.08	10.53	72590	107.53	140.90	8.4	14.0
1165.4	27.7	22.6	100	10.3	1.07	10.54	72677	131.88	140.89	8.4	14.0

BIT NUMBER 3 IADC CODE 4 INTERVAL 1165.4- 1175.5  
 CHRIS RC44 SIZE 9.875 NOZZLES 15 15 14  
 COST 0.00 TRIP TIME 4.5 BIT RUN 10.1  
 TOTAL HOURS 0.31 TOTAL TURNS 1029 CONDITION TO B0 G0.005

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1165.6	22.5	34.5	67	10.3	1.22	0.01	36	162	82332	8.4	14.0
1165.8	30.0	35.0	70	10.3	1.15	0.02	64	122	41227	8.4	14.0
1166.0	46.5	37.2	71	10.3	1.04	0.02	82	79	27511	8.4	14.0
1166.2	40.0	40.0	62	10.3	1.07	0.02	101	91	20656	8.4	14.0
1166.4	3.8	35.1	50	10.3	1.69	0.08	259	964	16718	8.4	14.0
1166.6	23.2	33.2	47	10.3	1.09	0.09	283	157	13957	8.4	14.0
1166.8	22.5	33.2	50	10.3	1.12	0.10	310	162	11987	8.4	14.0
1167.0	30.0	33.2	51	10.3	1.04	0.10	330	122	10504	8.4	14.0
1167.2	48.0	33.0	47	10.3	0.87	0.11	342	76	9345	8.4	14.0
1167.4	48.0	33.0	47	10.3	0.87	0.11	354	76	8418	8.4	14.0
1167.6	48.0	33.2	45	10.3	0.86	0.11	365	76	7660	8.4	14.0
1167.8	42.4	32.6	44	10.3	0.88	0.12	377	86	7029	8.4	14.0
1168.0	51.4	32.1	44	10.3	0.82	0.12	388	71	6493	8.4	14.0
1168.2	45.0	32.5	46	10.3	0.88	0.13	400	81	6035	8.4	14.0
1168.4	55.4	31.9	47	10.3	0.82	0.13	410	66	5637	8.4	14.0
1168.6	45.0	32.4	47	10.3	0.89	0.14	423	81	5290	8.4	14.0
1168.8	55.0	32.3	47	10.3	0.82	0.14	433	66	4983	8.4	14.0
1169.0	60.0	33.4	44	10.3	0.79	0.14	442	61	4709	8.4	14.0
1169.2	42.4	33.2	44	10.3	0.89	0.15	454	86	4466	8.4	14.0
1169.4	55.4	32.9	43	10.3	0.80	0.15	464	66	4246	8.4	14.0
1169.6	36.0	33.3	46	10.3	0.95	0.16	479	101	4049	8.4	14.0
1169.8	31.3	33.0	48	10.3	1.01	0.16	498	117	3870	8.4	14.0
1170.0	31.3	33.5	51	10.3	1.03	0.17	517	117	3707	8.4	14.0
1170.2	45.0	33.3	50	10.3	0.91	0.17	531	81	3556	8.4	14.0
1170.4	42.4	34.6	51	10.3	0.95	0.18	545	86	3417	8.4	14.0
1170.6	45.0	34.1	49	10.3	0.91	0.18	558	81	3289	8.4	14.0
1170.8	40.0	33.5	49	10.3	0.94	0.19	573	91	3170	8.4	14.0
1171.0	45.0	34.1	47	10.3	0.90	0.19	585	81	3060	8.4	14.0
1171.2	40.0	34.1	48	10.3	0.94	0.20	600	91	2958	8.4	14.0
1171.4	55.4	33.9	48	10.3	0.84	0.20	610	66	2861	8.4	14.0
1171.6	42.4	33.6	49	10.3	0.92	0.21	624	86	2772	8.4	14.0
1171.8	42.4	34.4	49	10.3	0.93	0.21	638	86	2688	8.4	14.0
1172.0	42.4	34.1	49	10.3	0.93	0.21	651	86	2609	8.4	14.0
1172.2	51.4	34.3	49	10.3	0.88	0.22	663	71	2534	8.4	14.0



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1172.4	48.0	33.9	64	10.3	0.97	0.22	679	76	2464	8.4	14.0
1172.6	60.0	34.0	66	10.3	0.91	0.23	692	61	2397	8.4	14.0
1172.8	42.4	33.6	67	10.3	1.02	0.23	711	86	2335	8.4	14.0
1173.0	37.9	33.5	67	10.3	1.05	0.24	732	96	2276	8.4	14.0
1173.2	55.4	33.6	70	10.3	0.95	0.24	748	66	2219	8.4	14.0
1173.4	45.0	34.2	70	10.3	1.02	0.24	766	81	2166	8.4	14.0
1173.6	51.4	34.1	69	10.3	0.98	0.25	782	71	2115	8.4	14.0
1173.8	48.0	34.3	69	10.3	1.00	0.25	799	76	2066	8.4	14.0
1174.0	19.5	34.2	71	10.3	1.28	0.26	843	188	2022	8.4	14.0
1174.2	18.5	34.4	71	10.3	1.30	0.27	889	198	1981	8.4	14.0
1174.4	55.4	34.1	74	10.3	0.98	0.28	906	66	1938	8.4	14.0
1174.6	40.0	33.4	71	10.3	1.05	0.28	927	91	1898	8.4	14.0
1174.8	60.0	33.0	74	10.3	0.94	0.29	942	61	1859	8.4	14.0
1175.0	42.4	33.8	71	10.3	1.04	0.29	962	86	1822	8.4	14.0
1175.2	31.3	33.6	73	10.3	1.14	0.30	990	117	1787	8.4	14.0
1175.4	33.0	33.5	74	10.3	1.13	0.30	1017	111	1754	8.4	14.0
1175.5	34.0	33.6	72	10.3	1.11	0.31	1029	107	1738	8.4	14.0

BIT NUMBER	4	IADC CODE	517	INTERVAL	1175.5- 1789.0
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	4.5	BIT RUN	613.5
TOTAL HOURS	33.91	TOTAL TURNS	139627	CONDITION	T4 B6 G0.188

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1176.0	25.3	9.2	55	10.3	0.76	0.02	66	145	50053	8.4	14.0
1177.0	21.3	10.7	55	10.3	0.82	0.07	220	171	16798	8.4	14.0
1179.0	30.6	13.9	38	10.3	0.71	0.13	369	119	7267	8.4	14.0
1180.0	30.0	11.2	40	10.3	0.69	0.17	449	122	5680	8.4	14.0
1181.0	54.5	13.9	47	10.3	0.62	0.18	500	67	4659	8.4	14.0
1182.0	70.6	19.4	46	10.3	0.61	0.20	539	52	3950	8.4	14.0
1183.0	51.4	22.3	48	10.3	0.72	0.22	595	71	3433	8.4	14.0
1184.0	45.6	22.7	47	10.3	0.75	0.24	657	80	3039	8.4	14.0
1185.0	45.6	20.6	51	10.3	0.75	0.26	724	80	2727	8.4	14.0
1186.0	50.0	21.8	48	10.3	0.72	0.28	781	73	2474	8.4	14.0
1187.0	65.5	34.9	40	10.3	0.69	0.30	818	56	2264	8.4	14.0
1188.0	65.5	44.4	52	10.3	0.83	0.31	865	56	2087	8.4	14.0
1189.0	75.0	40.6	45	10.3	0.72	0.33	901	49	1936	8.4	14.0
1190.0	67.9	42.3	75	10.3	0.92	0.34	967	54	1807	8.4	14.0
1191.0	72.0	39.6	99	10.3	0.96	0.35	1050	51	1693	8.4	14.0
1192.0	80.0	47.8	97	10.3	0.98	0.37	1123	46	1593	8.4	14.0
1193.0	59.0	44.9	104	10.3	1.08	0.38	1228	62	1506	8.4	14.0
1194.0	62.1	44.8	97	10.3	1.04	0.40	1322	59	1428	8.4	14.0
1195.0	42.9	46.2	91	10.3	1.15	0.42	1449	85	1359	8.4	14.0
1196.0	55.4	43.3	119	10.3	1.13	0.44	1578	66	1296	8.4	14.0
1197.0	57.1	44.7	111	10.3	1.11	0.46	1695	64	1238	8.4	14.0
1198.0	50.7	41.5	105	10.3	1.10	0.48	1819	72	1187	8.4	14.0
1199.0	67.9	42.5	109	10.3	1.03	0.49	1916	54	1138	8.4	14.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1200.0	94.7	39.0	122	10.3	0.94	0.50	1993	39	1094	8.4	14.0
1201.0	133.3	43.1	120	10.3	0.86	0.51	2047	27	1052	8.4	14.0
1202.0	66.7	41.7	114	10.3	1.05	0.53	2149	55	1014	8.4	14.0
1203.0	29.8	44.2	113	10.3	1.31	0.56	2378	122.75	981.68	8.4	14.0
1204.0	35.6	44.7	115	10.3	1.27	0.59	2572	102.46	950.83	8.4	14.0
1205.0	35.0	46.3	109	10.3	1.27	0.62	2759	104.49	922.14	8.4	14.0
1206.0	36.0	45.2	105	10.3	1.24	0.64	2934	101.44	895.24	8.4	14.0
1207.0	29.3	44.6	95	10.3	1.27	0.68	3128	124.78	870.78	8.4	14.0
1208.0	25.5	43.8	91	10.3	1.29	0.72	3343	143.04	848.39	8.4	14.0
1209.0	37.1	47.2	123	10.3	1.30	0.74	3542	98.40	826.00	8.4	14.0
1210.0	37.1	47.0	123	10.3	1.29	0.77	3740	98.40	804.91	8.4	14.0
1211.0	23.1	45.3	101	10.3	1.36	0.81	4002	158.25	786.69	8.4	14.0
1212.0	40.9	44.4	89	10.3	1.14	0.84	4133	89.27	767.59	8.4	14.1
1213.0	48.0	38.6	89	10.3	1.05	0.86	4244	76.08	749.15	8.4	14.1
1214.0	10.8	39.1	92	10.3	1.50	0.95	4755	338.82	738.49	8.4	14.1
1215.0	4.9	43.4	113	10.3	1.86	1.16	6137	741.56	738.57	8.4	14.1
1216.0	11.6	41.5	155	10.3	1.67	1.24	6939	314.48	728.09	8.4	14.1
1217.0	10.7	40.5	136	10.3	1.64	1.33	7699	340.85	718.76	8.4	14.1
1218.0	13.5	37.1	104	10.3	1.45	1.41	8160	270.86	708.22	8.4	14.1
1219.0	10.2	40.2	114	10.3	1.60	1.51	8833	358.10	700.18	8.4	14.1
1220.0	22.4	41.2	110	10.3	1.36	1.55	9128	163.33	688.11	8.4	14.1
1221.0	69.2	39.0	113	10.3	1.01	1.57	9226	52.75	674.15	8.4	14.1
1222.0	40.9	37.6	115	10.3	1.16	1.59	9395	89.27	661.57	8.4	14.1
1223.0	40.0	37.9	117	10.3	1.17	1.62	9570	91.30	649.56	8.4	14.1
1224.0	24.5	39.1	118	10.3	1.33	1.66	9858	149.12	639.25	8.4	14.1
1225.0	21.1	38.9	115	10.3	1.37	1.70	10187	173.47	629.84	8.4	14.1
1226.0	34.0	36.8	113	10.3	1.20	1.73	10387	107.53	619.49	8.4	14.1
1227.0	30.8	33.8	103	10.3	1.17	1.77	10588	118.69	609.77	8.4	14.1
1228.0	12.1	40.2	119	10.3	1.56	1.85	11180	302.30	603.91	8.4	14.1
1229.0	14.6	39.3	113	10.3	1.48	1.92	11645	250.57	597.31	8.4	14.1
1230.0	37.9	37.5	104	10.3	1.15	1.94	11810	96.37	588.12	8.4	14.1
1231.0	42.4	37.9	103	10.3	1.12	1.97	11955	86.23	579.07	8.4	14.1
1232.0	52.9	37.7	101	10.3	1.04	1.99	12070	68.98	570.04	8.4	14.1
1233.0	83.7	35.6	100	10.3	0.89	2.00	12141	43.62	560.89	8.4	14.1
1234.0	74.0	25.0	101	10.3	0.84	2.01	12223	49.35	552.15	8.4	14.1
1235.0	75.8	20.1	101	10.3	0.79	2.02	12303	48.19	543.68	8.4	14.1
1236.0	81.8	34.4	111	10.3	0.92	2.04	12385	44.64	535.43	8.4	14.1
1237.0	65.5	28.9	93	10.3	0.89	2.05	12470	55.79	527.63	8.4	14.1
1238.0	22.6	40.2	96	10.3	1.31	2.10	12726	161.30	521.77	8.4	14.1
1239.0	31.3	40.4	101	10.3	1.23	2.13	12919	116.66	515.39	8.4	14.1
1240.0	20.0	30.0	100	10.3	1.24	2.18	13219	182.60	510.23	8.4	14.1
1241.0	19.7	23.4	94	10.3	1.15	2.23	13505	185.64	505.27	8.4	14.1
1242.0	16.0	24.5	103	10.3	1.24	2.29	13892	228.25	501.11	8.4	14.1
1243.0	160.0	26.8	93	10.3	0.63	2.30	13927	22.83	494.02	8.4	14.1
1244.0	46.2	18.1	83	10.3	0.84	2.32	14035	79.13	487.96	8.4	14.1
1245.0	37.9	29.2	86	10.3	1.02	2.35	14171	96.37	482.33	8.4	14.1
1246.0	23.5	29.7	90	10.3	1.17	2.39	14402	155.55	477.69	8.4	14.1
1247.0	22.4	29.9	87	10.3	1.17	2.43	14635	163.33	473.30	8.4	14.1
1248.0	27.3	34.4	80	10.3	1.14	2.47	14812	133.91	468.62	8.4	14.1
1249.0	36.4	35.7	98	10.3	1.13	2.50	14974	100.43	463.61	8.4	14.1

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1250.0	40.4	35.7	104	10.3	1.11	2.52	15128	90.29	458.60	8.4	14.1
1251.0	41.4	37.1	116	10.3	1.15	2.55	15296	88.26	453.69	8.4	14.1
1252.0	17.9	37.1	119	10.3	1.41	2.60	15694	203.90	450.43	8.4	14.1
1253.0	34.0	36.8	118	10.3	1.21	2.63	15902	107.53	446.00	8.4	14.1
1254.0	39.1	37.6	109	10.3	1.16	2.66	16069	93.33	441.51	8.4	14.1
1255.0	35.6	37.4	111	10.3	1.19	2.69	16256	102.46	437.24	8.4	14.1
1256.0	32.0	35.6	110	10.3	1.20	2.72	16462	114.13	433.23	8.4	14.1
1257.0	22.0	35.2	110	10.3	1.30	2.76	16762	166.00	429.95	8.4	14.1
1258.0	18.5	35.5	105	10.3	1.34	2.82	17102	197.25	427.13	8.4	14.1
1259.0	25.0	34.3	98	10.3	1.22	2.86	17337	146.08	423.76	8.4	14.1
1260.0	35.6	33.0	100	10.3	1.11	2.88	17505	102.46	419.96	8.4	14.1
1261.0	30.3	35.0	100	10.3	1.18	2.92	17703	120.72	416.46	8.4	14.1
1262.0	26.1	33.9	100	10.3	1.21	2.96	17933	139.99	413.27	8.4	14.1
1263.0	33.0	33.8	104	10.3	1.16	2.99	18122	110.57	409.81	8.4	14.1
1264.0	45.0	33.6	100	10.3	1.05	3.01	18256	81.16	406.09	8.4	14.1
1265.0	65.0	34.0	100	10.3	0.95	3.02	18348	56.18	402.18	8.4	14.2
1266.0	70.6	34.2	69	10.3	0.83	3.04	18407	51.74	398.31	8.4	14.2
1267.0	39.6	33.8	69	10.3	0.99	3.06	18512	92.31	394.97	8.4	14.2
1268.0	26.5	31.8	67	10.3	1.07	3.10	18663	137.96	392.19	8.4	14.2
1269.0	24.8	33.6	77	10.3	1.15	3.14	18848	147.09	389.57	8.4	14.2
1270.0	29.0	32.8	75	10.3	1.09	3.18	19003	125.79	386.78	8.4	14.2
1271.0	30.8	32.6	80	10.3	1.09	3.21	19159	118.69	383.97	8.4	14.2
1272.0	34.6	32.7	87	10.3	1.08	3.24	19310	105.50	381.08	8.4	14.2
1273.0	36.0	31.5	79	10.3	1.03	3.26	19441	101.44	378.21	8.4	14.2
1274.0	8.5	32.6	79	10.3	1.45	3.38	20002	432.15	376.76	8.4	14.2
1275.0	6.0	32.9	71	10.3	1.52	3.55	20714	609.68	381.08	8.4	14.2
1276.0	11.4	34.8	113	10.3	1.50	3.64	21312	320.56	380.48	8.4	14.2
1277.0	12.0	35.2	83	10.3	1.40	3.72	21729	304.33	379.73	8.4	14.2
1278.0	9.7	34.1	116	10.3	1.54	3.82	22444	375.34	379.69	8.4	14.2
1279.0	9.4	33.7	75	10.3	1.42	3.93	22921	387.52	379.76	8.4	14.2
1280.0	9.3	33.1	86	10.3	1.45	4.04	23471	391.58	379.88	8.4	14.2
1281.0	6.5	33.1	83	10.3	1.55	4.19	24246	566.06	381.64	8.4	14.2
1282.0	15.3	31.5	80	10.3	1.27	4.26	24559	239.41	380.31	8.4	14.2
1283.0	21.4	30.4	84	10.3	1.18	4.30	24794	170.43	378.35	8.4	14.2
1284.0	17.8	29.1	83	10.3	1.21	4.36	25073	204.92	376.76	8.4	14.2
1285.0	20.5	28.0	75	10.3	1.14	4.41	25295	178.54	374.94	8.4	14.2
1286.0	24.3	29.7	79	10.3	1.12	4.45	25491	150.14	372.91	8.4	14.2
1287.0	21.4	31.5	76	10.3	1.17	4.50	25704	170.43	371.09	8.4	14.2
1288.0	21.7	31.5	79	10.3	1.17	4.54	25922	168.40	369.29	8.4	14.2
1289.0	26.9	29.8	81	10.3	1.10	4.58	26103	135.94	367.24	8.4	14.2
1290.0	31.3	31.8	84	10.3	1.09	4.61	26264	116.66	365.05	8.4	14.2
1291.0	24.3	32.2	75	10.3	1.13	4.65	26450	150.14	363.19	8.4	14.2
1292.0	22.8	33.1	80	10.3	1.18	4.70	26662	160.28	361.45	8.4	14.2
1293.0	45.0	35.5	77	10.3	0.99	4.72	26764	81.16	359.06	8.4	14.2
1294.0	18.7	32.9	87	10.3	1.26	4.77	27044	195.79	357.68	8.4	14.2
1295.0	30.8	38.8	76	10.2	1.14	4.81	27192	118.69	355.68	8.4	14.2
1296.0	28.1	40.8	67	10.2	1.15	4.84	27336	129.85	353.81	8.4	14.2
1297.0	30.3	40.3	66	10.2	1.12	4.87	27466	120.72	351.89	8.4	14.2
1298.0	33.0	39.4	68	10.2	1.09	4.90	27589	110.57	349.92	8.4	14.2
1299.0	36.7	36.0	64	10.2	1.01	4.93	27692	99.42	347.89	8.4	14.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1300.0	41.9	35.0	67	10.2	0.98	4.96	27789	87.24	345.80	8.4	14.2
1301.0	40.9	32.6	69	10.2	0.97	4.98	27890	89.27	343.75	8.4	14.2
1302.0	39.1	40.4	65	10.2	1.04	5.01	27989	93.33	341.77	8.4	14.2
1303.0	32.7	38.6	67	10.2	1.08	5.04	28112	111.59	339.97	8.4	14.2
1304.0	20.0	41.8	55	10.2	1.20	5.09	28277	182.60	338.74	8.4	14.2
1305.0	27.7	43.5	44	10.2	1.05	5.12	28371	131.88	337.15	8.4	14.2
1306.0	20.6	43.4	65	10.2	1.26	5.17	28562	177.53	335.92	8.4	14.2
1307.0	23.5	46.4	69	10.2	1.26	5.21	28738	155.21	334.55	8.4	14.2
1308.0	32.1	45.2	64	10.2	1.13	5.24	28857	113.62	332.88	8.4	14.2
1309.0	32.4	43.3	68	10.2	1.13	5.28	28984	112.60	331.23	8.4	14.2
1310.0	24.5	43.6	69	10.2	1.23	5.32	29153	149.12	329.88	8.4	14.2
1311.0	22.9	42.7	66	10.2	1.23	5.36	29327	159.27	328.62	8.4	14.2
1312.0	31.0	37.7	60	10.2	1.06	5.39	29443	117.68	327.07	8.4	14.2
1313.0	25.5	37.7	71	10.2	1.17	5.43	29610	143.04	325.74	8.4	14.2
1314.0	39.6	35.9	78	10.2	1.05	5.46	29729	92.31	324.05	8.4	14.2
1315.0	37.1	40.4	96	10.2	1.17	5.48	29884	98.40	322.43	8.4	14.2
1316.0	25.5	42.8	63	10.2	1.18	5.52	30031	143.04	321.16	8.4	14.2
1317.0	27.3	42.2	61	10.2	1.14	5.56	30166	133.91	319.83	8.4	14.2
1318.0	30.8	43.4	65	10.2	1.14	5.59	30293	118.69	318.42	8.4	14.2
1319.0	23.5	43.5	63	10.2	1.21	5.63	30455	155.21	317.28	8.4	14.3
1320.0	18.9	43.7	64	10.2	1.28	5.69	30657	192.74	316.42	8.4	14.3
1321.0	12.5	44.8	64	10.2	1.42	5.77	30964	292.16	316.25	8.4	14.3
1322.0	25.9	44.0	65	10.2	1.19	5.81	31114	141.01	315.06	8.4	14.3
1323.0	25.0	40.0	65	10.2	1.17	5.85	31270	146.08	313.91	8.4	14.3
1324.0	24.0	38.5	60	10.2	1.15	5.89	31421	152.17	312.82	8.4	14.3
1325.0	21.4	40.6	70	10.2	1.24	5.93	31616	170.43	311.87	8.4	14.3
1326.0	35.3	40.0	64	10.2	1.06	5.96	31724	103.47	310.49	8.4	14.3
1327.0	31.0	40.1	65	10.2	1.11	5.99	31851	117.68	309.21	8.4	14.3
1328.0	30.3	39.4	68	10.2	1.12	6.03	31986	120.72	307.98	8.4	14.3
1329.0	39.1	39.9	64	10.2	1.03	6.05	32084	93.33	306.58	8.4	14.3
1330.0	29.5	39.7	68	10.2	1.13	6.09	32222	123.76	305.40	8.4	14.3
1331.0	26.7	39.0	65	10.2	1.14	6.12	32368	136.95	304.31	8.4	14.3
1332.0	26.7	38.3	67	10.2	1.14	6.16	32519	136.95	303.24	8.4	14.3
1333.0	34.3	34.7	76	10.2	1.07	6.19	32652	106.52	301.99	8.4	14.3
1334.0	32.1	36.5	74	10.2	1.10	6.22	32791	113.62	300.81	8.4	14.3
1335.0	31.0	36.5	73	10.2	1.11	6.25	32932	117.68	299.66	8.4	14.3
1336.0	32.7	34.6	75	10.2	1.08	6.29	33069	111.59	298.49	8.4	14.3
1337.0	38.7	36.0	75	10.2	1.05	6.31	33186	94.34	297.22	8.4	14.3
1338.0	29.8	35.4	72	10.2	1.10	6.34	33331	122.75	296.15	8.4	14.3
1339.0	25.9	40.9	69	10.2	1.19	6.38	33491	141.01	295.20	8.4	14.3
1340.0	25.2	37.6	68	10.2	1.16	6.42	33654	145.07	294.29	8.4	14.3
1341.0	21.6	35.9	67	10.2	1.18	6.47	33841	169.41	293.53	8.4	14.3
1342.0	30.0	37.5	72	10.2	1.12	6.50	33984	121.73	292.50	8.4	14.3
1343.0	29.8	37.3	66	10.2	1.10	6.54	34117	122.75	291.49	8.4	14.3
1344.0	20.1	37.2	65	10.2	1.21	6.59	34312	181.59	290.83	8.4	14.3
1345.0	35.0	37.2	67	10.2	1.05	6.61	34427	104.49	289.74	8.4	14.3
1346.0	30.8	37.4	67	10.2	1.09	6.65	34558	118.69	288.73	8.4	14.3
1347.0	17.3	37.4	67	10.2	1.26	6.70	34790	211.00	288.28	8.4	14.3
1348.0	25.2	37.6	67	10.2	1.15	6.74	34950	145.07	287.45	8.4	14.3
1349.0	27.3	36.6	67	10.2	1.12	6.78	35098	133.91	286.56	8.4	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1350.0	6.7	38.8	67	10.2	1.56	6.93	35696	541.71	288.03	8.4	14.3
1351.0	13.4	37.2	66	10.2	1.33	7.00	35990	271.87	287.93	8.4	14.3
1352.0	22.5	36.1	70	10.2	1.18	7.05	36176	162.31	287.22	8.4	14.3
1353.0	29.0	37.3	73	10.2	1.13	7.08	36326	126.08	286.31	8.4	14.3
1354.0	34.3	37.1	73	10.2	1.08	7.11	36454	106.52	285.31	8.4	14.3
1355.0	27.5	36.5	65	10.2	1.11	7.15	36596	132.89	284.46	8.4	14.3
1356.0	30.3	37.2	67	10.2	1.10	7.18	36729	120.72	283.55	8.4	14.3
1357.0	34.3	37.1	68	10.2	1.06	7.21	36848	106.52	282.58	8.4	14.3
1358.0	12.0	37.6	66	10.2	1.37	7.29	37178	304.33	282.69	8.4	14.3
1359.0	7.0	37.2	67	10.2	1.53	7.44	37755	524.47	284.01	8.4	14.3
1360.0	8.7	36.3	65	10.2	1.44	7.55	38202	417.95	284.74	8.4	14.3
1361.0	14.4	37.6	70	10.2	1.33	7.62	38493	253.61	284.57	8.4	14.3
1362.0	7.6	37.2	28	10.2	1.24	7.75	38710	479.33	285.61	8.4	14.3
1363.0	9.4	36.6	64	10.2	1.42	7.86	39121	388.53	286.16	8.4	14.3
1364.0	9.6	37.0	73	10.2	1.46	7.96	39579	380.42	286.66	8.4	14.3
1365.0	27.1	37.1	75	10.2	1.16	8.00	39745	134.92	285.86	8.4	14.3
1366.0	27.7	37.6	75	10.2	1.16	8.04	39908	131.88	285.05	8.4	14.3
1367.0	27.3	37.4	71	10.2	1.15	8.07	40065	133.91	284.27	8.4	14.3
1368.0	25.4	38.0	75	10.2	1.19	8.11	40243	144.05	283.54	8.4	14.3
1369.0	22.6	37.6	66	10.2	1.18	8.16	40417	161.30	282.91	8.4	14.3
1370.0	24.7	37.6	72	10.2	1.18	8.20	40591	148.11	282.21	8.4	14.3
1371.0	19.9	37.4	69	10.2	1.23	8.25	40798	183.61	281.71	8.4	14.3
1372.0	25.7	37.7	68	10.2	1.16	8.29	40958	142.02	281.00	8.4	14.3
1373.0	23.8	37.6	66	10.2	1.17	8.33	41125	153.18	280.35	8.4	14.3
1374.0	25.0	37.8	67	10.2	1.16	8.37	41285	146.08	279.67	8.4	14.3
1375.0	25.5	38.6	67	10.2	1.16	8.41	41444	143.04	278.99	8.4	14.4
1376.0	12.1	39.1	67	10.2	1.39	8.49	41778	302.30	279.10	8.4	14.4
1377.0	7.9	39.0	67	10.2	1.51	8.62	42283	459.54	280.00	8.4	14.4
1378.0	24.0	37.9	77	10.2	1.21	8.66	42475	152.17	279.37	8.4	14.4
1379.0	26.9	36.9	69	10.2	1.13	8.69	42628	135.94	278.66	8.4	14.4
1380.0	18.8	37.5	76	10.2	1.28	8.75	42870	194.77	278.25	8.4	14.4
1381.0	16.8	39.1	59	10.2	1.25	8.81	43082	217.09	277.96	8.4	14.4
1382.0	26.1	37.3	68	10.2	1.14	8.85	43238	139.99	277.29	8.4	14.4
1383.0	10.4	37.3	69	10.2	1.42	8.94	43637	351.00	277.64	8.4	14.4
1384.0	12.1	37.6	68	10.2	1.37	9.02	43973	302.30	277.76	8.4	14.4
1385.0	8.7	38.5	68	10.2	1.48	9.14	44442	422.01	278.45	8.4	14.4
1386.0	25.7	37.7	70	10.2	1.16	9.18	44604	142.02	277.80	8.4	14.4
1387.0	25.0	37.0	66	10.2	1.15	9.22	44762	146.08	277.18	8.4	14.4
1388.0	24.5	37.0	70	10.2	1.17	9.26	44934	149.12	276.58	8.4	14.4
1389.0	27.1	37.0	65	10.2	1.12	9.30	45079	134.92	275.91	8.4	14.4
1390.0	32.7	37.2	84	10.2	1.14	9.33	45233	111.59	275.15	8.4	14.4
1391.0	27.3	36.8	65	10.2	1.12	9.36	45377	133.91	274.49	8.4	14.4
1392.0	31.6	35.3	81	10.2	1.12	9.40	45531	115.65	273.76	8.4	14.4
1393.0	22.1	35.6	62	10.2	1.15	9.44	45699	165.35	273.26	8.4	14.4
1394.0	27.9	36.0	71	10.2	1.13	9.48	45852	130.86	272.61	8.4	14.4
1395.0	6.4	33.2	63	10.2	1.48	9.63	46437	567.07	273.95	8.4	14.4
1396.0	11.8	33.0	62	10.2	1.30	9.72	46753	308.39	274.11	8.4	14.4
1397.0	23.8	32.1	63	10.2	1.10	9.76	46912	153.18	273.56	8.4	14.4
1398.0	25.2	32.2	61	10.2	1.08	9.80	47058	145.07	272.98	8.4	14.4
1399.0	23.2	31.5	61	10.2	1.09	9.84	47217	157.24	272.46	8.4	14.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1400.0	21.7	32.0	61	10.2	1.11	9.89	47384	168.40	272.00	8.4	14.4
1401.0	8.9	34.1	69	10.2	1.43	10.00	47850	410.85	272.62	8.4	14.4
1402.0	12.7	34.0	66	10.2	1.31	10.08	48161	287.09	272.68	8.4	14.4
1403.0	26.9	33.0	63	10.2	1.08	10.12	48302	135.94	272.08	8.4	14.4
1404.0	28.1	33.1	67	10.2	1.08	10.15	48444	129.85	271.46	8.4	14.4
1405.0	27.7	32.6	64	10.2	1.07	10.19	48583	131.88	270.85	8.4	14.4
1406.0	26.1	33.5	74	10.2	1.13	10.23	48753	139.99	270.28	8.4	14.4
1407.0	20.8	32.6	76	10.2	1.19	10.27	48971	175.50	269.87	8.4	14.4
1408.0	18.6	33.0	74	10.2	1.22	10.33	49209	196.80	269.56	8.4	14.4
1409.0	21.2	33.3	80	10.2	1.21	10.38	49437	172.46	269.14	8.4	14.4
1410.0	17.9	34.7	67	10.2	1.22	10.43	49660	203.90	268.86	8.4	14.4
1411.0	15.1	35.2	63	10.2	1.26	10.50	49910	242.45	268.75	8.4	14.4
1412.0	21.3	33.9	62	10.2	1.14	10.54	50084	171.44	268.34	8.4	14.4
1413.0	16.1	33.9	63	10.2	1.23	10.61	50318	226.22	268.16	8.4	14.4
1414.0	14.0	33.2	63	10.2	1.26	10.68	50587	261.73	268.14	8.4	14.4
1415.0	16.9	34.1	62	10.2	1.21	10.74	50809	216.08	267.92	8.4	14.4
1416.0	15.6	34.4	62	10.2	1.24	10.80	51048	234.34	267.78	8.4	14.4
1417.0	13.6	30.3	58	10.2	1.21	10.87	51302	268.83	267.78	8.4	14.4
1418.0	21.6	31.4	72	10.2	1.16	10.92	51504	169.41	267.38	8.4	14.4
1419.0	10.8	35.4	61	10.2	1.35	11.01	51841	338.15	267.67	8.4	14.4
1420.0	10.4	32.3	66	10.2	1.35	11.11	52224	351.00	268.01	8.4	14.4
1421.0	9.7	34.2	68	10.2	1.40	11.21	52646	377.37	268.45	8.4	14.4
1422.0	13.3	35.4	66	10.2	1.32	11.29	52945	274.91	268.48	8.4	14.4
1423.0	17.9	34.4	66	10.2	1.22	11.34	53168	203.90	268.22	8.4	14.4
1424.0	17.1	34.4	67	10.2	1.24	11.40	53403	213.03	268.00	8.4	14.4
1425.0	16.0	34.3	66	10.2	1.25	11.47	53651	228.25	267.84	8.4	14.4
1426.0	19.3	35.0	65	10.2	1.20	11.52	53854	189.70	267.53	8.4	14.4
1427.0	17.6	34.8	67	10.2	1.23	11.57	54081	206.95	267.28	8.4	14.4
1428.0	18.8	34.2	67	10.2	1.21	11.63	54296	193.76	266.99	8.4	14.4
1429.0	15.2	34.4	55	10.2	1.21	11.69	54512	240.09	266.89	8.4	14.4
1430.0	9.2	34.8	66	10.2	1.42	11.80	54943	398.68	267.41	8.4	14.4
1431.0	7.4	35.3	67	10.2	1.49	11.94	55487	493.02	268.29	8.4	14.4
1432.0	7.8	35.3	66	10.2	1.47	12.07	55993	469.69	269.07	8.4	14.4
1433.0	6.5	34.5	51	10.2	1.43	12.22	56458	557.94	270.20	8.4	14.5
1434.0	10.6	34.3	50	10.2	1.29	12.31	56740	345.93	270.49	8.4	14.5
1435.0	9.6	33.8	58	10.2	1.35	12.42	57101	381.43	270.92	8.4	14.5
1436.0	24.3	34.8	66	10.2	1.13	12.46	57264	150.14	270.45	8.4	14.5
1437.0	18.8	34.6	55	10.2	1.15	12.51	57439	193.76	270.16	8.4	14.5
1438.0	21.8	34.8	65	10.2	1.16	12.56	57617	167.38	269.77	8.4	14.5
1439.0	22.0	35.0	65	10.2	1.16	12.60	57794	166.00	269.37	8.4	14.4
1440.0	24.5	31.0	65	10.2	1.09	12.64	57952	149.12	268.92	8.4	14.5
1441.0	11.3	35.4	62	10.2	1.34	12.73	58280	322.59	269.12	8.4	14.5
1442.0	13.5	32.7	63	10.2	1.26	12.81	58558	269.84	269.12	8.4	14.5
1443.0	18.9	31.9	62	10.2	1.16	12.86	58753	192.74	268.84	8.4	14.5
1444.0	23.5	31.5	62	10.2	1.09	12.90	58910	155.21	268.42	8.4	14.5
1445.0	8.1	35.3	66	10.2	1.46	13.02	59398	449.40	269.09	8.4	14.5
1446.0	6.8	34.1	65	10.2	1.49	13.17	59970	538.67	270.08	8.4	14.5
1447.0	8.4	38.0	58	10.2	1.44	13.29	60388	437.23	270.70	8.4	14.5
1448.0	23.5	34.0	64	10.2	1.13	13.33	60552	155.21	270.28	8.4	14.5
1449.0	20.2	27.9	61	10.2	1.09	13.38	60733	180.57	269.95	8.4	14.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1450.0	17.7	34.6	56	10.2	1.18	13.44	60924	205.93	269.71	8.4	14.5
1451.0	28.6	33.0	57	10.2	1.03	13.47	61043	127.82	269.20	8.4	14.5
1452.0	23.2	33.2	59	10.2	1.10	13.52	61197	157.24	268.79	8.4	14.5
1453.0	13.0	33.5	53	10.2	1.23	13.59	61439	281.00	268.84	8.4	14.5
1454.0	22.4	34.5	54	10.2	1.10	13.64	61584	163.33	268.46	8.4	14.5
1455.0	37.9	33.9	56	10.2	0.95	13.67	61672	96.37	267.84	8.4	14.5
1456.0	97.3	32.8	51	10.2	0.65	13.68	61704	37.53	267.02	8.4	14.5
1457.0	10.3	35.0	52	10.2	1.31	13.77	62005	353.03	267.33	8.4	14.5
1458.0	23.7	33.6	50	10.2	1.05	13.82	62132	154.20	266.93	8.4	14.5
1459.0	36.7	31.4	53	10.2	0.92	13.84	62219	99.42	266.34	8.4	14.5
1460.0	39.1	32.5	54	10.2	0.92	13.87	62303	93.33	265.73	8.4	14.5
1461.0	63.2	32.2	53	10.2	0.77	13.88	62353	57.82	265.00	8.4	14.5
1462.0	27.7	32.3	56	10.2	1.02	13.92	62474	131.88	264.54	8.4	14.5
1463.0	25.5	26.9	41	10.2	0.91	13.96	62570	143.04	264.11	8.4	14.5
1464.0	34.0	32.8	64	10.2	1.01	13.99	62683	107.53	263.57	8.4	14.5
1465.0	36.7	31.7	54	10.2	0.93	14.02	62772	99.42	263.00	8.4	14.5
1466.0	33.0	31.2	57	10.2	0.97	14.05	62876	110.57	262.48	8.4	14.5
1467.0	35.6	33.6	51	10.2	0.94	14.07	62962	102.46	261.93	8.4	14.5
1468.0	35.0	33.2	60	10.2	0.99	14.10	63065	104.34	261.39	8.4	14.5
1469.0	34.0	32.0	63	10.2	1.00	14.13	63176	107.53	260.87	8.4	14.5
1470.0	42.9	32.3	50	10.2	0.87	14.16	63246	85.21	260.27	8.4	14.5
1471.0	49.3	32.2	54	10.2	0.85	14.18	63312	74.05	259.64	8.4	14.5
1472.0	23.8	29.4	37	10.2	0.93	14.22	63406	153.18	259.28	8.4	14.5
1473.0	29.8	28.6	61	10.2	0.99	14.25	63529	122.75	258.82	8.4	14.5
1474.0	30.8	31.9	61	10.2	1.01	14.28	63648	118.69	258.35	8.4	14.5
1475.0	26.3	31.6	52	10.2	1.01	14.32	63765	138.98	257.95	8.4	14.5
1476.0	45.0	31.0	55	10.2	0.87	14.34	63839	81.16	257.37	8.4	14.5
1477.0	67.9	31.4	61	10.2	0.79	14.36	63893	53.77	256.69	8.4	14.5
1478.0	10.9	25.2	53	10.2	1.19	14.45	64188	335.78	256.95	8.4	14.5
1479.0	5.7	30.4	50	10.2	1.42	14.63	64715	642.14	258.22	8.4	14.5
1480.0	7.5	30.2	40	10.2	1.28	14.76	65039	488.96	258.98	8.4	14.5
1481.0	23.4	29.6	39	10.2	0.95	14.80	65139	156.22	258.64	8.4	14.5
1482.0	24.5	20.2	25	10.2	0.73	14.84	65200	149.12	258.29	8.4	14.5
1483.0	27.5	24.9	41	10.2	0.88	14.88	65291	132.89	257.88	8.4	14.5
1484.0	28.3	27.9	41	10.2	0.89	14.92	65378	128.83	257.46	8.4	14.5
1485.0	20.2	18.9	45	10.2	0.91	14.97	65511	180.57	257.21	8.4	14.5
1486.0	43.4	14.4	101	10.2	0.86	14.99	65651	84.20	256.65	8.4	14.5
1487.0	31.6	14.7	84	10.2	0.90	15.02	65810	115.65	256.20	8.4	14.5
1488.0	6.8	25.3	49	10.2	1.29	15.17	66243	534.61	257.09	8.4	14.5
1489.0	4.8	35.1	55	10.2	1.56	15.37	66932	759.82	258.70	8.4	14.5
1490.0	5.9	34.4	56	10.2	1.49	15.54	67503	618.81	259.84	8.4	14.5
1491.0	8.8	34.5	60	10.2	1.40	15.66	67911	415.92	260.33	8.4	14.5
1492.0	12.6	34.0	57	10.2	1.27	15.74	68180	289.12	260.43	8.4	14.5
1493.0	10.4	35.4	56	10.2	1.34	15.83	68504	351.00	260.71	8.4	14.6
1494.0	16.5	36.2	54	10.2	1.20	15.89	68701	221.15	260.59	8.4	14.6
1495.0	5.7	32.2	73	10.2	1.55	16.07	69465	639.10	261.77	8.4	14.6
1496.0	25.4	28.3	84	10.2	1.12	16.11	69663	144.05	261.40	8.4	14.6
1497.0	30.3	28.1	96	10.2	1.11	16.14	69854	120.72	260.97	8.4	14.6
1498.0	32.4	21.6	79	10.2	0.97	16.17	70001	112.60	260.51	8.4	14.6
1499.0	50.0	22.7	46	10.2	0.73	16.19	70056	73.04	259.93	8.4	14.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1500.0	43.9	27.3	64	10.2	0.89	16.21	70144	83.18	259.38	8.4	14.6
1501.0	32.1	25.5	67	10.2	0.97	16.25	70269	113.62	258.93	8.4	14.6
1502.0	9.8	35.0	60	10.2	1.37	16.35	70635	373.32	259.29	8.4	14.6
1503.0	6.7	44.1	38	10.2	1.45	16.50	70973	545.77	260.16	8.4	14.6
1504.0	26.7	41.5	38	10.2	1.01	16.53	71060	136.95	259.78	8.4	14.6
1505.0	25.5	40.3	40	10.2	1.03	16.57	71155	143.04	259.43	8.4	14.6
1506.0	31.3	40.0	47	10.2	1.01	16.61	71245	116.66	259.00	8.4	14.6
1507.0	30.3	37.4	49	10.2	1.01	16.64	71342	120.72	258.58	8.4	14.6
1508.0	34.0	38.0	40	10.2	0.92	16.67	71412	107.53	258.13	8.4	14.6
1509.0	29.8	37.4	41	10.2	0.96	16.70	71496	122.75	257.72	8.4	14.6
1510.0	26.6	37.7	41	10.2	0.98	16.74	71582	127.82	257.33	8.4	14.6
1511.0	29.0	36.9	40	10.2	0.96	16.77	71664	125.79	256.94	8.4	14.6
1512.0	8.4	42.4	41	10.2	1.39	16.89	71960	436.21	257.47	8.4	14.6
1513.0	6.5	42.7	40	10.2	1.47	17.05	72333	565.05	258.38	8.4	14.6
1514.0	8.4	43.1	40	10.2	1.39	17.16	72621	434.18	258.90	8.4	14.6
1515.0	11.5	42.5	41	10.2	1.29	17.25	72832	317.52	259.08	8.4	14.6
1516.0	8.0	42.7	38	10.2	1.38	17.38	73116	458.53	259.66	8.4	14.6
1517.0	14.8	32.9	52	10.2	1.20	17.44	73328	246.51	259.62	8.4	14.6
1518.0	25.5	28.1	63	10.2	1.05	17.48	73477	143.04	259.28	8.4	14.6
1519.0	42.9	26.6	64	10.2	0.90	17.51	73567	85.21	258.78	8.4	14.6
1520.0	49.3	26.4	62	10.2	0.85	17.53	73643	74.05	258.24	8.4	14.6
1521.0	35.0	22.0	70	10.2	0.93	17.56	73763	104.49	257.80	8.4	14.6
1522.0	52.2	28.3	71	10.2	0.88	17.58	73845	70.00	257.25	8.4	14.6
1523.0	32.1	28.3	66	10.2	1.00	17.61	73969	113.62	256.84	8.4	14.6
1524.0	19.8	27.7	62	10.2	1.11	17.66	74158	184.63	256.63	8.4	14.6
1525.0	23.7	27.6	67	10.2	1.08	17.70	74328	154.20	256.34	8.4	14.6
1526.0	35.3	28.6	72	10.2	1.00	17.73	74450	103.47	255.90	8.4	14.6
1527.0	16.5	29.2	66	10.2	1.19	17.79	74689	221.15	255.80	8.4	14.6
1528.0	5.4	32.8	97	10.2	1.66	17.97	75763	673.59	256.99	8.4	14.6
1529.0	6.0	31.9	80	10.2	1.56	18.14	76564	609.68	257.99	8.4	14.6
1530.0	6.4	31.6	80	10.2	1.54	18.30	77319	574.18	258.88	8.4	14.6
1531.0	4.5	29.6	80	10.2	1.61	18.52	78395	818.66	260.45	8.4	14.6
1532.0	5.6	28.2	80	10.2	1.53	18.70	79252	652.29	261.55	8.4	14.6
1533.0	9.3	28.2	80	10.2	1.39	18.81	79771	394.62	261.93	8.4	14.6
1534.0	7.7	28.9	80	10.2	1.45	18.94	80392	472.73	262.51	8.4	14.6
1535.0	10.3	27.9	80	10.2	1.36	19.03	80859	355.06	262.77	8.4	14.6
1536.0	17.1	24.6	80	10.2	1.18	19.09	81140	214.05	262.64	8.4	14.6
1537.0	23.4	26.7	80	10.2	1.12	19.14	81346	156.22	262.34	8.4	14.6
1538.0	14.9	23.9	80	10.2	1.20	19.20	81668	245.50	262.30	8.4	14.6
1539.0	24.5	26.8	80	10.2	1.11	19.24	81864	149.12	261.98	8.4	14.6
1540.0	34.6	25.2	80	10.2	1.00	19.27	82003	105.50	261.55	8.4	14.6
1541.0	34.3	29.1	80	10.2	1.04	19.30	82143	106.52	261.13	8.4	14.6
1542.0	30.8	28.3	80	10.2	1.06	19.33	82299	118.69	260.74	8.4	14.6
1543.0	26.1	27.5	80	10.2	1.10	19.37	82483	139.99	260.41	8.4	14.6
1544.0	27.7	28.7	80	10.2	1.09	19.41	82656	131.88	260.06	8.4	14.6
1545.0	24.2	29.0	80	10.2	1.13	19.45	82855	151.15	259.77	8.4	14.6
1546.0	27.7	28.0	80	10.2	1.09	19.49	83028	131.88	259.42	8.4	14.6
1547.0	26.3	32.7	80	10.2	1.15	19.52	83211	138.98	259.10	8.4	14.6
1548.0	29.8	30.8	80	10.2	1.10	19.56	83372	122.75	258.73	8.4	14.6
1549.0	36.0	30.5	80	10.2	1.04	19.59	83506	101.44	258.31	8.4	14.6



