

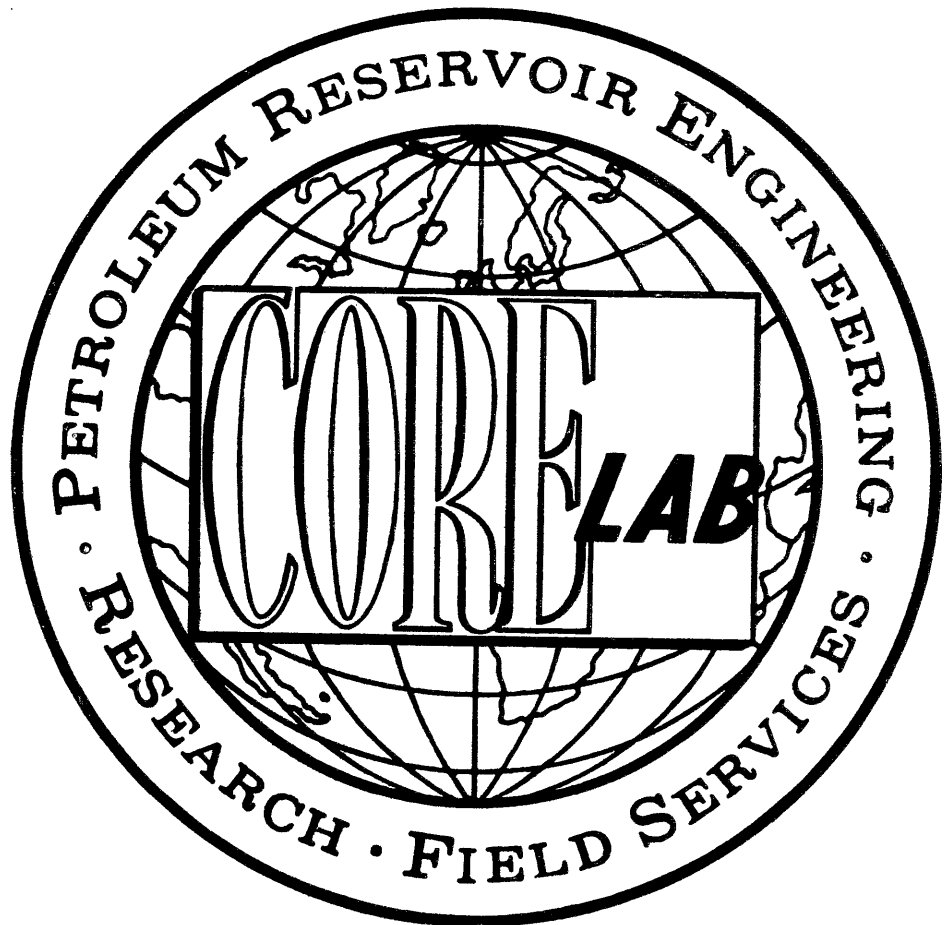
MUDLOGGING REPORT



DEPT. NAT. RES & ENV

PE905608

ATTACHMENT TO WCR
YELLOWTAIL-2
(W779)



IES WELL REPORT
YELLOWTAIL No. 2
ESSO AUSTRALIA LTD.

W779

OIL and GAS DIVISION

30 SEP 1982

CORE LABORATORIES AUSTRALIA (QLD.) LTD.

Petroleum Reservoir Engineering
AUSTRALIA

BRISBANE OFFICE:
1173 KINGSFORD SMITH DRIVE
PINKENBA, Q. 4008.
P.O. BOX 456
HAMILTON CENTRAL, Q. 4007
AUSTRALIA.

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

3rd August, 1982

Geology Department
Esso Australia Ltd
Esso House
127 Kent Street
SYDNEY NSW 2000

Attn: Mr K Kuttan

Dear Sir,

Core Laboratories Intermediate Extended Service Well Logging Unit FL 802 was in use during the drilling of Yellowtail #2 from surface to a total depth of 2566 metres.

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

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

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

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

A. DODSON
Unit Supervisor.

Signed by  in A. Dodson's absence.

INDEX.

1. Introduction.
2. Core Laboratories Equipment.
3. Core Laboratories Monitoring Equipment.
4. Intermediate Extended Service Introduction.
5. Rig Information Sheet.
6. Well Information Sheet.
7. Well History.
8. Progress Report.
9. Bit Record.
10. Mud Information Sheets.
11. Lithological Summary.
12. Overburden Gradient Calculations and Plot.
13. R.F.T. Data.
14. Estimated B.H.T.
15. Sidewall Core Gas Analysis.
16. Pore Pressure Summary & P.I.T. Data
17. Core-O-Graphs.

Computer Data Listings ; (a) Bit Record and Bit Initialization Data.
(b) Hydraulic Analysis.
(c) Data List A.
(d) Data List B.
(e) Data List C.
(f) Data List D.

Appended Logs ; (a) Drill Data Plot.
(b) Temperature Plot.
(c) Pressure Plot.
(d) Geoplot.
(e) Grapholog.

1. INTRODUCTION.

Yellowtail No.2 was drilled by Esso Australia Ltd, in the Bass Strait, Australia.

Well Co-ordinates were:

Latitude : 38⁰ 23' 11.26" S
Longitude : 148⁰ 16' 54.84" E

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

Yellow No.2 was spudded on 20 June 1982 and reached a total depth of 2566 metres on 4th July 1982, a total drilling time of 15 days. The main objective of the well was to assess the reservoir occurrence and hydrocarbon potential at the top of the Latrobe, below 2395m R.K.B.

Elevations were:

21.0m Kelly bushing to mean sea level.
78.4m Water depth.
99.4m Kelly bushing to mud line.

All depths used in this report and accompanying logs refer to depth below rotary kelly bushing (R.K.B.).

Core Laboratories personnel involved in the logging of Yellowtail No.2 were as follows :

A.Dodson	-	Unit Supervisor.
G.Munn	-	Pressure Engineer.
A.Giftson	-	Logging Crew Chief.
R.Martin	-	Well Logger.
B.Paulet	-	Well Logger.
P.Denton	-	Well logger.
A.Bock	-	Samplecatcher.
M.Robinson	-	Samolecatcher.
A.McCausland	-	Samplecatcher.
R.Tesch	-	Samplecatcher.

2. CORE LABORATORIES EQUIPMENT

Core Laboratories Field Laboratory 802 monitoring equipment includes the following :

A. MUD LOGGING

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

B. INTERMEDIATE EXTENDED SERVICE PACKAGE

1. Hewlett Packard 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 tachogenerator and recorder
7. Standpipe pump pressure transducer and recorder
8. Mud flow out sensor and recorder
9. Mud temperature sensors and recorder (in and out)
10. Mud conductivity sensors and recorder (in and out)
11. Rotary torque sensor and recorder
12. Shale density apparatus
13. Hydrogen sulphide gas detector
14. Carbon dioxide gas detector

3. CORE LABORATORIES MONITORING EQUIPMENT

DEPTH

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

WEIGHT ON BIT

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

ROTARY SPEED

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

PUMP PRESSURE

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

PIT VOLUME

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

PUMP STROKES

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

ROTARY TORQUE

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

MUD TEMPERATURE

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

MUD CONDUCTIVITY

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

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

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

CUTTINGS

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

GAS

1. Flame Ionization Total Hydrocarbon gas detector.

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

2. Flame Ionization Detector chromatograph.

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

3. Hot wire gas detector (Wheatstone Bridge type)

A back up system for total gas detection.

SHALE DENSITY

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

4. INTERMEDIATE EXTENDED SERVICE INTRODUCTION

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

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

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

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

I.E.S. PRESSURE LOG

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

CORELAB DRILL DATA PLOT

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

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

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

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

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

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

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

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

I.E.S. GEO-PLOT LOG

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

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

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

ELECTRIC LOG PLOT

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

PROGRESS LOG

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

DATA RECORDING

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

MUD DATA SHEETS

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

DRILLING PARAMETER PLOT

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

HYDRAULIC ANALYSES

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

GAS COMPOSITION ANALYSIS

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

1. Log plot
2. Triangulation plot

Both plots are included in this report.

GRAPHOLOG

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

MISCELLANEOUS

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

5. RIG INFORMATION SHEET



RIG INFORMATION SHEET

COMPANY ESSU AUSTRALIA LTD.
WELL YELLOWTAIL No. 2

OWNER	SOUTH SEAS DRILLING COMPANY
NAME AND NUMBER	SOUTHERN CROSS (N ^o 107)
TYPE	SEMI-SUBMERSIBLE , TWIN HULLED.
DERRICK, DRILL FLOOR & SUBSTRUCTURE	DERRICK: LEE C MOORE, 152' HIGH X 40' AT BASE. LOAD CAPACITY OF 1 000 000 lbs
DRAWWORKS	OILWELL E-2000 DRIVEN BY 2 GE 752 ELECTRIC MOTORS.
CROWN BLOCK	LEE C MOORE 27458 C. CAPACITY 500 SHORT TONS.
TRAVELING BLOCK	OILWELL A 500
SWIVEL	OILWELL PC 425
ELEVATORS	BYRON JACKSON MODEL 66 CAPACITY 350 TON
KELLY & KELLY SPINNER	DRILLCO 5 1/4" x 50' HEX KELLY
ROTARY TABLE	OILWELL A 37 1/2" SINGLE ELECTRIC MOTOR
ROTARY SLIPS	VARCO DCS-L
MUD PUMPS	TWO OILWELL A 1700PT. RATED AT 1600HP
MUD SYSTEM	FOUR MUD TANKS HAVING A TOTAL CAPACITY OF 1200 BBL, AND ONE PILL TANK HAVING A CAPACITY OF 105 BBL. TWO MUD HOPPERS POWERED BY 2 MISSION 6x8" CENTRIFUGAL BY TWO 100 HP ELECTRIC MOTORS. DESANDER : 1 DEMCO 4 CONE 12" MODEL N ^o 124 DESILTER : 1 DEMCO 4"-16H 16 CONE DEGASSER : 1 SWACO MODEL N ^o 36 SHALE SHAKERS : 2 BRANDT DUAL UNIT TANDEM - GHI DUAL UNIT.
BLOW OUT PREVENTORS	THREE SHAFFER L.W.S. 18 3/4" - 10 000 psi TWO HYDRIL G.L. 18 3/4" - 5000 psi
WELL CONTROL EQUIP. TUBULAR DRILLING EQUIPMENT	FOUR VALV CON ACCUMULATORS. 2" - 10 000psi CHOKES: 2 C.I.W. ABJ H2 2 1/16" - 10 000 psi, 1 SWACO SUPER CHOKE DC : 6 1/4" 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 (6 1/2" OD 4 1/2" IF TJ) DP : 5" 19 1/2 lb/ft GRADE G&E (6 3/8" OD 4 1/2" 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 12 DIESEL ENGINE RATED AT 1500 HP
DIRECTIONAL EQUIP.	-
MISCELLANEOUS (E.G. RISER, COMPENSATION SYSTEM, PIPE RACKER, DP EQUIPMENT) RISER: REGAN FC-7 TELESCOPIC 21" ID. PLUS FLOW DIVERTOR. CASING POWER TONGS: ECKEL 13 3/8" (20 000 ft lbs), 20" (35 000 ft lbs) CMT BULK TANKS: 3x1570cu ft. RISER TENSIONER: 6 WESTERN GEAR, 50" STROKE, 80 000 lbs. MUD BULK TANKS: 3x1570cu ft. GUIDE LINE TENSIONERS : 4 WESTERN GEAR 16 000 lbs, 40" STROKE	

6. WELL INFORMATION SHEET



WELL INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
 WELL YELLOWTAIL - 2.

Sheet No. 1

WELL NAME	YELLOWTAIL - 2.										
OPERATOR	ESSO AUSTRALIA LTD .										
PARTNERS	B.H.P.										
RIG	OWNER	SOUTH SEAS DRILLING COMPANY.									
	NAME OR NUMBER	SOUTHERN CROSS .									
	TYPE	SEMI-SUBMERSIBLE .									
LOCATION	LATITUDE (X)	38° 31' 59.98" S				LONGITUDE (Y)	148° 16' 54.84" E				
	FIELD					AREA	GIPPSLAND BASIN .				
	COUNTY					STATE					
	COUNTRY	AUSTRALIA									
	DESCRIPTION										
DATUM POINTS	Ground Elevation					RKB to Ground Level					
	Mean Water Depth	78.4 METERS				RKB to Water Level	21 METERS				
DATES	SPUD	20 JUNE 1982				TOTAL DEPTH	2566 METERS				
HOLE SIZES	Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged		
	99 M	241 M	26"	1	0	20 JUN '82	20 JUN '82	20"	N		
	241 M	826 M	17 1/2"	1	0	24 JUN '82	24 JUN '82	13 5/8"	Y		
	826 M	2566 M	12 1/4"	5	0	26 JUN '82	4 JULY '82	-	Y		
DRILLING FLUID	Depth From	Depth To	Weights	Type							
	99 M	241 M	8.6 TO	SEAWATER							
	241 M	1550 M	TO	SEAWATER (Treated for PH. Native Gel only)							
	1550 M	2566 M	TO	SEAWATER GEL (WL Treated .)							
			TO								
			TO								
			TO								
WIRELINE LOGGING	Depth From	Depth To	Hole Size	Date Run	Logs Run						
	824 M	226 M	17 1/2"	25 JUN '82	ISF-SP-GR-CAL-BHC (GR to S.B.)						
	2558 M	809 M	12 1/4"	5 JULY '82	DLL-MSFL-GR						
	2555 M	809 M	12 1/4"	5 JULY '82	SONIC-GR						
	2555 M	2340 M	12 1/4"	5 JULY '82	HDT						
	2556 M	809 M	12 1/4"	6 JULY '82	FDC-CNL-GR						
	300 M	2556 M	12 1/4"	6 JULY '82	VELOCITY SURVEY (17 levels).						
	----	----	12 1/4"	7 JULY '82	RFT's 1,2 +3						
----	----	12 1/4"	7 JULY '82	CST's (3 runs).							
RISER, CASING & LINER	Depth From	Depth To	OD	ID	Weight	Grade	Threads	Date Run	Cement	Stages	Excess
	2 M	99 M	22"	21"	-----	-----	RISER	-----	-----	-----	-----
	99 M	226 M	20	19.124"	94	X-55	BUTT	22 JUN '82	'N'	1	300
	99 M	809 M	13 3/8	12.615"	54.5	K-55	BUTT	25 JUN '82	'N'	1	---

7. WELL HISTORY.

WELL HISTORY.

- 19 Jun 1982 Started the tow to Yellowtail No.2 location at 12:00 hrs. Reached the location of the first anchor at 18:00 hrs. Ran out anchors.
- 20 Jun 1982 Continued to run anchors. Balasted down and positioned the rig. Ran a static test. Ran the T.G.B. Made up the B.H.A and drilled from 99m to 241m with bit No.1 H.T.C. OSC3AJ with 26" H.O. Dropped the D.S. tool and P.O.O.H. to 105m where the survey was recovered.(misrun) R.I.H and found tight hole at 147m. Reamed and washed from 147 to 178m. R.I.H. from 178m to 241m.
- 21 Jun 1982 Circulated at 241m.Dropped the D.S. tool, pulled out 4.3 stands and recovered the D.S. tool.($\frac{1}{2}^0$) Ran in to 241m, pumped a slug and P.O.O.H. with no drag. Started to run the 20" casing but found tight hole at 102m. Worked the casing to 107m, but found tight hole, P.O.O.H. with casing. Made up the B.H.A, washed and reamed from 99m to 113m. Re-established the guide frame, reamed and washed from 113m to 241m. Pumped a slug and P.O.O.H. to T.G.B. R.I.H and hit a bridge at 214m. Spotted a hi-vis pill and P.O.O.H to 99m.
- 22 Jun 1982 R.I.H and hit a bridge at 210m, reamed from 210m to 241m. P.O.O.H. to 99m, R.I.H. to 241m, pumped a slug and P.O.O.H. Recovered the guide frame and ran the 20" casing. Landed the casing and cemented. Good returns were observed. The float equipment held O.K. W.O.C.
- 23 Jun 1982 W.O.W. Ran the L.M.R. and B.O.P. Tested the diverter and made up the B.H.A.
- 24 Jun 1982 R.I.H with R.R No.1 H.T.C. OSC3AJ 17 $\frac{1}{2}$ ", tagged the cement at 217m. Tested the diverter. Drilled cement from 211m to 228m. Washed to 241m and drilled from 241m to 826m. B.G. varied from 10 to 25u, the maximum being 60u at 803m.C.G. was found to be present at most connections.

The mud was caustic treated sea water, with a weight of 8.7 p.p.n. No gel was added. C.O. at 826m and took a D.S. ($\frac{1}{2}$) Made a W.T. to the 20" casing shoe: 80 Klbs O/P was found at 539m.

- 25 Jun 1982 Ran wireline logs: Suite No.1, Run No.1:SP-GR-ISF-BHC-CAL. Maximum temperature recorded was 26.6°C, 3Hrs after last circulation. Made up the casing hanger, made up the B.H.A. and R.I.H. with bit No.2. Circulated while waiting on boat to repair pumps, to pump cement on board. Snotted 500 bbl of grl. P.O.O.H. and retrieved the W/B. Riggged up and ran the 13 $\frac{3}{8}$ " casing, landed the casing at 24:00 hrs.
- 26 Jun 1982 Riggged up the cement lines and circulated; maximum gas was 1u Cemented the 13 $\frac{3}{8}$ " casing. Flushed the riser and set the seal assembly. Tested the B.O.P. Set the W/B and made up the 12 $\frac{1}{4}$ " B.H.A. R.I.H with NB No.2 H.T.CX3A, 12 $\frac{1}{4}$ ", 16,16,16, tagged the F/C at 784m and drilled the collar, cement and shoe. It took approximately 5hrs to drill the cement. Washed down to 826m and drilled to 832m, C.O. Performed a P.I.T. at 832m, Maximum pressure was 650p.s.i. M.W. was 8.7 p.p.n. 650 p.s.i. was held for 5 minutes with no leak off. Resulting in a P.I.T. of 13.5 E.M.W. Drilled to 922m with 10 to 24u B.G. with connection gas occurring at most connections. The mud was a ph treated seawater only.
- 27 Jun 1982 Drilled from 922m to 1301m. The riser was flushed every 4 singles, with the drilling controlled to around 30m/hr to avoid flowline blockages; the lithology was 50-90% calcareous claystone.(gumbo) At 1301m it was decided to change the bit, although there was no torque problems and the R.O.P. had not dropped. At this stage the bit had drilled for 20hrs and had logged 186 K turns.(including cement drilling) C.O. and flushed the riser. P.O.O.H. during which it was noticed that the slip joint was leaking. Lost 150hbl of mud due to leak. The D.S was a misrun. Bit condition out was 3-4-I.
- 28 Jun 1982 R.I.H. to the shoe and worked on the slip joint packer. P.O.O.H. and ran in with O.E.D.P. to 809m.(13 $\frac{3}{8}$ " shoe) Hung off and nipped down. Split the stack and landed the slip joint in the spider beams. Changed the slip joint packer and nipped up.

- 29 Jun 1982 R.I.H. and stabbed into hang off tool. Retrieved the wear bushing and ran the B.O.P. test tool. Tested the B.O.P. and reset the W/B. R.I.H. with N.B No.4, HTCX3A, 12 $\frac{1}{4}$ " 16,16,16, and drilled from 1301m to 1464m. The lithology was siltstone with virtually no gumbo. No drilling problems were encountered. The background gas varied from 5 to 40u; it was not steady. Maximum gas was 256u at 1377m. This was not connection gas though it was difficult to differentiate between possible connection gas and many drill gas peaks.
- 30 Jun 1982 Drilled from 1464 to 1499m where string weight and pump pressure was lost. No torque increase occurred. P.O.O.H and found that the string had parted at a H.W.D.P. box. Picked up the overshot fishing assembly, R.I.H, stabbed over fish and P.O.O.H. with fish. Recovered complete fish layed down fishing assembly and picked up new H.W.D.P. R.I.H. with N.B. No.4 , found no fill. Drilled from 1499m to 1522m. High drag was found at 1522m, worked pipe. Shakers were lightly loaded when B.U. from the worked pipe section was circulated up; a grab sample was 80% gumbo. Background gas in the 1535m to 1580m interval was 10u. Trip gas at 1499m was 139u.
- 1 July 1982 Drilled from 1590 to 1869m where hole packoff necessitated working the pipe from 1869m to 1844m to regain circulation. A grab sample from the interval indicated 90% gumbo, this drag caused swab gas of 84u from the zone. Drilling continued to 1955m, where a grab sample from an area of high torque at 1914m indicated 70% gumbo. R.O.P. fell rapidly at 1946m (from 30m/hr to 13m/hr) and found high torque at 1954m. After picking up off bottom and C.O. the same lithology was found, indicating the drop in R.O.P was probably due to the bit. A D.S. was dropped and P.O.O.H. commenced with 80 Klbs of O/P found at 1510m. Retrieved the survey (3 $\frac{0}{4}$) and R.I.H breaking circulation at shoe B.C.O. 3-8- $\frac{1}{8}$.
- 2 July 1982 Continued R.I.H. with N.B No.5 HTCX3A 12 $\frac{1}{4}$ ", 16,16,16, reaming tight spots at 1898m and a bridge at 1941m. Drilling then resumed from 1955m to 2229m. Trip gas observed was 2-52-9u. Hole packoff occurred again at 2229m no success was had at regaining circulation, after working

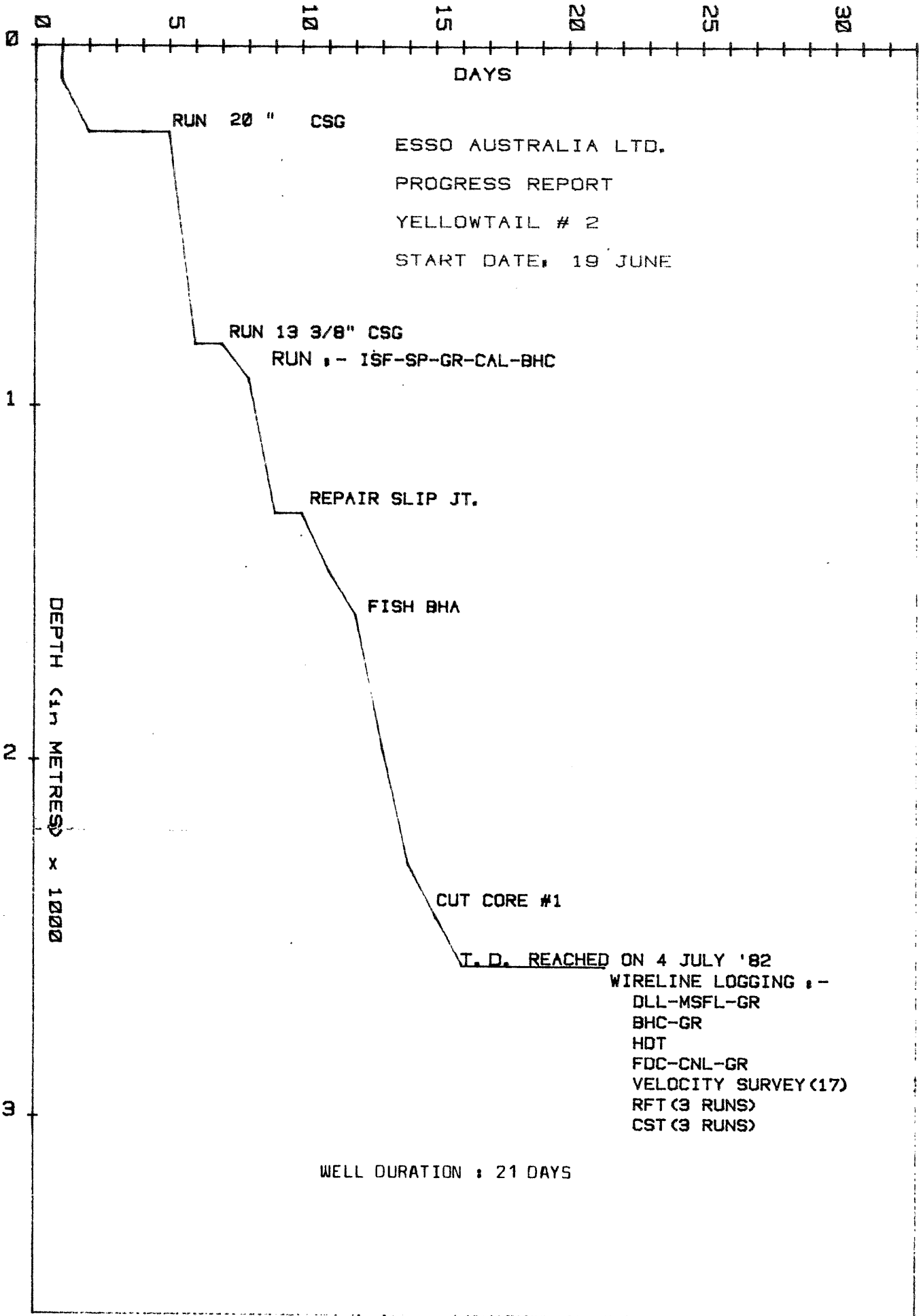
the pipe from 2229m to 2206m. P.O.O.H. to 2035m, maximum O/P was 100Klbs, R.I.H. and again failed in attempting to regain circulation. P.O.O.H. to 1825m, tight hole from 2055m to 1921m, (max O/P was 80Klbs) breaking circulation, continued to wash and ream from 1825m to 1973m, then laying down 12 joints of D.P., and running $4\frac{1}{3}$ stands from the derrick, continue to wash and ream from 1968m to 2035m. R.I.H. to 2287m and drilled ahead to midnight depth of 2287m. Maximum gas while circulating was 12u.

- 3 July 1982 Drilled ahead to 2405m then circulated B/U, Maximum gas was 6.1u, drilled ahead to 2417m and again C/O after a sharp increase in R.O.P. maximum gas was 28u, formation indicating presence of sandstone. It was decided to cut a core, P.O.O.H. after dropping a D.S. ($1\frac{3}{4}$ "⁰). After P.O.O.H to the shoe, the drill line was slipped and cut, P.O.O.H, continued. Serviced the core bhl, R.I with same, encountering tight hole at 1783m. Washed and reamed from 1777m to 1791m, R.I.H continued to T.D. (no fill). B/U were circulated, maximum gas was 17.9u. The ball was dropped and core No.1 was cut (12m) from 2417m to 2429m. P.O.O.H to recover core.
- 4 July 1982 P.O.O.H. slowly with the core barrel, and caught the core (36% recovery, 12m cut). Made up a new bit (No.6, HTCX3A, 12"¹) and T.I.H, filling the pipe at the shoe. Worked tight hole at 1860m. Reamed and washed the cored section, from 2417m to 2429m. Trip gas was 18u from 2429m. Drilled $12\frac{1}{4}$ " hole from 2429m to 2566m T.D. Maximum gas detected was 4u (at 2440m) over a background of 1-2u. Dropped a survey and P.O.O.H to the $13\frac{3}{8}$ " shoe, retrieved the survey ($1\frac{1}{2}$ "⁰), conducted a wiper trip (had to wash and ream a bridge at 2545m down to T.D.) circulated bottoms up, flushed the riser and P.O.O.H.
- 5 July 1982 Continued to P.O.O.H and then ran the following Schlumberger logs: DLL-MSFL-GR-SONIC-GR-HDT.
- 6 July 1982 Schlumberger ran the following logs: FDC-CNL-GR-Velocity survey Conducted a wiper trip (it was necessary to wash and ream tight hole from 2521m to 2566m). Circulated B/U, P.O.O.H., and flushed the riser.

- 7 July 1982 Schlumberger ran 3 R.F.T'S (pretests plus samples from 2424.5 and 2419m), then made three sidewall core runs. The supply boat "Tasman Tide" collided with the "Southern Cross" whilst unloading, and caused minor damage to the rigs substructure. R.I.H. with open-ended drill pipe to 2470m. C/O, then set a balanced cement plug (No.1) by pumping 10bbbls of fresh water ahead of 260 sacks "N" cement mixed with 32bbbls of fresh water, and displaced with 134bbbls of mud. (The cement weight was 15.6 ppg). Pulled out 5 stands of drill pipe, circulated out, then pulled out a further 5 stands of drill pipe. W.O.C.
- 8 July 1982 W.O.C. Tagged the cement plug at 2363m. Partially P.O.O.H and pumped another cement plug at 859m. Reverse circulated, then circulated bottoms up. P.O.O.H. laying down drill pipe. Schlumberger tested plug No.2 to 1500 psi. Set a bridge plug at 392m, then perforated at 179m. Established an injection rate, and set a retainer at 169m. R.I.H with stinger and tested the surface lines to 2000 psi. Squeezed 222 sacks of cement, and dumped 97 sacks on top of the retainer. P.O.O.H (tested plug against shear rams to 1000 psi) Pulled the wear bushing, washed the well head and B.O.P.
- 9 July 1982 Pulled the stack. De-balasted rig. R.I.H and blew the well head.Handled the anchors.
- 10 July 1982 Pulled the anchors and towed to new location.

WELL DURATION : 12:00 HRS 19 JUN - 11:30 HRS 10 JULY 1982
: 21 DAYS

8. PROGRESS REPORT



9. BIT RECORD

BIT SIZE inches

BIT COST A dollars

JET SIZE Thirty seconds of an inch

DEPTHS Metres

HOLE MADE. Metres

DRILLING TIME. Hours

AVERAGE ROP. Metres/hour

AVERAGE COST/METRE . . A dollars

BIT CONDITION. Teeth

Bearings

Gauge inches

BIT RECORD



COMPANY ESSO AUSTRALIA LTD.

WELL YELLOWTAIL No 2.

Sheet No. 1

S/N

249 SR
249SR
249SR
950UA
293KK
293KK
312KK
310KK
80E0553
948UA

Bit No.	Make	Type	IADC Code	Size	Jets	Depth In m	Hole Made m	Drilling Time	On Bottom Hours	K Turns	Condition T B G	Remarks
1	HTC	HO OSC 3AJ	111	26 17 1/2	3*28 3*28	99	142	6 1/2	3.26	24	1-1-I	OUT TO ATTEMPT TO RUN 20" CSG
RR 1	HTC	HO OSC 3AJ	111	26 17 1/2	3*28 3 * 20	---	---	---	---	---		REAMED AND WASHED
RR1	HTC	OSC 3AJ	111	17 1/2	20/20/20	241	585	16 3/4	11.94	109	3-3-I	OUT TO RUN 13 3/4" CSG
2	HTC	X3A	114	12 1/4	16/16/15	826	475	23 3/4	15.18	141	3-4-I	OUT FOR NB
3	HTC	X3A	114	12 1/4	16/16/16	1301	---	---	---	---	---	HUNG OFF FOR S/J REPAIR
3	HTC	X3A	114	12 1/4	16/16/16	1301	198	15 3/4	9.69	87	2-3-I	TWISTED OFF
4	HTC	X3A	114	12 1/4	16/16/16	1499	456	27	17.93	164	3-8-1/8	OUT DUE TO LOW ROP/ HI TORQ
5	HTC	X3A	114	12 1/4	16/16/16	1955	462	25	17.63	157	3-8-1/4	PULLED FOR CORE No.1
5	CHRIS	C22	4	8 15/32	13/13/13	2429	12	2 1/2	1.67	9.5	90% WN	(35.8% Recovery-4.3m)
6	HTC	X3A	114	12 1/4	16/16/16	2429	137	5 3/4	3.39	30.5	4-3-1/4	T.D 2566m

COST.
\$6350
\$6350.
\$2500.
\$1400.
\$1400.
\$1400.
\$1400.
\$1400.
\$15000.
\$1400.



COMPANY ESSO AUSTRALIA LTD.
WELL YELLOWTAIL No.2

BIT RECORD

Sheet No. 2

S/N	Bit No.	Make	Type	IADC Code	Size	Cost	Jets	Depth In	Depth Out	Hole Made m	Drilling Time	On Bottom Hours	Turns K	Average ROP	Average Cost/	Condition T B G
249SR	1	HTC	HO OSC 3AJ	111	26 1/4	\$6350.	3*28 3*20	99	142	142	6 1/2	3.26	24	43.4	\$215.50	1-1-I
249 SR	RR1	HTC	HO OSC 3AJ	111	26 1/4	\$6350.	3*28 3*20	---	---	---	---	---	---	---	---	---
249 SR	RR1	HTC	OSC 3AJ	111	17 1/2	\$2500.	20/20/20	241	826	585	16 3/4	11.94	109	67.5	\$106.31.	3-3-I
950 UA	2	HTC	X3A	114	12 1/4	\$1400.	16/16/16	826	1301	475	23 3/4	15.18	141	31.3	\$209.20	3-4-I
293 KK	3	HTC	X3A	114	12 1/4	\$1400.	16/16/16	1301	1301	---	---	---	---	---	---	---
293 KK	3	HTC	X3A	114	12 1/4	\$1400.	16/16/16	1301	1499	198	15 3/4	9.69	87	20.4	\$388.35.	2-3-I
312 KK	4	HTC	X3A	114	12 1/4	\$1400.	16/16/16	1499	1955	456	27	17.93	164	25.4	\$270.91.	3-8-1/8
310 KK	5	HTC	X3A	114	12 1/4	\$1400	16/16/16	1955	2417	462	25	17.63	157	26.2	\$281.61.	3-8-1/8
80E0553	5	CHRIS	C-22	4	8 15/32	\$15000.	equiv 13/13/13	2417	2429	12	2 1/2	1.67	9.5	7.2	\$5734.77	90% WN
948 UA	6	HTC	X3A	114	12 1/4	\$1400.	16/16/16	2429	2566	137	5 3/4	3.39	30.5	40.4	\$479.08	4-3-1/4

10. MUD INFORMATION SHEETS

DEPTH Metres

MUD WEIGHT Pounds per gallon

FUNNEL VISCOSITY A.P.I. seconds

PLASTIC VISCOSITY Centipoise

YIELD POINT Pounds/100 square feet

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

FILTRATE A.P.I. cc

CAKE THICKNESS 1hr/10 seconds of an inch

SALINITY : Ca/Cl ppm

SOLIDS/SAND/OIL Percentage



MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD
 WELL YELLOWTAIL, 2

Sheet No. 1

DEPTH		241	241	241	241	826	826
DATE	19 JUN '82	-20 JUN	-21 JUN	-22 JUN	-23 JUN	-24 JUN	-25 JUN
TIME		19:00	22:30	19:00	23:30	24:00	13:00
WEIGHT		8.7	8.7	8.7	8.7	8.8	8.8
FUNNEL VISCOSITY		29	29	29	29	29	63
PV/YP							15/20
N/K							0.51/1.42
GEL: INITIAL/10 MIN							9/21
pH		10.5	10.5	11.0		10.5	10.5+
FILTRATE: API/API HTHP							N/C
CAKE							
SALINITY C1							
SAND							
SOLIDS							
OIL							
NITRATES PPM							

REMARKS: ON TOW SPUD REAM RUN CSG. RUN BOP. DRILL 17 1/2" HOLE RUN CSG.
 ← CAUSTIC TREATED SEAWATER → HI VIS. NATIVE GEL ONLY. PILL.

DEPTH	860	1250	1301	1356	1534	1859	2161
DATE	- 26 JUN	- 27 JUN	- 28 JUN	- 29 JUN	- 30 JUN	- 1 JUL '82	- 2 JUL '82
TIME	22:00	16:30	16:00	15:30	20:00	13:30	10:00
WEIGHT	8.7	8.9	8.7	8.9	8.9+	9.0	9.1
FUNNEL VISCOSITY	29	29	28	28	33	40	47
PV/YP	3/9	2/6	2/2	2/3	4/10	5/16	7/19
N/K	.35/1.26	.32/1.08		.49/.24		.38/1.89	.47/1.15
GEL: INITIAL/10 MIN	4/4	3/3	0/0	1/1	4/6	4/10	6/13
pH	10.6	9.6	9.5	9.7	9.8	10.5	10.0
FILTRATE: API/API HTHP	N/C	N/C		N/C	N/C	25	13
CAKE	-					3	2
SALINITY C1	18.0 K	17.5 K		19.0 K	18.0 K	18.0 K	17.8 K
SAND	TR.	TR.		TR.	TR.	TR.	TR.
SOLIDS	2	4	2	4	4	4.5	5
OIL	0	0		0	0	0	0
NITRATES PPM	-	-		-	-	-	-

REMARKS: ← DRILL 12 1/2" HOLE. → REPAIRED SLIP JOINT. ← DRILLED 12 1/2" HOLE. →
 ← CAUSTIC TREATED SEAWATER. NATIVE GEL ONLY. →



MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

WELL YELLOWTAIL No.2

Sheet No. 2

DEPTH	2417	2492	2566	2566	2566	2566	
DATE	3 Jul 82	4 Jul 82	5 Jul 82	6 Jul 82	7 Jul 82	8 Jul 82	
TIME	09:30	11:45	23:00	10:30	10:45	10:00	
WEIGHT	9.1	9.1	9.2	9.2	9.2	9.2	
FUNNEL VISCOSITY	45	45	43	41	40	40	
PV/YP	8/17	8/16	9/16	10/15	8/14		
N/K	0.41/1.58	0.44/1.8	0.44/1.57	0.46/1.21	0.45/1.35		
GEL: INITIAL/10 MIN	3/9	4/10	4/8	4/8	3/8		
pH	10.4	10.2	10.3	10.0	9.8		
FILTRATE: API/API HTHP	7.0	7.3	7.2	7.2	7.2		
CAKE	1	1	1	1	1		
SALINITY (ppm)	16.0K	17.0K	18.0K	18.0K	18.0K		
SAND	Tr	Tr	Tr	Tr	Tr		
SOLIDS	5	5	6	6	6		
OIL	0	0	0	0	0		
NITRATES (ppm)	-	105	-	92.5	85		

REMARKS: DRILLED 12¹/₄" Hole P&A
 Caustic treated seawater, Native gel only

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

REMARKS:

11. LITHOLOGICAL SUMMARY.

WELL: YELLOWTAIL No. 2.

GEOLOGICAL PROFILE.

The main objective of the well was to assess the hydrocarbon potential of reservoir sandstone in the Latrobe Formation. It is also hoped that it will end speculation as to the true nature of the oil-water contact previously encountered in this area.

N.B. (All depths from RKB)

GIPPSLAND LIMESTONE. *

Between the depths, 265 metres and 465 metres, the formation consisted of a calcarenite limestone and loose CaCO₃ material. The calcarenite was light gray, fine to coarse grained and fairly soft. Loose CaCO₃ material was mainly bryozoa, foraminifera and shell fragments. There was also a sandstone encountered in this interval. This was clear, medium to coarse grained, sub-rounded and moderately sorted. Below 465 metres a very calcareous sand existed. This was described as clear to light gray, very fine to fine grained, loose, very calcareous, sub-rounded and well sorted. Amongst the sand were found foraminifera and shell fragments.

LAKES ENTRANCE FORMATION. *

This formation was comprised entirely of interbedded siltstone and a claystone/marl type material. The siltstone was light to medium gray, very calcareous, mostly soft and blocky. However, the siltstone became firmer and tended toward a sub-fissile, shale-type material closer to the bottom of the formation. The claystone/marl was light gray, extremely calcareous, often very soft, sticky and amorphous, however sometimes a type of lamination was evident. Throughout the formation foraminifera and shell fragments were encountered along with various sizes of quartz grains, calcite grains and occasional carbonaceous flecking. The maximum gas was 256 units at 1382 metres.

LATROBE FORMATION. *

Towards the top of the formation a clear, medium to coarse, poorly sorted sandstone was encountered. One core was cut here between 2417 metres and 2429 metres with only 4.3 metres being recovered. Lower down, the formation consisted of interbedded sandstone, siltstone and shale. The sandstone was similar to that described above. The siltstone was light to medium gray, argillaceous, calcareous, blocky to sub-fissile, with small carbonaceous and pyritic inclusions. The shale was medium dark gray, calcareous, firm and fissile. Maximum gas was 30 units at 2417 metres.

Based on core data the oil-water contact was approximated to be at 2421 metres. (Full core description at end of grapholog.)

* FORMATION TOP DEPTHS WERE NOT AVAILABLE AT THE TIME OF PRINTING.

12. OVERBURDEN GRADIENT CALCULATIONS

DEPTHmetres

BULK DENSITYgm/cc

OVERBURDEN PRESSURE INCREMENT .psi

CUMULATIVE OVERBURDEN PRESSURE .psi

OVERBURDEN PRESSURE GRADIENT . .psi/ft

OVERBURDEN EQUIVILANT DENSITY .Pounds per gallon

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

OVERBURDEN GRADIENT CALCULATIONS

=====

DEPTH from	DEPTH to	AVR. BULK DENSITY	O/BURDEN INCR.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
m	m	gms/cc	psi	psi	psi/ft	ppo
0	99	1.02	43.72	43.72	0.442	8.49
99	809	2.13	654.83	698.55	0.863	16.61
809	850	2.27	40.30	738.85	0.869	16.72
850	875	2.28	24.68	763.53	0.873	16.78
875	900	2.31	25.01	788.54	0.876	16.85
900	925	2.27	24.57	813.11	0.879	16.90
925	950	2.30	24.90	838.01	0.882	16.96
950	975	2.27	24.57	862.58	0.885	17.01
975	1000	2.32	25.11	887.69	0.888	17.07
1000	1050	2.32	50.23	937.92	0.893	17.18
1050	1100	2.33	50.44	988.37	0.899	17.28
1100	1125	2.35	25.44	1013.80	0.901	17.33
1125	1150	2.34	25.33	1039.14	0.904	17.38
1150	1175	2.34	25.33	1064.47	0.906	17.42
1175	1200	2.33	25.22	1089.69	0.908	17.46
1200	1225	2.35	25.44	1115.13	0.910	17.51
1225	1250	2.38	25.76	1140.89	0.913	17.55
1250	1275	2.41	26.09	1166.98	0.915	17.60
1275	1300	2.43	26.30	1193.28	0.918	17.65
1300	1325	2.42	26.20	1219.48	0.920	17.70
1325	1350	2.44	26.41	1245.89	0.923	17.75
1350	1375	2.43	26.30	1272.20	0.925	17.79
1375	1400	2.41	26.09	1298.29	0.927	17.83
1400	1450	2.44	52.83	1351.11	0.932	17.92
1450	1475	2.45	26.52	1377.63	0.934	17.96
1475	1500	2.46	26.63	1404.26	0.936	18.00
1500	1525	2.46	26.63	1430.89	0.938	18.04
1525	1550	2.45	26.52	1457.41	0.940	18.08
1550	1575	2.46	26.63	1484.04	0.942	18.12
1575	1600	2.45	26.52	1510.56	0.944	18.16
1600	1650	2.47	53.48	1564.04	0.948	18.23
1650	1675	2.48	26.85	1590.89	0.950	18.27
1675	1700	2.44	26.41	1617.30	0.951	18.30
1700	1725	2.40	25.98	1643.28	0.953	18.32
1725	1750	2.35	25.44	1668.72	0.954	18.34
1750	1775	2.40	25.98	1694.70	0.955	18.36
1775	1800	2.37	25.66	1720.35	0.956	18.38
1800	1825	2.43	26.30	1746.66	0.957	18.41
1825	1850	2.41	26.09	1772.75	0.958	18.43
1850	1875	2.42	26.20	1798.94	0.959	18.45
1875	1900	2.44	26.41	1825.35	0.961	18.48
1900	1925	2.45	26.52	1851.88	0.962	18.50
1925	1950	2.46	26.63	1878.51	0.963	18.53
1950	1975	2.45	26.52	1905.03	0.965	18.55
1975	2000	2.46	26.63	1931.66	0.966	18.57
2000	2050	2.45	53.04	1984.70	0.968	18.62
2050	2075	2.46	26.63	2011.33	0.969	18.64
2075	2100	2.47	26.74	2038.07	0.971	18.66
2100	2125	2.27	24.57	2062.64	0.971	18.67
2125	2150	2.12	22.95	2085.59	0.970	18.65

DEPTH from	DEPTH to	AVR. BULK DENSITY	O/BURDEN INCR.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
m	m	gms/cc	psi	psi	psi/ft	ppa
2150	2175	2.16	23.38	2108.97	0.970	18.65
2175	2200	2.29	24.79	2133.76	0.970	18.65
2200	2225	2.06	22.30	2156.06	0.969	18.63
2225	2250	2.13	23.06	2179.12	0.968	18.62
2250	2275	2.18	23.60	2202.71	0.968	18.62
2275	2300	2.23	24.14	2226.85	0.968	18.62
2300	2325	2.20	23.82	2250.67	0.968	18.62
2325	2350	2.18	23.60	2274.27	0.968	18.61
2350	2375	2.30	24.90	2299.17	0.968	18.62
2375	2400	2.35	25.44	2324.60	0.969	18.63
2400	2425	2.45	26.52	2351.13	0.970	18.64
2425	2450	2.31	25.01	2376.13	0.970	18.65
2450	2475	2.26	24.46	2400.60	0.970	18.65
2475	2500	2.32	25.11	2425.71	0.970	18.66
2500	2525	2.31	25.01	2450.72	0.971	18.67
2525	2566	2.37	42.07	2492.79	0.971	18.68

DEPTH (IN METRES) x 1000

ESSO AUSTRALIA LTD.

YELLOWTAIL # 2

OVERBURDEN GRADIENT

PSI/FT.

.5

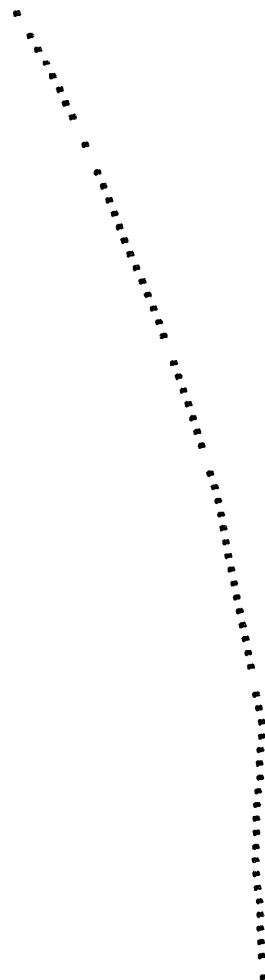
.6

.7

.8

.9

1.0



13. R.F.T. DATA.

CORE LABORATORIES F.I.T/R.F.T. DATA SHEET - SAMPLING DATA

COMPANY ESSO AUSTRALIA LTD. WELL YELLOWTAIL No.2

RUN No. RFT 2 PRESSURE GAUGE TYPE _____ H.P. _____

CHAMBER No.	1.	2.	H.P.	
CHAMBER CAPACITY (gal)	6	1	CHAMB. 1.	CHAMB. 2
CHOKE SIZE (sq in)	0.03	0.02		
SEAT No.	32	32		
DEPTH (m) (frm.RKB)	2424.5	2424.5		
A. RECORDING TIMES			OIL PROPERTIES CONT'D	
TOOL SET	02:52:	:	POUR POINT (°)	
PRETEST OPEN	02:53:	:	COMMENTS	
TIME OPEN	:10:	:	(c) WATER PROPERTIES:	
CHAMBER OPEN	03:03:	03:16:	RESISTIVITY (Ω.m)	0.24 @65°F 0.24 @65°C
CHAMBER FULL	03:12:	03:19:	Cl (frm.resis.) ()	
FILL TIME	:9:	:3:	Cl (frm.titrat) (ppm)	18.0K 18.0K
START BUILD UP	03:12:	03:19:	NO ₃ (ppm)	22 40
FINISH BUILD UP	03:14:	03:20:	pH	6.5 7
BUILD UP TIME	:2:	:1:	OTHER TRACERS ()	
SEAL CHAMBER	03:15:	03:20:	DENSITY	
TOOL RETRACT	:	03:22:	FLUORESCENCE	pale blue pale blue
TOTAL TIME	:	:	COLOUR	olive grey olive grey
B. SAMPLE PRESSURES			(d) OTHER SAMPLE PROPERTIES	
IHP ()				
ISIP (psi)	3430		F. MUD PROPERTIES:	
IFP (psi)	3010	3205	TYPE	
FFP (psi)	3060	3207	RESISTIVITY ()	(d) ()
FSIP (psi)	3383.4	3383.4	Cl (frm.resis.) ()	
FHP (psi)		3890	Cl (frm.titrat) (ppm)	18K 18K
TEMP.CORR.ifapp()			NO ₃ Drld/1st.circppm	92.5 / 77 92.5 / 77
COMMENTS			pH	10.3 10.3
C. TEMPERATURE			OTHER TRACERS ()	
DEPTH TOOL REACHED(m)	2424.5		DENSITY ()	9.2 9.2
MAX.REC.TEMP. (°C)	83.3		G. GENERAL COMMENTS	
TIME CIRC.STOPPED			30,000 psi gauge was used for measuring surface pressure on chamber 2	
TIME SINCE CIRC.	:	:		
D. SAMPLE RECOVERY				
SURFACE PRESSURE (psi)	600	0		
VOL.GAS (cf)	0.93	0.13		
VOL.OIL ()	scum	sl scum		
VOL.WATER ()				
VOL.FILTRATE (cc)	20600	3000		
VOL.CONDENSATE ()				
VOL.OTHER ()				
E. SAMPLE PROPERTIES				
(a) GAS COMP. C1 (ppm)	5054	89090	NOTE:- Gas volume does not take liquid displacement into account, unless noted	
C2 (ppm)	3192	18386	- Take mud nitrates when tested zone was drilled and last circulation.	
C3 (ppm)	7308	18735	- Unless otherwise noted, pressures are temperature corrected.	
C4 (ppm)	2717	5314	- Chamber 1 is the first chamber to be opened.	
C5 (ppm)	1092	1310		
C6+ (ppm)				
CO2 (%)	0.5	0.5		
H2S (ppm)	7200	60		
(b) OIL PROPERTIES				
DENSITY: HYDROMETER ()	@	(d)		
REFRACTOMETER ()		(d)		
COLOUR				
FLUORESCENCE				
G.O.R. ()				

COMPANY ESSO AUSTRALIA LTD. WELL YELLOWTAIL No.2RUN No. RFT 3

PRESSURE GAUGE TYPE

H.P.

CHAMBER No.		1.	2.			CHAMB. 1.	CHAMB. 2.
CHAMBER CAPACITY (gal)		6	1				
CHOKE SIZE (in)		0.03	0.02	OIL PROPERTIES CONT:			
SEAT No.		33	33	ODOUR			
DEPTH (m) (frm. RKB)		2419	2419	POUR POINT (°)			
A RECORDING TIMES		HH:MM:SS	HH:MM:SS	COMMENTS			
TOOL SET		06:06:	: :	(c) WATER PROPERTIES:			
PRETEST OPEN		06:06:	: :	RESISTIVITY ($\Omega \cdot m$)		@	@
TIME OPEN		:02:	: :	Cl (frm. resis.) ()			
CHAMBER OPEN		06:08:	06:29:	Cl (frm. titrat) (ppm)		17.5K	
CHAMBER FULL		06:20:	06:34:	NO ₃ (ppm)		20	
FILL TIME		:12:	:5:	pH		7.0	
START BUILD UP		06:20:	06:34:	OTHER TRACERS			
FINISH BUILD UP		: :	06:37:	()			
BUILD UP TIME		: :	:3:	DENSITY			
SEAL CHAMBER		06:28:	06:37:	FLUORESCENCE			
TOOL RETRACT		: :	06:45:	COLOUR			
TOTAL TIME		: :	: :	COMMENTS			
B SAMPLE PRESSURES				(d) OTHER SAMPLE PROPERTIES			
IHP ()				MUD PROPERTIES:			
ISIP (psia)		3390.6		TYPE			
IFP (psia)		955	960	RESISTIVITY ()		@	@
FFP (psia)		915	905	Cl (frm. resis.) ()			
FSIP (psia)		3371	3381	Cl (frm. titrat) ()			
FHP (psi)			3880	NO ₃ Drld/lst. circ ()		/	/
TEMP. CORR. if app. ()				pH			
COMMENTS				OTHER TRACERS			
C TEMPERATURE				DENSITY ()			
DEPTH TOOL REACHED (m)		2419		G. GENERAL COMMENTS			
MAX. REC. TEMP. (°)				Refractive index 1.4508 @ 23.5°C			
TIME CIRC. STOPPED							
TIME SINCE CIRC.		:	:				
D SAMPLE RECOVERY							
SURFACE PRESSURE (psia)		200					
VOL. GAS (cf)		1.26					
VOL. OIL (cc)		200					
VOL. WATER (cc)		21000					
VOL. FILTRATE ()							
VOL. CONDENSATE ()							
VOL. OTHER ()							
E SAMPLE PROPERTIES							
(a) GASCOMP		C1 (ppm)	68531	NOTE: - Gas volume does not take liquid displacement into account, unless noted. - Take mud nitrates when tested zone was drilled and last circulation. - Unless otherwise noted, pressures are temperature corrected. - Chamber 1 is the first chamber to be opened.			
		C2 (ppm)	60265				
		C3 (ppm)	145140				
		C4 (ppm)	58935				
		C5 (ppm)	12838				
		C6+ (ppm)	300				
		CO ₂ (%)	0				
		H ₂ S (ppm)	30				
(b) OIL PROPERTIES							
DENSITY: HYDROMETER (API)		REFRACTOMETER	43.5 @ 60°F				
COLOUR		DK brown					
FLUORESCENCE		gold					
G.O.R. (cf/STB)		1018					
							SAMPLE PRESERVED

CORE LABORATORIES INTERNATIONAL

PORE PRESSURE DATA SHEET

DATA FROM R.F.T. RUNS.

COMPANY : ESSO AUSTRALIA LTD.

WELL : YELLOWTAIL - 2 .

SEAT	DEPTH (FROM RKB)	DEPTH (FROM MSL)	PORE PRESSURE	PORE PRESSURE GRADIENT E.M.W. (MSL)	PORE PRESSURE GRADIENT
	METERS	METERS	PSIG	PPG	PSI/FT.
8	2530	2509	3539.8	8.286	0.430
9	2522	2501	3525.6	8.279	0.430
10	2507	2486	3500.1	8.269	0.429
11	2484	2463	3467.4	8.268	0.429
12	2454	2433	3424.6	8.266	0.429
13	2433	2412	3393.6	8.263	0.429
14	2430	2409	3389.8	8.264	0.429
15	2429	2408	3388.8	8.265	0.429
16	2427.5	2406.5	3387.3	8.266	0.429
17	2426	2405	3385	8.266	0.429
18	2425.5	2403.5	3383.4	8.267	0.429
21	2419	2398	3389.4	8.361	0.431
26	2424.5	2403.5	3382.7	8.266	0.429
29	2424.8	2403.8	3383.8	8.267	0.429
30	2425.5	2404.5	3384.9	8.267	0.429
31	2426	2405	3386	8.268	0.429
32	2424.5	2403.5	3383.4	8.267	0.429

14. ESTIMATED B.H.T.

CORE LAB

STRAIGHT LINE LEAST SQUARES BEST FIT

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

ENTERED DATA:

DATA SET #	1/TIME	TEMPERATURE	TIME (AFTER CIRC.) (STOPPED)
1	0.182	76.6	5.5
2	0.087	81.1	11.5
3	0.059	87.1	17.0
4	0.047	90.5	21.5

COEFFICIENT & CONSTANT:

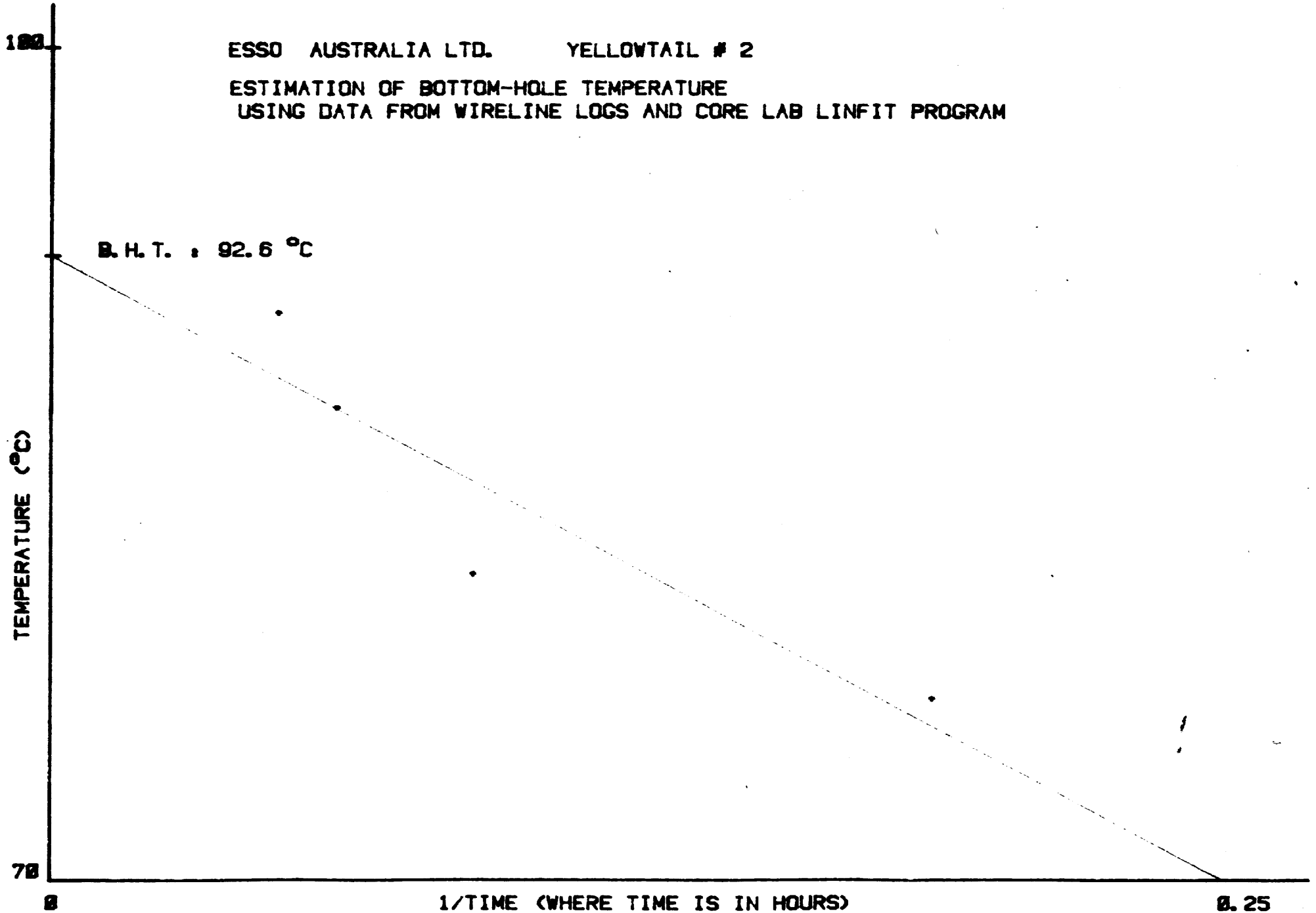
$Y = m.X + c$ where $m = -9.3087937E 01$ and $c = 9.2551994E 01$

INTERPOLATED DATA:

1/TIME	TEMPERATURE
0.000	92.6

ESSO AUSTRALIA LTD. YELLOWTAIL # 2

ESTIMATION OF BOTTOM-HOLE TEMPERATURE
USING DATA FROM WIRELINE LOGS AND CORE LAB LINFIT PROGRAM



15. SIDEWALL CORE GAS ANALYSIS.

16. PORE PRESSURE SUMMARY AND P.I.T. DATA.

YELLOWTAIL No.2, PORE PRESSURE AND L.O.T. SUMMARY.

Yellowtail No.2 was drilled in the Gippsland Basin region of the Bass Strait. It was correctly thought that this basin is normally pressured and abnormal pressures were therefore not expected. Core Laboratories unit FL 802 monitored and calculated various parameters associated with pressure detection, the primary means of detection being the "Drill Data Plot" (see plots at end of report).

The "Drill Data Plot" shows amongst other information, the d'c exponent trend. As can be seen from the plot a good trend does not develop until around 805m, towards the bottom of the arenaceous section of the Gippsland Limestone. There is a lateral shift in the trend at 1130m, due to a change in lithology from interbedded siltstones and claystones to predominantly claystones. A second lateral shift exists at 1700m, and this is caused by the predominantly argillaceous nature of the lithology. The trend remains normal down to 2410m, where the arenaceous rocks have caused a reversal. The trend returns to normal at 2480m where the sandstones become interbedded with shales and siltstones. This is the situation down to T.D.

The mud gas plot does not show any abnormalities. A few isolated gas peaks exist, but these are associated with hole problems, rather than from any abnormality in formation pressure.

No shale density measurements were taken since only isolated beds of shale were encountered.

As may be expected from the above discussions, the temperature plot does not show any deviations away from normal.

A "Wireline Plot" was not drawn as this log plots shale parameters and the few shale points encountered in the well were insufficient to facilitate an objective plot.

The "Pressure Plot" is the pressure conclusion log for the well. As can be seen it shows that the formations encountered in the drilling of Yellowtail No. 2 are believed to be normally pressured throughout. The quantitative data for the pore pressures is from the R.F.T. tests run in sands between 2419 and 2530 meters. As can be seen from the R.F.T. data the sands had pressure gradients of between 1.407 and 1.414 psi/m, which are equivalent to pore pressures of 8.3 to 8.4ppg (from M.S.L.). It is believed that a pore pressure of 8.3ppg E.M.W. is representative of the pressure gradient for the formations above the Latrobe (as inferred from the R.F.T. data).

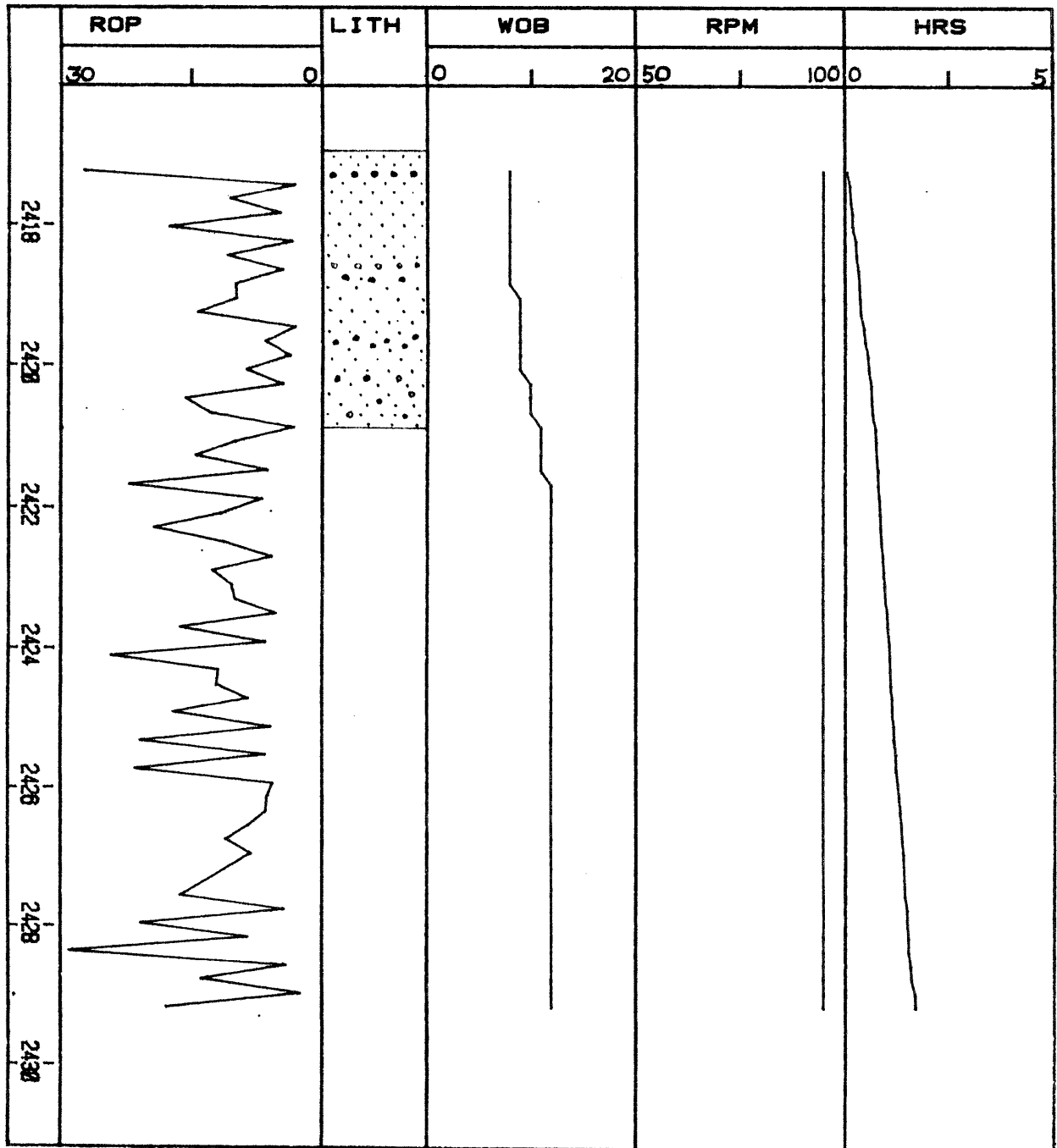
Overburden gradient calculations and a plot of the gradient are included in the report. It was not possible to derive a true fracture gradient as insufficient L.O.T.'s were taken. In fact only one P.I.T. was taken, just below the 13 3/8" casing shoe. There was no need to carry out L.O.T.'s since high mud weights were not anticipated. The P.I.T. conducted gave a value of 13.5ppg E.M.W. Based on this information the fracture gradient on the "Pressure Plot" was drawn. The shape of the curve is based on data from wells in the U.S. Gulf Coast basin, and offset to match local data. A true fracture gradient for the Gippsland Basin cannot be drawn until further leak-off data is available.

The average geothermal gradient was 3.22°C/100 m - normal for the Gippsland Basin.

17. CORE-O-GRAPHS.

CORE-O-GRAPH

CLIENT: ESSO AUSTRALIA LTD.
WELL: YELLOWTAIL No.2
CORE NO.: No.1
INTERVAL CORED FROM: 2417m TO 2429m
CUT: 12m **RECOVERED:** 4.3m (35.8%)
FORMATION: LATROBE GROUP
BIT MAKE & TYPE: CHRISTENSEN C-22
CORE BARREL SIZE: 6.75in. x 4.00in. x 10.66m.
BIT SIZE: 8.468 **MUD WT.:** 9.1



1stimer '81

COMPUTER DATA LISTINGS

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

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

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

The following data lists have been made for this well :

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

COMPUTER PLOTS

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

GEOPLOT - 1:5000 SCALE - 2m average

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

BIT RECORD

BIT SIZE Inches

BIT COST A dollars

JET SIZE Thirty seconds of an inch

DEPTHS Metres

BIT RUN (HOLE MADE). . Metres

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

AVERAGE ROP. Metres/hour

CUMULATIVE COST/METRE. n dollars

BIT CONDITION : Teeth

Bearings

Gauge Inches

WELL: YELLOWTAIL # 2

BIT RECORD

BIT IADC					DEPTH	DEPTH	BIT	TOTAL	TRIP				TOTAL	CONDITION
No.	CODE MAKE & TYPE	SIZE	COST	NOZZLES	IN	OUT	RUN	HOURS	AROP	TIME	CCOST	TURNS	T B G	
1	111 HTC OSC3AJ&26*HD	26.000	6350.00	25 25 25	99.0	241.0	142.0	3.27	43.4	1.9	215.50	23536	1 1 0.000	
1	111 HTC OSC3AJ	17.500	2500.00	20 20 20	241.0	826.0	585.0	11.94	67.5	4.0	106.31	109495	3 3 0.000	
2	114 HTC X3A	12.250	1400.00	16 16 15	826.0	1301.0	475.0	15.18	31.3	5.7	209.20	140746	3 4 0.000	
3	114 HTC X3A	12.250	1400.00	16 16 16	1301.0	1499.0	198.0	9.69	20.4	6.4	388.35	87192	2 3 0.000	
4	114 HTC X3A	12.250	1400.00	16 16 16	1499.0	1955.0	456.0	17.93	25.4	8.1	270.91	163701	3 8 0.125	
5	114 HTC X3A	12.250	1400.00	16 16 16	1955.0	2417.0	462.0	17.63	26.2	9.8	281.61	156736	3 8 0.250	

WELL: YELLOWTAIL # 2

BIT RECORD

BIT IADC					DEPTH	DEPTH	BIT	TOTAL	TRIP				TOTAL	CONDITION
No.	CODE MAKE & TYPE	SIZE	COST	NOZZLES	IN	OUT	RUN	HOURS	AROP	TIME	CCOST	TURNS	T B G	
5	4 CHRISTENSEN C-22	8.468	15000.00	13 13 13*	2417.0	2429.0	12.0	1.67	7.2	9.8	5734.77	9514	0 0 0.900	
6	114 HTC X3A	12.250	1400.00	16 16 16	2429.0	2566.0	137.0	3.39	40.4	10.3	479.08	30550	4 3 0.250	

* EQUIVILANT T.F.A.

BIT NUMBER: 1	IADC CODE 111	HTC OSC3AJ&26"HO		
STARTING DEPTH.....	99.0			
BIT COST, RIG COST/HOUR.....	6350.00	4692.00		
TRIP TIME.....	1.9			
BIT DIAMETER.....	26.000			
NOZZLES.....	25	25	25	
HW DRILL COLLAR LENGTH, OD, ID....	33.10	9.750	3.000	
DRILL COLLAR LENGTH, OD, ID.....	29.60	8.000	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	27.50	5.000	3.000	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	0.00	0.000		
PUMP VOLUMES 1 AND 2.....	0.119	0.119		
PORE PRESSURE CALC EXPONENT.....	1.20			
NORMAL PORE PRESSURE.....	8.5			
OVERBURDEN GRADIENT MODIFIER.....	0.00			
STRESS RATIO MODIFIER.....	0.04			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	3.0	1.80		
FINISHING DEPTH.....	241.0			
CUMULATIVE HOURS, TURNS.....	3.27	23536		
BIT CONDITION OUT.....	T 1	B 1	G 0.000	

BIT NUMBER: 1	IADC CODE 111	HTC OSC3AJ		
STARTING DEPTH.....	241.0			
BIT COST, RIG COST/HOUR.....	2500.00	4692.00		
TRIP TIME.....	4.0			
PREVIOUS HOLE MADE.....	142.0			
PREVIOUS HOURS, TURNS.....	3.27	23536		
BIT DIAMETER.....	17.500			
NOZZLES.....	20	20	20	
HW DRILL COLLAR LENGTH, OD, ID....	30.35	9.750	3.000	
DRILL COLLAR LENGTH, OD, ID.....	87.85	8.000	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	81.43	5.000	3.000	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	226.00	19.124		
RISER LENGTH, ID.....	99.40	21.000		
PUMP VOLUMES 1 AND 2.....	0.119	0.119		
PORE PRESSURE CALC EXPONENT.....	1.20			
NORMAL PORE PRESSURE.....	8.5			
OVERBURDEN GRADIENT MODIFIER.....	0.00			
STRESS RATIO MODIFIER.....	0.04			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	2.6	2.00		
FINISHING DEPTH.....	826.0			
CUMULATIVE HOURS, TURNS.....	11.94	109495		
BIT CONDITION OUT.....	T 3	B 3	G 0.000	

BIT NUMBER: 2 IADC CODE 114 HTC X3A

STARTING DEPTH.....	826.0		
BIT COST, RIG COST/HOUR.....	1400.00	4692.00	
TRIP TIME.....	5.7		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	15
DRILL COLLAR LENGTH, OD, ID.....	117.44	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	108.93	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	809.00	12.615	
RISER LENGTH, ID.....	99.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.40	
FINISHING DEPTH.....	1301.0		
CUMULATIVE HOURS, TURNS.....	15.18	140746	
BIT CONDITION OUT.....	T 3	B 4	G 0.000

BIT NUMBER: 3 IADC CODE 114 HTC X3A

STARTING DEPTH.....	1301.0		
BIT COST, RIG COST/HOUR.....	1400.00	4692.00	
TRIP TIME.....	6.4		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	16
DRILL COLLAR LENGTH, OD, ID.....	117.44	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	108.93	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	809.00	12.415	
RISER LENGTH, ID.....	99.40	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.4	2.50	
FINISHING DEPTH.....	1499.0		
CUMULATIVE HOURS, TURNS.....	9.69	87192	
BIT CONDITION OUT.....	T 2	B 3	G 0.000

BIT NUMBER: 4 IADC CODE 114 HTC X3A

STARTING DEPTH.....	1499.0		
BIT COST, RIG COST/HOUR.....	1400.00	4692.00	
TRIP TIME.....	8.1		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	16
DRILL COLLAR LENGTH, OD, ID.....	146.18	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	809.00	12.615	
RISER LENGTH, ID.....	99.40	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.6	2.53	
FINISHING DEPTH.....	1955.0		
CUMULATIVE HOURS, TURNS.....	18.38	167831	
BIT CONDITION OUT.....	T 3	B 8	G 0.125

BIT NUMBER: 5 IADC CODE 114 HTC X3A

STARTING DEPTH.....	1955.0		
BIT COST, RIG COST/HOUR.....	1400.00	4692.00	
TRIP TIME.....	9.8		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	16
DRILL COLLAR LENGTH, OD, ID.....	146.18	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	809.00	12.615	
RISER LENGTH, ID.....	99.40	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.7	2.45	
FINISHING DEPTH.....	2417.0		
CUMULATIVE HOURS, TURNS.....	17.63	156736	
BIT CONDITION OUT.....	T 3	B 8	G 0.125

BIT NUMBER: 5 IADC CODE 4 CHRISTENSEN C-22

STARTING DEPTH.....	2417.0		
BIT COST, RIG COST/HOUR.....	15000.00	4692.00	
TRIP TIME.....	9.8		
BIT DIAMETER.....	8.468		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	136.40	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2417.00	809.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	99.40	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	0.3	2.65	
FINISHING DEPTH.....	2429.0		
CUMULATIVE HOURS, TURNS.....	1.67	9514	
BIT CONDITION OUT.....	T 0	B 0	G 0.900

BIT NUMBER: 6 IADC CODE 114 HTC X3A

STARTING DEPTH.....	2429.0		
BIT COST, RIG COST/HOUR.....	1400.00	4692.00	
TRIP TIME.....	10.3		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	16
DRILL COLLAR LENGTH, OD, ID.....	146.18	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	809.00	12.615	
RISER LENGTH, ID.....	99.40	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.7	2.45	
FINISHING DEPTH.....	2566.0		
CUMULATIVE HOURS, TURNS.....	3.39	30550	
BIT CONDITION OUT.....	T 4	B 3	G 0.250

HYDRAULIC ANALYSIS

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

DEPTH. Metres

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

ANNULAR VOLUMES. . . . Barrels, Barrels/metre

ANNULAR VELOCITIES . . . Metres/minute

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

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

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

PRESSURE UNITS Pounds per square inch

HHP. Hydraulic horsepower at the bit

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

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

DENSITY UNITS. Pounds per gallon

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 110.0 AND TVD 110.0

SPM 1 75 SPM 2 30 FLOW RATE 525

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	61	7	6	TURBULENT			0.0
DC/OH	1.950	58	6	6	TURBULENT			0.0
HWDP/OH	2.074	57	6	5	TURBULENT			0.0
DP/OH	2.074	41	6	5	TURBULENT			0.0
TOTAL VOLUME		217			TOTAL PRESSURE DROP			0.0

LAG: 17.4 MINUTES 1303 STROKES #1 AND 521 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	105.5	HHP	32	IMPACT FORCE	274
% SURFACE PRESSURE	42.2	HHP/sqin	0.06	JET VELOCITY	36

PRESSURE BREAKDOWN:

SURFACE	23.8		
STRING	78.6		
BIT	105.5		
ANNULUS	0.0		
TOTAL	207.9	PUMP PRESSURE	250.0
		% DIFFERENCE	16.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.60	HYDROSTATIC PRESSURE 161.4
CIRCULATING:	ECD 8.60	CIRCULATING PRESSURE 161.4
PULLING OUT:	TRIP MARGIN 0.00	ESTIMATED SWAB 0.0
	EFFECTIVE MUD WEIGHT 8.60	BOTTOM HOLE PRESSURE 161.4

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 206.0 AND TVD 206.0

SPM 1 100 SPM 2 100 FLOW RATE 1000

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	61	13	6	TURBULENT			0.0
DC/OH	1.950	58	12	6	TURBULENT			0.0
HWDP/OH	2.074	57	11	5	TURBULENT			0.0
DP/OH	2.074	240	11	5	TURBULENT			0.0
TOTAL VOLUME		416	TOTAL PRESSURE DROP					0.0

LAG: 17.5 MINUTES 1749 STROKES #1 AND 1749 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	382.7	HHP	223	IMPACT FORCE	993
% SURFACE PRESSURE	38.3	HHP/sqin	0.42	JET VELOCITY	68

PRESSURE BREAKDOWN:

SURFACE	75.9		
STRING	292.8		
BIT	382.7		
ANNULUS	0.0		
TOTAL	751.4	PUMP PRESSURE	1000.0 % DIFFERENCE 24.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.60	HYDROSTATIC PRESSURE 302.2
CIRCULATING:	ECD 8.60	CIRCULATING PRESSURE 302.3
PULLING OUT:	TRIP MARGIN 0.00	ESTIMATED SWAB 0.0
	EFFECTIVE MUD WEIGHT 8.60	BOTTOM HOLE PRESSURE 302.2

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 120 SPM 2 105 FLOW RATE 1127

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP	
HWDC/OH	0.673	20	40	59	LAMINAR	1	39	0.1	
DC/OH	0.772	34	35	57	LAMINAR	0	34	0.1	
DC/CSG	0.961	42	28	56	LAMINAR	0	28	0.1	
HWDP/CSG	1.085	88	25	55	LAMINAR	0	24	0.1	
DP/CSG	1.085	1	25	55	LAMINAR	0	24	0.0	
DP/RIS	1.325	132	20	54	LAMINAR	0	20	0.1	
TOTAL VOLUME		318	TOTAL PRESSURE DROP						0.7

LAG: 11.8 MINUTES 1424 STROKES #1 AND 1246 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1202.2 HHP 791 IMPACT FORCE 1996
 % SURFACE PRESSURE 49.1 HHP/sq in 3.29 JET VELOCITY 119

PRESSURE BREAKDOWN:

SURFACE 82.9
 STRING 653.7
 BIT 1202.2
 ANNULUS 0.7
 TOTAL 1939.4 PUMP PRESSURE 2450.0 % DIFFERENCE 20.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 445.3
CIRCULATING:	ECD 8.71	CIRCULATING PRESSURE 446.0
PULLING OUT:	TRIP MARGIN 0.03	ESTIMATED SWAB 1.4
	EFFECTIVE MUD WEIGHT 8.67	BOTTOM HOLE PRESSURE 443.9

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 131 SPM 2 110 FLOW RATE 1205

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP	
HWDC/OH	0.673	20	43	59	LAMINAR	1	42	0.1	
DC/OH	0.772	68	37	57	LAMINAR	1	37	0.3	
HWDP/OH	0.896	50	32	56	LAMINAR	0	32	0.1	
HWDP/CSG	1.085	28	26	55	LAMINAR	0	26	0.0	
DP/CSG	1.085	110	26	55	LAMINAR	0	26	0.2	
DP/RIS	1.325	132	22	54	LAMINAR	0	21	0.1	
TOTAL VOLUME		407	TOTAL PRESSURE DROP						0.9

LAG: 14.2 MINUTES 1861 STROKES #1 AND 1562 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1372.3 HHP 964 IMPACT FORCE 2278
 % SURFACE PRESSURE 56.0 HHP/sqin 4.01 JET VELOCITY 128

PRESSURE BREAKDOWN:

SURFACE 93.3
 STRING 790.1
 BIT 1372.3
 ANNULUS 0.9
 TOTAL 2256.7 PUMP PRESSURE 2450.0 % DIFFERENCE 7.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 593.7
CIRCULATING:	ECD 8.71	CIRCULATING PRESSURE 594.6
PULLING OUT:	TRIP MARGIN 0.03	ESTIMATED SWAB 1.9
	EFFECTIVE MUD WEIGHT 8.67	BOTTOM HOLE PRESSURE 591.8

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 129 SPM 2 110 FLOW RATE 1191

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	20	42	59	LAMINAR	1	41	0.1
DC/OH	0.772	68	37	57	LAMINAR	1	36	0.3
HWDP/OH	0.896	73	32	56	LAMINAR	0	31	0.2
DP/OH	0.896	67	32	56	LAMINAR	0	31	0.2
DP/CSG	1.085	137	26	55	LAMINAR	0	26	0.2
DP/RIS	1.325	132	21	54	LAMINAR	0	21	0.1
TOTAL VOLUME		497			TOTAL PRESSURE DROP		1.2	

LAG: 17.5 MINUTES 2252 STROKES #1 AND 1924 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1342.6 HHP 933 IMPACT FORCE 2229
 % SURFACE PRESSURE 54.8 HHP/sqin 3.88 JET VELOCITY 126

PRESSURE BREAKDOWN:

SURFACE 91.5
 STRING 827.5
 BIT 1342.6
 ANNULUS 1.2
 TOTAL 2262.7 PUMP PRESSURE 2450.0 % DIFFERENCE 7.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 742.1
CIRCULATING:	ECD 8.71	CIRCULATING PRESSURE 743.3
PULLING OUT:	TRIP MARGIN 0.03	ESTIMATED SWAB 2.3
	EFFECTIVE MUD WEIGHT 8.67	BOTTOM HOLE PRESSURE 739.8

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 112 SPM 2 110 FLOW RATE 1110

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP	
HWDC/OH	0.673	20	39	59	LAMINAR	1	39	0.1	
DC/OH	0.772	68	34	57	LAMINAR	0	34	0.3	
HWDP/OH	0.896	73	29	56	LAMINAR	0	29	0.2	
DP/OH	0.896	156	29	56	LAMINAR	0	29	0.4	
DP/CSG	1.085	137	24	55	LAMINAR	0	24	0.2	
DP/RIS	1.325	132	20	54	LAMINAR	0	20	0.1	
TOTAL VOLUME		587	TOTAL PRESSURE DROP						1.3

LAG: 22.2 MINUTES 2492 STROKES #1 AND 2437 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1165.3 HHP 755 IMPACT FORCE 1935
 % SURFACE PRESSURE 48.6 HHP/sqin 3.14 JET VELOCITY 118

PRESSURE BREAKDOWN:

SURFACE 80.6
 STRING 774.9
 BIT 1165.3
 ANNULUS 1.3
 TOTAL 2022.1 PUMP PRESSURE 2400.0 % DIFFERENCE 15.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING;	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 890.5
CIRCULATING;	ECD 8.71	CIRCULATING PRESSURE 891.9
PULLING OUT;	TRIP MARGIN 0.03	ESTIMATED SWAB 2.7
	EFFECTIVE MUD WEIGHT 8.67	BOTTOM HOLE PRESSURE 887.8

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 112 SPM 2 111 FLOW RATE 1117

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP	
HWDC/OH	0.673	20	40	59	LAMINAR	1	39	0.1	
DC/OH	0.772	68	34	57	LAMINAR	0	34	0.3	
HWDP/OH	0.896	73	30	56	LAMINAR	0	29	0.2	
DP/OH	0.896	246	30	56	LAMINAR	0	29	0.6	
DP/CSG	1.085	137	24	55	LAMINAR	0	24	0.2	
DP/RIS	1.325	132	20	54	LAMINAR	0	20	0.1	
TOTAL VOLUME		676	TOTAL PRESSURE DROP						1.6

LAG: 25.4 MINUTES 2859 STROKES #1 AND 2823 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1179.7 HHP 769 IMPACT FORCE 1958
 % SURFACE PRESSURE 49.2 HHP/sqin 3.20 JET VELOCITY 118

PRESSURE BREAKDOWN:

SURFACE 81.5
 STRING 830.4
 BIT 1179.7
 ANNULUS 1.6
 TOTAL 2093.1 PUMP PRESSURE 2400.0 % DIFFERENCE 12.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	8.70	HYDROSTATIC PRESSURE 1038.9
CIRCULATING: ECD	8.71	CIRCULATING PRESSURE 1040.5
PULLING OUT: TRIP MARGIN	0.03	ESTIMATED SWAB 3.1
EFFECTIVE MUD WEIGHT	8.67	BOTTOM HOLE PRESSURE 1035.8

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 112 SPM 2 111 FLOW RATE 1117

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	20	40	59	LAMINAR	1	39	0.1
DC/OH	0.772	68	34	57	LAMINAR	0	34	0.3
HWDP/OH	0.896	73	30	56	LAMINAR	0	29	0.2
DP/OH	0.896	335	30	56	LAMINAR	0	29	0.8
DP/CSG	1.085	137	24	55	LAMINAR	0	24	0.2
DP/RIS	1.325	132	20	54	LAMINAR	0	20	0.1
TOTAL VOLUME		766	TOTAL PRESSURE DROP				1.8	

LAG: 28.8 MINUTES 3238 STROKES #1 AND 3197 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1179.7 HHP 769 IMPACT FORCE 1958
 % SURFACE PRESSURE 49.2 HHP/sqin 3.20 JET VELOCITY 118

PRESSURE BREAKDOWN:

SURFACE 81.5
 STRING 877.4
 BIT 1179.7
 ANNULUS 1.8
 TOTAL 2140.3 PUMP PRESSURE 2400.0 % DIFFERENCE 10.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 1187.4
CIRCULATING:	ECD 8.71	CIRCULATING PRESSURE 1189.1
PULLING OUT:	TRIP MARGIN 0.03	ESTIMATED SWAB 3.6
	EFFECTIVE MUD WEIGHT 8.67	BOTTOM HOLE PRESSURE 1183.8

CORE LAB
=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 92 SPM 2 87 FLOW RATE 893

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP	
DC/OH	0.274	25	78	38	TURBULENT			1.8	
DC/CSG	0.303	8	70	37	TURBULENT			0.4	
HWDP/CSG	0.427	47	50	32	TURBULENT			0.5	
DP/CSG	0.427	246	50	32	TURBULENT			2.5	
DP/RIS	1.325	131	16	25	LAMINAR	0	16	0.0	
TOTAL VOLUME		456	TOTAL PRESSURE DROP						5.2

LAG: 21.5 MINUTES 1966 STROKES #1 AND 1868 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2000.6	HHP	1043	IMPACT FORCE	2040
% SURFACE PRESSURE	72.0	HHP/sqin	8.85	JET VELOCITY	154

PRESSURE BREAKDOWN:

SURFACE	59.1		
STRING	731.3		
BIT	2000.6		
ANNULUS	5.2		
TOTAL	2796.3	PUMP PRESSURE	2780.0
		% DIFFERENCE	0.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 1335.8
CIRCULATING:	ECD 8.73	CIRCULATING PRESSURE 1341.1
PULLING OUT:	TRIP MARGIN 0.07	ESTIMATED SWAB 10.5
EFFECTIVE MUD WEIGHT	8.63	BOTTOM HOLE PRESSURE 1325.3

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 88 SPM 2 84 FLOW RATE 858

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	75	82	LAMINAR	2	73	2.5
HWDP/OH	0.398	29	51	78	LAMINAR	1	51	0.7
HWDP/CSG	0.427	15	48	78	LAMINAR	1	47	0.3
DP/CSG	0.427	288	48	78	LAMINAR	1	47	5.6
DP/RIS	1.325	131	15	72	LAMINAR	0	15	0.2
TOTAL VOLUME		496	TOTAL PRESSURE DROP					9.3

LAG: 24.3 MINUTES 2131 STROKES #1 AND 2038 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1848.0 HHP 926 IMPACT FORCE 1884
 % SURFACE PRESSURE 67.4 HHP/sqin 7.85 JET VELOCITY 148

PRESSURE BREAKDOWN:

SURFACE 55.0
 STRING 712.6
 BIT 1848.0
 ANNULUS 9.3
 TOTAL 2624.9 PUMP PRESSURE 2740.0 % DIFFERENCE 4.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 1484.2
CIRCULATING:	ECD 8.75	CIRCULATING PRESSURE 1493.5
PULLING OUT:	TRIP MARGIN 0.11	ESTIMATED SWAB 18.5
	EFFECTIVE MUD WEIGHT 8.59	BOTTOM HOLE PRESSURE 1465.7

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1100.0

SPM 1 90 SPM 2 81 FLOW RATE 855

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	74	82	LAMINAR	2	72	2.5
HWDP/OH	0.398	43	51	77	LAMINAR	1	50	1.0
DP/OH	0.398	26	51	77	LAMINAR	1	50	0.6
DP/CSG	0.427	303	48	77	LAMINAR	1	47	5.9
DP/RIS	1.325	131	15	72	LAMINAR	0	15	0.2

TOTAL VOLUME 536 TOTAL PRESSURE DROP 10.2

LAG: 26.3 MINUTES 2376 STROKES #1 AND 2128 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1856.9 HHP 926 IMPACT FORCE 1893
% SURFACE PRESSURE 65.6 HHP/sqin 7.86 JET VELOCITY 147

PRESSURE BREAKDOWN:

SURFACE 55.2
STRING 746.6
BIT 1856.9
ANNULUS 10.2
TOTAL 2668.8 PUMP PRESSURE 2830.0 % DIFFERENCE 5.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	8.82	HYDROSTATIC PRESSURE 1655.2
CIRCULATING: ECD	8.87	CIRCULATING PRESSURE 1665.3
PULLING OUT: TRIP MARGIN	0.11	ESTIMATED SWAB 20.3
EFFECTIVE MUD WEIGHT	8.71	BOTTOM HOLE PRESSURE 1634.9

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1200.0

SPM 1 87 SPM 2 78 FLOW RATE 825

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	72	81	LAMINAR	2	70	2.5
HWDP/OH	0.398	43	49	77	LAMINAR	1	49	1.0
DP/OH	0.398	66	49	77	LAMINAR	1	49	1.5
DP/CSG	0.427	303	46	77	LAMINAR	1	45	5.8
DP/RIS	1.325	131	15	71	LAMINAR	0	15	0.2
TOTAL VOLUME		576	TOTAL PRESSURE DROP			10.9		

LAG: 29.3 MINUTES 2562 STROKES #1 AND 2277 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1745.2 HHP 840 IMPACT FORCE 1779
 % SURFACE PRESSURE 61.7 HHP/sqin 7.13 JET VELOCITY 142

PRESSURE BREAKDOWN:

SURFACE 52.1
 STRING 735.4
 BIT 1745.2
 ANNULUS 10.9
 TOTAL 2543.7 PUMP PRESSURE 2830.0 % DIFFERENCE 10.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.90	HYDROSTATIC PRESSURE 1822.0
CIRCULATING:	ECD 8.95	CIRCULATING PRESSURE 1832.9
PULLING OUT:	TRIP MARGIN 0.11	ESTIMATED SWAB 21.9
	EFFECTIVE MUD WEIGHT 8.79	BOTTOM HOLE PRESSURE 1800.2

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1300.0

SPM 1 92 SPM 2 82 FLOW RATE 866

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	75	71	TURBULENT			2.1
HWDP/OH	0.398	43	52	68	LAMINAR	1	51	0.8
DP/OH	0.398	105	52	68	LAMINAR	1	51	1.9
DP/CSG	0.427	303	48	68	LAMINAR	1	47	4.6
DP/RIS	1.325	131	16	64	LAMINAR	0	15	0.2
TOTAL VOLUME		616				TOTAL PRESSURE DROP		9.4

LAG: 29.9 MINUTES 2737 STROKES #1 AND 2437 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1922.7 HHP 971 IMPACT FORCE 1960
 % SURFACE PRESSURE 67.2 HHP/sqin 8.24 JET VELOCITY 149

PRESSURE BREAKDOWN:

SURFACE 52.5
 STRING 770.1
 BIT 1922.7
 ANNULUS 9.4
 TOTAL 2754.7 PUMP PRESSURE 2860.0 % DIFFERENCE 3.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.90	HYDROSTATIC PRESSURE 1973.8
CIRCULATING:	ECD 8.94	CIRCULATING PRESSURE 1983.3
PULLING OUT:	TRIP MARGIN 0.09	ESTIMATED SWAB 18.9
	EFFECTIVE MUD WEIGHT 8.81	BOTTOM HOLE PRESSURE 1955.0

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1400.0 AND TVD 1400.0

SPM 1 89 SPM 2 83 FLOW RATE 857

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	74	29	TURBULENT			2.0
HWDP/OH	0.398	43	51	24	TURBULENT			0.5
DP/OH	0.398	145	51	24	TURBULENT			1.7
DP/CSG	0.411	292	50	24	TURBULENT			3.0
DP/RIS	1.325	132	15	19	LAMINAR	0	15	0.0
TOTAL VOLUME		645			TOTAL PRESSURE DROP			7.2

LAG: 31.6 MINUTES 2797 STROKES #1 AND 2619 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1730.0 HHP 865 IMPACT FORCE 1838
 % SURFACE PRESSURE 58.4 HHP/sqin 7.34 JET VELOCITY 142

PRESSURE BREAKDOWN:

SURFACE 51.4
 STRING 784.1
 BIT 1730.0
 ANNULUS 7.2
 TOTAL 2572.8 PUMP PRESSURE 2960.0 % DIFFERENCE 13.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.87	HYDROSTATIC PRESSURE 2118.5
CIRCULATING:	ECD 8.90	CIRCULATING PRESSURE 2125.8
PULLING OUT:	TRIP MARGIN 0.06	ESTIMATED SWAB 14.5
	EFFECTIVE MUD WEIGHT 8.81	BOTTOM HOLE PRESSURE 2104.1

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1500.0

SPM 1 91 SPM 2 81 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	40	75	62	TURBULENT			2.5
HWDP/OH	0.398	32	52	59	LAMINAR	1	51	0.5
DP/OH	0.398	185	52	59	LAMINAR	1	51	2.6
DP/CSG	0.427	303	48	58	LAMINAR	0	48	3.6
DP/RIS	1.325	132	16	54	LAMINAR	0	15	0.1
TOTAL VOLUME		692	TOTAL PRESSURE DROP					9.3

LAG: 33.7 MINUTES 3076 STROKES #1 AND 2740 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1742.3 HHP 878 IMPACT FORCE 1851
 % SURFACE PRESSURE 60.1 HHP/sqin 7.45 JET VELOCITY 143

PRESSURE BREAKDOWN:

SURFACE 51.8
 STRING 838.3
 BIT 1742.3
 ANNULUS 9.3
 TOTAL 2641.7 PUMP PRESSURE 2900.0 % DIFFERENCE 8.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.80	HYDROSTATIC PRESSURE 2252.0
CIRCULATING:	ECD 8.84	CIRCULATING PRESSURE 2261.3
PULLING OUT:	TRIP MARGIN 0.07	ESTIMATED SWAB 18.7
	EFFECTIVE MUD WEIGHT 8.73	BOTTOM HOLE PRESSURE 2233.3

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1600.0

SPM 1 98 SPM 2 81 FLOW RATE 896

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	78	62	TURBULENT			2.7
HWDP/OH	0.398	32	54	58	LAMINAR	1	53	0.5
DP/OH	0.398	224	54	58	LAMINAR	1	53	3.2
DP/CSG	0.427	303	50	58	LAMINAR	0	49	3.7
DP/RIS	1.325	132	16	53	LAMINAR	0	16	0.1
TOTAL VOLUME		732			TOTAL PRESSURE DROP		10.2	

LAG: 34.3 MINUTES 3366 STROKES #1 AND 2784 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1915.7 HHP 1001 IMPACT FORCE 2035
 % SURFACE PRESSURE 67.2 HHP/sqin 8.49 JET VELOCITY 148

PRESSURE BREAKDOWN:

SURFACE 56.2
 STRING 943.4
 BIT 1915.7
 ANNULUS 10.2
 TOTAL 2925.5 PUMP PRESSURE 2850.0 % DIFFERENCE 2.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 2456.7
CIRCULATING:	ECD 9.04	CIRCULATING PRESSURE 2466.9
PULLING OUT:	TRIP MARGIN 0.07	ESTIMATED SWAB 20.4
	EFFECTIVE MUD WEIGHT 8.93	BOTTOM HOLE PRESSURE 2436.3

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1700.0

SPM 1 87 SPM 2 82 FLOW RATE 845

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	73	120	LAMINAR	0	73	5.9
HWDP/OH	0.398	32	50	116	LAMINAR	0	50	1.5
DP/OH	0.398	264	50	116	LAMINAR	0	50	12.2
DP/CSG	0.427	303	47	116	LAMINAR	0	47	12.0
DP/RIS	1.325	132	15	112	LAMINAR	0	15	0.5
TOTAL VOLUME		772	TOTAL PRESSURE DROP			32.2		

LAG: 38.4 MINUTES 3351 STROKES #1 AND 3135 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1675.7 HHP 826 IMPACT FORCE 1780
 % SURFACE PRESSURE 57.6 HHP/sqin 7.01 JET VELOCITY 140

PRESSURE BREAKDOWN:

SURFACE 57.4
 STRING 995.4
 BIT 1675.7
 ANNULUS 32.2
 TOTAL 2760.7 PUMP PRESSURE 2910.0 % DIFFERENCE 5.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.85	HYDROSTATIC PRESSURE 2566.7
CIRCULATING:	ECD 8.96	CIRCULATING PRESSURE 2598.9
PULLING OUT:	TRIP MARGIN 0.22	ESTIMATED SWAB 64.3
	EFFECTIVE MUD WEIGHT 8.63	BOTTOM HOLE PRESSURE 2502.4

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1800.0

SPM 1 87 SPM 2 79 FLOW RATE 829

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	72	119	LAMINAR	0	72	5.9
HWDP/OH	0.398	32	50	116	LAMINAR	0	49	1.5
DP/OH	0.398	304	50	116	LAMINAR	0	49	14.0
DP/CSG	0.427	303	46	116	LAMINAR	0	46	12.0
DP/RIS	1.325	132	15	112	LAMINAR	0	15	0.5
TOTAL VOLUME		812			TOTAL PRESSURE DROP		33.8	

LAG: 41.1 MINUTES 3566 STROKES #1 AND 3254 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1628.7 HHP 788 IMPACT FORCE 1731
 % SURFACE PRESSURE 55.6 HHP/sqin 6.69 JET VELOCITY 137

PRESSURE BREAKDOWN:

SURFACE 55.9
 STRING 1001.7
 BIT 1628.7
 ANNULUS 33.8
 TOTAL 2720.1 PUMP PRESSURE 2930.0 % DIFFERENCE 7.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.92	HYDROSTATIC PRESSURE 2739.2
CIRCULATING:	ECD 9.03	CIRCULATING PRESSURE 2773.0
PULLING OUT:	TRIP MARGIN 0.22	ESTIMATED SWAB 67.7
	EFFECTIVE MUD WEIGHT 8.70	BOTTOM HOLE PRESSURE 2671.5

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1900.0

SPM 1 88 SPM 2 78 FLOW RATE 831

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	72	119	LAMINAR	0	72	5.9
HWDP/OH	0.398	32	50	116	LAMINAR	0	49	1.5
DP/OH	0.398	344	50	116	LAMINAR	0	49	15.8
DP/CSG	0.427	303	46	116	LAMINAR	0	46	12.0
DP/RIS	1.325	132	15	112	LAMINAR	0	15	0.5
TOTAL VOLUME		851	TOTAL PRESSURE DROP			35.7		

LAG: 43.0 MINUTES 3787 STROKES #1 AND 3368 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1634.5 HHP 792 IMPACT FORCE 1737
% SURFACE PRESSURE 55.8 HHP/sqin 6.72 JET VELOCITY 138

PRESSURE BREAKDOWN:

SURFACE 56.1
STRING 1037.2
BIT 1634.5
ANNULUS 35.7
TOTAL 2763.4 PUMP PRESSURE 2930.0 % DIFFERENCE 5.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.92	HYDROSTATIC PRESSURE 2891.4
CIRCULATING:	ECD 9.03	CIRCULATING PRESSURE 2927.0
PULLING OUT:	TRIP MARGIN 0.22	ESTIMATED SWAB 71.4
	EFFECTIVE MUD WEIGHT 8.70	BOTTOM HOLE PRESSURE 2820.0

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 2000.0

SPM 1 87 SPM 2 76 FLOW RATE 819

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	71	116	LAMINAR	0	71	5.8
HWDP/OH	0.398	32	49	111	LAMINAR	0	49	1.4
DP/OH	0.398	384	49	111	LAMINAR	0	49	16.7
DP/CSG	0.427	303	46	110	LAMINAR	0	45	11.2
DP/RIS	1.325	132	15	104	LAMINAR	0	15	0.4
TOTAL VOLUME		891			TOTAL PRESSURE DROP		35.5	

LAG: 45.7 MINUTES 3997 STROKES #1 AND 3493 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1603.7 HHP 767 IMPACT FORCE 1704
 % SURFACE PRESSURE 55.3 HHP/sqin 6.50 JET VELOCITY 136

PRESSURE BREAKDOWN:

SURFACE 57.6
 STRING 1098.3
 BIT 1603.7
 ANNULUS 35.5
 TOTAL 2795.1 PUMP PRESSURE 2900.0 % DIFFERENCE 3.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 3070.9
CIRCULATING:	ECD 9.10	CIRCULATING PRESSURE 3106.3
PULLING OUT:	TRIP MARGIN 0.21	ESTIMATED SWAB 71.0
	EFFECTIVE MUD WEIGHT 8.79	BOTTOM HOLE PRESSURE 2999.9

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2100.0

SPM 1 91 SPM 2 77 FLOW RATE 838

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	73	109	LAMINAR	0	72	5.4
HWDP/OH	0.398	32	50	102	LAMINAR	0	50	1.2
DP/OH	0.398	424	50	102	LAMINAR	0	50	16.2
DP/CSG	0.427	303	47	101	LAMINAR	0	47	9.8
DP/RIS	1.325	132	15	92	LAMINAR	0	15	0.3
TOTAL VOLUME		931			TOTAL PRESSURE DROP		33.0	

LAG: 46.7 MINUTES 4240 STROKES #1 AND 3584 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1678.0 HHP 820 IMPACT FORCE 1783
 % SURFACE PRESSURE 57.9 HHP/sqin 6.96 JET VELOCITY 139

PRESSURE BREAKDOWN:

SURFACE 62.2
 STRING 1222.3
 BIT 1678.0
 ANNULUS 33.0
 TOTAL 2995.5 PUMP PRESSURE 2900.0 % DIFFERENCE 3.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 3224.4
CIRCULATING:	ECD 9.09	CIRCULATING PRESSURE 3257.4
PULLING OUT:	TRIP MARGIN 0.18	ESTIMATED SWAB 66.0
	EFFECTIVE MUD WEIGHT 8.82	BOTTOM HOLE PRESSURE 3158.4

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2200.0

SPM 1 89 SPM 2 76 FLOW RATE 823

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	71	109	LAMINAR	0	71	5.3
HWDP/OH	0.398	32	49	102	LAMINAR	0	49	1.2
DP/OH	0.398	463	49	102	LAMINAR	0	49	17.6
DP/CSG	0.427	303	46	101	LAMINAR	0	46	9.8
DP/RIS	1.325	132	15	92	LAMINAR	0	15	0.3
TOTAL VOLUME		971	TOTAL PRESSURE DROP					34.3

LAG: 49.6 MINUTES 4392 STROKES #1 AND 3767 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1616.7 HHP 776 IMPACT FORCE 1718
 % SURFACE PRESSURE 53.9 HHP/sqin 6.58 JET VELOCITY 136

PRESSURE BREAKDOWN:

SURFACE 60.1
 STRING 1216.7
 BIT 1616.7
 ANNULUS 34.3
 TOTAL 2927.8 PUMP PRESSURE 3000.0 % DIFFERENCE 2.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 3377.9
CIRCULATING:	ECD 9.09	CIRCULATING PRESSURE 3412.2
PULLING OUT:	TRIP MARGIN 0.18	ESTIMATED SWAB 68.6
	EFFECTIVE MUD WEIGHT 8.82	BOTTOM HOLE PRESSURE 3309.4

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2300.0

SPM 1 86 SPM 2 77 FLOW RATE 811

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	70	106	LAMINAR	0	70	5.3
HWDP/OH	0.398	32	48	98	LAMINAR	0	48	1.2
DP/OH	0.398	503	48	98	LAMINAR	0	48	18.3
DP/CSG	0.427	303	45	97	LAMINAR	0	45	9.3
DP/RIS	1.325	132	15	86	LAMINAR	0	15	0.3
TOTAL VOLUME		1011			TOTAL PRESSURE DROP		34.3	

LAG: 52.3 MINUTES 4482 STROKES #1 AND 4012 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1588.7 HHP 752 IMPACT FORCE 1688
 % SURFACE PRESSURE 53.0 HHP/sqin 6.38 JET VELOCITY 134

PRESSURE BREAKDOWN:

SURFACE 61.0
 STRING 1269.1
 BIT 1588.7
 ANNULUS 34.3
 TOTAL 2953.1 PUMP PRESSURE 3000.0 % DIFFERENCE 1.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.10	HYDROSTATIC PRESSURE 3570.7
CIRCULATING:	ECD 9.19	CIRCULATING PRESSURE 3605.0
PULLING OUT:	TRIP MARGIN 0.17	ESTIMATED SWAB 68.7
	EFFECTIVE MUD WEIGHT 8.93	BOTTOM HOLE PRESSURE 3502.0

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2400.0

SPM 1 89 SPM 2 74 FLOW RATE 814

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	71	105	LAMINAR	0	70	5.3
HWDP/OH	0.398	32	49	95	LAMINAR	0	48	1.1
DP/OH	0.398	543	49	95	LAMINAR	0	48	19.1
DP/CSG	0.427	303	45	94	LAMINAR	0	45	9.0
DP/RIS	1.325	132	15	82	LAMINAR	0	15	0.3
TOTAL VOLUME		1051				TOTAL PRESSURE DROP		34.8

LAG: 54.2 MINUTES 4834 STROKES #1 AND 3995 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1600.9 HHP 760 IMPACT FORCE 1701
 % SURFACE PRESSURE 53.4 HHP/sqin 6.45 JET VELOCITY 135

PRESSURE BREAKDOWN:

SURFACE 63.1
 STRING 1348.8
 BIT 1600.9
 ANNULUS 34.8
 TOTAL 3047.6 PUMP PRESSURE 3000.0 % DIFFERENCE 1.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.10	HYDROSTATIC PRESSURE 3725.9
CIRCULATING:	ECD 9.18	CIRCULATING PRESSURE 3760.7
PULLING OUT:	TRIP MARGIN 0.17	ESTIMATED SWAB 69.6
	EFFECTIVE MUD WEIGHT 8.93	BOTTOM HOLE PRESSURE 3656.3

CORE LAB

=====

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2500.0

SPM 1 70 SPM 2 70 FLOW RATE 700

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	61	118	LAMINAR	0	60	6.0
HWDP/OH	0.398	32	42	108	LAMINAR	0	42	1.3
DP/OH	0.398	583	42	108	LAMINAR	0	42	23.8
DP/CSG	0.427	303	39	107	LAMINAR	0	39	10.4
DP/RIS	1.325	132	13	95	LAMINAR	0	13	0.3
TOTAL VOLUME		1091			TOTAL PRESSURE DROP		41.9	

LAG: 65.5 MINUTES 4582 STROKES #1 AND 4582 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1182.6 HHP 483 IMPACT FORCE 1256
 % SURFACE PRESSURE 40.1 HHP/sqin 4.10 JET VELOCITY 116

PRESSURE BREAKDOWN:

SURFACE 49.2
 STRING 1079.8
 BIT 1182.6
 ANNULUS 41.9
 TOTAL 2353.5 PUMP PRESSURE 2950.0 % DIFFERENCE 20.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.10	HYDROSTATIC PRESSURE 3881.2
CIRCULATING:	ECD 9.20	CIRCULATING PRESSURE 3923.1
PULLING OUT:	TRIP MARGIN 0.20	ESTIMATED SWAB 83.8
	EFFECTIVE MUD WEIGHT 8.90	BOTTOM HOLE PRESSURE 3797.5

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 A dollars

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

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	99.0- 241.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	25 25 25
COST	6350.00	TRIP TIME	1.9	BIT RUN	142.0
TOTAL HOURS	3.27	TOTAL TURNS	23536	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW "d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
110.0	68.0	4.0	55	8.6 0.50	0.16	534	69	1457	8.3	11.1
120.0	57.0	4.0	170	8.6 0.74	0.34	2323	82.32	802.24	8.3	11.2
130.0	47.0	6.0	180	8.6 0.84	0.55	4621	99.83	575.65	8.3	11.2
140.0	19.0	6.0	106	8.6 0.91	1.08	7969	246.95	495.48	8.3	11.3
150.0	42.0	5.0	110	8.6 0.74	1.31	9540	111.71	420.23	8.3	11.3
160.0	31.0	5.0	120	8.6 0.82	1.64	11863	151.35	376.15	8.3	11.3
168.0	44.0	5.0	119	8.6 0.75	1.82	13161	106.64	344.91	8.3	11.4
178.0	69.0	5.0	120	8.6 0.66	1.96	14204	68.00	309.85	8.3	11.4
187.0	47.0	5.0	119	8.6 0.73	2.16	15571	99.83	288.37	8.3	11.5
197.0	59.0	5.0	120	8.6 0.69	2.32	16792	79.53	267.06	8.3	11.5
206.0	52.0	5.0	115	8.6 0.71	2.50	17986	90.23	252.19	8.3	11.5
216.0	34.0	5.0	120	8.6 0.80	2.79	20104	138.00	242.43	8.3	11.6
225.0	66.0	5.0	120	8.6 0.67	2.93	21085	71.09	230.19	8.3	11.6
235.0	61.0	5.0	120	8.6 0.69	3.09	22266	76.92	218.92	8.3	11.6
241.0	34.0	5.0	120	8.6 0.80	3.27	23536	138.00	215.50	8.3	11.7

BIT NUMBER	1	TADC CODE	111	INTERVAL	241.0- 826.0
HTC OSC3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	2500.00	TRIP TIME	4.0	BIT RUN	585.0
TOTAL HOURS	11.94	TOTAL TURNS	109495	CONDITION	T3 B3 G0.000

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
243.0	327.3	1.0	78	8.7	0.23	3.28	23564	14.34	254.44	8.3	11.7
244.0	163.6	1.0	79	8.7	0.34	3.28	23593	28.67	252.88	8.3	11.7
245.0	97.3	1.0	53	8.7	0.36	3.29	23626	48.22	251.48	8.3	11.7
246.0	94.7	1.0	122	8.7	0.50	3.30	23703	49.53	250.11	8.3	11.7
247.0	105.9	1.0	122	8.7	0.48	3.31	23772	44.31	248.72	8.3	11.7
248.0	144.0	1.0	125	8.7	0.44	3.32	23824	32.58	247.27	8.3	11.7
249.0	342.9	1.0	138	8.7	0.32	3.32	23849	13.69	245.71	8.3	11.7
250.0	360.0	1.0	139	8.7	0.31	3.33	23872	13.03	244.17	8.3	11.7
251.0	276.9	1.0	141	8.7	0.35	3.33	23902	16.94	242.67	8.3	11.7
252.0	400.0	1.0	139	8.7	0.29	3.33	23923	11.73	241.16	8.3	11.7
253.0	163.6	1.0	118	8.7	0.41	3.34	23967	28.67	239.79	8.3	11.7
254.0	257.1	1.0	105	8.7	0.32	3.34	23991	18.25	238.36	8.3	11.7
255.0	400.0	1.0	129	8.7	0.28	3.34	24011	11.73	236.90	8.3	11.7
256.0	720.0	1.0	128	8.7	0.19	3.35	24021	6.52	235.44	8.3	11.7
257.0	400.0	1.0	125	8.7	0.28	3.35	24040	11.73	234.02	8.3	11.7
258.0	400.0	1.0	125	8.7	0.28	3.35	24059	11.73	232.62	8.3	11.7
259.0	351.0	2.0	154	8.7	0.36	3.35	24085	13.37	231.25	8.3	11.7
260.0	342.9	1.0	127	8.7	0.30	3.36	24107	13.69	229.90	8.3	11.7
261.0	300.0	3.0	126	8.7	0.38	3.36	24133	15.64	228.58	8.3	11.7
262.0	360.0	3.0	131	8.7	0.35	3.36	24155	13.03	227.26	8.3	11.7
263.0	258.0	2.0	154	8.7	0.42	3.37	24190	18.19	225.98	8.3	11.7
264.0	456.0	2.0	154	8.7	0.32	3.37	24211	10.29	224.67	8.3	11.7
265.0	117.4	3.0	88	8.7	0.49	3.38	24256	39.97	223.56	8.3	11.8
266.0	83.7	2.0	133	8.7	0.59	3.39	24351	56.04	222.56	8.3	11.8
267.0	163.6	2.0	147	8.7	0.49	3.39	24405	28.67	221.40	8.3	11.8
268.0	257.1	2.0	147	8.7	0.41	3.40	24439	18.25	220.20	8.3	11.8
269.0	400.0	2.0	146	8.7	0.33	3.40	24461	11.73	218.97	8.3	11.8
270.0	514.3	2.0	145	8.7	0.29	3.40	24478	9.12	217.75	8.3	11.8
271.0	240.0	2.0	146	8.7	0.42	3.41	24514	19.55	216.60	8.3	11.8
272.0	59.0	1.0	169	8.7	0.62	3.42	24686	79.50	215.80	8.3	11.8
273.0	257.1	1.0	157	8.7	0.38	3.43	24722	18.25	214.67	8.3	11.8
274.0	180.0	1.0	165	8.7	0.44	3.43	24777	26.07	213.59	8.3	11.8
275.0	240.0	1.0	163	8.7	0.40	3.44	24818	19.55	212.49	8.3	11.8
276.0	211.8	1.0	161	8.7	0.42	3.44	24864	22.16	211.41	8.3	11.8
277.0	163.6	1.0	166	8.7	0.46	3.45	24925	28.67	210.39	8.3	11.8
278.0	257.1	1.0	163	8.7	0.39	3.45	24963	18.25	209.31	8.3	11.8
279.0	102.9	1.0	162	8.7	0.53	3.46	25057	45.62	208.40	8.3	11.8
280.0	400.0	1.0	164	8.7	0.32	3.46	25082	11.73	207.32	8.3	11.8
281.0	900.0	1.0	176	8.7	0.20	3.47	25093	5.21	206.21	8.3	11.8
282.0	516.0	2.0	150	8.7	0.29	3.47	25111	9.09	205.13	8.3	11.8
283.0	500.0	2.0	160	8.7	0.31	3.47	25130	9.38	204.06	8.3	11.8
284.0	450.0	3.0	157	8.7	0.34	3.47	25151	10.43	203.02	8.3	11.8
285.0	350.0	3.0	158	8.7	0.39	3.47	25178	13.41	202.00	8.3	11.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FC
286.0	620.0	2.0	158	8.7	0.27	3.48	25193	7.57	200.96	8.3	11.8
287.0	520.0	2.0	160	8.7	0.30	3.48	25212	9.02	199.94	8.3	11.8
288.0	450.0	2.0	165	8.7	0.33	3.48	25234	10.43	198.94	8.3	11.8
289.0	512.0	2.0	162	8.7	0.31	3.48	25253	9.16	197.94	8.3	11.8
290.0	650.0	3.0	155	8.7	0.27	3.48	25267	7.22	196.94	8.3	11.8
291.0	520.0	2.0	158	8.7	0.30	3.49	25285	7.02	195.96	8.3	11.8
292.0	450.0	2.0	150	8.7	0.32	3.49	25305	10.43	195.00	8.3	11.9
293.0	500.0	3.0	150	8.7	0.32	3.49	25323	9.38	194.04	8.3	11.9
294.0	540.0	2.0	153	8.7	0.29	3.49	25340	8.69	193.09	8.3	11.9
295.0	280.0	3.0	158	8.7	0.43	3.50	25374	16.76	192.19	8.3	11.9
296.0	600.0	3.0	150	8.7	0.28	3.50	25389	7.82	191.25	8.3	11.9
297.0	320.0	2.0	150	8.7	0.37	3.50	25417	14.66	190.36	8.3	11.9
298.0	354.0	2.0	150	8.7	0.36	3.50	25443	13.25	189.47	8.3	11.9
299.0	360.0	2.0	150	8.7	0.35	3.51	25468	13.03	188.59	8.3	11.9
300.0	205.7	4.0	181	8.7	0.54	3.51	25521	22.81	187.77	8.3	11.9
301.0	480.0	4.0	183	8.7	0.38	3.51	25544	9.78	186.88	8.3	11.9
302.0	450.0	4.0	195	8.7	0.40	3.52	25569	10.43	186.02	8.3	11.9
303.0	514.3	4.0	188	8.7	0.37	3.52	25591	9.12	185.15	8.3	11.9
304.0	514.3	4.0	179	8.7	0.36	3.52	25612	9.12	184.29	8.3	11.9
305.0	400.0	2.0	188	8.7	0.38	3.52	25640	11.73	183.45	8.3	11.9
306.0	514.3	2.0	191	8.7	0.33	3.52	25663	9.12	182.61	8.3	11.9
307.0	512.0	3.0	150	8.7	0.31	3.53	25680	9.16	181.78	8.3	11.9
308.0	720.0	2.0	178	8.7	0.26	3.53	25695	6.52	180.94	8.3	11.9
309.0	400.0	3.0	154	8.7	0.36	3.53	25718	11.73	180.13	8.3	11.9
310.0	240.0	2.0	187	8.7	0.46	3.53	25765	19.55	179.37	8.3	11.9
311.0	450.0	2.0	203	8.7	0.37	3.54	25792	10.43	178.57	8.3	11.9
312.0	360.0	2.0	205	8.7	0.41	3.54	25826	13.03	177.80	8.3	11.9
313.0	327.3	2.0	199	8.7	0.42	3.54	25863	14.34	177.03	8.3	11.9
314.0	300.0	2.0	201	8.7	0.44	3.54	25903	15.64	176.28	8.3	11.9
315.0	327.3	2.0	187	8.7	0.41	3.55	25937	14.34	175.53	8.3	11.9
316.0	450.0	2.0	189	8.7	0.36	3.55	25962	10.43	174.77	8.3	11.9
317.0	189.5	2.0	188	8.7	0.51	3.56	26022	24.76	174.08	8.3	11.9
318.0	156.5	2.0	186	8.7	0.54	3.56	26093	29.98	173.43	8.3	11.9
319.0	450.0	2.0	142	8.7	0.31	3.56	26112	10.43	172.68	8.3	11.9
320.0	400.0	2.0	172	8.7	0.36	3.57	26138	11.73	171.96	8.3	12.0
321.0	600.0	2.0	116	8.7	0.22	3.57	26150	7.82	171.22	8.3	12.0
322.0	720.0	2.0	166	8.7	0.25	3.57	26163	6.52	170.48	8.3	12.0
323.0	514.3	2.0	168	8.7	0.31	3.57	26183	7.12	169.76	8.3	12.0
324.0	450.0	2.0	171	8.7	0.34	3.57	26206	10.43	169.05	8.3	12.0
325.0	400.0	2.0	165	8.7	0.35	3.58	26231	11.73	168.35	8.3	12.0
326.0	450.0	2.0	170	8.7	0.34	3.58	26253	10.43	167.66	8.3	12.0
327.0	327.3	2.0	165	8.7	0.39	3.58	26284	14.34	166.99	8.3	12.0
328.0	150.0	4.0	162	8.7	0.58	3.59	26348	31.28	166.39	8.3	12.0
329.0	276.9	4.0	162	8.7	0.46	3.59	26383	16.94	165.74	8.3	12.0
330.0	276.9	4.0	162	8.7	0.46	3.60	26419	16.94	165.10	8.3	12.0
331.0	276.9	4.0	22	8.7	0.07	3.60	26423	16.94	164.46	8.3	12.0
332.0	276.9	4.0	165	8.7	0.47	3.60	26459	16.94	163.83	8.3	12.0
333.0	225.0	4.0	165	8.7	0.51	3.61	26503	20.85	163.22	8.3	12.0
334.0	370.0	2.0	154	8.7	0.35	3.61	26528	12.68	162.58	8.3	12.0
335.0	480.0	4.0	161	8.7	0.35	3.61	26548	9.78	161.93	8.3	12.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
336.0	327.3	4.0	141	8.7	0.40	3.61	26574	14.34	161.31	8.3	12.0
337.0	144.0	4.0	137	8.7	0.56	3.62	26631	32.58	160.76	8.3	12.0
338.0	144.0	4.0	150	8.7	0.57	3.63	26694	32.58	160.23	8.3	12.0
339.0	257.1	4.0	152	8.7	0.46	3.63	26729	18.25	159.64	8.3	12.0
340.0	171.4	3.0	146	8.7	0.51	3.64	26780	27.37	159.09	8.3	12.0
341.0	360.0	3.0	149	8.7	0.38	3.64	26805	13.03	158.48	8.3	12.0
342.0	327.3	3.0	154	8.7	0.40	3.64	26833	14.34	157.89	8.3	12.0
343.0	360.0	3.0	150	8.7	0.38	3.65	26858	13.03	157.30	8.3	12.0
344.0	385.0	3.0	154	8.7	0.37	3.65	26882	12.19	156.71	8.3	12.0
345.0	360.0	3.0	157	8.7	0.39	3.65	26909	13.03	156.12	8.3	12.0
346.0	112.5	3.0	110	8.7	0.54	3.66	26967	41.71	155.66	8.3	12.0
347.0	189.5	3.0	146	8.7	0.49	3.67	27013	24.76	155.13	8.3	12.0
348.0	327.3	3.0	151	8.7	0.40	3.67	27041	14.34	154.56	8.3	12.1
349.0	300.0	3.0	147	8.7	0.41	3.67	27071	15.64	154.01	8.3	12.1
350.0	276.9	3.0	149	8.7	0.43	3.68	27103	16.94	153.46	8.3	12.1
351.0	327.3	3.0	156	8.7	0.40	3.68	27131	14.34	152.91	8.3	12.1
352.0	189.5	3.0	150	8.7	0.50	3.69	27179	24.76	152.40	8.3	12.1
353.0	211.8	3.0	141	8.7	0.47	3.69	27219	22.16	151.89	8.3	12.1
354.0	189.5	3.0	143	8.7	0.49	3.70	27265	24.76	151.39	8.3	12.1
355.0	189.5	3.0	149	8.7	0.49	3.70	27312	24.76	150.90	8.3	12.1
356.0	240.0	3.0	123	8.7	0.42	3.70	27342	19.55	150.39	8.3	12.1
357.0	327.3	3.0	146	8.7	0.39	3.71	27369	14.34	149.86	8.3	12.1
358.0	144.0	3.0	149	8.7	0.55	3.71	27431	32.58	149.41	8.3	12.1
359.0	171.4	3.0	148	8.7	0.51	3.72	27483	27.37	148.94	8.3	12.1
360.0	240.0	3.0	149	8.7	0.45	3.72	27520	19.55	148.44	8.3	12.1
361.0	211.8	3.0	151	8.7	0.48	3.73	27563	22.16	147.96	8.3	12.1
362.0	300.0	3.0	149	8.7	0.41	3.73	27593	15.64	147.46	8.3	12.1
363.0	211.8	3.0	152	8.7	0.48	3.74	27636	22.16	146.98	8.3	12.1
364.0	211.8	3.0	153	8.7	0.48	3.74	27679	22.16	146.51	8.3	12.1
365.0	225.0	3.0	153	8.7	0.47	3.75	27720	20.85	146.04	8.3	12.1
366.0	200.0	3.0	155	8.7	0.49	3.75	27767	23.46	145.58	8.3	12.1
367.0	300.0	3.0	154	8.7	0.42	3.75	27797	15.64	145.09	8.3	12.1
368.0	156.5	3.0	155	8.7	0.54	3.76	27857	29.98	144.67	8.3	12.1
369.0	180.0	3.0	152	8.7	0.51	3.77	27908	26.07	144.23	8.3	12.1
370.0	170.0	3.0	154	8.7	0.52	3.77	27962	27.60	143.80	8.3	12.1
371.0	153.2	3.0	148	8.7	0.53	3.78	28020	30.63	143.39	8.3	12.1
372.0	276.9	3.0	146	8.7	0.42	3.78	28052	16.94	142.92	8.3	12.1
373.0	138.5	3.0	151	8.7	0.56	3.79	28117	33.89	142.52	8.3	12.1
374.0	120.0	3.0	150	8.7	0.58	3.80	28192	39.10	142.14	8.3	12.1
375.0	171.4	3.0	127	8.7	0.48	3.80	28237	27.37	141.73	8.3	12.1
376.0	300.0	3.0	149	8.7	0.41	3.81	28267	15.64	141.27	8.3	12.2
377.0	327.3	3.0	162	8.7	0.41	3.81	28296	14.34	140.82	8.3	12.2
378.0	327.3	3.0	153	8.7	0.40	3.81	28324	14.34	140.36	8.3	12.2
379.0	360.0	3.0	154	8.7	0.38	3.82	28350	13.03	139.91	8.3	12.2
380.0	360.0	3.0	152	8.7	0.38	3.82	28375	13.03	139.46	8.3	12.2
381.0	225.0	3.0	155	8.7	0.47	3.82	28417	20.85	139.04	8.3	12.2
382.0	240.0	3.0	158	8.7	0.46	3.83	28456	19.55	138.61	8.3	12.2
383.0	189.5	3.0	153	8.7	0.50	3.83	28505	24.76	138.21	8.3	12.2
384.0	225.0	3.0	157	8.7	0.47	3.84	28546	20.85	137.80	8.3	12.2
385.0	109.1	3.0	118	8.7	0.55	3.85	28611	43.01	137.47	8.3	12.2

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
386.0	128.6	3.0	157	8.7	0.58	3.85	28685	36.49	137.12	8.3	12.2
387.0	138.5	3.0	146	8.7	0.55	3.86	28748	33.89	136.76	8.3	12.2
388.0	163.6	3.0	148	8.7	0.52	3.87	28802	28.67	136.39	8.3	12.2
389.0	200.0	3.0	152	8.7	0.49	3.87	28848	23.46	136.00	8.3	12.2
390.0	180.0	3.0	151	8.7	0.51	3.88	28898	26.07	135.62	8.3	12.2
391.0	211.8	3.0	154	8.7	0.48	3.88	28942	22.16	135.23	8.3	12.2
392.0	211.8	3.0	152	8.7	0.48	3.89	28985	22.16	134.84	8.3	12.2
393.0	138.5	3.0	151	8.7	0.56	3.89	29050	33.89	134.50	8.3	12.2
394.0	124.1	3.0	147	8.7	0.57	3.90	29121	37.80	134.17	8.3	12.2
395.0	211.8	3.0	153	8.7	0.48	3.91	29165	22.16	133.79	8.3	12.2
396.0	171.4	3.0	154	8.7	0.52	3.91	29219	27.37	133.44	8.3	12.2
397.0	189.5	3.0	153	8.7	0.50	3.92	29267	24.76	133.07	8.3	12.2
398.0	240.0	3.0	158	8.7	0.46	3.92	29307	19.55	132.69	8.3	12.2
399.0	240.0	3.0	161	8.7	0.47	3.93	29347	19.55	132.31	8.3	12.2
400.0	276.9	3.0	161	8.7	0.44	3.93	29382	16.94	131.93	8.3	12.2
401.0	300.0	3.0	152	8.7	0.41	3.93	29412	15.64	131.55	8.3	12.2
402.0	138.5	3.0	150	8.7	0.56	3.94	29477	33.89	131.22	8.3	12.2
403.0	240.0	3.0	159	8.7	0.46	3.95	29517	19.55	130.86	8.3	12.2
404.0	225.0	3.0	156	8.7	0.47	3.95	29558	20.85	130.50	8.3	12.2
405.0	144.0	3.0	153	8.7	0.55	3.96	29622	32.58	130.18	8.3	12.2
406.0	189.5	3.0	159	8.7	0.51	3.96	29673	24.76	129.83	8.3	12.3
407.0	200.0	3.0	158	8.7	0.50	3.97	29720	23.46	129.49	8.3	12.3
408.0	180.0	3.0	156	8.7	0.51	3.97	29772	26.07	129.15	8.3	12.3
409.0	189.5	3.0	149	8.7	0.49	3.98	29819	24.76	128.82	8.3	12.3
410.0	133.3	3.0	152	8.7	0.56	3.99	29887	35.19	128.51	8.3	12.3
411.0	200.0	3.0	152	8.7	0.49	3.99	29933	23.46	128.18	8.3	12.3
412.0	150.0	3.0	152	8.7	0.54	4.00	29994	31.28	127.87	8.3	12.3
413.0	102.9	3.0	155	8.7	0.62	4.01	30084	45.62	127.61	8.3	12.3
414.0	200.0	3.0	164	8.7	0.50	4.01	30133	23.46	127.28	8.3	12.3
415.0	144.0	4.0	156	8.7	0.58	4.02	30198	32.58	126.98	8.3	12.3
416.0	225.0	4.0	161	8.7	0.50	4.02	30241	20.85	126.64	8.3	12.3
417.0	240.0	4.0	162	8.7	0.49	4.03	30282	19.55	126.30	8.3	12.3
418.0	116.1	4.0	155	8.7	0.62	4.04	30362	40.40	126.04	8.3	12.3
419.0	171.4	4.0	156	8.7	0.55	4.04	30417	27.37	125.73	8.3	12.3
420.0	163.6	4.0	157	8.7	0.56	4.05	30475	28.67	125.42	8.3	12.3
421.0	60.0	4.0	21	8.7	0.36	4.06	30496	78.20	125.28	8.3	12.3
422.0	257.1	4.0	148	8.7	0.46	4.07	30530	18.25	124.95	8.3	12.3
423.0	63.2	4.0	148	8.7	0.73	4.08	30670	74.29	124.79	8.3	12.3
424.0	156.5	4.0	145	8.7	0.55	4.09	30726	29.98	124.50	8.3	12.3
425.0	83.7	4.0	140	8.7	0.67	4.10	30826	56.04	124.29	8.3	12.3
426.0	33.3	4.0	142	8.7	0.85	4.13	31082	140.76	124.34	8.3	12.3
427.0	62.1	4.0	142	8.7	0.73	4.15	31219	75.59	124.19	8.3	12.3
428.0	46.2	5.0	142	8.7	0.82	4.17	31403	101.66	124.12	8.3	12.3
429.0	75.0	5.0	146	8.7	0.72	4.18	31520	62.56	123.94	8.3	12.3
430.0	48.6	5.0	139	8.7	0.80	4.20	31691	96.45	123.85	8.3	12.3
431.0	105.9	5.0	154	8.7	0.66	4.21	31778	44.31	123.61	8.3	12.3
432.0	78.3	5.0	152	8.7	0.72	4.23	31894	59.95	123.42	8.3	12.3
433.0	81.8	5.0	153	8.7	0.72	4.24	32007	57.35	123.22	8.3	12.3
434.0	48.6	5.0	159	8.7	0.83	4.26	32203	96.45	123.14	8.3	12.3
435.0	61.0	5.0	177	8.7	0.80	4.28	32377	76.90	123.01	8.3	12.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
436.0	100.0	5.0	181	8.7	0.71	4.29	32486	46.92	122.78	8.3	12.4
437.0	94.7	5.0	181	8.7	0.72	4.30	32600	49.53	122.56	8.3	12.4
438.0	59.0	5.0	176	8.7	0.81	4.31	32779	79.50	122.44	8.3	12.4
439.0	97.3	5.0	122	8.7	0.63	4.32	32854	48.22	122.22	8.3	12.4
440.0	76.6	5.0	187	8.7	0.77	4.34	33001	61.26	122.04	8.3	12.4
441.0	53.7	5.0	179	8.7	0.83	4.36	33201	87.32	121.94	8.3	12.4
442.0	128.6	5.0	186	8.7	0.66	4.36	33288	36.49	121.69	8.3	12.4
443.0	128.6	6.0	182	8.7	0.68	4.37	33373	36.49	121.44	8.3	12.4
444.0	72.0	6.0	181	8.7	0.80	4.38	33524	65.17	121.28	8.3	12.4
445.0	124.1	6.0	184	8.7	0.69	4.39	33613	37.80	121.04	8.3	12.4
446.0	97.3	6.0	183	8.7	0.74	4.40	33725	48.22	120.83	8.3	12.4
447.0	44.4	6.0	182	8.7	0.90	4.43	33971	105.57	120.78	8.3	12.4
448.0	150.0	6.0	185	8.7	0.65	4.43	34045	31.28	120.53	8.3	12.4
449.0	63.2	6.0	181	8.7	0.83	4.45	34217	74.29	120.39	8.3	12.4
450.0	10.3	6.0	173	8.7	1.20	4.55	35223	456.17	121.35	8.3	12.4
451.0	37.5	6.0	172	8.7	0.93	4.57	35499	125.12	121.36	8.3	12.4
452.0	45.0	6.0	175	8.7	0.89	4.59	35732	104.27	121.31	8.3	12.4
453.0	72.0	5.0	177	8.7	0.77	4.61	35880	65.17	121.15	8.3	12.4
454.0	34.3	5.0	177	8.7	0.92	4.64	36189	136.85	121.20	8.3	12.4
455.0	45.6	5.0	173	8.7	0.86	4.66	36417	102.96	121.15	8.3	12.4
456.0	29.8	5.0	177	8.7	0.95	4.69	36773	157.70	121.25	8.3	12.4
457.0	27.9	5.0	176	8.7	0.96	4.73	37152	168.13	121.38	8.3	12.4
458.0	44.4	5.0	177	8.7	0.87	4.75	37391	105.57	121.34	8.3	12.4
459.0	31.3	5.0	176	8.7	0.94	4.78	37728	149.88	121.42	8.3	12.4
460.0	37.1	5.0	173	8.7	0.90	4.81	38009	126.42	121.43	8.3	12.4
461.0	45.6	5.0	175	8.7	0.86	4.83	38240	102.96	121.38	8.3	12.4
462.0	47.4	5.0	175	8.7	0.85	4.85	38461	99.05	121.32	8.3	12.4
463.0	46.2	5.0	176	8.7	0.86	4.87	38689	101.66	121.26	8.3	12.4
464.0	26.3	5.0	176	8.7	0.97	4.91	39091	178.56	121.42	8.3	12.4
465.0	27.9	5.0	178	8.7	0.96	4.95	39474	168.13	121.55	8.3	12.4
466.0	42.9	5.0	174	8.7	0.87	4.97	39718	109.48	121.52	8.3	12.5
467.0	11.7	5.0	174	8.7	1.14	5.06	40613	401.43	122.28	8.3	12.5
468.0	42.4	5.0	176	8.7	0.88	5.08	40862	110.78	122.25	8.3	12.5
469.0	31.0	5.0	175	8.7	0.94	5.11	41200	151.19	122.32	8.3	12.5
470.0	16.0	5.0	63	8.7	0.86	5.18	41435	293.25	122.78	8.3	12.5
471.0	16.7	5.0	171	8.7	1.06	5.24	42052	281.52	123.21	8.3	12.5
472.0	11.8	5.0	172	8.7	1.13	5.32	42925	397.52	123.95	8.3	12.5
473.0	15.1	6.0	171	8.7	1.12	5.39	43604	310.19	124.44	8.3	12.5
474.0	37.5	6.0	171	8.7	0.93	5.41	43877	125.12	124.45	8.3	12.5
475.0	22.8	6.0	172	8.7	1.03	5.46	44329	205.93	124.66	8.3	12.5
476.0	63.2	6.0	172	8.7	0.82	5.47	44492	74.29	124.53	8.3	12.5
477.0	59.0	6.0	172	8.7	0.83	5.49	44667	79.50	124.41	8.3	12.5
478.0	257.1	18.0	184	8.7	0.67	5.49	44710	18.25	124.13	8.3	12.5
479.0	450.0	19.0	179	8.7	0.52	5.50	44734	10.43	123.83	8.3	12.5
480.0	200.0	19.0	183	8.7	0.75	5.50	44789	23.46	123.57	8.3	12.5
481.0	276.9	18.0	179	8.7	0.65	5.50	44827	16.94	123.29	8.3	12.5
482.0	240.0	19.0	181	8.7	0.70	5.51	44873	19.55	123.02	8.3	12.5
483.0	225.0	20.0	180	8.7	0.72	5.51	44921	20.85	122.75	8.3	12.5
484.0	163.6	18.0	178	8.7	0.78	5.52	44986	28.67	122.51	8.3	12.5
485.0	189.0	17.0	174	8.7	0.73	5.52	45041	24.83	122.25	8.3	12.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
486.0	211.8	18.0	179	8.7	0.72	5.53	45092	22.16	122.00	8.3	12.5
487.0	46.2	17.0	58	8.7	0.81	5.55	45168	101.66	121.94	8.3	12.5
488.0	24.7	17.0	62	8.7	0.99	5.59	45317	190.29	122.12	8.3	12.5
489.0	180.0	17.0	179	8.7	0.75	5.60	45377	26.07	121.87	8.3	12.5
490.0	189.5	17.0	178	8.7	0.73	5.60	45433	24.76	121.62	8.3	12.5
491.0	87.8	17.0	179	8.7	0.93	5.61	45555	53.44	121.45	8.3	12.5
492.0	87.8	17.0	185	8.7	0.94	5.63	45682	53.44	121.28	8.3	12.5
493.0	112.5	17.0	184	8.7	0.88	5.63	45780	41.71	121.07	8.3	12.5
494.0	109.1	17.0	187	8.7	0.89	5.64	45883	43.01	120.88	8.3	12.5
495.0	70.6	15.0	182	8.7	0.97	5.66	46037	66.47	120.74	8.3	12.5
496.0	52.9	15.0	176	8.7	1.03	5.68	46236	88.63	120.66	8.3	12.5
497.0	27.1	15.0	176	8.7	1.20	5.71	46625	173.34	120.79	8.3	12.6
498.0	124.1	15.0	191	8.7	0.84	5.72	46718	37.80	120.58	8.3	12.6
499.0	100.0	15.0	191	8.7	0.89	5.73	46832	46.92	120.40	8.3	12.6
500.0	90.0	15.0	189	8.7	0.92	5.74	46958	52.13	120.23	8.3	12.6
501.0	92.3	15.0	192	8.7	0.91	5.75	47083	50.83	120.06	8.3	12.6
502.0	92.3	15.0	189	8.7	0.91	5.76	47206	50.83	119.88	8.3	12.6
503.0	94.7	15.0	188	8.7	0.90	5.77	47325	49.53	119.71	8.3	12.6
504.0	102.9	15.0	187	8.7	0.88	5.78	47433	45.62	119.53	8.3	12.6
505.0	70.6	15.0	187	8.7	0.97	5.80	47593	66.47	119.40	8.3	12.6
506.0	105.9	15.0	186	8.7	0.87	5.81	47698	44.31	119.21	8.3	12.6
507.0	50.0	15.0	182	8.7	1.05	5.83	47916	93.84	119.15	8.3	12.6
508.0	81.8	17.0	187	8.7	0.96	5.84	48053	57.35	119.00	8.3	12.6
509.0	73.5	17.0	188	8.7	0.99	5.85	48207	63.86	118.86	8.3	12.6
510.0	81.8	17.0	186	8.7	0.96	5.87	48343	57.35	118.71	8.3	12.6
511.0	76.6	17.0	181	8.7	0.97	5.88	48485	61.26	118.58	8.3	12.6
512.0	94.7	17.0	177	8.7	0.91	5.89	48597	49.53	118.41	8.3	12.6
513.0	83.7	17.0	180	8.7	0.95	5.90	48726	56.04	118.26	8.3	12.6
514.0	35.3	17.0	183	8.7	1.18	5.93	49037	132.94	118.29	8.3	12.6
515.0	40.9	17.0	180	8.7	1.13	5.95	49301	114.69	118.28	8.3	12.6
516.0	116.1	17.0	187	8.7	0.87	5.96	49398	40.40	118.10	8.3	12.6
517.0	62.1	17.0	185	8.7	1.03	5.98	49576	75.59	118.00	8.3	12.6
518.0	116.1	16.0	192	8.7	0.87	5.99	49675	40.40	117.81	8.3	12.6
519.0	38.7	16.0	185	8.7	1.14	6.01	49961	121.21	117.82	8.3	12.6
520.0	54.5	16.0	186	8.7	1.05	6.03	50166	86.02	117.74	8.3	12.6
521.0	73.5	16.0	184	8.7	0.97	6.05	50316	63.86	117.62	8.3	12.6
522.0	56.2	16.0	185	8.7	1.04	6.06	50513	83.41	117.53	8.3	12.6
523.0	39.6	16.0	184	8.7	1.13	6.09	50792	118.60	117.54	8.3	12.6
525.0	71.3	16.0	182	8.7	0.98	6.12	51098	65.82	117.29	8.3	12.6
526.0	39.1	16.0	171	8.7	1.12	6.14	51361	119.91	117.30	8.3	12.6
527.0	65.5	16.0	181	8.7	1.00	6.16	51528	71.68	117.19	8.3	12.6
528.0	116.1	16.0	185	8.7	0.86	6.17	51623	40.40	117.01	8.3	12.7
529.0	49.3	16.0	185	8.7	1.08	6.19	51848	95.14	116.96	8.3	12.7
530.0	83.7	16.0	183	8.7	0.94	6.20	51979	56.04	116.82	8.3	12.7
531.0	32.4	14.0	184	8.7	1.15	6.23	52320	144.67	116.89	8.3	12.7
532.0	72.0	14.0	184	8.7	0.95	6.24	52474	65.17	116.77	8.3	12.7
533.0	39.1	14.0	182	8.7	1.10	6.27	52753	119.91	116.77	8.3	12.7
534.0	78.3	14.0	182	8.7	0.93	6.28	52893	59.95	116.64	8.3	12.7
535.0	35.6	14.0	180	8.7	1.12	6.31	53196	131.64	116.68	8.3	12.7
536.0	42.0	14.0	182	8.7	1.08	6.33	53456	111.71	116.67	8.3	12.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
537.0	68.0	14.0	180	8.7	0.96	6.35	53614	69.00	116.56	8.3	12.7
538.0	74.0	14.0	176	8.7	0.93	6.36	53757	63.41	116.44	8.3	12.7
539.0	84.7	14.0	182	8.7	0.91	6.37	53886	55.39	116.30	8.3	12.7
540.0	72.0	14.0	184	8.7	0.95	6.39	54040	65.17	116.18	8.3	12.7
541.0	80.0	14.0	185	8.7	0.93	6.40	54178	58.65	116.05	8.3	12.7
542.0	13.3	14.0	183	8.7	1.37	6.47	55003	351.90	116.58	8.3	12.7
543.0	81.8	14.0	184	8.7	0.92	6.49	55138	57.35	116.45	8.3	12.7
544.0	70.0	15.0	178	8.7	0.96	6.50	55290	67.03	116.34	8.3	12.7
545.0	75.8	14.0	178	8.7	0.93	6.51	55432	61.91	116.22	8.3	12.7
546.0	90.0	14.0	184	8.7	0.90	6.53	55554	52.13	116.07	8.3	12.7
547.0	35.0	14.0	185	8.7	1.13	6.55	55872	134.24	116.12	8.3	12.7
548.0	31.6	14.0	184	8.7	1.15	6.59	56221	148.58	116.19	8.3	12.7
549.0	43.9	14.0	182	8.7	1.07	6.61	56470	106.87	116.17	8.3	12.7
550.0	72.0	14.0	184	8.7	0.95	6.62	56623	65.17	116.05	8.3	12.7
551.0	59.0	14.0	180	8.7	1.00	6.64	56806	79.50	115.97	8.3	12.7
552.0	23.5	14.0	182	8.7	1.22	6.68	57270	199.41	116.16	8.3	12.7
553.0	31.6	14.0	181	8.7	1.15	6.71	57614	148.58	116.23	8.3	12.7
554.0	52.9	14.0	176	8.7	1.02	6.73	57814	88.63	116.17	8.3	12.7
555.0	36.7	14.0	161	8.7	1.09	6.76	58077	127.73	116.19	8.3	12.7
556.0	87.8	14.0	185	8.7	0.90	6.77	58203	53.44	116.06	8.3	12.7
557.0	57.1	14.0	184	8.7	1.01	6.79	58397	82.11	115.98	8.3	12.7
558.0	56.2	14.0	185	8.7	1.01	6.81	58594	83.41	115.91	8.3	12.7
559.0	58.1	14.0	186	8.7	1.01	6.82	58787	80.81	115.83	8.3	12.7
560.0	90.0	14.0	182	8.7	0.89	6.83	58908	52.13	115.70	8.3	12.7
561.0	41.4	14.0	184	8.7	1.09	6.86	59175	113.39	115.69	8.3	12.8
562.0	94.7	14.0	183	8.7	0.88	6.87	59291	49.53	115.55	8.3	12.8
563.0	75.0	14.0	182	8.7	0.94	6.88	59437	62.56	115.43	8.3	12.8
564.0	67.9	18.0	178	8.7	1.01	6.90	59594	69.08	115.33	8.3	12.8
565.0	144.0	18.0	185	8.7	0.83	6.90	59671	32.58	115.16	8.3	12.8
566.0	87.8	18.0	188	8.7	0.96	6.92	59799	53.44	115.02	8.3	12.8
567.0	85.7	18.0	182	8.7	0.96	6.93	59927	54.74	114.90	8.3	12.8
568.0	116.1	18.0	187	8.7	0.88	6.94	60023	40.40	114.74	8.3	12.8
569.0	87.8	18.0	185	8.7	0.95	6.95	60150	53.44	114.61	8.3	12.8
570.0	116.1	18.0	185	8.7	0.88	6.96	60245	40.40	114.45	8.3	12.8
571.0	64.3	16.0	182	8.7	1.01	6.97	60415	72.99	114.36	8.3	12.8
572.0	42.4	16.0	183	8.7	1.11	7.00	60674	110.78	114.35	8.3	12.8
573.0	36.7	16.0	177	8.7	1.14	7.02	60964	127.73	114.38	8.3	12.8
574.0	55.4	16.0	183	8.7	1.04	7.04	61162	84.72	114.32	8.3	12.8
575.0	76.6	16.0	183	8.7	0.96	7.05	61305	61.26	114.21	8.3	12.8
576.0	76.6	16.0	183	8.7	0.96	7.07	61449	61.26	114.10	8.3	12.8
577.0	66.7	16.0	182	8.7	1.00	7.08	61612	70.38	114.01	8.3	12.8
578.0	102.9	16.0	186	8.7	0.89	7.09	61721	45.62	113.84	8.3	12.8
579.0	70.6	16.0	182	8.7	0.98	7.11	61876	66.47	113.76	8.3	12.8
580.0	100.0	16.0	181	8.7	0.89	7.12	61985	44.92	113.63	8.3	12.8
581.0	76.6	17.0	180	8.7	0.97	7.13	62125	61.26	113.52	8.3	12.8
582.0	102.9	17.0	176	8.7	0.89	7.14	62228	45.62	113.38	8.3	12.8
583.0	97.3	17.0	186	8.7	0.92	7.15	62343	48.22	113.24	8.3	12.8
584.0	76.6	17.0	185	8.7	0.98	7.16	62488	61.26	113.13	8.3	12.8
585.0	94.7	17.0	186	8.7	0.92	7.17	62606	49.53	113.00	8.3	12.8
586.0	76.6	17.0	187	8.7	0.98	7.19	62752	61.26	112.90	8.3	12.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
587.0	144.0	17.0	187	8.7	0.82	7.19	62830	32.58	112.73	8.3	12.8
588.0	112.5	17.0	182	8.7	0.88	7.20	62927	41.71	112.59	8.3	12.8
589.0	45.6	17.0	190	8.7	1.12	7.22	63177	102.96	112.57	8.3	12.8
590.0	41.9	17.0	187	8.7	1.14	7.25	63445	112.09	112.57	8.3	12.8
591.0	58.1	17.0	169	8.7	1.03	7.26	63619	80.81	112.50	8.3	12.8
592.0	116.1	17.0	175	8.7	0.86	7.27	63710	40.40	112.36	8.3	12.8
593.0	31.0	17.0	179	8.7	1.20	7.30	64057	151.19	112.43	8.3	12.8
594.0	52.9	17.0	179	8.7	1.07	7.32	64260	80.63	112.39	8.3	12.9
595.0	34.0	17.0	180	8.7	1.18	7.35	64578	138.15	112.44	8.3	12.9
596.0	54.5	17.0	179	8.7	1.06	7.37	64775	86.02	112.39	8.3	12.9
597.0	61.0	17.0	177	8.7	1.03	7.39	64949	76.90	112.31	8.3	12.9
598.0	92.3	17.0	178	8.7	0.92	7.40	65065	50.83	112.19	8.3	12.9
599.0	45.6	17.0	179	8.7	1.10	7.42	65301	102.96	112.17	8.3	12.9
600.0	100.0	17.0	177	8.7	0.90	7.43	65407	46.92	112.04	8.3	12.9
601.0	59.0	19.0	155	8.7	1.03	7.45	65564	79.50	111.98	8.3	12.9
602.0	56.2	19.0	181	8.7	1.08	7.47	65757	83.41	111.92	8.3	12.9
603.0	69.2	19.0	179	8.7	1.02	7.48	65913	67.77	111.83	8.3	12.9
604.0	58.1	19.0	179	8.7	1.07	7.50	66097	80.81	111.77	8.3	12.9
605.0	64.3	19.0	181	8.7	1.04	7.51	66266	72.99	111.69	8.3	12.9
606.0	75.0	19.0	177	8.7	1.00	7.53	66408	62.56	111.60	8.3	12.9
607.0	67.9	19.0	179	8.7	1.03	7.54	66566	69.08	111.51	8.3	12.9
608.0	72.0	19.0	179	8.7	1.01	7.55	66716	65.17	111.42	8.3	12.9
609.0	81.8	19.0	176	8.7	0.97	7.57	66845	57.35	111.32	8.3	12.9
610.0	78.3	19.0	176	8.7	0.98	7.58	66980	59.95	111.22	8.3	12.9
611.0	67.9	20.0	166	8.7	1.02	7.59	67126	69.08	111.13	8.3	12.9
612.0	47.4	20.0	179	8.7	1.13	7.62	67353	99.05	111.11	8.3	12.9
613.0	76.6	20.0	177	8.7	1.00	7.63	67492	61.26	111.01	8.3	12.9
614.0	102.9	20.0	179	8.7	0.93	7.64	67596	45.62	110.89	8.3	12.9
615.0	58.1	20.0	179	8.7	1.08	7.66	67782	80.81	110.83	8.3	12.9
616.0	97.3	20.0	179	8.7	0.94	7.67	67892	48.22	110.71	8.3	12.9
617.0	105.9	20.0	176	8.7	0.92	7.68	67992	44.31	110.58	8.3	12.9
618.0	69.2	20.0	179	8.7	1.03	7.69	68147	67.77	110.50	8.3	12.9
619.0	69.2	20.0	179	8.7	1.03	7.70	68302	67.77	110.41	8.3	12.9
620.0	54.5	20.0	152	8.7	1.05	7.72	68469	86.02	110.37	8.3	12.9
621.0	75.0	20.0	181	8.7	1.01	7.74	68614	62.56	110.28	8.3	12.9
622.0	112.5	20.0	180	8.7	0.90	7.74	68710	41.71	110.14	8.3	12.9
623.0	87.8	20.0	178	8.7	0.97	7.76	68831	53.44	110.04	8.3	12.9
624.0	73.5	20.0	178	8.7	1.02	7.77	68977	63.86	109.95	8.3	12.9
625.0	64.3	20.0	180	8.7	1.05	7.79	69144	72.99	109.88	8.3	12.9
626.0	85.7	20.0	176	8.7	0.97	7.80	69267	54.74	109.77	8.3	12.9
627.0	73.5	20.0	179	8.7	1.02	7.81	69414	63.86	109.69	8.3	13.0
628.0	83.7	20.0	177	8.7	0.98	7.82	69541	56.04	109.59	8.3	13.0
629.0	80.0	20.0	145	8.7	0.94	7.83	69650	58.65	109.49	8.3	13.0
630.0	67.0	19.0	163	8.7	1.01	7.85	69796	70.03	109.42	8.3	13.0
631.0	73.0	19.0	163	8.7	0.98	7.86	69930	64.27	109.33	8.3	13.0
632.0	63.0	19.0	163	8.7	1.02	7.88	70085	74.48	109.26	8.3	13.0
633.0	71.0	19.0	163	8.7	0.99	7.89	70223	66.08	109.18	8.3	13.0
634.0	67.0	18.0	165	8.7	1.00	7.91	70370	70.03	109.11	8.3	13.0
635.0	66.0	18.0	165	8.7	1.00	7.92	70520	71.09	109.04	8.3	13.0
636.0	58.0	18.0	165	8.7	1.03	7.94	70691	80.90	108.99	8.3	13.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
637.0	74.0	18.0	165	8.7	0.97	7.95	70825	63.41	108.90	8.3	13.0
638.0	67.0	18.0	165	8.7	1.00	7.97	70973	70.03	108.83	8.3	13.0
639.0	48.0	18.0	160	8.7	1.08	7.99	71173	97.75	108.81	8.3	13.0
640.0	48.0	18.0	160	8.7	1.08	8.01	71373	97.75	108.79	8.3	13.0
641.0	48.0	18.0	160	8.7	1.08	8.03	71573	97.75	108.77	8.3	13.0
642.0	47.0	18.0	160	8.7	1.08	8.05	71777	99.83	108.75	8.3	13.0
643.0	47.0	18.0	160	8.7	1.08	8.07	71981	99.83	108.74	8.3	13.0
644.0	52.0	18.0	160	8.7	1.05	8.09	72166	90.23	108.70	8.3	13.0
645.0	52.0	18.0	160	8.7	1.05	8.11	72350	90.23	108.67	8.3	13.0
646.0	52.0	18.0	160	8.7	1.05	8.13	72535	90.23	108.63	8.3	13.0
647.0	52.0	18.0	160	8.7	1.05	8.15	72720	90.23	108.60	8.3	13.0
648.0	65.0	18.0	160	8.7	1.00	8.17	72867	72.18	108.54	8.3	13.0
649.0	82.0	18.0	160	8.7	0.93	8.18	72984	57.22	108.44	8.3	13.0
650.0	75.0	18.0	160	8.7	0.96	8.19	73112	62.56	108.36	8.3	13.0
651.0	79.0	17.0	166	8.7	0.94	8.20	73238	59.39	108.27	8.3	13.0
652.0	78.0	17.0	166	8.7	0.95	8.22	73366	60.15	108.18	8.3	13.0
653.0	65.0	17.0	166	8.7	0.99	8.23	73519	72.18	108.12	8.3	13.0
654.0	72.0	17.0	166	8.7	0.97	8.25	73658	65.17	108.04	8.3	13.0
655.0	65.0	17.0	166	8.7	0.99	8.26	73811	72.18	107.98	8.3	13.0
656.0	66.0	18.0	163	8.7	1.00	8.28	73959	71.09	107.91	8.3	13.0
657.0	64.0	18.0	163	8.7	1.00	8.29	74112	73.31	107.85	8.3	13.0
658.0	64.0	18.0	163	8.7	1.00	8.31	74265	73.31	107.79	8.3	13.0
659.0	86.0	17.0	158	8.7	0.91	8.32	74375	54.56	107.69	8.3	13.0
660.0	94.0	18.0	166	8.7	0.91	8.33	74481	49.91	107.59	8.3	13.0
661.0	112.0	18.0	160	8.7	0.85	8.34	74567	41.89	107.47	8.3	13.0
662.0	104.0	19.0	160	8.7	0.88	8.35	74659	45.12	107.36	8.3	13.1
663.0	99.0	17.0	159	8.7	0.87	8.36	74755	47.39	107.25	8.3	13.1
664.0	74.0	17.0	159	8.7	0.95	8.37	74884	63.41	107.18	8.3	13.1
665.0	78.0	17.0	159	8.7	0.93	8.39	75007	60.15	107.09	8.3	13.1
666.0	69.0	17.0	159	8.7	0.97	8.40	75145	68.00	107.02	8.3	13.1
667.0	74.0	17.0	159	8.7	0.95	8.41	75274	63.41	106.95	8.3	13.1
668.0	67.0	18.0	164	8.7	0.99	8.43	75421	70.03	106.88	8.3	13.1
669.0	85.0	18.0	164	8.7	0.93	8.44	75536	55.20	106.79	8.3	13.1
670.0	89.0	18.0	164	8.7	0.92	8.45	75647	52.72	106.70	8.3	13.1
671.0	78.0	18.0	164	8.7	0.95	8.46	75773	60.15	106.62	8.3	13.1
672.0	73.0	18.0	164	8.7	0.97	8.48	75908	64.27	106.54	8.3	13.1
673.0	75.0	18.0	164	8.7	0.96	8.49	76039	62.56	106.47	8.3	13.1
674.0	70.0	18.0	164	8.7	0.98	8.51	76180	67.03	106.40	8.3	13.1
675.0	68.0	18.0	164	8.7	0.99	8.52	76324	69.00	106.33	8.3	13.1
676.0	72.0	18.0	164	8.7	0.98	8.53	76461	65.17	106.26	8.3	13.1
677.0	73.0	18.0	164	8.7	0.97	8.55	76596	64.27	106.19	8.3	13.1
678.0	75.0	18.0	164	8.7	0.96	8.56	76727	62.56	106.11	8.3	13.1
679.0	70.0	18.0	164	8.7	0.98	8.58	76868	67.03	106.05	8.3	13.1
680.0	69.0	18.0	164	8.7	0.99	8.59	77010	68.00	105.98	8.3	13.1
681.0	73.0	18.0	164	8.7	0.97	8.60	77145	64.27	105.91	8.3	13.1
682.0	70.0	18.0	164	8.7	0.98	8.62	77286	67.03	105.84	8.3	13.1
683.0	70.0	18.0	164	8.7	0.90	8.63	77426	67.03	105.77	8.3	13.1
684.0	72.0	18.0	164	8.7	0.98	8.65	77563	65.17	105.71	8.3	13.1
685.0	72.0	18.0	164	8.7	0.98	8.66	77699	65.17	105.64	8.3	13.1
686.0	84.0	18.0	164	8.7	0.94	8.67	77817	55.86	105.55	8.3	13.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
687.0	57.0	18.0	164	8.7	1.04	8.69	77989	82.32	105.51	8.3	13.1
688.0	53.0	19.0	158	8.7	1.06	8.71	78168	80.53	105.40	8.3	13.1
689.0	64.0	19.0	158	8.7	1.01	8.72	78316	73.31	105.43	8.3	13.1
690.0	51.0	19.0	158	8.7	1.07	8.74	78502	92.00	105.41	8.3	13.1
691.0	53.0	19.0	158	8.7	1.06	8.76	78681	88.53	105.38	8.3	13.1
692.0	45.0	19.0	158	8.7	1.10	8.79	78892	104.27	105.39	8.3	13.1
693.0	31.0	19.0	158	8.7	1.20	8.82	79197	151.35	105.45	8.3	13.1
694.0	33.0	19.0	158	8.7	1.18	8.85	79485	142.18	105.51	8.3	13.1
695.0	35.0	19.0	158	8.7	1.17	8.88	79756	134.06	105.56	8.3	13.1
696.0	46.0	19.0	158	8.7	1.10	8.90	79962	102.00	105.56	8.3	13.1
697.0	49.0	19.0	158	8.7	1.08	8.92	80155	95.76	105.54	8.3	13.2
698.0	52.0	17.0	164	8.7	1.05	8.94	80344	90.23	105.51	8.3	13.2
699.0	48.0	18.0	162	8.7	1.08	8.96	80547	97.75	105.50	8.3	13.2
700.0	51.0	18.0	162	8.7	1.06	8.98	80737	92.00	105.48	8.3	13.2
701.0	79.0	18.0	162	8.7	0.95	8.99	80861	59.39	105.40	8.3	13.2
702.0	99.0	15.0	162	8.7	0.85	9.00	80959	47.39	105.31	8.3	13.2
703.0	108.0	14.0	162	8.7	0.82	9.01	81049	43.44	105.20	8.3	13.2
704.0	112.0	15.0	162	8.7	0.82	9.02	81135	41.89	105.10	8.3	13.2
705.0	88.0	17.0	162	8.7	0.91	9.03	81246	53.32	105.01	8.3	13.2
706.0	99.0	18.0	162	8.7	0.89	9.04	81344	47.39	104.92	8.3	13.2
707.0	106.0	18.0	162	8.7	0.87	9.05	81436	44.26	104.82	8.3	13.2
708.0	115.0	18.0	162	8.7	0.85	9.06	81520	40.80	104.71	8.3	13.2
709.0	94.0	17.0	164	8.7	0.89	9.07	81625	49.91	104.62	8.3	13.2
710.0	94.0	17.0	164	8.7	0.89	9.08	81730	49.91	104.53	8.3	13.2
711.0	52.0	17.0	164	8.7	1.05	9.10	81919	90.23	104.51	8.3	13.2
712.0	46.0	17.0	164	8.7	1.08	9.12	82133	102.00	104.51	8.3	13.2
713.0	52.0	18.0	164	8.7	1.06	9.14	82322	90.23	104.48	8.3	13.2
714.0	45.0	19.0	164	8.7	1.11	9.16	82541	104.27	104.48	8.3	13.2
715.0	62.0	19.0	164	8.7	1.03	9.18	82699	75.68	104.44	8.3	13.2
716.0	58.0	19.0	164	8.7	1.04	9.20	82869	80.90	104.40	8.3	13.2
717.0	60.0	19.0	164	8.7	1.04	9.21	83033	78.20	104.36	8.3	13.2
718.0	60.0	19.0	164	8.7	1.04	9.23	83197	78.20	104.31	8.3	13.2
719.0	55.0	20.0	164	8.7	1.07	9.25	83376	85.31	104.28	8.3	13.2
720.0	58.0	19.0	164	8.7	1.04	9.26	83546	80.90	104.25	8.3	13.2
721.0	57.0	19.0	164	8.7	1.05	9.28	83718	82.32	104.21	8.3	13.2
722.0	62.0	18.0	158	8.7	1.00	9.30	83871	75.68	104.16	8.3	13.2
723.0	60.0	18.0	158	8.7	1.01	9.31	84029	78.20	104.12	8.3	13.2
724.0	72.0	18.0	158	8.7	0.97	9.33	84161	65.17	104.06	8.3	13.2
725.0	57.0	19.0	158	8.7	1.04	9.35	84327	82.32	104.03	8.3	13.2
726.0	56.0	19.0	158	8.7	1.04	9.36	84496	83.79	103.99	8.3	13.2
727.0	59.0	19.0	158	8.7	1.03	9.38	84657	79.53	103.95	8.3	13.2
728.0	51.0	18.0	162	8.7	1.06	9.40	84848	92.00	103.94	8.3	13.2
729.0	59.0	18.0	162	8.7	1.02	9.42	85012	79.53	103.90	8.3	13.2
730.0	57.0	18.0	164	8.7	1.04	9.44	85185	82.32	103.86	8.3	13.2
731.0	56.0	18.0	164	8.7	1.04	9.45	85361	83.79	103.83	8.3	13.2
732.0	49.0	18.0	164	8.7	1.08	9.47	85562	95.76	103.82	8.3	13.2
733.0	58.0	18.0	164	8.7	1.03	9.49	85731	80.90	103.78	8.3	13.3
734.0	58.0	18.0	164	8.7	1.03	9.51	85901	80.90	103.75	8.3	13.3
735.0	58.0	18.0	164	8.7	1.03	9.53	86071	80.90	103.71	8.3	13.3
736.0	50.0	18.0	164	8.7	1.07	9.55	86267	93.84	103.69	8.3	13.3