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1550.0	29.3	31.7	80	10.2	1.11	19.62	83670	124.78	257.96	8.4	14.6
1551.0	28.1	32.2	80	10.2	1.13	19.66	83840	129.85	257.62	8.4	14.6
1552.0	24.5	31.2	80	10.2	1.16	19.70	84036	149.12	257.33	8.4	14.6
1553.0	25.4	31.8	80	10.2	1.15	19.74	84226	144.05	257.03	8.4	14.6
1554.0	24.0	31.6	80	10.2	1.17	19.78	84426	152.17	256.75	8.4	14.6
1555.0	24.2	32.1	80	10.2	1.17	19.82	84624	151.15	256.47	8.4	14.7
1556.0	21.2	30.7	80	10.1	1.19	19.87	84851	172.46	256.25	8.4	14.7
1557.0	29.0	31.2	80	10.1	1.11	19.90	85016	125.79	255.91	8.4	14.7
1558.0	19.9	28.7	60	10.1	1.19	19.95	85258	183.61	255.72	8.4	14.7
1559.0	32.4	27.8	80	10.1	1.05	19.98	85406	112.60	255.35	8.4	14.7
1560.0	11.8	30.2	80	10.1	1.35	20.07	85811	308.39	255.48	8.4	14.7
1561.0	25.4	31.1	80	10.1	1.15	20.11	86000	144.05	255.20	8.4	14.7
1562.0	46.8	32.4	80	10.1	0.99	20.13	86103	78.11	254.74	8.4	14.7
1563.0	34.0	30.1	80	10.1	1.06	20.16	86244	107.53	254.36	8.4	14.7
1564.0	15.3	29.9	80	10.1	1.28	20.22	86559	239.41	254.32	8.4	14.7
1565.0	19.0	26.4	80	10.1	1.18	20.27	86811	191.73	254.16	8.4	14.7
1566.0	29.3	23.4	80	10.1	1.03	20.31	86975	124.78	253.83	8.4	14.7
1567.0	29.8	29.1	80	10.1	1.08	20.34	87136	122.75	253.49	8.4	14.7
1568.0	34.6	31.6	80	10.1	1.07	20.37	87275	105.50	253.12	8.4	14.7
1569.0	43.4	31.7	80	10.1	1.09	20.39	87386	84.20	252.69	8.4	14.7
1570.0	43.4	31.6	80	10.1	1.00	20.42	87496	84.20	252.26	8.4	14.7
1571.0	25.9	32.0	80	10.1	1.15	20.46	87682	141.01	251.98	8.4	14.7
1572.0	10.3	34.3	73	10.1	1.42	20.55	88106	355.06	252.24	8.4	14.7
1573.0	37.9	35.2	60	10.1	0.99	20.58	88201	96.37	251.85	8.4	14.7
1574.0	37.5	35.6	60	10.1	1.00	20.61	88297	97.39	251.46	8.4	14.7
1575.0	45.0	19.0	60	10.1	0.79	20.63	88377	81.16	251.03	8.4	14.7
1576.0	32.4	35.0	60	10.1	1.03	20.66	88488	112.60	250.69	8.4	14.7
1577.0	29.0	35.7	60	10.1	1.07	20.69	88612	125.79	250.37	8.4	14.7
1578.0	30.5	34.2	60	10.1	1.04	20.73	88730	119.70	250.05	8.4	14.7
1579.0	36.4	35.2	60	10.1	1.00	20.75	88829	100.43	249.68	8.4	14.7
1580.0	30.0	36.8	60	10.1	1.07	20.79	88949	121.73	249.36	8.4	14.7
1581.0	22.0	32.5	60	10.1	1.12	20.83	89113	166.37	249.16	8.4	14.7
1582.0	46.8	29.1	60	10.1	0.88	20.85	89190	78.11	248.74	8.4	14.7
1583.0	41.4	34.0	60	10.1	0.95	20.88	89277	88.26	248.34	8.4	14.7
1584.0	27.7	28.8	60	10.1	1.02	20.91	89407	131.88	248.06	8.4	14.7
1585.0	60.0	27.9	60	10.1	0.80	20.93	89467	60.87	247.60	8.4	14.7
1586.0	34.3	38.6	60	10.1	1.05	20.96	89572	106.52	247.26	8.4	14.7
1587.0	33.0	39.3	60	10.1	1.07	20.99	89681	110.57	246.93	8.4	14.7
1588.0	34.3	37.6	60	10.1	1.04	21.02	89786	106.52	246.59	8.4	14.7
1589.0	38.3	36.8	60	10.1	1.00	21.05	89880	95.36	246.22	8.4	14.7
1590.0	17.1	37.1	60	10.1	1.24	21.10	90090	213.03	246.14	8.4	14.7
1591.0	19.0	37.4	60	10.1	1.21	21.16	90279	191.73	246.01	8.4	14.7
1592.0	21.2	38.9	60	10.1	1.20	21.20	90449	172.46	245.83	8.4	14.7
1593.0	23.5	37.8	60	10.1	1.15	21.25	90602	155.21	245.62	8.4	14.7
1594.0	24.7	37.5	60	10.1	1.14	21.29	90748	148.11	245.38	8.4	14.7
1595.0	37.1	40.9	60	10.1	1.04	21.31	90845	98.40	245.03	8.4	14.7
1596.0	36.7	41.0	60	10.1	1.05	21.34	90943	99.42	244.69	8.4	14.7
1597.0	38.7	39.0	60	10.1	1.01	21.37	91036	94.34	244.33	8.4	14.7
1598.0	21.6	34.0	60	10.1	1.14	21.41	91203	169.41	244.15	8.4	14.7
1599.0	19.1	42.6	60	10.1	1.26	21.47	91391	190.72	244.03	8.4	14.7

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1600.0	30.8	40.2	60	10.1	1.09	21.50	91508	118.69	243.73	8.4	14.7
1601.0	19.6	41.6	60	10.1	1.25	21.55	91692	186.66	243.60	8.4	14.7
1602.0	27.3	41.2	60	10.1	1.14	21.59	91824	133.91	243.34	8.4	14.7
1603.0	25.4	39.2	60	10.1	1.14	21.62	91966	144.05	243.11	8.4	14.7
1604.0	8.3	40.2	60	10.1	1.50	21.75	92400	440.27	243.57	8.4	14.7
1605.0	6.2	39.0	60	10.1	1.57	21.91	92985	593.45	244.38	8.4	14.7
1606.0	16.2	37.1	60	10.1	1.26	21.97	93207	225.21	244.34	8.4	14.7
1607.0	11.0	39.9	60	10.1	1.41	22.06	93534	331.72	244.54	8.4	14.7
1608.0	18.5	40.2	60	10.1	1.25	22.11	93729	197.82	244.43	8.4	14.7
1609.0	13.2	41.1	60	10.1	1.36	22.19	94001	275.93	244.50	8.4	14.7
1610.0	19.5	39.4	60	10.1	1.23	22.24	94186	187.67	244.37	8.4	14.7
1611.0	36.4	40.8	60	10.1	1.05	22.27	94285	100.43	244.04	8.4	14.7
1612.0	32.7	41.6	60	10.1	1.09	22.30	94395	111.59	243.74	8.4	14.7
1613.0	32.4	39.8	60	10.1	1.07	22.33	94506	112.60	243.44	8.4	14.7
1614.0	39.1	41.1	60	10.1	1.03	22.36	94598	93.33	243.10	8.4	14.7
1615.0	25.9	37.3	60	10.1	1.12	22.39	94737	141.01	242.86	8.4	14.7
1616.0	32.7	45.1	60	10.1	1.11	22.43	94847	111.59	242.57	8.4	14.7
1617.0	31.6	41.6	60	10.1	1.10	22.46	94961	115.65	242.28	8.4	14.7
1618.0	22.1	41.4	60	10.1	1.21	22.50	95124	165.35	242.11	8.4	14.7
1619.0	21.4	27.0	60	10.1	1.07	22.55	95292	170.43	241.94	8.4	14.7
1620.0	57.1	39.5	60	10.1	0.90	22.57	95355	63.91	241.54	8.4	14.8
1621.0	40.4	40.9	60	10.1	1.02	22.59	95444	90.29	241.20	8.4	14.8
1622.0	53.7	41.3	60	10.1	0.93	22.61	95511	67.97	240.82	8.4	14.8
1623.0	9.2	42.3	60	10.1	1.49	22.72	95901	395.63	241.16	8.4	14.8
1624.0	36.4	39.3	60	10.1	1.04	22.75	96000	100.43	240.85	8.4	14.8
1625.0	48.0	40.3	60	10.1	0.96	22.77	96075	76.08	240.48	8.4	14.8
1626.0	36.0	39.9	60	10.1	1.04	22.79	96175	101.44	240.17	8.4	14.8
1627.0	33.3	42.6	60	10.1	1.09	22.82	96283	109.56	239.88	8.4	14.8
1628.0	38.7	44.6	60	10.1	1.06	22.85	96376	94.34	239.56	8.4	14.8
1629.0	34.3	41.7	60	10.1	1.07	22.88	96481	106.52	239.27	8.4	14.8
1630.0	39.1	41.9	60	10.1	1.03	22.90	96573	93.33	238.95	8.4	14.8
1631.0	40.9	41.0	60	10.1	1.01	22.93	96661	89.27	238.62	8.4	14.8
1632.0	35.0	41.2	60	10.1	1.06	22.96	96764	104.34	238.32	8.4	14.8
1633.0	12.9	40.3	60	10.1	1.36	23.04	97044	284.04	238.42	8.4	14.8
1634.0	25.7	37.2	60	10.1	1.12	23.07	97184	142.02	238.21	8.4	14.8
1635.0	26.5	37.6	60	10.1	1.12	23.11	97320	137.96	238.00	8.4	14.8
1636.0	22.6	38.6	53	10.1	1.13	23.16	97460	161.30	237.83	8.4	14.8
1637.0	8.2	37.7	63	10.1	1.48	23.28	97921	445.34	238.28	8.4	14.8
1638.0	21.8	40.0	64	10.1	1.22	23.32	98096	167.38	238.13	8.4	14.8
1639.0	14.8	40.2	64	10.1	1.34	23.39	98357	246.51	238.14	8.4	14.8
1640.0	19.5	41.8	60	10.1	1.25	23.44	98541	187.67	238.04	8.4	14.8
1641.0	26.1	42.3	79	10.1	1.25	23.48	98723	139.99	237.82	8.4	14.8
1642.0	26.9	39.4	75	10.1	1.20	23.52	98890	135.94	237.61	8.4	14.8
1643.0	37.5	35.7	121	10.1	1.21	23.55	99085	97.39	237.31	8.4	14.8
1644.0	39.1	35.3	120	10.1	1.18	23.57	99269	93.33	237.00	8.4	14.8
1645.0	40.0	36.0	117	10.1	1.18	23.60	99444	91.30	236.69	8.4	14.8
1646.0	34.6	36.2	113	10.1	1.21	23.62	99640	105.50	236.41	8.4	14.8
1647.0	13.9	38.8	74	10.1	1.39	23.70	99958	262.74	236.47	8.4	14.8
1648.0	19.3	37.0	63	10.1	1.22	23.75	100153	189.70	236.37	8.4	14.8
1649.0	27.1	40.4	62	10.1	1.14	23.79	100290	134.92	236.15	8.4	14.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1650.0	18.6	38.0	62	10.1	1.24	23.84	100490	196.80	236.07	8.4	14.8
1651.0	15.5	38.1	61	10.1	1.29	23.90	100727	235.35	236.07	8.4	14.8
1652.0	102.9	21.7	62	10.1	0.62	23.91	100763	35.51	235.65	8.4	14.8
1653.0	22.1	34.0	62	10.1	1.14	23.96	100931	165.35	235.50	8.4	14.8
1654.0	19.1	33.8	62	10.1	1.18	24.01	101124	190.72	235.41	8.4	14.8
1655.0	21.8	37.8	63	10.1	1.19	24.06	101298	167.38	235.26	8.4	14.8
1656.0	18.3	38.2	61	10.1	1.24	24.11	101500	199.85	235.19	8.4	14.8
1657.0	15.7	35.8	62	10.1	1.27	24.18	101739	233.32	235.19	8.4	14.8
1658.0	10.9	32.9	63	10.0	1.35	24.27	102083	333.75	235.39	8.4	14.8
1659.0	22.8	36.1	62	10.0	1.17	24.31	102246	160.28	235.24	8.4	14.8
1660.0	8.3	34.3	63	10.0	1.45	24.43	102699	439.25	235.66	8.4	14.8
1661.0	14.2	36.0	69	10.0	1.34	24.50	102991	257.67	235.70	8.4	14.8
1662.0	8.0	37.6	63	10.0	1.50	24.63	103463	455.49	236.15	8.4	14.8
1663.0	13.8	35.1	57	10.0	1.28	24.70	103708	263.76	236.21	8.4	14.8
1664.0	16.9	33.2	66	10.0	1.25	24.76	103942	216.08	236.17	8.4	14.8
1665.0	14.9	37.1	65	10.0	1.32	24.82	104206	244.48	236.19	8.4	14.8
1666.0	12.8	34.8	65	10.0	1.34	24.90	104511	285.06	236.29	8.4	14.8
1667.0	9.5	30.8	65	10.0	1.38	25.01	104925	385.49	236.59	8.4	14.8
1668.0	11.3	31.8	56	10.0	1.30	25.10	105225	323.61	236.77	8.4	14.8
1669.0	10.2	29.2	57	10.0	1.30	25.19	105558	358.10	237.01	8.4	14.8
1670.0	9.7	29.7	57	10.0	1.32	25.30	105909	375.34	237.29	8.4	14.8
1671.0	12.6	30.8	57	10.0	1.26	25.38	106178	289.12	237.40	8.4	14.8
1672.0	7.8	26.2	57	10.0	1.34	25.50	106615	467.66	237.86	8.4	14.8
1673.0	16.4	33.7	65	10.0	1.26	25.57	106853	223.18	237.83	8.4	14.8
1674.0	19.3	34.7	74	10.0	1.26	25.62	107083	189.70	237.73	8.4	14.8
1675.0	16.4	31.3	94	10.0	1.33	25.68	107426	223.18	237.70	8.4	14.8
1676.0	9.4	36.0	78	10.0	1.50	25.79	107920	387.52	238.00	8.4	14.8
1677.0	18.3	37.0	65	10.0	1.26	25.84	108133	199.85	237.93	8.4	14.8
1678.0	9.0	34.3	65	10.0	1.44	25.95	108564	403.75	238.26	8.4	14.8
1679.0	19.0	35.0	66	10.0	1.23	26.00	108773	192.21	238.17	8.4	14.8
1680.0	23.2	34.5	54	10.0	1.11	26.05	108913	157.24	238.01	8.4	14.8
1681.0	19.0	38.0	56	10.0	1.21	26.10	109089	191.73	237.91	8.4	14.8
1682.0	5.7	30.1	53	10.0	1.46	26.27	109641	640.11	238.71	8.4	14.8
1683.0	8.6	36.0	61	10.0	1.46	26.39	110072	427.08	239.08	8.4	14.8
1684.0	22.9	35.9	62	10.0	1.17	26.43	110235	159.27	238.92	8.4	14.8
1685.0	29.8	35.9	66	10.0	1.11	26.47	110368	122.75	238.70	8.4	14.8
1686.0	19.4	34.7	65	10.0	1.22	26.52	110569	188.69	238.60	8.4	14.8
1687.0	7.8	38.7	65	10.0	1.54	26.65	111072	470.70	239.05	8.4	14.9
1688.0	25.2	36.8	66	10.0	1.16	26.69	111228	145.07	238.87	8.4	14.9
1689.0	21.0	36.5	66	10.0	1.22	26.74	111417	173.90	238.74	8.4	14.9
1690.0	20.1	38.2	66	10.0	1.25	26.79	111614	181.69	238.63	8.4	14.9
1691.0	20.6	38.1	65	10.0	1.24	26.83	111804	177.53	238.51	8.4	14.9
1692.0	21.4	37.7	66	10.0	1.22	26.88	111989	170.43	238.38	8.4	14.9
1693.0	20.8	36.9	65	10.0	1.22	26.93	112178	175.50	238.26	8.4	14.9
1694.0	20.2	37.2	66	10.0	1.23	26.98	112373	180.57	238.15	8.4	14.9
1695.0	18.6	37.9	66	10.0	1.27	27.03	112585	196.80	238.07	8.4	14.9
1696.0	20.0	37.9	65	10.0	1.24	27.08	112780	182.60	237.96	8.4	14.9
1697.0	18.4	38.1	66	10.0	1.27	27.14	112994	198.83	237.89	8.4	14.9
1698.0	15.3	38.3	66	10.0	1.33	27.20	113254	239.41	237.89	8.4	14.9
1699.0	9.0	36.2	67	10.0	1.47	27.31	113703	406.79	238.21	8.4	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1700.0	10.5	37.4	67	10.0	1.44	27.41	114088	348.97	238.42	8.4	14.9
1701.0	15.5	36.8	65	10.0	1.31	27.47	114340	236.37	238.42	8.4	14.9
1702.0	6.3	36.4	61	10.0	1.55	27.63	114914	576.20	239.06	8.4	14.9
1703.0	14.3	37.7	65	10.0	1.34	27.70	115187	255.64	239.09	8.4	14.9
1704.0	15.8	38.2	64	10.0	1.31	27.77	115431	231.29	239.08	8.4	14.9
1705.0	13.7	37.6	65	10.0	1.35	27.84	115716	265.78	239.13	8.4	14.9
1706.0	14.1	36.6	65	10.0	1.33	27.91	115990	258.68	239.16	8.4	14.9
1707.0	17.1	37.4	65	10.0	1.28	27.97	116220	214.05	239.12	8.4	14.9
1708.0	15.2	38.6	65	10.0	1.33	28.03	116477	240.42	239.12	8.4	14.9
1709.0	17.7	39.1	65	10.0	1.29	28.09	116697	205.93	239.06	8.4	14.9
1710.0	15.7	38.5	64	10.0	1.32	28.15	116942	232.31	239.04	8.4	14.9
1711.0	16.3	38.0	66	10.0	1.31	28.21	117184	224.19	239.02	8.4	14.9
1712.0	20.7	38.5	66	10.0	1.24	28.26	117377	176.51	238.90	8.4	14.9
1713.0	17.4	39.1	65	10.0	1.30	28.32	117602	209.99	238.85	8.4	14.9
1714.0	18.0	38.4	66	10.0	1.28	28.38	117821	202.89	238.78	8.4	14.9
1715.0	16.0	38.0	66	10.0	1.31	28.44	118067	228.25	238.76	8.4	14.9
1716.0	15.7	39.6	66	10.0	1.34	28.50	118319	232.31	238.75	8.4	14.9
1717.0	16.0	38.8	66	10.0	1.32	28.56	118566	228.25	238.73	8.4	14.9
1718.0	15.4	38.5	66	10.0	1.33	28.63	118823	237.38	238.73	8.4	14.9
1719.0	16.0	38.2	66	10.0	1.32	28.69	119070	228.25	238.71	8.4	14.9
1720.0	19.0	38.5	66	10.0	1.26	28.74	119277	191.73	238.62	8.4	14.9
1721.0	16.2	37.5	66	10.0	1.30	28.81	119521	225.21	238.60	8.4	14.9
1722.0	15.7	39.0	66	10.0	1.33	28.87	119773	233.32	238.59	8.4	14.9
1723.0	14.7	38.4	66	10.0	1.34	28.94	120044	248.54	238.60	8.4	14.9
1724.0	15.7	38.2	66	10.0	1.32	29.00	120297	233.32	238.60	8.4	14.9
1725.0	14.2	38.5	66	10.0	1.36	29.07	120577	256.65	238.63	8.4	14.9
1726.0	13.4	37.6	65	10.0	1.36	29.15	120869	271.87	238.69	8.4	14.9
1727.0	14.5	38.5	65	10.0	1.34	29.22	121137	252.60	238.71	8.4	14.9
1728.0	14.0	38.4	66	10.0	1.36	29.29	121418	260.71	238.75	8.4	14.9
1729.0	15.0	36.0	65	10.0	1.31	29.35	121678	243.47	238.76	8.4	14.9
1730.0	17.6	36.4	64	10.0	1.26	29.41	121894	206.95	238.70	8.4	14.9
1731.0	15.4	36.8	63	10.0	1.30	29.48	122142	237.38	238.70	8.4	14.9
1732.0	17.2	36.6	66	10.0	1.27	29.53	122371	212.02	238.65	8.4	14.9
1733.0	17.6	37.1	66	10.1	1.26	29.59	122596	206.95	238.60	8.4	14.9
1734.0	15.8	37.3	66	10.1	1.30	29.65	122847	231.29	238.58	8.4	14.9
1735.0	12.2	37.5	66	10.1	1.38	29.74	123171	300.28	238.69	8.4	14.9
1736.0	14.7	37.4	66	10.1	1.32	29.80	123443	248.54	238.71	8.4	14.9
1737.0	12.9	37.5	67	10.1	1.37	29.88	123756	284.04	238.79	8.4	14.9
1738.0	12.5	36.7	65	10.1	1.36	29.96	124068	293.17	238.89	8.4	14.9
1739.0	13.5	38.1	68	10.1	1.36	30.04	124369	269.84	238.94	8.4	14.9
1740.0	11.8	36.8	69	10.1	1.39	30.12	124718	308.39	239.07	8.4	14.9
1741.0	14.6	37.3	68	10.1	1.33	30.19	125000	250.57	239.09	8.4	14.9
1742.0	14.5	37.4	68	10.1	1.34	30.26	125283	252.60	239.11	8.4	14.9
1743.0	18.9	38.7	70	10.1	1.27	30.31	125505	192.74	239.03	8.4	14.9
1744.0	17.1	36.3	68	10.1	1.27	30.37	125745	214.05	238.99	8.4	14.9
1745.0	17.2	37.9	68	10.1	1.29	30.43	125983	212.02	238.94	8.4	14.9
1746.0	15.9	37.7	68	10.1	1.31	30.49	126242	230.28	238.92	8.4	14.9
1747.0	15.9	36.4	68	10.1	1.30	30.55	126499	229.26	238.91	8.4	14.9
1748.0	15.0	36.0	68	10.1	1.31	30.62	126771	243.47	238.91	8.4	14.9
1749.0	14.9	35.7	66	10.1	1.30	30.69	127036	244.48	238.92	8.4	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1750.0	16.0	36.4	66	10.1	1.28	30.75	127282	228.25	238.91	8.4	14.9
1751.0	15.1	37.7	65	10.1	1.31	30.82	127542	241.44	238.91	8.4	14.9
1752.0	18.0	38.0	64	10.1	1.26	30.87	127755	202.89	238.85	8.4	14.9
1753.0	20.6	37.5	65	10.1	1.21	30.92	127944	177.53	238.74	8.4	14.9
1754.0	15.8	37.5	66	10.1	1.30	30.98	128193	231.29	238.73	8.4	14.9
1755.0	15.7	38.1	65	10.1	1.30	31.05	128443	232.31	238.72	8.4	14.9
1756.0	14.6	37.6	65	10.1	1.32	31.12	128712	250.57	238.74	8.4	14.9
1757.0	14.5	36.9	65	10.1	1.31	31.18	128981	251.58	238.76	8.4	15.0
1758.0	13.2	38.5	65	10.1	1.36	31.26	129276	276.67	238.83	8.4	15.0
1759.0	10.8	38.5	66	10.1	1.42	31.35	129642	338.82	239.00	8.4	15.0
1760.0	11.5	38.8	65	10.1	1.40	31.44	129978	316.51	239.13	8.4	15.0
1761.0	11.9	38.8	66	10.1	1.40	31.52	130309	306.36	239.24	8.4	15.0
1762.0	10.7	38.6	65	10.1	1.43	31.62	130677	341.87	239.42	8.4	15.0
1763.0	12.0	37.6	66	10.1	1.38	31.70	131006	303.32	239.53	8.4	15.0
1764.0	11.6	37.9	66	10.1	1.40	31.79	131346	315.49	239.66	8.4	15.0
1765.0	15.4	38.5	66	10.1	1.32	31.85	131603	237.38	239.65	8.4	15.0
1766.0	11.9	38.8	67	10.1	1.40	31.94	131938	306.36	239.77	8.4	15.0
1767.0	10.1	38.6	66	10.1	1.45	32.03	132330	361.14	239.97	8.4	15.0
1768.0	14.8	39.3	64	10.1	1.33	32.10	132589	246.85	239.98	8.4	15.0
1769.0	15.7	39.3	66	10.1	1.32	32.17	132840	232.31	239.97	8.4	15.0
1770.0	11.1	37.9	66	10.1	1.41	32.26	133196	328.68	240.12	8.4	15.0
1771.0	14.6	37.3	65	10.1	1.32	32.32	133463	249.55	240.13	8.4	15.0
1772.0	16.7	40.2	65	10.1	1.31	32.38	133698	219.12	240.16	8.4	15.0
1773.0	16.5	40.3	65	10.1	1.31	32.44	133936	221.15	240.07	8.4	15.0
1774.0	10.3	39.2	66	10.1	1.45	32.54	134322	356.07	240.26	8.4	15.0
1775.0	12.1	37.7	66	10.1	1.38	32.62	134647	301.29	240.36	8.4	15.0
1776.0	12.1	37.4	66	10.1	1.38	32.71	134973	301.29	240.46	8.4	15.0
1777.0	14.3	37.4	65	10.1	1.32	32.78	135246	255.64	240.49	8.4	15.0
1778.0	11.4	38.3	64	10.1	1.40	32.86	135584	319.55	240.62	8.4	15.0
1779.0	10.8	35.6	66	10.1	1.39	32.96	135947	336.80	240.78	8.4	15.0
1780.0	11.5	36.1	65	10.1	1.37	33.04	136285	316.51	240.91	8.4	15.0
1781.0	10.5	35.8	65	10.1	1.40	33.14	136657	346.94	241.08	8.4	15.0
1782.0	14.0	36.1	65	10.1	1.32	33.21	136937	261.73	241.12	8.4	15.0
1783.0	11.3	37.2	66	10.1	1.40	33.30	137287	324.62	241.25	8.4	15.0
1784.0	12.1	37.4	64	10.1	1.37	33.38	137602	301.29	241.35	8.4	15.0
1785.0	9.3	37.8	65	10.1	1.46	33.49	138023	392.59	241.60	8.4	15.0
1786.0	10.7	37.8	66	10.1	1.42	33.58	138389	339.84	241.76	8.4	15.0
1787.0	10.0	37.0	66	10.1	1.43	33.68	138785	365.20	241.96	8.4	15.0
1788.0	8.2	36.1	66	10.1	1.48	33.80	139265	444.33	242.29	8.4	15.0
1789.0	13.8	36.4	65	10.1	1.32	33.88	139548	264.77	242.33	8.4	15.0

BIT NUMBER	5	IADC CODE	517	INTERVAL	1789.0- 2021.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	6.3	BIT RUN	232.0
TOTAL HOURS	16.95	TOTAL TURNS	59491	CONDITION	T2 B3 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1790.0	16.1	16.6	67	10.3	1.02	0.06	251	227	31754	8.4	15.0
1791.0	12.6	26.2	65	10.3	1.20	0.14	559	289	16022	8.4	15.0
1792.0	15.5	30.1	64	10.3	1.19	0.21	808	236	10760	8.4	15.0
1793.0	15.8	30.3	65	10.3	1.19	0.27	1053	231	8128	8.4	15.0
1794.0	15.2	32.2	64	10.3	1.22	0.34	1307	240	6550	8.4	15.0
1795.0	15.8	35.5	64	10.3	1.25	0.40	1552	231	5497	8.4	15.0
1796.0	15.0	35.5	64	10.3	1.26	0.47	1809	243	4747	8.4	15.0
1797.0	11.9	37.2	59	10.3	1.32	0.55	2108	306	4192	8.4	15.0
1798.0	15.1	39.9	63	10.3	1.30	0.62	2356	241	3753	8.4	15.0
1799.0	14.5	39.4	62	10.3	1.30	0.68	2614	252	3403	8.4	15.0
1800.0	11.4	37.5	63	10.3	1.36	0.77	2946	320	3122	8.4	15.0
1801.0	17.1	39.0	63	10.3	1.25	0.83	3169	214	2880	8.4	15.0
1802.0	13.3	39.7	63	10.3	1.33	0.91	3452	274	2679	8.4	15.0
1803.0	14.9	39.3	63	10.3	1.29	0.97	3705	244	2506	8.4	15.0
1804.0	14.6	39.1	64	10.3	1.30	1.04	3967	251	2355	8.4	15.0
1805.0	13.4	38.3	64	10.3	1.32	1.12	4253	273	2225	8.4	15.0
1806.0	13.4	38.1	64	10.3	1.32	1.19	4539	273	2110	8.4	15.0
1807.0	17.4	38.5	66	10.3	1.26	1.25	4766	210	2005	8.4	15.0
1808.0	18.5	38.7	66	10.3	1.24	1.30	4981	198	1910	8.4	15.0
1809.0	17.3	39.0	66	10.3	1.26	1.36	5210	211	1825	8.4	15.0
1810.0	10.5	40.9	66	10.3	1.43	1.46	5589	349	1754	8.4	15.0
1811.0	4.2	42.4	65	10.3	1.72	1.69	6502	861	1714	8.4	15.0
1812.0	5.5	35.9	71	10.3	1.59	1.87	7281	666	1668	8.4	15.0
1813.0	13.1	38.6	65	10.3	1.34	1.95	7579	279	1610	8.4	15.0
1814.0	12.4	40.3	64	10.3	1.36	2.03	7887	295	1556	8.4	15.0
1815.0	14.0	38.0	64	10.3	1.31	2.10	8161	261	1508	8.4	15.0
1816.0	16.5	38.3	67	10.3	1.28	2.16	8406	221	1460	8.4	15.0
1817.0	15.7	39.1	68	10.3	1.30	2.23	8666	232	1416	8.4	15.0
1818.0	15.4	40.1	69	10.3	1.32	2.29	8933	237	1376	8.4	15.0
1819.0	16.1	40.9	69	10.3	1.32	2.35	9189	227	1337	8.4	15.0
1820.0	15.3	40.8	69	10.3	1.33	2.42	9460	239	1302	8.4	15.0
1821.0	13.2	39.8	69	10.3	1.36	2.49	9770	276	1270	8.4	15.0
1822.0	11.9	37.0	69	10.3	1.36	2.58	10117	307	1241	8.4	15.0
1823.0	17.0	37.9	69	10.3	1.27	2.64	10361	215	1211	8.4	15.0
1824.0	17.4	38.3	69	10.3	1.27	2.70	10599	210	1182	8.4	15.0
1825.0	16.2	37.5	69	10.3	1.28	2.76	10854	225	1155	8.4	15.0
1826.0	14.9	41.6	74	10.3	1.37	2.82	11152	244	1131	8.4	15.0
1827.0	15.7	37.1	82	10.3	1.34	2.89	11466	233	1107	8.4	15.0
1828.0	21.1	42.4	83	10.3	1.31	2.94	11702	173	1083	8.4	15.0
1829.0	19.5	42.9	82	10.3	1.33	2.99	11955	188	1061	8.4	15.1
1830.0	18.2	42.7	83	10.3	1.35	3.04	12230	201	1040	8.4	15.1
1831.0	16.3	41.6	83	10.3	1.38	3.10	12536	224	1020	8.4	15.1
1832.0	16.4	41.6	84	10.3	1.38	3.16	12843	222	1002	8.4	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1833.0	18.8	42.4	83	10.3	1.34	3.22	13107	193.76	983.54	8.4	15.1
1834.0	12.4	43.7	79	10.3	1.47	3.30	13490	295.20	968.24	8.4	15.1
1835.0	12.2	41.8	60	10.3	1.37	3.38	13788	300.28	953.72	8.4	15.1
1836.0	18.5	39.0	52	10.3	1.17	3.43	13957	197.82	937.64	8.4	15.1
1837.0	17.4	38.6	52	10.3	1.19	3.49	14136	209.99	922.48	8.4	15.1
1838.0	18.4	40.2	52	10.3	1.18	3.55	14305	198.83	907.71	8.4	15.1
1839.0	14.0	41.6	52	10.3	1.28	3.62	14530	240.71	894.77	8.4	15.1
1840.0	19.1	41.4	52	10.3	1.18	3.67	14692	190.72	880.97	8.4	15.1
1841.0	18.8	43.3	52	10.3	1.21	3.72	14859	194.77	867.77	8.4	15.1
1842.0	16.5	41.5	52	10.3	1.23	3.78	15049	221.15	855.57	8.4	15.1
1843.0	18.6	42.0	52	10.3	1.20	3.84	15217	196.80	843.37	8.4	15.1
1844.0	10.3	42.4	53	10.3	1.39	3.93	15528	355.06	834.49	8.4	15.1
1845.0	17.3	41.7	53	10.3	1.22	3.99	15710	211.34	823.36	8.4	15.1
1846.0	13.8	41.7	53	10.3	1.29	4.07	15940	245.45	813.58	8.4	15.1
1847.0	16.9	44.5	54	10.3	1.26	4.12	16131	216.08	803.27	8.4	15.1
1848.0	16.7	43.7	53	10.3	1.26	4.18	16323	219.12	793.37	8.4	15.1
1849.0	17.5	43.0	54	10.3	1.23	4.24	16507	208.98	783.63	8.4	15.1
1850.0	13.6	42.2	54	10.3	1.31	4.32	16747	248.83	775.19	8.4	15.1
1851.0	16.1	41.0	53	10.3	1.24	4.38	16944	226.22	766.34	8.4	15.1
1852.0	18.8	42.0	54	10.3	1.20	4.43	17116	194.77	757.27	8.4	15.1
1853.0	16.6	40.8	54	10.3	1.23	4.49	17310	220.13	748.87	8.4	15.1
1854.0	15.6	41.5	54	10.3	1.26	4.55	17517	234.34	740.96	8.4	15.1
1855.0	11.3	39.4	53	10.3	1.33	4.64	17801	324.62	734.65	8.4	15.1
1856.0	15.0	38.6	53	10.3	1.23	4.71	18011	243.47	727.32	8.4	15.1
1857.0	16.5	38.7	53	10.3	1.21	4.77	18205	221.15	719.88	8.4	15.1
1858.0	16.1	37.8	53	10.3	1.21	4.83	18402	226.22	712.72	8.4	15.1
1859.0	19.6	37.7	53	10.3	1.15	4.88	18565	186.66	705.21	8.4	15.1
1860.0	17.1	36.5	53	10.3	1.18	4.94	18752	214.85	698.22	8.4	15.1
1861.0	12.9	37.2	53	10.3	1.27	5.02	18998	284.04	692.53	8.4	15.1
1862.0	15.5	38.0	53	10.3	1.22	5.09	19206	236.37	686.29	8.4	15.1
1863.0	16.4	35.1	53	10.3	1.18	5.15	19400	222.16	680.01	8.4	15.1
1864.0	19.6	41.1	52	10.3	1.17	5.20	19560	185.98	673.43	8.4	15.1
1865.0	15.1	39.8	52	10.3	1.24	5.26	19768	242.45	667.76	8.4	15.1
1866.0	14.5	38.1	53	10.3	1.24	5.33	19989	252.60	662.36	8.4	15.1
1867.0	16.1	37.6	53	10.3	1.21	5.39	20187	227.24	656.79	8.4	15.1
1868.0	13.3	36.5	53	10.3	1.25	5.47	20423	273.90	651.94	8.4	15.1
1869.0	16.4	35.2	54	10.3	1.18	5.53	20620	223.18	646.58	8.4	15.1
1870.0	16.6	39.8	53	10.3	1.22	5.59	20814	220.13	641.31	8.4	15.1
1871.0	18.4	38.9	53	10.3	1.18	5.65	20988	198.83	635.92	8.4	15.1
1872.0	16.7	39.0	53	10.3	1.21	5.71	21180	219.12	630.90	8.4	15.1
1873.0	15.3	37.8	53	10.3	1.22	5.77	21388	239.41	626.24	8.4	15.1
1874.0	18.9	43.1	55	10.3	1.22	5.82	21562	192.74	621.14	8.4	15.1
1875.0	16.4	39.3	55	10.2	1.24	5.89	21762	223.18	616.51	8.4	15.1
1876.0	20.7	38.6	54	10.2	1.16	5.93	21919	176.51	611.45	8.4	15.1
1877.0	17.5	37.5	55	10.2	1.21	5.99	22107	208.98	606.88	8.4	15.1
1878.0	17.8	38.2	55	10.2	1.21	6.05	22291	204.92	602.36	8.4	15.1
1879.0	20.0	37.1	54	10.2	1.16	6.10	22455	182.60	597.70	8.4	15.1
1880.0	16.5	33.3	55	10.2	1.18	6.16	22655	221.15	593.56	8.4	15.1
1881.0	16.4	40.0	55	10.2	1.25	6.22	22854	222.16	589.52	8.4	15.1
1882.0	15.7	36.2	56	10.2	1.23	6.28	23070	233.32	585.69	8.4	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1883.0	23.8	38.6	55	10.2	1.13	6.32	23210	153.18	581.09	8.4	15.1
1884.0	20.3	37.4	51	10.2	1.14	6.37	23359	179.56	576.86	8.4	15.1
1885.0	21.3	35.4	56	10.2	1.13	6.42	23516	171.44	572.64	8.4	15.1
1886.0	19.6	37.6	55	10.2	1.18	6.47	23686	186.66	568.66	8.4	15.1
1887.0	10.9	42.8	55	10.0	1.43	6.56	23989	333.75	566.27	8.4	15.1
1888.0	19.6	39.2	55	9.9	1.22	6.61	24158	186.66	562.43	8.4	15.1
1889.0	15.6	38.6	56	10.0	1.29	6.68	24375	234.34	559.15	8.4	15.1
1890.0	15.3	36.9	56	10.0	1.27	6.74	24593	238.39	555.97	8.4	15.1
1891.0	17.0	37.5	56	10.0	1.25	6.80	24791	215.06	552.63	8.4	15.1
1892.0	14.4	38.5	55	10.0	1.30	6.87	25022	253.61	549.73	8.4	15.1
1893.0	10.6	36.1	53	10.0	1.36	6.97	25320	344.91	547.76	8.4	15.1
1894.0	17.1	38.8	53	9.9	1.24	7.02	25507	214.05	544.58	8.4	15.1
1895.0	12.5	40.0	55	10.0	1.36	7.10	25770	292.16	542.20	8.4	15.1
1896.0	16.6	39.6	56	10.0	1.27	7.16	25971	220.13	539.19	8.4	15.1
1897.0	10.7	39.8	56	10.0	1.41	7.26	26282	340.85	537.35	8.4	15.1
1898.0	13.6	38.2	55	10.0	1.32	7.33	26526	267.81	534.88	8.4	15.1
1899.0	18.7	39.4	55	9.9	1.23	7.39	26703	195.79	531.80	8.4	15.1
1900.0	16.0	35.0	55	10.0	1.23	7.45	26909	228.25	529.06	8.4	15.1
1901.0	15.5	39.1	55	10.0	1.28	7.51	27121	235.35	526.44	8.4	15.1
1902.0	17.1	39.1	51	9.9	1.23	7.57	27300	213.03	523.67	8.4	15.1
1903.0	15.7	40.2	54	10.0	1.29	7.63	27505	233.32	521.12	8.4	15.1
1904.0	25.5	38.8	55	10.0	1.13	7.67	27634	143.04	517.83	8.4	15.2
1905.0	17.6	39.0	53	10.0	1.23	7.73	27815	206.95	515.15	8.4	15.2
1906.0	24.2	38.2	53	10.0	1.13	7.77	27946	151.15	512.04	8.4	15.2
1907.0	25.2	38.2	53	10.0	1.12	7.81	28072	145.07	508.93	8.4	15.2
1908.0	22.6	38.2	53	10.0	1.15	7.86	28213	161.30	506.01	8.4	15.2
1909.0	22.5	38.0	53	10.0	1.15	7.90	28353	162.31	503.15	8.4	15.2
1910.0	22.0	38.4	53	10.0	1.16	7.95	28498	166.37	500.36	8.4	15.2
1911.0	20.0	37.3	53	10.0	1.18	8.00	28658	182.60	497.76	8.4	15.2
1912.0	19.0	37.0	53	10.0	1.19	8.05	28826	191.73	495.27	8.4	15.2
1913.0	15.6	38.0	51	10.0	1.25	8.11	29024	234.34	493.17	8.4	15.2
1914.0	18.9	38.5	53	10.0	1.21	8.16	29192	192.74	490.76	8.4	15.2
1915.0	16.8	39.6	53	10.0	1.26	8.22	29382	217.09	488.59	8.4	15.2
1916.0	18.6	39.8	53	10.0	1.22	8.28	29553	196.80	486.29	8.4	15.2
1917.0	18.2	38.5	53	10.0	1.22	8.33	29728	200.86	484.06	8.4	15.2
1918.0	18.7	39.5	57	9.9	1.24	8.39	29909	195.79	481.83	8.4	15.2
1919.0	18.2	39.7	59	10.0	1.27	8.44	30105	200.86	479.67	8.4	15.2
1920.0	11.4	40.4	60	10.0	1.42	8.53	30420	321.58	478.46	8.4	15.2
1921.0	17.8	40.4	59	9.9	1.28	8.59	30620	204.92	476.39	8.4	15.2
1922.0	60.0	37.2	54	10.0	0.85	8.60	30674	60.87	473.26	8.4	15.2
1923.0	21.6	38.6	51	10.0	1.16	8.65	30816	169.41	471.00	8.4	15.2
1924.0	26.0	37.8	49	9.9	1.08	8.69	30929	140.57	468.55	8.4	15.2
1925.0	25.5	38.3	57	10.0	1.14	8.73	31064	143.04	466.16	8.4	15.2
1926.0	16.7	39.3	59	10.0	1.29	8.79	31276	218.11	464.34	8.4	15.2
1927.0	15.0	39.2	59	10.0	1.32	8.85	31512	243.47	462.74	8.4	15.2
1928.0	15.3	40.0	59	10.0	1.32	8.92	31743	238.39	461.13	8.4	15.2
1929.0	14.7	40.3	59	10.0	1.34	8.99	31984	248.54	459.61	8.4	15.2
1930.0	15.1	41.0	60	9.9	1.34	9.05	32221	241.44	458.06	8.4	15.2
1931.0	16.2	41.5	60	10.0	1.32	9.11	32441	225.21	456.42	8.4	15.2
1932.0	12.5	39.5	57	10.0	1.36	9.19	32713	291.15	455.27	8.4	15.2



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1933.0	15.1	37.9	56	10.0	1.29	9.26	32937	242.45	453.79	8.4	15.2
1934.0	15.4	39.9	57	10.0	1.31	9.33	33158	237.38	452.30	8.4	15.2
1935.0	17.8	38.1	56	9.9	1.24	9.38	33347	204.92	450.60	8.4	15.2
1936.0	15.3	39.3	55	10.0	1.29	9.45	33561	238.39	449.16	8.4	15.2
1937.0	14.0	39.9	57	10.0	1.33	9.52	33804	260.71	447.89	8.4	15.2
1938.0	17.9	39.6	56	9.9	1.25	9.57	33992	203.90	446.25	8.4	15.2
1939.0	12.9	40.2	57	10.0	1.36	9.65	34257	283.03	445.16	8.4	15.2
1940.0	16.0	40.4	57	10.0	1.30	9.71	34469	228.25	443.72	8.4	15.2
1941.0	13.7	40.3	56	10.0	1.34	9.79	34715	265.78	442.55	8.4	15.2
1942.0	14.6	39.5	56	10.0	1.31	9.85	34945	249.55	441.29	8.4	15.2
1943.0	14.5	38.9	54	10.0	1.30	9.92	35170	252.60	440.07	8.4	15.2
1944.0	16.1	38.6	55	10.0	1.27	9.99	35374	227.24	438.69	8.4	15.2
1945.0	19.8	38.2	55	10.0	1.20	10.04	35539	184.63	437.07	8.4	15.2
1946.0	17.7	38.6	55	10.0	1.24	10.09	35726	205.93	435.59	8.4	15.2
1947.0	14.9	39.3	55	10.0	1.30	10.16	35945	244.48	434.38	8.4	15.2
1948.0	18.4	39.6	55	10.0	1.24	10.21	36124	198.83	432.90	8.4	15.2
1949.0	20.3	39.4	54	10.0	1.20	10.26	36284	179.56	431.32	8.4	15.2
1950.0	20.9	39.6	54	10.0	1.19	10.31	36439	174.48	429.72	8.4	15.2
1951.0	16.5	38.2	50	10.0	1.23	10.37	36620	221.15	428.44	8.4	15.2
1952.0	16.2	39.1	52	10.0	1.26	10.43	36814	225.21	427.19	8.4	15.2
1953.0	9.5	38.6	53	10.0	1.42	10.54	37148	382.45	426.92	8.4	15.2
1954.0	11.7	40.1	53	10.0	1.37	10.62	37420	312.45	426.22	8.4	15.2
1955.0	8.3	40.0	53	10.0	1.48	10.74	37802	438.24	426.30	8.4	15.2
1956.0	9.6	39.6	53	10.0	1.43	10.85	38134	381.43	426.03	8.4	15.2
1957.0	10.6	40.4	53	10.0	1.41	10.94	38434	345.93	425.55	8.4	15.2
1958.0	7.2	41.0	55	10.0	1.54	11.08	38891	510.27	426.05	8.4	15.2
1959.0	8.1	39.7	54	9.9	1.42	11.21	39292	449.40	426.19	8.4	15.2
1960.0	7.5	40.4	54	9.9	1.52	11.34	39726	485.92	426.54	8.4	15.2
1961.0	9.2	41.2	54	9.9	1.46	11.45	40075	395.63	426.36	8.4	15.2
1962.0	9.1	40.2	53	10.0	1.45	11.56	40422	401.72	426.22	8.4	15.2
1963.0	9.3	40.3	53	10.0	1.44	11.66	40760	391.58	426.02	8.4	15.2
1964.0	10.3	40.5	53	10.0	1.41	11.76	41068	356.07	425.62	8.4	15.2
1965.0	11.1	40.0	52	10.0	1.38	11.85	41349	327.67	425.06	8.4	15.2
1966.0	7.8	40.3	53	9.9	1.50	11.98	41757	469.69	425.31	8.4	15.2
1967.0	10.5	39.7	52	10.0	1.40	12.08	42055	346.94	424.87	8.4	15.2
1968.0	7.8	40.8	53	10.0	1.50	12.20	42457	465.63	425.10	8.4	15.2
1969.0	7.3	40.6	53	9.9	1.52	12.34	42887	497.08	425.50	8.4	15.2
1970.0	7.7	40.8	54	10.0	1.52	12.47	43310	474.76	425.77	8.4	15.2
1971.0	10.3	39.7	53	10.0	1.41	12.57	43622	355.06	425.38	8.4	15.2
1972.0	9.5	40.5	54	9.9	1.45	12.67	43964	384.47	425.16	8.4	15.2
1973.0	7.7	36.0	58	10.0	1.48	12.80	44418	474.76	425.43	8.4	15.2
1974.0	9.9	34.4	61	9.9	1.40	12.90	44786	367.23	425.11	8.4	15.2
1975.0	9.6	36.4	60	10.0	1.43	13.01	45162	379.40	424.87	8.4	15.2
1976.0	14.0	43.8	61	10.0	1.40	13.08	45425	261.73	424.00	8.4	15.2
1977.0	11.8	43.8	61	10.0	1.45	13.16	45736	309.41	423.39	8.4	15.2
1978.0	12.5	43.9	62	10.0	1.44	13.24	46031	291.15	422.69	8.4	15.2
1979.0	12.9	44.3	62	10.0	1.43	13.32	46318	282.02	421.95	8.4	15.2
1980.0	11.9	43.9	61	10.0	1.45	13.40	46628	306.87	421.34	8.4	15.2
1981.0	18.0	43.3	64	10.0	1.33	13.46	46839	202.89	420.21	8.4	15.2
1982.0	13.7	43.4	62	10.0	1.40	13.53	47110	266.80	419.41	8.4	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1983.0	16.0	43.1	62	10.0	1.35	13.59	47341	228.25	418.43	8.4	15.3
1984.0	16.9	43.2	62	10.0	1.34	13.65	47561	216.08	417.39	8.4	15.3
1985.0	13.7	43.6	62	10.0	1.41	13.73	47831	265.78	416.62	8.4	15.3
1986.0	14.5	43.0	62	10.0	1.39	13.80	48089	251.58	415.78	8.4	15.3
1987.0	8.6	43.0	62	10.0	1.55	13.91	48524	426.07	415.83	8.4	15.3
1988.0	8.5	42.1	64	9.9	1.55	14.03	48976	431.14	415.91	8.4	15.3
1989.0	11.0	40.0	62	10.0	1.43	14.12	49314	332.00	415.49	8.4	15.3
1990.0	30.0	38.4	63	9.9	1.12	14.15	49441	121.73	414.03	8.4	15.3
1991.0	10.7	38.4	62	10.0	1.43	14.25	49788	341.87	413.67	8.4	15.3
1992.0	10.3	41.3	62	10.0	1.47	14.34	50145	353.03	413.37	8.4	15.3
1993.0	11.2	41.8	61	10.0	1.45	14.43	50475	326.65	412.94	8.4	15.3
1994.0	4.9	41.8	61	10.0	1.71	14.64	51224	747.65	414.58	8.4	15.3
1995.0	13.4	41.9	60	10.0	1.39	14.71	51493	271.87	413.88	8.4	15.3
1996.0	14.5	41.4	58	10.0	1.35	14.78	51736	252.60	413.11	8.4	15.3
1997.0	14.9	42.3	59	10.0	1.35	14.85	51972	244.48	412.29	8.4	15.3
1998.0	13.9	42.9	59	10.0	1.38	14.92	52227	262.74	411.58	8.4	15.3
1999.0	12.9	42.7	62	10.0	1.42	15.00	52516	284.04	410.97	8.4	15.3
2000.0	12.0	39.9	56	9.9	1.38	15.08	52796	305.35	410.47	8.4	15.3
2001.0	14.5	40.3	57	10.0	1.33	15.15	53033	251.58	409.72	8.4	15.3
2002.0	12.5	41.0	57	10.0	1.39	15.23	53309	292.16	409.17	8.4	15.3
2003.0	12.7	41.7	58	9.9	1.39	15.31	53581	287.09	408.60	8.4	15.3
2004.0	12.5	41.4	57	10.0	1.39	15.39	53856	293.17	408.06	8.4	15.3
2005.0	9.5	42.1	56	9.9	1.48	15.50	54212	384.47	407.95	8.4	15.3
2006.0	11.7	43.5	60	10.0	1.45	15.58	54520	311.43	407.51	8.4	15.3
2007.0	9.6	43.7	60	10.0	1.51	15.68	54891	379.40	407.38	8.4	15.3
2008.0	11.1	43.4	60	10.0	1.46	15.77	55215	328.68	407.02	8.4	15.3
2009.0	6.5	42.5	59	9.9	1.61	15.93	55753	558.96	407.71	8.4	15.3
2010.0	8.0	42.2	64	9.9	1.57	16.05	56229	453.96	407.92	8.4	15.3
2011.0	14.5	42.9	63	10.0	1.39	16.12	56488	251.58	407.22	8.4	15.3
2012.0	12.5	42.6	62	10.0	1.43	16.20	56788	292.16	406.70	8.4	15.3
2013.0	12.6	42.7	62	10.0	1.42	16.28	57081	290.13	406.18	8.4	15.3
2014.0	12.3	43.0	62	9.9	1.43	16.36	57382	296.22	405.69	8.4	15.3
2015.0	12.9	43.2	62	10.0	1.42	16.44	57668	282.02	405.14	8.4	15.3
2016.0	12.2	43.2	62	10.0	1.44	16.52	57972	299.26	404.68	8.4	15.3
2017.0	11.9	43.2	62	10.0	1.45	16.60	58283	307.38	404.25	8.4	15.3
2018.0	12.0	43.8	62	10.0	1.45	16.69	58593	304.33	403.81	8.4	15.3
2019.0	11.3	43.5	60	9.9	1.46	16.78	58913	323.61	403.47	8.4	15.3
2020.0	13.4	43.1	56	10.0	1.38	16.85	59164	271.87	402.90	8.4	15.3
2021.0	10.3	43.8	56	10.0	1.47	16.95	59491	355.06	402.69	8.4	15.3