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
737.0	54.0	18.0	164	8.7	1.05	9.56	86450	86.89	103.67	8.3	13.3
738.0	48.0	18.0	164	8.7	1.08	9.58	86655	97.75	103.66	8.3	13.3
739.0	48.0	18.0	164	8.7	1.08	9.61	86860	97.75	103.65	8.3	13.3
740.0	45.0	18.0	164	8.7	1.10	9.63	87078	104.27	103.65	8.3	13.3
741.0	47.0	18.0	164	8.7	1.09	9.65	87288	99.83	103.64	8.3	13.3
742.0	39.0	18.0	164	8.7	1.14	9.67	87540	120.31	103.67	8.3	13.3
743.0	41.0	20.0	168	8.7	1.16	9.70	87786	114.44	103.69	8.3	13.3
744.0	41.0	20.0	168	8.7	1.16	9.72	88032	114.44	103.70	8.3	13.3
745.0	32.0	20.0	158	8.7	1.21	9.75	88328	146.63	103.77	8.3	13.3
746.0	37.0	21.0	158	8.7	1.18	9.78	88584	126.81	103.81	8.3	13.3
747.0	42.0	19.0	162	8.7	1.13	9.81	88816	111.71	103.82	8.3	13.3
748.0	38.0	19.0	160	8.7	1.15	9.83	89068	123.47	103.85	8.3	13.3
749.0	38.0	19.0	160	8.7	1.15	9.86	89321	123.47	103.88	8.3	13.3
750.0	23.0	19.0	160	8.7	1.28	9.90	89738	204.00	104.03	8.3	13.3
751.0	27.0	19.0	160	8.7	1.24	9.94	90094	173.78	104.14	8.3	13.3
752.0	19.0	23.0	160	8.7	1.40	9.99	90599	246.95	104.36	8.3	13.3
753.0	23.0	20.0	158	8.7	1.30	10.03	91011	204.00	104.51	8.3	13.3
754.0	41.0	21.0	160	8.7	1.16	10.06	91245	114.44	104.53	8.3	13.3
755.0	42.0	21.0	160	8.7	1.15	10.08	91474	111.71	104.54	8.3	13.3
756.0	45.0	19.0	160	8.7	1.11	10.10	91687	104.27	104.54	8.3	13.3
757.0	39.0	19.0	160	8.7	1.14	10.13	91933	120.31	104.56	8.3	13.3
758.0	46.0	19.0	158	8.7	1.10	10.15	92140	102.00	104.56	8.3	13.3
759.0	37.0	20.0	156	8.7	1.16	10.18	92392	126.81	104.59	8.3	13.3
760.0	34.0	21.0	156	8.7	1.20	10.21	92668	138.00	104.64	8.3	13.3
761.0	31.0	19.0	156	8.7	1.20	10.24	92970	151.35	104.71	8.3	13.3
762.0	37.0	19.0	156	8.7	1.15	10.27	93223	126.81	104.74	8.3	13.3
763.0	39.0	19.0	156	8.7	1.14	10.29	93463	120.31	104.77	8.3	13.3
764.0	36.0	22.0	158	8.7	1.20	10.32	93726	130.33	104.81	8.3	13.3
765.0	34.0	22.0	158	8.7	1.22	10.35	94005	138.00	104.86	8.3	13.3
766.0	39.0	21.0	158	8.7	1.17	10.38	94248	120.31	104.88	8.3	13.3
767.0	29.0	24.0	162	8.7	1.29	10.41	94583	161.79	104.96	8.3	13.3
768.0	35.0	25.0	160	8.7	1.25	10.44	94857	134.06	105.01	8.3	13.3
769.0	38.0	25.0	160	8.7	1.23	10.47	95110	123.47	105.04	8.3	13.3
770.0	42.0	24.0	160	8.7	1.19	10.49	95339	111.71	105.05	8.3	13.4
771.0	41.0	24.0	162	8.7	1.20	10.51	95576	114.44	105.06	8.3	13.4
772.0	44.0	24.0	162	8.7	1.18	10.54	95797	106.64	105.06	8.3	13.4
773.0	40.0	24.0	162	8.7	1.20	10.56	96040	117.30	105.08	8.3	13.4
774.0	40.0	24.0	162	8.7	1.20	10.59	96283	117.30	105.10	8.3	13.4
775.0	44.0	24.0	162	8.7	1.18	10.61	96503	106.64	105.10	8.3	13.4
776.0	52.0	25.0	165	8.7	1.15	10.63	96694	90.23	105.08	8.3	13.4
777.0	54.0	25.0	165	8.7	1.14	10.65	96877	86.89	105.05	8.3	13.4
778.0	62.0	22.0	165	8.7	1.06	10.66	97037	75.68	105.01	8.3	13.4
779.0	53.0	22.0	165	8.7	1.11	10.68	97224	88.53	104.98	8.3	13.4
780.0	54.0	22.0	165	8.7	1.10	10.70	97407	86.89	104.96	8.3	13.4
781.0	54.0	22.0	165	8.7	1.10	10.72	97590	86.89	104.93	8.3	13.4
782.0	42.0	22.0	165	8.7	1.17	10.74	97826	111.71	104.94	8.3	13.4
783.0	45.0	22.0	165	8.7	1.15	10.77	98046	104.27	104.94	8.3	13.4
784.0	49.0	21.0	165	8.7	1.12	10.79	98248	95.76	104.93	8.3	13.4
785.0	44.0	24.0	165	8.7	1.18	10.81	98473	106.64	104.93	8.3	13.4
786.0	43.0	24.0	165	8.7	1.19	10.83	98703	109.12	104.94	8.3	13.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
787.0	44.0	24.0	165	8.7	1.18	10.85	98928	106.64	104.94	8.3	13.4
788.0	44.0	24.0	165	8.7	1.18	10.88	99153	106.64	104.94	8.3	13.4
789.0	47.0	25.0	165	8.7	1.18	10.90	99364	99.83	104.93	8.3	13.4
790.0	42.0	25.0	156	8.7	1.19	10.92	99587	111.71	104.94	8.3	13.4
791.0	47.0	25.0	156	8.7	1.16	10.94	99786	99.83	104.94	8.3	13.4
792.0	48.0	25.0	156	8.7	1.15	10.96	99981	97.75	104.92	8.3	13.4
793.0	46.0	25.0	156	8.7	1.17	10.99	100184	102.00	104.92	8.3	13.4
794.0	47.0	25.0	156	8.7	1.16	11.01	100384	99.83	104.91	8.3	13.4
795.0	47.0	25.0	156	8.7	1.16	11.03	100583	99.83	104.91	8.3	13.4
796.0	49.0	24.0	156	8.7	1.14	11.05	100774	95.76	104.89	8.3	13.4
797.0	42.0	24.0	165	8.7	1.20	11.07	101009	111.71	104.90	8.3	13.4
798.0	42.0	24.0	165	8.7	1.20	11.10	101245	111.71	104.91	8.3	13.4
799.0	44.0	24.0	165	8.7	1.18	11.12	101470	106.64	104.91	8.3	13.4
800.0	39.0	25.0	160	8.7	1.22	11.15	101716	120.31	104.94	8.3	13.4
801.0	39.0	25.0	160	8.7	1.22	11.17	101963	120.31	104.96	8.3	13.4
802.0	39.0	25.0	160	8.7	1.22	11.20	102209	120.31	104.98	8.3	13.4
803.0	43.0	25.0	160	8.7	1.19	11.22	102432	109.12	104.99	8.3	13.4
804.0	38.0	25.0	160	8.7	1.23	11.25	102685	123.47	105.01	8.3	13.4
805.0	43.0	26.0	158	8.7	1.20	11.27	102905	109.12	105.02	8.3	13.4
806.0	45.0	26.0	158	8.7	1.19	11.29	103116	104.27	105.02	8.3	13.4
807.0	35.0	26.0	158	8.7	1.26	11.32	103387	134.06	105.06	8.3	13.4
808.0	38.0	24.0	158	8.7	1.21	11.35	103636	123.47	105.09	8.3	13.5
809.0	28.0	26.0	163	8.7	1.33	11.38	103985	167.57	105.17	8.3	13.5
810.0	34.0	26.0	163	8.7	1.28	11.41	104273	138.00	105.22	8.3	13.5
811.0	38.0	26.0	163	8.7	1.25	11.44	104530	123.47	105.24	8.3	13.5
812.0	32.0	26.0	163	8.7	1.29	11.47	104836	146.63	105.30	8.3	13.5
813.0	30.0	26.0	163	8.7	1.31	11.50	105162	156.40	105.37	8.3	13.5
814.0	31.0	24.0	163	8.7	1.28	11.53	105477	151.35	105.44	8.3	13.5
815.0	32.0	24.0	163	8.7	1.27	11.57	105783	146.63	105.50	8.3	13.5
816.0	25.0	24.0	163	8.7	1.34	11.61	106174	187.68	105.61	8.3	13.5
817.0	26.0	25.0	165	8.7	1.34	11.64	106555	180.46	105.71	8.3	13.5
818.0	33.0	25.0	165	8.7	1.28	11.67	106855	142.18	105.77	8.3	13.5
819.0	29.0	25.0	165	8.7	1.31	11.71	107196	161.79	105.84	8.3	13.5
820.0	29.0	25.0	165	8.7	1.31	11.74	107538	161.79	105.92	8.3	13.5
821.0	33.0	25.0	165	8.7	1.28	11.77	107838	142.18	105.97	8.3	13.5
822.0	28.0	25.0	165	8.7	1.32	11.81	108191	167.57	106.06	8.3	13.5
823.0	31.0	24.0	165	8.7	1.28	11.84	108511	151.35	106.12	8.3	13.5
824.0	27.0	24.0	165	8.7	1.32	11.88	108877	173.78	106.21	8.3	13.5
825.0	32.0	23.0	162	8.7	1.25	11.91	109181	146.63	106.27	8.3	13.5
826.0	31.0	23.0	162	8.7	1.26	11.94	109495	151.35	106.33	8.3	13.5

BIT NUMBER	2	IADC CODE	114	INTERVAL	826.0- 1301.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 15
COST	1400.00	TRIP TIME	5.7	BIT RUN	475.0
TOTAL HOURS	15.18	TOTAL TURNS	140746	CONDITION	T3 R4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
827.0	15.6	2.0	82	8.7	0.84	0.06	316	301	28445	8.3	13.5
828.0	18.8	12.0	82	8.7	1.13	0.12	578	250	14348	8.3	13.5
829.0	10.0	18.0	82	8.7	1.43	0.22	1069	468	9721	8.3	13.5
830.0	18.1	18.0	85	8.7	1.27	0.27	1351	259	7356	8.3	13.5
831.0	17.3	18.0	85	8.7	1.28	0.33	1645	271	5939	8.3	13.5
832.0	19.9	19.0	79	8.7	1.24	0.38	1884	236	4988	8.3	13.5
833.0	29.7	18.0	75	8.7	1.09	0.41	2035	158	4298	8.3	13.5
834.0	50.0	18.0	75	8.7	0.94	0.43	2125	94	3773	8.3	13.5
835.0	37.1	18.0	75	8.7	1.03	0.46	2246	126	3368	8.3	13.5
836.0	73.5	18.0	115	8.7	0.95	0.47	2340	64	3037	8.3	13.5
837.0	73.5	18.0	115	8.7	0.95	0.49	2434	64	2767	8.3	13.5
838.0	92.3	18.0	115	8.7	0.89	0.50	2509	51	2541	8.3	13.5
839.0	80.0	18.0	115	8.7	0.93	0.51	2595	59	2350	8.3	13.5
840.0	87.8	33.0	176	8.7	1.21	0.52	2716	53	2186	8.3	13.5
841.0	53.7	33.0	176	8.7	1.37	0.54	2912	87	2046	8.3	13.5
842.0	53.7	35.0	162	8.7	1.37	0.56	3093	87	1923	8.3	13.5
843.0	39.1	35.0	162	8.7	1.47	0.59	3341	120	1817	8.3	13.5
844.0	61.0	31.0	166	8.7	1.29	0.60	3505	77	1721	8.3	13.5
845.0	52.2	29.0	165	8.7	1.31	0.62	3694	90	1635	8.3	13.5
846.0	44.4	30.0	167	8.7	1.38	0.64	3920	106	1558	8.3	13.5
847.0	34.3	30.0	167	8.7	1.46	0.67	4212	137	1491	8.3	13.6
848.0	37.9	29.0	165	8.7	1.41	0.70	4473	124	1428	8.3	13.6
849.0	40.0	29.0	165	8.7	1.40	0.72	4721	117	1371	8.3	13.6
850.0	42.4	29.0	165	8.7	1.38	0.75	4955	111	1319	8.3	13.6
851.0	39.1	29.0	165	8.7	1.40	0.77	5208	120	1271	8.3	13.6
852.0	36.4	32.0	162	8.7	1.46	0.80	5475	129	1227	8.3	13.6
853.0	38.3	32.0	162	8.7	1.44	0.83	5729	123	1186	8.3	13.6
854.0	34.3	26.0	155	8.7	1.38	0.86	6000	137	1149	8.3	13.6
855.0	26.9	27.0	158	8.7	1.48	0.89	6353	175	1115	8.3	13.6
856.0	45.6	27.0	150	8.7	1.31	0.92	6561	103	1081	8.3	13.6
857.0	43.9	27.0	158	8.7	1.32	0.94	6777	107	1050	8.3	13.6
858.0	47.4	27.0	158	8.7	1.30	0.96	6977	99	1020	8.3	13.6
859.0	45.6	27.0	158	8.7	1.31	0.98	7185	102.96	992.41	8.3	13.6
860.0	43.9	27.0	158	8.7	1.32	1.00	7401	106.87	966.36	8.3	13.6
861.0	33.3	25.0	158	8.7	1.38	1.03	7685	140.76	942.77	8.3	13.6
862.0	38.3	25.0	158	8.7	1.34	1.06	7933	122.51	919.99	8.3	13.6
863.0	32.1	25.0	158	8.7	1.39	1.09	8228	145.97	899.07	8.3	13.6
864.0	34.0	25.0	158	8.7	1.38	1.12	8507	138.15	879.04	8.3	13.6
865.0	41.4	25.0	158	8.7	1.32	1.15	8736	113.39	859.41	8.3	13.6
866.0	50.7	28.0	162	8.7	1.30	1.16	8928	92.54	840.24	8.3	13.6
867.0	37.9	28.0	162	8.7	1.39	1.19	9184	123.82	822.77	8.3	13.6
868.0	41.9	28.0	162	8.7	1.36	1.22	9416	112.09	805.85	8.3	13.6
869.0	39.6	28.0	162	8.7	1.38	1.24	9662	118.60	789.86	8.3	13.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
870.0	42.4	33.0	162	8.7	1.42	1.26	9892	110.78	774.43	8.3	13.6
871.0	40.4	34.0	166	8.7	1.46	1.29	10138	116.00	759.80	8.3	13.6
872.0	46.2	34.0	166	8.7	1.41	1.31	10354	101.66	745.49	8.3	13.6
873.0	47.4	36.0	160	8.7	1.42	1.33	10556	99.05	731.74	8.3	13.6
874.0	32.4	36.0	160	8.7	1.55	1.36	10852	144.67	719.51	8.3	13.6
875.0	35.6	36.0	160	8.7	1.51	1.39	11122	131.64	707.51	8.3	13.6
876.0	32.4	36.0	160	8.7	1.55	1.42	11418	144.67	696.25	8.3	13.6
877.0	46.8	33.0	155	8.7	1.37	1.44	11616	100.36	684.57	8.3	13.6
878.0	48.0	33.0	155	8.7	1.37	1.46	11810	97.75	673.28	8.3	13.6
879.0	59.0	33.0	155	8.7	1.30	1.48	11968	79.50	662.08	8.3	13.6
880.0	54.5	33.0	155	8.7	1.32	1.50	12138	86.02	651.41	8.3	13.6
881.0	76.6	33.0	155	8.7	1.21	1.51	12260	61.26	640.68	8.3	13.6
882.0	92.3	33.0	155	8.7	1.15	1.52	12360	50.83	630.15	8.3	13.6
883.0	92.3	33.0	155	8.7	1.15	1.53	12461	50.83	619.98	8.3	13.6
884.0	67.9	33.0	155	8.7	1.25	1.55	12598	69.08	610.49	8.3	13.6
885.0	80.0	33.0	155	8.7	1.19	1.56	12714	58.65	601.13	8.3	13.6
886.0	70.6	33.0	155	8.7	1.24	1.57	12846	66.47	592.22	8.3	13.6
887.0	76.6	33.0	155	8.7	1.21	1.59	12968	61.26	583.52	8.3	13.7
888.0	76.6	33.0	155	8.7	1.21	1.60	13089	61.26	575.09	8.3	13.7
889.0	78.3	33.0	155	8.7	1.20	1.61	13208	59.95	566.92	8.3	13.7
890.0	85.7	35.0	155	8.7	1.19	1.63	13316	54.74	558.91	8.3	13.7
891.0	81.8	35.0	155	8.7	1.21	1.64	13430	57.35	551.20	8.3	13.7
892.0	48.6	33.0	158	8.7	1.37	1.66	13625	96.45	544.31	8.3	13.7
893.0	69.2	33.0	158	8.7	1.25	1.67	13762	67.77	537.20	8.3	13.7
894.0	40.0	33.0	158	8.7	1.43	1.70	13999	117.30	531.02	8.3	13.7
895.0	76.6	33.0	158	8.7	1.22	1.71	14123	61.26	524.21	8.3	13.7
896.0	85.7	33.0	158	8.7	1.18	1.72	14233	54.74	517.51	8.3	13.7
897.0	102.9	33.0	158	8.7	1.12	1.73	14325	45.62	510.86	8.3	13.7
898.0	40.9	33.0	158	8.7	1.43	1.76	14557	114.69	505.36	8.3	13.7
899.0	20.5	33.0	158	8.7	1.66	1.81	15021	229.39	501.58	8.3	13.7
900.0	64.3	33.0	158	8.7	1.27	1.82	15168	72.99	495.78	8.3	13.7
901.0	72.0	33.0	158	8.7	1.24	1.83	15300	65.17	490.04	8.3	13.7
902.0	76.6	33.0	158	8.7	1.22	1.85	15423	61.26	484.40	8.3	13.7
903.0	53.7	30.0	155	8.7	1.29	1.87	15597	87.32	479.24	8.3	13.7
904.0	67.9	30.0	155	8.7	1.22	1.88	15733	69.08	473.99	8.3	13.7
905.0	73.5	30.0	155	8.7	1.19	1.89	15860	63.86	468.79	8.3	13.7
906.0	65.5	31.0	159	8.7	1.25	1.91	16006	71.68	463.83	8.3	13.7
907.0	72.0	31.0	159	8.7	1.22	1.92	16138	65.17	458.91	8.3	13.7
908.0	60.0	31.0	159	8.7	1.20	1.94	16297	78.20	454.27	8.3	13.7
909.0	60.0	31.0	159	8.7	1.20	1.96	16456	78.20	449.74	8.3	13.7
910.0	55.4	34.0	152	8.7	1.32	1.98	16621	84.72	445.39	8.3	13.7
911.0	52.0	27.0	154	8.7	1.26	1.99	16799	90.23	441.21	8.3	13.7
912.0	54.0	24.0	155	8.7	1.21	2.01	16971	86.89	437.09	8.3	13.7
913.0	34.0	26.0	155	8.7	1.39	2.04	17244	138.00	433.65	8.3	13.7
914.0	46.5	29.0	152	8.7	1.32	2.06	17441	101.01	429.87	8.3	13.7
915.0	51.4	29.0	152	8.7	1.29	2.08	17618	91.23	426.07	8.3	13.7
916.0	29.8	24.0	152	8.7	1.39	2.12	17925	157.70	423.09	8.3	13.7
917.0	51.4	24.0	152	8.7	1.22	2.14	18102	91.23	419.44	8.3	13.7
918.0	31.6	24.0	152	8.7	1.37	2.17	18391	148.58	416.50	8.3	13.7
919.0	31.6	24.0	152	8.7	1.37	2.20	18680	148.58	413.61	8.3	13.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FC
920.0	30.8	22.0	147	8.7	1.34	2.23	18966	152.49	410.84	8.3	13.7
921.0	32.7	22.0	147	8.7	1.32	2.26	19236	143.37	408.02	8.3	13.7
922.0	33.3	22.0	150	8.7	1.32	2.29	19506	140.76	405.24	8.3	13.7
923.0	36.7	22.0	150	8.7	1.29	2.32	19751	127.73	402.38	8.3	13.7
924.0	32.4	22.0	150	8.7	1.33	2.35	20028	144.67	399.75	8.3	13.7
925.0	31.0	22.0	150	8.7	1.34	2.38	20318	151.19	397.24	8.3	13.7
926.0	29.0	22.0	150	8.7	1.36	2.42	20628	161.61	394.88	8.3	13.7
927.0	35.0	22.0	150	8.7	1.31	2.45	20886	134.24	392.30	8.3	13.7
928.0	52.9	22.0	150	8.7	1.18	2.47	21056	88.63	389.32	8.3	13.8
929.0	55.4	22.0	150	8.7	1.17	2.48	21218	84.72	386.36	8.3	13.8
930.0	64.3	22.0	150	8.7	1.12	2.50	21358	72.99	383.35	8.3	13.8
931.0	30.3	22.0	150	8.7	1.35	2.53	21656	155.10	381.18	8.3	13.8
932.0	40.4	22.0	150	8.7	1.26	2.56	21878	116.00	378.68	8.3	13.8
933.0	37.9	21.0	156	8.7	1.28	2.58	22125	123.82	376.29	8.3	13.8
934.0	38.3	21.0	156	8.7	1.28	2.61	22370	122.51	373.94	8.3	13.8
935.0	35.6	21.0	156	8.7	1.30	2.64	22632	131.64	371.72	8.3	13.8
936.0	38.3	21.0	156	8.7	1.28	2.66	22877	122.51	369.46	8.3	13.8
937.0	33.0	21.0	156	8.7	1.32	2.69	23160	142.06	367.41	8.3	13.8
938.0	35.0	24.0	156	8.7	1.35	2.72	23428	134.24	365.33	8.3	13.8
939.0	32.1	24.0	156	8.7	1.37	2.75	23719	145.97	363.38	8.3	13.8
940.0	8.6	23.0	152	8.7	1.75	2.87	24778	544.79	364.98	8.3	13.8
941.0	26.9	23.0	152	8.7	1.41	2.91	25117	174.65	363.32	8.3	13.8
942.0	20.2	23.0	152	8.7	1.42	2.96	25568	231.99	362.19	8.3	13.8
943.0	29.8	23.0	152	8.7	1.37	2.99	25875	157.70	360.44	8.3	13.8
944.0	28.6	23.0	156	8.7	1.40	3.02	26202	164.22	358.78	8.3	13.8
945.0	42.0	34.0	152	8.7	1.42	3.05	26420	111.71	356.70	8.3	13.8
946.0	27.7	23.0	156	8.7	1.40	3.08	26758	162.43	355.14	8.3	13.8
947.0	27.5	23.0	156	8.7	1.41	3.12	27098	170.74	353.62	8.3	13.8
948.0	25.5	24.0	154	8.7	1.44	3.16	27460	183.77	352.22	8.3	13.8
949.0	27.9	24.0	154	8.7	1.41	3.20	27791	168.13	350.73	8.3	13.8
950.0	25.4	24.0	154	8.7	1.44	3.24	28156	185.07	349.39	8.3	13.8
951.0	22.6	24.0	154	8.7	1.48	3.28	28564	207.23	348.25	8.3	13.8
952.0	30.3	24.0	154	8.7	1.39	3.31	28869	155.10	346.72	8.3	13.8
953.0	31.6	24.0	154	8.7	1.38	3.34	29162	148.58	345.16	8.3	13.8
954.0	42.4	24.0	154	8.7	1.29	3.37	29380	110.78	343.33	8.3	13.8
955.0	43.9	25.0	161	8.7	1.30	3.39	29600	106.87	341.50	8.3	13.8
956.0	31.3	25.0	161	8.7	1.41	3.42	29909	149.88	340.02	8.3	13.8
957.0	45.6	25.0	161	8.7	1.29	3.44	30121	102.96	338.21	8.3	13.8
958.0	30.3	25.0	161	8.7	1.42	3.48	30440	155.10	336.83	8.3	13.8
959.0	31.9	25.0	161	8.7	1.40	3.51	30743	147.28	335.40	8.3	13.8
960.0	30.5	24.0	157	8.7	1.39	3.54	31052	153.79	334.05	8.3	13.8
961.0	31.9	24.0	157	8.7	1.38	3.57	31348	147.28	332.66	8.3	13.8
962.0	32.1	24.0	157	8.7	1.38	3.60	31641	145.97	331.29	8.3	13.8
963.0	40.4	24.0	157	8.7	1.31	3.63	31873	116.00	329.72	8.3	13.8
964.0	40.4	24.0	157	8.7	1.31	3.65	32106	116.00	328.17	8.3	13.8
965.0	40.4	24.0	157	8.7	1.31	3.68	32339	116.00	326.64	8.3	13.8
966.0	40.4	24.0	157	8.7	1.31	3.70	32572	116.00	325.14	8.3	13.8
967.0	21.4	24.0	157	8.7	1.50	3.75	33012	218.96	324.39	8.3	13.8
968.0	38.7	24.0	157	8.7	1.32	3.78	33255	121.21	322.96	8.3	13.8
969.0	34.6	24.0	157	8.7	1.35	3.80	33527	135.55	321.64	8.3	13.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
970.0	18.4	25.0	157	8.7	1.57	3.86	34040	255.45	321.18	8.3	13.8
971.0	29.5	25.0	157	8.7	1.42	3.89	34359	159.01	320.07	8.3	13.9
972.0	35.0	25.0	157	8.7	1.37	3.92	34629	134.24	318.79	8.3	13.9
973.0	37.5	25.0	157	8.7	1.34	3.95	34880	125.12	317.48	8.3	13.9
974.0	27.9	25.0	157	8.7	1.44	3.98	35218	168.13	316.47	8.3	13.9
975.0	21.6	25.0	157	8.7	1.52	4.03	35655	217.66	315.80	8.3	13.9
976.0	9.9	25.0	161	8.7	1.76	4.13	36631	474.41	316.86	8.3	13.9
977.0	14.6	25.0	161	8.7	1.64	4.20	37294	321.92	316.89	8.3	13.9
978.0	22.4	25.0	161	8.7	1.51	4.24	37726	209.84	316.19	8.3	13.9
979.0	30.0	25.0	161	8.7	1.42	4.28	38048	156.40	315.15	8.3	13.9
980.0	31.0	25.0	161	8.7	1.41	4.31	38359	151.19	314.08	8.3	13.9
981.0	42.4	25.0	161	8.7	1.31	4.33	38587	110.78	312.77	8.3	13.9
982.0	50.0	25.0	161	8.7	1.26	4.35	38781	93.84	311.37	8.3	13.9
983.0	50.0	25.0	161	8.7	1.26	4.37	38974	93.84	309.98	8.3	13.9
984.0	46.2	25.0	161	8.7	1.29	4.40	39183	101.66	308.66	8.3	13.9
985.0	52.2	25.0	161	8.7	1.25	4.41	39368	89.93	307.29	8.3	13.9
986.0	42.4	25.0	161	8.7	1.31	4.44	39596	110.78	306.06	8.3	13.9
987.0	44.4	25.0	161	8.7	1.30	4.46	39814	105.57	304.81	8.3	13.9
988.0	39.1	25.0	161	8.7	1.34	4.49	40061	119.91	303.67	8.3	13.9
989.0	24.7	25.0	161	8.7	1.48	4.53	40452	190.29	302.98	8.3	13.9
990.0	26.1	22.0	161	8.7	1.42	4.57	40823	179.86	302.23	8.3	13.9
991.0	29.8	22.0	175	8.7	1.40	4.60	41176	157.70	301.35	8.3	13.9
992.0	29.5	22.0	175	8.7	1.40	4.63	41531	159.01	300.49	8.3	13.9
993.0	26.7	22.0	175	8.7	1.43	4.67	41925	175.95	299.75	8.3	13.9
994.0	27.5	22.0	175	8.7	1.43	4.71	42307	170.74	298.98	8.3	13.9
995.0	28.6	22.0	175	8.7	1.41	4.74	42675	164.22	298.18	8.3	13.9
996.0	23.1	22.0	175	8.7	1.48	4.79	43130	203.32	297.62	8.3	13.9
997.0	23.5	22.0	175	8.7	1.47	4.83	43576	199.41	297.05	8.3	13.9
998.0	18.6	22.0	175	8.7	1.54	4.88	44142	252.85	296.79	8.3	13.9
999.0	21.6	20.0	154	8.7	1.42	4.93	44570	217.66	296.33	8.3	13.9
1000.0	19.9	20.0	154	8.7	1.45	4.98	45035	235.90	295.99	8.3	13.9
1001.0	17.8	20.0	154	8.7	1.48	5.03	45553	263.27	295.80	8.3	13.9
1002.0	24.3	20.0	154	8.7	1.39	5.08	45933	192.89	295.22	8.3	13.9
1003.0	20.7	20.0	154	8.7	1.44	5.12	46380	226.78	294.83	8.3	13.9
1004.0	29.0	20.0	154	8.7	1.34	5.16	46698	161.61	294.08	8.3	13.9
1005.0	24.8	21.0	156	8.7	1.40	5.20	47075	188.98	293.49	8.3	13.9
1006.0	33.0	21.0	156	8.7	1.32	5.23	47359	142.06	292.65	8.3	13.9
1007.0	55.4	27.0	156	8.7	1.25	5.25	47528	84.72	291.50	8.3	13.9
1008.0	56.2	27.0	156	8.7	1.24	5.26	47694	83.41	290.36	8.3	13.9
1009.0	21.2	28.0	158	8.7	1.57	5.31	48142	221.57	289.98	8.3	13.9
1010.0	33.3	28.0	158	8.7	1.43	5.34	48426	140.76	289.17	8.3	13.9
1011.0	29.3	28.0	158	8.7	1.47	5.38	48750	160.31	288.48	8.3	13.9
1012.0	35.0	26.0	158	8.7	1.38	5.40	49021	134.24	287.65	8.3	13.9
1013.0	35.6	26.0	158	8.7	1.38	5.43	49287	131.64	286.81	8.3	13.9
1014.0	33.0	26.0	159	8.7	1.40	5.46	49576	142.06	286.04	8.3	14.0
1015.0	31.9	26.0	159	8.7	1.41	5.49	49875	147.28	285.31	8.3	14.0
1016.0	31.0	26.0	159	8.7	1.42	5.53	50183	151.19	284.60	8.3	14.0
1017.0	28.3	26.0	159	8.7	1.45	5.56	50519	165.52	283.98	8.3	14.0
1018.0	29.5	26.0	159	8.7	1.44	5.60	50843	159.01	283.33	8.3	14.0
1019.0	40.9	26.0	159	8.7	1.34	5.62	51076	114.69	282.45	8.3	14.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1020.0	37.1	26.0	159	8.7	1.37	5.65	51333	126.42	281.65	8.3	14.0
1021.0	36.4	25.0	147	8.7	1.33	5.67	51576	129.03	280.87	8.3	14.0
1022.0	40.0	25.0	147	8.7	1.30	5.70	51796	117.30	280.03	8.3	14.0
1023.0	30.8	27.0	147	8.7	1.41	5.73	52083	152.49	279.39	8.3	14.0
1024.0	30.0	27.0	147	8.7	1.42	5.77	52377	156.40	278.76	8.3	14.0
1025.0	25.7	27.0	147	8.7	1.47	5.80	52720	182.47	278.28	8.3	14.0
1026.0	29.5	27.0	147	8.7	1.43	5.84	53019	159.01	277.68	8.3	14.0
1027.0	25.2	25.0	158	8.7	1.47	5.88	53395	186.38	277.23	8.3	14.0
1028.0	23.1	25.0	158	8.7	1.50	5.92	53806	203.32	276.86	8.3	14.0
1029.0	22.0	25.0	158	8.7	1.51	5.97	54238	213.75	276.55	8.3	14.0
1030.0	47.4	25.0	158	8.7	1.27	5.99	54438	99.05	275.68	8.3	14.0
1031.0	40.9	25.0	158	8.7	1.32	6.01	54670	114.69	274.90	8.3	14.0
1032.0	50.0	25.0	158	8.7	1.26	6.03	54859	93.84	274.02	8.3	14.0
1033.0	42.9	25.0	158	8.7	1.30	6.06	55080	109.48	273.22	8.3	14.0
1034.0	46.8	25.0	158	8.7	1.28	6.08	55283	100.36	272.39	8.3	14.0
1035.0	50.0	20.0	152	8.7	1.17	6.10	55466	93.84	271.54	8.3	14.0
1036.0	42.4	20.0	152	8.7	1.22	6.12	55681	110.78	270.77	8.3	14.0
1037.0	35.0	20.0	152	8.7	1.28	6.15	55942	134.24	270.13	8.3	14.0
1038.0	34.0	20.0	152	8.7	1.29	6.18	56210	138.15	269.50	8.3	14.0
1039.0	30.0	20.0	152	8.7	1.32	6.21	56514	156.40	268.97	8.3	14.0
1040.0	23.2	20.0	152	8.7	1.40	6.26	56907	202.02	268.66	8.3	14.0
1041.0	25.5	18.0	152	8.7	1.34	6.29	57264	183.77	268.26	8.3	14.0
1042.0	23.5	18.0	152	8.7	1.36	6.34	57652	199.41	267.95	8.3	14.0
1043.0	22.1	18.0	152	8.7	1.38	6.38	58065	212.44	267.69	8.3	14.0
1044.0	19.7	18.0	152	8.7	1.41	6.43	58528	238.51	267.56	8.3	14.0
1045.0	29.3	18.0	152	8.7	1.30	6.47	58840	160.31	267.07	8.3	14.0
1046.0	37.9	18.0	152	8.7	1.22	6.49	59081	123.82	266.42	8.3	14.0
1047.0	26.5	28.0	152	8.7	1.49	6.53	59425	177.25	266.01	8.3	14.0
1048.0	30.0	28.0	152	8.7	1.45	6.56	59729	156.40	265.52	8.3	14.0
1049.0	29.5	28.0	152	8.7	1.45	6.60	60038	159.01	265.04	8.3	14.0
1050.0	29.8	27.0	158	8.7	1.44	6.63	60357	157.70	264.56	8.3	14.0
1051.0	27.9	27.0	158	8.7	1.46	6.67	60697	168.13	264.13	8.3	14.0
1052.0	25.0	28.0	162	8.7	1.52	6.71	61085	187.68	263.79	8.3	14.0
1053.0	26.1	28.0	162	8.7	1.51	6.75	61458	179.86	263.42	8.3	14.0
1054.0	26.9	28.0	163	8.8	1.49	6.78	61822	174.65	263.04	8.3	14.0
1055.0	26.9	28.0	163	8.8	1.49	6.82	62186	174.65	262.65	8.3	14.0
1056.0	19.7	25.0	158	8.8	1.53	6.87	62668	238.51	262.54	8.3	14.0
1057.0	26.7	27.0	161	8.8	1.47	6.91	63030	175.95	262.17	8.3	14.0
1058.0	28.6	27.0	161	8.8	1.45	6.94	63368	164.22	261.75	8.3	14.0
1059.0	27.3	27.0	161	8.8	1.46	6.98	63723	172.04	261.36	8.3	14.1
1060.0	27.5	27.0	161	8.8	1.46	7.02	64074	170.74	260.98	8.3	14.1
1061.0	26.7	27.0	161	8.8	1.47	7.05	64436	175.95	260.61	8.3	14.1
1062.0	34.3	28.0	159	8.8	1.40	7.08	64715	136.85	260.09	8.3	14.1
1063.0	31.9	28.0	159	8.8	1.42	7.12	65014	147.28	259.61	8.3	14.1
1064.0	15.7	28.0	159	8.8	1.65	7.18	65621	298.46	259.78	8.3	14.1
1065.0	30.5	28.0	159	8.8	1.44	7.21	65934	153.79	259.33	8.3	14.1
1066.0	34.3	28.0	159	8.8	1.40	7.24	66212	136.85	258.82	8.3	14.1
1067.0	32.4	28.0	159	8.8	1.42	7.27	66506	144.67	258.35	8.3	14.1
1068.0	30.3	28.0	159	8.8	1.44	7.30	66821	155.10	257.92	8.3	14.1
1069.0	28.1	28.0	159	8.8	1.46	7.34	67161	166.83	257.55	8.3	14.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1070.0	27.7	28.0	159	8.8	1.47	7.38	67505	169.43	257.19	8.3	14.1
1071.0	28.3	28.0	159	8.8	1.46	7.41	67842	165.52	256.81	8.3	14.1
1072.0	28.3	28.0	159	8.8	1.46	7.45	68178	165.52	256.44	8.3	14.1
1073.0	31.0	28.0	159	8.8	1.43	7.48	68486	151.19	256.01	8.3	14.1
1074.0	28.1	28.0	159	8.8	1.46	7.51	68825	166.83	255.66	8.3	14.1
1075.0	28.1	28.0	159	8.8	1.46	7.55	69164	166.83	255.30	8.3	14.1
1076.0	35.6	28.0	159	8.8	1.39	7.58	69432	131.64	254.80	8.3	14.1
1077.0	26.7	28.0	159	8.8	1.48	7.62	69789	175.95	254.49	8.3	14.1
1078.0	25.2	28.0	159	8.8	1.50	7.66	70168	186.38	254.22	8.3	14.1
1079.0	25.2	28.0	159	8.8	1.50	7.70	70547	186.38	253.95	8.3	14.1
1080.0	27.1	28.0	159	8.8	1.47	7.73	70900	173.34	253.63	8.3	14.1
1081.0	36.7	28.0	159	8.8	1.38	7.76	71159	127.73	253.14	8.3	14.1
1082.0	38.7	28.0	159	8.8	1.36	7.79	71406	121.21	252.62	8.3	14.1
1083.0	32.1	28.0	159	8.8	1.42	7.82	71703	145.97	252.21	8.3	14.1
1084.0	29.3	27.0	155	8.8	1.43	7.85	72020	160.31	251.85	8.3	14.1
1085.0	33.3	27.0	155	8.8	1.39	7.88	72299	140.76	251.42	8.3	14.1
1086.0	30.3	27.0	155	8.8	1.42	7.91	72607	155.10	251.05	8.3	14.1
1087.0	30.3	27.0	155	8.8	1.42	7.95	72914	155.10	250.69	8.3	14.1
1088.0	37.5	37.0	155	8.8	1.48	7.97	73162	125.12	250.21	8.3	14.1
1089.0	36.4	37.0	155	8.8	1.49	8.00	73418	129.03	249.75	8.3	14.1
1090.0	39.6	37.0	155	8.8	1.46	8.03	73653	118.60	249.25	8.3	14.1
1091.0	41.9	37.0	155	8.8	1.44	8.05	73875	112.09	248.73	8.3	14.1
1092.0	45.6	37.0	155	8.8	1.41	8.07	74079	102.96	248.18	8.3	14.1
1093.0	45.6	37.0	155	8.8	1.41	8.09	74283	102.96	247.64	8.3	14.1
1094.0	28.6	37.0	155	8.8	1.57	8.13	74609	164.22	247.33	8.3	14.1
1095.0	41.9	37.0	155	8.8	1.44	8.15	74831	112.09	246.83	8.3	14.1
1096.0	45.0	37.0	155	8.8	1.42	8.17	75038	104.27	246.30	8.3	14.1
1097.0	42.4	37.0	155	8.8	1.44	8.20	75257	110.78	245.80	8.3	14.1
1098.0	44.4	37.0	155	8.8	1.42	8.22	75467	105.57	245.28	8.3	14.1
1099.0	40.9	37.0	155	8.8	1.45	8.25	75694	114.69	244.80	8.3	14.1
1100.0	38.3	37.0	155	8.8	1.47	8.27	75937	122.51	244.36	8.3	14.1
1101.0	35.3	37.0	155	8.8	1.50	8.30	76200	132.94	243.95	8.3	14.1
1102.0	36.7	37.0	155	8.8	1.49	8.33	76453	127.73	243.53	8.3	14.1
1103.0	21.4	37.0	155	8.8	1.67	8.37	76887	218.96	243.44	8.3	14.1
1104.0	35.0	37.0	155	8.8	1.50	8.40	77153	134.24	243.05	8.3	14.1
1105.0	37.5	37.0	155	8.8	1.48	8.43	77401	125.12	242.63	8.3	14.2
1106.0	37.5	37.0	155	8.8	1.48	8.46	77649	125.12	242.21	8.3	14.2
1107.0	35.6	37.0	155	8.8	1.50	8.48	77910	131.64	241.81	8.3	14.2
1108.0	35.6	37.0	155	8.8	1.50	8.51	78171	131.64	241.42	8.3	14.2
1109.0	32.4	37.0	155	8.8	1.53	8.54	78458	144.67	241.08	8.3	14.2
1110.0	39.1	37.0	155	8.8	1.46	8.57	78696	119.91	240.66	8.3	14.2
1111.0	35.0	37.0	155	8.8	1.50	8.60	78962	134.24	240.28	8.3	14.2
1112.0	28.6	35.0	156	8.8	1.55	8.63	79289	164.22	240.02	8.3	14.2
1113.0	32.4	35.0	156	8.8	1.50	8.66	79578	144.67	239.68	8.3	14.2
1114.0	34.6	36.0	157	8.8	1.50	8.69	79850	135.55	239.32	8.3	14.2
1115.0	33.6	36.0	157	8.8	1.51	8.72	80130	139.46	238.98	8.3	14.2
1116.0	34.0	36.0	157	8.8	1.50	8.75	80407	138.15	238.63	8.3	14.2
1117.0	28.8	36.0	157	8.8	1.56	8.79	80735	162.92	238.37	8.3	14.2
1118.0	35.3	36.0	157	8.8	1.49	8.81	81001	132.94	238.01	8.3	14.2
1119.0	32.1	36.0	157	8.8	1.52	8.84	81295	145.97	237.69	8.3	14.2

DEPTH	ROP	WOB	RPM	MW	"d"n	HOURS	URNS	ICOST	CCOST	PP	FG
1120.0	35.6	37.0	156	8.8	1.50	8.87	81557	131.64	237.33	8.3	14.2
1121.0	38.7	37.0	156	8.8	1.47	8.90	81799	121.21	236.94	8.3	14.2
1122.0	34.0	37.0	156	8.8	1.51	8.93	82075	138.15	236.61	8.3	14.2
1123.0	37.5	37.0	156	8.8	1.48	8.95	82324	125.12	236.23	8.3	14.2
1124.0	35.6	37.0	156	8.8	1.50	8.98	82587	131.64	235.88	8.3	14.2
1125.0	36.7	37.0	156	8.8	1.49	9.01	82842	127.73	235.52	8.3	14.2
1126.0	34.3	36.0	155	8.8	1.50	9.04	83113	136.85	235.19	8.3	14.2
1127.0	34.6	36.0	155	8.8	1.49	9.07	83381	135.55	234.86	8.3	14.2
1128.0	48.0	36.0	155	8.8	1.38	9.09	83575	97.75	234.40	8.3	14.2
1129.0	55.4	36.0	155	8.8	1.33	9.11	83743	84.72	233.91	8.3	14.2
1130.0	48.6	36.0	155	8.8	1.38	9.13	83934	96.45	233.46	8.3	14.2
1131.0	45.6	36.0	155	8.8	1.40	9.15	84138	102.96	233.03	8.3	14.2
1132.0	69.2	36.0	155	8.8	1.26	9.16	84273	67.77	232.49	8.3	14.2
1133.0	55.4	35.0	158	8.8	1.33	9.18	84444	84.72	232.01	8.3	14.2
1134.0	56.2	35.0	158	8.8	1.32	9.20	84612	83.41	231.53	8.3	14.2
1135.0	52.2	35.0	158	8.8	1.35	9.22	84794	89.93	231.07	8.3	14.2
1136.0	44.4	37.0	156	8.8	1.42	9.24	85005	105.57	230.66	8.3	14.2
1137.0	62.1	37.0	156	8.8	1.31	9.26	85155	75.59	230.16	8.3	14.2
1138.0	58.1	37.0	156	8.8	1.33	9.27	85317	80.81	229.68	8.3	14.2
1139.0	45.0	37.0	156	8.8	1.42	9.30	85525	104.27	229.28	8.3	14.2
1140.0	59.0	37.0	156	8.8	1.33	9.31	85683	79.50	228.81	8.3	14.2
1141.0	64.3	37.0	156	8.8	1.30	9.33	85829	72.99	228.31	8.3	14.2
1142.0	55.4	37.0	156	8.8	1.35	9.35	85998	84.72	227.86	8.3	14.2
1143.0	51.4	36.0	157	8.8	1.36	9.37	86181	91.23	227.43	8.3	14.2
1144.0	61.0	36.0	157	8.8	1.31	9.38	86335	76.90	226.95	8.3	14.2
1145.0	43.9	36.0	157	8.8	1.42	9.41	86550	106.87	226.58	8.3	14.2
1146.0	45.0	36.0	157	8.8	1.41	9.43	86759	104.27	226.20	8.3	14.2
1147.0	50.7	36.0	157	8.8	1.37	9.45	86945	92.54	225.78	8.3	14.2
1148.0	63.2	36.0	157	8.8	1.29	9.46	87094	74.29	225.31	8.3	14.2
1149.0	57.1	36.0	157	8.8	1.33	9.48	87259	82.11	224.86	8.3	14.2
1150.0	40.4	37.0	157	8.8	1.46	9.51	87492	116.00	224.53	8.3	14.2
1151.0	44.4	37.0	157	8.8	1.42	9.53	87704	105.57	224.16	8.3	14.2
1152.0	48.0	37.0	156	8.9	1.39	9.55	87899	97.75	223.78	8.3	14.2
1153.0	42.4	37.0	156	8.8	1.43	9.57	88120	110.78	223.43	8.3	14.3
1154.0	40.0	37.0	156	8.9	1.45	9.60	88354	117.30	223.11	8.3	14.3
1155.0	40.0	37.0	156	8.9	1.45	9.62	88588	117.30	222.78	8.3	14.3
1156.0	44.4	37.0	156	8.9	1.42	9.65	88799	105.57	222.43	8.3	14.3
1157.0	37.5	37.0	156	8.8	1.48	9.67	89048	125.12	222.14	8.3	14.3
1158.0	34.6	37.0	156	8.9	1.50	9.70	89319	135.55	221.87	8.3	14.3
1159.0	42.9	37.0	156	8.9	1.43	9.72	89537	109.48	221.54	8.3	14.3
1160.0	37.9	37.0	156	8.9	1.47	9.75	89784	123.82	221.24	8.3	14.3
1161.0	35.3	37.0	158	8.9	1.49	9.78	90053	132.94	220.98	8.3	14.3
1162.0	40.9	37.0	158	8.9	1.44	9.80	90284	114.69	220.66	8.3	14.3
1163.0	30.0	35.0	154	8.9	1.51	9.84	90592	156.40	220.47	8.3	14.3
1164.0	39.5	37.0	158	8.9	1.45	9.86	90833	118.93	220.17	8.3	14.3
1165.0	40.9	37.0	158	8.9	1.44	9.89	91064	114.69	219.86	8.3	14.3
1166.0	42.4	37.0	158	8.9	1.43	9.91	91288	110.78	219.54	8.3	14.3
1167.0	34.6	37.0	158	8.9	1.50	9.94	91562	135.55	219.30	8.3	14.3
1168.0	33.6	37.0	158	8.9	1.51	9.97	91844	139.46	219.06	8.3	14.3
1169.0	37.1	36.0	156	8.9	1.46	10.00	92096	126.42	218.79	8.3	14.3

DEPTH	ROP	WOB	RPM	MW	"d"r	HOURS	TURNS	ICOST	CCOST	PP	FC
1170.0	35.3	36.0	156	8.9	1.40	10.02	92361	132.94	218.54	8.3	14.3
1171.0	35.3	36.0	156	8.9	1.40	10.05	92626	132.94	218.29	8.3	14.3
1172.0	35.6	36.0	156	8.9	1.47	10.08	92889	131.64	218.04	8.3	14.3
1173.0	37.5	36.0	156	8.9	1.46	10.11	93139	125.12	217.78	8.3	14.3
1174.0	40.0	36.0	156	8.9	1.43	10.13	93373	117.30	217.49	8.3	14.3
1175.0	41.4	36.0	156	8.9	1.42	10.16	93599	113.39	217.19	8.3	14.3
1176.0	41.9	37.0	155	8.9	1.43	10.18	93821	112.09	216.89	8.3	14.3
1177.0	44.4	37.0	155	8.9	1.41	10.20	94030	105.57	216.57	8.3	14.3
1178.0	27.9	37.0	155	8.9	1.52	10.24	94363	168.13	216.43	8.3	14.3
1179.0	33.0	37.0	155	8.9	1.51	10.27	94645	142.06	216.22	8.3	14.3
1180.0	51.4	37.0	155	8.9	1.36	10.29	94826	91.23	215.87	8.3	14.3
1181.0	42.9	37.0	155	8.9	1.42	10.31	95043	109.48	215.57	8.3	14.3
1182.0	33.0	37.0	155	8.9	1.51	10.34	95324	142.06	215.36	8.3	14.3
1183.0	52.2	37.0	155	8.9	1.35	10.36	95503	89.93	215.01	8.3	14.3
1184.0	48.0	37.0	155	8.9	1.38	10.38	95696	97.75	214.68	8.3	14.3
1185.0	46.2	37.0	155	8.9	1.39	10.40	95898	101.66	214.37	8.3	14.3
1186.0	32.7	37.0	155	8.9	1.51	10.43	96182	143.37	214.17	8.3	14.3
1187.0	42.4	37.0	155	8.9	1.42	10.46	96402	110.78	213.89	8.3	14.3
1188.0	29.3	37.0	155	8.9	1.55	10.49	96719	160.31	213.74	8.3	14.3
1189.0	39.6	37.0	155	8.9	1.45	10.52	96955	118.60	213.48	8.3	14.3
1190.0	38.3	37.0	155	8.9	1.46	10.54	97197	122.51	213.23	8.3	14.3
1191.0	34.6	37.0	155	8.9	1.49	10.57	97466	135.55	213.01	8.3	14.3
1192.0	34.6	37.0	155	8.9	1.49	10.60	97735	135.55	212.80	8.3	14.3
1193.0	32.4	37.0	155	8.9	1.51	10.63	98021	144.67	212.62	8.3	14.3
1194.0	39.1	37.0	155	8.9	1.45	10.66	98259	119.91	212.36	8.3	14.3
1195.0	37.1	37.0	155	8.9	1.47	10.68	98510	126.42	212.13	8.3	14.3
1196.0	24.3	37.0	155	8.9	1.61	10.73	98892	192.89	212.08	8.3	14.3
1197.0	26.1	37.0	155	8.9	1.59	10.76	99249	179.86	211.99	8.3	14.3
1198.0	20.6	37.0	155	8.9	1.67	10.81	99701	228.08	212.04	8.3	14.3
1199.0	35.6	37.0	155	8.9	1.48	10.84	99962	131.64	211.82	8.3	14.3
1200.0	35.3	37.0	155	8.9	1.49	10.87	100225	132.94	211.61	8.3	14.3
1201.0	33.0	37.0	155	8.9	1.51	10.90	100507	142.06	211.42	8.3	14.3
1202.0	29.8	37.0	155	8.9	1.54	10.93	100819	157.70	211.28	8.3	14.4
1203.0	33.6	37.0	155	8.9	1.50	10.96	101096	139.46	211.09	8.3	14.4
1204.0	33.6	37.0	155	8.9	1.50	10.99	101372	139.46	210.90	8.3	14.4
1205.0	49.3	37.0	155	8.9	1.37	11.01	101561	95.14	210.60	8.3	14.4
1206.0	43.4	37.0	155	8.9	1.42	11.04	101775	103.18	210.33	8.3	14.4
1207.0	13.4	37.0	155	8.9	1.81	11.11	102467	349.29	210.69	8.3	14.4
1208.0	26.1	37.0	155	8.9	1.59	11.15	102824	179.86	210.61	8.3	14.4
1209.0	27.5	37.0	155	8.9	1.57	11.18	103162	170.74	210.51	8.3	14.4
1210.0	29.8	37.0	155	8.9	1.54	11.22	103475	157.70	210.37	8.3	14.4
1211.0	34.6	37.0	155	8.9	1.49	11.25	103744	135.55	210.17	8.3	14.4
1212.0	33.0	37.0	155	8.9	1.51	11.28	104025	142.06	210.00	8.3	14.4
1213.0	29.3	37.0	155	8.9	1.55	11.31	104343	160.31	209.87	8.3	14.4
1214.0	31.9	37.0	155	8.9	1.52	11.34	104635	147.28	209.71	8.3	14.4
1215.0	33.3	37.0	155	8.9	1.50	11.37	104914	140.76	209.53	8.3	14.4
1216.0	34.0	36.0	151	8.9	1.48	11.40	105181	138.15	209.35	8.3	14.4
1217.0	29.8	36.0	151	8.9	1.52	11.44	105485	157.70	209.22	8.3	14.4
1218.0	32.1	36.0	151	8.9	1.50	11.47	105767	145.97	209.05	8.3	14.4
1219.0	31.6	36.0	151	8.9	1.50	11.50	106054	148.58	208.90	8.3	14.4

DEPTH	ROP	WOB	RPM	MW	"d"r	HOURS	URNS	ICOST	CCOST	PP	FG
1220.0	33.6	36.0	151	8.9	1.40	11.53	106323	139.46	208.72	8.3	14.4
1221.0	73.5	36.0	151	8.9	1.27	11.54	106446	63.86	208.36	8.3	14.4
1222.0	45.6	36.0	151	8.9	1.30	11.56	106645	102.96	208.09	8.3	14.4
1223.0	40.9	36.0	151	8.9	1.41	11.59	106867	114.69	207.86	8.3	14.4
1224.0	37.9	36.0	151	8.9	1.44	11.62	107106	123.82	207.64	8.3	14.4
1225.0	27.5	34.0	155	8.9	1.53	11.65	107444	170.74	207.55	8.3	14.4
1226.0	21.7	34.0	155	8.9	1.61	11.70	107873	216.35	207.57	8.3	14.4
1227.0	30.8	34.0	155	8.9	1.49	11.73	108175	152.49	207.44	8.3	14.4
1228.0	30.5	38.0	152	8.9	1.54	11.76	108474	153.79	207.30	8.3	14.4
1229.0	30.8	39.0	153	8.9	1.55	11.80	108773	152.49	207.17	8.3	14.4
1230.0	26.7	39.0	153	8.9	1.60	11.83	109117	175.95	207.09	8.3	14.4
1231.0	26.9	39.0	153	8.9	1.60	11.87	109459	174.65	207.01	8.3	14.4
1232.0	22.1	39.0	153	8.9	1.67	11.92	109874	212.44	207.02	8.3	14.4
1233.0	22.0	39.0	153	8.9	1.67	11.96	110292	213.75	207.04	8.3	14.4
1234.0	21.7	39.0	153	8.9	1.67	12.01	110716	216.35	207.06	8.3	14.4
1235.0	24.8	39.0	153	8.9	1.63	12.05	111085	188.98	207.02	8.3	14.4
1236.0	26.1	39.0	153	8.9	1.61	12.09	111437	179.86	206.95	8.3	14.4
1237.0	61.0	39.0	153	8.9	1.32	12.10	111588	76.90	206.64	8.3	14.4
1238.0	28.8	39.0	153	8.9	1.57	12.14	111907	162.92	206.53	8.3	14.4
1239.0	23.4	39.0	153	8.9	1.65	12.18	112299	200.71	206.52	8.3	14.4
1240.0	23.5	39.0	153	8.9	1.64	12.22	112689	199.41	206.50	8.3	14.4
1241.0	21.6	37.0	151	8.9	1.64	12.27	113110	217.66	206.53	8.3	14.4
1242.0	21.6	37.0	151	8.9	1.64	12.31	113530	217.66	206.55	8.3	14.4
1243.0	25.0	37.0	151	8.9	1.59	12.35	113892	187.68	206.51	8.3	14.4
1244.0	10.8	37.0	151	8.9	1.88	12.45	114733	435.31	207.05	8.3	14.4
1245.0	16.1	32.0	155	8.9	1.68	12.51	115312	291.95	207.26	8.3	14.4
1246.0	18.4	31.0	155	8.9	1.62	12.56	115818	255.45	207.37	8.3	14.4
1247.0	20.0	31.0	155	8.9	1.59	12.61	116283	234.60	207.44	8.3	14.4
1248.0	14.6	31.0	155	8.9	1.69	12.68	116918	320.62	207.70	8.3	14.4
1249.0	17.4	31.0	155	8.9	1.64	12.74	117453	269.79	207.85	8.3	14.4
1250.0	16.3	31.0	155	8.9	1.66	12.80	118024	288.04	208.04	8.3	14.4
1251.0	15.4	31.0	155	8.9	1.68	12.87	118629	304.98	208.27	8.3	14.4
1252.0	13.6	31.0	155	8.9	1.72	12.94	119311	344.08	208.59	8.3	14.5
1253.0	11.3	31.0	155	8.9	1.78	13.03	120132	414.46	209.07	8.3	14.5
1254.0	14.1	31.0	155	8.9	1.71	13.10	120793	333.65	209.36	8.3	14.5
1255.0	25.2	38.0	158	8.9	1.62	13.14	121170	186.38	209.31	8.3	14.5
1256.0	24.5	38.0	158	8.9	1.63	13.18	121557	191.59	209.27	8.3	14.5
1257.0	22.0	38.0	158	8.9	1.67	13.23	121989	213.75	209.28	8.3	14.5
1258.0	22.4	38.0	158	8.9	1.66	13.27	122413	209.84	209.28	8.3	14.5
1259.0	26.1	38.0	158	8.9	1.61	13.31	122776	179.86	209.21	8.3	14.5
1260.0	23.1	38.0	158	8.9	1.65	13.35	123187	203.32	209.20	8.3	14.5
1261.0	28.1	38.0	158	8.9	1.58	13.39	123524	166.83	209.10	8.3	14.5
1262.0	28.8	38.0	158	8.9	1.57	13.42	123853	162.92	208.99	8.3	14.5
1263.0	30.0	38.0	158	8.9	1.56	13.46	124169	156.40	208.87	8.3	14.5
1264.0	24.5	37.0	157	8.9	1.61	13.50	124554	191.59	208.83	8.3	14.5
1265.0	22.5	37.0	157	8.9	1.64	13.54	124973	208.53	208.83	8.3	14.5
1266.0	24.0	37.0	157	8.9	1.62	13.58	125365	195.50	208.80	8.3	14.5
1267.0	25.0	37.0	157	8.9	1.61	13.62	125742	187.68	208.75	8.3	14.5
1268.0	25.7	37.0	157	8.9	1.60	13.66	126108	182.47	208.69	8.3	14.5
1269.0	18.8	37.0	157	8.9	1.70	13.71	126608	248.94	208.79	8.3	14.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1270.0	18.8	37.0	157	8.9	1.70	13.77	127108	248.94	208.88	8.3	14.5
1271.0	16.5	39.0	157	8.9	1.70	13.83	127678	264.13	209.04	8.3	14.5
1272.0	22.1	39.0	157	8.9	1.68	13.87	128105	212.44	209.05	8.3	14.5
1273.0	25.7	39.0	157	8.9	1.62	13.91	128471	182.47	208.99	8.3	14.5
1274.0	26.5	37.0	161	8.9	1.60	13.95	128836	177.25	208.92	8.3	14.5
1275.0	23.5	37.0	161	8.9	1.64	13.99	129247	197.41	208.90	8.3	14.5
1276.0	20.5	37.0	161	8.9	1.68	14.04	129719	229.39	208.95	8.3	14.5
1277.0	26.1	39.0	158	8.9	1.62	14.08	130082	177.86	208.88	8.3	14.5
1278.0	22.2	39.0	158	8.9	1.68	14.12	130509	211.14	208.89	8.3	14.5
1279.0	21.1	39.0	158	8.9	1.69	14.17	130959	222.87	208.92	8.3	14.5
1280.0	19.4	38.0	160	8.9	1.71	14.22	131455	242.42	208.99	8.3	14.5
1281.0	20.3	38.0	160	8.9	1.70	14.27	131927	230.69	209.04	8.3	14.5
1282.0	20.8	38.0	160	8.9	1.69	14.32	132389	225.48	209.08	8.3	14.5
1283.0	22.9	39.0	162	8.9	1.67	14.36	132812	204.62	209.07	8.3	14.5
1284.0	29.0	39.0	162	8.9	1.59	14.40	133147	161.61	208.96	8.3	14.5
1285.0	23.7	39.0	162	8.9	1.66	14.44	133558	198.11	208.94	8.3	14.5
1286.0	18.2	40.0	167	8.9	1.78	14.50	134109	258.06	209.05	8.3	14.5
1287.0	20.8	39.0	167	8.9	1.72	14.54	134590	225.48	209.08	8.3	14.5
1288.0	22.5	39.0	167	8.9	1.69	14.59	135036	208.53	209.08	8.3	14.5
1289.0	20.0	39.0	167	8.9	1.73	14.64	135537	234.60	209.13	8.3	14.5
1290.0	22.8	39.0	167	8.9	1.69	14.68	135976	205.93	209.13	8.3	14.5
1291.0	19.9	39.0	167	8.9	1.73	14.73	136480	235.90	209.19	8.3	14.5
1292.0	19.7	38.0	163	8.9	1.71	14.78	136977	238.51	209.25	8.3	14.5
1293.0	18.3	38.0	163	8.9	1.74	14.84	137512	256.76	209.35	8.3	14.5
1294.0	19.3	38.0	163	8.9	1.72	14.89	138020	243.72	209.42	8.3	14.5
1295.0	21.3	37.0	156	8.9	1.66	14.94	138460	220.26	209.45	8.3	14.5
1296.0	22.9	37.0	156	8.9	1.63	14.98	138868	204.62	209.44	8.3	14.5
1297.0	22.9	37.0	156	8.9	1.63	15.02	139276	204.62	209.43	8.3	14.5
1298.0	25.4	37.0	156	8.9	1.60	15.06	139645	185.07	209.37	8.3	14.5
1299.0	25.2	38.0	154	8.9	1.61	15.10	140013	186.38	209.33	8.3	14.5
1300.0	26.1	38.0	154	8.9	1.60	15.14	140367	179.86	209.26	8.3	14.5
1301.0	24.2	37.0	153	8.9	1.61	15.18	140746	193.88	209.23	8.3	14.5

BIT NUMBER	3	TADC CODE	114	INTERVAL	1301.0- 1499.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	6.4	BIT RUN	198.0
TOTAL HOURS	9.69	TOTAL TURNS	87192	CONDITION	T2 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1302.0	28.1	25.0	55	8.9	1.08	0.04	118	167	31596	8.3	14.5
1303.0	28.3	28.0	122	8.8	1.38	0.07	376	166	15881	8.3	14.5
1304.0	28.6	28.0	122	8.8	1.38	0.11	632	164	10642	8.3	14.5
1305.0	28.6	28.0	122	8.8	1.38	0.14	888	164	8023	8.3	14.6
1306.0	25.2	28.0	122	8.8	1.42	0.18	1179	186	6455	8.3	14.6
1307.0	30.8	28.0	122	8.8	1.35	0.21	1417	152	5405	8.3	14.6
1308.0	35.3	29.0	145	8.8	1.38	0.24	1663	133	4652	8.3	14.6
1309.0	32.7	30.0	155	8.8	1.44	0.27	1948	143	4088	8.3	14.6
1310.0	22.5	31.0	145	8.8	1.55	0.32	2334	209	3657	8.3	14.6
1311.0	27.3	28.0	148	8.8	1.45	0.35	2660	172	3309	8.3	14.6
1312.0	38.7	28.0	148	8.8	1.34	0.38	2889	121	3019	8.3	14.6
1313.0	34.6	29.0	155	8.8	1.41	0.41	3158	136	2779	8.3	14.6
1314.0	29.3	29.0	155	8.8	1.46	0.44	3476	160	2577	8.3	14.6
1315.0	26.9	29.0	155	8.8	1.49	0.48	3822	175	2406	8.3	14.6
1316.0	24.8	28.0	147	8.8	1.48	0.52	4177	189	2258	8.3	14.6
1317.0	32.7	28.0	147	8.8	1.39	0.55	4447	143	2126	8.3	14.6
1318.0	32.1	28.0	147	8.8	1.40	0.58	4721	146	2009	8.3	14.6
1319.0	35.3	29.0	150	8.8	1.39	0.61	4976	133	1905	8.3	14.6
1320.0	26.1	30.0	152	8.8	1.50	0.65	5326	180	1814	8.3	14.6
1321.0	38.7	30.0	152	8.8	1.38	0.67	5561	121	1729	8.3	14.6
1322.0	31.9	30.0	152	8.8	1.44	0.71	5847	147	1654	8.3	14.6
1323.0	31.6	31.0	155	8.8	1.46	0.74	6142	149	1586	8.3	14.6
1324.0	46.2	31.0	155	8.8	1.34	0.76	6343	102	1521	8.3	14.6
1325.0	23.1	31.0	155	8.8	1.56	0.80	6746	203	1466	8.3	14.6
1326.0	19.5	31.0	155	8.8	1.62	0.85	7224	241	1417	8.3	14.6
1327.0	24.2	30.0	142	8.8	1.51	0.89	7577	194	1370	8.3	14.6
1328.0	22.5	30.0	142	8.8	1.53	0.94	7956	209	1327	8.3	14.6
1329.0	25.0	33.0	146	8.8	1.55	0.98	8306	188	1287	8.3	14.6
1330.0	29.5	35.0	142	8.8	1.51	1.01	8595	159	1248	8.3	14.6
1331.0	21.4	34.0	142	8.8	1.60	1.06	8992	219	1213	8.3	14.6
1332.0	26.7	36.0	152	8.8	1.58	1.10	9334	176	1180	8.3	14.6
1333.0	24.8	36.0	152	8.8	1.60	1.14	9702	189	1149	8.3	14.6
1334.0	25.9	36.0	152	8.8	1.59	1.18	10054	181	1120	8.3	14.6
1335.0	24.2	36.0	152	8.8	1.61	1.22	10431	194	1092	8.3	14.6
1336.0	27.3	36.0	152	8.8	1.57	1.25	10766	172	1066	8.3	14.6
1337.0	27.5	36.0	152	8.8	1.57	1.29	11098	171	1041	8.3	14.6
1338.0	26.9	36.0	149	8.8	1.57	1.33	11430	175	1018	8.3	14.6
1339.0	24.8	36.0	149	8.8	1.60	1.37	11790	188.98	995.97	8.3	14.6
1340.0	24.8	36.0	149	8.8	1.60	1.41	12151	188.98	975.28	8.3	14.6
1341.0	31.6	36.0	149	8.8	1.51	1.44	12434	148.58	954.61	8.3	14.6
1342.0	27.3	30.0	149	8.8	1.48	1.48	12761	172.04	935.52	8.3	14.6
1343.0	26.5	30.0	149	8.8	1.49	1.51	13099	177.25	917.47	8.3	14.6
1344.0	27.9	30.0	149	8.8	1.48	1.55	13420	168.13	900.04	8.3	14.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1345.0	26.7	31.0	149	8.8	1.50	1.59	13755	175.95	883.59	8.3	14.6
1346.0	32.1	31.0	149	8.8	1.44	1.62	14033	145.97	867.19	8.3	14.6
1347.0	27.1	38.0	152	8.8	1.60	1.66	14370	173.34	852.11	8.3	14.6
1348.0	26.5	38.0	152	8.8	1.61	1.69	14714	177.25	837.75	8.3	14.6
1349.0	31.3	38.0	152	8.8	1.55	1.73	15006	149.88	823.42	8.3	14.6
1350.0	23.8	38.0	152	8.8	1.64	1.77	15388	196.80	810.63	8.3	14.6
1351.0	26.9	38.0	152	8.8	1.60	1.80	15728	174.65	797.91	8.3	14.6
1352.0	31.6	39.0	150	8.8	1.55	1.84	16013	148.58	785.18	8.3	14.6
1353.0	27.7	39.0	150	8.8	1.60	1.87	16338	169.43	773.34	8.3	14.6
1354.0	35.0	39.0	150	8.8	1.52	1.90	16595	134.24	761.28	8.3	14.6
1355.0	29.3	40.0	151	8.8	1.60	1.94	16905	160.31	750.15	8.3	14.6
1356.0	28.8	40.0	151	8.8	1.60	1.97	17219	162.92	739.48	8.3	14.6
1357.0	32.4	40.0	151	8.8	1.56	2.00	17499	144.67	728.85	8.3	14.6
1358.0	24.0	40.0	151	8.8	1.66	2.04	17876	195.50	719.50	8.3	14.6
1359.0	31.6	40.0	152	8.8	1.57	2.07	18165	148.58	709.65	8.3	14.7
1360.0	33.0	40.0	152	8.8	1.56	2.10	18441	142.18	700.04	8.3	14.7
1361.0	34.0	40.0	152	8.8	1.54	2.13	18710	138.00	690.67	8.3	14.7
1362.0	35.0	40.0	152	8.8	1.53	2.16	18970	134.06	681.54	8.3	14.7
1363.0	34.0	40.0	152	8.8	1.55	2.19	19239	138.15	672.78	8.3	14.7
1364.0	34.0	40.0	152	8.8	1.55	2.22	19507	138.15	664.29	8.3	14.7
1365.0	27.9	39.0	150	8.8	1.60	2.26	19830	168.13	656.54	8.3	14.7
1366.0	28.6	39.0	150	8.8	1.59	2.29	20145	164.22	648.97	8.3	14.7
1367.0	31.3	39.0	150	8.8	1.56	2.32	20432	149.88	641.40	8.3	14.7
1368.0	24.7	39.0	150	8.8	1.64	2.36	20797	190.29	634.67	8.3	14.7
1369.0	25.0	40.0	150	8.8	1.65	2.40	21157	187.68	628.10	8.3	14.7
1370.0	24.3	40.0	150	8.8	1.66	2.45	21527	192.89	621.79	8.3	14.7
1371.0	19.7	40.0	150	8.8	1.73	2.50	21985	238.51	616.32	8.3	14.7
1372.0	22.1	40.0	150	8.8	1.69	2.54	22392	212.44	610.63	8.3	14.7
1373.0	23.5	40.0	150	8.8	1.67	2.58	22775	199.41	604.92	8.3	14.7
1374.0	26.1	40.0	150	8.8	1.63	2.62	23120	179.86	599.09	8.3	14.7
1375.0	23.7	39.0	150	8.8	1.65	2.66	23500	198.11	593.67	8.3	14.7
1376.0	25.5	39.0	150	8.8	1.63	2.70	23852	183.77	588.21	8.3	14.7
1377.0	20.5	39.0	150	8.8	1.71	2.75	24292	229.39	583.49	8.3	14.7
1378.0	24.0	39.0	150	8.8	1.65	2.79	24667	195.50	578.45	8.3	14.7
1379.0	12.8	39.0	150	8.8	1.87	2.87	25370	366.24	575.73	8.3	14.7
1380.0	21.2	39.0	150	8.8	1.69	2.92	25795	221.57	571.24	8.3	14.7
1381.0	25.5	39.0	150	8.8	1.63	2.96	26147	183.77	566.40	8.3	14.7
1382.0	20.7	40.0	152	8.8	1.72	3.01	26588	226.78	562.21	8.3	14.7
1383.0	22.5	40.0	152	8.8	1.68	3.05	26993	208.53	557.90	8.3	14.7
1384.0	22.5	40.0	152	8.8	1.68	3.10	27399	208.53	553.69	8.3	14.7
1385.0	25.7	40.0	152	8.8	1.64	3.14	27753	182.47	549.27	8.3	14.7
1386.0	22.2	40.0	152	8.8	1.69	3.18	28164	211.14	545.29	8.3	14.7
1387.0	23.2	40.0	152	8.8	1.67	3.22	28556	202.02	541.30	8.3	14.7
1388.0	18.6	40.0	152	8.8	1.75	3.28	29048	252.85	537.98	8.3	14.7
1389.0	17.4	39.0	148	8.9	1.74	3.33	29559	269.79	534.93	8.3	14.7
1390.0	24.8	39.0	148	8.9	1.62	3.37	29916	188.98	531.05	8.3	14.7
1391.0	22.1	39.0	148	8.9	1.66	3.42	30318	212.44	527.51	8.3	14.7
1392.0	24.2	39.0	148	8.9	1.63	3.46	30686	194.20	523.84	8.3	14.7
1393.0	24.2	39.0	148	8.9	1.63	3.50	31053	194.20	520.26	8.3	14.7
1394.0	23.8	39.0	148	8.9	1.63	3.54	31426	196.80	516.78	8.3	14.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1395.0	24.0	39.0	148	8.9	1.63	3.59	31796	195.50	513.37	8.3	14.7
1396.0	21.3	39.0	148	8.9	1.67	3.63	32213	220.26	510.28	8.3	14.7
1397.0	24.5	39.0	148	8.9	1.62	3.67	32575	191.59	506.96	8.3	14.7
1398.0	24.7	39.0	148	8.9	1.62	3.71	32935	190.29	503.70	8.3	14.7
1399.0	23.1	39.0	148	8.9	1.65	3.76	33320	203.32	500.63	8.3	14.7
1400.0	21.2	40.0	150	8.9	1.69	3.81	33745	221.57	497.81	8.3	14.7
1401.0	23.5	40.0	150	8.9	1.66	3.85	34128	199.41	494.83	8.3	14.7
1402.0	26.5	40.0	150	8.9	1.62	3.89	34468	177.25	491.68	8.3	14.7
1403.0	26.1	40.0	150	8.9	1.62	3.92	34813	179.86	488.63	8.3	14.7
1404.0	32.4	40.0	150	8.9	1.54	3.95	35090	144.67	485.29	8.3	14.7
1405.0	27.7	40.0	150	8.9	1.60	3.99	35415	169.43	482.25	8.3	14.7
1406.0	25.9	40.0	150	8.9	1.62	4.03	35763	181.16	479.38	8.3	14.7
1407.0	21.8	40.0	150	8.9	1.60	4.08	36175	215.05	476.89	8.3	14.7
1408.0	16.6	40.0	150	8.9	1.78	4.14	36718	282.82	475.08	8.3	14.7
1409.0	25.2	39.0	155	8.9	1.63	4.18	37087	186.38	472.40	8.3	14.7
1410.0	23.7	39.0	155	8.9	1.65	4.22	37480	198.11	469.89	8.3	14.7
1411.0	20.9	39.0	155	8.9	1.69	4.27	37924	224.17	467.65	8.3	14.7
1412.0	25.0	39.0	158	8.9	1.63	4.31	38303	187.68	465.13	8.3	14.7
1413.0	21.7	39.0	158	8.9	1.68	4.35	38740	216.35	462.91	8.3	14.7
1414.0	21.8	39.0	158	8.9	1.68	4.40	39175	215.05	460.71	8.3	14.7
1415.0	18.2	39.0	158	8.9	1.74	4.45	39696	258.06	458.94	8.3	14.8
1416.0	20.2	40.0	155	8.9	1.71	4.50	40156	231.99	456.96	8.3	14.8
1417.0	21.4	40.0	155	8.9	1.69	4.55	40590	218.96	454.91	8.3	14.8
1418.0	18.1	41.0	147	8.9	1.75	4.60	41078	259.36	453.24	8.3	14.8
1419.0	22.9	41.0	147	8.9	1.66	4.65	41462	204.62	451.13	8.3	14.8
1420.0	22.1	40.0	152	8.9	1.68	4.69	41875	212.44	449.13	8.3	14.8
1421.0	28.1	40.0	152	8.9	1.59	4.73	42200	166.83	446.78	8.3	14.8
1422.0	22.0	40.0	152	8.9	1.68	4.77	42615	213.75	444.85	8.3	14.8
1423.0	20.2	40.0	152	8.9	1.71	4.82	43066	231.99	443.10	8.3	14.8
1424.0	20.9	40.0	152	8.9	1.69	4.87	43502	224.17	441.32	8.3	14.8
1425.0	21.7	40.0	152	8.9	1.60	4.92	43922	216.35	439.51	8.3	14.8
1426.0	23.8	39.0	150	8.9	1.63	4.96	44300	196.80	437.57	8.3	14.8
1427.0	17.7	39.0	150	8.9	1.73	5.02	44807	264.58	436.20	8.3	14.8
1428.0	12.7	39.0	150	8.9	1.85	5.09	45515	368.84	435.67	8.3	14.8
1429.0	16.1	39.0	150	8.9	1.77	5.16	46072	290.64	434.53	8.3	14.8
1430.0	17.1	39.0	150	8.9	1.75	5.21	46600	275.00	433.30	8.3	14.8
1431.0	17.6	39.0	150	8.9	1.73	5.27	47110	265.88	432.01	8.3	14.8
1432.0	14.3	33.0	147	8.9	1.71	5.34	47725	327.14	431.21	8.3	14.8
1433.0	14.8	33.0	147	8.9	1.70	5.41	48320	316.71	430.34	8.3	14.8
1434.0	19.4	33.0	147	8.9	1.61	5.46	48776	242.42	428.93	8.3	14.8
1435.0	17.7	33.0	147	8.9	1.64	5.52	49273	264.58	427.70	8.3	14.8
1436.0	19.4	33.0	147	8.9	1.61	5.57	49729	242.42	426.33	8.3	14.8
1437.0	14.8	37.0	147	8.9	1.76	5.64	50324	316.71	425.52	8.3	14.8
1438.0	14.5	35.0	147	8.9	1.74	5.70	50932	323.23	424.78	8.3	14.8
1439.0	14.6	35.0	152	8.9	1.75	5.77	51555	320.62	424.02	8.3	14.8
1440.0	14.4	35.0	152	8.9	1.75	5.84	52188	325.83	423.31	8.3	14.8
1441.0	14.5	38.0	153	8.9	1.79	5.91	52821	323.23	422.60	8.3	14.8
1442.0	15.7	38.0	153	8.9	1.77	5.98	53407	299.77	421.73	8.3	14.8
1443.0	13.4	38.0	153	8.9	1.82	6.05	54091	349.29	421.22	8.3	14.8
1444.0	15.3	38.0	153	8.9	1.78	6.11	54690	306.28	420.41	8.3	14.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1445.0	15.4	38.0	153	8.9	1.77	6.18	55287	304.98	419.61	8.3	14.8
1446.0	11.6	38.0	149	8.9	1.86	6.27	56059	405.34	419.51	8.3	14.8
1447.0	17.6	38.0	149	8.9	1.72	6.32	56568	267.18	418.47	8.3	14.8
1448.0	17.6	38.0	149	8.9	1.72	6.38	57075	265.88	417.43	8.3	14.8
1449.0	20.2	38.0	149	8.9	1.67	6.43	57517	231.99	416.18	8.3	14.8
1450.0	18.7	38.0	149	8.9	1.70	6.48	57996	251.54	415.08	8.3	14.8
1451.0	19.4	38.0	149	8.9	1.69	6.53	58458	242.42	413.92	8.3	14.8
1452.0	20.5	38.0	149	8.9	1.67	6.58	58895	229.39	412.70	8.3	14.8
1453.0	20.6	39.0	151	8.9	1.68	6.63	59335	228.08	411.49	8.3	14.8
1454.0	19.9	39.0	151	8.9	1.70	6.68	59791	235.90	410.34	8.3	14.8
1455.0	13.7	39.0	151	8.9	1.82	6.76	60450	341.47	409.89	8.3	14.8
1456.0	18.8	41.0	149	8.9	1.74	6.81	60927	250.24	408.86	8.3	14.8
1457.0	18.4	41.0	149	8.9	1.75	6.86	61414	255.45	407.88	8.3	14.8
1458.0	20.0	41.0	149	8.9	1.72	6.91	61861	234.60	406.78	8.3	14.8
1459.0	18.4	41.0	149	8.9	1.75	6.97	62347	255.45	405.82	8.3	14.8
1460.0	17.2	41.0	149	8.9	1.77	7.03	62866	272.40	404.98	8.3	14.8
1461.0	18.4	40.0	152	8.9	1.74	7.08	63363	255.45	404.04	8.3	14.8
1462.0	19.0	40.0	152	8.9	1.73	7.13	63842	246.33	403.06	8.3	14.8
1463.0	20.0	40.0	152	8.9	1.71	7.18	64298	234.60	402.02	8.3	14.8
1464.0	19.4	40.0	152	8.9	1.72	7.23	64769	242.42	401.05	8.3	14.8
1465.0	21.7	40.0	152	8.9	1.68	7.28	65189	216.35	399.92	8.3	14.8
1466.0	18.2	40.0	152	8.9	1.74	7.34	65691	258.06	399.06	8.3	14.8
1467.0	12.6	40.0	152	8.9	1.87	7.41	66416	372.75	398.90	8.3	14.8
1468.0	13.3	40.0	152	8.9	1.85	7.49	67102	353.20	398.63	8.3	14.8
1469.0	16.4	40.0	152	8.9	1.70	7.55	67657	285.43	397.95	8.3	14.8
1470.0	14.1	40.0	152	8.9	1.83	7.62	68305	333.65	397.57	8.3	14.8
1471.0	14.1	40.0	152	8.9	1.83	7.69	68951	332.35	397.19	8.3	14.8
1472.0	13.8	40.0	152	8.9	1.84	7.77	69613	340.17	396.86	8.3	14.8
1473.0	15.9	40.0	152	8.9	1.79	7.83	70185	294.55	396.26	8.3	14.9
1474.0	15.2	40.0	152	8.9	1.86	7.89	70786	308.89	395.76	8.3	14.9
1475.0	12.7	40.0	155	8.9	1.87	7.97	71517	368.84	395.60	8.3	14.9
1476.0	16.1	36.0	155	8.9	1.73	8.03	72093	290.64	395.00	8.3	14.9
1477.0	15.9	38.0	155	8.9	1.77	8.10	72677	294.55	394.43	8.3	14.9
1478.0	14.3	39.0	148	8.9	1.80	8.17	73298	328.44	394.06	8.3	14.9
1479.0	15.0	37.0	155	8.9	1.78	8.23	73918	312.80	393.60	8.3	14.9
1480.0	14.7	38.0	148	8.9	1.78	8.30	74523	319.32	393.19	8.3	14.9
1481.0	17.1	38.0	148	8.9	1.73	8.36	75041	273.70	392.52	8.3	14.9
1482.0	16.7	39.0	151	8.9	1.76	8.42	75584	281.52	391.91	8.3	14.9
1483.0	15.4	39.0	151	8.9	1.78	8.49	76173	304.98	391.43	8.3	14.9
1484.0	13.0	39.0	151	8.9	1.84	8.56	76868	359.72	391.26	8.3	14.9
1485.0	14.9	39.0	151	8.9	1.79	8.63	77474	314.10	390.84	8.3	14.9
1486.0	16.8	39.0	151	8.9	1.75	8.69	78013	278.91	390.23	8.3	14.9
1487.0	14.6	39.0	151	8.9	1.80	8.76	78634	321.92	389.87	8.3	14.9
1488.0	14.9	36.0	147	8.9	1.74	8.82	79227	315.41	389.47	8.3	14.9
1489.0	15.4	36.0	147	8.9	1.73	8.89	79801	304.98	389.02	8.3	14.9
1490.0	21.7	36.0	147	8.9	1.62	8.94	80207	216.35	388.11	8.3	14.9
1491.0	19.3	40.0	156	8.9	1.73	8.99	80693	243.72	387.35	8.3	14.9
1492.0	17.3	40.0	156	8.9	1.77	9.04	81234	271.09	386.74	8.3	14.9
1493.0	14.8	39.0	155	8.9	1.81	9.11	81862	316.71	386.37	8.3	14.9
1494.0	8.6	39.0	155	8.9	1.99	9.23	82944	546.10	387.20	8.3	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1495.0	10.7	37.0	154	8.9	1.88	9.32	83804	436.62	387.46	8.3	14.9
1496.0	12.1	37.0	154	8.9	1.84	9.40	84567	387.09	387.45	8.3	14.9
1497.0	9.2	37.0	154	8.9	1.94	9.51	85573	510.91	388.08	8.3	14.9
1498.0	10.9	39.0	154	8.9	1.91	9.60	86417	428.80	388.29	8.3	14.9
1499.0	12.0	37.0	155	8.9	1.85	9.69	87192	391.00	388.30	8.3	14.9

BIT NUMBER	4	TADC CODE	114	INTERVAL	1499.0- 1955.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	8.1	BIT RUN	456.0
TOTAL HOURS	17.93	TOTAL TURNS	163701	CONDITION	T3 R8 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1500.0	17.7	35.0	152	8.8	1.70	0.06	516	266	39671	8.3	14.9
1501.0	14.8	36.0	154	8.8	1.78	0.12	1142	318	19994	8.3	14.9
1502.0	16.8	36.0	153	8.8	1.74	0.18	1688	279	13423	8.3	14.9
1503.0	19.0	36.0	153	8.8	1.70	0.24	2170	246	10129	8.3	14.9
1504.0	21.1	36.0	153	8.8	1.66	0.28	2606	223	8147	8.3	14.9
1505.0	20.0	36.0	153	8.8	1.68	0.33	3065	235	6829	8.3	14.9
1506.0	18.8	37.0	155	8.9	1.71	0.39	3561	250	5889	8.3	14.9
1507.0	20.8	37.0	155	8.9	1.67	0.44	4008	225	5181	8.3	14.9
1508.0	20.2	37.0	155	8.9	1.68	0.48	4468	232	4631	8.3	14.9
1509.0	22.0	35.0	156	8.9	1.63	0.53	4894	214	4189	8.3	14.9
1510.0	20.8	36.0	153	8.9	1.65	0.58	5335	225	3829	8.3	14.9
1511.0	27.5	36.0	153	8.9	1.55	0.61	5669	171	3524	8.3	14.9
1512.0	22.2	38.0	153	8.9	1.65	0.66	6083	211	3269	8.3	14.9
1513.0	17.7	38.0	153	8.9	1.73	0.72	6600	265	3055	8.3	14.9
1514.0	18.1	38.0	153	8.9	1.72	0.77	7108	259	2868	8.3	14.9
1515.0	19.6	39.0	154	8.9	1.71	0.82	7580	240	2704	8.3	14.9
1516.0	18.9	39.0	154	8.9	1.72	0.88	8068	248	2560	8.3	14.9
1517.0	22.5	39.0	154	8.9	1.66	0.92	8478	209	2429	8.3	14.9
1518.0	24.7	39.0	154	8.9	1.63	0.96	8853	190	2311	8.3	14.9
1519.0	19.6	38.0	152	8.9	1.69	1.01	9319	240	2208	8.3	14.9
1520.0	20.9	38.0	152	8.9	1.67	1.06	9755	224	2113	8.3	14.9
1521.0	20.5	38.0	152	8.9	1.68	1.11	10201	229	2027	8.3	14.9
1522.0	21.7	38.0	152	8.9	1.66	1.15	10621	216	1949	8.3	14.9
1523.0	29.8	38.0	152	8.9	1.55	1.19	10928	158	1874	8.3	14.9
1524.0	26.1	38.0	152	8.9	1.59	1.23	11277	180	1806	8.3	14.9
1525.0	25.4	38.0	152	8.9	1.60	1.27	11637	185	1744	8.3	14.9
1526.0	24.7	38.0	152	8.9	1.61	1.31	12007	190	1686	8.3	14.9
1527.0	22.6	37.0	153	8.9	1.63	1.35	12412	207	1634	8.3	14.9
1528.0	20.8	37.0	153	8.9	1.66	1.40	12854	225	1585	8.3	14.9
1529.0	20.7	37.0	153	8.9	1.66	1.45	13297	227	1540	8.3	14.9
1530.0	21.1	37.0	153	8.9	1.66	1.49	13733	223	1497	8.3	14.9
1531.0	22.1	37.0	153	8.9	1.64	1.54	14149	212	1457	8.3	14.9
1532.0	22.5	37.0	153	8.9	1.63	1.58	14557	209	1419	8.3	14.9
1533.0	21.4	38.0	155	8.9	1.67	1.63	14991	219	1384	8.3	15.0
1534.0	15.9	38.0	155	8.9	1.77	1.69	15577	296	1353	8.3	15.0
1535.0	18.8	38.0	155	8.9	1.71	1.75	16073	250	1322	8.3	15.0
1536.0	18.8	38.0	155	8.9	1.71	1.80	16567	249	1293	8.3	15.0
1537.0	20.0	37.0	153	8.9	1.67	1.85	17026	235	1265	8.3	15.0
1538.0	21.3	37.0	153	8.9	1.65	1.90	17457	220	1239	8.3	15.0
1539.0	20.1	37.0	153	8.9	1.67	1.95	17913	233	1213	8.3	15.0
1540.0	21.2	37.0	153	8.9	1.65	1.99	18347	222	1189	8.3	15.0
1541.0	25.5	37.0	153	8.9	1.59	2.03	18706	184	1165	8.3	15.0
1542.0	17.7	37.0	153	8.9	1.71	2.09	19224	265	1144	8.3	15.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	LCOST	CCOST	PP	FG
1543.0	19.8	38.0	155	8.9	1.70	2.14	19694	237	1124	8.3	15.0
1544.0	20.6	38.0	155	8.9	1.68	2.19	20146	228	1104	8.3	15.0
1545.0	23.7	37.0	147	8.9	1.60	2.23	20519	198	1084	8.3	15.0
1546.0	22.8	37.0	147	8.9	1.62	2.27	20906	206	1065	8.3	15.0
1547.0	25.7	37.0	147	8.9	1.57	2.31	21249	182	1047	8.3	15.0
1548.0	23.8	37.0	147	8.9	1.60	2.36	21619	197	1030	8.3	15.0
1549.0	22.6	37.0	147	8.9	1.62	2.40	22008	207	1013	8.3	15.0
1550.0	24.0	37.0	147	8.9	1.60	2.44	22376	195.50	997.25	8.3	15.0
1551.0	27.1	36.0	155	9.0	1.55	2.48	22719	173.34	981.41	8.3	15.0
1552.0	22.5	36.0	155	9.0	1.61	2.52	23133	208.53	966.83	8.3	15.0
1553.0	17.7	36.0	155	9.0	1.69	2.58	23657	264.58	953.82	8.3	15.0
1554.0	16.4	36.0	155	9.0	1.71	2.64	24225	286.73	941.69	8.3	15.0
1555.0	18.2	36.0	155	9.0	1.68	2.70	24737	258.06	929.48	8.3	15.0
1556.0	15.5	36.0	155	9.0	1.73	2.76	25336	302.37	918.48	8.3	15.0
1557.0	18.9	36.0	155	9.0	1.66	2.81	25827	247.63	906.92	8.3	15.0
1558.0	21.3	39.0	156	9.0	1.67	2.86	26266	220.26	895.28	8.3	15.0
1559.0	19.7	42.0	156	9.0	1.73	2.91	26742	238.51	884.33	8.3	15.0
1560.0	13.0	42.0	156	9.0	1.88	2.99	27462	361.02	875.75	8.3	15.0
1561.0	12.4	40.0	156	9.0	1.86	3.07	28216	377.97	867.72	8.3	15.0
1562.0	15.3	40.0	156	9.0	1.79	3.13	28827	306.28	858.81	8.3	15.0
1563.0	11.3	40.0	156	9.0	1.90	3.22	29659	417.07	851.91	8.3	15.0
1564.0	21.4	38.0	156	9.0	1.65	3.27	30096	218.96	842.17	8.3	15.0
1565.0	19.0	38.0	156	9.0	1.69	3.32	30588	246.33	833.14	8.3	15.0
1566.0	21.8	38.0	156	9.0	1.65	3.37	31017	215.05	823.92	8.3	15.0
1567.0	19.9	36.0	155	9.0	1.65	3.42	31484	235.90	815.27	8.3	15.0
1568.0	19.6	36.0	155	9.0	1.65	3.47	31960	239.81	806.93	8.3	15.0
1569.0	16.5	36.0	155	9.0	1.71	3.53	32523	284.13	799.46	8.3	15.0
1570.0	17.1	36.0	155	9.0	1.70	3.59	33065	273.70	792.06	8.3	15.0
1571.0	22.8	38.0	152	9.0	1.62	3.63	33465	205.93	783.92	8.3	15.0
1572.0	27.1	38.0	152	9.0	1.56	3.67	33802	173.34	775.55	8.3	15.0
1573.0	17.1	38.0	152	9.0	1.72	3.73	34337	275.00	768.79	8.3	15.0
1574.0	17.0	38.0	152	9.0	1.72	3.79	34874	276.31	762.22	8.3	15.0
1575.0	15.3	36.0	147	9.0	1.72	3.85	35452	307.59	756.24	8.3	15.0
1576.0	15.7	36.0	147	9.0	1.71	3.91	36016	299.77	750.31	8.3	15.0
1577.0	14.1	36.0	147	9.0	1.75	3.99	36643	333.65	744.97	8.3	15.0
1578.0	20.0	36.0	147	9.0	1.63	4.04	37084	234.60	738.51	8.3	15.0
1579.0	22.2	36.0	147	9.0	1.59	4.08	37481	211.14	731.92	8.3	15.0
1580.0	20.9	35.0	147	9.0	1.60	4.13	37902	224.17	725.65	8.3	15.0
1581.0	20.5	35.0	147	9.0	1.61	4.18	38333	229.39	719.60	8.3	15.0
1582.0	15.9	37.0	149	9.0	1.72	4.24	38895	294.55	714.48	8.3	15.0
1583.0	24.2	37.0	149	9.0	1.58	4.28	39265	194.20	708.28	8.3	15.0
1584.0	24.8	37.0	149	9.0	1.57	4.32	39625	188.98	702.17	8.3	15.0
1585.0	23.7	37.0	149	9.0	1.59	4.36	40002	198.11	696.31	8.3	15.0
1586.0	18.2	37.0	151	9.0	1.68	4.42	40501	258.06	691.27	8.3	15.0
1587.0	21.7	37.0	151	9.0	1.62	4.47	40918	216.35	685.88	8.3	15.0
1588.0	17.6	37.0	151	9.0	1.69	4.52	41432	265.88	681.16	8.3	15.0
1589.0	18.4	37.0	151	9.0	1.68	4.58	41925	255.45	676.43	8.3	15.0
1590.0	21.8	37.0	151	9.0	1.62	4.62	42340	215.05	671.36	8.3	15.0
1591.0	20.0	38.0	152	9.0	1.67	4.67	42796	234.60	666.61	8.3	15.0
1592.0	16.6	37.0	151	9.0	1.71	4.73	43344	283.48	662.49	8.3	15.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1593.0	14.3	37.0	151	9.0	1.76	4.80	43975	327.14	658.92	8.3	15.0
1594.0	15.7	37.0	151	9.0	1.73	4.87	44552	298.46	655.13	8.3	15.0
1595.0	18.3	37.0	151	9.0	1.68	4.92	45047	256.76	650.98	8.3	15.0
1596.0	17.9	37.0	151	9.0	1.69	4.98	45553	261.97	646.97	8.3	15.1
1597.0	18.6	37.0	151	9.0	1.68	5.03	46041	252.85	642.95	8.3	15.1
1598.0	14.8	37.0	151	9.0	1.75	5.10	46653	316.71	639.65	8.3	15.1
1599.0	16.4	37.0	151	9.0	1.72	5.16	47207	286.73	636.12	8.3	15.1
1600.0	23.8	37.0	151	9.0	1.59	5.20	47587	196.80	631.77	8.3	15.1
1601.0	21.6	38.0	155	9.0	1.65	5.25	48018	217.66	627.71	8.3	15.1
1602.0	14.3	38.0	155	9.0	1.78	5.32	48667	327.14	624.80	8.3	15.1
1603.0	14.0	35.0	147	9.0	1.73	5.39	49296	334.96	622.01	8.3	15.1
1604.0	18.0	35.0	147	9.0	1.65	5.44	49786	260.67	618.57	8.3	15.1
1605.0	23.7	36.0	152	9.0	1.58	5.49	50171	198.11	614.60	8.3	15.1
1606.0	15.7	36.0	152	9.0	1.72	5.55	50751	298.46	611.65	8.3	15.1
1607.0	19.5	36.0	152	9.0	1.65	5.60	51220	241.12	608.22	8.3	15.1
1608.0	14.1	36.0	152	9.0	1.75	5.67	51866	332.35	605.68	8.3	15.1
1609.0	16.6	36.0	152	9.0	1.70	5.73	52416	282.82	602.75	8.3	15.1
1610.0	9.5	36.0	152	9.0	1.89	5.84	53376	493.96	601.77	8.3	15.1
1611.0	18.3	36.0	152	9.0	1.67	5.89	53875	256.76	598.69	8.3	15.1
1612.0	23.5	36.0	152	9.0	1.59	5.94	54263	199.41	595.16	8.3	15.1
1613.0	15.2	37.0	155	9.0	1.75	6.00	54875	308.89	592.64	8.3	15.1
1614.0	14.9	37.0	155	9.0	1.76	6.07	55497	314.10	590.22	8.3	15.1
1615.0	14.7	35.0	155	9.0	1.73	6.14	56130	319.32	587.89	8.3	15.1
1616.0	17.8	35.0	155	9.0	1.67	6.19	56652	263.27	585.11	8.3	15.1
1617.0	19.1	35.0	155	9.0	1.65	6.24	57138	245.03	582.23	8.3	15.1
1618.0	15.6	35.0	155	9.0	1.71	6.31	57735	301.07	579.87	8.3	15.1
1619.0	13.2	36.0	151	9.0	1.78	6.38	58422	355.81	578.00	8.3	15.1
1620.0	20.9	36.0	151	9.0	1.62	6.43	58854	224.17	575.08	8.3	15.1
1621.0	18.5	36.0	151	9.0	1.66	6.49	59345	254.15	572.45	8.3	15.1
1622.0	17.4	36.0	151	9.0	1.68	6.54	59866	269.79	569.98	8.3	15.1
1623.0	14.2	35.0	153	9.0	1.74	6.61	60514	331.05	568.06	8.3	15.1
1624.0	16.7	35.0	153	9.0	1.70	6.67	61065	281.52	565.77	8.3	15.1
1625.0	20.8	35.0	153	9.0	1.62	6.72	61506	225.48	563.07	8.3	15.1
1626.0	19.9	35.0	153	9.0	1.64	6.77	61967	235.90	560.49	8.3	15.1
1627.0	16.6	35.0	153	9.0	1.70	6.83	62521	282.82	558.32	8.3	15.1
1628.0	19.3	35.0	153	8.9	1.65	6.88	62998	243.72	555.88	8.3	15.1
1629.0	13.9	35.0	153	9.0	1.76	6.96	63658	337.56	554.20	8.3	15.1
1630.0	17.7	35.0	153	9.0	1.68	7.01	64176	264.58	551.99	8.3	15.1
1631.0	21.6	35.0	153	9.0	1.61	7.06	64602	217.66	549.46	8.3	15.1
1632.0	26.1	35.0	153	9.0	1.55	7.10	64953	179.86	546.68	8.3	15.1
1633.0	24.3	35.0	153	8.9	1.57	7.14	65331	192.89	544.04	8.3	15.1
1634.0	25.5	35.0	153	9.0	1.56	7.18	65690	183.77	541.37	8.3	15.1
1635.0	29.5	35.0	153	9.0	1.51	7.21	66001	159.01	538.56	8.3	15.1
1636.0	32.4	35.0	153	9.0	1.48	7.24	66285	144.67	535.68	8.3	15.1
1637.0	26.7	35.0	153	9.0	1.54	7.28	66629	175.95	533.08	8.3	15.1
1638.0	26.7	35.0	153	9.0	1.54	7.32	66973	175.95	530.51	8.3	15.1
1639.0	18.1	35.0	153	8.9	1.67	7.37	67480	259.36	528.57	8.3	15.1
1640.0	20.0	35.0	153	9.0	1.64	7.42	67939	234.60	526.49	8.3	15.1
1641.0	20.3	35.0	153	9.0	1.63	7.47	68391	230.69	524.40	8.3	15.1
1642.0	23.8	35.0	153	8.9	1.58	7.51	68776	196.80	522.11	8.3	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1643.0	27.5	35.0	153	9.0	1.53	7.55	69110	170.74	519.67	8.3	15.1
1644.0	23.4	35.0	153	8.9	1.59	7.59	69503	200.71	517.47	8.3	15.1
1645.0	17.8	35.0	153	9.0	1.67	7.65	70018	263.27	515.73	8.3	15.1
1646.0	17.2	35.0	153	9.0	1.69	7.71	70551	272.40	514.08	8.3	15.1
1647.0	16.3	35.0	153	9.0	1.70	7.77	71114	288.04	512.55	8.3	15.1
1648.0	11.5	35.0	153	9.0	1.82	7.86	71915	409.25	511.86	8.3	15.1
1649.0	15.2	37.0	155	9.0	1.76	7.92	72527	308.89	510.50	8.3	15.1
1650.0	18.7	37.0	155	9.0	1.69	7.98	73026	251.54	508.79	8.3	15.1
1651.0	18.4	37.0	155	8.9	1.70	8.03	73532	255.45	507.12	8.3	15.1
1652.0	20.6	37.0	155	9.0	1.66	8.08	73984	228.08	505.30	8.3	15.1
1653.0	24.8	37.0	155	8.9	1.60	8.12	74359	188.98	503.24	8.3	15.1
1654.0	18.5	36.0	154	8.9	1.68	8.17	74859	254.15	501.64	8.3	15.1
1655.0	16.7	36.0	154	8.9	1.71	8.23	75411	280.22	500.22	8.3	15.1
1656.0	16.8	36.0	154	8.9	1.71	8.29	75960	278.91	498.81	8.3	15.1
1657.0	20.7	36.0	154	8.9	1.64	8.34	76407	226.78	497.08	8.3	15.1
1658.0	17.0	36.0	154	8.9	1.71	8.40	76951	276.31	495.70	8.3	15.1
1659.0	23.7	37.0	147	8.9	1.60	8.44	77323	198.11	493.84	8.3	15.1
1660.0	20.6	37.0	147	8.9	1.64	8.49	77752	228.08	492.19	8.3	15.2
1661.0	20.9	37.0	147	8.9	1.64	8.54	78174	224.17	490.53	8.3	15.2
1662.0	19.3	37.0	147	8.9	1.67	8.59	78632	243.72	489.02	8.3	15.2
1663.0	21.1	38.0	149	8.8	1.67	8.64	79056	222.87	487.39	8.3	15.2
1664.0	18.0	38.0	149	8.8	1.73	8.69	79553	260.67	486.02	8.3	15.2
1665.0	18.4	38.0	149	8.8	1.72	8.75	80040	255.45	484.63	8.3	15.2
1666.0	15.7	38.0	149	8.8	1.77	8.81	80611	299.77	483.52	8.3	15.2
1667.0	22.0	38.0	150	8.8	1.67	8.86	81020	213.27	481.92	8.3	15.2
1668.0	26.3	36.0	156	8.8	1.58	8.89	81375	178.12	480.12	8.3	15.2
1669.0	22.8	36.0	156	8.8	1.63	8.94	81786	205.93	478.51	8.3	15.2
1670.0	23.4	36.0	156	8.8	1.62	8.98	82187	200.71	476.88	8.3	15.2
1671.0	22.2	36.0	156	8.8	1.64	9.03	82608	211.14	475.34	8.3	15.2
1672.0	26.3	36.0	156	8.8	1.59	9.06	82964	178.56	473.62	8.3	15.2
1673.0	30.0	36.0	156	8.8	1.54	9.10	83276	156.40	471.80	8.3	15.2
1674.0	22.5	36.0	156	8.8	1.64	9.14	83692	208.53	470.29	8.3	15.2
1675.0	28.1	36.0	156	8.8	1.56	9.18	84025	166.83	468.57	8.3	15.2
1676.0	24.8	36.0	156	8.8	1.60	9.22	84402	188.98	466.99	8.3	15.2
1677.0	16.1	36.0	156	8.8	1.75	9.28	84984	291.95	466.01	8.3	15.2
1678.0	16.7	38.0	155	8.8	1.77	9.34	85542	281.52	464.97	8.3	15.2
1679.0	18.4	35.0	149	8.8	1.60	9.39	86029	255.45	463.81	8.3	15.2
1680.0	20.6	35.0	149	8.8	1.64	9.44	86464	228.08	462.51	8.3	15.2
1681.0	19.9	35.0	149	8.8	1.65	9.49	86913	235.90	461.26	8.3	15.2
1682.0	24.3	36.0	155	8.8	1.61	9.53	87295	192.89	459.80	8.3	15.2
1683.0	20.1	36.0	155	8.9	1.67	9.58	87758	233.30	458.57	8.3	15.2
1684.0	28.1	36.0	155	8.9	1.56	9.62	88088	166.83	456.99	8.3	15.2
1685.0	19.4	36.0	155	8.9	1.60	9.67	88569	242.42	455.84	8.3	15.2
1686.0	11.8	37.0	159	8.9	1.87	9.76	89377	397.52	455.52	8.3	15.2
1687.0	22.0	37.0	159	8.9	1.66	9.80	89812	213.75	454.24	8.3	15.2
1688.0	24.2	37.0	159	8.9	1.63	9.84	90207	194.20	452.86	8.3	15.2
1689.0	22.5	37.0	159	8.9	1.65	9.89	90631	208.53	451.58	8.3	15.2
1690.0	23.7	37.0	159	8.9	1.64	9.93	91033	198.11	450.25	8.3	15.2
1691.0	19.1	37.0	159	8.9	1.71	9.98	91532	245.03	449.18	8.3	15.2
1692.0	21.6	37.0	159	8.9	1.67	10.03	91974	217.66	447.98	8.3	15.2