BIT NUMBER	6	IADC CODE	537	INTERVAL	2021.0- 2397.0
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	8266.00	TRIP TIME	7.0	BIT RUN	376.0
TOTAL HOURS	48.06	TOTAL TURNS	154094	CONDITION	T5 B5 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2022.0	10.9	35.6	62	10.0	1.39	0.09	341	335	34165	8.4	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2023.0	4.7	39.5	54	10.0	1.65	0.30	1030	773	17469	8.4	15.3
2024.0	9.0	37.5	50	9.9	1.40	0.41	1361	404	11781	8.4	15.3
2025.0	8.9	37.3	55	10.0	1.44	0.53	1733	410	8938	8.4	15.3
2026.0	8.9	37.8	56	10.0	1.45	0.64	2110	410	7232	8.4	15.3
2027.0	9.9	38.3	55	9.9	1.42	0.74	2445	369	6088	8.4	15.3
2028.0	9.0	38.2	56	9.9	1.45	0.85	2815	406	5277	8.4	15.3
2029.0	8.6	38.1	53	10.0	1.45	0.97	3189	426	4670	8.4	15.3
2030.0	7.0	38.2	51	9.9	1.50	1.11	3629	522	4209	8.4	15.3
2031.0	7.7	38.4	52	10.0	1.48	1.24	4035	473	3836	8.4	15.3
2032.0	7.5	38.9	53	9.9	1.50	1.37	4461	485	3531	8.4	15.3
2033.0	8.7	39.8	54	9.9	1.47	1.49	4835	421	3272	8.4	15.3
2034.0	7.2	40.1	57	10.0	1.54	1.63	5306	507	3059	8.4	15.3
2035.0	8.0	40.3	58	10.0	1.52	1.75	5739	454	2873	8.4	15.3
2036.0	6.6	40.3	58	10.0	1.58	1.90	6269	553	2719	8.4	15.3
2037.0	10.4	39.5	58	10.0	1.43	2.00	6806	352	2571	8.4	15.3
2038.0	8.7	39.5	59	10.0	1.49	2.11	7009	419	2444	8.4	15.3
2039.0	5.1	36.0	56	10.0	1.59	2.31	7660	710	2348	8.4	15.3
2040.0	9.4	39.3	55	10.0	1.44	2.42	8010	391	2245	8.4	15.3
2041.0	11.1	40.0	58	10.0	1.42	2.51	8325	330	2149	8.4	15.3
2042.0	3.5	41.0	58	10.0	1.78	2.79	9305	1031	2096	8.4	15.3
2043.0	4.1	40.8	57	10.0	1.73	3.03	10146	891	2041	8.4	15.3
2044.0	3.9	41.8	57	10.0	1.76	3.29	11016	931	1993	8.4	15.3
2045.0	5.3	44.4	55	10.0	1.68	3.48	11638	693	1939	8.4	15.3
2046.0	13.1	42.5	58	10.0	1.39	3.55	11904	279	1872	8.4	15.3
2047.0	11.6	42.6	58	9.9	1.43	3.64	12205	314	1812	8.4	15.3
2048.0	10.9	42.8	58	10.0	1.45	3.73	12524	334	1757	8.4	15.3
2049.0	10.1	42.7	57	10.0	1.47	3.83	12866	362	1708	8.4	15.3
2050.0	12.1	41.2	59	10.0	1.41	3.91	13160	302	1659	8.4	15.3
2051.0	14.5	41.3	59	10.0	1.35	3.98	13402	252	1612	8.4	15.3
2052.0	11.1	42.4	59	10.0	1.45	4.07	13722	330	1571	8.4	15.3
2053.0	10.0	42.7	59	10.0	1.48	4.17	14076	365	1533	8.4	15.3
2054.0	11.8	42.4	59	10.0	1.43	4.26	14376	309	1496	8.4	15.3
2055.0	10.9	42.2	58	10.0	1.44	4.35	14693	335	1462	8.4	15.3
2056.0	9.3	42.6	58	10.0	1.50	4.46	15069	393	1431	8.4	15.3
2057.0	9.1	43.0	58	10.0	1.51	4.56	15453	401	1403	8.4	15.3
2058.0	7.6	43.3	61	10.0	1.58	4.70	15932	481	1378	8.4	15.3
2059.0	3.7	43.8	66	10.0	1.85	4.97	17003	987	1368	8.4	15.3
2060.0	5.6	43.5	56	10.0	1.66	5.15	17601	653	1349	8.4	15.3
2061.0	9.2	42.4	57	9.9	1.49	5.25	17973	397	1325	8.4	15.3
2062.0	11.7	42.9	57	10.0	1.43	5.34	18266	311	1301	8.4	15.3
2063.0	12.7	43.4	57	10.0	1.40	5.42	18535	288	1277	8.4	15.4
2064.0	10.9	43.6	57	10.0	1.45	5.51	18849	334	1255	8.4	15.4
2065.0	12.2	43.9	58	10.0	1.43	5.59	19134	300	1233	8.4	15.4
2066.0	11.0	43.7	57	10.0	1.45	5.68	19446	333	1213	8.4	15.4
2067.0	10.3	43.4	57	10.0	1.47	5.78	19779	353	1194	8.4	15.4
2068.0	12.2	42.1	57	9.9	1.40	5.86	20058	300	1175	8.4	15.4
2069.0	12.0	43.4	56	9.9	1.43	5.95	20340	305	1157	8.4	15.4
2070.0	8.6	43.1	57	9.9	1.54	6.06	20736	426	1142	8.4	15.4
2071.0	8.9	43.4	56	9.8	1.53	6.17	21117	412	1128	8.4	15.4
2072.0	10.1	43.2	56	9.9	1.48	6.27	21451	361	1113	8.4	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2073.0	9.7	43.4	56	9.9	1.50	6.38	21800	377	1098	8.4	15.4
2074.0	9.1	43.2	56	9.9	1.52	6.49	22171	402	1085	8.4	15.4
2075.0	6.8	43.3	56	9.8	1.61	6.63	22662	534	1075	8.4	15.4
2076.0	3.9	44.2	56	9.9	1.80	6.89	23525	933	1073	8.4	15.4
2077.0	4.2	44.7	57	9.8	1.79	7.12	24334	862	1069	8.4	15.4
2078.0	7.1	43.7	58	9.9	1.61	7.27	24823	513	1059	8.4	15.4
2079.0	10.0	43.7	58	9.9	1.50	7.37	25171	365	1047	8.4	15.4
2080.0	10.7	44.0	58	9.9	1.49	7.46	25498	342	1035	8.4	15.4
2081.0	10.0	43.4	58	9.9	1.50	7.56	25846	365	1024	8.4	15.4
2082.0	4.1	44.8	58	9.9	1.81	7.80	26701	898	1022	8.4	15.4
2083.0	3.3	45.2	58	9.8	1.88	8.11	27768	1115	1023	8.4	15.4
2084.0	10.6	43.1	58	9.9	1.48	8.20	28095	344	1013	8.4	15.4
2085.0	9.8	44.9	58	9.9	1.52	8.31	28449	373	1003	8.4	15.4
2086.0	8.0	44.6	56	9.9	1.53	8.43	28872	456.50	994.19	8.4	15.4
2087.0	9.2	43.0	57	9.8	1.52	8.54	29244	399.01	985.17	8.4	15.4
2088.0	11.2	44.9	57	9.9	1.47	8.63	29551	325.64	975.33	8.4	15.4
2089.0	9.4	45.0	57	9.9	1.53	8.74	29912	386.50	966.67	8.4	15.4
2090.0	10.3	43.1	57	9.9	1.48	8.83	30243	353.03	957.77	8.4	15.4
2091.0	10.8	44.5	57	9.9	1.48	8.92	30557	336.80	948.90	8.4	15.4
2092.0	9.9	45.1	57	9.9	1.52	9.03	30903	368.24	940.72	8.4	15.4
2093.0	9.2	43.0	57	9.8	1.52	9.13	31276	396.65	933.17	8.4	15.4
2094.0	9.9	43.4	58	9.9	1.50	9.24	31627	370.27	925.46	8.4	15.4
2095.0	9.6	42.5	57	9.9	1.50	9.34	31985	380.42	918.09	8.4	15.4
2096.0	9.1	38.5	56	9.9	1.46	9.45	32356	401.72	911.21	8.4	15.4
2097.0	16.7	41.3	56	9.9	1.30	9.51	32557	219.12	902.10	8.4	15.4
2098.0	13.0	42.9	58	9.9	1.41	9.59	32822	281.00	894.03	8.4	15.4
2099.0	10.4	45.0	57	9.9	1.50	9.68	33149	351.00	887.07	8.4	15.4
2100.0	10.8	42.6	57	9.9	1.46	9.78	33463	337.81	880.12	8.4	15.4
2101.0	14.0	43.8	57	9.9	1.39	9.85	33707	261.73	872.39	8.4	15.4
2102.0	11.5	41.1	57	9.9	1.42	9.93	34001	316.51	865.53	8.4	15.4
2103.0	11.1	42.1	57	9.9	1.45	10.02	34309	329.69	858.99	8.4	15.4
2104.0	6.0	39.8	57	9.8	1.61	10.19	34877	606.64	855.95	8.4	15.4
2105.0	11.0	42.1	57	9.9	1.45	10.28	35189	332.74	849.72	8.4	15.4
2106.0	11.5	38.3	55	9.9	1.38	10.37	35477	318.54	843.47	8.4	15.4
2107.0	13.0	40.9	57	9.9	1.38	10.45	35742	281.00	836.93	8.4	15.4
2108.0	7.1	43.7	57	9.9	1.61	10.59	36223	513.31	833.21	8.4	15.4
2109.0	4.4	45.2	58	9.9	1.79	10.81	37011	832.86	833.21	8.4	15.4
2110.0	3.6	46.4	58	9.9	1.86	11.09	37967	1010	835	8.4	15.4
2111.0	6.4	45.2	58	9.9	1.66	11.25	38509	572.15	832.28	8.4	15.4
2112.0	18.8	44.0	57	9.9	1.30	11.30	38690	193.76	825.26	8.4	15.4
2113.0	13.5	44.8	57	9.9	1.41	11.37	38945	270.86	819.23	8.4	15.4
2114.0	15.5	44.4	57	9.8	1.36	11.44	39167	235.35	812.96	8.4	15.4
2116.0	15.7	43.8	57	9.8	1.35	11.57	39602	233.32	800.75	8.4	15.4
2117.0	13.7	41.8	56	9.9	1.37	11.64	39847	265.78	795.18	8.4	15.4
2118.0	15.5	41.7	57	9.8	1.34	11.70	40068	235.35	789.41	8.4	15.4
2119.0	15.7	45.0	57	9.9	1.36	11.77	40285	233.32	783.73	8.4	15.4
2120.0	15.1	45.5	56	9.8	1.37	11.83	40506	241.44	778.26	8.4	15.4
2121.0	15.0	45.1	57	9.9	1.38	11.90	40735	243.47	772.91	8.4	15.4
2122.0	12.4	44.7	54	9.9	1.42	11.98	40996	295.20	768.18	8.4	15.4
2123.0	12.9	44.4	56	9.9	1.42	12.06	41256	284.04	763.43	8.4	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2124.0	13.1	44.8	55	9.9	1.41	12.14	41510	278.97	758.73	8.4	15.4
2125.0	13.7	43.8	56	9.9	1.39	12.21	41754	266.80	754.00	8.4	15.4
2126.0	15.0	37.7	53	9.9	1.28	12.28	41967	243.47	749.14	8.4	15.4
2127.0	12.6	38.1	47	9.9	1.31	12.35	42192	290.13	744.81	8.4	15.4
2128.0	5.6	40.4	47	9.9	1.58	12.53	42698	651.27	743.93	8.4	15.4
2129.0	11.1	40.7	47	9.9	1.37	12.62	42952	328.68	740.09	8.4	15.4
2130.0	14.2	40.4	47	9.8	1.29	12.69	43152	256.65	735.65	8.4	15.4
2131.0	13.7	39.9	47	9.9	1.30	12.77	43357	265.78	731.38	8.4	15.4
2132.0	12.5	36.9	47	9.9	1.30	12.85	43585	293.17	727.43	8.4	15.4
2133.0	13.9	39.6	47	9.9	1.29	12.92	43788	262.74	723.28	8.4	15.4
2134.0	13.1	39.9	47	9.9	1.31	12.99	44006	278.97	719.35	8.4	15.4
2135.0	10.1	41.4	44	9.9	1.39	13.09	44268	362.16	716.22	8.4	15.4
2136.0	12.6	41.7	47	9.9	1.34	13.17	44493	289.12	712.50	8.4	15.4
2137.0	12.4	40.4	48	9.9	1.34	13.25	44723	295.20	708.91	8.4	15.4
2138.0	10.8	40.5	48	9.9	1.38	13.35	44986	336.80	705.73	8.4	15.4
2139.0	13.1	42.8	48	9.9	1.34	13.42	45204	277.96	702.10	8.4	15.4
2140.0	11.8	50.2	48	9.9	1.45	13.51	45445	308.39	698.79	8.4	15.4
2141.0	11.4	50.2	48	9.9	1.46	13.59	45696	319.55	695.63	8.4	15.4
2142.0	10.8	50.4	48	9.9	1.48	13.69	45962	338.82	692.68	8.4	15.4
2143.0	11.2	49.4	48	9.9	1.46	13.78	46218	325.64	689.68	8.4	15.4
2144.0	12.3	49.3	47	9.9	1.42	13.86	46446	296.22	686.48	8.4	15.4
2145.0	14.6	49.0	47	9.9	1.36	13.93	46640	249.55	682.95	8.4	15.4
2146.0	11.5	47.8	48	9.9	1.43	14.01	46888	316.51	680.02	8.4	15.4
2147.0	2.9	50.9	48	9.8	1.94	14.36	47896	1273	685	8.4	15.5
2148.0	4.6	49.7	48	9.9	1.76	14.58	48525	793.30	685.58	8.4	15.5
2149.0	6.1	50.5	48	9.8	1.68	14.74	48995	596.49	684.89	8.4	15.5
2150.0	10.1	48.5	48	9.7	1.51	14.84	49278	360.13	682.37	8.4	15.5
2151.0	9.2	46.8	48	9.7	1.52	14.95	49590	397.66	680.18	8.4	15.5
2152.0	8.7	50.0	48	9.7	1.58	15.06	49920	420.99	678.20	8.4	15.5
2153.0	8.0	50.5	48	9.7	1.61	15.19	50279	456.50	676.52	8.4	15.5
2154.0	10.7	47.6	45	9.7	1.46	15.28	50529	339.84	673.99	8.4	15.5
2155.0	9.3	45.8	47	9.7	1.51	15.39	50834	393.60	671.90	8.4	15.5
2156.0	10.9	47.0	47	9.7	1.46	15.48	51091	334.77	669.40	8.4	15.5
2157.0	5.3	47.6	47	9.7	1.71	15.67	51619	683.74	669.51	8.4	15.5
2158.0	3.3	49.9	47	9.7	1.90	15.97	52479	1108	673	8.4	15.5
2159.0	4.9	50.5	46	9.7	1.77	16.18	53046	752.72	673.28	8.4	15.5
2160.0	4.2	51.0	48	9.7	1.84	16.42	53731	875.47	674.74	8.4	15.5
2161.0	5.5	53.0	47	9.7	1.76	16.60	54246	663.45	674.66	8.4	15.5
2162.0	6.6	52.2	47	9.7	1.69	16.75	54677	553.89	673.80	8.4	15.5
2163.0	3.3	52.3	48	9.7	1.94	17.06	55553	1123	677	8.4	15.5
2164.0	3.8	48.8	46	9.7	1.83	17.32	56285	959.66	678.94	8.4	15.5
2165.0	3.8	50.1	47	9.6	1.88	17.59	57030	967.78	680.95	8.4	15.5
2166.0	4.4	51.0	46	9.6	1.83	17.81	57654	827.79	681.96	8.4	15.5
2167.0	9.2	41.8	58	9.6	1.55	17.92	58030	395.63	680.00	8.4	15.5
2168.0	24.3	39.6	59	9.6	1.22	17.96	58174	150.14	676.40	8.4	15.5
2169.0	18.6	40.2	58	9.6	1.31	18.02	58362	196.80	673.15	8.4	15.5
2170.0	21.3	37.9	52	9.6	1.21	18.06	58508	171.44	669.79	8.4	15.5
2171.0	24.5	40.5	45	9.6	1.14	18.10	58618	149.12	666.32	8.4	15.5
2172.0	25.2	37.9	57	9.6	1.18	18.14	58753	145.07	662.86	8.4	15.5
2173.0	17.3	35.4	55	9.6	1.27	18.20	58943	211.00	659.89	8.4	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2174.0	19.9	38.0	56	9.6	1.25	18.25	59112	183.61	656.78	8.4	15.5
2175.0	23.2	37.9	56	9.6	1.20	18.30	59257	157.24	653.54	8.4	15.5
2176.0	20.5	38.5	56	9.6	1.25	18.34	59422	178.54	650.47	8.4	15.5
2177.0	7.8	38.8	57	9.6	1.57	18.47	59858	468.67	649.31	8.4	15.5
2178.0	5.4	39.2	57	9.6	1.69	18.66	60492	676.63	649.48	8.4	15.5
2179.0	21.1	38.5	57	9.6	1.24	18.71	60653	173.47	646.47	8.4	15.5
2180.0	18.1	38.8	52	9.6	1.27	18.76	60825	201.87	643.67	8.4	15.5
2181.0	24.3	39.1	58	9.6	1.21	18.80	60969	150.14	640.59	8.4	15.5
2182.0	16.7	37.3	54	9.6	1.29	18.86	61163	218.11	637.96	8.4	15.5
2183.0	27.3	34.2	55	9.6	1.11	18.90	61284	133.91	634.85	8.4	15.5
2184.0	23.4	38.1	56	9.6	1.20	18.94	61428	156.22	631.91	8.4	15.5
2185.0	17.0	38.0	56	9.6	1.30	19.00	61625	215.06	629.37	8.4	15.5
2186.0	23.5	37.9	56	9.6	1.20	19.04	61767	155.21	626.50	8.4	15.5
2187.0	23.7	38.0	56	9.6	1.20	19.08	61910	154.20	623.65	8.4	15.5
2188.0	21.3	38.8	56	9.6	1.24	19.13	62067	171.44	620.95	8.4	15.5
2189.0	22.8	38.0	56	9.6	1.21	19.18	62214	160.28	618.20	8.4	15.5
2190.0	22.6	38.3	56	9.6	1.21	19.22	62361	161.30	615.50	8.4	15.5
2191.0	15.5	38.3	56	9.6	1.34	19.28	62579	236.37	613.27	8.4	15.5
2192.0	23.2	39.6	57	9.6	1.23	19.33	62728	157.24	610.60	8.4	15.5
2193.0	19.8	39.6	57	9.6	1.28	19.38	62901	184.63	608.13	8.4	15.5
2194.0	17.8	37.9	57	9.6	1.30	19.43	63094	204.92	605.80	8.4	15.5
2195.0	19.1	39.1	57	9.6	1.29	19.49	63273	190.72	603.41	8.4	15.5
2196.0	16.2	38.1	58	9.6	1.33	19.55	63487	225.21	601.25	8.4	15.5
2197.0	16.5	39.0	57	9.6	1.33	19.61	63694	221.15	599.09	8.4	15.5
2198.0	16.7	38.6	57	9.6	1.32	19.67	63898	218.11	596.94	8.4	15.5
2199.0	16.7	38.6	58	9.6	1.33	19.73	64106	219.12	594.81	8.4	15.5
2200.0	19.0	38.9	58	9.6	1.29	19.78	64288	191.73	592.56	8.4	15.5
2201.0	13.6	39.4	58	9.6	1.40	19.85	64543	268.83	590.76	8.4	15.5
2202.0	13.3	37.5	56	9.6	1.37	19.93	64794	273.90	589.01	8.4	15.5
2203.0	16.9	36.7	59	9.6	1.31	19.99	65002	215.57	586.96	8.4	15.5
2204.0	9.0	39.1	58	9.6	1.53	20.10	65390	405.78	585.97	8.4	15.5
2205.0	3.4	38.8	58	9.6	1.84	20.39	66419	1072	589	8.4	15.5
2206.0	3.3	38.4	59	9.6	1.85	20.70	67496	1119	591	8.4	15.5
2207.0	5.4	38.3	58	9.6	1.68	20.88	68140	670.55	591.91	8.4	15.5
2208.0	13.7	37.5	59	9.6	1.38	20.96	68396	266.80	590.17	8.4	15.5
2209.0	8.5	38.2	58	9.6	1.54	21.07	68805	428.10	589.31	8.4	15.5
2210.0	19.1	37.1	58	9.6	1.27	21.13	68987	190.72	587.20	8.4	15.5
2211.0	4.5	37.3	59	9.6	1.73	21.35	69764	804.45	588.34	8.4	15.5
2212.0	11.1	38.7	53	9.6	1.43	21.44	70050	329.69	586.99	8.4	15.5
2213.0	8.0	34.5	58	9.6	1.51	21.56	70484	457.51	586.31	8.4	15.5
2214.0	14.0	34.8	57	9.6	1.34	21.63	70730	261.73	584.63	8.4	15.5
2215.0	16.6	38.6	57	9.6	1.32	21.69	70935	220.13	582.75	8.4	15.5
2216.0	20.8	35.7	57	9.6	1.22	21.74	71100	175.50	580.66	8.4	15.5
2217.0	7.8	38.5	58	9.6	1.57	21.87	71546	467.66	580.09	8.4	15.5
2218.0	2.8	39.8	58	9.6	1.91	22.23	72784	1301	584	8.4	15.5
2219.0	3.7	40.0	58	9.6	1.83	22.50	73736	993.14	585.81	8.4	15.5
2220.0	3.4	39.9	58	9.6	1.85	22.79	74748	1062	588	8.4	15.5
2221.0	2.9	39.8	57	9.6	1.90	23.13	75919	1241	591	8.4	15.5
2222.0	4.3	40.3	58	9.6	1.78	23.36	76726	852.13	592.76	8.4	15.5
2223.0	3.9	42.4	58	9.6	1.84	23.62	77615	938.36	594.47	8.4	15.5

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2224.0	3.9	42.8	58	9.6	1.85	23.87	78505	937.35	596.16	8.4	15.5
2225.0	4.0	43.1	58	9.6	1.85	24.13	79375	918.07	597.74	8.4	15.5
2226.0	4.2	41.6	58	9.6	1.81	24.36	80201	863.29	599.04	8.4	15.5
2227.0	4.2	41.0	63	9.6	1.83	24.60	81111	874.45	600.37	8.4	15.5
2228.0	4.0	41.3	64	9.6	1.85	24.85	82074	914.01	601.89	8.4	15.5
2229.0	4.7	41.2	64	9.6	1.80	25.06	82882	769.96	602.70	8.4	15.5
2230.0	4.3	44.6	51	9.6	1.80	25.29	83593	846.05	603.86	8.4	15.5
2231.0	3.3	44.9	52	9.6	1.90	25.60	84553	1119	606	8.4	15.5
2232.0	3.4	44.6	59	9.6	1.93	25.90	85610	1082	609	8.4	15.5
2233.0	5.9	44.5	56	9.6	1.72	26.07	86177	614.75	608.60	8.4	15.5
2234.0	8.1	44.6	56	9.6	1.62	26.19	86594	451.43	607.86	8.4	15.6
2235.0	9.6	44.8	56	9.6	1.57	26.29	86945	381.43	606.80	8.4	15.6
2236.0	16.7	44.9	56	9.6	1.38	26.35	87147	219.12	605.00	8.4	15.6
2237.0	22.8	40.3	51	9.6	1.20	26.40	87282	160.28	602.94	8.4	15.6
2238.0	21.1	42.4	55	9.6	1.27	26.45	87440	173.47	600.96	8.4	15.6
2239.0	20.0	42.7	55	9.6	1.30	26.50	87606	182.60	599.04	8.4	15.6
2240.0	16.7	43.2	56	9.6	1.36	26.56	87806	218.11	597.30	8.4	15.6
2241.0	20.7	44.8	56	9.6	1.31	26.60	87967	176.51	595.39	8.4	15.6
2242.0	28.3	44.6	55	9.6	1.19	26.64	88084	128.83	593.28	8.4	15.6
2243.0	31.0	43.3	57	9.6	1.17	26.67	88195	117.68	591.14	8.4	15.6
2244.0	15.9	44.7	56	9.6	1.39	26.73	88405	230.28	589.52	8.4	15.6
2245.0	32.4	45.2	58	9.6	1.17	26.76	88512	112.60	587.39	8.4	15.6
2246.0	18.9	45.6	56	9.6	1.35	26.82	88690	192.74	585.64	8.4	15.6
2247.0	15.9	45.8	55	9.6	1.40	26.88	88896	229.26	584.06	8.4	15.6
2248.0	16.8	46.0	57	9.6	1.39	26.94	89099	217.09	582.44	8.4	15.6
2249.0	15.5	46.0	56	9.6	1.42	27.00	89317	235.35	580.92	8.4	15.6
2250.0	12.7	45.7	54	9.6	1.47	27.08	89575	288.10	579.64	8.4	15.6
2251.0	16.2	45.3	55	9.6	1.39	27.14	89780	225.21	578.10	8.4	15.6
2252.0	14.2	46.2	57	9.6	1.45	27.22	90019	257.67	576.71	8.4	15.6
2253.0	8.0	40.8	56	9.6	1.58	27.34	90440	456.50	576.20	8.4	15.6
2254.0	14.4	44.4	56	9.6	1.43	27.41	90676	253.61	574.81	8.4	15.6
2255.0	10.2	45.5	57	9.6	1.56	27.51	91009	358.44	573.89	8.4	15.6
2256.0	2.9	46.0	57	9.5	1.98	27.85	92178	1256	577	8.4	15.6
2257.0	6.2	42.3	59	9.5	1.70	28.01	92751	586.69	576.83	8.4	15.6
2258.0	11.4	43.3	54	9.6	1.48	28.10	93037	321.58	575.75	8.4	15.6
2259.0	15.3	45.6	53	9.6	1.40	28.17	93246	238.39	574.34	8.4	15.6
2260.0	13.8	44.7	50	9.6	1.40	28.24	93462	263.76	573.04	8.4	15.6
2261.0	12.9	44.8	50	9.6	1.43	28.32	93696	282.02	571.82	8.4	15.6
2262.0	14.8	44.6	51	9.6	1.39	28.38	93903	247.52	570.48	8.4	15.6
2263.0	16.7	45.6	51	9.6	1.35	28.44	94085	218.11	569.02	8.4	15.6
2264.0	16.1	45.3	52	9.6	1.37	28.51	94280	227.24	567.62	8.4	15.6
2265.0	14.9	45.6	53	9.6	1.41	28.57	94493	245.50	566.30	8.4	15.6
2266.0	15.3	45.7	52	9.6	1.39	28.64	94698	238.39	564.96	8.4	15.6
2267.0	8.0	46.9	54	9.6	1.64	28.76	95103	456.50	564.52	8.4	15.6
2268.0	14.9	46.2	52	9.6	1.41	28.83	95315	245.50	563.23	8.4	15.6
2269.0	20.0	45.7	54	9.6	1.32	28.88	95478	182.60	561.69	8.4	15.6
2270.0	15.0	44.7	52	9.6	1.39	28.95	95687	243.47	560.41	8.4	15.6
2271.0	6.7	44.8	54	9.6	1.67	29.10	96170	547.80	560.36	8.4	15.6
2272.0	23.1	43.7	54	9.6	1.25	29.14	96310	158.25	558.76	8.4	15.6
2273.0	14.6	46.1	52	9.6	1.41	29.21	96525	250.57	557.54	8.4	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2274.0	12.5	45.7	56	9.6	1.48	29.29	96792	292.16	556.49	8.4	15.6
2275.0	13.6	44.5	57	9.6	1.45	29.36	97040	267.81	555.35	8.4	15.6
2276.0	14.0	44.3	56	9.6	1.43	29.43	97279	261.73	554.20	8.4	15.6
2277.0	12.5	44.0	57	9.6	1.47	29.51	97552	292.16	553.18	8.4	15.6
2278.0	15.5	43.4	56	9.6	1.39	29.58	97767	235.35	551.94	8.4	15.6
2279.0	15.2	43.3	53	9.6	1.38	29.64	97976	240.42	550.73	8.4	15.6
2280.0	4.4	44.4	57	9.6	1.82	29.87	98741	822.71	551.78	8.4	15.6
2281.0	7.5	44.3	57	9.6	1.65	30.00	99197	486.93	551.53	8.4	15.6
2282.0	16.7	45.9	56	9.6	1.39	30.06	99399	219.12	550.26	8.4	15.6
2283.0	19.6	43.9	57	9.6	1.32	30.11	99574	186.66	548.87	8.4	15.6
2284.0	17.7	42.9	56	9.6	1.34	30.17	99764	205.93	547.57	8.4	15.6
2285.0	18.3	43.9	57	9.6	1.34	30.22	99950	199.85	546.25	8.4	15.6
2286.0	15.3	43.0	57	9.6	1.39	30.29	100172	238.39	545.09	8.4	15.6
2287.0	16.0	42.5	56	9.6	1.37	30.35	100381	228.25	543.90	8.4	15.6
2288.0	22.0	43.4	56	9.6	1.28	30.40	100535	166.37	542.48	8.4	15.6
2289.0	22.0	44.2	52	9.6	1.26	30.44	100677	166.37	541.08	8.4	15.6
2290.0	7.3	45.6	57	9.6	1.67	30.58	101141	500.12	540.93	8.4	15.6
2291.0	4.5	45.4	57	9.6	1.83	30.80	101908	815.61	541.95	8.4	15.6
2292.0	3.6	45.1	57	9.6	1.90	31.08	102864	1015	544	8.4	15.6
2293.0	5.8	45.3	57	9.6	1.74	31.25	103453	625.91	544.00	8.4	15.6
2294.0	5.5	44.3	57	9.6	1.75	31.44	104084	669.53	544.46	8.4	15.6
2295.0	20.1	43.3	57	9.6	1.31	31.49	104253	181.59	543.13	8.4	15.6
2296.0	15.7	42.0	58	9.6	1.38	31.55	104474	232.31	542.00	8.4	15.6
2297.0	19.1	40.4	57	9.6	1.30	31.60	104653	190.72	540.73	8.4	15.6
2298.0	9.5	46.4	55	9.6	1.58	31.71	104999	383.46	540.16	8.4	15.6
2299.0	16.1	42.1	56	9.5	1.36	31.77	105208	226.56	539.03	8.4	15.6
2300.0	16.7	42.3	59	9.6	1.37	31.83	105421	218.11	537.88	8.4	15.6
2301.0	16.0	42.1	60	9.6	1.39	31.89	105645	228.25	536.78	8.4	15.6
2302.0	14.5	44.9	60	9.6	1.45	31.96	105893	252.60	535.76	8.4	15.6
2303.0	17.7	44.5	60	9.6	1.38	32.02	106095	205.93	534.59	8.4	15.6
2304.0	15.6	43.9	60	9.6	1.42	32.08	106325	234.34	533.53	8.4	15.6
2305.0	16.4	44.7	59	9.6	1.40	32.14	106543	223.18	532.44	8.4	15.6
2306.0	15.7	44.7	59	9.6	1.41	32.21	106767	232.31	531.39	8.4	15.6
2307.0	12.4	45.1	59	9.6	1.50	32.29	107052	295.20	530.56	8.4	15.6
2308.0	15.9	43.3	58	9.6	1.39	32.35	107273	229.94	529.51	8.4	15.6
2309.0	9.9	43.8	60	9.6	1.57	32.45	107635	368.24	528.95	8.4	15.6
2310.0	8.6	45.6	59	9.6	1.63	32.57	108046	424.04	528.59	8.4	15.6
2311.0	8.2	43.9	58	9.6	1.62	32.69	108472	444.33	528.30	8.4	15.6
2312.0	13.4	43.6	59	9.6	1.46	32.76	108737	272.89	527.42	8.4	15.6
2313.0	13.7	42.7	59	9.6	1.44	32.84	108996	266.80	526.53	8.4	15.6
2314.0	5.9	43.1	54	9.6	1.69	33.00	109545	615.77	526.84	8.4	15.6
2315.0	3.4	44.2	58	9.6	1.92	33.30	110577	1082	529	8.4	15.6
2316.0	3.1	45.5	58	9.5	1.97	33.63	111713	1190	531	8.4	15.6
2317.0	3.9	44.2	58	9.6	1.87	33.88	112602	932.27	532.32	8.4	15.6
2318.0	3.5	44.7	58	9.6	1.91	34.17	113588	1042	534	8.4	15.6
2319.0	3.1	44.9	55	9.6	1.94	34.49	114655	1177	536	8.4	15.6
2320.0	5.7	45.7	50	9.6	1.71	34.67	115177	641.13	536.55	8.4	15.6
2321.0	9.9	45.1	49	9.6	1.51	34.77	115472	369.26	535.99	8.4	15.6
2322.0	13.1	46.5	53	9.6	1.46	34.84	115715	277.96	535.13	8.4	15.6
2323.0	12.0	49.4	48	9.6	1.48	34.93	115953	304.33	534.37	8.4	15.6