DEPTH	ROP	WOB	RPM	MW	"d"e	HOURS	URNS	ICOST	CCOST	PP	FG
1693.0	23.8	37.0	159	8.9	1.63	10.07	92374	196.80	446.69	8.3	15.2
1694.0	20.6	37.0	159	8.9	1.68	10.12	92838	228.08	445.56	8.3	15.2
1695.0	24.8	37.0	157	8.9	1.62	10.16	93218	188.98	444.26	8.3	15.2
1696.0	21.6	37.0	157	8.9	1.66	10.21	93654	217.66	443.11	8.3	15.2
1697.0	31.3	37.0	157	8.9	1.54	10.24	93955	149.88	441.62	8.3	15.2
1698.0	28.6	41.0	152	8.9	1.61	10.27	94275	164.22	440.23	8.3	15.2
1699.0	30.8	41.0	152	8.9	1.58	10.31	94571	152.49	438.79	8.3	15.2
1700.0	37.5	41.0	152	8.8	1.51	10.33	94814	125.12	437.23	8.3	15.2
1701.0	31.6	41.0	152	8.8	1.57	10.36	95103	148.58	435.80	8.3	15.2
1702.0	46.8	41.0	152	8.9	1.44	10.39	95298	100.36	434.15	8.3	15.2
1703.0	34.6	41.0	152	8.9	1.54	10.41	95562	135.55	432.69	8.3	15.2
1704.0	31.9	41.0	152	8.9	1.57	10.45	95848	147.28	431.29	8.3	15.2
1705.0	40.0	41.0	152	8.9	1.49	10.47	96076	117.30	429.77	8.3	15.2
1706.0	21.4	41.0	152	8.8	1.71	10.52	96501	218.96	428.75	8.3	15.2
1707.0	40.0	40.0	149	8.8	1.47	10.54	96725	117.30	427.25	8.3	15.2
1708.0	45.6	40.0	149	8.8	1.43	10.56	96921	102.96	425.70	8.3	15.2
1709.0	37.9	40.0	149	8.8	1.49	10.59	97157	123.82	424.26	8.3	15.2
1710.0	32.4	40.0	149	8.8	1.55	10.62	97433	144.67	422.94	8.3	15.2
1711.0	32.4	40.0	149	8.8	1.55	10.65	97708	144.67	421.63	8.3	15.2
1712.0	34.3	40.0	149	8.8	1.53	10.68	97969	136.85	420.29	8.3	15.2
1713.0	40.4	41.0	151	8.8	1.49	10.71	98193	116.00	418.87	8.3	15.2
1714.0	31.3	41.0	151	8.8	1.58	10.74	98482	149.88	417.62	8.3	15.2
1715.0	32.1	40.0	150	8.8	1.56	10.77	98762	145.97	416.36	8.3	15.2
1716.0	18.6	40.0	150	8.8	1.75	10.82	99247	252.85	415.61	8.3	15.2
1717.0	48.0	40.0	150	8.8	1.42	10.84	99435	97.75	414.15	8.3	15.2
1718.0	36.7	42.0	150	8.8	1.53	10.87	99680	127.73	412.84	8.3	15.2
1719.0	36.4	41.0	153	8.8	1.53	10.90	99932	129.03	411.55	8.3	15.2
1720.0	36.7	41.0	153	8.8	1.52	10.93	100182	127.73	410.27	8.3	15.2
1721.0	43.4	40.0	152	8.8	1.45	10.95	100393	108.18	408.90	8.3	15.2
1722.0	43.4	40.0	152	8.8	1.45	10.97	100603	108.18	407.56	8.3	15.2
1723.0	38.3	40.0	152	8.8	1.50	11.00	100841	122.51	406.28	8.3	15.2
1724.0	48.0	40.0	152	8.8	1.42	11.02	101031	97.75	404.91	8.3	15.2
1725.0	22.0	40.0	147	8.8	1.69	11.06	101432	213.27	404.06	8.3	15.2
1726.0	36.0	40.0	152	8.8	1.52	11.09	101685	130.33	402.86	8.3	15.2
1727.0	40.9	40.0	152	8.8	1.47	11.12	101908	114.69	401.59	8.3	15.3
1728.0	35.1	41.0	151	8.9	1.53	11.14	102166	133.59	400.42	8.3	15.3
1729.0	39.6	41.0	151	8.9	1.49	11.17	102395	118.60	399.20	8.3	15.3
1730.0	37.1	40.0	150	8.9	1.50	11.20	102638	126.42	398.02	8.3	15.3
1731.0	31.0	40.0	150	8.9	1.56	11.23	102928	151.19	396.95	8.3	15.3
1732.0	31.0	42.0	155	8.9	1.60	11.26	103227	151.19	395.90	8.3	15.3
1733.0	34.0	42.0	155	8.9	1.57	11.29	103501	138.15	394.80	8.3	15.3
1734.0	16.3	42.0	155	8.9	1.82	11.35	104072	288.04	394.34	8.3	15.3
1735.0	34.0	43.0	154	8.9	1.57	11.38	104344	138.15	393.26	8.3	15.3
1736.0	31.9	43.0	154	8.9	1.60	11.41	104634	147.28	392.22	8.3	15.3
1737.0	40.4	43.0	154	8.9	1.51	11.44	104863	116.00	391.06	8.3	15.3
1738.0	34.6	43.0	154	8.9	1.57	11.47	105130	135.55	389.99	8.3	15.3
1739.0	40.0	43.0	154	8.9	1.52	11.49	105361	117.30	388.65	8.3	15.3
1740.0	31.6	41.0	152	8.9	1.57	11.52	105649	148.58	387.86	8.3	15.3
1741.0	37.9	41.0	152	8.9	1.51	11.55	105890	123.82	386.77	8.3	15.3
1742.0	27.1	41.0	152	8.9	1.63	11.59	106227	173.34	385.89	8.3	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	LCOST	CCOST	PP	FG
1743.0	50.7	41.0	152	8.9	1.41	11.61	106407	92.54	384.69	8.3	15.3
1744.0	34.6	41.0	152	8.9	1.54	11.64	106670	135.55	383.67	8.3	15.3
1745.0	40.9	41.0	152	8.9	1.48	11.66	106893	114.69	382.58	8.3	15.3
1746.0	49.3	41.0	152	8.9	1.42	11.68	107078	95.14	381.41	8.3	15.3
1747.0	40.4	41.0	152	8.9	1.49	11.70	107304	116.00	380.34	8.3	15.3
1748.0	34.0	41.0	152	8.9	1.55	11.73	107572	138.15	379.37	8.3	15.3
1749.0	36.0	41.0	152	8.9	1.53	11.76	107825	130.33	378.37	8.3	15.3
1750.0	53.7	42.0	151	8.9	1.39	11.78	107994	87.32	377.21	8.3	15.3
1751.0	39.6	42.0	151	8.9	1.50	11.81	108223	118.60	376.19	8.3	15.3
1752.0	28.1	42.0	151	8.9	1.62	11.84	108545	166.83	375.36	8.3	15.3
1753.0	57.1	42.0	151	8.9	1.37	11.86	108704	82.11	374.20	8.3	15.3
1754.0	52.9	42.0	151	8.9	1.40	11.88	108875	83.63	373.08	8.3	15.3
1755.0	38.3	42.0	151	8.9	1.51	11.90	109111	122.51	372.11	8.3	15.3
1756.0	46.2	41.0	153	8.9	1.44	11.93	109310	101.66	371.05	8.3	15.3
1757.0	49.3	41.0	153	8.9	1.42	11.95	109497	95.14	369.98	8.3	15.3
1758.0	42.9	41.0	153	8.9	1.47	11.97	109711	109.48	368.98	8.3	15.3
1759.0	47.4	41.0	153	8.9	1.43	11.99	109905	99.05	367.94	8.3	15.3
1760.0	47.4	41.0	153	8.9	1.43	12.01	110098	99.05	366.91	8.3	15.3
1761.0	50.7	41.0	153	8.9	1.41	12.03	110279	92.54	365.86	8.3	15.3
1762.0	36.7	41.0	153	8.9	1.52	12.06	110529	127.73	364.96	8.3	15.3
1763.0	27.5	41.0	153	8.9	1.62	12.09	110863	170.74	364.22	8.3	15.3
1764.0	34.3	41.0	153	8.9	1.55	12.12	111131	136.85	363.36	8.3	15.3
1765.0	35.3	41.0	153	8.9	1.54	12.15	111391	132.94	362.50	8.3	15.3
1766.0	41.9	42.0	151	8.9	1.47	12.18	111608	112.09	361.56	8.3	15.3
1767.0	35.6	43.0	154	8.9	1.55	12.20	111867	131.64	360.70	8.3	15.3
1768.0	46.8	42.0	155	8.9	1.44	12.23	112066	100.36	359.73	8.3	15.3
1769.0	36.4	44.0	154	8.9	1.55	12.25	112320	129.03	358.88	8.3	15.3
1770.0	39.1	44.0	154	8.9	1.52	12.28	112556	119.91	358.00	8.3	15.3
1771.0	50.7	44.0	154	8.9	1.43	12.30	112738	92.54	357.02	8.3	15.3
1772.0	33.0	42.0	151	8.9	1.56	12.33	113013	142.06	356.23	8.3	15.3
1773.0	46.2	42.0	151	8.9	1.44	12.35	113209	101.66	355.31	8.3	15.3
1774.0	42.4	42.0	151	8.9	1.47	12.37	113423	110.78	354.42	8.3	15.3
1775.0	40.0	43.0	156	8.9	1.51	12.40	113657	117.30	353.56	8.3	15.3
1776.0	44.4	43.0	156	8.9	1.47	12.42	113867	105.57	352.66	8.3	15.3
1777.0	41.9	43.0	156	8.9	1.49	12.45	114091	112.09	351.80	8.3	15.3
1778.0	42.9	43.0	156	8.9	1.49	12.47	114309	109.48	350.93	8.3	15.3
1779.0	43.4	43.0	156	8.9	1.48	12.49	114525	108.18	350.06	8.3	15.3
1780.0	47.4	43.0	156	8.9	1.45	12.51	114723	99.05	349.17	8.3	15.3
1781.0	48.6	43.0	156	8.9	1.44	12.53	114915	96.45	348.27	8.3	15.3
1782.0	46.2	43.0	156	8.9	1.46	12.56	115118	101.66	347.40	8.3	15.3
1783.0	35.6	43.0	156	8.9	1.55	12.58	115381	131.64	346.64	8.3	15.3
1784.0	43.9	43.0	156	8.9	1.48	12.61	115594	106.87	345.80	8.3	15.3
1785.0	55.4	43.0	156	8.9	1.40	12.62	115763	84.72	344.89	8.3	15.3
1786.0	45.0	43.0	156	8.9	1.47	12.65	115971	104.27	344.05	8.3	15.3
1787.0	43.9	43.0	156	8.9	1.48	12.67	116184	106.87	343.22	8.3	15.3
1788.0	41.9	43.0	156	8.9	1.49	12.69	116408	112.09	342.42	8.3	15.3
1789.0	61.0	43.0	156	8.9	1.36	12.71	116561	76.90	341.51	8.3	15.3
1790.0	43.4	43.0	156	8.9	1.48	12.73	116777	108.18	340.71	8.3	15.3
1791.0	45.6	44.0	155	8.9	1.47	12.75	116981	102.96	339.89	8.3	15.3
1792.0	25.5	44.0	155	8.9	1.68	12.79	117345	183.77	339.36	8.3	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1793.0	46.2	44.0	155	8.9	1.47	12.82	117547	101.66	338.55	8.3	15.3
1794.0	59.0	44.0	155	8.9	1.38	12.83	117704	79.50	337.67	8.3	15.3
1795.0	47.4	44.0	155	8.9	1.46	12.85	117900	99.05	336.87	8.3	15.3
1796.0	51.4	44.0	155	8.9	1.43	12.87	118081	91.23	336.04	8.3	15.3
1797.0	44.4	44.0	155	8.9	1.48	12.90	118291	105.57	335.27	8.3	15.4
1798.0	53.7	44.0	155	8.9	1.41	12.91	118464	87.32	334.44	8.3	15.4
1799.0	40.9	44.0	155	8.9	1.51	12.94	118691	114.69	333.70	8.3	15.4
1800.0	46.8	44.0	155	8.9	1.46	12.96	118890	100.36	332.93	8.3	15.4
1801.0	31.0	44.0	155	8.9	1.61	12.99	119190	151.19	332.33	8.3	15.4
1802.0	39.6	44.0	155	8.9	1.52	13.02	119425	118.60	331.62	8.3	15.4
1803.0	35.0	44.0	155	8.9	1.57	13.05	119691	134.24	330.97	8.3	15.4
1804.0	35.6	44.0	155	8.9	1.56	13.07	119952	131.64	330.32	8.3	15.4
1805.0	40.0	44.0	155	8.9	1.52	13.10	120184	117.30	329.62	8.3	15.4
1806.0	33.6	44.0	155	8.9	1.58	13.13	120461	139.46	329.00	8.3	15.4
1807.0	39.1	44.0	155	8.9	1.53	13.15	120698	119.91	328.33	8.3	15.4
1808.0	23.4	44.0	155	8.9	1.71	13.20	121096	200.71	327.91	8.3	15.4
1809.0	43.9	44.0	155	8.9	1.49	13.22	121308	106.87	327.20	8.3	15.4
1810.0	31.6	44.0	155	8.9	1.60	13.25	121602	148.58	326.62	8.3	15.4
1811.0	34.0	44.0	155	8.9	1.58	13.28	121876	138.15	326.02	8.3	15.4
1812.0	36.0	44.0	155	8.9	1.56	13.31	122135	130.33	325.40	8.3	15.4
1813.0	41.4	44.0	155	8.9	1.51	13.33	122359	113.39	324.72	8.3	15.4
1814.0	40.0	44.0	155	8.9	1.52	13.36	122592	117.30	324.06	8.3	15.4
1815.0	43.9	44.0	155	8.9	1.49	13.38	122804	106.87	323.37	8.3	15.4
1816.0	42.4	44.0	155	8.9	1.50	13.40	123023	110.78	322.70	8.3	15.4
1817.0	46.2	44.0	155	8.9	1.47	13.43	123225	101.66	322.01	8.3	15.4
1818.0	46.2	44.0	155	8.9	1.47	13.45	123426	101.66	321.32	8.3	15.4
1819.0	49.3	44.0	155	8.9	1.44	13.47	123615	95.14	320.61	8.3	15.4
1820.0	33.3	44.0	155	8.9	1.58	13.50	123894	140.76	320.05	8.3	15.4
1821.0	40.9	44.0	155	8.9	1.51	13.52	124121	114.69	319.41	8.3	15.4
1822.0	37.5	44.0	155	8.9	1.54	13.55	124369	125.12	318.81	8.3	15.4
1823.0	39.6	44.0	155	8.9	1.52	13.57	124604	118.60	318.19	8.3	15.4
1824.0	45.0	44.0	155	8.9	1.48	13.60	124811	104.27	317.54	8.3	15.4
1825.0	42.9	44.0	155	8.9	1.49	13.62	125028	109.48	316.90	8.3	15.4
1826.0	60.0	44.0	155	8.9	1.37	13.64	125183	78.20	316.17	8.3	15.4
1827.0	33.0	44.0	155	8.9	1.59	13.67	125464	142.06	315.64	8.3	15.4
1828.0	47.4	44.0	155	8.9	1.46	13.69	125661	99.05	314.98	8.3	15.4
1829.0	41.9	44.0	155	8.9	1.50	13.71	125883	112.09	314.36	8.3	15.4
1830.0	38.0	42.0	150	8.9	1.51	13.74	126120	123.47	313.79	8.3	15.4
1831.0	37.9	44.0	155	8.9	1.54	13.76	126365	123.82	313.21	8.3	15.4
1832.0	45.6	44.0	155	8.9	1.47	13.79	126569	102.96	312.58	8.3	15.4
1833.0	46.8	44.0	155	8.9	1.46	13.81	126768	100.36	311.95	8.3	15.4
1834.0	44.4	44.0	155	8.9	1.48	13.83	126978	105.57	311.33	8.3	15.4
1835.0	36.4	44.0	155	8.9	1.55	13.86	127233	129.03	310.79	8.3	15.4
1836.0	26.7	44.0	155	8.9	1.66	13.90	127582	175.95	310.39	8.3	15.4
1837.0	39.1	44.0	155	8.9	1.53	13.92	127820	119.91	309.83	8.3	15.4
1838.0	29.3	44.0	155	8.9	1.63	13.95	128137	160.31	309.38	8.3	15.4
1839.0	40.9	44.0	155	8.9	1.51	13.98	128365	114.69	308.81	8.3	15.4
1840.0	23.4	44.0	155	8.9	1.71	14.02	128763	200.71	308.49	8.3	15.4
1841.0	37.5	44.0	155	8.9	1.54	14.05	129011	125.12	307.96	8.3	15.4
1842.0	42.4	44.0	155	8.9	1.50	14.07	129230	110.78	307.38	8.3	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	LCOST	CCOST	PP	FG
1843.0	37.9	44.0	155	8.9	1.54	14.10	129476	123.82	306.85	8.3	15.4
1844.0	39.1	44.0	155	8.9	1.53	14.12	129713	119.91	306.31	8.3	15.4
1845.0	45.0	44.0	155	8.9	1.48	14.15	129920	104.27	305.72	8.3	15.4
1846.0	42.4	44.0	155	8.9	1.50	14.17	130140	110.78	305.16	8.3	15.4
1847.0	40.0	44.0	155	8.9	1.52	14.20	130372	117.30	304.62	8.3	15.4
1848.0	43.4	44.0	155	8.9	1.49	14.22	130586	108.18	304.06	8.3	15.4
1849.0	36.0	44.0	155	8.9	1.56	14.25	130845	130.33	303.56	8.3	15.4
1850.0	37.1	44.0	155	8.9	1.55	14.27	131095	126.42	303.06	8.3	15.4
1851.0	37.1	43.0	152	8.9	1.53	14.30	131341	126.42	302.56	8.3	15.4
1852.0	40.0	44.0	152	8.9	1.51	14.32	131569	117.30	302.03	8.3	15.4
1853.0	40.9	44.0	152	8.9	1.50	14.35	131792	114.69	301.50	8.3	15.4
1854.0	37.9	44.0	152	8.9	1.53	14.38	132033	123.82	301.00	8.3	15.4
1855.0	37.5	44.0	152	8.9	1.54	14.40	132276	125.12	300.51	8.3	15.4
1856.0	35.3	44.0	152	8.9	1.56	14.43	132534	132.94	300.04	8.3	15.4
1857.0	38.7	44.0	152	8.9	1.52	14.46	132770	121.21	299.54	8.3	15.4
1858.0	42.9	44.0	152	8.9	1.49	14.48	132983	109.48	299.01	8.3	15.4
1859.0	26.1	44.0	152	8.9	1.66	14.52	133332	179.86	298.68	8.3	15.4
1860.0	41.9	44.0	152	8.9	1.50	14.54	133550	112.09	298.16	8.3	15.4
1861.0	41.9	44.0	152	8.9	1.50	14.57	133768	112.09	297.65	8.3	15.4
1862.0	42.9	44.0	152	8.9	1.49	14.59	133981	109.48	297.13	8.3	15.4
1863.0	36.0	44.0	152	8.9	1.55	14.62	134234	130.33	296.67	8.3	15.4
1864.0	43.9	44.0	152	8.9	1.48	14.64	134442	106.87	296.15	8.3	15.4
1865.0	42.9	44.0	152	8.9	1.49	14.66	134655	109.48	295.64	8.3	15.4
1866.0	34.3	44.0	152	8.9	1.57	14.69	134921	136.85	295.21	8.3	15.4
1867.0	37.1	44.0	152	8.9	1.54	14.72	135166	126.42	294.75	8.3	15.4
1868.0	26.7	44.0	152	8.9	1.66	14.76	135508	175.95	294.43	8.3	15.4
1869.0	28.6	44.0	152	8.9	1.63	14.79	135828	164.22	294.08	8.3	15.5
1870.0	25.9	43.0	151	8.9	1.65	14.83	136177	181.16	293.77	8.3	15.5
1871.0	24.7	2.0	115	8.9	0.80	14.87	136457	190.29	293.49	8.3	15.5
1872.0	66.7	36.0	139	8.9	1.22	14.89	136582	70.38	292.90	8.3	15.5
1873.0	42.9	36.0	115	8.9	1.30	14.91	136743	109.48	292.41	8.3	15.5
1874.0	37.5	38.0	118	8.9	1.38	14.94	136932	125.12	291.96	8.3	15.5
1875.0	39.1	38.0	145	8.9	1.44	14.96	137154	119.91	291.50	8.3	15.5
1876.0	26.7	39.0	144	8.9	1.58	15.00	137478	175.95	291.20	8.3	15.5
1877.0	30.3	40.0	148	8.9	1.56	15.03	137772	155.10	290.84	8.3	15.5
1878.0	41.4	42.0	148	8.9	1.47	15.06	137987	113.39	290.37	8.3	15.5
1879.0	27.9	43.0	149	8.9	1.62	15.09	138307	168.13	290.05	8.3	15.5
1880.0	28.1	43.0	149	8.9	1.62	15.13	138625	166.83	289.72	8.3	15.5
1881.0	31.9	43.0	149	8.9	1.57	15.16	138905	147.28	289.35	8.3	15.5
1882.0	33.6	43.0	149	8.9	1.56	15.19	139171	139.46	288.96	8.3	15.5
1883.0	28.1	43.0	149	8.9	1.62	15.22	139489	166.83	288.64	8.3	15.5
1884.0	32.7	43.0	149	8.9	1.57	15.25	139762	143.37	288.26	8.3	15.5
1885.0	30.8	40.0	147	8.9	1.55	15.29	140049	152.49	287.91	8.3	15.5
1886.0	31.0	40.0	147	8.9	1.54	15.32	140333	151.19	287.56	8.3	15.5
1887.0	28.3	40.0	147	8.9	1.58	15.35	140644	165.52	287.24	8.3	15.5
1888.0	23.2	40.0	147	8.9	1.64	15.40	141024	202.02	287.02	8.3	15.5
1889.0	28.3	40.0	151	8.9	1.58	15.43	141344	165.52	286.71	8.3	15.5
1890.0	27.7	40.0	151	8.9	1.59	15.47	141671	169.43	286.41	8.3	15.5
1891.0	41.4	40.0	151	8.9	1.45	15.49	141890	113.39	285.97	8.3	15.5
1892.0	33.6	40.0	151	8.9	1.53	15.52	142159	139.46	285.60	8.3	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1893.0	31.6	40.0	151	8.9	1.55	15.55	142446	148.58	285.25	8.3	15.5
1894.0	31.9	40.0	151	8.9	1.54	15.59	142730	147.28	284.90	8.3	15.5
1895.0	35.0	44.0	151	8.9	1.56	15.61	142989	134.24	284.52	8.3	15.5
1896.0	33.0	44.0	151	8.9	1.58	15.65	143264	142.06	284.16	8.3	15.5
1897.0	31.0	45.0	129	8.9	1.56	15.68	143513	151.19	283.83	8.3	15.5
1898.0	34.6	45.0	129	8.9	1.52	15.71	143737	135.55	283.46	8.3	15.5
1899.0	29.8	44.0	138	8.9	1.58	15.74	144015	157.70	283.14	8.3	15.5
1900.0	31.0	44.0	138	8.9	1.57	15.77	144282	151.19	282.81	8.3	15.5
1901.0	26.3	44.0	138	8.9	1.63	15.81	144597	178.56	282.55	8.3	15.5
1902.0	36.0	44.0	138	8.9	1.52	15.84	144827	130.33	282.18	8.3	15.5
1903.0	37.1	44.0	148	8.9	1.53	15.86	145066	126.42	281.79	8.3	15.5
1904.0	32.4	44.0	148	8.9	1.58	15.90	145340	144.67	281.45	8.3	15.5
1905.0	40.0	44.0	148	8.9	1.50	15.92	145562	117.30	281.05	8.3	15.5
1906.0	32.1	44.0	148	8.9	1.58	15.95	145838	145.97	280.71	8.3	15.5
1907.0	27.9	44.0	148	8.9	1.63	15.99	146157	168.13	280.44	8.3	15.5
1908.0	29.8	42.0	149	8.9	1.59	16.02	146457	157.70	280.14	8.3	15.5
1909.0	36.0	42.0	149	8.9	1.52	16.05	146705	130.33	279.77	8.3	15.5
1910.0	43.4	42.0	149	8.9	1.45	16.07	146911	108.18	279.36	8.3	15.5
1911.0	37.9	41.0	152	8.9	1.50	16.10	147152	123.82	278.98	8.3	15.5
1912.0	34.6	41.0	152	8.9	1.53	16.13	147416	135.55	278.63	8.3	15.5
1913.0	35.0	41.0	152	8.9	1.53	16.16	147677	134.24	278.28	8.3	15.5
1914.0	43.9	41.0	152	8.9	1.45	16.18	147884	106.87	277.87	8.3	15.5
1915.0	35.3	41.0	152	8.9	1.52	16.21	148143	132.94	277.52	8.3	15.5
1916.0	31.9	42.0	153	8.9	1.57	16.24	148431	147.28	277.21	8.3	15.5
1917.0	34.3	42.0	153	8.9	1.55	16.27	148699	136.85	276.87	8.3	15.5
1918.0	39.6	42.0	153	8.9	1.50	16.29	148931	118.60	276.56	8.3	15.5
1919.0	39.1	42.0	153	8.9	1.50	16.32	149165	119.91	276.12	8.3	15.5
1920.0	36.7	40.0	146	8.9	1.48	16.35	149404	127.73	275.77	8.3	15.5
1921.0	49.3	40.0	146	8.9	1.38	16.37	149581	95.14	275.34	8.3	15.5
1922.0	45.0	40.0	146	8.9	1.41	16.39	149776	104.27	274.94	8.3	15.5
1923.0	41.9	42.0	149	8.9	1.47	16.41	149990	112.09	274.55	8.3	15.5
1924.0	35.0	42.0	152	8.9	1.54	16.44	150250	134.24	274.22	8.3	15.5
1925.0	40.4	42.0	149	8.9	1.48	16.47	150471	116.00	273.85	8.3	15.5
1926.0	33.3	42.0	149	8.9	1.55	16.50	150740	140.76	273.54	8.3	15.5
1927.0	50.0	43.0	155	8.9	1.43	16.52	150926	93.84	273.12	8.3	15.5
1928.0	40.0	43.0	155	8.9	1.51	16.54	151158	117.30	272.76	8.3	15.5
1929.0	26.9	42.0	149	8.9	1.62	16.58	151491	174.65	272.53	8.3	15.5
1930.0	34.6	42.0	149	8.9	1.53	16.61	151749	135.55	272.21	8.3	15.5
1931.0	40.4	42.0	149	8.9	1.48	16.63	151970	116.00	271.85	8.3	15.5
1932.0	28.8	42.0	149	8.9	1.60	16.67	152281	162.92	271.60	8.3	15.5
1933.0	46.2	42.0	149	8.9	1.43	16.69	152474	101.66	271.21	8.3	15.5
1934.0	40.4	42.0	149	8.9	1.48	16.71	152695	116.00	270.85	8.3	15.5
1935.0	27.5	43.0	152	8.9	1.63	16.75	153027	170.74	270.62	8.3	15.5
1936.0	26.5	42.0	151	8.9	1.63	16.79	153370	177.25	270.41	8.3	15.5
1937.0	25.9	42.0	151	8.9	1.64	16.83	153719	181.16	270.20	8.3	15.5
1938.0	29.8	42.0	151	8.9	1.59	16.86	154024	157.70	269.95	8.3	15.5
1939.0	23.4	42.0	151	8.9	1.68	16.90	154411	200.71	269.79	8.3	15.5
1940.0	24.8	42.0	151	8.9	1.66	16.94	154776	188.98	269.61	8.3	15.5
1941.0	29.5	42.0	151	8.9	1.59	16.98	155083	159.01	269.36	8.3	15.5
1942.0	29.5	42.0	151	8.9	1.59	17.01	155390	159.01	269.11	8.3	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1943.0	31.6	43.0	155	8.9	1.59	17.04	155685	148.58	268.83	8.3	15.5
1944.0	28.1	43.0	155	8.9	1.63	17.08	156016	166.83	268.61	8.3	15.6
1945.0	25.0	43.0	155	8.9	1.67	17.12	156388	187.68	268.42	8.3	15.6
1946.0	13.5	43.0	154	8.9	1.89	17.19	157070	346.69	268.60	8.3	15.6
1947.0	14.6	43.0	149	9.0	1.83	17.26	157681	320.62	268.72	8.3	15.6
1948.0	16.2	43.0	149	9.0	1.80	17.32	158232	289.34	268.76	8.3	15.6
1949.0	14.0	43.0	149	9.0	1.85	17.39	158873	336.26	268.91	8.3	15.6
1950.0	13.6	46.0	152	9.0	1.91	17.47	159542	344.08	269.08	8.3	15.6
1951.0	14.4	46.0	152	9.0	1.89	17.54	160175	325.83	269.20	8.3	15.6
1952.0	11.0	45.0	151	9.0	1.97	17.63	160996	424.89	269.55	8.3	15.6
1953.0	11.4	45.0	151	9.0	1.95	17.71	161789	410.55	269.86	8.3	15.6
1954.0	9.2	45.0	150	9.0	2.03	17.82	162764	508.30	270.38	8.3	15.6
1955.0	9.6	45.0	150	9.0	2.01	17.93	163701	498.75	270.86	8.3	15.6

BIT NUMBER	5	IADC CODE	114	INTERVAL	1955.0- 2417.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	9.8	BIT RUN	462.0
TOTAL HOURS	17.63	TOTAL TURNS	156736	CONDITION	T3 B8 G0.25G

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1956.0	9.0	35.0	153	9.0	1.89	0.11	1020	521	47903	8.3	15.6
1957.0	28.8	35.0	147	9.0	1.49	0.15	1326	163	24033	8.3	15.6
1958.0	21.6	36.0	151	9.0	1.61	0.19	1747	218	16095	8.3	15.6
1959.0	27.3	37.0	150	9.0	1.54	0.23	2077	172	12114	8.3	15.6
1960.0	26.7	39.0	149	9.0	1.57	0.27	2412	176	9726	8.3	15.6
1961.0	27.9	39.0	148	9.0	1.56	0.30	2730	168	8133	8.3	15.6
1962.0	29.3	37.0	152	9.0	1.53	0.34	3042	160	6994	8.3	15.6
1963.0	23.1	37.0	152	9.0	1.60	0.38	3437	203	6145	8.3	15.6
1964.0	36.9	38.0	150	9.0	1.45	0.41	3681	127	5477	8.3	15.6
1965.0	32.0	38.0	150	9.0	1.50	0.44	3962	147	4944	8.3	15.6
1966.0	30.5	38.0	150	9.0	1.52	0.47	4257	154	4508	8.3	15.6
1967.0	31.3	38.0	150	9.0	1.51	0.50	4544	150	4145	8.3	15.6
1968.0	32.7	37.0	153	9.0	1.49	0.53	4825	143	3837	8.3	15.6
1969.0	33.6	37.0	153	9.0	1.48	0.56	5098	139	3573	8.3	15.6
1970.0	37.5	39.0	148	9.0	1.46	0.59	5334	125	3343	8.3	15.6
1971.0	36.7	39.0	148	9.0	1.46	0.62	5576	128	3142	8.3	15.6
1972.0	32.1	37.0	151	9.0	1.49	0.65	5858	146	2966	8.3	15.6
1973.0	30.8	37.0	151	9.0	1.51	0.68	6152	152	2810	8.3	15.6
1974.0	21.8	37.0	151	9.0	1.62	0.73	6568	215	2673	8.3	15.6
1975.0	34.3	37.0	151	9.0	1.47	0.76	6832	137	2546	8.3	15.6
1976.0	32.1	37.0	151	9.0	1.49	0.79	7114	146	2432	8.3	15.6
1977.0	32.7	37.0	151	9.0	1.49	0.82	7391	143	2328	8.3	15.6
1978.0	26.3	37.0	151	9.0	1.56	0.86	7735	179	2235	8.3	15.6
1979.0	33.3	37.0	151	9.0	1.48	0.89	8007	141	2147	8.3	15.6
1980.0	25.7	38.0	148	9.0	1.57	0.92	8353	182	2069	8.3	15.6
1981.0	30.0	40.0	148	9.0	1.54	0.96	8649	156	1995	8.3	15.6
1982.0	25.1	40.0	148	9.0	1.61	1.00	9002	187	1928	8.3	15.6
1983.0	26.1	41.0	151	9.0	1.61	1.04	9349	180	1866	8.3	15.6
1984.0	31.3	42.0	155	9.0	1.57	1.07	9647	150	1807	8.3	15.6
1985.0	35.3	42.0	155	9.0	1.53	1.10	9910	133	1751	8.3	15.6
1986.0	36.7	42.0	155	9.0	1.51	1.12	10163	128	1698	8.3	15.6
1987.0	39.6	42.0	152	9.0	1.48	1.15	10394	119	1649	8.3	15.6
1988.0	31.6	42.0	152	9.0	1.56	1.18	10683	149	1604	8.3	15.6
1989.0	34.0	42.0	152	9.0	1.53	1.21	10951	138	1560	8.3	15.6
1990.0	30.8	42.0	152	9.0	1.57	1.24	11247	152	1520	8.3	15.6
1991.0	32.1	42.0	152	9.0	1.55	1.27	11531	146	1482	8.3	15.6
1992.0	28.6	42.0	152	9.0	1.59	1.31	11850	164	1446	8.3	15.6
1993.0	24.2	43.0	149	9.0	1.66	1.35	12220	194	1414	8.3	15.6
1994.0	29.3	43.0	149	9.0	1.59	1.38	12526	160	1381	8.3	15.6
1995.0	29.8	45.0	149	9.0	1.61	1.42	12826	158	1351	8.3	15.6
1996.0	31.3	45.0	149	9.0	1.59	1.45	13112	150	1322	8.3	15.6
1997.0	36.7	45.0	149	9.0	1.53	1.48	13355	128	1293	8.3	15.6
1998.0	35.0	44.0	151	9.0	1.54	1.51	13615	134	1266	8.3	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1999.0	34.0	44.0	151	9.0	1.55	1.53	13881	138	1240	8.3	15.6
2000.0	33.3	44.0	151	9.0	1.56	1.56	14153	141	1216	8.3	15.6
2001.0	25.3	45.0	148	9.0	1.66	1.60	14505	186	1194	8.3	15.6
2002.0	21.2	45.0	148	9.0	1.73	1.65	14924	222	1173	8.3	15.6
2003.0	30.3	45.0	148	9.0	1.60	1.68	15217	155	1152	8.3	15.6
2004.0	31.3	45.0	148	9.0	1.59	1.72	15501	150	1131	8.3	15.6
2005.0	35.0	44.0	150	9.0	1.54	1.74	15759	134	1111	8.3	15.6
2006.0	34.0	44.0	150	9.0	1.55	1.77	16024	138	1092	8.3	15.6
2007.0	34.0	44.0	150	9.0	1.55	1.80	16289	138	1074	8.3	15.6
2008.0	28.3	44.0	150	9.0	1.62	1.84	16606	166	1057	8.3	15.6
2009.0	29.8	44.0	150	9.0	1.60	1.87	16909	158	1040	8.3	15.6
2010.0	29.8	45.0	152	9.0	1.61	1.91	17215	158	1024	8.3	15.6
2011.0	33.0	45.0	152	9.0	1.59	1.94	17491	142	1008	8.3	15.6
2012.0	24.7	45.0	151	9.0	1.68	1.98	17859	190.29	994.01	8.3	15.6
2013.0	36.4	45.0	151	9.0	1.54	2.00	18108	129.03	979.10	8.3	15.6
2014.0	33.6	45.0	151	9.0	1.57	2.03	18377	139.46	964.86	8.3	15.6
2015.0	36.4	45.0	150	9.0	1.54	2.06	18625	129.03	950.93	8.3	15.6
2016.0	33.0	45.0	150	9.0	1.57	2.09	18897	142.06	937.67	8.3	15.6
2017.0	30.8	45.0	150	9.0	1.60	2.12	19190	152.49	925.01	8.3	15.6
2018.0	34.3	45.0	150	9.0	1.56	2.15	19452	136.85	912.50	8.3	15.6
2019.0	31.0	45.0	154	9.0	1.60	2.19	19750	151.19	900.60	8.3	15.6
2020.0	34.0	45.0	154	9.0	1.57	2.22	20022	138.15	888.87	8.3	15.6
2021.0	23.4	45.0	154	9.0	1.71	2.26	20417	200.71	878.45	8.3	15.7
2022.0	33.3	45.0	154	9.0	1.58	2.29	20694	140.76	867.44	8.3	15.7
2023.0	39.6	45.0	152	9.0	1.51	2.31	20925	118.60	856.42	8.3	15.7
2024.0	37.5	45.0	152	9.0	1.53	2.34	21168	125.12	845.83	8.3	15.7
2025.0	37.1	45.0	152	9.0	1.54	2.37	21414	126.42	835.55	8.3	15.7
2026.0	36.4	45.0	152	9.0	1.54	2.39	21665	129.03	825.60	8.3	15.7
2027.0	28.8	44.0	149	9.0	1.61	2.43	21975	162.92	816.39	8.3	15.7
2028.0	32.4	44.0	149	9.0	1.57	2.46	22251	144.67	807.19	8.3	15.7
2029.0	30.0	44.0	149	9.0	1.59	2.49	22549	156.40	798.40	8.3	15.7
2030.0	32.7	45.0	152	9.0	1.58	2.52	22827	143.37	789.66	8.3	15.7
2031.0	25.2	45.0	152	9.0	1.67	2.56	23190	186.38	781.73	8.3	15.7
2032.0	36.4	45.0	152	9.0	1.54	2.59	23440	129.03	773.25	8.3	15.7
2033.0	39.1	45.0	152	9.0	1.52	2.62	23674	119.91	764.87	8.3	15.7
2034.0	36.7	45.0	152	9.0	1.54	2.64	23922	127.73	756.81	8.3	15.7
2035.0	37.1	45.0	152	9.0	1.54	2.67	24168	126.42	748.93	8.3	15.7
2036.0	34.6	45.0	148	9.0	1.55	2.70	24424	135.55	741.36	8.3	15.7
2037.0	37.5	45.0	148	9.0	1.52	2.73	24661	125.12	733.84	8.3	15.7
2038.0	35.3	45.0	148	9.0	1.54	2.75	24912	132.94	726.60	8.3	15.7
2039.0	34.3	44.0	149	9.0	1.55	2.78	25173	136.85	719.58	8.3	15.7
2040.0	22.2	44.0	149	9.0	1.70	2.83	25576	211.14	713.60	8.3	15.7
2041.0	36.0	44.0	149	9.0	1.53	2.86	25824	130.33	706.82	8.3	15.7
2042.0	40.0	45.0	151	9.0	1.51	2.88	26050	117.30	700.04	8.3	15.7
2043.0	39.1	45.0	151	9.0	1.52	2.91	26282	119.91	693.45	8.3	15.7
2044.0	38.7	45.0	151	9.0	1.52	2.93	26516	121.21	687.02	8.3	15.7
2045.0	32.1	46.0	151	9.0	1.60	2.96	26798	145.97	681.01	8.3	15.7
2046.0	36.4	46.0	151	9.0	1.55	2.99	27047	129.03	674.94	8.3	15.7
2047.0	34.3	46.0	151	9.0	1.57	3.02	27311	136.85	669.09	8.3	15.7
2048.0	34.0	46.0	151	9.0	1.58	3.05	27578	138.15	663.38	8.3	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2049.0	37.5	46.0	151	9.0	1.54	3.08	27820	125.12	657.66	8.3	15.7
2050.0	35.3	46.0	151	9.0	1.56	3.11	28076	132.94	652.13	8.3	15.7
2051.0	29.0	46.0	151	9.0	1.63	3.14	28388	161.61	647.02	8.3	15.7
2052.0	32.1	45.0	149	9.0	1.58	3.17	28666	145.97	641.86	8.3	15.7
2053.0	31.3	45.0	149	9.0	1.59	3.20	28952	149.88	636.84	8.3	15.7
2054.0	34.0	45.0	149	9.0	1.56	3.23	29215	138.15	631.80	8.3	15.7
2055.0	28.1	45.0	149	9.0	1.63	3.27	29533	166.83	627.15	8.3	15.7
2056.0	31.9	45.0	151	9.0	1.59	3.30	29818	147.28	622.40	8.3	15.7
2057.0	29.3	45.0	151	9.0	1.62	3.33	30127	160.31	617.87	8.3	15.7
2058.0	31.0	45.0	151	9.0	1.60	3.37	30419	151.19	613.34	8.3	15.7
2059.0	33.0	45.0	151	9.0	1.58	3.40	30693	142.06	608.81	8.3	15.7
2060.0	18.5	45.0	151	9.0	1.78	3.45	31184	254.15	605.43	8.3	15.7
2061.0	30.5	45.0	151	9.0	1.60	3.48	31481	153.79	601.17	8.3	15.7
2062.0	35.6	45.0	151	9.0	1.55	3.51	31735	131.64	596.78	8.3	15.7
2063.0	32.4	45.0	151	9.0	1.58	3.54	32015	144.67	592.59	8.3	15.7
2064.0	36.7	45.0	151	9.0	1.54	3.57	32261	127.73	588.33	8.3	15.7
2065.0	36.0	45.0	151	9.0	1.54	3.60	32513	130.33	584.17	8.3	15.7
2066.0	37.5	45.0	151	9.0	1.53	3.62	32755	125.12	580.03	8.3	15.7
2067.0	31.6	45.0	151	9.0	1.59	3.66	33041	148.58	576.18	8.3	15.7
2068.0	34.6	45.0	151	9.0	1.56	3.68	33303	135.55	572.28	8.3	15.7
2069.0	30.0	45.0	151	9.0	1.61	3.72	33605	156.40	568.63	8.3	15.7
2070.0	31.0	45.0	130	9.0	1.54	3.75	33856	151.19	565.00	8.3	15.7
2071.0	33.3	45.0	132	9.0	1.52	3.78	34094	140.76	561.34	8.3	15.7
2072.0	30.8	45.0	132	9.0	1.55	3.81	34351	152.49	557.85	8.3	15.7
2073.0	37.5	45.0	132	9.0	1.48	3.84	34563	125.12	554.18	8.3	15.7
2074.0	33.3	45.0	132	9.0	1.52	3.87	34800	140.76	550.71	8.3	15.7
2075.0	34.0	45.0	132	9.0	1.52	3.90	35033	138.15	547.27	8.3	15.7
2076.0	30.3	45.0	135	9.0	1.57	3.93	35301	155.10	544.03	8.3	15.7
2077.0	33.3	45.0	135	9.0	1.53	3.96	35544	140.76	540.72	8.3	15.7
2078.0	32.1	45.0	135	9.0	1.55	3.99	35796	145.97	537.51	8.3	15.7
2079.0	26.9	44.0	131	9.0	1.59	4.03	36089	174.65	534.59	8.3	15.7
2080.0	26.7	44.0	131	9.0	1.59	4.07	36384	175.95	531.72	8.3	15.7
2081.0	29.0	44.0	147	9.0	1.60	4.10	36687	161.61	528.78	8.3	15.7
2082.0	29.3	45.0	151	9.0	1.62	4.14	36997	160.31	525.88	8.3	15.7
2083.0	28.3	45.0	151	9.0	1.63	4.17	37317	165.52	523.06	8.3	15.7
2084.0	28.8	45.0	153	9.0	1.63	4.21	37635	162.92	520.27	8.3	15.7
2085.0	27.9	45.0	153	9.0	1.64	4.24	37964	168.13	517.56	8.3	15.7
2086.0	26.5	45.0	153	9.0	1.66	4.28	38311	177.25	514.97	8.3	15.7
2087.0	23.8	45.0	136	9.0	1.65	4.32	38653	196.80	512.56	8.3	15.7
2088.0	28.8	45.0	136	9.0	1.59	4.36	38937	162.92	509.93	8.3	15.7
2089.0	28.0	45.0	137	9.0	1.60	4.39	39230	167.57	507.37	8.3	15.7
2090.0	26.4	45.0	138	9.0	1.62	4.43	39544	177.58	504.93	8.3	15.7
2091.0	23.8	45.0	138	9.0	1.66	4.47	39891	196.80	502.66	8.3	15.7
2092.0	24.2	45.0	138	9.0	1.65	4.51	40234	194.20	500.41	8.3	15.7
2093.0	22.5	45.0	138	9.0	1.68	4.56	40602	208.53	498.30	8.3	15.7
2094.0	26.5	45.0	138	9.0	1.62	4.60	40914	177.25	495.99	8.3	15.7
2095.0	22.9	45.0	138	9.0	1.67	4.64	41275	204.62	493.91	8.3	15.7
2096.0	26.7	45.0	138	9.0	1.62	4.68	41586	175.95	491.65	8.3	15.7
2097.0	25.9	46.0	149	9.0	1.67	4.71	41931	181.16	489.46	8.3	15.7
2098.0	24.2	46.0	149	9.0	1.69	4.76	42301	194.20	487.40	8.3	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2099.0	35.6	46.0	149	9.0	1.55	4.78	42552	131.64	484.93	8.3	15.7
2100.0	32.1	44.0	152	9.0	1.58	4.82	42836	145.97	482.59	8.3	15.7
2101.0	25.5	42.0	151	9.0	1.63	4.85	43191	183.77	480.54	8.3	15.7
2102.0	25.0	42.0	151	9.0	1.64	4.89	43553	187.68	478.55	8.3	15.8
2103.0	32.1	42.0	151	9.0	1.55	4.93	43835	145.97	476.31	8.3	15.8
2104.0	29.0	43.0	153	9.0	1.60	4.96	44151	161.61	474.19	8.3	15.8
2105.0	26.3	43.0	153	9.0	1.64	5.00	44500	178.56	472.22	8.3	15.8
2106.0	33.0	43.0	153	9.0	1.56	5.03	44778	142.06	470.04	8.3	15.8
2107.0	22.6	42.0	146	9.0	1.66	5.07	45165	207.23	468.31	8.3	15.8
2108.0	17.8	42.0	146	9.0	1.74	5.13	45657	263.27	466.97	8.3	15.8
2109.0	15.3	42.0	146	9.0	1.80	5.19	46229	306.28	465.92	8.3	15.8
2110.0	28.6	42.0	146	9.0	1.58	5.23	46535	164.22	463.98	8.3	15.8
2111.0	29.8	42.0	146	9.0	1.57	5.26	46830	157.70	462.01	8.3	15.8
2112.0	24.2	43.0	147	9.0	1.65	5.30	47195	194.20	460.31	8.3	15.8
2113.0	19.8	45.0	147	9.0	1.75	5.35	47641	237.21	458.90	8.3	15.8
2114.0	26.7	45.0	147	9.0	1.64	5.39	47971	175.95	457.12	8.3	15.8
2115.0	26.3	45.0	147	9.0	1.65	5.43	48307	178.56	455.38	8.3	15.8
2116.0	36.7	45.0	147	9.0	1.53	5.46	48547	127.73	453.34	8.3	15.8
2117.0	36.0	45.0	147	9.0	1.54	5.49	48792	130.33	451.35	8.3	15.8
2118.0	31.0	45.0	147	9.0	1.59	5.52	49076	151.19	449.50	8.3	15.8
2119.0	25.2	45.0	147	9.0	1.66	5.56	49427	186.38	447.90	8.3	15.8
2120.0	25.5	45.0	147	9.0	1.66	5.60	49772	183.77	446.30	8.3	15.8
2121.0	34.6	45.0	147	9.0	1.55	5.63	50027	135.55	444.43	8.3	15.8
2122.0	25.5	45.0	147	9.0	1.66	5.66	50372	183.77	442.87	8.3	15.8
2123.0	31.6	45.0	147	9.0	1.58	5.70	50652	148.58	441.11	8.3	15.8
2124.0	32.7	45.0	147	9.0	1.57	5.73	50921	143.37	439.35	8.3	15.8
2125.0	25.7	44.0	152	9.0	1.65	5.77	51276	182.47	437.84	8.3	15.8
2126.0	34.3	44.0	152	9.0	1.55	5.79	51542	136.85	436.08	8.3	15.8
2127.0	38.7	44.0	152	9.0	1.51	5.82	51777	121.21	434.25	8.3	15.8
2128.0	31.6	44.0	152	9.0	1.58	5.85	52066	148.58	432.60	8.3	15.8
2129.0	33.0	44.0	152	9.0	1.57	5.88	52342	142.06	430.93	8.3	15.8
2130.0	43.9	44.0	152	9.0	1.47	5.91	52550	106.87	429.08	8.3	15.8
2131.0	41.4	40.0	148	9.0	1.43	5.93	52765	113.39	427.28	8.3	15.8
2132.0	31.9	40.0	148	9.0	1.52	5.96	53043	147.28	425.70	8.3	15.8
2133.0	47.4	40.0	148	9.0	1.39	5.98	53231	99.05	423.87	8.3	15.8
2134.0	36.4	40.0	148	9.0	1.48	6.01	53475	129.03	422.22	8.3	15.8
2135.0	30.3	41.0	152	9.0	1.56	6.04	53777	155.10	420.74	8.3	15.8
2136.0	22.8	41.0	152	9.0	1.66	6.09	54177	205.93	419.55	8.3	15.8
2137.0	31.9	41.0	152	9.0	1.54	6.12	54463	147.28	418.05	8.3	15.8
2138.0	37.5	41.0	152	9.0	1.49	6.14	54706	125.12	416.45	8.3	15.8
2139.0	29.8	41.0	152	9.0	1.57	6.18	55013	157.70	415.05	8.3	15.8
2140.0	31.3	41.0	152	9.0	1.55	6.21	55304	149.88	413.61	8.3	15.8
2141.0	38.7	43.0	148	9.0	1.49	6.24	55534	121.21	412.04	8.3	15.8
2142.0	34.3	43.0	148	9.0	1.53	6.26	55793	136.85	410.57	8.3	15.8
2143.0	33.6	43.0	148	9.0	1.54	6.29	56056	139.46	409.13	8.3	15.8
2144.0	24.7	43.0	148	9.0	1.65	6.34	56417	190.29	407.97	8.3	15.8
2145.0	25.0	43.0	145	9.0	1.64	6.38	56765	187.68	406.81	8.3	15.8
2146.0	41.9	43.0	145	9.0	1.46	6.40	56972	112.09	405.27	8.3	15.8
2147.0	37.1	43.0	145	9.0	1.50	6.43	57207	126.42	403.81	8.3	15.8
2148.0	34.0	43.0	145	9.0	1.53	6.46	57463	138.15	402.44	8.3	15.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2149.0	40.4	43.0	145	9.0	1.47	6.48	57678	116.00	400.96	8.3	15.8
2150.0	34.6	43.0	145	9.0	1.52	6.51	57929	135.55	399.60	8.3	15.8
2151.0	28.3	45.0	145	9.0	1.62	6.54	58236	165.52	398.41	8.3	15.8
2152.0	37.5	45.0	145	9.0	1.52	6.57	58468	125.12	397.02	8.3	15.8
2153.0	34.0	45.0	145	9.0	1.55	6.60	58725	138.15	395.71	8.3	15.8
2154.0	31.9	45.0	145	9.0	1.57	6.63	58998	147.28	394.46	8.3	15.8
2155.0	31.9	43.0	145	9.0	1.55	6.66	59271	147.28	393.23	8.3	15.8
2156.0	40.0	43.0	145	9.0	1.47	6.69	59488	117.30	391.85	8.3	15.8
2157.0	27.3	43.0	145	9.0	1.61	6.72	59807	172.04	390.77	8.3	15.8
2158.0	39.6	43.0	145	9.0	1.48	6.75	60027	118.60	389.43	8.3	15.8
2159.0	30.8	43.0	145	9.0	1.56	6.78	60310	152.49	388.26	8.3	15.8
2160.0	38.3	43.0	145	9.0	1.49	6.81	60537	122.51	386.97	8.3	15.8
2161.0	37.5	43.0	145	9.0	1.49	6.84	60769	125.12	385.70	8.3	15.8
2162.0	27.9	43.0	145	9.0	1.60	6.87	61081	168.13	384.65	8.3	15.8
2163.0	19.4	43.0	145	9.0	1.73	6.92	61530	242.42	383.96	8.3	15.8
2164.0	21.8	43.0	145	9.0	1.68	6.97	61929	215.05	383.15	8.3	15.8
2165.0	21.4	43.0	145	9.0	1.69	7.02	62335	218.96	382.37	8.3	15.8
2166.0	27.1	43.0	145	9.0	1.61	7.05	62656	173.34	381.38	8.3	15.8
2167.0	27.9	43.0	145	9.0	1.60	7.09	62968	168.13	380.38	8.3	15.8
2168.0	29.0	43.0	145	9.0	1.58	7.12	63268	161.61	379.35	8.3	15.8
2169.0	29.8	43.0	145	9.0	1.58	7.16	63560	157.70	378.31	8.3	15.8
2170.0	25.9	43.0	145	9.0	1.62	7.19	63896	181.16	377.40	8.3	15.8
2171.0	23.8	43.0	145	9.0	1.65	7.24	64261	196.80	376.56	8.3	15.8
2172.0	26.9	43.0	144	9.0	1.61	7.27	64583	174.65	375.63	8.3	15.8
2173.0	24.8	43.0	144	9.0	1.64	7.31	64931	188.98	374.77	8.3	15.8
2174.0	34.6	43.0	144	9.0	1.52	7.34	65180	135.55	373.68	8.3	15.8
2175.0	19.6	43.0	144	9.0	1.72	7.39	65622	239.81	373.07	8.3	15.8
2176.0	17.9	43.0	144	9.0	1.75	7.45	66104	261.97	372.57	8.3	15.8
2177.0	23.2	45.0	144	9.0	1.68	7.49	66476	202.02	371.80	8.3	15.8
2178.0	21.7	45.0	144	9.0	1.71	7.54	66875	216.35	371.10	8.3	15.8
2179.0	26.1	45.0	144	9.0	1.64	7.58	67206	179.86	370.25	8.3	15.8
2180.0	19.5	45.0	144	9.0	1.75	7.63	67650	241.12	369.68	8.3	15.8
2181.0	25.0	45.0	144	9.0	1.66	7.67	67995	187.68	368.87	8.3	15.8
2182.0	23.8	45.0	144	9.0	1.67	7.71	68358	196.80	368.11	8.3	15.8
2183.0	21.7	45.0	144	9.0	1.71	7.76	68756	216.35	367.45	8.3	15.8
2184.0	24.3	45.0	144	9.0	1.67	7.80	69111	192.89	366.69	8.3	15.8
2185.0	21.7	45.0	144	9.0	1.71	7.84	69510	216.35	366.03	8.3	15.9
2186.0	40.0	45.0	144	9.0	1.49	7.87	69726	117.30	364.95	8.3	15.9
2187.0	26.5	45.0	144	9.0	1.64	7.91	70052	177.25	364.15	8.3	15.9
2188.0	35.6	45.0	144	9.0	1.53	7.94	70295	131.64	363.15	8.3	15.9
2189.0	41.9	45.0	144	9.0	1.47	7.96	70501	112.09	362.08	8.3	15.9
2190.0	30.5	45.0	144	9.0	1.59	7.99	70784	153.79	361.19	8.3	15.9
2191.0	37.1	45.0	144	9.0	1.52	8.02	71017	126.42	360.19	8.3	15.9
2192.0	27.7	45.0	144	9.0	1.62	8.05	71329	169.43	359.39	8.3	15.9
2193.0	17.2	45.0	144	9.0	1.79	8.11	71831	272.40	359.02	8.3	15.9
2194.0	32.7	45.0	144	9.0	1.56	8.14	72095	143.37	358.12	8.3	15.9
2195.0	43.4	45.0	144	9.0	1.46	8.17	72294	108.18	357.08	8.3	15.9
2196.0	28.1	45.0	144	9.0	1.62	8.20	72601	166.83	356.29	8.3	15.9
2197.0	37.9	45.0	144	9.0	1.51	8.23	72829	123.82	355.33	8.3	15.9
2198.0	32.7	45.0	144	9.0	1.56	8.26	73093	143.37	354.46	8.3	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FC
2199.0	30.5	45.0	144	9.0	1.59	8.29	73376	153.79	353.64	8.3	15.9
2200.0	36.4	45.0	144	9.0	1.52	8.32	73614	129.03	352.72	8.3	15.9
2201.0	30.0	45.0	144	9.0	1.59	8.35	73902	156.40	351.92	8.3	15.9
2202.0	34.6	45.0	144	9.0	1.54	8.38	74151	135.55	351.04	8.3	15.9
2203.0	39.6	45.0	144	9.0	1.49	8.41	74370	118.60	350.11	8.3	15.9
2204.0	39.6	45.0	144	9.0	1.49	8.43	74588	118.60	349.18	8.3	15.9
2205.0	56.0	45.0	144	9.0	1.41	8.45	74761	93.84	348.16	8.3	15.9
2206.0	38.7	45.0	144	9.0	1.50	8.48	74984	121.21	347.25	8.3	15.9
2207.0	57.1	45.0	144	9.1	1.35	8.50	75135	82.11	346.20	8.3	15.9
2208.0	45.6	45.0	144	9.1	1.43	8.52	75325	102.96	345.24	8.3	15.9
2209.0	40.0	45.0	144	9.1	1.47	8.54	75541	117.30	344.34	8.3	15.9
2210.0	36.7	45.0	144	9.1	1.50	8.57	75776	127.73	343.49	8.3	15.9
2211.0	29.5	45.0	144	9.1	1.58	8.60	76069	159.01	342.77	8.3	15.9
2212.0	48.0	45.0	144	9.1	1.41	8.62	76249	97.75	341.82	8.3	15.9
2213.0	41.9	45.0	144	9.1	1.46	8.65	76455	112.09	340.93	8.3	15.9
2214.0	35.3	45.0	144	9.1	1.52	8.68	76700	132.94	340.12	8.3	15.9
2215.0	41.9	45.0	144	9.1	1.46	8.70	76907	112.09	339.25	8.3	15.9
2216.0	34.3	45.0	144	9.1	1.53	8.73	77159	136.85	338.47	8.3	15.9
2217.0	45.0	45.0	144	9.1	1.43	8.75	77351	104.27	337.58	8.3	15.9
2218.0	33.6	45.0	144	9.1	1.53	8.78	77607	139.46	336.82	8.3	15.9
2219.0	38.7	45.0	144	9.1	1.49	8.81	77831	121.21	336.01	8.3	15.9
2220.0	44.4	45.0	144	9.1	1.44	8.83	78025	105.57	335.14	8.3	15.9
2221.0	27.7	45.0	144	9.1	1.60	8.87	78337	169.43	334.51	8.3	15.9
2222.0	40.0	45.0	144	9.1	1.47	8.89	78553	117.30	333.70	8.3	15.9
2223.0	42.4	45.0	144	9.1	1.45	8.91	78757	110.78	332.87	8.3	15.9
2224.0	31.9	45.0	144	9.1	1.55	8.95	79028	147.28	332.18	8.3	15.9
2225.0	33.0	45.0	144	9.1	1.54	8.98	79290	142.06	331.48	8.3	15.9
2226.0	42.4	45.0	144	9.1	1.45	9.00	79494	110.78	330.66	8.3	15.9
2227.0	35.6	45.0	144	9.1	1.51	9.03	79736	131.64	329.93	8.3	15.9
2228.0	40.4	45.0	144	9.1	1.47	9.05	79950	116.00	329.15	8.3	15.9
2229.0	30.3	45.0	144	9.1	1.57	9.09	80235	155.10	328.51	8.3	15.9
2230.0	36.4	45.0	144	9.1	1.51	9.11	80473	129.03	327.79	8.3	15.9
2231.0	30.8	45.0	144	9.1	1.57	9.15	80754	152.49	327.15	8.3	15.9
2232.0	27.1	45.0	144	9.1	1.61	9.18	81073	173.34	326.59	8.3	15.9
2233.0	28.3	42.0	160	9.1	1.60	9.22	81412	165.52	326.02	8.3	15.9
2234.0	28.1	42.0	160	9.1	1.60	9.25	81753	166.83	325.44	8.3	15.9
2235.0	27.1	42.0	160	9.1	1.61	9.29	82108	173.34	324.90	8.3	15.9
2236.0	30.0	42.0	160	9.1	1.58	9.32	82428	156.40	324.30	8.3	15.9
2237.0	32.4	42.0	160	9.1	1.55	9.35	82724	144.67	323.66	8.3	15.9
2238.0	22.5	42.0	160	9.1	1.68	9.40	83150	208.53	323.26	8.3	15.9
2239.0	41.9	42.0	160	9.1	1.46	9.42	83380	112.09	322.51	8.3	15.9
2240.0	16.2	42.0	160	9.1	1.79	9.48	83972	289.34	322.40	8.3	15.9
2241.0	33.0	42.0	160	9.1	1.54	9.51	84262	142.06	321.77	8.3	15.9
2242.0	30.0	42.0	160	9.1	1.58	9.55	84582	156.40	321.19	8.3	15.9
2243.0	30.0	42.0	155	9.1	1.57	9.58	84892	156.40	320.62	8.3	15.9
2244.0	24.7	42.0	155	9.1	1.63	9.62	85270	190.29	320.17	8.3	15.9
2245.0	24.5	42.0	150	9.1	1.63	9.66	85637	191.59	319.72	8.3	15.9
2246.0	32.7	42.0	150	9.1	1.53	9.69	85912	143.37	319.12	8.3	15.9
2247.0	31.3	42.0	150	9.1	1.54	9.73	86200	149.88	318.54	8.3	15.9
2248.0	32.1	42.0	150	9.1	1.53	9.76	86480	145.97	317.95	8.3	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2249.0	18.5	45.0	150	9.1	1.74	9.81	86967	254.15	317.73	8.3	15.9
2250.0	24.2	45.0	150	9.1	1.67	9.85	87340	194.20	317.31	8.3	15.9
2251.0	28.3	45.0	150	9.1	1.61	9.89	87657	165.52	316.80	8.3	15.9
2252.0	35.3	45.0	150	9.1	1.53	9.92	87912	132.94	316.18	8.3	15.9
2253.0	29.8	45.0	150	9.1	1.59	9.95	88215	157.70	315.65	8.3	15.9
2254.0	22.5	45.0	150	9.1	1.69	9.99	88615	208.53	315.29	8.3	15.9
2255.0	29.8	45.0	150	9.1	1.59	10.03	88917	157.70	314.77	8.3	15.9
2256.0	40.9	45.0	150	9.1	1.48	10.05	89137	114.69	314.10	8.3	15.9
2257.0	23.1	45.0	150	9.1	1.68	10.10	89527	203.32	313.74	8.3	15.9
2258.0	40.4	45.0	148	9.1	1.48	10.12	89747	116.00	313.08	8.3	15.9
2259.0	20.6	45.0	150	9.1	1.72	10.17	90184	228.08	312.80	8.3	15.9
2260.0	42.9	45.0	150	9.1	1.46	10.19	90394	109.48	312.14	8.3	15.9
2261.0	34.0	45.0	150	9.1	1.55	10.22	90659	138.15	311.57	8.3	15.9
2262.0	36.4	45.0	150	9.1	1.52	10.25	90907	129.03	310.97	8.3	15.9
2263.0	26.9	45.0	150	9.1	1.63	10.29	91242	174.65	310.53	8.3	15.9
2264.0	39.1	45.0	150	9.1	1.50	10.31	91472	119.91	309.91	8.3	15.9
2265.0	44.4	45.0	150	9.1	1.45	10.33	91674	105.57	309.26	8.3	15.9
2266.0	29.8	45.0	150	9.1	1.52	10.37	91977	157.70	308.77	8.3	15.9
2267.0	35.6	45.0	150	9.1	1.53	10.40	92229	131.64	308.20	8.3	15.9
2268.0	32.7	45.0	150	9.1	1.56	10.43	92504	143.37	307.67	8.3	15.9
2269.0	32.4	45.0	150	9.1	1.56	10.46	92782	144.67	307.15	8.3	15.9
2270.0	41.4	45.0	150	9.1	1.48	10.48	92999	113.39	306.54	8.3	15.9
2271.0	28.8	45.0	150	9.1	1.60	10.52	93312	162.92	306.08	8.3	16.0
2272.0	34.6	45.0	150	9.1	1.54	10.54	93572	135.55	305.55	8.3	16.0
2273.0	40.0	45.0	150	9.1	1.49	10.57	93797	117.30	304.95	8.3	16.0
2274.0	36.0	45.0	150	9.1	1.53	10.60	94047	130.33	304.41	8.3	16.0
2275.0	43.9	45.0	150	9.1	1.46	10.62	94252	106.87	303.79	8.3	16.0
2276.0	36.7	45.0	150	9.1	1.52	10.65	94497	127.73	303.24	8.3	16.0
2277.0	36.4	45.0	150	9.1	1.52	10.68	94744	129.03	302.70	8.3	16.0
2278.0	25.7	45.0	150	9.1	1.64	10.71	95094	182.47	302.33	8.3	16.0
2279.0	32.1	45.0	150	9.1	1.57	10.75	95374	145.97	301.85	8.3	16.0
2280.0	37.1	45.0	150	9.1	1.51	10.77	95617	126.42	301.31	8.3	16.0
2281.0	28.6	45.0	150	9.1	1.61	10.81	95932	164.22	300.89	8.3	16.0
2282.0	31.9	45.0	150	9.1	1.57	10.84	96214	147.28	300.42	8.3	16.0
2283.0	35.3	45.0	150	9.1	1.53	10.87	96469	132.94	299.91	8.3	16.0
2284.0	28.1	45.0	150	9.1	1.61	10.90	96789	166.83	299.50	8.3	16.0
2285.0	35.6	45.0	150	9.1	1.53	10.93	97042	131.64	298.99	8.3	16.0
2286.0	30.3	45.0	150	9.1	1.59	10.96	97339	155.10	298.56	8.3	16.0
2287.0	23.7	45.0	150	9.1	1.67	11.01	97719	198.11	298.25	8.3	16.0
2288.0	30.5	45.0	150	9.1	1.58	11.04	98014	153.79	297.82	8.3	16.0
2289.0	31.3	45.0	150	9.1	1.57	11.07	98302	149.88	297.38	8.3	16.0
2290.0	28.3	45.0	150	9.1	1.61	11.11	98619	165.52	296.98	8.3	16.0
2291.0	27.3	45.0	150	9.1	1.62	11.14	98949	172.04	296.61	8.3	16.0
2292.0	30.8	45.0	150	9.1	1.58	11.17	99242	152.49	296.18	8.3	16.0
2293.0	26.1	45.0	150	9.1	1.64	11.21	99587	179.86	295.84	8.3	16.0
2294.0	16.8	45.0	150	9.1	1.79	11.27	100122	278.91	295.79	8.3	16.0
2295.0	20.0	45.0	150	9.1	1.73	11.32	100572	234.60	295.61	8.3	16.0
2296.0	20.7	45.0	150	9.1	1.72	11.37	101007	226.78	295.41	8.3	16.0
2297.0	22.2	45.0	150	9.1	1.70	11.42	101412	211.14	295.16	8.3	16.0
2298.0	20.7	45.0	150	9.1	1.72	11.46	101847	226.78	294.96	8.3	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2299.0	22.0	45.0	150	9.1	1.70	11.51	102257	213.75	294.73	8.3	16.0
2300.0	24.0	45.0	150	9.1	1.67	11.55	102632	195.50	294.44	8.3	16.0
2301.0	25.9	45.0	150	9.1	1.64	11.59	102979	181.16	294.11	8.3	16.0
2302.0	22.0	45.0	150	9.1	1.70	11.64	103389	213.75	293.88	8.3	16.0
2303.0	22.6	45.0	150	9.1	1.69	11.68	103787	207.23	293.63	8.3	16.0
2304.0	31.6	45.0	150	9.1	1.57	11.71	104072	148.58	293.22	8.3	16.0
2305.0	23.4	45.0	150	9.1	1.68	11.75	104457	260.71	292.95	8.3	16.0
2306.0	30.0	45.0	150	9.1	1.59	11.79	104757	156.40	292.56	8.3	16.0
2307.0	23.2	45.0	150	9.1	1.68	11.83	105144	202.02	292.31	8.3	16.0
2308.0	18.7	45.0	150	9.1	1.76	11.88	105627	251.54	292.19	8.3	16.0
2309.0	26.5	45.0	150	9.1	1.63	11.92	105967	177.25	291.87	8.3	16.0
2310.0	22.8	45.0	150	9.1	1.69	11.97	106362	205.93	291.62	8.3	16.0
2311.0	22.8	45.0	150	9.1	1.69	12.01	106757	205.93	291.38	8.3	16.0
2312.0	17.1	45.0	150	9.1	1.79	12.07	107284	275.00	291.34	8.3	16.0
2313.0	22.0	45.0	150	9.1	1.70	12.11	107694	213.75	291.12	8.3	16.0
2314.0	20.2	45.0	150	9.1	1.73	12.16	108139	231.99	290.95	8.3	16.0
2315.0	20.3	45.0	150	9.1	1.73	12.21	108582	230.69	290.79	8.3	16.0
2316.0	21.3	45.0	150	9.1	1.71	12.26	109004	220.26	290.59	8.3	16.0
2317.0	15.3	45.0	150	9.1	1.83	12.33	109594	307.59	290.64	8.3	16.0
2318.0	25.4	45.0	150	9.1	1.65	12.36	109949	185.07	290.35	8.3	16.0
2319.0	26.3	45.0	150	9.1	1.64	12.40	110292	178.56	290.04	8.3	16.0
2320.0	24.2	45.0	140	9.1	1.64	12.44	110639	194.20	289.78	8.3	16.0
2321.0	24.5	45.0	140	9.1	1.64	12.48	110982	191.59	289.51	8.3	16.0
2322.0	21.8	45.0	140	9.1	1.68	12.53	111367	215.05	289.31	8.3	16.0
2323.0	23.2	45.0	140	9.1	1.66	12.57	111729	202.02	289.07	8.3	16.0
2324.0	19.9	45.0	140	9.1	1.71	12.62	112151	235.90	288.93	8.3	16.0
2325.0	22.6	45.0	140	9.1	1.66	12.67	112522	207.23	288.71	8.3	16.0
2326.0	23.8	45.0	140	9.1	1.65	12.71	112875	196.80	288.46	8.3	16.0
2327.0	29.0	45.0	140	9.1	1.58	12.74	113164	161.61	288.12	8.3	16.0
2328.0	20.3	45.0	140	9.1	1.70	12.79	113577	230.69	287.96	8.3	16.0
2329.0	19.1	45.0	140	9.1	1.72	12.85	114016	245.03	287.65	8.3	16.0
2330.0	19.6	45.0	140	9.1	1.72	12.90	114445	239.81	287.72	8.3	16.0
2331.0	19.1	45.0	140	9.1	1.72	12.95	114884	245.03	287.61	8.3	16.0
2332.0	24.0	45.0	140	9.1	1.64	12.99	115234	195.50	287.36	8.3	16.0
2333.0	19.3	45.0	140	9.1	1.72	13.04	115670	243.72	287.25	8.3	16.0
2334.0	25.7	45.0	140	9.1	1.62	13.08	115997	182.47	286.97	8.3	16.0
2335.0	20.6	45.0	140	9.1	1.70	13.13	116405	228.08	286.82	8.3	16.0
2336.0	22.6	45.0	140	9.1	1.66	13.17	116776	207.23	286.61	8.3	16.0
2337.0	23.4	45.0	140	9.1	1.65	13.22	117135	200.71	286.38	8.3	16.0
2338.0	24.0	45.0	140	9.1	1.64	13.26	117485	195.50	286.14	8.3	16.0
2339.0	27.1	45.0	140	9.1	1.60	13.30	117796	173.34	285.65	8.3	16.0
2340.0	34.6	45.0	140	9.1	1.51	13.32	118038	135.55	285.46	8.3	16.0
2341.0	28.3	45.0	140	9.1	1.59	13.36	118335	165.52	285.15	8.3	16.0
2342.0	30.3	45.0	140	9.1	1.56	13.39	118612	155.10	284.81	8.3	16.0
2343.0	29.0	45.0	140	9.1	1.58	13.43	118902	161.61	284.50	8.3	16.0
2344.0	24.0	45.0	140	9.1	1.64	13.47	119252	195.50	284.27	8.3	16.0
2345.0	24.2	35.0	150	9.1	1.54	13.51	119624	193.88	284.04	8.3	16.0
2346.0	29.3	35.0	150	9.1	1.48	13.54	119931	160.14	283.72	8.3	16.0
2347.0	30.1	35.0	150	9.1	1.47	13.58	120230	155.88	283.39	8.3	16.0
2348.0	30.5	35.0	150	9.1	1.47	13.61	120525	153.84	283.06	8.3	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2349.0	27.7	35.0	150	9.1	1.56	13.65	120850	169.39	282.77	8.3	16.0
2350.0	29.3	35.0	150	9.1	1.48	13.68	121157	160.14	282.46	8.3	16.0
2351.0	24.5	35.0	150	9.1	1.54	13.72	121524	191.51	282.23	8.3	16.0
2352.0	24.8	35.0	150	9.1	1.53	13.76	121887	189.19	282.00	8.3	16.0
2353.0	26.7	35.0	150	9.1	1.51	13.80	122224	175.73	281.73	8.3	16.0
2354.0	20.9	35.0	150	9.1	1.59	13.85	122655	224.50	281.59	8.3	16.0
2355.0	28.5	35.0	150	9.1	1.49	13.88	122971	164.63	281.30	8.3	16.0
2356.0	29.2	38.0	150	9.1	1.52	13.92	123279	160.68	281.00	8.3	16.0
2357.0	19.8	38.0	150	9.1	1.65	13.97	123734	237.21	280.89	8.3	16.0
2358.0	21.6	38.0	150	9.1	1.62	14.01	124151	217.66	280.73	8.3	16.0
2359.0	16.2	38.0	150	9.1	1.71	14.08	124706	289.34	280.75	8.3	16.1
2360.0	23.4	38.0	150	9.1	1.59	14.12	125091	200.71	280.55	8.3	16.1
2361.0	15.5	38.0	150	9.1	1.73	14.18	125674	303.68	280.61	8.3	16.1
2362.0	21.2	43.0	150	9.1	1.69	14.23	126099	221.57	280.47	8.3	16.1
2363.0	15.1	43.0	150	9.1	1.81	14.30	126696	311.50	280.54	8.3	16.1
2364.0	15.7	43.0	150	9.1	1.79	14.36	127271	299.77	280.59	8.3	16.1
2365.0	23.1	43.0	150	9.1	1.66	14.40	127661	203.32	280.40	8.3	16.1
2366.0	18.6	43.0	150	9.1	1.73	14.46	128146	252.85	280.33	8.3	16.1
2367.0	18.8	43.0	150	9.1	1.73	14.51	128624	248.94	280.26	8.3	16.1
2368.0	22.8	43.0	150	9.1	1.66	14.55	129019	205.93	280.08	8.3	16.1
2369.0	22.5	43.0	150	9.1	1.67	14.60	129419	208.53	279.90	8.3	16.1
2370.0	16.4	43.0	150	9.1	1.78	14.66	129969	286.73	279.92	8.3	16.1
2371.0	22.1	43.0	150	9.1	1.67	14.71	130376	212.44	279.76	8.3	16.1
2372.0	18.0	43.0	150	9.1	1.74	14.76	130876	260.67	279.71	8.3	16.1
2373.0	19.6	43.0	150	9.1	1.72	14.81	131336	239.81	279.62	8.3	16.1
2374.0	18.3	43.0	150	9.1	1.74	14.87	131829	256.76	279.56	8.3	16.1
2375.0	29.8	43.0	150	9.1	1.57	14.90	132131	157.70	279.27	8.3	16.1
2376.0	17.8	43.0	150	9.1	1.75	14.96	132636	263.27	279.23	8.3	16.1
2377.0	25.7	43.0	150	9.1	1.62	15.00	132986	182.47	279.01	8.3	16.1
2378.0	22.1	43.0	150	9.1	1.67	15.04	133394	212.44	278.85	8.3	16.1
2379.0	25.2	43.0	150	9.1	1.63	15.08	133751	186.38	278.63	8.3	16.1
2380.0	20.9	43.0	150	9.1	1.69	15.13	134181	224.17	278.50	8.3	16.1
2381.0	25.7	43.0	150	9.1	1.62	15.17	134531	182.47	278.28	8.3	16.1
2382.0	25.9	43.0	150	9.1	1.62	15.21	134879	181.16	278.05	8.3	16.1
2383.0	21.7	43.0	150	9.1	1.68	15.25	135294	216.35	277.90	8.3	16.1
2384.0	24.0	43.0	150	9.1	1.64	15.29	135669	195.50	277.71	8.3	16.1
2385.0	16.0	43.0	150	9.1	1.78	15.36	136231	293.25	277.75	8.3	16.1
2386.0	18.7	43.0	150	9.1	1.73	15.41	136714	251.54	277.69	8.3	16.1
2387.0	24.5	43.0	150	9.1	1.64	15.45	137081	191.59	277.49	8.3	16.1
2388.0	22.4	43.0	150	9.1	1.67	15.50	137484	209.84	277.33	8.3	16.1
2389.0	26.3	43.0	150	9.1	1.61	15.53	137826	178.56	277.10	8.3	16.1
2390.0	19.9	43.0	150	9.1	1.71	15.58	138279	235.90	277.01	8.3	16.1
2391.0	24.7	43.0	150	9.1	1.63	15.62	138644	190.29	276.81	8.3	16.1
2392.0	18.3	43.0	150	9.1	1.74	15.68	139136	256.76	276.77	8.3	16.1
2393.0	13.7	43.0	150	9.1	1.84	15.75	139794	342.78	276.92	8.3	16.1
2394.0	16.4	43.0	150	9.1	1.78	15.81	140341	285.43	276.94	8.3	16.1
2395.0	18.0	43.0	150	9.1	1.74	15.87	140841	260.67	276.90	8.3	16.1
2396.0	17.9	43.0	150	9.1	1.75	15.92	141344	261.97	276.86	8.3	16.1
2397.0	12.8	43.0	150	9.1	1.86	16.00	142046	366.24	277.07	8.3	16.1
2398.0	12.4	43.0	150	9.1	1.87	16.08	142771	377.97	277.29	8.3	16.1

DEPTH	ROP	WOB	RPM	MW	"d"e	HOURS	URNS	ICOST	CCOST	PP	FG
2399.0	12.5	43.0	150	9.1	1.87	16.16	143494	376.66	277.52	8.3	16.1
2400.0	17.4	43.0	150	9.1	1.76	16.22	144011	269.79	277.50	8.3	16.1
2401.0	7.3	43.0	150	9.1	2.06	16.36	145249	645.15	278.33	8.3	16.1
2402.0	8.8	43.0	150	9.1	1.99	16.47	146272	533.18	278.90	8.3	16.1
2403.0	11.3	43.0	150	9.1	1.91	16.56	147072	417.07	279.20	8.3	16.1
2404.0	11.8	43.0	150	9.1	1.89	16.65	147834	397.52	279.47	8.3	16.1
2405.0	9.7	43.0	150	9.1	1.96	16.75	148764	484.84	279.92	8.3	16.1
2406.0	9.8	43.0	150	9.1	1.96	16.85	149687	480.93	280.37	8.3	16.1
2407.0	9.2	43.0	150	9.1	1.98	16.96	150662	568.30	280.87	8.3	16.1
2408.0	9.6	43.0	150	9.1	1.96	17.06	151597	487.45	281.33	8.3	16.1
2409.0	13.5	43.0	150	9.1	1.84	17.14	152264	347.99	281.48	8.3	16.1
2410.0	8.5	43.0	150	9.1	2.00	17.25	153319	550.01	282.07	8.3	16.1
2411.0	13.6	43.0	150	9.1	1.84	17.33	153982	345.38	282.21	8.3	16.1
2412.0	12.1	43.0	150	9.1	1.88	17.41	154724	387.09	282.43	8.3	16.1
2413.0	15.7	43.0	150	9.1	1.79	17.47	155297	298.46	282.47	8.3	16.1
2414.0	15.7	43.0	150	9.1	1.79	17.54	155869	298.46	282.50	8.3	16.1
2415.0	27.1	43.0	150	9.1	1.60	17.57	156202	173.34	282.27	8.3	16.1
2416.0	28.8	43.0	150	9.1	1.58	17.61	156514	162.92	282.01	8.3	16.1
2417.0	40.6	43.0	150	9.1	1.46	17.63	156736	115.67	281.65	8.3	16.1

BIT NUMBER	5	IADC CODE	4	INTERVAL	2417.0- 2429.0
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13 *
COST	15000.00	TRIP TIME	9.8	BIT RUN	12.0
TOTAL HOURS	1.67	TOTAL TURNS	9514	CONDITION	T0 B0 G0.900

* EQUIVILANT T.F.A.

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2417.2	27.0	8.0	95	9.1	1.02	0.01	42	174	305082	8.3	16.1
2417.4	2.7	8.0	95	9.1	1.59	0.08	463	1733	153408	8.3	16.1
2417.6	10.1	8.0	95	9.1	1.26	0.10	576	463	102426	8.3	16.1
2417.8	4.3	8.0	95	9.1	1.47	0.15	839	1082	77090	8.3	16.1
2418.0	17.1	8.0	95	9.1	1.13	0.16	905	274	61727	8.3	16.1
2418.2	3.0	8.0	95	9.1	1.56	0.23	1288	1577	51702	8.3	16.1
2418.4	10.4	8.0	95	9.1	1.25	0.25	1398	450	44380	8.3	16.1
2418.6	4.0	8.0	95	9.1	1.49	0.29	1679	1160	38978	8.3	16.1
2418.8	9.5	8.0	95	9.1	1.28	0.32	1800	495	34702	8.3	16.1
2419.0	9.4	9.0	95	9.1	1.32	0.34	1922	502	31282	8.4	16.1
2419.2	13.8	9.0	95	9.1	1.22	0.35	2004	339	28469	8.4	16.1
2419.4	2.6	9.0	95	9.1	1.64	0.43	2439	1792	26246	8.4	16.1
2419.6	6.1	9.0	95	9.1	1.43	0.46	2628	775	24286	8.4	16.1
2419.8	3.2	9.0	95	9.1	1.58	0.52	2979	1447	22655	8.4	16.1
2420.0	8.3	9.0	95	9.1	1.35	0.55	3117	567	21182	8.3	16.1
2420.2	4.1	10.0	95	9.1	1.56	0.60	3397	1153	19931	8.3	16.1
2420.4	15.3	10.0	95	9.1	1.22	0.61	3472	306	18776	8.3	16.1
2420.6	12.4	10.0	95	9.1	1.28	0.63	3564	378	17754	8.3	16.1
2420.8	2.9	11.0	95	9.1	1.69	0.69	3958	1623	16905	8.3	16.1
2421.0	9.6	11.0	95	9.1	1.37	0.72	4077	489	16084	8.3	16.1
2421.2	14.1	11.0	95	9.1	1.27	0.73	4157	332	15334	8.3	16.1
2421.4	5.9	11.0	95	9.1	1.50	0.76	4352	802	14674	8.3	16.1
2421.6	21.8	12.0	95	9.1	1.18	0.77	4404	215	14045	8.3	16.1
2421.8	6.5	12.0	95	9.1	1.51	0.80	4580	723	13490	8.3	16.1
2422.0	11.3	12.0	95	9.1	1.36	0.82	4681	417	12967	8.3	16.1
2422.2	18.9	12.0	95	9.1	1.22	0.83	4742	248	12478	8.3	16.1
2422.4	10.9	12.0	95	9.1	1.37	0.85	4846	430	12032	8.3	16.1
2422.6	5.4	12.0	95	9.1	1.56	0.89	5058	873	11633	8.3	16.1
2422.8	12.2	12.0	95	9.1	1.34	0.90	5152	384	11245	8.3	16.1
2423.0	10.0	12.0	95	9.1	1.39	0.92	5266	469	10886	8.3	16.1
2423.2	9.6	12.0	95	9.1	1.40	0.94	5384	489	10551	8.3	16.1
2423.4	4.9	12.0	95	9.1	1.58	0.99	5616	951	10251	8.3	16.1
2423.6	16.0	12.0	95	9.1	1.26	1.00	5687	293	9949	8.3	16.1
2423.8	6.2	12.0	95	9.1	1.52	1.03	5872	762	9679	8.3	16.1
2424.0	24.0	12.0	95	9.1	1.15	1.04	5920	196	9408	8.3	16.1
2424.2	11.6	12.0	95	9.1	1.35	1.06	6018	404	9158	8.3	16.1
2424.4	11.8	12.0	95	9.1	1.35	1.07	6114	398	8921	8.3	16.1
2424.6	8.2	12.0	95	9.1	1.45	1.10	6254	573	8701	8.3	16.1
2424.8	16.7	12.0	95	9.1	1.25	1.11	6322	280	8485	8.3	16.1
2425.0	5.5	12.0	95	9.1	1.55	1.15	6528	847	8294	8.3	16.1
2425.2	20.6	12.0	95	9.1	1.20	1.15	6583	228	8098	8.3	16.1
2425.4	6.2	12.0	95	9.1	1.52	1.19	6768	762	7923	8.3	16.1
2425.6	21.2	12.0	95	9.1	1.19	1.20	6822	222	7744	8.3	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2425.8	5.3	12.0	95	9.1	1.56	1.23	7037	885	7588	8.3	16.1
2426.0	6.0	12.0	95	9.1	1.53	1.27	7227	782	7437	8.3	16.1
2426.2	6.1	12.0	95	9.1	1.52	1.30	7414	769	7292	8.3	16.1
2426.4	8.1	12.0	95	9.1	1.45	1.33	7555	579	7149	8.3	16.1
2426.6	10.7	12.0	95	9.1	1.37	1.34	7661	439	7009	8.3	16.1
2426.8	7.8	12.0	95	9.1	1.46	1.37	7807	600	6878	8.3	16.1
2427.4	16.0	12.0	95	9.1	1.26	1.41	8021	293	6498	8.3	16.1
2427.6	4.0	12.0	95	9.1	1.64	1.46	8306	1173	6398	8.3	16.1
2427.8	20.6	12.0	95	9.1	1.20	1.47	8361	228	6284	8.3	16.1
2428.0	8.2	12.0	95	9.1	1.45	1.49	8500	573	6180	8.3	16.1
2428.2	28.8	12.0	95	9.1	1.11	1.50	8540	163	6072	8.3	16.1
2428.4	3.8	12.0	95	9.1	1.65	1.55	8841	1238	5988	8.3	16.1
2428.6	13.6	12.0	95	9.1	1.31	1.57	8925	345	5890	8.3	16.1
2428.8	2.2	12.0	95	9.1	1.80	1.66	9449	2157	5827	8.3	16.1
2429.0	17.6	12.0	95	9.1	1.24	1.67	9514	267	5734	8.3	16.1

BIT NUMBER	6	IADC CODE	114	INTERVAL	2429.0- 2566.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	10.3	BIT RUN	137.0
TOTAL HOURS	3.39	TOTAL TURNS	30550	CONDITION	T4 B3 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2430.0	62.0	30.0	150	9.1	1.10	0.02	145	76	49803	8.3	16.1
2431.0	20.0	30.0	150	9.1	1.53	0.07	595	235	25019	8.3	16.1
2432.0	41.7	30.0	150	9.1	1.30	0.09	811	113	16717	8.3	16.1
2433.0	40.9	30.0	150	9.1	1.31	0.11	1031	115	12566	8.3	16.1
2434.0	41.4	30.0	150	9.1	1.31	0.14	1249	113	10076	8.3	16.1
2435.0	57.1	30.0	150	9.1	1.21	0.16	1406	82	8410	8.3	16.1
2436.0	66.7	30.0	150	9.1	1.16	0.17	1541	70	7219	8.3	16.1
2437.0	48.0	30.0	150	9.1	1.26	0.19	1729	98	6329	8.3	16.1
2438.0	48.6	30.0	150	9.1	1.26	0.21	1914	96	5636	8.3	16.1
2439.0	45.0	30.0	150	9.1	1.28	0.23	2114	104	5083	8.3	16.1
2440.0	54.5	30.0	150	9.1	1.22	0.25	2279	86	4629	8.3	16.1
2441.0	43.4	35.0	150	9.1	1.35	0.28	2486	108	4252	8.3	16.1
2442.0	31.0	35.0	150	9.1	1.46	0.31	2776	151	3937	8.3	16.1
2443.0	48.6	30.0	150	9.1	1.26	0.33	2961	96	3662	8.3	16.1
2444.0	46.8	30.0	150	9.1	1.27	0.35	3154	100	3425	8.3	16.1
2445.0	48.6	30.0	150	9.1	1.26	0.37	3339	96	3217	8.3	16.1
2446.0	49.3	30.0	150	9.1	1.25	0.39	3521	95	3033	8.3	16.1
2447.0	39.6	30.0	150	9.1	1.32	0.42	3749	119	2871	8.3	16.1
2448.0	56.2	30.0	150	9.1	1.21	0.43	3909	83	2724	8.3	16.1
2449.0	47.4	30.0	150	9.1	1.26	0.46	4099	99	2593	8.3	16.1
2450.0	48.0	30.0	150	9.1	1.26	0.48	4286	98	2474	8.3	16.2
2451.0	43.0	30.0	150	9.1	1.29	0.50	4496	109	2367	8.3	16.2
2452.0	42.9	30.0	150	9.1	1.30	0.52	4706	109	2269	8.3	16.2
2453.0	85.7	30.0	150	9.1	1.08	0.53	4811	55	2176	8.3	16.2
2454.0	76.6	30.0	150	9.1	1.11	0.55	4928	61	2092	8.3	16.2
2455.0	85.7	30.0	150	9.1	1.08	0.56	5033	55	2014	8.3	16.2
2456.0	67.0	30.0	150	9.1	1.16	0.57	5167	70	1942	8.3	16.2
2457.0	67.0	30.0	150	9.1	1.16	0.59	5302	70	1875	8.3	16.2
2458.0	67.0	30.0	150	9.1	1.16	0.60	5436	70	1812	8.3	16.2
2459.0	67.0	30.0	150	9.1	1.16	0.62	5570	70	1754	8.3	16.2
2460.0	67.0	30.0	150	9.1	1.16	0.63	5705	70	1700	8.3	16.2
2461.0	100.0	30.0	150	9.1	1.03	0.64	5795	47	1648	8.3	16.2
2462.0	100.0	30.0	150	9.1	1.03	0.65	5885	47	1600	8.3	16.2
2463.0	100.0	30.0	150	9.1	1.03	0.66	5975	47	1554	8.3	16.2
2464.0	100.0	30.0	150	9.1	1.03	0.67	6065	47	1511	8.3	16.2
2465.0	100.0	30.0	150	9.1	1.03	0.68	6155	47	1470	8.3	16.2
2466.0	90.0	30.0	150	9.1	1.06	0.69	6255	52	1432	8.3	16.2
2467.0	90.0	30.0	150	9.1	1.06	0.71	6355	52	1396	8.3	16.2
2468.0	90.0	30.0	150	9.1	1.06	0.72	6455	52	1361	8.3	16.2
2469.0	90.0	30.0	150	9.1	1.06	0.73	6555	52	1329	8.3	16.2
2470.0	90.0	30.0	150	9.1	1.06	0.74	6655	52	1297	8.3	16.2
2471.0	94.0	30.0	150	9.1	1.05	0.75	6750	50	1268	8.3	16.2
2472.0	80.0	30.0	150	9.1	1.10	0.76	6863	59	1240	8.3	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2473.0	75.0	30.0	150	9.1	1.12	0.78	6983	63	1213	8.3	16.2
2474.0	50.0	30.0	150	9.1	1.25	0.80	7163	94	1188	8.3	16.2
2475.0	59.0	30.0	150	9.1	1.20	0.81	7315	80	1164	8.3	16.2
2476.0	64.3	30.0	150	9.1	1.17	0.83	7455	73	1141	8.3	16.2
2477.0	28.1	30.0	150	9.1	1.43	0.86	7776	167	1120	8.3	16.2
2478.0	40.0	30.0	150	9.1	1.32	0.89	8001	117	1100	8.3	16.2
2479.0	54.5	30.0	150	9.1	1.22	0.91	8166	86	1080	8.3	16.2
2480.0	36.0	30.0	150	9.1	1.35	0.94	8416	130	1061	8.3	16.2
2481.0	38.7	30.0	150	9.1	1.33	0.96	8648	121	1043	8.3	16.2
2482.0	37.9	30.0	150	9.1	1.33	0.99	8886	124	1026	8.3	16.2
2483.0	34.3	30.0	150	9.1	1.37	1.02	9148	137	1009	8.3	16.2
2484.0	21.2	30.0	150	9.1	1.52	1.06	9573	221.32	994.88	8.3	16.2
2485.0	26.7	30.0	150	9.1	1.44	1.10	9910	175.73	980.25	8.3	16.2
2486.0	27.5	30.0	150	9.1	1.43	1.14	10237	170.62	966.05	8.3	16.2
2487.0	15.0	30.0	150	9.1	1.62	1.20	10837	312.80	954.78	8.3	16.2
2488.0	19.5	30.0	150	9.1	1.54	1.26	11299	240.62	942.68	8.3	16.2
2489.0	41.9	30.0	150	9.1	1.30	1.28	11513	111.98	928.83	8.3	16.2
2490.0	34.3	30.0	150	9.1	1.37	1.31	11776	136.79	915.85	8.3	16.2
2491.0	25.7	30.0	150	9.1	1.46	1.35	12126	182.57	904.02	8.3	16.2
2492.0	24.7	30.0	150	9.1	1.47	1.39	12490	189.96	892.69	8.3	16.2
2493.0	26.9	30.0	150	9.1	1.44	1.43	12825	174.42	881.46	8.3	16.2
2494.0	40.0	30.0	150	9.1	1.32	1.45	13050	117.30	869.71	8.3	16.2
2495.0	25.7	30.0	150	9.1	1.46	1.49	13400	182.57	859.30	8.3	16.2
2496.0	32.7	30.0	150	9.1	1.38	1.52	13675	143.49	848.61	8.3	16.2
2497.0	21.2	30.0	150	9.1	1.52	1.57	14100	221.32	839.39	8.3	16.2
2498.0	28.6	35.0	150	9.1	1.49	1.60	14415	164.06	829.60	8.3	16.2
2499.0	24.0	40.0	150	9.1	1.61	1.64	14790	195.50	820.54	8.3	16.2
2500.0	32.7	40.0	150	9.1	1.50	1.67	15065	143.49	811.01	8.3	16.2
2501.0	60.0	40.0	150	9.1	1.30	1.69	15215	78.20	800.83	8.3	16.2
2502.0	42.4	40.0	150	9.1	1.41	1.71	15427	110.66	791.37	8.3	16.2
2503.0	48.0	40.0	150	9.1	1.37	1.73	15615	97.75	782.00	8.3	16.2
2504.0	51.4	40.0	150	9.1	1.35	1.75	15790	91.28	772.79	8.3	16.2
2505.0	55.4	40.0	150	9.1	1.32	1.77	15952	84.69	763.74	8.3	16.2
2506.0	40.0	40.0	150	9.1	1.43	1.80	16177	117.30	755.34	8.3	16.2
2507.0	37.9	40.0	150	9.1	1.45	1.82	16415	123.80	747.25	8.3	16.2
2508.0	40.1	40.0	150	9.1	1.43	1.85	16639	117.01	739.27	8.3	16.2
2509.0	100.0	40.0	150	9.1	1.12	1.86	16729	46.92	730.61	8.3	16.2
2510.0	75.0	40.0	150	9.1	1.22	1.87	16849	62.56	722.37	8.3	16.2
2511.0	34.3	40.0	150	9.1	1.49	1.90	17111	136.79	715.22	8.3	16.2
2512.0	36.0	40.0	150	9.1	1.47	1.93	17361	130.33	708.18	8.3	16.2
2513.0	30.0	40.0	150	9.1	1.53	1.96	17661	156.40	701.61	8.3	16.2
2514.0	60.0	40.0	150	9.1	1.30	1.98	17811	78.20	694.27	8.3	16.2
2515.0	40.0	40.0	150	9.1	1.43	2.00	18036	117.30	687.57	8.3	16.2
2516.0	52.9	40.0	150	9.1	1.34	2.02	18207	88.70	680.68	8.3	16.2
2517.0	80.0	40.0	150	9.1	1.20	2.04	18319	58.65	673.61	8.3	16.2
2518.0	45.0	40.0	150	9.1	1.39	2.06	18519	104.27	667.22	8.3	16.2
2519.0	45.0	40.0	150	9.1	1.39	2.08	18719	104.27	660.96	8.3	16.2
2520.0	41.4	40.0	150	9.1	1.42	2.10	18937	113.33	654.94	8.3	16.2
2521.0	27.7	40.0	150	9.1	1.56	2.14	19261	169.39	649.67	8.3	16.2
2522.0	22.5	40.0	150	9.1	1.63	2.18	19661	208.53	644.92	8.3	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2523.0	31.3	40.0	150	9.1	1.52	2.22	19949	149.90	639.66	8.3	16.2
2524.0	30.3	40.0	150	9.1	1.53	2.25	20246	154.85	634.55	8.3	16.2
2525.0	48.0	40.0	150	9.1	1.37	2.27	20433	97.75	628.96	8.3	16.2
2526.0	51.4	40.0	150	9.1	1.35	2.29	20609	91.28	623.42	8.3	16.2
2527.0	60.0	40.0	150	9.1	1.30	2.31	20759	78.20	617.85	8.3	16.2
2528.0	55.4	40.0	150	9.1	1.32	2.32	20921	84.69	612.47	8.3	16.2
2529.0	36.0	40.0	150	9.1	1.47	2.35	21171	130.33	607.65	8.3	16.2
2530.0	72.0	40.0	150	9.1	1.23	2.37	21296	65.17	602.28	8.3	16.2
2531.0	60.0	40.0	150	9.1	1.30	2.38	21446	78.20	597.14	8.3	16.2
2532.0	34.3	40.0	150	9.1	1.49	2.41	21708	136.79	592.67	8.3	16.2
2533.0	34.6	40.0	150	9.1	1.48	2.44	21969	135.61	588.27	8.3	16.2
2534.0	45.0	40.0	150	9.1	1.39	2.46	22169	104.27	583.66	8.3	16.2
2535.0	36.0	40.0	150	9.1	1.47	2.49	22419	130.33	579.39	8.3	16.2
2536.0	48.0	40.0	150	9.1	1.37	2.51	22606	97.75	574.89	8.3	16.2
2537.0	60.0	40.0	150	9.1	1.30	2.53	22756	78.20	570.29	8.3	16.2
2538.0	58.1	40.0	150	9.1	1.31	2.55	22911	80.76	565.80	8.3	16.2
2539.0	30.0	40.0	150	9.1	1.53	2.58	23211	156.40	562.07	8.3	16.2
2540.0	15.0	40.0	150	9.1	1.77	2.65	23811	312.80	559.83	8.3	16.2
2541.0	32.7	40.0	150	9.1	1.50	2.68	24086	143.49	556.11	8.3	16.2
2542.0	34.2	40.0	150	9.1	1.49	2.71	24349	137.19	552.40	8.3	16.2
2543.0	30.0	40.0	150	9.1	1.53	2.74	24649	156.40	548.93	8.3	16.2
2544.0	45.0	40.0	150	9.1	1.39	2.76	24849	104.27	545.06	8.3	16.3
2545.0	45.0	40.0	150	9.1	1.39	2.78	25049	104.27	541.26	8.3	16.3
2546.0	36.0	40.0	150	9.1	1.47	2.81	25299	130.33	537.75	8.3	16.3
2547.0	31.3	40.0	150	9.1	1.52	2.84	25587	149.90	534.47	8.3	16.3
2548.0	26.1	40.0	150	9.1	1.58	2.88	25932	179.77	531.48	8.3	16.3
2549.0	32.7	40.0	150	9.1	1.50	2.91	26207	143.49	528.25	8.3	16.3
2550.0	45.0	40.0	150	9.1	1.39	2.93	26407	104.27	524.75	8.3	16.3
2551.0	60.0	40.0	150	9.1	1.30	2.95	26557	78.20	521.09	8.3	16.3
2552.0	51.4	40.0	150	9.1	1.35	2.97	26732	91.28	517.59	8.3	16.3
2553.0	45.0	40.0	150	9.1	1.39	2.99	26932	104.27	514.26	8.3	16.3
2554.0	58.1	40.0	150	9.1	1.31	3.01	27087	80.76	510.79	8.3	16.3
2555.0	50.0	40.0	150	9.1	1.36	3.03	27267	93.84	507.48	8.3	16.3
2556.0	27.7	40.0	150	9.1	1.56	3.07	27592	169.39	504.82	8.3	16.3
2557.0	40.0	40.0	150	9.1	1.43	3.09	27817	117.30	501.79	8.3	16.3
2558.0	30.0	40.0	150	9.1	1.53	3.12	28117	156.40	499.12	8.3	16.3
2559.0	34.3	40.0	150	9.1	1.49	3.15	28379	136.79	496.33	8.3	16.3
2560.0	29.5	40.0	150	9.1	1.54	3.19	28684	159.05	493.75	8.3	16.3
2561.0	26.7	40.0	150	9.1	1.57	3.22	29021	175.73	491.34	8.3	16.3
2562.0	31.6	40.0	150	9.1	1.51	3.26	29306	148.48	488.77	8.3	16.3
2563.0	19.2	40.0	150	9.1	1.68	3.31	29775	244.38	486.94	8.3	16.3
2564.0	31.3	40.0	150	9.1	1.52	3.34	30063	149.90	484.45	8.3	16.3
2565.0	42.4	40.0	150	9.1	1.41	3.36	30275	110.66	481.70	8.3	16.3
2566.0	32.7	40.0	150	9.1	1.50	3.39	30550	143.49	479.23	8.3	16.3

COMPUTER DATA LISTING : LIST B

INTERVAL 10 m average

DEPTH. Well depth, in metres

ROP. Rate of penetration, in metres per hour

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

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

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

TOTAL COST Cumulative bit cost, in A dollars

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	99.0- 241.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	25 25 25
COST	6350.00	TRIP TIME	1.9	BIT RUN	142.0
TOTAL HOURS	3.27	TOTAL TURNS	23536	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
110.0	68.0	11.0	0.16	534	16023.80	69	1457	-
120.0	57.0	21.0	0.34	2323	16846.96	82.32	802.24	-
130.0	47.0	31.0	0.55	4621	17845.26	99.83	575.65	-
140.0	19.0	41.0	1.08	7969	20314.73	246.95	495.48	-
150.0	42.0	51.0	1.31	9540	21431.87	111.71	420.23	-
160.0	31.0	61.0	1.64	11863	22945.42	151.35	376.15	-
241.0	49.6	142.0	3.27	23536	30601.31	94.52	215.50	-

BIT NUMBER	1	IADC CODE	111	INTERVAL	241.0-	826.0
HTC OSC3AJ		SIZE	17.500	NOZZLES	20	20 20
COST	2500.00	TRIP TIME	4.0	BIT RUN		585.0
TOTAL HOURS	11.94	TOTAL TURNS	109495	CONDITION	T3	B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
250.0	163.2	151.0	3.33	23872	36869.55	28.75	244.17	-
260.0	325.0	161.0	3.36	24107	37013.90	14.44	229.90	-
270.0	212.4	171.0	3.40	24478	37234.84	22.09	217.75	-
280.0	162.2	181.0	3.46	25082	37524.18	28.93	207.32	-
290.0	516.0	191.0	3.48	25267	37615.10	9.09	196.94	-
300.0	372.8	201.0	3.51	25521	37740.96	12.59	187.77	-
310.0	441.5	211.0	3.53	25765	37847.22	10.63	179.37	-
320.0	302.5	221.0	3.57	26138	38002.32	15.51	171.96	-
330.0	346.2	231.0	3.60	26419	38137.87	13.55	165.10	-
340.0	231.9	241.0	3.64	26780	38340.18	20.23	159.09	-
350.0	262.1	251.0	3.68	27103	38519.20	17.90	153.46	-
360.0	209.3	261.0	3.72	27520	38743.37	22.42	148.44	-
370.0	207.9	271.0	3.77	27962	38969.08	22.57	143.80	-
380.0	214.9	281.0	3.82	28375	39187.38	21.83	139.46	-
390.0	169.0	291.0	3.88	28898	39464.99	27.76	135.62	-
400.0	190.5	301.0	3.93	29382	39711.32	24.63	131.93	-
410.0	182.7	311.0	3.99	29887	39968.08	25.68	128.51	-
420.0	160.0	321.0	4.05	30475	40261.33	29.33	125.42	-
430.0	63.9	331.0	4.20	31691	40995.11	73.38	123.85	-
440.0	75.6	341.0	4.34	33001	41615.49	62.04	122.04	-
450.0	47.9	351.0	4.55	35223	42594.30	97.88	121.35	-
460.0	37.8	361.0	4.81	38009	43836.37	124.21	121.43	+
470.0	27.3	371.0	5.18	41435	45552.86	171.65	122.78	+
480.0	30.7	381.0	5.50	44789	47079.07	152.62	123.57	+
490.0	98.6	391.0	5.60	45433	47554.85	47.58	121.62	-
500.0	71.4	401.0	5.74	46958	48211.73	65.69	120.23	-
510.0	80.9	411.0	5.87	48343	48791.71	58.00	118.71	-
520.0	60.3	421.0	6.03	50166	49569.80	77.81	117.74	-
530.0	60.1	431.0	6.20	51979	50350.50	78.07	116.82	-
540.0	53.0	441.0	6.39	54040	51236.51	88.60	116.18	-
550.0	42.5	451.0	6.62	56623	52340.34	110.38	116.05	-
560.0	47.1	461.0	6.83	58908	53336.08	99.57	115.70	-
570.0	82.4	471.0	6.96	60245	53905.64	56.96	114.45	-
580.0	62.7	481.0	7.12	61985	54653.75	74.81	113.63	-
590.0	76.1	491.0	7.25	63445	55270.23	61.65	112.57	-
600.0	54.4	501.0	7.43	65407	56133.04	86.28	112.04	-
610.0	67.2	511.0	7.58	66980	56831.62	69.86	111.22	-
620.0	70.0	521.0	7.72	68469	57501.54	66.99	110.37	-
630.0	78.5	531.0	7.85	69796	58099.42	59.79	109.42	-
640.0	62.1	541.0	8.01	71373	58855.20	75.58	108.79	-
650.0	55.2	551.0	8.19	73112	59705.50	85.03	108.36	-
660.0	72.0	561.0	8.33	74481	60356.77	65.13	107.59	-
670.0	82.7	571.0	8.45	75647	60924.09	56.73	106.70	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
680.0	72.2	581.0	8.59	77010	61574.13	65.00	105.98	-
690.0	65.1	591.0	8.74	78502	62294.81	72.07	105.41	-
700.0	42.7	601.0	8.98	80737	63392.94	109.81	105.48	+
710.0	98.2	611.0	9.08	81730	63870.67	47.77	104.53	-
720.0	54.2	621.0	9.26	83546	64736.57	86.59	104.25	-
730.0	58.6	631.0	9.44	85185	65537.40	80.08	103.86	-
740.0	52.0	641.0	9.63	87078	66440.13	90.27	103.65	-
750.0	36.5	651.0	9.90	89738	67725.24	128.51	104.03	+
760.0	32.5	661.0	10.21	92668	69167.50	144.23	104.64	+
770.0	35.6	671.0	10.49	95339	70485.66	131.82	105.05	+
780.0	47.4	681.0	10.70	97407	71476.18	99.05	104.96	-
790.0	45.2	691.0	10.92	99587	72515.38	103.92	104.94	-
800.0	44.9	701.0	11.15	101716	73560.74	104.54	104.94	-
810.0	37.5	711.0	11.41	104273	74810.43	124.97	105.22	+
820.0	30.1	721.0	11.74	107538	76368.82	155.84	105.92	+
826.0	30.2	727.0	11.94	109495	77301.69	155.48	106.33	+