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2324.0	12.7	49.8	48	9.6	1.47	35.00	116178	287.09	533.55	8.4	15.7
2325.0	11.5	50.3	48	9.6	1.51	35.09	116427	318.54	532.84	8.4	15.7
2326.0	7.5	50.5	49	9.6	1.66	35.22	116816	486.93	532.69	8.4	15.7
2327.0	12.7	49.0	47	9.6	1.46	35.30	117039	287.43	531.89	8.4	15.7
2328.0	12.9	46.9	46	9.6	1.42	35.38	117254	283.03	531.08	8.4	15.7
2329.0	17.6	47.1	48	9.5	1.33	35.44	117416	206.95	530.03	8.4	15.7
2330.0	15.5	48.4	47	9.5	1.39	35.50	117600	235.35	529.08	8.4	15.7
2331.0	13.7	48.5	48	9.5	1.44	35.58	117809	265.78	528.23	8.4	15.7
2332.0	6.9	48.0	46	9.5	1.66	35.72	118213	529.54	528.23	8.4	15.7
2333.0	3.5	48.2	48	9.5	1.90	36.01	119036	1051	530	8.4	15.7
2334.0	3.4	48.4	48	9.5	1.92	36.31	119893	1085	532	8.4	15.7
2335.0	3.7	48.7	48	9.5	1.89	36.58	120671	988.07	533.13	8.4	15.7
2336.0	10.1	49.4	48	9.5	1.55	36.67	120955	361.14	532.59	8.4	15.7
2338.0	12.2	47.8	49	9.5	1.48	36.84	121434	298.25	531.11	8.4	15.7
2339.0	12.4	48.5	49	9.5	1.48	36.92	121672	295.20	530.37	8.4	15.7
2340.0	12.8	49.1	48	9.5	1.47	37.00	121899	285.06	529.60	8.4	15.7
2341.0	4.6	50.5	50	9.5	1.85	37.21	122542	786.19	530.40	8.4	15.7
2342.0	3.4	50.1	48	9.5	1.94	37.51	123396	1079	532	8.4	15.7
2343.0	2.9	48.0	54	9.5	2.01	37.86	124521	1278	534	8.4	15.7
2344.0	3.0	49.5	49	9.5	1.99	38.19	125513	1223	537	8.4	15.7
2345.0	2.6	51.9	50	9.5	2.07	38.58	126657	1405	539	8.4	15.7
2346.0	4.3	52.5	49	9.5	1.89	38.81	127338	843.00	540.18	8.4	15.7
2347.0	8.2	51.9	47	9.5	1.65	38.93	127684	444.33	539.88	8.4	15.7
2348.0	10.9	49.1	48	9.5	1.52	39.02	127948	334.77	539.25	8.4	15.7
2349.0	10.2	47.4	48	9.5	1.53	39.12	128233	359.11	538.71	8.4	15.7
2350.0	9.7	49.2	48	9.5	1.56	39.22	128528	376.79	538.21	8.4	15.7
2351.0	11.9	49.3	47	9.5	1.49	39.31	128767	307.38	537.51	8.4	15.7
2352.0	13.5	48.6	47	9.5	1.44	39.38	128976	269.84	536.71	8.4	15.7
2353.0	14.1	48.9	47	9.5	1.43	39.45	129177	258.68	535.87	8.4	15.7
2354.0	14.8	48.9	47	9.5	1.41	39.52	129369	247.52	535.00	8.4	15.7
2355.0	9.9	49.0	48	9.5	1.55	39.62	129658	368.24	534.50	8.4	15.7
2356.0	12.6	48.7	47	9.5	1.47	39.70	129884	290.13	533.77	8.4	15.7
2357.0	13.0	48.8	46	9.5	1.44	39.78	130095	281.00	533.02	8.4	15.7
2358.0	10.3	50.9	47	9.5	1.56	39.87	130370	354.04	532.49	8.4	15.7
2359.0	9.7	53.3	47	9.5	1.60	39.98	130664	378.39	532.03	8.4	15.7
2360.0	11.6	52.8	47	9.5	1.53	40.06	130908	315.49	531.40	8.4	15.7
2361.0	10.7	51.3	47	9.5	1.55	40.16	131173	340.85	530.83	8.4	15.7
2362.0	7.7	52.4	48	9.5	1.68	40.29	131544	475.77	530.67	8.4	15.7
2363.0	4.2	52.2	48	9.5	1.89	40.52	132224	867.35	531.66	8.4	15.7
2364.0	4.7	53.1	48	9.5	1.86	40.74	132839	785.18	532.40	8.4	15.7
2365.0	14.0	51.1	47	9.5	1.45	40.81	133041	260.71	531.61	8.4	15.7
2366.0	12.3	52.0	45	9.5	1.49	40.89	133262	297.23	530.93	8.4	15.7
2367.0	10.8	46.9	48	9.5	1.50	40.99	133529	337.81	530.37	8.4	15.7
2368.0	11.5	46.8	48	9.5	1.48	41.07	133781	318.54	529.76	8.4	15.7
2369.0	9.9	47.2	48	9.5	1.54	41.17	134072	367.23	529.29	8.4	15.7
2370.0	3.8	48.3	49	9.5	1.88	41.44	134844	966.77	530.55	8.4	15.7
2371.0	3.4	48.0	49	9.5	1.92	41.73	135701	1073	532	8.4	15.7
2372.0	3.4	48.6	49	9.5	1.92	42.02	136557	1071	534	8.4	15.7
2373.0	2.9	47.2	49	9.5	1.96	42.37	137564	1261	536	8.4	15.7
2374.0	2.4	46.8	49	9.5	2.02	42.78	138781	1514	538	8.4	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2375.0	3.4	46.9	49	9.5	1.91	43.08	139662	1090	540	8.4	15.7
2376.0	2.8	47.6	48	9.5	1.98	43.44	140697	1305	542	8.4	15.7
2377.0	3.4	47.5	48	9.5	1.91	43.74	141558	1084	544	8.4	15.7
2378.0	2.7	48.9	48	9.5	2.01	44.11	142635	1360	546	8.4	15.7
2379.0	2.8	47.6	48	9.5	1.97	44.46	143657	1296	548	8.4	15.7
2380.0	6.6	47.8	48	9.5	1.68	44.62	144090	551.86	548.10	8.4	15.7
2381.0	10.9	47.6	48	9.5	1.56	44.71	144353	335.78	547.51	8.4	15.7
2382.0	10.2	49.6	47	9.5	1.54	44.81	144631	357.08	546.98	8.4	15.7
2383.0	10.6	50.1	48	9.5	1.54	44.90	144899	343.90	546.42	8.4	15.7
2384.0	13.1	48.6	45	9.5	1.43	44.98	145107	277.96	545.68	8.4	15.7
2385.0	4.6	50.0	46	9.5	1.82	45.19	145711	791.27	546.36	8.4	15.7
2386.0	3.6	50.0	48	9.5	1.92	45.47	146515	1016	548	8.4	15.7
2387.0	7.7	50.0	47	9.5	1.64	45.60	146880	471.72	547.44	8.4	15.7
2388.0	3.0	51.2	48	9.5	1.99	45.93	147827	1205	549	8.4	15.7
2389.0	6.5	50.7	48	9.5	1.72	46.09	148271	566.06	549.27	8.4	15.7
2390.0	5.5	50.6	48	9.5	1.77	46.27	148785	658.37	549.57	8.4	15.7
2391.0	5.3	50.9	48	9.5	1.79	46.46	149328	693.88	549.96	8.4	15.7
2392.0	4.3	50.2	48	9.5	1.85	46.69	149989	843.00	550.75	8.4	15.7
2393.0	3.1	50.8	48	9.5	1.98	47.01	150920	1176	552	8.4	15.7
2394.0	3.4	50.8	48	9.5	1.96	47.31	151787	1090	554	8.4	15.7
2395.0	3.0	50.4	48	9.5	1.99	47.64	152751	1217	556	8.4	15.7
2396.0	2.9	51.1	53	9.5	2.04	47.98	153836	1250	557	8.4	15.7
2397.0	12.2	51.0	53	9.5	1.53	48.06	154094	298.25	556.81	8.4	15.7

BIT NUMBER	7	IADC CODE	517	INTERVAL	2397.0- 2719.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	7.1	BIT RUN	322.0
TOTAL HOURS	53.62	TOTAL TURNS	162095	CONDITION	T6 B6 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2398.0	16.3	30.0	58	9.5	1.25	0.06	213	225	34674	8.4	15.7
2399.0	22.8	29.0	56	9.5	1.13	0.11	361	160	17417	8.4	15.7
2400.0	23.2	30.8	58	9.5	1.15	0.15	512	157	11664	8.4	15.7
2401.0	19.4	34.7	58	9.5	1.24	0.20	691	189	8795	8.4	15.7
2402.0	3.9	37.8	58	9.5	1.79	0.46	1590	940	7224	8.4	15.7
2403.0	2.6	42.0	58	9.5	1.99	0.85	2938	1425	6258	8.4	15.7
2404.0	3.7	42.6	54	9.5	1.85	1.12	3817	988	5505	8.4	15.7
2405.0	11.9	35.7	59	9.5	1.42	1.20	4116	307	4855	8.4	15.7
2406.0	11.3	39.5	59	9.5	1.48	1.29	4432	325	4352	8.4	15.7
2407.0	18.2	38.9	59	9.5	1.32	1.35	4627	201	3937	8.4	15.7
2408.0	15.8	39.6	55	9.5	1.34	1.41	4834	231	3600	8.4	15.7
2409.0	17.4	38.8	54	9.5	1.30	1.47	5021	210	3317	8.4	15.7
2410.0	12.7	37.9	58	9.5	1.41	1.55	5294	287	3084	8.4	15.7
2411.0	16.7	39.2	59	9.5	1.34	1.61	5505	218	2880	8.4	15.7
2412.0	11.5	40.3	60	9.5	1.48	1.69	5817	319	2709	8.4	15.7
2413.0	2.7	39.1	56	9.5	1.92	2.07	7062	1359	2624	8.4	15.7
2415.0	2.5	36.7	45	9.5	1.83	2.86	9211	1460	2495	8.4	15.7
2416.0	3.8	40.4	58	9.5	1.83	3.13	10116	956	2414	8.4	15.8
2417.0	4.4	39.7	58	9.5	1.78	3.36	10916	838	2335	8.4	15.8
2418.0	5.1	40.0	59	9.5	1.74	3.55	11613	713	2258	8.4	15.8
2419.0	3.6	40.1	60	9.5	1.86	3.83	12617	1027	2202	8.4	15.8
2420.0	7.8	40.9	60	9.5	1.62	3.96	13080	468	2127	8.4	15.8
2421.0	4.8	40.6	53	9.5	1.74	4.17	13752	768	2070	8.4	15.8
2422.0	2.1	40.6	50	9.5	1.99	4.65	15191	1749	2057	8.4	15.8
2423.0	3.4	39.3	50	9.5	1.81	4.95	16079	1086	2020	8.4	15.8
2424.0	3.6	38.5	55	9.5	1.81	5.23	16997	1016	1983	8.4	15.8
2425.0	3.5	38.9	61	9.5	1.86	5.51	18049	1049	1949	8.4	15.8
2426.0	3.5	36.3	54	9.5	1.78	5.80	18984	1047	1918	8.4	15.8
2427.0	4.2	39.8	49	9.5	1.74	6.04	19677	866	1883	8.4	15.8
2428.0	3.8	44.3	49	9.5	1.83	6.30	20454	964	1853	8.4	15.8
2429.0	5.5	49.6	49	9.5	1.77	6.48	20989	666	1816	8.4	15.8
2430.0	8.7	48.0	49	9.5	1.59	6.60	21324	419	1774	8.4	15.8
2431.0	4.2	50.3	49	9.5	1.87	6.84	22021	869	1747	8.4	15.8
2432.0	9.3	49.5	49	9.5	1.59	6.94	22336	393	1709	8.4	15.8
2433.0	19.6	51.6	49	9.5	1.35	6.99	22485	187	1666	8.4	15.8
2434.0	8.6	50.6	47	9.5	1.62	7.11	22817	427	1633	8.4	15.8
2435.0	24.7	49.6	48	9.5	1.24	7.15	22935	148	1594	8.4	15.8
2436.0	27.7	49.3	48	9.5	1.20	7.19	23039	132	1556	8.4	15.8
2437.0	21.3	43.7	46	9.5	1.23	7.23	23168	171	1522	8.4	15.8
2438.0	30.8	42.9	48	9.5	1.11	7.27	23261	119	1488	8.4	15.8
2439.0	18.7	54.4	49	9.5	1.39	7.32	23418	196	1457	8.4	15.8
2440.0	14.9	52.4	49	9.5	1.45	7.39	23615	245	1429	8.4	15.8
2441.0	5.5	50.1	49	9.5	1.78	7.57	24156	670	1411	8.4	15.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FC
2442.0	14.6	49.7	49	9.5	1.44	7.64	24358	251	1386	8.4	15.8
2443.0	14.4	50.0	47	9.5	1.43	7.71	24555	254	1361	8.4	15.8
2444.0	7.2	49.8	49	9.5	1.68	7.85	24963	507	1343	8.4	15.8
2445.0	9.3	48.3	49	9.5	1.58	7.96	25282	395	1323	8.4	15.8
2446.0	12.8	48.0	49	9.5	1.46	8.03	25512	285	1302	8.4	15.8
2447.0	10.2	50.0	49	9.5	1.56	8.13	25802	359	1283	8.4	15.8
2448.0	10.5	50.9	49	9.5	1.56	8.23	26085	349	1265	8.4	15.8
2449.0	3.5	51.3	50	9.5	1.96	8.52	26943	1051	1261	8.4	15.8
2450.0	3.1	51.7	49	9.5	2.00	8.84	27906	1186	1259	8.4	15.8
2451.0	3.1	51.3	49	9.5	2.00	9.16	28865	1182	1258	8.4	15.8
2452.0	6.3	51.0	49	9.5	1.74	9.32	29327	577	1245	8.4	15.8
2453.0	10.9	50.1	49	9.5	1.54	9.41	29598	336	1229	8.4	15.8
2454.0	19.8	50.2	49	9.5	1.33	9.46	29747	185	1211	8.4	15.8
2455.0	17.3	50.0	47	9.5	1.36	9.52	29910	211	1194	8.4	15.8
2456.0	4.0	51.3	49	9.5	1.90	9.77	30640	915	1189	8.4	15.8
2457.0	6.1	51.1	49	9.5	1.75	9.94	31117	598	1179	8.4	15.8
2458.0	21.6	50.9	48	9.5	1.30	9.98	31251	169	1162	8.4	15.8
2459.0	19.1	50.8	48	9.5	1.34	10.04	31402	191	1147	8.4	15.8
2460.0	17.6	51.3	48	9.5	1.38	10.09	31566	207	1132	8.4	15.8
2461.0	20.0	50.7	46	9.5	1.31	10.14	31705	183	1117	8.4	15.8
2462.0	22.1	50.2	45	9.5	1.27	10.19	31828	165	1102	8.4	15.8
2463.0	14.8	50.0	48	9.5	1.43	10.26	32025	248	1089	8.4	15.8
2464.0	25.0	49.2	48	9.5	1.24	10.30	32142	146	1075	8.4	15.8
2465.0	20.3	49.2	48	9.5	1.31	10.34	32283	180	1062	8.4	15.8
2466.0	21.8	48.7	49	9.5	1.28	10.39	32417	167	1049	8.4	15.8
2467.0	17.6	51.1	48	9.5	1.37	10.45	32581	207	1037	8.4	15.8
2468.0	20.1	51.2	48	9.5	1.33	10.50	32726	182	1025	8.4	15.8
2469.0	18.1	50.9	48	9.5	1.36	10.55	32885	202	1014	8.4	15.8
2470.0	5.6	52.3	49	9.5	1.80	10.73	33407	650	1009	8.4	15.8
2471.0	7.7	50.9	49	9.5	1.67	10.86	33790	473	1001	8.4	15.8
2472.0	21.4	47.0	45	9.5	1.25	10.91	33917	170.43	990.37	8.4	15.8
2473.0	17.8	50.9	50	9.5	1.38	10.96	34084	204.92	980.03	8.4	15.8
2474.0	17.7	50.4	53	9.5	1.40	11.02	34263	205.93	969.98	8.4	15.8
2475.0	6.4	50.8	51	9.5	1.74	11.18	34745	574.18	964.91	8.4	15.8
2476.0	4.3	51.6	51	9.6	1.89	11.41	35460	859.23	963.57	8.4	15.8
2477.0	5.0	50.5	50	9.6	1.82	11.61	36064	730.40	960.65	8.4	15.8
2478.0	4.0	51.9	51	9.6	1.92	11.86	36828	919.09	960.14	8.4	15.8
2479.0	5.5	51.6	51	9.6	1.80	12.04	37385	665.48	956.55	8.4	15.8
2480.0	14.9	49.5	51	9.6	1.43	12.11	37589	244.48	947.97	8.4	15.8
2481.0	14.5	49.9	49	9.6	1.43	12.18	37793	251.58	939.68	8.4	15.8
2482.0	12.5	48.8	49	9.6	1.47	12.26	38030	292.16	932.06	8.4	15.8
2483.0	17.8	50.0	49	9.6	1.36	12.32	38195	204.92	923.61	8.4	15.8
2484.0	21.1	48.3	49	9.6	1.29	12.36	38335	173.47	914.98	8.4	15.8
2485.0	21.8	48.8	49	9.6	1.28	12.41	38469	167.38	906.49	8.4	15.8
2486.0	18.9	48.3	49	9.6	1.32	12.46	38624	192.74	898.47	8.4	15.8
2487.0	17.0	48.9	49	9.6	1.37	12.52	38797	215.06	890.88	8.4	15.8
2488.0	14.9	49.4	49	9.6	1.42	12.59	38995	245.50	883.78	8.4	15.8
2489.0	12.9	50.6	49	9.6	1.48	12.67	39222	282.02	877.24	8.4	15.8
2490.0	18.0	51.9	50	9.6	1.38	12.72	39387	202.89	869.99	8.4	15.8
2491.0	8.1	51.7	49	9.6	1.65	12.84	39747	448.38	865.51	8.4	15.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2492.0	18.7	50.4	52	9.6	1.37	12.90	39914	195.79	858.46	8.4	15.8
2493.0	13.8	48.5	52	9.6	1.45	12.97	40140	264.77	852.27	8.4	15.8
2494.0	10.6	51.6	52	9.6	1.58	13.07	40434	345.93	847.05	8.4	15.8
2495.0	15.1	51.4	52	9.6	1.45	13.13	40642	242.45	840.88	8.4	15.8
2496.0	4.2	51.2	55	9.6	1.91	13.37	41420	867.35	841.15	8.4	15.8
2497.0	3.3	51.9	55	9.6	2.00	13.67	42404	1095	844	8.4	15.8
2498.0	4.7	49.5	50	9.6	1.82	13.88	43044	781.12	843.06	8.4	15.8
2499.0	4.9	50.2	48	9.6	1.80	14.09	43632	743.59	842.09	8.4	15.8
2500.0	5.0	51.9	49	9.6	1.83	14.29	44224	733.44	841.03	8.4	15.8
2501.0	3.6	51.7	50	9.6	1.94	14.56	45053	1005	843	8.4	15.8
2502.0	3.8	50.7	50	9.6	1.92	14.83	45852	965.75	843.79	8.4	15.8
2503.0	6.9	50.4	50	9.6	1.71	14.97	46294	532.58	840.85	8.4	15.8
2504.0	14.3	50.3	50	9.6	1.45	15.04	46504	255.64	835.38	8.4	15.8
2505.0	10.0	49.9	50	9.6	1.57	15.14	46805	366.21	831.04	8.4	15.8
2506.0	14.0	49.6	50	9.6	1.45	15.21	47019	260.71	825.81	8.4	15.8
2507.0	13.5	49.7	51	9.6	1.46	15.29	47243	269.84	820.75	8.4	15.8
2508.0	16.9	50.5	50	9.6	1.39	15.35	47419	216.08	815.30	8.4	15.8
2509.0	17.9	50.2	51	9.6	1.37	15.40	47589	203.90	809.84	8.4	15.8
2510.0	4.9	51.3	48	9.6	1.81	15.61	48174	746.63	809.29	8.4	15.8
2511.0	2.8	52.6	50	9.6	2.04	15.96	49232	1287	813	8.4	15.9
2512.0	4.6	51.9	51	9.6	1.87	16.18	49905	800.40	813.36	8.4	15.9
2513.0	4.5	50.7	55	9.6	1.88	16.40	50632	805.47	813.30	8.4	15.9
2514.0	15.2	51.0	54	9.6	1.46	16.47	50846	240.42	808.40	8.4	15.9
2515.0	12.2	52.2	54	9.6	1.55	16.55	51112	298.25	804.08	8.4	15.9
2516.0	17.6	52.1	54	9.6	1.42	16.60	51298	207.96	799.07	8.4	15.9
2517.0	16.1	51.8	55	9.6	1.45	16.67	51503	226.22	794.29	8.4	15.9
2518.0	19.9	52.5	55	9.6	1.38	16.72	51667	183.61	789.25	8.4	15.9
2519.0	20.0	52.6	53	9.6	1.37	16.77	51826	182.60	784.27	8.4	15.9
2520.0	4.5	50.8	52	9.6	1.87	16.99	52515	805.47	784.45	8.4	15.9
2521.0	6.3	48.1	52	9.6	1.72	17.15	53017	582.29	782.82	8.4	15.9
2522.0	10.3	47.8	52	9.6	1.55	17.24	53318	356.07	779.40	8.4	15.9
2523.0	14.5	51.2	52	9.6	1.46	17.31	53533	251.58	775.21	8.4	15.9
2524.0	10.4	50.0	51	9.6	1.56	17.41	53828	351.00	771.87	8.4	15.9
2525.0	10.5	50.5	51	9.6	1.56	17.50	54117	347.95	768.56	8.4	15.9
2526.0	8.6	51.4	51	9.6	1.64	17.62	54472	424.04	765.89	8.4	15.9
2527.0	10.9	51.6	51	9.6	1.56	17.71	54751	333.75	762.57	8.4	15.9
2528.0	9.9	52.3	52	9.6	1.61	17.81	55065	370.27	759.57	8.4	15.9
2529.0	9.9	52.1	49	9.6	1.59	17.91	55365	369.26	756.62	8.4	15.9
2530.0	3.4	50.0	50	9.6	1.95	18.21	56258	1077	759	8.4	15.9
2531.0	9.3	50.0	50	9.6	1.59	18.32	56580	391.58	756.28	8.4	15.9
2532.0	6.2	49.0	50	9.6	1.73	18.48	57070	591.42	755.06	8.4	15.9
2533.0	3.3	49.6	50	9.6	1.94	18.78	57974	1096	758	8.4	15.9
2534.0	4.3	50.2	50	9.6	1.86	19.01	58674	846.05	758.21	8.4	15.9
2535.0	4.0	51.5	50	9.5	1.91	19.26	59433	921.45	759.40	8.4	15.9
2536.0	5.8	50.9	51	9.6	1.77	19.44	59959	630.98	758.47	8.4	15.9
2537.0	8.7	50.4	51	9.6	1.63	19.55	60311	419.98	756.05	8.4	15.9
2539.0	7.4	49.5	51	9.5	1.67	19.82	61132	493.70	752.36	8.4	15.9
2540.0	10.6	49.2	53	9.6	1.56	19.92	61432	345.93	749.52	8.4	15.9
2541.0	12.4	46.6	53	9.6	1.48	20.00	61686	294.19	746.35	8.4	15.9
2542.0	15.3	46.4	53	9.6	1.40	20.06	61894	238.39	742.85	8.4	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2543.0	3.6	52.1	53	9.6	1.97	20.34	62767	1009	745	8.4	15.9
2544.0	1.7	50.5	51	9.6	2.19	20.92	64549	2139	754	8.4	15.9
2545.0	4.6	49.0	50	9.6	1.82	21.14	65197	791.27	754.42	8.4	15.9
2546.0	10.3	47.0	50	9.6	1.52	21.24	65485	353.03	751.72	8.4	15.9
2547.0	12.0	45.6	50	9.6	1.46	21.32	65734	305.35	748.75	8.4	15.9
2548.0	2.6	50.5	49	9.6	2.04	21.71	66886	1420	753	8.4	15.9
2549.0	2.2	51.7	47	9.6	2.10	22.17	68198	1692	759	8.4	15.9
2550.0	2.2	51.3	49	9.6	2.11	22.63	69552	1687	765	8.4	15.9
2551.0	9.9	50.7	52	9.6	1.59	22.74	69867	369.26	762.86	8.4	15.9
2552.0	20.5	46.4	52	9.6	1.30	22.78	70019	178.54	759.09	8.4	15.9
2553.0	16.9	48.7	52	9.6	1.39	22.84	70205	216.08	755.61	8.4	15.9
2554.0	15.9	48.1	50	9.6	1.39	22.91	70395	230.28	752.26	8.4	15.9
2555.0	14.3	47.9	54	9.6	1.45	22.98	70622	255.64	749.12	8.4	15.9
2556.0	11.6	47.5	53	9.6	1.50	23.06	70896	314.83	746.39	8.4	15.9
2557.0	3.7	48.5	54	9.6	1.91	23.33	71772	987.03	747.89	8.4	15.9
2558.0	19.0	49.2	54	9.6	1.36	23.39	71942	192.21	744.44	8.4	15.9
2559.0	1.3	52.4	50	9.6	2.31	24.16	74258	2820	757	8.4	15.9
2560.0	3.0	51.7	53	9.6	2.03	24.49	75319	1215	760	8.4	15.9
2561.0	3.6	52.2	53	9.6	1.97	24.77	76206	1016	762	8.4	15.9
2562.0	4.0	52.7	53	9.6	1.94	25.02	77000	914.01	762.55	8.4	15.9
2563.0	5.0	51.6	53	9.6	1.84	25.22	77630	729.39	762.35	8.4	15.9
2564.0	6.1	49.3	52	9.6	1.75	25.38	78143	603.59	761.40	8.4	15.9
2565.0	3.8	51.2	48	9.6	1.90	25.65	78900	953.58	762.55	8.4	15.9
2566.0	3.8	51.3	50	9.6	1.92	25.91	79695	963.72	763.74	8.4	15.9
2567.0	3.9	52.2	47	9.6	1.90	26.17	80423	946.48	764.81	8.4	15.9
2568.0	5.9	51.5	47	9.6	1.75	26.34	80903	621.85	763.97	8.4	15.9
2569.0	11.7	46.3	47	9.6	1.45	26.42	81144	312.45	761.35	8.4	15.9
2570.0	14.0	47.4	46	9.6	1.40	26.50	81343	261.73	758.46	8.4	15.9
2571.0	11.0	48.7	47	9.6	1.50	26.59	81599	332.74	756.02	8.4	15.9
2572.0	8.1	50.0	47	9.6	1.62	26.71	81947	453.46	754.29	8.4	15.9
2573.0	9.9	50.7	46	9.6	1.55	26.81	82228	369.26	752.10	8.4	15.9
2574.0	7.2	50.6	47	9.6	1.66	26.95	82617	507.22	750.72	8.4	15.9
2575.0	8.4	50.0	46	9.6	1.60	27.07	82948	433.17	748.93	8.4	15.9
2576.0	10.7	48.1	46	9.6	1.50	27.16	83207	341.53	746.66	8.4	15.9
2577.0	12.5	47.8	43	9.6	1.42	27.24	83415	292.16	744.13	8.4	15.9
2578.0	14.6	46.6	48	9.6	1.39	27.31	83611	249.55	741.40	8.4	15.9
2579.0	9.9	46.7	47	9.6	1.52	27.41	83899	370.27	739.36	8.4	15.9
2580.0	3.9	50.1	48	9.6	1.88	27.67	84626	928.22	740.39	8.4	15.9
2581.0	5.1	50.2	48	9.6	1.79	27.87	85195	721.27	740.29	8.4	15.9
2582.0	4.9	50.7	52	9.6	1.84	28.07	85831	749.67	740.34	8.4	15.9
2583.0	9.5	49.2	52	9.6	1.59	28.18	86157	382.45	738.41	8.4	15.9
2584.0	5.8	49.7	49	9.6	1.75	28.35	86670	635.04	737.86	8.4	15.9
2585.0	2.2	51.1	47	9.6	2.09	28.80	87955	1655	743	8.4	15.9
2586.0	2.4	50.6	47	9.6	2.05	29.21	89121	1506	747	8.4	15.9
2587.0	3.8	45.8	51	9.6	1.85	29.48	89921	959.66	747.90	8.4	15.9
2588.0	3.2	53.4	51	9.6	2.02	29.79	90885	1149	750	8.4	15.9
2589.0	2.6	51.0	51	9.6	2.05	30.17	92038	1380	753	8.4	15.9
2590.0	5.3	51.0	51	9.6	1.80	30.36	92612	688.81	752.95	8.4	15.9
2591.0	10.0	51.2	51	9.6	1.58	30.46	92916	365.20	750.95	8.4	15.9
2592.0	10.9	51.3	51	9.6	1.56	30.55	93196	334.77	748.81	8.4	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2593.0	13.2	51.0	46	9.6	1.45	30.63	93405	275.93	746.40	8.4	15.9
2594.0	9.6	51.8	47	9.6	1.58	30.73	93700	380.42	744.54	8.4	15.9
2595.0	5.5	52.0	48	9.6	1.79	30.91	94226	662.43	744.13	8.4	15.9
2596.0	10.5	52.5	47	9.6	1.55	31.01	94492	346.94	742.13	8.4	15.9
2597.0	10.5	48.5	47	9.6	1.51	31.10	94760	347.95	740.16	8.4	15.9
2598.0	15.6	47.2	47	9.6	1.37	31.17	94942	234.34	737.64	8.4	15.9
2599.0	2.9	50.4	47	9.6	1.98	31.51	95907	1249	740	8.4	15.9
2600.0	2.6	50.5	47	9.6	2.02	31.89	96984	1387	743	8.4	15.9
2601.0	2.6	51.6	48	9.6	2.03	32.27	98069	1389	747	8.4	15.9
2602.0	2.2	51.1	48	9.6	2.09	32.73	99378	1675	751	8.4	15.9
2603.0	2.2	51.4	47	9.6	2.10	33.19	100677	1682	756	8.4	15.9
2604.0	2.8	50.9	46	9.6	1.99	33.54	101664	1301	758	8.4	15.9
2605.0	2.9	49.8	49	9.6	1.99	33.89	102687	1271	761	8.4	15.9
2606.0	2.7	50.1	47	9.6	2.00	34.26	103731	1342	763	8.4	15.9
2607.0	5.8	49.3	49	9.6	1.74	34.43	104235	627.94	762.81	8.4	15.9
2608.0	10.9	49.5	48	9.6	1.52	34.52	104498	335.78	760.78	8.4	15.9
2609.0	10.7	50.0	48	9.6	1.53	34.62	104766	339.84	758.80	8.4	16.0
2610.0	11.2	49.1	48	9.6	1.50	34.70	105022	326.65	756.77	8.4	16.0
2611.0	10.2	49.9	48	9.6	1.54	34.80	105303	359.11	754.91	8.4	16.0
2612.0	11.3	49.8	46	9.6	1.50	34.89	105548	323.61	752.90	8.4	16.0
2613.0	8.7	50.3	50	9.6	1.62	35.01	105891	417.95	751.35	8.4	16.0
2614.0	8.2	49.2	50	9.6	1.63	35.13	106257	443.31	749.93	8.4	16.0
2616.0	5.5	51.2	49	9.6	1.78	35.49	107334	664.46	749.15	8.4	16.0
2617.0	2.6	51.7	49	9.6	2.05	35.87	108468	1397	752	8.4	16.0
2618.0	2.5	51.3	49	9.6	2.06	36.28	109655	1483	755	8.4	16.0
2619.0	3.3	51.3	49	9.6	1.97	36.59	110554	1118	757	8.4	16.0
2620.0	12.0	50.4	50	9.6	1.51	36.67	110804	305.35	755.01	8.4	16.0
2621.0	11.0	49.3	48	9.6	1.51	36.76	111066	330.71	753.12	8.4	16.0
2622.0	10.3	49.5	49	9.6	1.55	36.86	111351	356.07	751.35	8.4	16.0
2623.0	10.6	49.2	49	9.6	1.53	36.95	111627	345.93	749.56	8.4	16.0
2624.0	10.1	48.6	49	9.6	1.54	37.05	111916	362.16	747.85	8.4	16.0
2625.0	6.5	49.7	48	9.6	1.70	37.21	112355	560.99	747.03	8.4	16.0
2626.0	10.3	49.3	47	9.6	1.53	37.30	112631	356.07	745.33	8.4	16.0
2627.0	9.7	52.1	52	9.6	1.61	37.41	112954	377.37	743.73	8.4	16.0
2628.0	16.7	50.6	53	9.6	1.41	37.47	113142	218.11	741.45	8.4	16.0
2629.0	10.7	51.5	52	9.6	1.57	37.56	113435	340.85	739.72	8.4	16.0
2630.0	10.8	50.5	52	9.6	1.56	37.65	113724	338.82	738.00	8.4	16.0
2631.0	8.9	51.0	52	9.6	1.63	37.76	114077	410.85	736.60	8.4	16.0
2632.0	13.4	50.7	52	9.6	1.49	37.84	114312	272.89	734.63	8.4	16.0
2633.0	12.6	51.3	52	9.6	1.52	37.92	114561	290.13	732.75	8.4	16.0
2634.0	4.1	51.8	50	9.6	1.90	38.16	115289	889.67	733.41	8.4	16.0
2635.0	2.2	51.3	49	9.6	2.10	38.61	116625	1644	737	8.4	16.0
2636.0	3.1	51.2	50	9.6	1.99	38.94	117588	1180	739	8.4	16.0
2637.0	6.1	51.0	50	9.6	1.75	39.10	118085	603.59	738.53	8.4	16.0
2638.0	15.9	49.7	50	9.6	1.41	39.16	118274	229.26	736.41	8.4	16.0
2639.0	3.6	51.5	50	9.6	1.94	39.44	119105	1003	738	8.4	16.0
2640.0	2.6	51.6	51	9.6	2.07	39.83	120293	1429	740	8.4	16.0
2641.0	2.9	51.1	51	9.6	2.01	40.17	121321	1239	742	8.4	16.0
2642.0	2.3	49.9	51	9.6	2.09	40.61	122678	1613	746	8.4	16.0
2643.0	2.4	51.7	52	9.6	2.10	41.02	123963	1502	749	8.4	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2644.0	2.0	50.9	51	9.6	2.15	41.53	125499	1847	753	8.4	16.0
2645.0	3.1	49.4	51	9.6	1.98	41.85	126497	1184	755	8.4	16.0
2646.0	2.7	51.1	51	9.6	2.05	42.22	127645	1360	758	8.4	16.0
2647.0	2.6	46.3	52	9.6	1.99	42.61	128833	1392	760	8.4	16.0
2648.0	3.0	48.0	52	9.6	1.98	42.94	129889	1226	762	8.4	16.0
2649.0	8.9	43.2	52	9.6	1.55	43.05	130239	410.85	760.65	8.4	16.0
2650.0	8.1	46.3	40	9.6	1.52	43.18	130534	448.38	759.41	8.4	16.0
2651.0	9.3	47.0	51	9.6	1.56	43.28	130860	392.59	757.97	8.4	16.0
2652.0	9.7	46.6	51	9.6	1.54	43.39	131172	375.34	756.47	8.4	16.0
2653.0	14.4	46.8	48	9.6	1.40	43.46	131372	253.61	754.50	8.4	16.0
2654.0	10.8	47.3	51	9.6	1.52	43.55	131654	338.82	752.88	8.4	16.0
2655.0	13.4	48.3	51	9.6	1.45	43.62	131881	271.87	751.02	8.4	16.0
2656.0	6.6	48.2	51	9.6	1.70	43.78	132344	553.89	750.26	8.4	16.0
2657.0	10.1	48.2	51	9.6	1.55	43.87	132649	362.16	748.77	8.4	16.0
2658.0	9.3	49.0	51	9.6	1.59	43.98	132978	391.58	747.40	8.4	16.0
2659.0	7.7	49.4	51	9.6	1.66	44.11	133371	471.72	746.35	8.4	16.0
2660.0	8.7	49.2	51	9.6	1.61	44.23	133721	420.99	745.11	8.4	16.0
2661.0	11.0	49.4	51	9.6	1.54	44.32	134000	331.72	743.54	8.4	16.0
2662.0	11.9	49.8	51	9.6	1.51	44.40	134257	306.36	741.89	8.4	16.0
2663.0	13.7	48.4	48	9.6	1.43	44.47	134466	265.78	740.10	8.4	16.0
2664.0	11.1	49.2	51	9.6	1.53	44.56	134738	327.67	738.56	8.4	16.0
2665.0	5.1	51.6	51	9.6	1.83	44.76	135338	722.28	738.50	8.4	16.0
2666.0	6.9	49.7	51	9.6	1.70	44.91	135781	532.58	737.73	8.4	16.0
2667.0	5.0	50.8	51	9.6	1.82	45.11	136393	735.47	737.72	8.4	16.0
2668.0	6.1	49.4	51	9.6	1.74	45.27	136897	602.58	737.22	8.4	16.0
2669.0	9.8	48.0	51	9.6	1.56	45.38	137208	373.32	735.89	8.4	16.0
2670.0	11.9	49.1	51	9.6	1.50	45.46	137464	307.38	734.32	8.4	16.0
2671.0	10.9	49.8	51	9.6	1.54	45.55	137743	335.78	732.86	8.4	16.0
2672.0	11.6	48.4	50	9.6	1.50	45.64	138004	315.49	731.35	8.4	16.0
2673.0	13.6	47.4	49	9.6	1.43	45.71	138220	268.83	729.67	8.4	16.0
2674.0	20.0	49.7	50	9.6	1.32	45.76	138370	182.60	727.69	8.4	16.0
2675.0	12.2	50.4	50	9.6	1.50	45.84	138618	300.28	726.16	8.4	16.0
2676.0	17.0	49.9	50	9.6	1.38	45.90	138795	215.06	724.33	8.4	16.0
2677.0	17.6	51.5	50	9.6	1.38	45.96	138964	206.95	722.48	8.4	16.0
2678.0	11.4	51.4	50	9.6	1.54	46.05	139227	319.55	721.04	8.4	16.0
2679.0	11.5	49.8	50	9.6	1.52	46.13	139490	317.52	719.61	8.4	16.0
2680.0	12.2	49.5	50	9.6	1.50	46.22	139739	300.28	718.13	8.4	16.0
2681.0	11.7	50.7	50	9.6	1.52	46.30	139998	313.46	716.71	8.4	16.0
2682.0	15.7	49.4	49	9.6	1.40	46.37	140185	233.32	715.01	8.4	16.0
2683.0	12.5	49.3	50	9.6	1.49	46.45	140427	292.50	713.53	8.4	16.0
2684.0	9.6	49.9	50	9.6	1.58	46.55	140739	379.40	712.37	8.4	16.0
2685.0	4.8	49.0	50	9.6	1.81	46.76	141366	758.80	712.53	8.4	16.0
2686.0	8.0	49.3	50	9.6	1.64	46.88	141741	457.51	711.65	8.4	16.0
2687.0	11.1	48.8	50	9.6	1.52	46.97	142010	329.69	710.33	8.4	16.0
2688.0	12.2	50.1	50	9.6	1.50	47.06	142259	299.26	708.92	8.4	16.0
2689.0	7.9	50.5	50	9.6	1.66	47.18	142641	463.60	708.08	8.4	16.0
2690.0	5.8	51.2	50	9.6	1.77	47.35	143155	625.91	707.80	8.4	16.0
2691.0	6.9	50.7	50	9.6	1.70	47.50	143589	526.50	707.18	8.4	16.0
2692.0	2.7	50.6	50	9.6	2.02	47.86	144678	1330	709	8.4	16.0
2693.0	6.7	49.1	49	9.6	1.69	48.01	145121	546.79	708.74	8.4	16.0



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2694.0	15.2	47.4	49	9.6	1.39	48.08	145316	240.42	707.17	8.4	16.0
2695.0	12.0	49.1	49	9.6	1.47	48.16	145562	304.33	705.81	8.4	16.0
2696.0	5.5	50.4	49	9.6	1.77	48.34	146096	659.39	705.66	8.4	16.0
2697.0	10.5	48.7	49	9.6	1.53	48.44	146374	346.60	704.46	8.4	16.0
2698.0	8.9	48.7	49	9.6	1.59	48.55	146705	409.84	703.48	8.4	16.0
2699.0	5.7	51.3	49	9.6	1.77	48.72	147220	637.07	703.26	8.4	16.0
2700.0	10.7	48.8	49	9.6	1.53	48.82	147495	340.85	702.07	8.4	16.0
2701.0	9.0	52.0	49	9.6	1.62	48.93	147823	406.79	701.10	8.4	16.0
2702.0	12.0	48.2	46	9.6	1.46	49.01	148056	305.35	699.80	8.4	16.0
2703.0	14.2	46.6	48	9.6	1.40	49.08	148260	257.67	698.35	8.4	16.0
2704.0	9.5	47.0	50	9.6	1.55	49.19	148573	383.46	697.33	8.4	16.0
2705.0	10.6	47.8	50	9.6	1.52	49.28	148856	344.91	696.18	8.4	16.0
2706.0	6.8	51.0	51	9.6	1.77	49.43	149300	534.61	695.66	8.4	16.0
2707.0	1.7	52.3	51	9.6	2.22	50.01	151084	2131	700	8.4	16.0
2708.0	3.4	50.5	49	9.6	1.94	50.30	151948	1071	701	8.4	16.0
2709.0	8.7	49.2	49	9.6	1.60	50.42	152283	417.95	700.58	8.4	16.1
2710.0	8.6	47.2	49	9.6	1.58	50.54	152625	424.04	699.69	8.4	16.1
2711.0	16.3	48.5	49	9.6	1.38	50.60	152804	224.19	698.18	8.4	16.1
2712.0	11.7	48.1	47	9.6	1.47	50.68	153045	313.46	696.96	8.4	16.1
2713.0	10.6	50.6	48	9.6	1.54	50.78	153318	344.91	695.84	8.4	16.1
2714.0	2.2	51.6	49	9.6	2.10	51.22	154641	1633	699	8.4	16.1
2715.0	1.9	52.8	49	9.6	2.18	51.75	156199	1929	703	8.4	16.1
2716.0	2.4	44.2	53	9.6	2.00	52.17	157509	1516	705	8.4	16.1
2717.0	1.8	51.1	53	9.6	2.19	52.71	159231	1991	709	8.4	16.1
2718.0	1.9	50.8	53	9.6	2.17	53.24	160893	1917	713	8.4	16.1
2719.0	2.6	51.4	53	9.6	2.07	53.62	162095	1392	715	8.4	16.1

BIT NUMBER	8	IADC CODE	517	INTERVAL	2719.0- 2737.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	7.8	BIT RUN	18.0
TOTAL HOURS	4.45	TOTAL TURNS	13405	CONDITION	T1 R1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2720.0	6.0	26.2	34	9.6	1.33	0.17	343	611	37616	8.4	16.1
2721.0	3.0	38.3	52	9.6	1.84	0.50	1381	1209	19413	8.4	16.1
2722.0	2.6	39.2	52	9.6	1.90	0.89	2601	1424	13417	8.4	16.1
2723.0	3.4	43.9	53	9.6	1.88	1.18	3537	1074	10331	8.4	16.1
2724.0	2.8	45.4	48	9.6	1.94	1.54	4583	1317	8528	8.4	16.1
2725.0	3.4	42.4	48	9.6	1.83	1.84	5446	1084	7288	8.4	16.1
2726.0	3.6	41.9	52	9.6	1.83	2.11	6309	1003	6390	8.4	16.1
2727.0	3.4	46.4	52	9.6	1.91	2.41	7222	1065	5724	8.4	16.1
2728.0	3.2	45.4	52	9.6	1.91	2.72	8187	1139	5215	8.4	16.1
2729.0	3.8	46.6	52	9.6	1.87	2.98	8998	952	4788	8.4	16.1
2730.0	4.0	47.3	52	9.6	1.86	3.23	9772	907	4436	8.4	16.1
2731.0	4.4	47.4	53	9.6	1.84	3.46	10498	836	4136	8.4	16.1
2732.0	3.7	46.5	54	9.6	1.89	3.73	11373	987	3893	8.4	16.1
2733.0	3.1	45.4	49	9.6	1.91	4.05	12333	1181	3700	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2734.0	6.0	43.5	50	9.6	1.66	4.22	12828	609	3494	8.4	16.1
2735.0	13.7	41.0	49	9.6	1.36	4.29	13044	267	3292	8.4	16.1
2736.0	19.9	44.6	49	9.6	1.27	4.34	13192	184	3109	8.4	16.1
2737.0	9.2	44.5	33	9.6	1.39	4.45	13405	396	2958	8.4	16.1

BIT NUMBER 8 IADC CODE 4 INTERVAL 2737.0-2755.0  
 CHRIS RC4 SIZE 9.875 NOZZLES 15 15 16  
 COST 0.00 TRIP TIME 7.8 BIT RUN 18.0  
 TOTAL HOURS 2.71 TOTAL TURNS 19526 CONDITION TO B0 G0.020

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2737.2	20.0	16.1	74	9.6	1.12	0.01	45	183	142611	8.4	16.1
2737.4	18.9	16.4	82	9.6	1.17	0.02	96	193	71402	8.4	16.1
2737.6	9.7	14.9	90	9.6	1.34	0.04	208	375	47726	8.4	16.1
2737.8	13.6	12.4	95	9.6	1.21	0.06	292	269	35862	8.4	16.1
2738.0	37.9	11.8	96	9.6	0.95	0.06	322	96	28709	8.4	16.1
2738.2	20.0	13.1	96	9.6	1.13	0.07	380	183	23954	8.4	16.1
2738.4	10.1	13.0	95	9.6	1.30	0.09	492	360	20584	8.4	16.1
2738.6	10.1	13.3	94	9.6	1.30	0.11	604	360	18056	8.4	16.1
2738.8	8.7	13.1	95	9.6	1.34	0.13	735	421	16096	8.4	16.1
2739.0	11.6	13.7	103	9.6	1.30	0.15	841	314	14518	8.4	16.1
2739.2	7.3	12.3	111	9.6	1.40	0.18	1023	502	13244	8.4	16.1
2739.4	10.9	13.7	112	9.6	1.34	0.20	1147	335	12168	8.4	16.1
2739.6	12.6	14.3	112	9.6	1.31	0.21	1253	289	11254	8.4	16.1
2739.8	7.1	16.4	112	9.6	1.52	0.24	1443	517	10488	8.4	16.1
2740.0	9.5	18.6	111	9.6	1.48	0.26	1584	385	9814	8.4	16.1
2740.2	4.6	21.0	109	9.6	1.74	0.31	1870	796	9250	8.4	16.1
2740.4	2.6	20.1	107	9.6	1.87	0.38	2368	1415	8790	8.4	16.1
2740.6	2.0	19.5	119	9.6	1.96	0.48	3090	1851	8404	8.4	16.1
2740.8	1.1	18.5	131	9.6	2.13	0.67	4553	3388	8140	8.4	16.1
2741.0	15.0	18.7	111	9.6	1.36	0.68	4641	243	7745	8.4	16.1
2741.2	24.0	21.7	110	9.6	1.28	0.69	4696	152	7384	8.4	16.1
2741.4	4.7	22.6	110	9.6	1.77	0.73	4978	781	7084	8.4	16.1
2741.6	5.4	22.6	126	9.6	1.76	0.77	5256	675	6805	8.4	16.1
2741.8	4.8	23.1	128	9.6	1.82	0.81	5577	761	6553	8.4	16.1
2742.0	3.0	24.0	128	9.6	1.98	0.88	6097	1238	6340	8.4	16.1
2742.2	3.6	25.3	123	9.6	1.94	0.94	6506	1014	6136	8.4	16.1
2742.4	4.1	24.7	120	9.6	1.88	0.99	6858	893	5941	8.4	16.1
2742.6	10.0	25.0	121	9.6	1.62	1.01	7003	365	5742	8.4	16.1
2742.8	6.5	24.6	117	9.6	1.73	1.04	7218	558	5564	8.4	16.1
2743.0	8.3	24.9	117	9.6	1.66	1.06	7387	441	5393	8.4	16.1
2743.2	5.4	24.8	119	9.6	1.80	1.10	7653	680	5241	8.4	16.1
2743.4	5.3	24.4	128	9.6	1.81	1.14	7943	690	5099	8.4	16.1
2743.6	13.3	21.0	149	9.6	1.52	1.15	8078	274	4952	8.4	16.1
2743.8	26.7	22.7	149	9.6	1.35	1.16	8145	137	4811	8.4	16.1
2744.0	14.4	23.2	146	9.6	1.53	1.17	8267	254	4681	8.4	16.1
2744.2	13.3	25.2	143	9.6	1.59	1.19	8396	274	4558	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2744.4	10.1	24.2	145	9.6	1.65	1.21	8567	360	4445	8.4	16.1
2744.6	25.7	24.1	140	9.6	1.36	1.21	8633	142	4331	8.4	16.1
2744.8	25.7	24.7	136	9.6	1.37	1.22	8696	142	4224	8.4	16.1
2745.0	13.8	24.7	133	9.6	1.54	1.24	8812	264	4125	8.4	16.1
2745.2	17.1	23.9	139	9.6	1.48	1.25	8909	213	4030	8.4	16.1
2745.4	10.0	24.6	137	9.6	1.65	1.27	9074	365	3942	8.4	16.1
2745.6	28.8	24.4	132	9.6	1.32	1.27	9129	127	3854	8.4	16.1
2745.8	24.0	24.0	129	9.6	1.36	1.28	9193	152	3769	8.4	16.1
2746.0	17.6	24.8	125	9.6	1.46	1.29	9279	208	3690	8.4	16.1
2746.2	11.6	23.8	124	9.6	1.56	1.31	9407	314	3617	8.4	16.1
2746.4	25.7	21.8	123	9.6	1.29	1.32	9464	142	3543	8.4	16.1
2746.6	22.5	22.0	123	9.6	1.33	1.33	9530	162	3473	8.4	16.1
2746.8	6.6	25.9	127	9.6	1.77	1.36	9760	553	3413	8.4	16.1
2747.0	4.4	25.8	132	9.6	1.91	1.40	10122	837	3361	8.4	16.1
2747.2	11.8	25.5	135	9.6	1.61	1.42	10259	309	3302	8.4	16.1
2747.4	5.5	25.7	129	9.6	1.83	1.46	10541	664	3251	8.4	16.1
2747.6	11.6	25.0	125	9.6	1.58	1.48	10671	314	3195	8.4	16.1
2747.8	16.4	24.1	123	9.6	1.46	1.49	10761	223	3140	8.4	16.1
2748.0	5.9	23.9	120	9.6	1.75	1.52	11006	624	3095	8.4	16.1
2748.2	1.9	24.4	114	9.6	2.09	1.63	11739	1958	3074	8.4	16.1
2748.4	6.4	22.3	123	9.6	1.70	1.66	11971	573	3031	8.4	16.1
2748.6	12.9	23.3	140	9.6	1.55	1.68	12101	284	2983	8.4	16.1
2748.8	3.4	23.3	138	9.6	1.94	1.73	12587	1070	2951	8.4	16.1
2749.0	8.8	20.5	119	9.6	1.56	1.76	12750	416	2908	8.4	16.1
2749.2	18.5	18.5	119	9.6	1.32	1.77	12827	198	2864	8.4	16.1
2749.4	10.1	16.9	120	9.6	1.45	1.79	12969	360	2824	8.4	16.1
2749.6	16.7	15.4	124	9.6	1.29	1.80	13058	218	2782	8.4	16.1
2749.8	15.0	15.6	133	9.6	1.34	1.81	13164	243	2743	8.4	16.1
2750.0	31.3	16.4	132	9.6	1.16	1.82	13215	117	2702	8.4	16.1
2750.2	15.7	16.4	131	9.6	1.35	1.83	13315	233	2665	8.4	16.1
2750.4	6.7	17.5	125	9.6	1.59	1.86	13538	543	2633	8.4	16.1
2750.6	3.4	16.9	123	9.6	1.75	1.92	13972	1075	2610	8.4	16.1
2750.8	6.6	16.7	119	9.6	1.56	1.95	14189	553	2580	8.4	16.1
2751.0	10.7	16.5	113	9.6	1.41	1.97	14315	340	2548	8.4	16.1
2751.2	1.6	22.6	105	9.6	2.07	2.10	15115	2313	2545	8.4	16.1
2751.4	19.5	24.3	131	9.6	1.43	2.11	15196	188	2512	8.4	16.1
2751.6	21.8	23.2	133	9.6	1.38	2.12	15270	167	2480	8.4	16.1
2751.8	17.6	23.8	129	9.6	1.45	2.13	15358	208	2450	8.4	16.1
2752.0	25.7	24.5	128	9.6	1.34	2.13	15418	142	2419	8.4	16.1
2752.2	15.3	24.7	129	9.6	1.50	2.15	15518	238	2390	8.4	16.1
2752.4	15.3	24.2	123	9.6	1.48	2.16	15614	238	2362	8.4	16.1
2752.6	14.7	24.5	123	9.6	1.50	2.17	15715	249	2335	8.4	16.1
2752.8	22.5	24.1	124	9.6	1.37	2.18	15781	162	2308	8.4	16.1
2753.0	10.9	24.5	120	9.6	1.58	2.20	15913	335	2283	8.4	16.1
2753.2	12.6	25.0	105	9.6	1.51	2.22	16013	289	2258	8.4	16.1
2753.4	3.8	24.3	109	9.6	1.86	2.27	16356	959	2242	8.4	16.1
2753.6	8.3	23.1	106	9.6	1.60	2.29	16510	441	2221	8.4	16.1
2753.8	1.9	20.3	131	9.6	2.03	2.40	17353	1953	2218	8.4	16.1
2754.0	5.5	19.6	126	9.6	1.69	2.44	17626	659	2199	8.4	16.1
2754.2	11.4	19.2	129	9.6	1.49	2.45	17762	320	2177	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2754.4	2.7	21.3	119	9.6	1.91	2.53	18285	1339	2168	8.4	16.1
2754.6	4.8	22.8	127	9.6	1.81	2.57	18603	761	2152	8.4	16.1
2755.0	0.7	22.9	111	9.6	2.33	3.13	22351	5153	2218	8.4	16.1

BIT NUMBER	9	IADC CODE	517	INTERVAL	2755.0- 2821.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	0.00	TRIP TIME	7.8	BIT RUN	66.0
TOTAL HOURS	14.24	TOTAL TURNS	40290	CONDITION	T1 B3 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2756.0	7.9	16.5	74	9.6	1.31	4.58	13967	460	2379	8.4	16.1
2757.0	8.6	26.7	58	9.6	1.38	4.69	14368	424	2281	8.4	16.1
2758.0	4.0	35.7	55	9.6	1.72	4.94	15184	907	2216	8.4	16.1
2759.0	7.5	38.2	55	9.6	1.56	5.07	15628	490	2137	8.4	16.1
2760.0	11.7	41.5	55	9.6	1.46	5.16	15910	312	2058	8.4	16.1
2761.0	6.1	43.9	54	9.6	1.69	5.32	16435	598	1997	8.4	16.1
2762.0	6.5	42.6	55	9.6	1.66	5.48	16943	565	1940	8.4	16.1
2763.0	11.9	41.4	55	9.6	1.45	5.56	17219	306	1877	8.4	16.1
2764.0	8.6	41.2	55	9.6	1.55	5.68	17601	426	1823	8.4	16.1
2765.0	7.9	42.4	55	9.6	1.59	5.80	18015	460	1774	8.4	16.1
2766.0	10.3	42.4	54	9.6	1.50	5.90	18331	354	1725	8.4	16.1
2767.0	10.9	41.3	55	9.6	1.48	5.99	18633	334	1679	8.4	16.1
2768.0	11.1	43.3	55	9.6	1.49	6.08	18927	328	1635	8.4	16.1
2769.0	10.7	43.1	54	9.6	1.50	6.18	19233	342	1595	8.4	16.1
2770.0	8.7	44.2	53	9.6	1.58	6.29	19604	422	1560	8.4	16.1
2771.0	7.6	43.5	54	9.6	1.62	6.42	20032	480	1528	8.4	16.1
2772.0	10.5	42.3	55	9.6	1.50	6.52	20343	347	1494	8.4	16.1
2773.0	11.3	41.4	54	9.6	1.46	6.61	20633	325	1462	8.4	16.1
2774.0	8.5	42.4	54	9.6	1.57	6.72	21016	429	1434	8.4	16.1
2775.0	9.2	41.9	54	9.6	1.53	6.83	21369	398	1406	8.4	16.1
2776.0	6.5	43.3	53	9.6	1.66	6.99	21863	564	1385	8.4	16.1
2777.0	7.3	42.9	55	9.6	1.62	7.12	22308	497	1363	8.4	16.1
2778.0	7.7	42.2	54	9.6	1.60	7.25	22733	477	1341	8.4	16.1
2779.0	2.3	41.4	54	9.6	1.98	7.68	24117	1560	1346	8.4	16.1
2780.0	1.7	42.0	55	9.6	2.09	8.27	26041	2133	1364	8.4	16.1
2781.0	2.3	47.5	49	9.6	2.04	8.70	27330	1587	1370	8.4	16.1
2782.0	2.7	51.5	42	9.6	1.98	9.07	28260	1351	1369	8.4	16.1
2783.0	2.5	52.0	42	9.6	2.02	9.47	29274	1460	1371	8.4	16.1
2784.0	2.3	52.4	43	9.6	2.06	9.91	30410	1619	1376	8.4	16.1
2785.0	2.2	52.3	43	9.6	2.08	10.38	31604	1695	1383	8.4	16.1
2786.0	3.1	49.2	43	9.6	1.92	10.70	32444	1194	1379	8.4	16.1
2787.0	3.1	50.0	43	9.6	1.92	11.02	33259	1161	1375	8.4	16.1
2788.0	6.4	49.7	43	9.6	1.66	11.18	33656	568	1359	8.4	16.1
2789.0	11.0	46.3	43	9.6	1.44	11.27	33889	332	1339	8.4	16.1
2790.0	12.5	49.4	39	9.6	1.40	11.35	34076	292	1319	8.4	16.1
2791.0	2.9	48.8	42	9.6	1.93	11.70	34955	1277	1319	8.4	16.1
2792.0	4.2	49.4	42	9.6	1.80	11.94	35556	874	1311	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	LCOST	CCOST	PP	FG
2793.0	4.1	50.3	42	9.6	1.82	12.18	36175	901	1303	8.4	16.1
2794.0	6.3	48.4	42	9.6	1.65	12.34	36571	580	1291	8.4	16.1
2795.0	11.6	46.1	42	9.6	1.42	12.43	36788	314	1274	8.4	16.1
2796.0	10.7	43.6	42	9.6	1.42	12.52	37021	341	1258	8.4	16.1
2797.0	12.5	49.8	41	9.6	1.42	12.60	37218	293	1242	8.4	16.1
2798.0	10.3	50.3	41	9.6	1.49	12.70	37455	355	1227	8.4	16.1
2799.0	4.4	47.6	49	9.6	1.81	12.93	38122	825	1221	8.4	16.1
2800.0	2.7	51.5	52	9.6	2.05	13.30	39272	1351	1223	8.4	16.1
2801.0	2.8	50.6	44	9.6	1.97	13.65	40203	1285	1224	8.4	16.1
2802.0	2.8	49.9	44	9.6	1.97	14.01	41161	1313	1225	8.4	16.1
2803.0	3.7	49.3	49	9.6	1.89	14.28	41949	982	1222	8.4	16.1
2804.0	3.1	49.5	49	9.6	1.97	14.60	42917	1194	1221	8.4	16.1
2805.0	3.1	49.0	50	9.6	1.94	14.93	43894	1196	1221	8.4	16.1
2806.0	13.8	44.7	49	9.6	1.40	15.00	44107	264	1207	8.4	16.1
2807.0	11.5	49.6	49	9.6	1.51	15.09	44362	317	1194	8.4	16.1
2808.0	21.2	49.7	42	9.6	1.24	15.14	44481	172	1180	8.4	16.1
2809.0	5.9	48.2	43	9.6	1.68	15.31	44919	618	1172	8.4	16.1
2810.0	7.8	49.1	43	9.6	1.59	15.44	45251	471	1162	8.4	16.1
2811.0	6.9	49.0	43	9.6	1.63	15.58	45625	531	1154	8.4	16.2
2812.0	8.7	45.0	43	9.6	1.51	15.70	45921	421	1144	8.4	16.2
2813.0	2.9	50.6	43	9.6	1.95	16.04	46807	1260	1146	8.4	16.2
2814.0	2.5	50.4	43	9.6	2.00	16.43	47822	1439	1149	8.4	16.2
2815.0	4.6	50.0	43	9.6	1.78	16.65	48383	798	1145	8.4	16.2
2816.0	3.1	50.5	43	9.6	1.92	16.97	49197	1163	1145	8.4	16.2
2817.0	2.6	46.7	43	9.6	1.93	17.35	50176	1393	1148	8.4	16.2
2818.0	2.8	51.6	43	9.6	1.97	17.70	51076	1283	1150	8.4	16.2
2819.0	3.2	48.5	46	9.6	1.92	18.02	51950	1143	1150	8.4	16.2
2820.0	3.4	44.0	43	9.6	1.82	18.31	52725	1084	1149	8.4	16.2
2821.0	2.7	48.6	43	9.6	1.96	18.69	53695	1375	1152	8.4	16.2

(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.

URNS. . . . . 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	61.0-	197.0
HTC OSC3AJ		SIZE	26.000	NOZZLES	20	20 20
COST	0.00	TRIP TIME	1.2	BIT RUN		136.0
TOTAL HOURS	3.87	TOTAL TURNS	23470	CONDITION	T1	B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
70.0	14.6	9.0	0.62	2687	6634.68	250.25	737.19	-
80.0	19.6	19.0	1.13	6051	8495.77	186.11	447.15	-
90.0	16.7	29.0	1.73	9962	10688.12	219.24	368.56	-
100.0	30.6	39.0	2.05	11922	11881.26	119.31	304.65	-
110.0	44.8	49.0	2.28	13199	12696.16	81.49	259.11	-
120.0	52.8	59.0	2.47	14426	13388.28	69.21	226.92	-
130.0	49.6	69.0	2.67	15747	14125.30	73.70	204.71	-
140.0	69.9	79.0	2.81	16637	14647.64	52.23	185.41	-
150.0	42.7	89.0	3.04	18079	15502.14	85.45	174.18	-
160.0	55.0	99.0	3.23	19312	16166.60	66.45	163.30	-
170.0	62.2	109.0	3.39	20333	16753.88	58.73	153.71	-
180.0	52.4	119.0	3.58	21552	17451.08	69.72	146.65	-
190.0	57.6	129.0	3.75	22670	18085.27	63.42	140.20	-
197.0	58.2	136.0	3.87	23457	18524.53	62.75	136.21	-

BIT NUMBER	2	IADC CODE	114	INTERVAL	197.0-	797.0
HTC X3A		SIZE	17.500	NOZZLES	20	20 20
COST	4978.00	TRIP TIME	2.0	BIT RUN		600.0
TOTAL HOURS	12.70	TOTAL TURNS	114343	CONDITION	T1	B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
200.0	144.6	3.0	0.02	187	12357.78	25	4119	-
210.0	129.5	13.0	0.10	882	12639.83	28.20	972.29	-
220.0	147.9	23.0	0.17	1490	12886.80	24.70	560.30	-
230.0	130.8	33.0	0.24	2179	13166.09	27.93	398.97	-
240.0	220.8	43.0	0.29	2586	13331.52	16.54	310.04	-
250.0	293.5	53.0	0.32	2893	13455.95	12.44	253.89	-
260.0	237.3	63.0	0.36	3272	13609.82	15.39	216.03	-
270.0	256.2	73.0	0.40	3624	13752.34	14.25	188.39	-
280.0	219.1	83.0	0.45	4034	13918.99	16.67	167.70	-
290.0	232.9	93.0	0.49	4421	14075.81	15.68	151.35	-
300.0	158.9	103.0	0.55	4987	14305.63	22.98	138.89	-
310.0	140.3	113.0	0.63	5629	14566.01	26.04	128.90	-
320.0	127.9	123.0	0.70	6332	14851.53	28.55	120.74	-
330.0	139.2	133.0	0.78	6979	15113.84	26.23	113.64	-
340.0	181.4	143.0	0.83	7475	15315.20	20.14	107.10	-
350.0	99.0	153.0	0.93	8384	15684.14	36.89	102.51	-
360.0	117.5	163.0	1.02	9150	15994.90	31.08	98.13	-
370.0	160.2	173.0	1.08	9712	16222.91	22.80	93.77	-
380.0	426.6	183.0	1.10	9923	16308.52	8.56	89.12	-

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	J-C
390.0	169.9	193.0	1.16	10453	16523.43	21.49	85.61	-
400.0	304.0	203.0	1.19	10749	16643.56	12.01	81.99	-
410.0	244.9	213.0	1.24	11116	16792.71	14.92	78.84	-
420.0	284.6	223.0	1.27	11432	16921.01	12.83	75.88	-
430.0	164.0	233.0	1.33	11981	17143.68	22.27	73.58	-
440.0	171.6	243.0	1.39	12506	17356.50	21.28	71.43	-
450.0	151.9	253.0	1.46	13098	17596.93	24.04	69.55	-
460.0	224.0	263.0	1.50	13500	17759.98	16.31	67.53	-
470.0	195.1	273.0	1.55	13961	17947.17	18.72	65.74	-
480.0	151.9	283.0	1.62	14554	18187.60	24.04	64.27	-
490.0	139.3	293.0	1.69	15200	18449.83	26.22	62.97	-
500.0	112.5	303.0	1.78	16000	18774.45	32.46	61.96	-
510.0	135.6	313.0	1.85	16664	19043.84	26.94	60.84	-
520.0	92.1	323.0	1.96	17641	19440.47	39.66	60.19	-
530.0	137.2	333.0	2.03	18297	19706.66	26.62	59.18	-
540.0	105.9	343.0	2.13	19147	20051.58	34.49	58.46	-
550.0	120.0	353.0	2.21	19897	20355.91	30.43	57.67	-
560.0	83.4	363.0	2.33	20977	20793.87	43.80	57.28	-
570.0	67.3	373.0	2.48	22314	21336.60	54.27	57.20	-
580.0	66.1	383.0	2.63	23675	21888.75	55.21	57.15	-
590.0	46.0	393.0	2.85	25630	22682.04	79.33	57.72	+
600.0	48.6	403.0	3.05	27483	23434.00	75.20	58.15	+
610.0	29.6	413.0	3.39	30528	24669.59	123.56	59.73	+
620.0	32.1	423.0	3.70	33336	25808.82	113.92	61.01	+
630.0	37.0	433.0	3.97	35768	26795.87	98.71	61.88	+
640.0	29.5	443.0	4.31	38823	28035.52	123.97	63.29	+
650.0	21.6	453.0	4.78	42993	29727.61	169.21	65.62	+
660.0	25.6	463.0	5.17	46516	31156.97	142.94	67.29	+
670.0	28.4	473.0	5.52	49679	32440.75	128.38	68.59	+
680.0	19.9	483.0	6.02	54204	34276.89	183.61	70.97	+
690.0	20.8	493.0	6.50	58529	36031.88	175.50	73.09	+
700.0	21.3	503.0	6.97	62763	37749.84	171.80	75.05	+
710.0	20.6	513.0	7.46	67128	39521.06	177.12	77.04	+
720.0	19.0	523.0	7.99	71866	41443.43	192.24	79.24	+
730.0	18.7	533.0	8.52	76681	43397.25	195.38	81.42	+
740.0	15.0	543.0	9.19	82668	45826.85	242.96	84.40	+
750.0	19.3	553.0	9.70	87323	47715.74	188.89	86.29	+
760.0	21.5	563.0	10.17	91506	49412.91	169.72	87.77	+
770.0	14.8	573.0	10.84	97581	51878.13	246.52	90.54	+
780.0	14.5	583.0	11.53	103787	54396.29	251.82	93.30	+
790.0	14.1	593.0	12.24	110177	56989.46	259.32	96.10	+
797.0	15.1	600.0	12.70	114343	58680.00	241.51	97.80	+