BIT NUMBER	2	IADC CODE	114	INTERVAL	826.0- 1301.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 15
COST	1400.00	TRIP TIME	5.7	BIT RUN	475.0
TOTAL HOURS	15.18	TOTAL TURNS	140746	CONDITTON	T3 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
830.0	14.7	4.0	0.27	1351	29422.97	320	7356	-
840.0	39.9	14.0	0.52	2716	30598.90	118	2186	-
850.0	44.4	24.0	0.75	4955	31654.60	106	1319	-
860.0	39.0	34.0	1.00	7401	32856.28	120.17	966.36	-
870.0	38.5	44.0	1.26	9892	34074.89	121.86	774.43	-
880.0	42.6	54.0	1.50	12138	35176.21	110.13	651.41	-
890.0	78.9	64.0	1.63	13316	35770.53	59.43	558.91	-
900.0	51.1	74.0	1.82	15168	36688.08	91.75	495.78	-
910.0	64.7	84.0	1.98	16621	37412.73	72.47	445.39	-
920.0	38.9	94.0	2.23	18966	38618.68	120.59	410.84	-
930.0	37.5	104.0	2.50	21358	39868.57	124.99	383.35	-
940.0	27.0	114.0	2.87	24778	41607.22	173.86	364.98	-
950.0	27.3	124.0	3.24	28156	43324.64	171.74	349.39	-
960.0	32.6	134.0	3.54	31052	44762.22	143.76	334.05	-
970.0	31.5	144.0	3.86	34040	46250.62	148.84	321.18	-
980.0	22.2	154.0	4.31	38359	48368.54	211.79	314.08	-
990.0	39.2	164.0	4.57	40823	49565.00	119.65	302.23	-
1000.0	24.2	174.0	4.98	45035	51501.75	193.68	295.99	-
1010.0	27.5	184.0	5.34	48426	53207.82	170.61	289.17	-
1020.0	32.8	194.0	5.65	51333	54640.18	143.24	281.65	-
1030.0	29.3	204.0	5.99	54438	56239.37	159.92	275.68	-
1040.0	37.4	214.0	6.26	56907	57493.18	125.38	268.66	-
1050.0	26.5	224.0	6.63	60357	59261.80	176.86	264.56	-
1060.0	26.0	234.0	7.02	64074	61068.22	180.64	260.98	-
1070.0	27.8	244.0	7.38	67505	62753.43	168.52	257.19	-
1080.0	28.1	254.0	7.73	70900	64423.00	166.96	253.63	-
1090.0	34.0	264.0	8.03	73653	65801.93	137.89	249.25	-
1100.0	40.7	274.0	8.27	75937	66954.07	115.21	244.36	-
1110.0	33.7	284.0	8.57	78696	68346.03	139.20	240.66	-
1120.0	32.8	294.0	8.87	81557	69775.79	142.98	237.33	-
1130.0	39.3	304.0	9.13	83934	70970.95	119.52	233.46	-
1140.0	53.7	314.0	9.31	85683	71845.48	87.45	228.81	-
1150.0	52.0	324.0	9.51	87492	72747.39	90.19	224.53	-
1160.0	40.9	334.0	9.75	89784	73895.63	114.82	221.24	-
1170.0	36.6	344.0	10.02	92361	75178.43	128.28	218.54	-
1180.0	37.9	354.0	10.29	94826	76417.90	123.95	215.87	-
1190.0	39.2	364.0	10.54	97197	77614.36	119.65	213.23	-
1200.0	30.7	374.0	10.87	100225	79141.87	152.75	211.61	-
1210.0	28.6	384.0	11.22	103475	80781.46	163.96	210.37	-
1220.0	32.2	394.0	11.53	106323	82237.29	145.58	208.72	-
1230.0	32.9	404.0	11.83	109117	83664.44	142.72	207.09	-
1240.0	25.7	414.0	12.22	112689	85490.41	182.60	206.50	-
1250.0	17.3	424.0	12.80	118024	88209.16	271.88	208.04	+

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1260.0	18.2	434.0	13.35	123187	90791.06	258.19	209.20	+
1270.0	24.1	444.0	13.77	127108	92740.85	194.98	208.88	-
1280.0	21.9	454.0	14.22	131455	94882.23	214.14	208.99	+
1290.0	21.8	464.0	14.68	135976	97035.33	215.31	209.13	+
1300.0	21.8	474.0	15.14	140367	99191.05	215.57	209.26	+
1301.0	24.2	475.0	15.18	140746	99384.93	193.88	209.23	-

BIT NUMBER	3	IADC CODE	114	INTERVAL	1301.0- 1499.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	6.4	BIT RUN	198.0
TOTAL HOURS	9.69	TOTAL TURNS	87192	CONDITION	T2 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1310.0	28.4	9.0	0.32	2334	32913.73	165	3657	-
1320.0	30.2	19.0	0.65	5326	34468.61	155	1814	-
1330.0	27.4	29.0	1.01	8595	36181.19	171	1248	-
1340.0	25.3	39.0	1.41	12151	38035.83	185.46	975.28	-
1350.0	27.8	49.0	1.77	15388	39721.04	168.52	810.63	-
1360.0	29.7	59.0	2.10	18441	41302.10	158.11	700.04	-
1370.0	29.3	69.0	2.45	21527	42903.56	160.15	621.79	-
1380.0	21.1	79.0	2.92	25795	45128.35	222.48	571.24	-
1390.0	22.0	89.0	3.37	29916	47263.21	213.49	531.05	-
1400.0	23.2	99.0	3.81	33745	49283.38	202.02	497.81	-
1410.0	24.3	109.0	4.22	37480	51217.52	193.41	469.89	-
1420.0	21.1	119.0	4.69	41875	53446.22	222.87	449.13	-
1430.0	19.2	129.0	5.21	46600	55895.19	244.90	433.30	-
1440.0	15.9	139.0	5.84	52188	58840.72	294.55	423.31	-
1450.0	15.6	149.0	6.48	57996	61846.21	300.55	415.08	-
1460.0	18.4	159.0	7.03	62866	64391.62	254.54	404.98	-
1470.0	16.8	169.0	7.62	68305	67189.87	279.83	397.57	-
1480.0	14.7	179.0	8.30	74523	70380.43	319.06	393.19	-
1490.0	15.8	189.0	8.94	80207	73352.03	297.16	388.11	-
1499.0	12.0	198.0	9.69	87192	76884.07	392.45	388.30	+

BIT NUMBER	4	IADC CODE	114	INTERVAL	1499.0- 1955.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	8.1	BIT RUN	456.0
TOTAL HOURS	17.93	TOTAL TURNS	163701	CONDITION	T3 B8 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1500.0	17.7	1.0	0.06	516	39670.75	266	39671	-
1510.0	19.2	11.0	0.58	5335	42118.41	245	3829	-
1520.0	20.8	21.0	1.06	9755	44374.48	226	2113	-
1530.0	23.0	31.0	1.49	13733	46415.50	204	1497	-
1540.0	20.0	41.0	1.99	18347	48760.20	234	1189	-
1550.0	22.3	51.0	2.44	22376	50859.87	209.97	997.25	-
1560.0	18.3	61.0	2.99	27462	53420.92	256.11	875.75	-
1570.0	16.7	71.0	3.59	33065	56236.12	281.52	792.06	-
1580.0	18.5	81.0	4.13	37902	58777.62	254.15	725.65	-
1590.0	20.3	91.0	4.62	42340	61093.64	231.60	671.36	-
1600.0	17.3	101.0	5.20	47587	63809.14	271.55	631.77	-
1610.0	15.7	111.0	5.84	53376	66796.38	298.72	601.77	-
1620.0	16.8	121.0	6.43	58854	69584.21	278.78	575.08	-
1630.0	17.2	131.0	7.01	64176	72310.78	272.66	551.99	-
1640.0	24.4	141.0	7.42	67939	74234.50	192.37	526.49	-
1650.0	18.1	151.0	7.98	73026	76826.83	259.23	508.79	-
1660.0	19.4	161.0	8.49	77752	79241.91	241.51	492.19	-
1670.0	20.4	171.0	8.98	82187	81546.60	230.47	476.88	-
1680.0	21.6	181.0	9.44	86464	83714.04	216.74	462.51	-
1690.0	20.5	191.0	9.93	91033	85997.48	228.34	450.25	-
1700.0	24.9	201.0	10.33	94814	87883.40	188.59	437.23	-
1710.0	34.6	211.0	10.62	97433	89240.17	135.68	422.94	-
1720.0	32.8	221.0	10.93	100182	90668.63	142.85	410.27	-
1730.0	36.8	231.0	11.20	102638	91942.16	127.35	398.02	-
1740.0	30.6	241.0	11.52	105649	93473.58	153.14	387.86	-
1750.0	38.9	251.0	11.78	107994	94680.47	120.69	377.21	-
1760.0	43.3	261.0	12.01	110098	95763.54	108.31	366.91	-
1770.0	37.4	271.0	12.28	112556	97017.34	125.38	358.00	-
1780.0	42.7	281.0	12.51	114723	98116.05	109.87	349.17	-
1790.0	45.6	291.0	12.73	116777	99145.69	102.96	340.71	-
1800.0	44.0	301.0	12.96	118890	100211.81	106.61	332.93	-
1810.0	34.3	311.0	13.25	121602	101580.31	136.85	326.62	-
1820.0	40.6	321.0	13.50	123894	102736.37	115.61	320.05	-
1830.0	41.6	331.0	13.74	126120	103863.41	112.70	313.79	-
1840.0	35.2	341.0	14.02	128763	105196.72	133.33	308.49	-
1850.0	39.9	351.0	14.27	131095	106373.63	117.69	303.06	-
1860.0	37.2	361.0	14.54	133550	107636.56	126.29	298.16	-
1870.0	34.7	371.0	14.83	136177	108989.42	135.29	293.77	-
1880.0	33.6	381.0	15.13	138625	110383.99	139.46	289.72	-
1890.0	29.3	391.0	15.47	141671	111987.09	160.31	286.41	-
1900.0	33.0	401.0	15.77	144282	113407.72	142.06	282.81	-
1910.0	33.3	411.0	16.07	146911	114815.32	140.76	279.36	-
1920.0	36.5	421.0	16.35	149404	116099.10	128.38	275.77	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1930.0	38.3	431.0	16.61	151749	117322.93	122.38	272.21	-
1940.0	29.8	441.0	16.94	154776	118896.06	157.31	269.61	-
1950.0	19.1	451.0	17.47	159542	121354.14	245.81	269.08	-
1955.0	10.9	456.0	17.93	163701	123512.46	431.66	270.86	+

BIT NUMBER	5	IADC CODE	114	INTERVAL	1955.0- 2417.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	9.8	BIT RUN	462.0
TOTAL HOURS	17.63	TOTAL TURNS	156736	CONDITION	T3 B8 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1960.0	18.8	5.0	0.27	2412	48631.50	250	9726	-
1970.0	30.9	15.0	0.59	5334	50148.58	152	3343	-
1980.0	29.9	25.0	0.92	8353	51717.79	157	2069	-
1990.0	31.5	35.0	1.24	11247	53209.24	149	1520	-
2000.0	31.0	45.0	1.56	14153	54722.41	151	1216	-
2010.0	29.3	55.0	1.91	17215	56326.16	160	1024	-
2020.0	32.3	65.0	2.22	20022	57776.77	145.06	888.87	-
2030.0	32.4	75.0	2.52	22827	59224.77	144.80	789.66	-
2040.0	32.8	85.0	2.83	25576	60655.83	143.11	713.60	-
2050.0	36.2	95.0	3.11	28076	61952.65	129.68	652.13	-
2060.0	29.0	105.0	3.45	31184	63570.09	161.74	605.43	-
2070.0	33.4	115.0	3.75	33856	64975.08	140.50	565.00	-
2080.0	31.5	125.0	4.07	36384	66464.79	148.97	531.72	-
2090.0	27.6	135.0	4.43	39544	68165.41	170.06	504.93	-
2100.0	25.9	145.0	4.82	42836	69975.74	181.03	482.59	-
2110.0	24.2	155.0	5.23	46535	71916.40	194.07	463.98	-
2120.0	27.2	165.0	5.60	49772	73639.41	172.30	446.30	-
2130.0	32.4	175.0	5.91	52550	75088.71	144.93	429.08	-
2140.0	32.8	185.0	6.21	55304	76518.47	142.98	413.61	-
2150.0	33.4	195.0	6.51	57929	77922.16	140.37	399.60	-
2160.0	33.4	205.0	6.81	60537	79328.46	140.63	386.97	-
2170.0	25.9	215.0	7.19	63896	81140.09	181.16	377.40	-
2180.0	23.0	225.0	7.63	67650	83177.20	203.71	369.68	-
2190.0	27.6	235.0	7.99	70784	84879.35	170.22	361.19	-
2200.0	30.5	245.0	8.32	73614	86415.98	153.66	352.72	-
2210.0	40.0	255.0	8.57	75776	87590.29	117.43	343.49	-
2220.0	38.4	265.0	8.83	78025	88811.51	122.12	335.14	-
2230.0	35.3	275.0	9.11	80473	90140.91	132.94	327.79	-
2240.0	26.9	285.0	9.48	83972	91883.47	174.26	322.40	-
2250.0	27.2	295.0	9.85	87340	93607.78	172.43	317.31	-
2260.0	29.4	305.0	10.19	90394	95201.75	159.40	312.14	-
2270.0	34.5	315.0	10.48	92999	96559.83	135.81	306.54	-
2280.0	34.4	325.0	10.77	95617	97924.42	136.46	301.31	-
2290.0	30.0	335.0	11.11	98619	99489.72	156.53	296.98	-
2300.0	22.4	345.0	11.55	102632	101581.57	209.19	294.44	-
2310.0	24.1	355.0	11.97	106362	103526.14	194.46	291.62	-
2320.0	20.9	365.0	12.44	110639	105769.18	224.30	289.78	-
2330.0	22.1	375.0	12.90	114445	107894.92	212.57	287.72	-
2340.0	23.4	385.0	13.32	118038	109902.05	200.71	285.46	-
2350.0	28.1	395.0	13.68	121157	111573.04	167.10	282.46	-
2360.0	22.9	405.0	14.12	125091	113624.21	205.12	280.55	-
2370.0	18.5	415.0	14.66	129969	116167.01	254.28	279.92	-
2380.0	21.4	425.0	15.13	134181	118363.13	219.61	278.50	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2390.0	22.0	435.0	15.58	138279	120499.29	213.62	277.01	-
2400.0	15.7	445.0	16.22	144011	123487.83	298.85	277.50	+
2410.0	9.7	455.0	17.25	153319	128340.26	485.24	282.07	+
2417.0	18.4	462.0	17.63	156736	130121.59	254.48	281.65	-

BIT NUMBER	5	IADC CODE	4	INTERVAL	2417.0- 2429.0
CHRISTENSEN C-22		SIZE	8.468	NOZZLES	13 13 13 *
COST	15000.00	TRIP TIME	9.8	BIT RUN	12.0
TOTAL HOURS	1.67	TOTAL TURNS	9514	CONDITION	T0 B0 G0.900

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2420.0	5.5	3.0	0.55	3117	63547.43	855	21182	-
2429.0	8.0	12.0	1.67	9514	68812.97	585	5734	-

* EQUIVILANT TO T.F.A.

BIT NUMBER	6	IADC CODE	114	INTERVAL	2429.0- 2566.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	10.3	BIT RUN	137.0
TOTAL HOURS	3.39	TOTAL TURNS	30550	CONDITION	T4 B3 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2430.0	62.0	1.0	0.02	145	49803.28	76	49803	-
2440.0	42.2	11.0	0.25	2279	50915.58	111	4629	-
2450.0	44.8	21.0	0.48	4286	51962.16	105	2474	-
2460.0	63.4	31.0	0.63	5705	52701.64	74	1700	-
2470.0	94.7	41.0	0.74	6655	53196.90	50	1297	-
2480.0	51.1	51.0	0.94	8416	54115.07	92	1061	-
2490.0	26.8	61.0	1.31	11776	55866.76	175.17	915.85	-
2500.0	27.4	71.0	1.67	15065	57581.43	171.47	811.01	-
2510.0	50.4	81.0	1.87	16849	58511.60	93.02	722.37	-
2520.0	43.1	91.0	2.10	18937	59599.84	108.82	654.94	-
2530.0	38.1	101.0	2.37	21296	60829.94	123.01	602.28	-
2540.0	35.8	111.0	2.65	23811	62141.05	131.11	559.83	-
2550.0	34.7	121.0	2.93	26407	63494.42	135.34	524.75	-
2560.0	39.5	131.0	3.19	28684	64681.70	118.73	493.75	-
2566.0	28.9	137.0	3.39	30550	65654.34	162.11	479.23	-

COMPUTER DATA LISTING : LIST C

INTERVAL 10 m average

DEPTH Well depth, in metres

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

PSP Pump pressure, in pounds
per square inch

PBIT Bit pressure drop,
in pounds per square inch

% PSP Percentage of surface pressure
dropped at the bit

HHP Bit hydraulic horsepower

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	99.0- 241.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	25 25 25
COST	6350.00	TRIP TIME	1.9	BIT RUN	142.0
TOTAL HOURS	3.27	TOTAL TURNS	23536	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
110.0	525	250.0	105.5	42.2	32	0.06	274	36
120.0	525	250.0	105.5	42.2	32	0.06	274	36
130.0	650	350.0	161.7	46.2	61	0.12	419	44
140.0	900	950.0	310.0	32.6	163	0.31	804	61
150.0	970	1000.0	360.1	36.0	204	0.38	934	66
160.0	970	1000.0	360.1	36.0	204	0.38	934	66
241.0	1000	1000.0	382.7	38.3	223	0.42	993	68

BIT NUMBER	1	IADC CODE	111	INTERVAL	241.0-	826.0
HTC OSC3AJ		SIZE	17.500	NOZZLES	20	20 20
COST	2500.00	TRIP TIME	4.0	BIT RUN		585.0
TOTAL HOURS	11.94	TOTAL TURNS	109495	CONDITION	T3	B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
250.0	1363	2450.0	1757.1	71.7	1397	5.81	2917	144
260.0	1232	2450.0	1436.5	58.6	1033	4.29	2385	131
270.0	1201	2450.0	1364.2	55.7	956	3.97	2265	127
280.0	1243	2450.0	1461.0	59.6	1059	4.40	2425	132
290.0	1200	2450.0	1361.0	55.5	952	3.96	2259	127
300.0	1127	2450.0	1202.2	49.1	791	3.29	1996	119
310.0	1084	2450.0	1111.2	45.4	703	2.92	1845	115
320.0	1208	2450.0	1379.9	56.3	972	4.04	2291	128
330.0	1118	2450.0	1183.1	48.3	772	3.21	1964	119
340.0	1364	2450.0	1760.3	71.9	1401	5.83	2922	145
350.0	1211	2450.0	1308.1	56.7	981	4.08	2304	128
360.0	1179	2450.0	1315.2	53.7	905	3.76	2183	125
370.0	1215	2450.0	1395.2	56.9	989	4.11	2316	129
380.0	1215	2450.0	1395.2	56.9	989	4.11	2316	129
390.0	1202	2450.0	1366.1	55.8	958	3.98	2268	127
400.0	1205	2450.0	1372.3	56.0	964	4.01	2278	128
410.0	1150	2450.0	1250.7	51.0	839	3.49	2076	122
420.0	1153	2450.0	1257.3	51.3	846	3.52	2087	122
430.0	1176	2450.0	1308.3	53.4	898	3.73	2172	125
440.0	1252	2450.0	1483.0	60.5	1083	4.50	2462	133
450.0	1175	2450.0	1306.4	53.3	896	3.72	2169	125
460.0	1132	2450.0	1211.8	49.5	800	3.33	2012	120
470.0	1259	2450.0	1499.6	61.2	1102	4.58	2490	133
480.0	1180	2450.0	1316.6	53.7	906	3.77	2186	125
490.0	1211	2450.0	1387.3	56.6	980	4.08	2303	128
500.0	1191	2450.0	1342.6	54.8	933	3.88	2229	126
510.0	1165	2450.0	1284.7	52.4	874	3.63	2133	124
520.0	1218	2450.0	1403.0	57.3	997	4.14	2329	129
530.0	1179	2450.0	1314.2	53.6	904	3.76	2182	125
540.0	1140	2400.0	1229.9	51.2	818	3.40	2042	121
550.0	1184	2400.0	1326.0	55.3	916	3.81	2201	125
560.0	1149	2400.0	1249.6	52.1	838	3.48	2075	122
570.0	1173	2400.0	1300.5	54.2	890	3.70	2159	124
580.0	1152	2400.0	1254.4	52.3	843	3.50	2083	122
590.0	1163	2400.0	1279.9	53.3	869	3.61	2125	123
600.0	1110	2400.0	1165.3	48.6	755	3.14	1935	118
610.0	1119	2400.0	1184.9	49.4	774	3.22	1967	119
620.0	1108	2400.0	1161.3	48.4	751	3.12	1928	117
630.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
640.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
650.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
660.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
670.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118

DEPTH	FLOW RATE	PSP	PRIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
680.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
690.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
700.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
710.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
720.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
730.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
740.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
750.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
760.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
770.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
780.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
790.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
800.0	1117	2400.0	1179.7	49.2	769	3.20	1958	118
810.0	1155	2500.0	1260.8	50.4	849	3.53	2093	122
820.0	1155	2500.0	1260.8	50.4	849	3.53	2093	122
826.0	1155	2500.0	1260.8	50.4	849	3.53	2093	122

BIT NUMBER	2	IADC CODE	114	INTERVAL	826.0- 1301.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 15
COST	1400.00	TRIP TIME	5.7	BIT RUN	475.0
TOTAL HOURS	15.18	TOTAL TURNS	140746	CONDITION	T3 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
830.0	876	2780.0	1924.7	69.2	984	8.35	1962	151
840.0	881	2780.0	1947.3	70.0	1001	8.49	1985	152
850.0	883	2780.0	1956.4	70.4	1008	8.55	1995	152
860.0	882	2780.0	1949.7	70.1	1003	8.51	1988	152
870.0	884	2780.0	1959.6	70.5	1011	8.58	1998	153
880.0	875	2780.0	1921.7	69.1	981	8.33	1959	151
890.0	885	2780.0	1965.1	70.7	1015	8.61	2004	153
900.0	893	2780.0	2000.6	72.0	1043	8.85	2040	154
910.0	897	2780.0	2015.7	72.5	1054	8.95	2055	155
920.0	897	2780.0	2018.9	72.6	1057	8.97	2058	155
930.0	881	2780.0	1946.6	70.0	1001	8.49	1985	152
940.0	347	1780.0	302.6	17.0	61	0.52	309	60
950.0	883	2790.0	1957.0	70.1	1009	8.56	1995	152
960.0	871	2790.0	1901.8	68.2	966	8.20	1939	150
970.0	1040	2830.0	2713.6	95.9	1647	13.97	2767	179
980.0	873	2800.0	1911.3	68.3	974	8.26	1949	151
990.0	875	2800.0	1918.8	68.5	979	8.31	1956	151
1000.0	858	2740.0	1848.0	67.4	926	7.85	1884	148
1010.0	1083	2940.0	2941.1	100.0	1858	15.77	2999	187
1020.0	859	2800.0	1848.2	66.0	926	7.85	1884	148
1030.0	880	2800.0	1940.6	69.3	996	8.45	1979	152
1040.0	856	2800.0	1837.9	65.6	918	7.79	1874	148
1050.0	859	2800.0	1860.0	66.4	932	7.91	1896	148
1060.0	847	2800.0	1824.2	65.2	902	7.65	1860	146
1070.0	1060	2900.0	2858.2	98.6	1768	15.00	2914	183
1080.0	863	2830.0	1894.0	66.9	954	8.09	1931	149
1090.0	856	2830.0	1861.7	65.8	929	7.89	1898	148
1100.0	855	2830.0	1856.9	65.6	926	7.86	1893	147
1110.0	1132	2900.0	3257.6	112.3	2151	18.25	3321	195
1120.0	860	2830.0	1878.9	66.4	942	8.00	1916	148
1130.0	847	2830.0	1821.9	64.4	900	7.63	1858	146
1140.0	844	2830.0	1809.9	64.0	891	7.56	1845	146
1150.0	1100	2900.0	3073.3	106.0	1971	16.73	3133	190
1160.0	859	2830.0	1883.2	66.5	944	8.01	1920	148
1170.0	857	2830.0	1883.2	66.5	941	7.99	1920	148
1180.0	847	2830.0	1841.6	65.1	910	7.72	1878	146
1190.0	1193	2900.0	3653.8	126.0	2544	21.59	3725	206
1200.0	825	2830.0	1745.2	61.7	840	7.13	1779	142
1210.0	856	2830.0	1878.3	66.4	938	7.96	1915	148
1220.0	856	2830.0	1880.3	66.4	939	7.97	1917	148
1230.0	1143	2900.0	3351.0	115.6	2235	18.96	3417	197
1240.0	844	2830.0	1828.6	64.6	901	7.64	1864	146
1250.0	530	1500.0	721.3	48.1	223	1.89	735	91

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1260.0	850	2860.0	1851.9	64.8	918	7.79	1888	147
1270.0	864	2860.0	1913.4	66.9	964	8.18	1951	149
1280.0	862	2860.0	1907.6	66.7	960	8.14	1945	149
1290.0	580	1320.0	863.1	65.4	292	2.48	880	100
1300.0	866	2860.0	1922.7	67.2	971	8.24	1960	149
1301.0	870	2860.0	1940.1	67.8	984	8.35	1978	150

BIT NUMBER	3	IADC CODE	114	INTERVAL	1301.0- 1499.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	6.4	BIT RUN	198.0
TOTAL HOURS	9.69	TOTAL TURNS	87192	CONDITION	T2 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1310.0	925	2960.0	1999.4	67.5	1079	9.16	2124	153
1320.0	881	2960.0	1811.1	61.2	930	7.89	1924	146
1330.0	888	2960.0	1840.6	62.2	953	8.09	1956	147
1340.0	889	2960.0	1846.1	62.4	958	8.12	1961	147
1350.0	885	2960.0	1830.6	61.8	945	8.02	1945	147
1360.0	922	2960.0	1986.2	67.1	1069	9.07	2110	153
1370.0	857	2960.0	1714.0	57.9	857	7.27	1821	142
1380.0	857	2960.0	1715.3	57.9	858	7.28	1822	142
1390.0	854	2960.0	1717.6	58.0	856	7.26	1825	141
1400.0	857	2960.0	1730.0	58.4	865	7.34	1838	142
1410.0	856	2960.0	1726.2	58.3	862	7.32	1834	142
1420.0	847	2750.0	1698.1	61.7	839	7.12	1804	140
1430.0	802	2750.0	1520.4	55.3	711	6.03	1615	133
1440.0	906	2750.0	1940.5	70.6	1026	8.70	2062	150
1450.0	906	3020.0	1939.7	64.2	1025	8.70	2061	150
1460.0	870	3020.0	1790.4	59.3	909	7.71	1902	144
1470.0	845	3020.0	1686.8	55.9	831	7.05	1792	140
1480.0	866	2930.0	1773.1	60.5	896	7.60	1884	143
1490.0	877	2930.0	1820.6	62.1	932	7.91	1934	145
1499.0	560	1220.0	740.2	60.7	242	2.05	786	93

BIT NUMBER	4	IADC CODE	114	INTERVAL	1499.0- 1955.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	8.1	BIT RUN	456.0
TOTAL HOURS	17.93	TOTAL TURNS	163701	CONDITION	T3 B8 G0.125

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ sq in	IMPACT FORCE	JET VELOCITY
1500.0	864	2900.0	1742.3	60.1	878	7.45	1851	143
1510.0	863	2890.0	1760.0	60.9	886	7.52	1870	143
1520.0	834	2890.0	1642.9	56.8	799	6.78	1746	138
1530.0	827	2890.0	1616.1	55.9	780	6.62	1717	137
1540.0	828	2890.0	1619.8	56.0	783	6.64	1721	137
1550.0	821	2790.0	1592.3	57.1	763	6.47	1692	136
1560.0	826	2790.0	1631.7	58.5	787	6.68	1734	137
1570.0	812	2790.0	1576.7	56.5	747	6.34	1675	135
1580.0	881	2790.0	1855.4	66.5	954	8.09	1971	146
1590.0	874	2820.0	1824.9	64.7	931	7.90	1939	145
1600.0	896	2850.0	1915.7	67.2	1001	8.49	2035	148
1610.0	881	3030.0	1855.2	61.2	954	8.09	1971	146
1620.0	901	2960.0	1938.2	65.5	1019	8.64	2059	149
1630.0	870	2960.0	1798.4	60.8	913	7.75	1911	144
1640.0	714	2960.0	1210.9	40.9	504	4.28	1287	118
1650.0	597	1500.0	845.8	56.4	294	2.50	899	99
1660.0	836	2890.0	1656.7	57.3	808	6.85	1760	138
1670.0	842	2890.0	1665.4	57.6	819	6.95	1770	140
1680.0	866	2890.0	1757.8	60.8	888	7.53	1868	143
1690.0	885	2890.0	1842.6	63.8	952	8.07	1958	147
1700.0	845	2910.0	1675.7	57.6	826	7.01	1780	140
1710.0	854	2910.0	1711.6	58.8	853	7.24	1819	141
1720.0	871	2910.0	1781.0	61.2	905	7.68	1892	144
1730.0	852	2930.0	1705.6	58.2	847	7.19	1812	141
1740.0	841	2930.0	1662.9	56.8	816	6.92	1767	139
1750.0	835	2930.0	1638.1	55.9	798	6.77	1740	138
1760.0	838	2930.0	1649.7	56.3	806	6.84	1753	139
1770.0	833	2930.0	1643.7	56.1	799	6.78	1746	138
1780.0	833	2930.0	1642.7	56.1	798	6.77	1745	138
1790.0	848	2930.0	1700.8	58.0	841	7.14	1807	140
1800.0	829	2930.0	1620.7	55.6	788	6.69	1731	137
1810.0	849	2930.0	1707.8	58.3	846	7.18	1815	141
1820.0	839	2930.0	1668.5	56.9	817	6.93	1773	139
1830.0	845	2920.0	1685.4	57.7	831	7.05	1791	140
1840.0	814	2930.0	1568.9	53.5	745	6.32	1667	135
1850.0	827	2930.0	1619.6	55.3	782	6.63	1721	137
1860.0	820	2930.0	1590.9	54.3	761	6.46	1690	136
1870.0	685	2930.0	1111.5	37.9	444	3.77	1181	113
1880.0	805	2930.0	1534.4	52.4	721	6.11	1630	133
1890.0	810	2930.0	1551.6	53.0	733	6.22	1649	134
1900.0	831	2930.0	1634.5	55.8	792	6.72	1737	138
1910.0	821	2930.0	1596.3	54.5	765	6.49	1696	136
1920.0	842	2930.0	1678.2	57.3	824	6.99	1783	139

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1930.0	1209	2900.0	3450.4	119.3	2439	20.69	3675	200
1940.0	818	2900.0	1503.5	54.6	756	6.41	1682	135
1950.0	830	2880.0	1646.7	57.2	798	6.77	1750	137
1955.0	829	2880.0	1642.2	57.0	794	6.74	1745	137

BIT NUMBER	5	IADC CODE	114	INTERVAL	1955.0- 2417.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	9.8	BIT RUN	462.0
TOTAL HOURS	17.63	TOTAL TURNS	156736	CONDITION	T3 B8 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1960.0	818	2980.0	1600.4	53.7	764	6.48	1700	136
1970.0	639	1560.0	974.4	62.5	363	3.08	1035	106
1980.0	641	1560.0	981.0	62.9	367	3.11	1042	106
1990.0	808	2900.0	1560.5	53.8	736	6.24	1658	134
2000.0	819	2900.0	1603.7	55.3	767	6.50	1704	136
2010.0	803	2860.0	1540.5	53.9	722	6.12	1637	133
2020.0	816	2900.0	1591.4	54.9	758	6.43	1691	135
2030.0	842	2900.0	1695.2	58.5	833	7.07	1801	139
2040.0	803	2900.0	1541.5	53.2	722	6.13	1638	133
2050.0	835	2900.0	1663.7	57.4	810	6.87	1768	138
2060.0	835	2900.0	1665.9	57.4	812	6.89	1770	138
2070.0	810	2900.0	1567.9	54.1	741	6.29	1666	134
2080.0	809	2900.0	1565.2	54.0	739	6.27	1663	134
2090.0	779	2900.0	1448.8	50.0	658	5.59	1539	129
2100.0	838	2900.0	1678.0	57.9	820	6.96	1783	139
2110.0	832	2900.0	1655.6	57.1	804	6.82	1759	138
2120.0	826	2900.0	1631.2	56.2	786	6.67	1733	137
2130.0	825	2900.0	1624.6	56.0	782	6.63	1726	137
2140.0	819	2900.0	1601.9	55.2	765	6.49	1702	136
2150.0	809	2900.0	1563.8	53.9	738	6.26	1662	134
2160.0	830	2900.0	1645.8	56.8	797	6.76	1749	137
2170.0	801	2900.0	1531.6	52.8	716	6.07	1627	133
2180.0	830	3000.0	1643.8	54.8	796	6.75	1747	137
2190.0	812	3000.0	1576.6	52.6	747	6.34	1675	135
2200.0	823	3000.0	1616.7	53.9	776	6.58	1718	136
2210.0	806	3000.0	1569.0	52.3	738	6.26	1667	133
2220.0	809	3000.0	1582.5	52.8	747	6.34	1681	134
2230.0	735	3000.0	1305.1	43.5	560	4.75	1387	122
2240.0	856	3000.0	1769.1	59.0	883	7.49	1880	142
2250.0	830	3000.0	1664.9	55.5	806	6.84	1769	137
2260.0	851	3000.0	1747.6	58.3	867	7.36	1857	141
2270.0	821	3000.0	1629.2	54.3	781	6.62	1731	136
2280.0	826	3000.0	1648.6	55.0	795	6.74	1752	137
2290.0	826	3000.0	1646.3	54.9	793	6.73	1749	137
2300.0	811	3000.0	1588.7	53.0	752	6.38	1688	134
2310.0	821	3000.0	1626.6	54.2	779	6.61	1728	136
2320.0	795	3000.0	1526.1	50.9	708	6.01	1622	132
2330.0	798	3000.0	1537.0	51.2	715	6.07	1633	132
2340.0	790	3000.0	1507.9	50.3	695	5.90	1602	131
2350.0	803	3000.0	1556.5	51.9	729	6.19	1654	133
2360.0	806	3000.0	1568.3	52.3	737	6.26	1666	133
2370.0	843	3000.0	1716.3	57.2	844	7.16	1824	140
2380.0	788	3000.0	1500.9	50.0	690	5.86	1595	131

DEPTH	FLOW RATE	PSP	PRIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2390.0	793	3000.0	1520.3	50.7	704	5.97	1615	131
2400.0	814	3000.0	1600.9	53.4	760	6.45	1701	135
2410.0	789	3000.0	1502.4	50.1	691	5.87	1596	131
2417.0	797	3000.0	1534.6	51.2	714	6.06	1630	132

BIT NUMBER	6	IADC CODE	114	INTERVAL	2429.0- 2566.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	10.3	BIT RUN	137.0
TOTAL HOURS	3.39	TOTAL TURNS	30550	CONDITION	T4 R3 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sq in	IMPACT FORCE	JET VELOCITY
2430.0	600	2900.0	868.9	30.0	304	2.58	923	99
2440.0	753	2900.0	1369.7	47.2	602	5.11	1455	125
2450.0	755	2900.0	1378.2	47.5	607	5.15	1464	125
2460.0	746	2900.0	1343.4	46.3	585	4.96	1427	123
2470.0	775	2900.0	1449.6	50.0	655	5.56	1540	128
2480.0	850	2900.0	1743.7	60.1	864	7.33	1853	141
2490.0	850	2900.0	1743.7	60.1	864	7.33	1853	141
2500.0	700	2950.0	1182.6	40.1	483	4.10	1256	116
2510.0	700	2950.0	1182.6	40.1	483	4.10	1256	116
2520.0	700	2950.0	1182.6	40.1	483	4.10	1256	116
2530.0	700	2950.0	1182.6	40.1	483	4.10	1256	116
2540.0	700	2950.0	1182.6	40.1	483	4.10	1256	116
2550.0	700	2950.0	1182.6	40.1	483	4.10	1256	116
2560.0	700	2950.0	1182.6	40.1	483	4.10	1256	116
2566.0	700	2950.0	1182.6	40.1	483	4.10	1256	116

COMPUTER DATA LISTING : LIST D

INTERVAL 10 m average

DEPTH Well depth, in metres

SPM1 Stroke rate per minute,
for pump No 1

SPM2 Stroke rate per minute,
for pump No 2

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

ANNULAR VELOCITIES : (in metres per minute)

DC/OH - Between drill collars and the open hole

DC/CSG - Between drill collars and casing

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

HW/CSG - Between heavyweight drill pipe and casing

DP/OH - Between drill pipe and open hole

DP/CSG - Between drill pipe and casing

DP/RIS - Between drill pipe and riser

BIT NUMBER	1	IADC CODE	111	INTERVAL	99.0- 241.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	25 25 25
COST	6350.00	TRIP TIME	1.9	BIT RUN	142.0
TOTAL HOURS	3.27	TOTAL TURNS	23536	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RAIF	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
110.0	75	30	525	6		6		6		
120.0	75	30	525	6		6		6		
130.0	110	20	650	8		7		7		
140.0	110	70	900	11		10		10		
150.0	98	96	970	12		11		11		
160.0	98	96	970	12		11		11		
241.0	100	100	1000	12		11		11		

BIT NUMBER	1	IADC CODE	111	INTERVAL	241.0-	826.0
HTC OSC3AJ		SIZE	17.500	NOZZLES	20	20 20
COST	2500.00	TRIP TIME	4.0	BIT RUN		585.0
TOTAL HOURS	11.94	TOTAL TURNS	109495	CONDITION	T3 B3 G0.000	

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
250.0	163	110	1363		34		30			24
260.0	136	110	1232	38	31		27			22
270.0	132	108	1201	37	30		26			22
280.0	139	110	1243	38	31		27			22
290.0	130	110	1200	37	30		26			22
300.0	120	105	1127	35	28		25		25	20
310.0	116	101	1084	33	27		24		24	19
320.0	131	110	1208	37	30		26		26	22
330.0	118	106	1118	35	28		25		25	20
340.0	147	126	1364	42	34		30		30	25
350.0	135	107	1211	37		32	27		27	22
360.0	127	109	1179	36		31	26		26	21
370.0	140	103	1215	37		32	27		27	22
380.0	140	103	1215	37		32	27		27	22
390.0	131	109	1202	37		32	26		26	22
400.0	131	110	1205	37		32	26		26	22
410.0	120	110	1150	35		31	25		25	21
420.0	122	109	1153	36		31	25		25	21
430.0	129	106	1176	36		31		31	26	21
440.0	141	109	1252	39		33		33	27	22
450.0	126	109	1175	36		31		31	26	21
460.0	127	99	1132	35		30		30	25	20
470.0	143	109	1259	39		33		33	28	23
480.0	127	109	1180	36		31		31	26	21
490.0	132	110	1211	37		32		32	27	22
500.0	129	110	1191	37		32		32	26	21
510.0	124	109	1165	36		31		31	26	21
520.0	135	109	1218	38		32		32	27	22
530.0	127	109	1179	36		31		31	26	21
540.0	122	106	1140	35		30		30	25	20
550.0	127	110	1184	37		31		31	26	21
560.0	121	109	1149	35		31		31	25	21
570.0	124	111	1173	36		31		31	26	21
580.0	119	111	1152	36		31		31	25	21
590.0	123	110	1163	36		31		31	26	21
600.0	112	110	1110	34		29		29	24	20
610.0	113	111	1119	35		30		30	25	20
620.0	112	110	1108	34		29		29	24	20
630.0	112	111	1117	34		30		30	24	20
640.0	112	111	1117	34		30		30	24	20
650.0	112	111	1117	34		30		30	24	20
660.0	112	111	1117	34		30		30	24	20
670.0	112	111	1117	34		30		30	24	20

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
680.0	112	111	1117	34		30		30	24	20
690.0	112	111	1117	34		30		30	24	20
700.0	112	111	1117	34		30		30	24	20
710.0	112	111	1117	34		30		30	24	20
720.0	112	111	1117	34		30		30	24	20
730.0	112	111	1117	34		30		30	24	20
740.0	112	111	1117	34		30		30	24	20
750.0	112	111	1117	34		30		30	24	20
760.0	112	111	1117	34		30		30	24	20
770.0	112	111	1117	34		30		30	24	20
780.0	112	111	1117	34		30		30	24	20
790.0	112	111	1117	34		30		30	24	20
800.0	112	111	1117	34		30		30	24	20
810.0	120	111	1155	36		31		31	25	21
820.0	120	111	1155	36		31		31	25	21
826.0	120	111	1155	36		31		31	25	21

BIT NUMBER	2	IADC CODE	114	INTERVAL	826.0- 1301.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 15
COST	1400.00	TRIP TIME	5.7	BIT RUN	475.0
TOTAL HOURS	15.18	TOTAL TURNS	140746	CONDITION	T3 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
830.0	88	87	876	76	69		49		49	16
840.0	89	87	881	77	69		49		49	16
850.0	90	86	883	77	69		49		49	16
860.0	90	86	882	77	69		49		49	16
870.0	90	86	884	77	69		49		49	16
880.0	89	86	875	76	69		49		49	16
890.0	91	86	885	77	70		49		49	16
900.0	92	87	893	78	70		50		50	16
910.0	92	87	897	78	70		50		50	16
920.0	93	87	897	78	70		50		50	16
930.0	90	86	881	77		53	49		49	16
940.0	38	31	347	30		21	19		19	6
950.0	93	84	883	77		53	49		49	16
960.0	87	87	871	76		52	49		49	16
970.0	107	101	1040	90		62	58		58	19
980.0	91	83	873	76		52	49		49	16
990.0	91	84	875	76		52	49		49	16
1000.0	88	84	858	75		51	48		48	15
1010.0	108	109	1083	94		65	60		60	19
1020.0	88	84	859	75		51	48		48	15
1030.0	92	84	880	76		53	49		49	16
1040.0	89	82	856	74		51		51	48	15
1050.0	89	83	859	75		51		51	48	15
1060.0	88	82	847	74		51		51	47	15
1070.0	109	103	1060	92		63		63	59	19
1080.0	90	82	863	75		52		52	48	16
1090.0	86	86	856	74		51		51	48	15
1100.0	90	81	855	74		51		51	48	15
1110.0	116	111	1132	98		68		68	63	20
1120.0	88	84	860	75		51		51	48	15
1130.0	88	82	847	74		51		51	47	15
1140.0	86	83	844	73		50		50	47	15
1150.0	114	106	1100	95		66		66	61	20
1160.0	90	82	859	75		51		51	48	15
1170.0	90	82	857	74		51		51	48	15
1180.0	88	82	847	74		51		51	47	15
1190.0	125	114	1193	104		71		71	66	21
1200.0	87	78	825	72		49		49	46	15
1210.0	90	82	856	74		51		51	48	15
1220.0	88	83	856	74		51		51	48	15
1230.0	111	118	1143	99		68		68	64	21
1240.0	89	80	844	73		50		50	47	15
1250.0	0	106	530	46		32		32	30	10

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RTS
1260.0	87	83	850	74		51		51	47	15
1270.0	89	84	864	75		52		52	48	16
1280.0	92	81	862	75		52		52	48	15
1290.0	89	27	580	50		35		35	32	10
1300.0	92	82	866	75		52		52	48	16
1301.0	92	82	870	76		52		52	48	16

BIT NUMBER	3	IADC CODE	114	INTERVAL	1301.0- 1499.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	6.4	BIT RUN	198.0
TOTAL HOURS	9.69	TOTAL TURNS	87192	CONDITION	T2 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1310.0	102	83	925	80		55		55	54	17
1320.0	87	89	881	76		53		53	51	16
1330.0	92	85	888	77		53		53	51	16
1340.0	92	86	889	77		53		53	51	16
1350.0	92	86	885	77		53		53	51	16
1360.0	101	84	922	80		55		55	53	17
1370.0	87	84	857	74		51		51	50	15
1380.0	90	82	857	74		51		51	50	15
1390.0	87	84	854	74		51		51	49	15
1400.0	89	83	857	74		51		51	50	15
1410.0	90	82	856	74		51		51	50	15
1420.0	88	82	847	74		51		51	49	15
1430.0	59	101	802	70		48		48	46	14
1440.0	98	83	906	79		54		54	52	16
1450.0	99	82	906	79		54		54	52	16
1460.0	93	81	870	76		52		52	50	16
1470.0	88	81	845	73		50		50	49	15
1480.0	97	76	866	75		52		52	50	16
1490.0	94	82	877	76		52		52	51	16
1499.0	0	112	560	49		33		33	32	10

BIT NUMBER	4	IADC CODE	114	INTERVAL	1499.0- 1955.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	8.1	BIT RUN	456.0
TOTAL HOURS	17.93	TOTAL TURNS	163701	CONDITION	T3 B8 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1500.0	91	81	864	75		52		52	48	16
1510.0	90	83	863	75		52		52	48	16
1520.0	85	82	834	72		50		50	46	15
1530.0	87	79	827	72		49		49	46	15
1540.0	84	82	828	72		49		49	46	15
1550.0	80	84	821	71		49		49	46	15
1560.0	89	77	826	72		49		49	46	15
1570.0	82	80	812	71		49		49	45	15
1580.0	96	80	881	77		53		53	49	16
1590.0	98	77	874	76		52		52	49	16
1600.0	98	81	896	78		54		54	50	16
1610.0	95	81	881	77		53		53	49	16
1620.0	100	80	901	78		54		54	50	16
1630.0	93	81	870	76		52		52	48	16
1640.0	109	34	714	62		43		43	40	13
1650.0	119	0	597	52		36		36	33	11
1660.0	85	82	836	73		50		50	47	15
1670.0	94	75	842	73		50		50	47	15
1680.0	91	82	866	75		52		52	48	16
1690.0	96	81	885	77		53		53	49	16
1700.0	87	82	845	73		50		50	47	15
1710.0	89	82	854	74		51		51	48	15
1720.0	92	82	871	76		52		52	49	16
1730.0	91	80	852	74		51		51	47	15
1740.0	87	81	841	73		50		50	47	15
1750.0	87	80	835	72		50		50	47	15
1760.0	87	81	838	73		50		50	47	15
1770.0	88	79	833	72		50		50	46	15
1780.0	87	79	833	72		50		50	46	15
1790.0	90	80	848	74		51		51	47	15
1800.0	87	79	829	72		50		50	46	15
1810.0	90	80	849	74		51		51	47	15
1820.0	88	80	839	73		50		50	47	15
1830.0	88	81	845	73		50		50	47	15
1840.0	84	78	814	71		49		49	45	15
1850.0	85	80	827	72		49		49	46	15
1860.0	84	80	820	71		49		49	46	15
1870.0	72	65	685	60		41		41	38	12
1880.0	84	77	805	70		48		48	45	14
1890.0	55	107	810	70		48		48	45	15
1900.0	88	78	831	72		50		50	46	15
1910.0	86	78	821	71		49		49	46	15
1920.0	90	78	842	73		50		50	47	15

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1930.0	136	106	1209	105		72		72	67	22
1940.0	85	79	818	71		49		49	46	15
1950.0	85	81	830	72		50		50	46	15
1955.0	85	81	829	72		50		50	46	15

BIT NUMBER	5	IADC CODE	114	INTERVAL	1955.0- 2417.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	9.8	BIT RUN	462.0
TOTAL HOURS	17.63	TOTAL TURNS	156736	CONDITION	T3 B8 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1960.0	85	78	818	71		49		49	46	15
1970.0	128	0	639	55		38		38	36	11
1980.0	128	0	641	56		38		38	36	12
1990.0	85	77	808	70		48		48	45	15
2000.0	87	76	819	71		49		49	46	15
2010.0	85	75	803	70		48		48	45	14
2020.0	87	77	816	71		49		49	45	15
2030.0	92	77	842	73		50		50	47	15
2040.0	85	76	803	70		48		48	45	14
2050.0	87	80	835	72		50		50	46	15
2060.0	91	76	835	73		50		50	47	15
2070.0	83	79	810	70		48		48	45	15
2080.0	87	75	809	70		48		48	45	15
2090.0	83	73	779	68		47		47	43	14
2100.0	91	77	838	73		50		50	47	15
2110.0	89	78	832	72		50		50	46	15
2120.0	89	76	826	72		49		49	46	15
2130.0	89	76	825	72		49		49	46	15
2140.0	87	76	819	71		49		49	46	15
2150.0	87	75	809	70		48		48	45	15
2160.0	89	77	830	72		50		50	46	15
2170.0	85	75	801	70		48		48	45	14
2180.0	90	76	830	72		50		50	46	15
2190.0	87	76	812	71		49		49	45	15
2200.0	89	76	823	71		49		49	46	15
2210.0	86	75	806	70		48		48	45	14
2220.0	85	77	809	70		48		48	45	15
2230.0	78	69	735	64		44		44	41	13
2240.0	94	78	856	74		51		51	48	15
2250.0	90	76	830	72		50		50	46	15
2260.0	94	76	851	74		51		51	47	15
2270.0	88	76	821	71		49		49	46	15
2280.0	90	75	826	72		49		49	46	15
2290.0	90	75	826	72		49		49	46	15
2300.0	86	77	811	70		48		48	45	15
2310.0	89	75	821	71		49		49	46	15
2320.0	84	75	795	69		48		48	44	14
2330.0	85	75	798	69		48		48	44	14
2340.0	81	77	790	69		47		47	44	14
2350.0	86	75	803	70		48		48	45	14
2360.0	88	74	806	70		48		48	45	14
2370.0	93	75	843	73		50		50	47	15
2380.0	85	73	788	68		47		47	44	14

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RTS
2390.0	84	75	793	69		47		47	44	14
2400.0	89	74	814	71		49		49	45	15
2410.0	84	74	789	68		47		47	44	14
2417.0	86	74	797	69		48		48	44	14

BIT NUMBER	6	IADC CODE	114	INTERVAL	2429.0- 2566.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 16
COST	1400.00	TRIP TIME	10.3	BIT RUN	137.0
TOTAL HOURS	3.39	TOTAL TURNS	30550	CONDITION	T4 B3 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2430.0	60	60	600	52		36		36	33	11
2440.0	76	74	753	65		45		45	42	14
2450.0	77	75	755	66		45		45	42	14
2460.0	76	73	746	65		45		45	42	13
2470.0	79	76	775	67		46		46	43	14
2480.0	80	90	850	74		51		51	47	15
2490.0	80	90	850	74		51		51	47	15
2500.0	70	70	700	61		42		42	39	13
2510.0	70	70	700	61		42		42	39	13
2520.0	70	70	700	61		42		42	39	13
2530.0	70	70	700	61		42		42	39	13
2540.0	70	70	700	61		42		42	39	13
2550.0	70	70	700	61		42		42	39	13
2560.0	70	70	700	61		42		42	39	13
2566.0	70	70	700	61		42		42	39	13

PE604002

This is an enclosure indicator page.
The enclosure PE604002 is enclosed within the
container PE905608 at this location in this
document.

The enclosure PE604002 has the following characteristics:

ITEM_BARCODE = PE604002
CONTAINER_BARCODE = PE905608
 NAME = Drill Data Plot
 BASIN = GIPPSLAND
 PERMIT = VIC/L5
 TYPE = WELL
 SUBTYPE = WELL_LOG
DESCRIPTION = Drill data Plot (from Mudlogging
 Report--attachment to WCR) for
 Yellowtail-2
REMARKS =
DATE_CREATED = 4/07/82
DATE_RECEIVED = 30/09/81
 W_NO = W779
 WELL_NAME = YELLOWTAIL-2
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE604003

This is an enclosure indicator page.
The enclosure PE604003 is enclosed within the
container PE905608 at this location in this
document.

The enclosure PE604003 has the following characteristics:

ITEM_BARCODE = PE604003
CONTAINER_BARCODE = PE905608
NAME = Temperature Plot
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Temperature Plot (from Mudlogging
Report--attachment to WCR) for
Yellowtail-2
REMARKS =
DATE_CREATED = 4/07/82
DATE_RECEIVED = 30/09/81
W_NO = W779
WELL_NAME = YELLOWTAIL-2
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE604004

This is an enclosure indicator page.
The enclosure PE604004 is enclosed within the
container PE905608 at this location in this
document.

The enclosure PE604004 has the following characteristics:

ITEM_BARCODE = PE604004
CONTAINER_BARCODE = PE905608
NAME = Pressure Plot
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Pressure Plot (from Mudlogging
Report--attachment to WCR) for
Yellowtail-2
REMARKS =
DATE_CREATED = 4/07/82
DATE_RECEIVED = 30/09/81
W_NO = W779
WELL_NAME = YELLOWTAIL-2
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE604005

This is an enclosure indicator page.
The enclosure PE604005 is enclosed within the
container PE905608 at this location in this
document.

The enclosure PE604005 has the following characteristics:

ITEM_BARCODE = PE604005
CONTAINER_BARCODE = PE905608
NAME = Geo-Plot
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Geo-Plot (from Mudlogging
Report--attachment to WCR) for
Yellowtail-2
REMARKS =
DATE_CREATED = 4/07/82
DATE_RECEIVED = 30/09/81
W_NO = W779
WELL_NAME = YELLOWTAIL-2
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE604006

This is an enclosure indicator page.
The enclosure PE604006 is enclosed within the
container PE905608 at this location in this
document.

The enclosure PE604006 has the following characteristics:

ITEM_BARCODE = PE604006
CONTAINER_BARCODE = PE905608
NAME = Mudlog (Grapholog)
BASIN = GIPPSLAND
PERMIT = VIC/L5
TYPE = WELL
SUBTYPE = MUD_LOG
DESCRIPTION = Mudlog (from Mudlogging
Report--attachment to WCR) for
Yellowtail-2
REMARKS =
DATE_CREATED = 4/07/82
DATE_RECEIVED = 30/09/81
W_NO = W779
WELL_NAME = YELLOWTAIL-2
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)