BIT NUMBER	3	IADC CODE	114	INTERVAL	797.0- 1165.4
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2445.00	TRIP TIME	3.0	BIT RUN	368.4
TOTAL HOURS	10.54	TOTAL TURNS	72677	CONDITION	T3 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
800.0	36.0	3.0	0.08	441	13705.00	101	4568	-
810.0	57.1	13.0	0.26	1576	14344.10	64	1103	-
820.0	48.6	23.0	0.46	3007	15094.78	75.07	656.29	-
830.0	40.7	33.0	0.71	4864	15991.55	89.68	484.59	-
840.0	52.4	43.0	0.90	6380	16688.98	69.74	388.12	-
850.0	58.3	53.0	1.07	7814	17314.90	62.59	326.70	-
860.0	65.6	63.0	1.22	9237	17871.83	55.69	283.68	-
870.0	53.5	73.0	1.41	10644	18554.04	68.22	254.16	-
880.0	44.0	83.0	1.64	11816	19383.86	82.98	233.54	-
890.0	58.2	93.0	1.81	12757	20011.80	62.79	215.18	-
900.0	65.3	103.0	1.96	13707	20570.76	55.90	199.72	-
910.0	62.2	113.0	2.12	14692	21157.61	58.69	187.24	-
920.0	64.2	123.0	2.28	15619	21726.65	56.90	176.64	-
930.0	62.5	133.0	2.44	16595	22310.97	58.43	167.75	-
940.0	48.5	143.0	2.65	18115	23064.71	75.37	161.29	-
950.0	35.4	153.0	2.93	20136	24095.96	103.13	157.49	-
960.0	41.9	163.0	3.17	21855	24967.53	87.16	153.18	-
970.0	47.4	173.0	3.38	23216	25737.31	76.98	148.77	-
980.0	63.5	183.0	3.54	24135	26312.50	57.52	143.78	-
990.0	46.6	193.0	3.75	25724	27096.66	78.42	140.40	-
1000.0	49.1	203.0	3.95	26952	27840.25	74.36	137.14	-
1010.0	40.0	213.0	4.20	28518	28753.25	91.30	134.99	-
1020.0	34.6	223.0	4.49	30336	29808.27	105.50	133.67	-
1030.0	35.2	233.0	4.78	32051	30846.56	103.83	132.39	-
1040.0	34.3	243.0	5.07	33948	31912.59	106.60	131.33	-
1050.0	31.3	253.0	5.39	36076	33080.99	116.84	130.75	-
1060.0	9.3	263.0	6.47	43545	37015.51	393.45	140.74	+
1070.0	25.1	273.0	6.87	46345	38473.16	145.76	140.93	+
1080.0	41.0	283.0	7.11	48024	39363.84	89.07	139.09	-
1090.0	40.5	293.0	7.36	49678	40265.53	90.17	137.43	-
1100.0	42.5	303.0	7.59	51372	41124.77	85.92	135.73	-
1110.0	25.1	313.0	7.99	54010	42581.51	145.67	136.04	+
1120.0	29.3	323.0	8.33	56507	43826.23	124.47	135.68	-
1130.0	19.1	333.0	8.85	60444	45733.73	190.75	137.34	+
1140.0	23.7	343.0	9.28	63829	47276.70	154.30	137.83	+
1150.0	14.9	353.0	9.95	67663	49732.67	245.60	140.89	+
1160.0	22.9	363.0	10.39	71383	51327.37	159.47	141.40	+
1165.4	34.2	368.4	10.54	72677	51903.58	106.70	140.89	-

BIT NUMBER	3	IADC CODE	4	INTERVAL	1165.4- 1175.5
CHRIS RC44		SIZE	9.875	NOZZLES	15 15 14
COST	0.00	TRIP TIME	4.5	BIT RUN	10.1
TOTAL HOURS	0.31	TOTAL TURNS	1029	CONDITION	T0 B0 G0.005

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1170.0	27.2	4.6	0.17	517	17051.38	134	3707	-
1175.5	40.3	10.1	0.31	1029	17549.69	91	1738	-

BIT NUMBER	4	IADC CODE	517	INTERVAL	1175.5- 1789.0
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	4.5	BIT RUN	613.5
TOTAL HOURS	33.91	TOTAL TURNS	139627	CONDITION	T4 B6 G0.188

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1180.0	27.2	4.5	0.17	449	25557.85	134	5680	-
1190.0	57.3	14.5	0.34	967	26194.92	64	1807	-
1200.0	61.2	24.5	0.50	1993	26791.41	60	1094	-
1210.0	37.3	34.5	0.77	3740	27769.34	97.79	804.91	-
1220.0	12.8	44.5	1.55	9128	30620.94	285.16	688.11	-
1230.0	25.5	54.5	1.94	11810	32052.32	143.14	588.12	-
1240.0	42.6	64.5	2.18	13219	32909.68	85.74	510.23	-
1250.0	29.1	74.5	2.52	15128	34165.39	125.57	458.60	-
1260.0	27.6	84.5	2.88	17505	35486.79	132.14	419.96	-
1270.0	34.3	94.5	3.18	19003	36550.31	106.35	386.78	-
1280.0	11.6	104.5	4.04	23471	39697.12	314.68	379.88	-
1290.0	17.4	114.5	4.61	26264	41798.04	210.09	365.05	-
1300.0	29.1	124.5	4.96	27789	43051.89	125.39	345.80	-
1310.0	27.7	134.5	5.32	29153	44368.64	131.67	329.88	-
1320.0	27.0	144.5	5.69	30657	45722.92	135.43	316.42	-
1330.0	25.0	154.5	6.09	32222	47183.72	146.08	305.40	-
1340.0	29.8	164.5	6.42	33654	48410.18	122.65	294.29	-
1350.0	19.7	174.5	6.93	35696	50260.53	185.03	288.03	-
1360.0	16.1	184.5	7.55	38202	52534.19	227.37	284.74	-
1370.0	15.5	194.5	8.20	40591	54890.24	235.60	282.21	-
1380.0	18.1	204.5	8.75	42870	56902.90	201.27	278.25	-
1390.0	17.3	214.5	9.33	45233	59019.03	211.61	275.15	-
1400.0	17.9	224.5	9.89	47384	61064.15	204.51	272.00	-
1410.0	18.4	234.5	10.43	49660	63048.40	198.43	268.86	-
1420.0	14.7	244.5	11.11	52224	65528.04	247.96	268.01	-
1430.0	14.5	254.5	11.80	54943	68054.68	252.66	267.41	-
1440.0	11.9	264.5	12.64	57952	71129.10	307.44	268.92	+
1450.0	12.6	274.5	13.44	60924	74036.49	290.74	269.71	+
1460.0	23.4	284.5	13.87	62303	75599.75	156.33	265.73	-
1470.0	34.8	294.5	14.16	63246	76649.56	104.98	260.27	-
1480.0	16.5	304.5	14.76	65039	78859.02	220.95	258.98	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1490.0	12.8	314.5	15.54	67503	81719.75	286.07	259.84	+
1500.0	14.9	324.5	16.21	70144	84169.63	244.99	259.38	-
1510.0	19.1	334.5	16.74	71582	86077.80	190.82	257.33	-
1520.0	12.7	344.5	17.53	73643	88963.90	288.61	258.24	+
1530.0	13.0	354.5	18.30	77319	91772.90	280.90	258.88	+
1540.0	10.2	364.5	19.27	82003	95336.64	356.37	261.55	+
1550.0	28.8	374.5	19.62	83670	96604.69	126.81	257.96	-
1560.0	22.4	384.5	20.07	85811	98233.89	162.92	255.48	-
1570.0	28.5	394.5	20.42	87496	99516.15	128.23	252.26	-
1580.0	27.0	404.5	20.79	88949	100867.39	135.12	249.36	-
1590.0	31.6	414.5	21.10	90090	102024.87	115.75	246.14	-
1600.0	25.4	424.5	21.50	91508	103463.35	143.85	243.73	-
1610.0	13.4	434.5	22.24	94186	106180.04	271.67	244.37	+
1620.0	30.8	444.5	22.57	95355	107365.92	118.59	241.54	-
1630.0	29.6	454.5	22.90	96573	108601.51	123.56	238.95	-
1640.0	18.6	464.5	23.44	98541	110567.36	196.58	238.04	-
1650.0	25.2	474.5	23.84	100490	112014.98	144.76	236.07	-
1660.0	16.9	484.5	24.43	102699	114175.74	216.08	235.66	-
1670.0	11.5	494.5	25.30	105909	117340.81	316.51	237.29	+
1680.0	13.4	504.5	26.05	108913	120074.20	273.34	238.01	+
1690.0	13.5	514.5	26.79	111614	122775.19	270.10	238.63	+
1700.0	16.0	524.5	27.41	114088	125052.62	227.74	238.42	-
1710.0	13.4	534.5	28.15	116942	127769.30	271.67	239.04	+
1720.0	16.9	544.5	28.74	119277	129929.06	215.98	238.62	-
1730.0	15.0	554.5	29.41	121894	132361.69	243.26	238.70	+
1740.0	14.1	564.5	30.12	124718	134953.60	259.19	239.07	-
1750.0	15.9	574.5	30.75	127282	137251.32	229.77	238.91	-
1760.0	14.5	584.5	31.44	129978	139770.92	251.96	239.13	+
1770.0	12.3	594.5	32.26	133196	142750.68	297.98	240.12	+
1780.0	12.7	604.5	33.04	136285	145627.65	287.70	240.91	+
1789.0	10.8	613.5	33.88	139548	148668.95	337.92	242.33	+

BIT NUMBER	5	IADC CODE	517	INTERVAL	1789.0- 2021.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	6.3	BIT RUN	232.0
TOTAL HOURS	16.95	TOTAL TURNS	59491	CONDITION	T2 B3 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1790.0	16.1	1.0	0.06	251	31754.16	227	31754	-
1800.0	14.1	11.0	0.77	2946	34345.05	259	3122	-
1810.0	14.6	21.0	1.46	5589	36841.60	250	1754	-
1820.0	10.4	31.0	2.42	9460	40362.20	352	1302	-
1830.0	16.1	41.0	3.04	12230	42635.57	227	1040	-
1840.0	15.9	51.0	3.67	14692	44929.23	229.37	880.97	-
1850.0	15.5	61.0	4.32	16747	47286.80	235.76	775.19	-
1860.0	15.9	71.0	4.94	18752	49578.43	229.16	698.29	-
1870.0	15.4	81.0	5.59	20814	51946.48	236.81	641.31	-

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
1880.0	17.7	91.0	6.16	22655	54013.92	206.74	593.56	-
1890.0	17.1	101.0	6.74	24593	56153.38	213.95	555.97	-
1900.0	14.2	111.0	7.45	26909	58726.01	257.26	529.06	-
1910.0	20.1	121.0	7.95	28498	60543.90	181.79	500.36	-
1920.0	17.1	131.0	8.53	30420	62678.29	213.44	478.46	-
1930.0	19.1	141.0	9.05	32221	64587.04	190.87	458.06	-
1940.0	15.1	151.0	9.71	34469	67002.43	241.54	443.72	-
1950.0	16.7	161.0	10.31	36439	69185.52	218.31	429.72	-
1960.0	9.7	171.0	11.34	39726	72937.95	375.24	426.54	-
1970.0	8.8	181.0	12.47	43310	77064.71	412.68	425.77	-
1980.0	10.7	191.0	13.40	46628	80476.79	341.21	421.34	-
1990.0	13.3	201.0	14.15	49441	83219.11	274.23	414.03	-
2000.0	10.8	211.0	15.08	52796	86609.38	339.03	410.47	-
2010.0	10.3	221.0	16.05	56229	90150.30	354.09	407.92	-
2020.0	12.5	231.0	16.85	59164	93068.86	291.86	402.90	-
2021.0	10.3	232.0	16.95	59491	93423.91	355.06	402.69	-

BIT NUMBER 6 IADC CODE 537 INTERVAL 2021.0- 2397.0  
 HTC J33 SIZE 12.250 NOZZLES 16 16 18  
 COST 8266.00 TRIP TIME 7.0 BIT RUN 376.0  
 TOTAL HOURS 48.06 TOTAL TURNS 154094 CONDITION T5 R5 G0.250

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
2030.0	8.1	9.0	1.11	3629	37884.73	451	4209	-
2040.0	7.7	19.0	2.42	8010	42649.58	476	2245	-
2050.0	6.7	29.0	3.91	13160	48116.42	547	1659	-
2060.0	8.1	39.0	5.15	17601	52621.57	451	1349	-
2070.0	10.9	49.0	6.06	20736	55968.95	335	1142	-
2080.0	7.2	59.0	7.46	25498	61070.59	510	1035	-
2090.0	7.3	69.0	8.83	30243	66086.34	501.58	957.77	-
2100.0	10.6	79.0	9.78	33463	69529.36	344.30	880.12	-
2110.0	7.6	89.0	11.09	37967	74332.76	480.34	835.20	-
2120.0	13.5	99.0	11.83	40506	77047.41	271.47	778.26	-
2130.0	11.6	109.0	12.69	43152	80186.10	313.87	735.65	-
2140.0	12.3	119.0	13.51	45445	83156.39	297.03	698.79	-
2150.0	7.5	129.0	14.84	49278	88025.73	486.93	682.37	-
2160.0	6.3	139.0	16.42	53731	93788.79	576.31	674.74	-
2170.0	6.1	149.0	18.06	58508	99798.36	600.96	669.79	-
2180.0	14.3	159.0	18.76	60825	102343.60	254.52	643.67	-
2190.0	21.8	169.0	19.22	62361	104019.46	167.59	615.50	-
2200.0	17.8	179.0	19.78	64288	106068.64	204.92	592.56	-
2210.0	7.4	189.0	21.13	68987	110980.07	491.14	587.20	-
2220.0	6.0	199.0	22.79	74748	117052.53	607.25	588.20	+
2230.0	4.0	209.0	25.29	83593	126206.88	915.43	603.86	+
2240.0	7.9	219.0	26.56	87806	130809.42	460.25	597.30	-
2250.0	18.9	229.0	27.08	89575	132737.87	192.85	579.64	-
2260.0	8.7	239.0	28.24	93462	136955.93	421.81	573.04	-

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
2270.0	14.1	249.0	28.95	95687	139542.77	258.68	560.41	-
2280.0	10.8	259.0	29.87	98741	142911.74	336.90	551.78	-
2290.0	14.1	269.0	30.58	101141	145509.73	259.80	540.93	-
2300.0	8.0	279.0	31.83	105421	150068.98	455.93	537.88	-
2310.0	13.6	289.0	32.57	108046	152763.01	269.40	528.59	-
2320.0	4.8	299.0	34.67	115177	160427.47	766.45	536.55	-
2330.0	11.9	309.0	35.50	117600	163484.33	305.69	529.08	-
2340.0	6.7	319.0	37.00	121899	168942.04	545.77	529.60	+
2350.0	4.5	329.0	39.22	128528	177072.24	813.02	538.21	+
2360.0	11.9	339.0	40.06	130908	180142.96	307.07	531.40	-
2370.0	7.3	349.0	41.44	134844	185160.40	501.74	530.55	-
2380.0	3.1	359.0	44.62	144090	196767.34	1161	548	+
2390.0	6.1	369.0	46.27	148785	202791.11	602.38	549.57	+
2397.0	3.9	376.0	48.06	154094	209359.13	938.29	556.81	+

BIT NUMBER	7	IADC CODE	517	INTERVAL	2397.0- 2719.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	7.1	BIT RUN	322.0
TOTAL HOURS	53.62	TOTAL TURNS	162095	CONDITTON	T6 B6 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2400.0	20.2	3.0	0.15	512	34991.35	181	11664	-
2410.0	7.2	13.0	1.55	5294	40095.02	510	3084	-
2420.0	4.1	23.0	3.96	13080	48911.55	882	2127	-
2430.0	3.8	33.0	6.60	21324	58542.69	963	1774	-
2440.0	12.6	43.0	7.39	23615	61429.80	289	1429	-
2450.0	6.9	53.0	8.84	27906	66735.34	531	1259	-
2460.0	8.0	63.0	10.09	31566	71305.42	457	1132	-
2470.0	15.7	73.0	10.73	33407	73634.58	233	1009	-
2480.0	7.2	83.0	12.11	37589	78681.44	504.69	947.97	-
2490.0	16.4	93.0	12.72	39387	80909.16	222.77	869.99	-
2500.0	6.4	103.0	14.29	44224	86626.57	571.74	841.03	-
2510.0	7.6	113.0	15.61	48174	91449.24	482.27	809.29	-
2520.0	7.2	123.0	16.99	52515	96486.97	503.77	784.45	-
2530.0	8.2	133.0	18.21	56258	100950.53	446.36	759.03	-
2540.0	5.9	143.0	19.92	61432	107180.91	623.04	749.52	-
2550.0	3.7	153.0	22.63	69552	117111.30	993.04	765.43	+
2560.0	5.4	163.0	24.49	75319	123890.62	677.93	760.07	-
2570.0	5.0	173.0	26.50	81343	131213.90	732.33	758.46	-
2580.0	8.5	183.0	27.67	84626	135491.47	427.76	740.39	-
2590.0	3.7	193.0	30.36	92612	145318.39	982.69	752.95	+
2600.0	6.5	203.0	31.89	96984	150901.90	558.35	743.36	-
2610.0	3.5	213.0	34.70	105022	161191.41	1029	757	+
2620.0	5.1	223.0	36.67	110804	168367.59	717.62	755.01	-
2630.0	10.2	233.0	37.65	113724	171954.66	358.71	738.00	-
2640.0	4.6	243.0	39.83	120293	179907.91	795.32	740.36	+
2650.0	3.0	253.0	43.18	130534	192130.95	1222	759	+
2660.0	9.5	263.0	44.23	133721	195963.52	383.26	745.11	-
2670.0	8.1	273.0	45.46	137464	200468.67	450.51	734.32	-
2680.0	13.2	283.0	46.22	139739	203231.00	276.23	718.13	-
2690.0	8.8	293.0	47.35	143155	207384.47	415.35	707.80	-
2700.0	6.8	303.0	48.82	147495	212726.20	534.17	702.07	-
2710.0	5.8	313.0	50.54	152625	219003.58	627.74	699.69	-
2719.0	2.9	322.0	53.62	162095	230264.93	1251	715	+

BIT NUMBER	8	IADC CODE	517	INTERVAL	2719.0- 2737.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	7.8	BIT RUN	18.0
TOTAL HOURS	4.45	TOTAL TURNS	13405	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2720.0	6.0	1.0	0.17	343	37616.30	611	37616	-
2730.0	3.3	11.0	3.23	9772	48791.42	1118	4436	-
2737.0	5.7	18.0	4.45	13405	53249.90	637	2958	-

BIT NUMBER	8	IADC CODE	4	INTERVAL	2737.0- 2755.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 16
COST	0.00	TRIP TIME	7.8	BIT RUN	18.0
TOTAL HOURS	2.71	TOTAL TURNS	19526	CONDITION	T0 B0 G0.020

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2740.0	11.5	3.0	0.26	1584	29442.22	319	9814	-
2750.0	6.4	13.0	1.82	13215	35129.20	569	2702	-
2755.0	3.8	18.0	3.13	22351	39931.58	960	2218	-

BIT NUMBER	9	IADC CODE	517	INTERVAL	2755.0- 2821.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	0.00	TRIP TIME	7.8	BIT RUN	66.0
TOTAL HOURS	14.24	TOTAL TURNS	40290	CONDITION	T1 B3 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2760.0	7.0	23.0	5.16	15910	47329.92	519	2058	-
2770.0	8.8	33.0	6.29	19604	51463.78	413	1560	-
2780.0	5.1	43.0	8.27	26041	58673.44	721	1364	-
2790.0	3.2	53.0	11.35	34076	69931.74	1126	1319	-
2800.0	5.1	63.0	13.30	39272	77044.01	711	1223	-
2810.0	4.7	73.0	15.44	45251	84855.23	781	1162	-
2820.0	3.5	83.0	18.31	52725	95370.97	1052	1149	-
2821.0	2.7	84.0	18.67	53695	96745.54	1375	1152	+

(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	61.0- 197.0
HTC DSC3AJ		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	1.2	BIT RUN	136.0
TOTAL HOURS	3.87	TOTAL TURNS	23470	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/sein	IMPACT FORCE	JET VELOCITY
70.0	520	270.0	252.6	93.6	77	0.14	419	55
80.0	520	270.0	252.6	93.6	77	0.14	419	55
90.0	635	450.0	376.7	83.7	140	0.26	625	67
100.0	635	450.0	376.7	83.7	140	0.26	625	67
110.0	720	545.0	484.3	88.9	203	0.38	804	76
120.0	720	545.0	484.3	88.9	203	0.38	804	76
130.0	720	545.0	484.3	88.9	203	0.38	804	76
140.0	717	556.0	486.6	87.5	204	0.38	808	76
150.0	720	526.8	490.3	93.1	206	0.39	814	76
160.0	719	564.0	488.6	86.6	205	0.39	811	76
170.0	718	564.6	487.0	86.3	204	0.38	808	76
180.0	715	566.0	487.2	85.4	201	0.38	802	76
190.0	722	577.4	493.2	85.4	208	0.39	819	77
197.0	721	579.6	491.1	84.7	206	0.39	815	76

BIT NUMBER	2	IADC CODE	114	INTERVAL	197.0- 797.0
HTC X3A		SIZE	17.500	NOZZLES	20 20 20
COST	4978.00	TRIP TIME	2.0	BIT RUN	600.0
TOTAL HOURS	12.70	TOTAL TURNS	114343	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/sein	IMPACT FORCE	JET VELOCITY
200.0	985	1500.0	917.0	61.1	527	2.19	1522	104
210.0	985	1500.0	917.0	61.1	527	2.19	1522	104
220.0	985	1500.0	917.0	61.1	527	2.19	1522	104
230.0	985	1500.0	917.0	61.1	527	2.19	1522	104
240.0	985	1500.0	917.0	61.1	527	2.19	1522	104
250.0	985	1500.0	917.0	61.1	527	2.19	1522	104
260.0	985	1500.0	917.0	61.1	527	2.19	1522	104
270.0	995	1826.0	935.7	51.2	543	2.26	1553	105
280.0	995	1826.0	935.7	51.2	543	2.26	1553	105
290.0	995	1826.0	935.7	51.2	543	2.26	1553	105
300.0	995	1847.0	935.7	50.7	543	2.26	1553	105
310.0	995	1847.0	935.7	50.7	543	2.26	1553	105
320.0	995	1847.0	935.7	50.7	543	2.26	1553	105
330.0	995	1847.0	935.7	50.7	543	2.26	1553	105
340.0	995	1847.0	935.7	50.7	543	2.26	1553	105
350.0	995	1847.0	935.7	50.7	543	2.26	1553	105
360.0	995	1847.0	935.7	50.7	543	2.26	1553	105
370.0	995	1847.0	935.7	50.7	543	2.26	1553	105
380.0	995	1847.0	935.7	50.7	543	2.26	1553	105

DEPTH	FLOW RATE	PSP	PRIT	%PSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
390.0	995	1847.0	935.7	50.7	543	2.26	1553	105
400.0	995	1880.0	935.7	49.8	543	2.26	1553	105
410.0	995	1880.0	935.7	49.8	543	2.26	1553	105
420.0	988	1817.8	945.0	52.0	545	2.27	1569	105
430.0	990	1850.0	947.6	51.2	547	2.27	1573	105
440.0	993	1878.2	954.5	50.8	553	2.30	1585	105
450.0	987	2044.7	943.5	46.1	544	2.26	1566	105
460.0	979	1843.8	927.7	50.3	530	2.20	1540	104
470.0	987	1879.1	943.1	50.2	543	2.26	1566	105
480.0	995	1923.1	958.9	49.9	557	2.32	1592	105
490.0	990	1921.5	949.2	49.4	548	2.28	1576	105
500.0	991	2094.7	950.9	45.4	550	2.29	1579	105
510.0	995	1975.0	957.2	48.5	555	2.31	1589	105
520.0	993	1974.6	953.5	48.3	552	2.30	1583	105
530.0	994	1992.6	955.4	47.9	554	2.30	1586	105
540.0	985	1973.3	938.5	47.6	539	2.24	1558	104
550.0	982	1977.0	933.3	47.2	535	2.22	1549	104
560.0	997	2028.2	961.4	47.4	559	2.32	1596	106
570.0	987	1990.0	943.5	47.4	544	2.26	1566	105
580.0	990	1999.0	947.6	47.4	547	2.27	1573	105
590.0	988	1965.6	945.1	48.1	545	2.27	1569	105
600.0	991	1988.9	950.1	47.8	549	2.28	1577	105
610.0	985	1995.8	939.6	47.1	540	2.25	1560	104
620.0	988	2015.6	945.4	46.9	545	2.27	1569	105
630.0	989	2032.7	945.6	46.5	545	2.27	1570	105
640.0	988	2036.0	944.2	46.4	544	2.26	1568	105
650.0	988	2032.5	945.2	46.5	545	2.27	1569	105
660.0	987	2034.1	943.5	46.4	544	2.26	1566	105
670.0	985	2023.8	939.4	46.4	540	2.25	1560	104
680.0	987	2033.7	942.3	46.3	543	2.26	1564	105
690.0	986	2020.8	939.8	46.5	540	2.25	1560	104
700.0	988	2028.4	944.4	46.6	544	2.26	1568	105
710.0	996	2053.2	959.5	46.7	557	2.32	1593	106
720.0	986	2017.5	941.2	46.6	542	2.25	1562	105
730.0	987	2056.5	942.1	45.8	542	2.25	1564	105
740.0	985	2030.1	938.9	46.2	540	2.24	1559	104
750.0	984	2056.1	937.3	45.6	538	2.24	1556	104
760.0	983	2055.4	934.5	45.5	536	2.23	1551	104
770.0	975	2056.0	919.1	44.7	523	2.17	1526	103
780.0	975	2056.0	919.1	44.7	523	2.17	1526	103
790.0	958	1991.9	888.7	44.6	497	2.07	1475	102
797.0	990	2108.0	947.6	45.0	547	2.27	1573	105

BIT NUMBER	3	IADC CODE	114	INTERVAL	797.0- 1165.4
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2445.00	TRIP TIME	3.0	BIT RUN	368.4
TOTAL HOURS	10.54	TOTAL TURNS	72677	CONDITION	T3 R3 G0.000

DEPTH	FLOW RATE	PSP	PRIT	XPSP	HHP	HHP/ gain	IMPACT FORCE	JET VELOCITY
800.0	901	2198.9	1196.7	54.4	629	5.34	1609	118
810.0	897	2187.0	1185.3	54.2	620	5.26	1594	117
820.0	979	2563.4	1412.7	55.1	807	6.84	1900	128
830.0	976	2555.1	1404.9	55.0	800	6.79	1889	128
840.0	978	2583.0	1410.5	54.6	805	6.83	1897	128
850.0	980	2512.8	1415.7	56.3	809	6.87	1904	128
860.0	943	2398.1	1312.1	54.7	722	6.13	1764	123
870.0	983	2581.9	1423.9	55.1	816	6.93	1915	129
880.0	980	2439.7	1416.8	58.1	810	6.87	1905	128
890.0	963	2430.7	1368.1	56.3	769	6.52	1840	126
900.0	972	2564.5	1392.4	54.3	789	6.70	1872	127
910.0	975	2622.3	1402.3	53.5	798	6.77	1886	128
920.0	982	2631.7	1422.6	54.1	815	6.92	1913	128
930.0	975	2613.6	1402.8	53.7	798	6.77	1886	128
940.0	973	2659.0	1396.4	52.5	793	6.73	1878	127
950.0	975	2690.0	1400.8	52.1	797	6.76	1884	128
960.0	975	2690.0	1400.8	52.1	797	6.76	1884	128
970.0	976	2711.4	1404.8	51.8	800	6.79	1889	128
980.0	977	2737.6	1406.3	51.4	801	6.80	1891	128
990.0	988	2817.9	1438.3	51.0	829	7.03	1934	129
1000.0	972	2810.7	1406.4	50.0	797	6.77	1891	127
1010.0	1087	463.8	1761.2	379.8	1117	9.47	2368	142
1020.0	973	2910.4	1427.0	49.0	810	6.87	1919	127
1030.0	971	2938.0	1420.6	48.4	805	6.83	1911	127
1040.0	949	2916.5	1358.3	46.6	752	6.38	1827	124
1050.0	938	2907.2	1414.6	48.7	774	6.57	1902	123
1060.0	899	2821.0	1338.2	47.4	702	5.95	1799	118
1070.0	902	2919.2	1375.2	47.1	724	6.14	1849	118
1080.0	894	2872.7	1349.9	47.0	704	5.97	1815	117
1090.0	897	2912.2	1359.8	46.7	712	6.04	1829	117
1100.0	909	3016.6	1395.4	46.3	740	6.28	1876	119
1110.0	885	2923.7	1338.2	45.8	691	5.87	1800	116
1120.0	886	2934.0	1338.7	45.6	692	5.87	1800	116
1130.0	882	2944.8	1328.6	45.1	684	5.80	1787	115
1140.0	882	2969.9	1328.4	44.7	684	5.80	1786	115
1150.0	859	2825.2	1258.4	44.5	630	5.35	1692	112
1160.0	878	2908.9	1316.6	45.3	675	5.72	1770	115
1165.4	870	2879.2	1292.7	44.9	656	5.57	1738	114

BIT NUMBER	3	IADC CODE	4	INTERVAL	1165.4- 1175.5
CHRIS RC44		SIZE	9.875	NOZZLES	15 15 14
COST	0.00	TRIP TIME	4.5	BIT RUN	10.1
TOTAL HOURS	0.31	TOTAL TURNS	1029	CONDITION	T0 R0 G0.005

DEPTH	FLOW RATE	PSP	PRIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1170.0	170	317.8	111.9	35.2	11	0.14	100	33
1175.5	170	300.0	111.6	37.2	11	0.14	100	33

BIT NUMBER	4	IADC CODE	517	INTERVAL	1175.5- 1789.0
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	4.5	BIT RUN	613.5
TOTAL HOURS	33.91	TOTAL TURNS	139627	CONDITION	T4 R6 G0.188

DEPTH	FLOW RATE	PSP	PRIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1180.0	877	3012.9	1518.8	50.4	777	6.60	1899	123
1190.0	842	2788.1	1399.9	50.2	688	5.84	1751	118
1200.0	848	2824.0	1420.5	50.3	703	5.97	1777	119
1210.0	859	2852.5	1457.2	51.1	731	6.20	1822	121
1220.0	871	2895.0	1498.2	51.8	762	6.46	1874	123
1230.0	865	2865.5	1475.4	51.5	744	6.32	1845	122
1240.0	865	2900.0	1475.2	50.9	744	6.31	1845	122
1250.0	538	1250.7	571.1	45.7	179	1.52	714	76
1260.0	555	1321.7	607.5	46.0	197	1.67	760	78
1270.0	530	1228.5	554.1	45.1	171	1.45	693	75
1280.0	531	1225.4	556.3	45.4	172	1.46	696	75
1290.0	545	1270.3	585.4	46.1	186	1.58	732	77
1300.0	547	1270.3	584.1	46.0	186	1.58	730	77
1310.0	550	1283.4	590.8	46.0	190	1.61	739	77
1320.0	531	1214.3	551.0	45.4	171	1.45	689	75
1330.0	544	1259.2	578.0	45.9	183	1.56	723	77
1340.0	550	1284.0	591.1	46.0	190	1.61	739	77
1350.0	551	1282.6	592.8	46.2	190	1.62	741	77
1360.0	551	1283.7	593.0	46.2	191	1.62	742	77
1370.0	553	1317.0	598.1	45.4	193	1.64	748	78
1380.0	547	1286.2	585.5	45.5	187	1.59	732	77
1390.0	547	1271.6	585.5	46.0	187	1.59	732	77
1400.0	554	1325.2	599.9	45.3	194	1.65	750	78
1410.0	552	1314.1	595.2	45.3	192	1.63	744	78
1420.0	549	1316.3	588.4	44.7	188	1.60	736	77
1430.0	550	1371.5	590.9	43.1	190	1.61	739	77
1440.0	514	1205.8	515.4	42.7	154	1.31	645	72
1450.0	849	2876.8	1409.6	49.0	699	5.93	1763	119
1460.0	859	2938.6	1440.4	49.0	721	6.12	1801	121
1470.0	860	2937.2	1444.1	49.2	724	6.15	1806	121
1480.0	849	2882.9	1407.5	48.8	697	5.91	1760	119

DEPTH	FLOW RATE	PSP	PRIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1490.0	847	2909.7	1403.0	48.2	694	5.89	1755	119
1500.0	864	2961.9	1457.8	49.2	735	6.23	1823	122
1510.0	868	2999.5	1464.5	48.8	742	6.29	1832	122
1520.0	864	2958.4	1452.6	49.1	732	6.21	1817	122
1530.0	867	2966.8	1462.8	49.3	740	6.28	1829	122
1540.0	669	1890.0	871.3	46.1	340	2.89	1090	94
1550.0	655	1823.2	833.0	45.7	318	2.70	1042	92
1560.0	856	2888.6	1417.1	49.1	708	6.00	1772	120
1570.0	874	2981.8	1476.6	49.5	753	6.39	1847	123
1580.0	867	2938.8	1455.5	49.5	736	6.25	1820	122
1590.0	848	2881.5	1390.5	48.3	688	5.83	1739	119
1600.0	864	2967.4	1445.7	48.7	729	6.19	1808	122
1610.0	780	2449.0	1178.2	46.1	536	4.55	1474	110
1620.0	858	2834.1	1425.0	50.3	714	6.05	1782	121
1630.0	865	2852.3	1447.5	50.7	730	6.20	1810	122
1640.0	686	1912.6	909.4	47.5	364	3.09	1137	96
1650.0	683	1865.7	902.4	48.4	360	3.05	1129	96
1660.0	672	1858.7	864.8	46.5	339	2.88	1082	95
1670.0	672	1872.2	864.6	46.2	339	2.88	1081	95
1680.0	822	2670.5	1294.4	48.5	621	5.27	1619	116
1690.0	840	2910.0	1350.7	46.4	662	5.61	1689	118
1700.0	859	2922.5	1412.4	48.3	708	6.00	1766	121
1710.0	852	2893.2	1389.7	48.0	691	5.86	1738	120
1720.0	857	2928.8	1405.5	48.0	702	5.96	1758	120
1730.0	856	2911.4	1404.7	48.2	702	5.95	1757	120
1740.0	849	2885.9	1393.1	48.3	690	5.85	1742	119
1750.0	847	2864.3	1387.4	48.4	685	5.82	1735	119
1760.0	841	2874.5	1367.3	47.6	671	5.69	1710	118
1770.0	845	2911.1	1381.6	47.5	681	5.78	1728	119
1780.0	844	2919.0	1379.1	47.2	679	5.76	1725	119
1789.0	843	2915.0	1376.2	47.2	677	5.75	1721	119

BIT NUMBER	5	IADC CODE	517	INTERVAL	1789.0- 2021.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	8520.00	TRIP TIME	6.3	BIT RUN	232.0
TOTAL HOURS	16.95	TOTAL TURNS	59491	CONDITION	T2 B3 G0.125

DEPTH	FLOW RATE	PSP	PRIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1790.0	798	2929.8	1470.1	50.2	685	5.81	1700	121
1800.0	791	2900.8	1444.5	49.8	667	5.66	1671	120
1810.0	787	2839.1	1428.9	50.3	656	5.57	1653	120
1820.0	794	2869.7	1456.1	50.7	675	5.73	1684	121
1830.0	800	2902.2	1476.2	50.9	689	5.85	1707	122
1840.0	794	2852.5	1454.0	51.0	673	5.71	1682	121
1850.0	808	2955.6	1506.9	51.0	711	6.03	1743	123
1860.0	794	2860.9	1453.8	50.8	673	5.71	1681	121
1870.0	797	2883.7	1466.2	50.8	682	5.79	1696	121

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1880.0	804	2875.5	1468.5	51.1	689	5.84	1698	122
1890.0	791	2799.4	1395.5	49.9	644	5.47	1614	120
1900.0	550	1470.0	677.1	46.1	217	1.84	783	84
1910.0	819	2935.4	1496.5	51.0	715	6.07	1731	125
1920.0	822	2935.7	1507.5	51.4	723	6.14	1744	125
1930.0	821	2928.2	1502.6	51.3	720	6.11	1738	125
1940.0	815	2898.1	1482.2	51.1	705	5.98	1714	124
1950.0	814	2892.7	1476.8	51.1	701	5.95	1708	124
1960.0	818	2907.1	1491.1	51.3	712	6.04	1725	124
1970.0	819	2908.8	1494.9	51.4	714	6.06	1729	125
1980.0	819	2914.6	1496.6	51.3	716	6.07	1731	125
1990.0	810	2859.7	1462.8	51.2	691	5.87	1692	123
2000.0	815	2899.0	1480.1	51.1	704	5.97	1712	124
2010.0	812	2879.2	1470.0	51.1	696	5.91	1700	124
2020.0	809	2860.7	1458.0	51.0	688	5.84	1686	123
2021.0	810	2869.2	1462.7	51.0	691	5.87	1692	123

BIT NUMBER 6 IADC CODE 537 INTERVAL 2021.0- 2397.0  
 HTC J33 SIZE 12.250 NOZZLES 16 16 18  
 COST 8266.00 TRIP TIME 7.0 BIT RUN 376.0  
 TOTAL HOURS 48.06 TOTAL TURNS 154094 CONDITION T5 B5 G0.250

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2030.0	807	2977.1	1450.4	48.7	683	5.79	1677	123
2040.0	793	2867.9	1402.2	48.9	649	5.51	1622	121
2050.0	799	2896.8	1421.9	49.1	663	5.62	1644	121
2060.0	800	2899.1	1425.1	49.2	665	5.64	1648	122
2070.0	800	2905.8	1410.4	48.5	658	5.58	1631	122
2080.0	800	2903.8	1411.0	48.6	658	5.59	1632	122
2090.0	800	2900.1	1412.9	48.7	660	5.60	1634	122
2100.0	804	2923.4	1426.5	48.8	669	5.68	1650	122
2110.0	799	2891.8	1410.1	48.8	658	5.58	1631	122
2120.0	804	2924.0	1425.0	48.7	668	5.67	1648	122
2130.0	803	2914.1	1421.2	48.8	665	5.65	1644	122
2140.0	799	2880.0	1408.3	48.9	656	5.57	1629	122
2150.0	801	2857.0	1394.0	48.8	651	5.53	1612	122
2160.0	812	2874.1	1432.1	49.8	678	5.76	1656	123
2170.0	816	2866.2	1425.6	49.7	679	5.76	1649	124
2180.0	814	2836.6	1418.0	50.0	674	5.71	1640	124
2190.0	815	2846.9	1421.6	49.9	676	5.74	1644	124
2200.0	814	2847.5	1417.6	49.8	673	5.71	1640	124
2210.0	816	2853.9	1423.9	49.9	678	5.75	1647	124
2220.0	815	2845.8	1419.5	49.9	675	5.72	1642	124
2230.0	824	2886.7	1451.3	50.3	697	5.92	1679	125
2240.0	822	2893.6	1446.0	50.0	694	5.89	1672	125
2250.0	817	2879.8	1428.9	49.6	681	5.78	1653	124
2260.0	816	2863.3	1424.0	49.7	678	5.75	1647	124

DEPTH	FLOW RATE	PSP	PRIT	%PSP	HHP	HHP/ sq in	IMPACT FORCE	JET VELOCITY
2270.0	814	2860.0	1416.2	49.5	672	5.70	1638	124
2280.0	814	2863.7	1416.5	49.5	672	5.71	1638	124
2290.0	813	2881.7	1415.3	49.1	672	5.70	1637	124
2300.0	816	2888.9	1424.7	49.3	678	5.76	1648	124
2310.0	554	1427.9	656.4	46.0	212	1.80	759	84
2320.0	820	2911.3	1436.8	49.4	687	5.83	1662	125
2330.0	813	2897.1	1406.0	48.5	667	5.66	1626	124
2340.0	815	2906.9	1415.1	48.7	673	5.71	1637	124
2350.0	824	2919.4	1444.8	49.5	695	5.89	1671	125
2360.0	821	2858.8	1433.2	50.1	686	5.82	1658	125
2370.0	818	2866.4	1423.6	49.7	679	5.76	1647	124
2380.0	821	2899.7	1432.7	49.4	686	5.82	1657	125
2390.0	819	2902.8	1426.7	49.1	682	5.78	1650	125
2397.0	813	2889.5	1405.9	48.7	667	5.66	1626	124

BIT NUMBER	7	IADC CODE	517	INTERVAL	2397.0- 2719.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	7.1	BIT RUN	322.0
TOTAL HOURS	53.62	TOTAL TURNS	162095	CONDITION	T6 R6 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2400.0	791	2935.1	1331.8	45.4	615	5.22	1540	120
2410.0	794	2898.6	1342.3	46.3	622	5.28	1552	121
2420.0	797	2897.7	1352.3	46.7	629	5.34	1564	121
2430.0	792	2843.6	1333.5	46.9	616	5.23	1542	120
2440.0	799	2884.0	1358.5	47.1	633	5.37	1571	122
2450.0	800	2890.4	1361.7	47.1	635	5.39	1575	122
2460.0	802	2901.8	1369.3	47.2	641	5.44	1584	122
2470.0	799	2895.4	1357.3	46.9	632	5.37	1570	121
2480.0	801	2876.3	1372.6	47.7	641	5.44	1588	122
2490.0	801	2886.0	1373.9	47.6	642	5.45	1589	122
2500.0	799	2886.3	1367.4	47.4	638	5.41	1581	122
2510.0	795	2868.5	1352.3	47.1	627	5.32	1564	121
2520.0	798	2895.9	1361.1	47.0	633	5.37	1574	121
2530.0	800	2923.1	1368.6	46.8	639	5.42	1583	122
2540.0	698	2266.1	1043.5	46.0	425	3.61	1207	106
2550.0	626	2164.7	837.2	38.7	306	2.59	968	95
2560.0	729	2527.6	1138.4	45.0	485	4.11	1317	111
2570.0	727	2512.3	1130.7	45.0	480	4.07	1308	111
2580.0	721	2483.2	1113.5	44.8	469	3.98	1288	110
2590.0	786	2873.3	1321.7	46.0	606	5.14	1529	120
2600.0	787	2887.6	1325.9	45.9	609	5.17	1533	120
2610.0	790	2907.7	1333.7	45.9	614	5.21	1542	120
2620.0	788	2898.1	1328.5	45.8	611	5.18	1536	120
2630.0	787	2904.7	1326.6	45.7	609	5.17	1534	120
2640.0	792	2927.2	1340.2	45.8	619	5.25	1550	120
2650.0	451	1246.1	435.8	35.0	115	0.97	504	69
2660.0	792	2943.2	1343.0	45.6	621	5.27	1553	121
2670.0	792	2947.7	1340.9	45.5	619	5.25	1551	120
2680.0	794	2968.0	1347.7	45.4	624	5.30	1559	121
2690.0	792	2952.5	1340.9	45.4	619	5.26	1551	120
2700.0	792	2956.6	1341.2	45.4	620	5.26	1551	120
2710.0	782	2889.2	1309.3	45.3	598	5.07	1514	119
2719.0	786	2897.2	1321.0	45.6	606	5.14	1528	120



BIT NUMBER	8	IADC CODE	517	INTERVAL	2719.0- 2737.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	7.8	BIT RUN	18.0
TOTAL HOURS	4.45	TOTAL TURNS	13405	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2720.0	752	2803.7	1211.0	42.0	532	4.51	1401	114
2730.0	770	2926.0	1269.8	43.4	571	4.84	1469	117
2737.0	769	2907.1	1264.4	43.5	567	4.81	1462	117

BIT NUMBER	8	IADC CODE	4	INTERVAL	2737.0- 2755.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 16
COST	0.00	TRIP TIME	7.8	BIT RUN	18.0
TOTAL HOURS	2.71	TOTAL TURNS	19526	CONDITION	T0 R0 G0.020

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2740.0	304	1023.6	277.1	27.1	49	0.64	271	55
2750.0	235	594.9	166.3	28.0	23	0.30	162	42
2755.0	229	667.3	157.5	23.6	21	0.28	154	41

BIT NUMBER	9	IADC CODE	517	INTERVAL	2755.0- 2821.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	0.00	TRIP TIME	7.8	BIT RUN	66.0
TOTAL HOURS	14.24	TOTAL TURNS	40290	CONDITION	T1 B3 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2760.0	768	2958.6	1260.8	42.6	565	4.79	1458	117
2770.0	773	2975.8	1278.4	43.0	577	4.89	1479	118
2780.0	778	2990.3	1295.5	43.3	588	4.99	1498	118
2790.0	776	2880.7	1288.7	44.7	584	4.95	1491	118
2800.0	772	2885.4	1275.2	44.2	574	4.87	1475	117
2810.0	775	2900.8	1285.0	44.3	581	4.93	1486	118
2820.0	764	2817.6	1247.5	44.3	556	4.72	1443	116
2821.0	764	2823.5	1248.7	44.2	557	4.72	1444	116

(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	61.0- 197.0
HTC OSC3AJ		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	1.2	BIT RUN	136.0
TOTAL HOURS	3.87	TOTAL TURNS	23470	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
70.0	50	54	520			6		6		
80.0	50	54	520			6		6		
90.0	60	67	635			7		7		
100.0	60	67	635			7		7		
110.0	72	72	720			8		8		
120.0	72	72	720			8		8		
130.0	72	72	720			8		8		
140.0	71	72	717			8		8		
150.0	72	72	720			8		8		
160.0	72	72	719			8		8		
170.0	72	72	718			8		8		
180.0	71	72	715			8		8		
190.0	71	72	722			8		8		
197.0	72	72	721			8		8		

BIT NUMBER	2	IADC CODE	114	INTERVAL	197.0- 797.0
HTC X3A		SIZE	17.500	NOZZLES	20 20 20
COST	4978.00	TRIP TIME	2.0	BIT RUN	600.0
TOTAL HOURS	12.70	TOTAL TURNS	114343	CONDITION	T1 R1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
200.0	99	98	985		24		22			18
210.0	99	98	985	30	24		22			18
220.0	99	98	985	30	24		22			18
230.0	99	98	985	30	24		22			18
240.0	99	98	985	30	24		22		22	18
250.0	99	98	985	30	24		22		22	18
260.0	99	98	985	30	24		22		22	18
270.0	101	98	995	31	25		22		22	18
280.0	101	98	995	31	25		22		22	18
290.0	101	98	995	31	25		22		22	18
300.0	101	98	995	31		26	22		22	18
310.0	101	98	995	31		26	22		22	18
320.0	101	98	995	31		26	22		22	18
330.0	101	98	995	31		26	22		22	18
340.0	101	98	995	31		26	22		22	18
350.0	101	98	995	31		26	22		22	18
360.0	101	98	995	31		26		26	22	18
370.0	101	98	995	31		26		26	22	18
380.0	101	98	995	31		26		26	22	18

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
390.0	101	98	995	31		26		26	22	18
400.0	101	98	995	31		26		26	22	18
410.0	101	98	995	31		26		26	22	18
420.0	99	99	988	30		26		26	22	18
430.0	100	98	990	31		26		26	22	18
440.0	100	99	993	31		26		26	22	18
450.0	101	97	987	30		26		26	22	18
460.0	98	98	979	30		26		26	21	18
470.0	99	98	987	30		26		26	22	18
480.0	100	99	995	31		26		26	22	18
490.0	100	98	990	31		26		26	22	18
500.0	100	98	991	31		26		26	22	18
510.0	100	99	995	31		26		26	22	18
520.0	101	98	993	31		26		26	22	18
530.0	101	98	994	31		26		26	22	18
540.0	99	98	985	30		26		26	22	18
550.0	100	97	982	30		26		26	22	18
560.0	100	99	997	31		26		26	22	18
570.0	100	97	987	30		26		26	22	18
580.0	100	98	990	31		26		26	22	18
590.0	100	98	988	30		26		26	22	18
600.0	100	98	991	31		26		26	22	18
610.0	99	98	985	30		26		26	22	18
620.0	100	98	988	30		26		26	22	18
630.0	99	98	989	30		26		26	22	18
640.0	100	98	988	30		26		26	22	18
650.0	100	98	988	30		26		26	22	18
660.0	99	98	987	30		26		26	22	18
670.0	99	98	985	30		26		26	22	18
680.0	99	98	987	30		26		26	22	18
690.0	99	98	986	30		26		26	22	18
700.0	99	98	988	30		26		26	22	18
710.0	99	100	996	31		26		26	22	18
720.0	99	98	986	30		26		26	22	18
730.0	99	99	987	30		26		26	22	18
740.0	99	98	985	30		26		26	22	18
750.0	99	97	984	30		26		26	22	18
760.0	99	98	983	30		26		26	22	18
770.0	97	98	975	30		26		26	21	18
780.0	97	98	975	30		26		26	21	18
790.0	96	96	958	30		25		25	21	17
797.0	98	100	990	31		26		26	22	18

BIT NUMBER	3	IADC CODE	114	INTERVAL	797.0- 1165.4
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2445.00	TRIP TIME	3.0	BIT RUN	368.4
TOTAL HOURS	10.54	TOTAL TURNS	72677	CONDITION	T3 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
800.0	90	90	901	78	71		50		50	16
810.0	90	90	897	78	70		50		50	16
820.0	98	97	979	85	77		55		55	18
830.0	98	98	976	85	77		54		54	18
840.0	97	98	978	85	77		54		54	18
850.0	98	98	980	85	77		55		55	18
860.0	98	91	943	82	74		53		53	17
870.0	99	98	983	85	77		55		55	18
880.0	98	98	980	85	77		55		55	18
890.0	96	97	963	84	76		54		54	17
900.0	98	97	972	84	76		54		54	17
910.0	98	97	975	85	77		54		54	18
920.0	99	98	982	85	77		55		55	18
930.0	98	98	975	85	77		54		54	18
940.0	97	98	973	85	76		54		54	17
950.0	98	97	975	85	77		54		54	18
960.0	98	97	975	85	77		54		54	18
970.0	96	99	976	85		58	54		54	18
980.0	98	97	977	85		58	54		54	18
990.0	101	97	988	86		59	55		55	18
1000.0	97	97	972	84		58	54		54	17
1010.0	103	114	1087	94		65	61		61	20
1020.0	96	99	973	84		58	54		54	17
1030.0	97	98	971	84		58	54		54	17
1040.0	93	97	949	82		57	53		53	17
1050.0	94	94	938	81		56		56	52	17
1060.0	88	92	899	78		54		54	50	16
1070.0	89	92	902	78		54		54	50	16
1080.0	88	91	894	78		53		53	50	16
1090.0	88	92	897	78		54		54	50	16
1100.0	88	94	909	79		54		54	51	16
1110.0	87	90	885	77		53		53	49	16
1120.0	88	89	886	77		53		53	49	16
1130.0	88	89	882	77		53		53	49	16
1140.0	86	90	882	77		53		53	49	16
1150.0	85	87	859	75		51		51	48	15
1160.0	88	87	878	76		52		52	49	16
1165.4	87	87	870	76		52		52	48	16

BIT NUMBER	3	IADC CODE	4	INTERVAL	1165.4- 1175.5
CHRIS RC44		SIZE	9.875	NOZZLES	15 15 14
CDST	0.00	TRIP TIME	4.5	BIT RUN	10.1
TOTAL HOURS	0.31	TOTAL TURNS	1029	CONDITION	T0 R0 G0.005

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1170.0	34	0	170	38		18		18	9	3
1175.5	34	0	170	38		18		18	9	3

BIT NUMBER	4	IADC CODE	517	INTERVAL	1175.5- 1789.0
HTC J22		SIZE	12.250	NOZZLES	18 18 16
CDST	8520.00	TRIP TIME	4.5	BIT RUN	613.5
TOTAL HOURS	33.91	TOTAL TURNS	139627	CONDITION	T4 B6 G0.188

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1180.0	87	88	877	76		52		52	49	16
1190.0	84	85	842	73		50		50	47	15
1200.0	85	84	848	74		51		51	47	15
1210.0	87	85	859	75		51		51	48	15
1220.0	88	87	871	76		52		52	49	16
1230.0	87	86	865	75		52		52	48	16
1240.0	87	86	865	75		52		52	48	16
1250.0	108	0	538	47		32		32	30	10
1260.0	111	0	555	48		33		33	31	10
1270.0	106	0	530	46		32		32	30	10
1280.0	106	0	531	46		32		32	30	10
1290.0	109	0	545	47		33		33	30	10
1300.0	109	0	547	47		33		33	30	10
1310.0	110	0	550	48		33		33	31	10
1320.0	106	0	531	46		32		32	30	10
1330.0	109	0	544	47		33		33	30	10
1340.0	110	0	550	48		33		33	31	10
1350.0	110	0	551	48		33		33	31	10
1360.0	110	0	551	48		33		33	31	10
1370.0	111	0	553	48		33		33	31	10
1380.0	110	0	547	48		33		33	31	10
1390.0	110	0	547	48		33		33	30	10
1400.0	111	0	554	48		33		33	31	10
1410.0	110	0	552	48		33		33	31	10
1420.0	110	0	549	48		33		33	31	10
1430.0	110	0	550	48		33		33	31	10
1440.0	103	0	514	45		31		31	29	9
1450.0	84	86	849	74		51		51	47	15
1460.0	83	89	859	75		51		51	48	15
1470.0	83	89	860	75		51		51	48	15
1480.0	83	87	849	74		51		51	47	15

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1490.0	84	86	847	74		51		51	47	15
1500.0	84	89	864	75		52		52	48	16
1510.0	85	89	868	75		52		52	48	16
1520.0	84	89	864	75		52		52	48	16
1530.0	84	89	867	75		52		52	48	16
1540.0	63	71	669	58		40		40	37	12
1550.0	67	64	655	57		39		39	36	12
1560.0	84	87	856	74		51		51	48	15
1570.0	85	90	874	76		52		52	49	16
1580.0	87	86	867	75		52		52	48	16
1590.0	86	84	848	74		51		51	47	15
1600.0	89	84	864	75		52		52	48	16
1610.0	76	80	780	68		47		47	43	14
1620.0	88	84	858	75		51		51	48	15
1630.0	86	87	865	75		52		52	48	16
1640.0	64	73	686	60		41		41	38	12
1650.0	64	72	683	59		41		41	38	12
1660.0	64	71	672	58		40		40	37	12
1670.0	64	71	672	58		40		40	37	12
1680.0	81	84	822	71		49		49	46	15
1690.0	84	84	840	73		50		50	47	15
1700.0	87	85	859	75		51		51	48	15
1710.0	86	84	852	74		51		51	47	15
1720.0	87	84	857	74		51		51	48	15
1730.0	86	85	856	74		51		51	48	15
1740.0	86	84	849	74		51		51	47	15
1750.0	84	85	847	74		51		51	47	15
1760.0	83	85	841	73		50		50	47	15
1770.0	84	85	845	73		50		50	47	15
1780.0	84	85	844	73		50		50	47	15
1789.0	85	84	843	73		50		50	47	15

BIT NUMBER	5	IADC CODE	517	INTERVAL	1789.0- 2021.0
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	8520.00	TRIP TIME	6.3	BIT RUN	232.0
TOTAL HOURS	16.95	TOTAL TURNS	59491	CONDITION	T2 B3 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1790.0	77	83	798	69		48		48	44	14
1800.0	82	76	791	69		47		47	44	14
1810.0	80	78	787	68		47		47	44	14
1820.0	79	80	794	69		47		47	44	14
1830.0	81	79	800	69		48		48	45	14
1840.0	80	79	794	69		47		47	44	14
1850.0	81	81	808	70		48		48	45	15
1860.0	79	79	794	69		47		47	44	14
1870.0	81	78	797	69		48		48	44	14

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1880.0	81	80	804	70		48		48	45	14
1890.0	80	78	791	69		47		47	44	14
1900.0	0	110	550	48		33		33	31	10
1910.0	83	81	819	71		49		49	46	15
1920.0	83	82	822	71		49		49	46	15
1930.0	83	81	821	71		49		49	46	15
1940.0	83	80	815	71		49		49	45	15
1950.0	83	80	814	71		49		49	45	15
1960.0	83	81	818	71		49		49	46	15
1970.0	83	81	819	71		49		49	46	15
1980.0	83	81	819	71		49		49	46	15
1990.0	82	80	810	70		48		48	45	15
2000.0	82	81	815	71		49		49	45	15
2010.0	83	80	812	71		49		49	45	15
2020.0	82	80	809	70		48		48	45	15
2021.0	82	80	810	70		48		48	45	15

BIT NUMBER	6	IADC CODE	537	INTERVAL	2021.0- 2397.0
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	8266.00	TRIP TIME	7.0	BIT RUN	376.0
TOTAL HOURS	48.06	TOTAL TURNS	154094	CONDITION	T5 B5 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2030.0	82	80	807	70		48		48	45	14
2040.0	80	78	793	69		47		47	44	14
2050.0	81	79	799	69		48		48	45	14
2060.0	80	80	800	69		48		48	45	14
2070.0	80	80	800	69		48		48	45	14
2080.0	82	78	800	69		48		48	45	14
2090.0	81	80	800	69		48		48	45	14
2100.0	81	80	804	70		48		48	45	14
2110.0	80	79	799	69		48		48	45	14
2120.0	81	80	804	70		48		48	45	14
2130.0	81	79	803	70		48		48	45	14
2140.0	81	79	799	69		48		48	45	14
2150.0	81	80	801	70		48		48	45	14
2160.0	82	81	812	71		49		49	45	15
2170.0	83	81	816	71		49		49	45	15
2180.0	82	81	814	71		49		49	45	15
2190.0	82	81	815	71		49		49	45	15
2200.0	82	81	814	71		49		49	45	15
2210.0	81	82	816	71		49		49	45	15
2220.0	81	82	815	71		49		49	45	15
2230.0	83	82	824	72		49		49	46	15
2240.0	83	82	822	71		49		49	46	15
2250.0	82	81	817	71		49		49	46	15
2260.0	83	81	816	71		49		49	45	15



DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2270.0	82	81	814	71		49		49	45	15
2280.0	82	81	814	71		49		49	45	15
2290.0	82	81	813	71		49		49	45	15
2300.0	82	81	816	71		49		49	45	15
2310.0	0	111	554	48		33		33	31	10
2320.0	83	81	820	71		49		49	46	15
2330.0	82	81	813	71		49		49	45	15
2340.0	83	81	815	71		49		49	45	15
2350.0	83	82	824	72		49		49	46	15
2360.0	82	82	821	71		49		49	46	15
2370.0	82	82	818	71		49		49	46	15
2380.0	83	81	821	71		49		49	46	15
2390.0	83	81	819	71		49		49	46	15
2397.0	82	81	813	71		49		49	45	15

BIT NUMBER	7	IADC CODE	517	INTERVAL	2397.0- 2719.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	7.1	BIT RUN	322.0
TOTAL HOURS	53.62	TOTAL TURNS	162095	CONDITION	T6 B6 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2400.0	79	80	791	69		47		47	44	14
2410.0	79	80	794	69		47		47	44	14
2420.0	80	80	797	69		48		48	44	14
2430.0	79	79	792	69		47		47	44	14
2440.0	80	80	799	69		48		48	45	14
2450.0	79	81	800	69		48		48	45	14
2460.0	81	80	802	70		48		48	45	14
2470.0	79	80	799	69		48		48	44	14
2480.0	80	80	801	70		48		48	45	14
2490.0	80	80	801	70		48		48	45	14
2500.0	80	80	799	69		48		48	45	14
2510.0	79	80	795	69		48		48	44	14
2520.0	79	80	798	69		48		48	44	14
2530.0	80	80	800	69		48		48	45	14
2540.0	45	95	698	61		42		42	39	13
2550.0	95	30	626	54		37		37	35	11
2560.0	73	73	729	63		44		44	41	13
2570.0	73	72	727	63		43		43	41	13
2580.0	72	72	721	63		43		43	40	13
2590.0	79	78	786	68		47		47	44	14
2600.0	79	78	787	68		47		47	44	14
2610.0	80	78	790	69		47		47	44	14
2620.0	79	78	788	68		47		47	44	14
2630.0	80	77	787	68		47		47	44	14
2640.0	80	78	792	69		47		47	44	14
2650.0	0	90	451	39		27		27	25	8
2660.0	80	79	792	69		47		47	44	14
2670.0	80	78	792	69		47		47	44	14
2680.0	80	79	794	69		47		47	44	14
2690.0	80	78	792	69		47		47	44	14
2700.0	80	79	792	69		47		47	44	14
2710.0	78	79	782	68		47		47	44	14
2719.0	78	79	786	68		47		47	44	14

BIT NUMBER	8	IADC CODE	517	INTERVAL	2719.0- 2737.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8520.00	TRIP TIME	7.8	BIT RUN	18.0
TOTAL HOURS	4.45	TOTAL TURNS	13405	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2720.0	75	75	752	65		45		45	42	14
2730.0	77	77	770	67		46		46	43	14
2737.0	77	77	769	67		46		46	43	14

BIT NUMBER	8	IADC CODE	4	INTERVAL	2737.0- 2755.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 16
COST	0.00	TRIP TIME	7.8	BIT RUN	18.0
TOTAL HOURS	2.71	TOTAL TURNS	19526	CONDITION	T0 B0 G0.020

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2740.0	61	0	304	68		31		31	17	5
2750.0	47	0	235	53		24		24	13	4
2755.0	46	0	229	51		24		24	13	4

BIT NUMBER	9	IADC CODE	517	INTERVAL	2755.0- 2821.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	0.00	TRIP TIME	7.8	BIT RUN	66.0
TOTAL HOURS	14.24	TOTAL TURNS	40290	CONDITION	T1 B3 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2760.0	76	79	768	67		46		46	43	14
2770.0	78	77	773	67		46		46	43	14
2780.0	79	77	778	68		47		47	43	14
2790.0	78	77	776	67		46		46	43	14
2800.0	78	77	772	67		46		46	43	14
2810.0	78	77	775	67		46		46	43	14
2820.0	78	75	764	66		46		46	43	14
2821.0	78	75	764	66		46		46	43	14

PE603931

This is an enclosure indicator page.  
The enclosure PE603931 is enclosed within the  
container PE905518 at this location in this  
document.

The enclosure PE603931 has the following characteristics:

ITEM\_BARCODE = PE603931  
CONTAINER\_BARCODE = PE905518  
NAME = Drill Data Plot  
BASIN = GIPPSLAND  
PERMIT = VIC/L1  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Drill Data Plot (from final well  
report--attachment to WCR) for  
Whiptail-1A  
REMARKS =  
DATE\_CREATED = 27/08/85  
DATE\_RECEIVED = 23/12/85  
W\_NO = W915  
WELL\_NAME = WHIPTAIL-1A  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603932

This is an enclosure indicator page.  
The enclosure PE603932 is enclosed within the  
container PE905518 at this location in this  
document.

The enclosure PE603932 has the following characteristics:

ITEM\_BARCODE = PE603932  
CONTAINER\_BARCODE = PE905518  
NAME = Temperature Plot  
BASIN = GIPPSLAND  
PERMIT = VIC/L1  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Temperature Plot (from final well  
report--attachment to WCR) for  
Whiptail-1A  
REMARKS =  
DATE\_CREATED = 27/08/85  
DATE\_RECEIVED = 23/12/85  
W\_NO = W915  
WELL\_NAME = WHIPTAIL-1A  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603936

This is an enclosure indicator page.  
The enclosure PE603936 is enclosed within the  
container PE905518 at this location in this  
document.

The enclosure PE603936 has the following characteristics:

ITEM\_BARCODE = PE603936  
CONTAINER\_BARCODE = PE905518  
NAME = Mudlog (grapholog)  
BASIN = GIPPSLAND  
PERMIT = VIC/L1  
TYPE = WELL  
SUBTYPE = MUD\_LOG  
DESCRIPTION = Mud Log (from final well  
report--attachment to WCR) for  
Whiptail-1A  
REMARKS =  
DATE\_CREATED = 27/08/85  
DATE\_RECEIVED = 2/12/86  
W\_NO = W915  
WELL\_NAME = WHIPTAIL-1A  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603933

This is an enclosure indicator page.  
The enclosure PE603933 is enclosed within the  
container PE905518 at this location in this  
document.

The enclosure PE603933 has the following characteristics:

ITEM\_BARCODE = PE603933  
CONTAINER\_BARCODE = PE905518  
NAME = Pressure Plot  
BASIN = GIPPSLAND  
PERMIT = VIC/L1  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Pressure plot (from final well  
report--attachment to WCR) for  
Whiptail-1A  
REMARKS =  
DATE\_CREATED = 27/08/85  
DATE\_RECEIVED = 23/12/85  
W\_NO = W915  
WELL\_NAME = WHIPTAIL-1A  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603934

This is an enclosure indicator page.  
The enclosure PE603934 is enclosed within the  
container PE905518 at this location in this  
document.

The enclosure PE603934 has the following characteristics:

ITEM\_BARCODE = PE603934  
CONTAINER\_BARCODE = PE905518  
NAME = Geoplot  
BASIN = GIPPSLAND  
PERMIT = VIC/L1  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Geoplot (from final well  
report--attachment to WCR) for  
Whiptail-1A  
REMARKS =  
DATE\_CREATED = 27/08/85  
DATE\_RECEIVED = 23/12/85  
W\_NO = W915  
WELL\_NAME = WHIPTAIL-1A  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)



PE603935

This is an enclosure indicator page.  
The enclosure PE603935 is enclosed within the  
container PE905518 at this location in this  
document.

The enclosure PE603935 has the following characteristics:

ITEM\_BARCODE = PE603935  
CONTAINER\_BARCODE = PE905518  
NAME = Tritium Plot  
BASIN = GIPPSLAND  
PERMIT = VIC/L1  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Tritium Plot (from final well  
report--attachment to WCR) for  
Whiptail-1A  
REMARKS =  
DATE\_CREATED = 27/08/85  
DATE\_RECEIVED = 23/12/85  
W\_NO = W915  
WELL\_NAME = WHIPTAIL-1A  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)